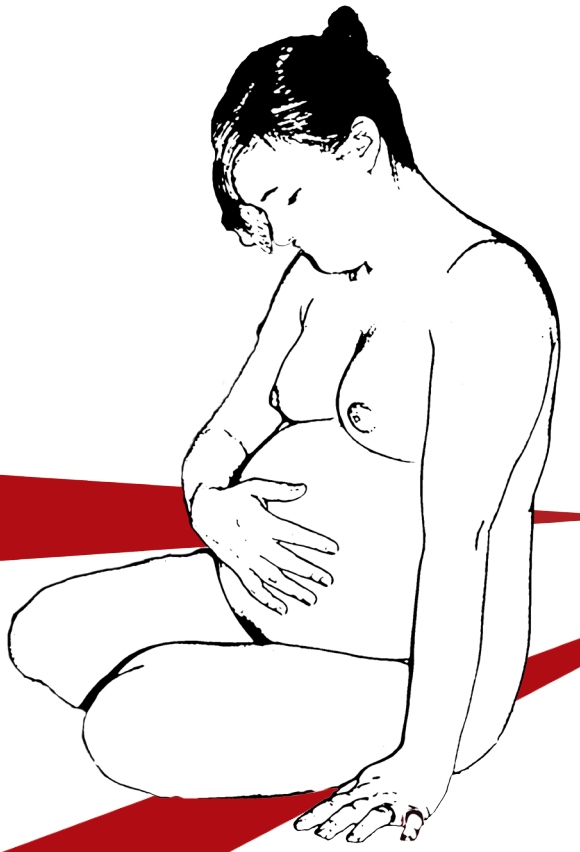
MALMÖ UNIVERSITY HEALTH AND SOCIETY DOCTORAL DISSERTATION 2014:2

HAFRÚN FINNBOGADÓTTIR

EXPOSURE TO DOMESTIC VIOLENCE DURING PREGNANCY

Impact on outcome, midwives' awareness, women´s experience and prevalence in the south of Sweden



MALMÖ UNIVERSITY

EXPOSURE TO DOMESTIC VIOLENCE DURING PREGNANCY

Malmö University, Faculty of Health and Society,
Department of Care Science Doctoral Dissertation 2014:2

Cover illustration: Hafrún Finnbogadóttir, developed in collaboration with students at
Faculty of Culture and Society: Frida Eneboo, Fredrik Carlsson, Krister Bladh, Lisa Luckman,
Matilda Svensson och Jessica Larsson
ISBN 978-91-7104-541-6 (print)
ISBN 978-91-7104-542-3 (pdf)
ISSN 1653-5383
Holmbergs i Malmö AB 2014

HAFRÚN FINNBOGADÓTTIR

EXPOSURE TO DOMESTIC VIOLENCE DURING PREGNANCY

Impact on outcome, midwives' awareness, women´s experience and prevalence in the south of Sweden

Malmö University, 2014
Faculty of Health and Society,
Department of Care Science

This publication is also available at:
www.mah.se/muep

To all women and children who live in fear due to domestic violence

CONTENTS

ABSTRACT 11
PREFACE 13
ORIGINAL PAPERS 14
ABBREVIATIONS 15
DEFINITIONS AND TERMINOLOGY 16
INTRODUCTION 18
BACKGROUND 20
Prevalence and incidence worldwide 21
During pregnancy 22
Prevalence and incidence in Sweden 23
During pregnancy 23
Consequences of abuse for maternal/foetal/child health outcome 24
Adverse maternal conditions and behaviour 24
Pregnancy complications 24
Adverse pregnancy outcome 25
Stress 26
Labour dystocia 27
The formulation of a hypothesis 27
Factors associated with increased risk of domestic violence 27
The process of normalising violence 28
Prevention 29
Woman-Centred Care 31
Complexity of the topic – ethics and laws 31
Swedish Antenatal Care 32

AIM 34

METHODS 35
Paper I 36
Criteria for labour dystocia 36
Design 37
Participants and Setting 37
Data Collection 38
Variables and definitions 38
Statistical analysis 39
Paper II 39
Focus Group 39
Participants and Setting 40
Recruitment 40
Data Analysis 41
Paper III 41
A Grounded Theory 42
Participants and Setting 42
Recruitment 42
Data Analysis 43
Paper IV 44
Design 44
Participants and Setting 44
Recruitment 45
Questionnaire and Instruments 45
Variables and classification 48
Statistical Analysis 49

RESEARCH ETHICAL CONSIDERATIONS 50
Study I 50
Study II 50
Study III–IV 51

RESULTS 54
Paper I 54
Paper II 55
Failing both mother and the unborn baby 56
Knowledge about 'the different faces' of violence 57
Identified and visible vulnerable groups 58
Barriers towards asking the right questions 58
Handling the delicate situation 59
The crucial role of the midwife 59

Paper III 60
Trapped in the situation 60
Exposed to mastery 61
Degradation process 62
Paper IV 63
History of violence 63
Domestic violence and Intimate partner violence (solely) 64
METHODOLOGICAL DISCUSSION 66
Paper I 66
Paper II 69
Recruitment and Participants 69
Inductive approach 70
Trustworthiness and Transferability 70
Pre-understanding 71
Paper III 71
Recruitment and Participants 72
Paper IV 73
Strength and weakness 73
Recruitment 73
GENERAL DISCUSSION 75
CONCLUSIONS 85
IMPLICATIONS 86
FUTURE RESEARCH 87
POPULÄRVETENSKAPLIG SAMMANFATTNING 88
Bakgrund 89
Egen forskning 91
Slutsatser 93
ACKNOWLEDGEMENTS 95
REFERENCES 97
APPENDICIES 109
PAPERS I – IV 143

ABSTRACT

Objective: The overall aim of this thesis was to investigate pregnant women's history of violence and experiences of domestic violence during pregnancy and to explore the possible association between such violence and various outcome measures as well as background factors. A further aim was to elucidate midwives' awareness of domestic violence among pregnant women as well as women's experiences and management of domestic violence during pregnancy.

Design/Setting/Population: Paper I utilised material derived from a population-based multi-centre cohort study. A total of 2652 nulliparous women at nine obstetric departments in Denmark answered a self-administrated questionnaire at 37 weeks of gestation. Among the total sample, 37.1% (985) women met the protocol criteria for labour dystocia. In Paper II an inductive qualitative method was used, based on focus group interviews with sixteen midwives working in antenatal care in southern Sweden who were divided into four focus groups. In Paper III a grounded theory approach was used to develop a theoretical model of ten women's experiences of intimate partner violence during pregnancy. Paper IV was a cross-sectional study including a cohort of 1939 pregnant women who answered a self-administered questionnaire at their first visit to seventeen ANCs in south-west Scania in Sweden.

Results: In paper I, 35.4 % (n = 940) of the total cohort of women reported history of violence, and among these, 2.5 % (n = 66) reported exposure to violence during their first pregnancy. Further, 39.5% (n = 26) of those had never been exposed to violence before. No associations were found between history of violence or experienced violence during pregnancy and labour dystocia at term. However, among those women consuming alcoholic beverages during late pregnancy, women exposed to violence had increased odds of labour dystocia (crude OR 1.49, CI: 1.07 – 2.07) compared to women who were unexposed

to violence. In Paper II, an overarching category *'Failing both mother and the unborn baby'* highlighted the vulnerability of the unborn baby and the need to provide protection for the unborn baby by means of adequate care to the pregnant woman. Also, the analysis yielded five categories: 1) *'Knowledge about 'the different faces' of violence'* 2) *'Identified and visible vulnerable groups'*, 3) *'Barriers towards asking the right questions'*, 4) *'Handling the delicate situation'* and 5) *'The crucial role of the midwife'*. In Paper III, the analysis of the empirical data formed a theoretical model, and the core category, '*Struggling to survive for the sake of the unborn baby',* constituted the main concerns of women who were exposed to IPV during pregnancy. The core category also demonstrated how the survivors handled their situation. Three sub-core categories were identified that were properties of the core category; these were: '*Trapped in the situation*', '*Exposed to mastery*' and '*Degradation processes*'. In Paper IV, 'history of violence' was reported by 39.5% (n = 761) of the women. Prevalence of experience of domestic violence during pregnancy, regardless of type or level of abuse, was 1.0 % (n = 18), and prevalence of history of physical abuse by actual intimate partner was 2.2 % (n = 42). The strongest factor associated with domestic violence during pregnancy was history of violence ($p < 0.001$). The presence of several symptoms of depression was associated with a 7-fold risk of domestic violence during pregnancy (OR 7.0; 95% CI: 1.9-26.3).

Conclusions: Our findings indicated that nulliparous women who have a history of violence or experienced violence during pregnancy do not appear to have a higher risk of labour dystocia at term, according to the definition of labour dystocia used in this study. Additional research on this topic would be beneficial, including further evaluation of the criteria for labour dystocia (Paper I). Avoidance of questions concerning the experience of violence during pregnancy may be regarded as failing not only the pregnant woman but also the unprotected and unborn baby. Still, certain hindrances must be overcome before the implementation of routine enquiry concerning pregnant women's experiences of violence (Paper II). The theoretical model "Struggling to survive for the sake of the unborn baby" highlights survival as the pregnant women's main concern and explains their strategies for dealing with experiences of violence during pregnancy. The findings may provide a deeper understanding of this complex matter for midwives and other health care professionals (Paper III). The reported prevalence of domestic violence during pregnancy in southwest Scania in Sweden is low. Both history of violence and the presence of several depressive symptoms detected in early pregnancy may indicate that the woman also is exposed to domestic violence during pregnancy (Paper IV).

PREFACE

'I have suspected, discovered, seen, but even so missed'

I have worked clinically as registered nurse and registered midwife for more than 20 years. In the beginning of my career I worked as a nurse at the intensive care unit for five years, but my main professional career has been as a midwife. The knowledge I have gained after many years of working clinically and especially as a midwife has given rise to a genuine interest for and curiosity about the family relationship's impact on the health and outcome of the pregnant woman and her baby. The driving force has probably many essential roots in the experience-based knowledge acquired through my work as a nurse and midwife. I have always thought it to be an amazing miracle, to be pregnant, to be healthy during the pregnancy and to give birth to a healthy baby. The biological aspect of reproduction fortunately functions perfectly in most cases. However, some women are better favoured than others. The causes of less favoured pregnancy outcomes can be various, and sometimes they are unknown. Preventive work with the pregnant woman and the couple at the antenatal care (ANC) is incredibly important for the outcome of pregnancy. When the woman's need for care exceeds the competencies of the midwife, it is crucial to work together with other health professionals, consulting and referring as necessary. The main goals of my studies are to contribute to future efforts regarding healthy women and healthy babies and violence-free relationships. However, I am aware that the concept 'violence-free relationships' is a vision, and that it will likely never be the reality, but perhaps it is possible to reduce violence with different measures and prevent it in many cases. Every pregnant woman whom it is possible to save is a gain for the unique individual as well as for society, with greater numbers of healthy women and healthier maternal and foetal outcome as a result.

ORIGINAL PAPERS

This thesis to the degree of PhD is based on four papers, referred to in the text by Roman numbers:

I Finnbogadóttir H, Dejin-Karlsson E, Dykes A-K.
A multi-centre cohort study shows no association between experienced violence and labour dystocia in nulliparous women at term. *BMC Pregnancy and Childbirth* 2011, **11**:14

II Finnbogadóttir H, Dykes A-K.
Midwives' awareness and experiences regarding domestic violence among pregnant women in southern Sweden. *Midwifery*, 2012, **28**(2):181-189.

III Finnbogadóttir H, Dykes A-K, Wann-Hansson C.
Struggling to survive for the sake of the unborn baby: a grounded theory model of exposure to intimate partner violence during pregnancy.
BMC Pregnancy and Childbirth, *Submitted; 21st Nov 2013.*

IV Finnbogadóttir H, Dykes A-K, Wann-Hansson C.
Prevalence of domestic violence during pregnancy and related risk factors: a cross-sectional study in southern Sweden. *BMC Women's Health, Submitted; 21st Jan 2014 and Revised; 12th of April 2014.*

All papers have been reprinted with permission from the publishers. The data collection for Papers II, III and IV were carried out by the first author (HF). All authors participated in the study design and analysis of the material. The manuscripts were written with support from the co-authors.

ABBREVIATIONS

ANC	Antenatal care
AUDIT	Alcohol Use Disorder Identification Test
BMI	Body Mass Index
DV	Domestic violence
CI	Confidence interval
DDS	Danish Dystocia Study
EPDS	Edinburgh Postnatal Depression Scale
EDS	Edinburgh depression Scale
GT	Grounded theory
IPV	Intimate partner violence
NorAQ	NorVold Abuse Questionnaire
OR	Odds ratio
SOC	Sense of Coherence Scale
SPSS	Statistical Package for Social Science
VAW	Violence against women
WHO	World Health Organization

DEFINITIONS AND TERMINOLOGY

The type of violent act studied in this thesis is defined here as psychological or emotional, physical and sexual violence, in accordance with the World Health Organization (WHO) definitions on women's health and domestic violence (DV) against women [1, 2]. Also, the definitions of violence that are used in the two different instruments that were employed in Paper I [3] and in Paper IV [4] are incorporated in the WHO's definitions.

Psychological or emotional abuse is the experience of being systematically and persistently repressed, insulted, degraded or humiliated or belittled in front of others. Psychological or emotional abuse incudes the experience of being by threat or force restricted from seeing family and friends or subjected to total control concerning what one may and may not do. Also included are the experiences of living in fear due to systematic and persistent threats by someone close [1-4].

Physical violence is being held in involuntary restraint, hit with the fist(s) or with a hard object, being kicked, violently pushed, or beaten, or similar experiences or being exposed to life threatening experiences, such as attempted strangulation, being confronted by a weapon or knife, or any other similar act [1-4].

Sexual violence is being forced to do something sexual that one finds degrading or humiliating, for example, to watch a pornographic film, to participate in a pornographic film or similar, being forced to show one's body naked or to look at someone else's naked body. Sexual violence includes being physically forced, through threats, and intimidation to have sexual intercourse against one's will and forced participation in degrading sexual acts [1-4].

History of violence is defined as experience of violence ever in lifetime before and/or during pregnancy (Paper I). In Paper IV, history of violence is defined as lifetime experience of emotional, physical or sexual abuse, occurring during childhood (< 18 years), adulthood (≥ 18 years) or both, regardless of the level of abuse or the perpetrator's identity, in accordance with the operationalization of the questions in the NorVold Abuse Questionnaire (NorAQ) [4].

DV is here defined as physical, sexual or psychological, or emotional violence, or threats of physical or sexual violence that are inflicted on a pregnant woman by a family member, i.e. an intimate male partner, marital/cohabiting partner, parents, siblings, or a person known very well to the family or a significant other (i.e. former partner) when such violence often takes place in the home [1]. This definition is also based on the instruments used in paper I [3] and in paper IV [4].

Intimate partner violence (**IPV**) during pregnancy refers to the same action as described above for DV when undertaken by an intimate male partner, or marital/cohabiting partner.

As in the WHO multi- country study [2], the two concepts ***violence*** and ***abuse*** overlap and have been used as interchangeable and synonymous in this thesis. In the text self-reported experiences of violence or experiences of violence/abusive act are described.

Pregnancy is divided into three trimesters. The *first trime*ster is week 1-12, the *second trimester* is week 13-27, and the *third trimester* is week 28-42 of gestation.

INTRODUCTION

Unfortunately, not all women can expect support and love from their intimate partner during pregnancy, and especially those living in a relationship filled with fear and violence. Such relationships pose serious challenges for those vulnerable women and children who live under constant threat and violence. In the year 1975, Gelles [5] was the first researcher who highlighted and reported violence towards pregnant wives during pregnancy. Richard James Gelles, an internationally well-known expert in DV and child welfare, also highlights the notion that the transition to parenthood begins during pregnancy and not merely after childbirth [5]. Growing evidence on this subject worldwide indicates that IPV has serious and long lasting consequences on the health and well-being of the survivor and other family members [6-12]. According to WHO, violence against women (VAW) is not only a major public health problem, but also a violation of human rights [13]. VAW is characterized by power and control in interpersonal relationships (including DV) where the perpetrator mostly is the intimate male partner [1].

Almost three decades ago, men's VAW became an issue on the political agenda in Sweden, and awareness was awakened in media and society. During the year 1999, the first scientific report from Sweden about DV during pregnancy was published [14, 15]. Additional national scientific research on this topic has ensued [16-22], but still there is a need of accumulating evidence across different settings as a way of understanding the extent and nature (the survivors' stories) of the problem nationally as well as globally [13].

Accumulating evidence suggests that DV during pregnancy has serious health consequences for both mother and child. However, there are still areas that lack convincing evidence such as DV during pregnancy in relation to labour

dystocia. Also, midwives have opportunities to identify and reduce consequences of violence during pregnancy. An understanding of violence during pregnancy seems to be necessary step prior to preventive interventions and measures. However, little is known about midwives' awareness and clinical experiences of DV during pregnancy. Further, knowledge about violence-exposed women's own experiences and concerns of being abused and pregnant is scarce. Additionally, it is important to highlight the magnitude of the problem DV during pregnancy to be able to allocate resources to work with this topic. However, previous national prevalence studies of samples of pregnant women were conducted for more than one decade ago, and due to continuous societal changes, it is essential to obtain more up-to-date knowledge about prevalence rates of DV during pregnancy.

BACKGROUND

According to the United Nations Declaration on the Elimination of VAW, such violence is defined as

> "*any act of gender-based violence that results in, or is likely to result in, physical, sexual or mental harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life*" [23].

The World Report on Violence and Health presented a framework for understanding VAW where violence is divided into three broad categories according to *who commits the violence act*: interpersonal violence (investigated in this thesis), self-directed violence and collective violence [1]. However, the most universal form of violence is *interpersonal violence* that involves violence inflicted on the woman by another person or by a small group, as it takes place in all societies [1]. According to this framework, interpersonal violence is divided into two sub-categories, i.e. *family/partner* and *community* where the former sub-category may concern violence between family member's inclusive intimate partner, children in the family or elderly (not investigated in this thesis). Community violence occurs outside the home, e.g. in public places such as schools, or working places and between unrelated individuals both including strangers and acquaintances [1]. The framework also captures the *nature* of the violent acts explained as *psychological* including deprivation and neglect, *physical* or *sexual violence*. The typology of violence investigated in present thesis is shown in Figure 1.

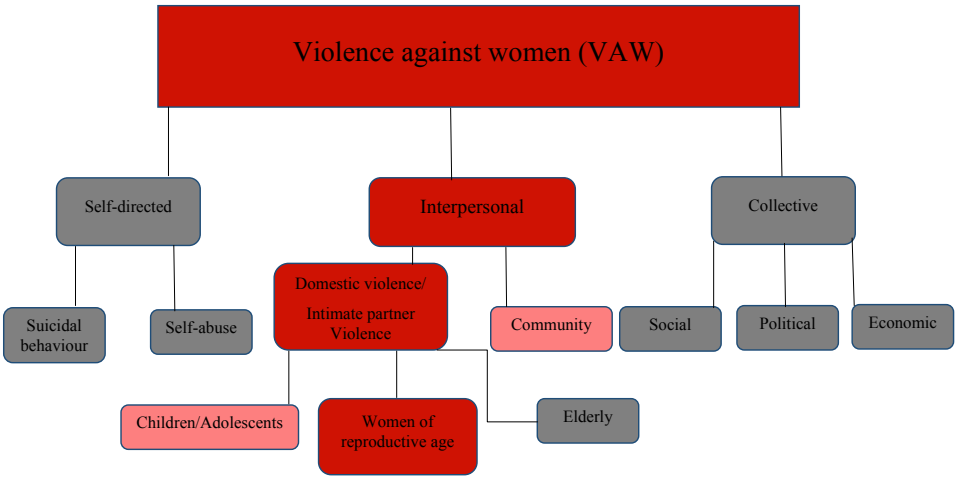


Figure 1. A typology of violence against women, modified after the world report on violence and health from WHO, according to which violence may be physical, sexual and psychological, including deprivation and neglect [1]. The red boxes are investigated in the thesis. In addition, the pink boxes are also investigated under 'history of violence', whereas the grey boxes are not at all investigated in this thesis.

DV during pregnancy is not only a serious public health issue that threatens maternal and foetal health outcomes, [6-13] but it is also a violation against human rights [13]. Violence during pregnancy is common, but has not attracted the same attention as other conditions for which pregnant women are routinely screened for, such as preeclampsia and gestational diabetes [24].

Prevalence and incidence worldwide

The global prevalence of VAW indicates that one out of every three women is exposed to physical and/or sexual violence by their intimate partner or by a non-partner [25]. A WHO multi-country study on women's health and DV performed in ten countries (Bangladesh, Brazil, Ethiopia, Japan, Namibia, Peru, Samoa, Serbia and Montenegro, Thailand and the United Republic of Tanzania) and representing diverse cultural settings showed a prevalence of 15–71% for physical and/or sexual violence by an intimate partner at some point in their lives among women aged 15–49 years [26]. These figures call attention to the fact that IPV is a common experience worldwide.

During pregnancy

A review of the literature between 1963 and 1995 showed that the prevalence of violence against pregnant women in the USA and other developed countries ranged from 0.9 to 20.1 %, where most of the reported violence during pregnancy ranged between 3.9% and 8.3% [24]. A subsequent review of the literature published in the year 2004 (not including same studies as in the former presented review) reported prevalence of DV against pregnant women with wide variation, ranging from 1.2 to 66 % [7]. This variation probably demonstrates differences in populations, methodologies and definitions, as well as cultural differences that can make comparisons across studies difficult [7, 27]. In the WHO multi-country study [2], the reported rates of physical abuse during pregnancy ranged from 1.0 % (Japan) to 28% (in provincial Peru). A population-based cohort study, Norwegian Mother and Child, including 65.393 women who answered two postal questionnaires during pregnancy showed 5 % prevalence of any abuse prior to or during pregnancy [28]. In a review of the prevalence of women experiencing physical violence during pregnancy in developing countries, the prevalence of violence ranged from 4 to 29% [29]. In fact, the overall prevalence of DV during pregnancy in developed countries is lower; i.e. 13.3% in comparison to 27.7% in less developed countries [30]. However, the first global report of internationally comparable data on populations from 19 countries was published in 2010, and the prevalence of IPV during pregnancy ranged from 1.8 % (Denmark) to 13.5 % (Uganda) [31]. Also, in 2013, a meta-analysis of 92 independent studies showed an average prevalence of 28.4 % concerning emotional abuse, 13.8% concerning physical abuse and 8.0 % concerning sexual abuse experienced during pregnancy [30]. It has been shown that VAW occurs mostly at home, and women are more at risk of violence from an intimate partner than from any other type of perpetrator [2, 26]. In the WHO multi-country study it was reported that in all sites investigated more than 90% of the abused pregnant women were abused by the biological father of the child the woman was carrying [2]. However, the literature seems to be inconsistent across cultures concerning whether pregnancy is a time of protection or risk [32]. A review of the international literature indicates that the prevalence of violence against pregnant women is common, but lower in developed compared to less developed countries, and also that cultural differences can make it difficult to compare prevalence rates across countries as well as differences in methodology. Furthermore, the literature suggests that the most frequent place for exposure to DV and/or IPV is the home and that the perpetrator's socio-economic background is unimportant.

Prevalence and incidence in Sweden

As part of a national prevalence study conducted during 2001 where 10.000 women between the ages of 18-64 years were questioned about experienced violence, not less than 46% of a cohort of 6926 women answered that they had experienced physical or sexual violence and/or been threatened with violence since their 15th birthday [17]. Further, in a Nordic cross-sectional study about physical, sexual and emotional abuse in non-pregnant women (age ≥ 18 years) visiting gynaecological clinics, the prevalence of abuse in Sweden was 37.5% concerning physical abuse, 16.6% concerning sexual abuse and 18.7% concerning emotional abuse in a non-pregnant cohort [33]. A national population study published 2014 showed in a cohort of 5681 women aged 18-74 years, that lifetime experience of serious sexual, physical or psychological violence were 46 % (p.62) [34].

During pregnancy

A national prevalence study by Lundgren et al. [17] showed that 3% of pregnant women were subjected to physical or sexual abuse during pregnancy by a former or actual intimate partner [17]. Furthermore, according to a national report, the perpetrators of such violence are socially well-adjusted men who are well educated, employed and have average alcohol consumption [17]. A population-based study in Gothenburg indicated that 24.5% of pregnant women reported threats, or physical or sexual abuse one year before or during pregnancy; also mild physical violence during pregnancy by a current or ex-partner was reported to be 11% [14]. However, in a later Swedish study, also investigating a pregnant population in Uppsala, the prevalence of physical abuse by a close acquaintance the year before pregnancy, during pregnancy or 20 weeks postpartum was lower, i.e. 2.8%, and during or shortly after pregnancy, the prevalence of reported violence was even lower, i.e. 1.3% [35]. This variation in prevalence can be explained by differences in the methodologies used in these two studies [14, 35]. Hedin et al. [14] performed structured interviews with 207 Swedish pregnant women who were consecutively selected in the waiting room at three ANCs where the person who performed the interviews was the main researcher. Stenson et al. [35] recruited 1038 pregnant women through the midwives at five ANC units, where the midwives themselves posed the questions about violence. Hedin et al. [14] used the instrument “The Severity of Violence against Women Scale” while Stenson et al. [35] used “The Abuse Assessment Screen”. Both instruments were developed in the United States and adjusted for use in that community. The postpartum period also carries an increased risk of DV [19, 35, 36]. In a national Swedish survey focusing on mothers with infants up to one

year, at least two percent of mothers were physically abused by their intimate partner [19]. However, studies of violence against pregnant women are scarce in southern Sweden. To increase the possibility to allow generalisation to the entire population of multicultural Sweden, more studies from different regions in the country would be needed. Nevertheless, the true prevalence of physical and psychological abuse in pregnant women will probably remain unknown because of the women's fear of abuse escalation if their abuse becomes known [37]. Moreover, violence occurring perinatally is often not recognized or not suspected and therefore not addressed by professionals at health care settings [9]. The review of the national literature indicates that the prevalence of violence against pregnant women is as common as preeclampsia (Sweden/Scania prevalence 3.0 and 2.8 % respectively) and gestational diabetes (Sweden/Scania prevalence 1.2 and 2.2 % respectively) during pregnancy [38]. However, to be abused during pregnancy is not a disease; nevertheless, such abuse may lead to illness.

Consequences of abuse for maternal/foetal/child health outcome

Women who are afraid of their intimate partner both before and during pregnancy have poorer physical and psychological health during pregnancy [39, 40]. Abuse of pregnant women affects directly (i.e. abrupt trauma to the abdomen) and indirectly (i.e. increased risk of various physical and psychological health problems) the morbidity and mortality of both mother and foetus/child [6-11]. Ultimately, DV increases considerably [41] the cost of health care during pregnancy associated with poor maternal and foetal outcomes [41]. A report from the National Board of Health and Welfare in Sweden in 2006 showed that violence against women costs society at least 2.7 to 3.3 milliard Swedish crowns every year [42].

Adverse maternal conditions and behaviour

Physical abuse during pregnancy is also an increased risk factor for poor nutrition, [43] low maternal weight gain, infections, anaemia [44], and unhealthy maternal behaviour, such as smoking [45-47], and the use of alcohol and drugs is more frequent among women who live in violent relationships [43-45]. Also, women undergoing repeated induced abortion are more likely to have a history of physical abuse by a male partner or a history of sexual abuse or violence [48, 49].

Pregnancy complications

Pregnant women are more prone to be hospitalized for abuse than non-pregnant women [50-52]. These findings are based on results from three studies from the

USA, i.e. a population-based, cross-sectional study using self-reports (12 months before delivery) by 6143 women of physical IPV [50], a retrospective, register study from 19 states [51] and a retrospective population-based study [52]. Exposure to physical violence has been reported to be related to an increased risk of vaginal bleeding in early pregnancy (≤ 24 weeks) [39, 43] as well as in second and third trimester [43, 53]. Also, physical violence is associated with ante-partum internal haemorrhage [40] of different causes. In addition, an increased risk of urinary- and faecal incontinence in early pregnancy (≤ 24 weeks) has been shown even if the woman had only reported fear of an intimate partner [39], and an increased risk of kidney infections and urinary tract infections if the woman experienced physical IPV both prior to pregnancy and during pregnancy [50, 53]. Women who have experienced IPV prior to pregnancy or both prior to and during pregnancy have significantly greater risk for high blood pressure or oedema [43, 53] as well as premature rupture of the membranes [52, 53]. Also, the risk for severe nausea, vomiting/hyperemesis, or dehydration is significantly greater for women who have experienced IPV prior to, during, and both prior to and during pregnancy [43, 53]. Further, results from the population-based cohort Norwegian Mother and Child study showed that common complaints (i.e. heartburn, leg cramps, tiredness, pelvic, girdle relaxation, oedema, constipation, and headache) during pregnancy were associated with childhood abuse [54]. Jacoby et al. [55] found in a Case-control study using retrospective chart review that adolescents (13-21 years) who experienced any form of interpersonal abuse were significantly more likely to miscarry as well as have rapid repeated pregnancy. A systematic review and meta-analysis of the literature published in 2013 showed that high levels of symptoms of perinatal depression, anxiety and posttraumatic stress disorder are more common among women living in an abusive relationship [12].

Adverse pregnancy outcome

A recent systematic review of thirty studies disclosed that pregnant women exposed to DV are almost 1.5 times more likely to have preterm births and 1.5 times more likely to deliver a low birth-weight baby [11]. Yost et al [37] indicated that women exposed to DV and who solely were exposed to verbal abuse during pregnancy had significantly increased low birth weight in offspring [37]. Also, the literature has shown that physically abused pregnant women (compared to non-abused pregnant women) are twice as likely to have preterm labour and chorioamnionitis, [56] ablatio placenta, [52, 57] uterine rupture, [52, 57] as well as foetal trauma [47, 57] or foetal death [37, 40, 47, 52]. Cokkinides et al. [50] found that women exposed to IPV are 1.5 time more likely to be delivered

by Caesarean section, and the cohort study from Saudi Arabia with 7557 participants by Rachana et al. [57] showed an even stronger association; that is, women were three times as likely be delivered by Caesarean section if exposed to physical violence. A recently published European multi-country cohort study showed that primiparous women who were sexually abused as adults were 2.1 times more likely to have an elective Caesarean section and particularly for non-obstetrical reason [58]. Also, among multiparous, women with a history of physical abuse had a 1.5-fold increased risk for an emergency Caesarean section [58]. Compared to infants born to women not reporting IPV, infants born to mothers reporting IPV in the year prior to pregnancy and reporting both experience of IPV prior and during pregnancy more often require an intensive care unit at birth. However, such care was not needed for infants born to women only reporting IPV during pregnancy [53]. The most extreme consequence of IPV during pregnancy is femicide, (homicide of females) [59].

Stress

It has been assumed that stress during pregnancy has adverse consequences on pregnancy and pregnancy outcome [37, 40, 47, 60]. The findings of Talley et al. [61] support the notion that women in abusive relationships during pregnancy are more stressed than women who are not living in abusive relationships, and that stress may result in clinically important biological changes in highly stressed women. It has been shown that physical and emotional IPV have a significant impact on the endocrine systems of women, with higher levels of evening cortisol and evening and morning Dehydroepiandrosterone, with symptoms of depression, anxiety and greater incidence of post-traumatic stress disorder [62]. The strongest predictor of post-traumatic stress disorder was emotional IPV [63]. More than thirty years ago, Lederman et al. [64] showed that physical and psychosocial characteristics of the woman such as maternal emotional stress related to pregnancy and motherhood, partner and family relationships and fears of labour were significantly associated with less efficient uterine function, higher levels of anxiety, higher epinephrine levels in plasma and longer length of labour. The higher levels of epinephrine may disrupt the normal progress in labour or the coordinated uterine contractions as explained by an adenoreceptor theory [65]. Later, Alehagen et al. [66] confirmed significantly increased levels of all three stress hormones from pregnancy to labour and drastically increased levels of epinephrine and cortisol compared with nor-epinephrine, which indicates that mental stress is more dominant than physical stress during labour. Maternal psychosocial stress, for example due to dysfunctional family relations and/or

fear of childbirth, may have an association with specific complications such as prolonged labour or caesarean section [67]. History of sexual violence in adult life has also been found to lead to increased risk of extreme fear during labour [68]. Also, Courtois and Courtois Riley [69] have suggested that pregnancy and childbirth can be major memory triggers for women who have experienced childhood sexual abuse, a notion also supported by Simkin [70] who argues that such complex psychosocial factors, whether remembered or not, play a greater role in perinatal care and outcomes than ever suspected. Additionally, fear of childbirth in the third trimester has been shown to increase the risk of prolonged labour and emergency Caesarean section [71].

Labour dystocia

Another serious complication in obstetrics is labour dystocia, which also has been increasingly highlighted the past decades and which contributes to adverse maternal and foetal health outcomes [72-77]. Labour dystocia is defined as a slow or difficult labour or childbirth. The term 'dystocia' is frequently used in clinical practice [78], yet there is no consistency in the use of terminology for prolonged labour or labour dystocia [72, 74, 79, 80]. However, labour dystocia accounts for most interventions during labour [72, 74, 75]. Although both labour dystocia [72, 75] and DV during pregnancy [6-11] are each associated with adverse maternal and fetal outcome, the possible association between experiences of violence and labour dystocia has rarely been described in the literature. One study from Iran showed an association between experienced abuse by an intimate partner and labour dystocia [81]. The abuse could either be of a physical, sexual or psychological type. However, the study did not define labour dystocia, and did not differentiate between labour dystocia and prolonged labour.

The formulation of a hypothesis

Women exposed to violence have higher levels of stress, fear and anxiety. These in turn result in increased levels of stress hormones in plasma. These higher levels of especially epinephrine may disrupt the normal progress in labour or the coordinated uterine contractions explained by adenoreceptor theory [65] due to the fact that epinephrine competes with oxytocin by binding to the receptors in the uterus (ibid).

Factors associated with increased risk of domestic violence

Although women of all social and economic classes are vulnerable to DV during pregnancy [43], some women might be more vulnerable than others. Several

socio-economic factors have been shown to be associated with violence against pregnant women and also with increased risk for exposure to DV [36] or IPV [19] postpartum [19, 36]. However, the literature is inconsistent, and some studies have shown that among the most disadvantaged women, those who have a low socio-economic status [19, 82, 83] i.e. low income or/and are unemployed, who have left school before completion of their high school education, and who are younger (<24 years) and unmarried are more likely to be exposed to DV or solely IPV [19, 48, 82, 83]. Hedin [36] also proposed that older and married women were abused to a higher extent in the postpartum period than those who had been abused prior to and during pregnancy. Women with unexpected or unwanted pregnancy showed an increased risk for IPV during pregnancy [84, 85] as well as history of miscarriages and abortions [48, 49, 84]. Also, a relationship has been shown between abuses and living in crowded conditions [86]. Late entry into prenatal care [87] as well as missed prenatal visits [83] have been shown to be associated with abuse by intimate partner. Further, certain ethnic groups are shown to have a greater risk for exposure to pregnancy-related violence [19, 51, 88], and women who have a partner born outside of Europe might have a greater risk for violence in the postpartum period [19]. Additionally, women with a low level of, or lack of, social support might be at increased risk for abuse in the antenatal period [87, 88]. Women whose partners have alcohol problems are more likely to be exposed to physical abuse by their intimate partner during pregnancy than those in relationships where the partner uses alcohol in moderation [48, 88]. Furthermore, in relationships where both alcohol and illegal drugs are used by both partners, DV is suggested to increase during pregnancy [89].

The process of normalising violence

According to Lundgren's theoretical model, a process of normalising the violence takes place, whereby the perpetrator's (intimate male partner) reality gradually becomes the survivor's [90]. The survivor's previous sense of value becomes dislocated or is totally erased, and her life space shrinks. The survivor isolates herself bit by bit from family and friends, and her frame of reference comes from the perpetrator. To survive, the woman's strategy is to adapt to the perpetrator's will. The survivor 'loves' the perpetrator on his terms. 'The love is blind', and the perpetrator's cycling between 'hot and cold' or 'life and death' becomes the survivor's reality. This is an active process of degradation, and the survivor internalises the violence, which then becomes a part of her normal reality [90]. The process of change and breakdown is dangerous and can be life threatening. It is important to point out that survivors act in a variety of different ways, depending on the individual. The process of normalising, according to Lundgren

[90], has often been explained as consisting of three phases, where the first phase deals with control and verbal abuse. In phase two, the verbal abuse has intensified and the survivor has become more socially isolated. The survivor's boundaries for what is normal have been erased. The man's reality becomes the woman's reality, and she has adapted the negative image he has made of her, such that she is no longer a free spirit, but rather has internalised the twisted self-image as her own. In the third phase, the survivor has lost contact with her own self and also lost her driving force, self-esteem and self-confidence. The violence against her in the relationship has become a natural part of the relationship and has become normalised, and with time the violence becomes rougher and can include all types of violence, both psychological and physical [90, 91].

Prevention

DV should never be considered unimportant by health care professionals. When the woman is exposed to abuse during pregnancy, there are at least two potential survivors who are in danger. WHO [92] has indicated that reproductive health services are particularly suited to handle this complex problem, and therefore information about the topic should be available at the receptions. Moreover, health care professionals should be better prepared to address the issue and to provide help to exposed women [92]. In order to ensure the safety of pregnant women and their unborn infants, there is a clear need for disclosure with regard to women who live in a violent relationship [14, 93]. Bacchus et al. [94] showed that routine enquiry for DV during pregnancy increases the rate of detection, which is supported by a Cochrane review published year 2013 [95]. Moreover, pregnant women find it acceptable to be asked about exposure of violence, by their midwife/prenatal care provider [96, 97] if performed in a safe, confidential environment by health care professionals who are empathic and non-judgmental [22, 98]. However, DV against pregnant women is a delicate topic which still seems to be taboo in society [93, 99]. It is not unusual for a violence-exposed woman to believe that the violence is her own fault [22, 90] and to have feelings of shame [22, 100, 101]. Also, lack of consensus in the literature with regard to whether routine screening of DV during pregnancy can be justified illustrates the complexity of this controversial subject. A systematic review published in the year 2002 concerning quantitative studies conducted at primary care, emergency departments and antenatal clinics indicates a general lack of evidence in support of benefits associated with screening for DV during pregnancy, and therefore, screening programs in health care settings may not be justified [102]. However, more recent evidence suggests that screening for IPV during pregnancy

may be beneficial. A randomized controlled trial (RCT) with a brief cognitive behavioural intervention during prenatal care showed a visible positive effect on IPV and pregnancy outcome in a high risk minority, i.e. African-American women [103]. Another RCT demonstrated efficacy with behavioural intervention in addressing multiple risk factors congruent with reduced very preterm birth in an urban minority population [104]. Nevertheless, a Cochrane review published in 2013 shows that there is still no evidence concerning the long-term benefits for violence-exposed women with regard to screening them for IPV. Further, there is a lack of studies comparing the benefits of universal screening versus selective screening for high risk groups, such as pregnant women [95]. Another Cochrane review also published in 2013 showed insufficient evidence regarding the effectiveness of interventions for DV in relation to pregnancy outcomes [105]. Health practitioners need a clear understanding of the relationship between DV and pregnancy in order to make it possible to develop and implement effective prevention and interventions [7, 48, 93]. Furthermore, health care professionals who have received training are also more prone to conduct assessments for violence [7].

During the year 2002, the National Board of Health and Welfare [18] in Sweden carried out a project intending to develop methods for routine screening regarding VAW. Midwives at approximately 50 antenatal and youth clinics from three regions participated. The results from the project showed that hindrances for the 'screening' were uncertainty and lack of time. In contrast, adequate education, time and opportunity for reflection were important conditions to overcome hindrances (ibid). Today the extent to which abused women are addressed at antenatal care or not in Sweden is more or less random [106]. Nevertheless, midwives are recommended to disclose the violence [107]. According to WHO's clinical and policy guidelines from 2013, health care providers, as a minimum, should offer 'first line support' when faced with disclosure of violence, and such support includes being non-judgmental, supportive and endorsing to what the woman is saying, and not to be intrusive but to listen carefully [108]. Further, the health care professional should provide such care and support that the woman may need and should also ask her about history of violence. Such help may take the form of information about resources, providing or mobilising social support and assistance to increase safety for herself and her children, if any (ibid). Additionally, the health care provider should utilise structured questions that are carefully prepared in situations when there is an indication of violence [108]. According to WHO's clinical and policy guidelines from 2013, responding

to intimate partner violence and sexual VAW [108] in health care settings that are "woman-centred" care would be the most appropriate strategy with regard to this delicate matter.

Woman-Centred Care

Woman-centred care is the concept used to describe a philosophy of maternity care and is used both by the Australian College of Midwives [109] and the Royal College of Midwives [110], as it underpins the one-to-one relationship with the woman [111]. The Australian College of Midwives states that "midwife means 'with woman', which shapes the philosophy of working within a relationship with the woman [109]. The concept focuses on a woman's health needs, her expectations and aspirations [109]. This is a holistic approach that emphasises a respectful approach in the relationship with the unique woman and emphasises also the significance of informed choice as well as continuity of care and the woman's involvement in the care, clinical effectiveness, awareness and availability [109, 110]. As a step to develop midwives' philosophy of care in the Nordic countries within the framework of modern medical technology and institutional care, a midwifery model of woman-centred childbirth care has been developed [112], but not yet implemented in the childbirth care in the Nordic countries.

Complexity of the topic – ethics and laws

An ethical analysis prepared on request from the National Board of Health and Welfare published at the end of the year 2012 concerning the consequences of routine enquiry about violence by the health-care professionals and the social services shows more disadvantages than benefits by such screening [113]. The summary of the disadvantages shown in the report was as follows: i) risk for infringement to the woman's autonomy, inclusive risk of undermining the trust and the relationship already built-up to the caregiver, ii) questions about experience of violence can be experienced as a violation of integrity particularly if the woman has never experienced IPV, iii) for those who have experienced violence, such enquiry can awaken unpleasant memories, iv) a risk of escalation of the violence if the perpetrator becomes aware of disclosure of the violence, v) a risk of avoidance of health-care settings where it is known that screening of violence occurs, vi) a risk of distrust if adequate follow-up is lacking, vii) time consuming or a questionable concerning the extent to which such enquiry will require extra resources, including the time and cost of education everyone who is working clinically, for example at ANCs, viii) the partner can feel side-stepped and excluded if asked to leave the room for making the enquiry in privacy, viiii)

risk of undermining the trust in the midwife if the question is repeated despite denial when the question was posed the first time [113].

According to Swedish legislation, i.e. Health and Welfare 2§ HSL [114], the individual's autonomy is highly respected. However, it is of the utmost importance to inform the abused woman that evidence suggests that there are serious health risks if she remains in a violent relationship, both during pregnancy and afterwards. Also, it is important to inform the woman that the midwife/health care professionals is obligated to report to the social services if she/he has knowledge concerning DV when there are other children in the family [115, 116]. The unborn child is not considered as a juridical person, i.e. legal entity, according to the law text. However, the confidentiality between health care and social welfare may be annulled if there is a need of necessary care, treatment or other support and this without consent from the person, i) if younger than 18 years, ii) if the pregnant woman has drug problems, and iii) in order to protect the unborn baby [117]. The complexity of how to work with this delicate topic suggests that national recommendations and guidance for health-care professionals are needed. In addition, according to the midwife's code of ethics [118], a midwife should support and empower the woman and within the field of practice actively seek to resolve inherent conflicts. A midwife should also respect a woman's right to informed decision making and should promote the acceptance of responsibility for the outcomes of her choice.

Swedish Antenatal Care

In Sweden all pregnant women have equal right to ANC services, which are free of charge and available all over the country. According to a Swedish health care report, almost 100% of pregnant women use their right to utilize ANC services [119]. Midwives have the main responsibility for the normal pregnancy and for the supervision of the pregnant woman. Routine care during pregnancy consists of 8-10 visits, preferably to the same midwife, and one visit 8-10 weeks postpartum. In addition, the parents are invited to group support and education during pregnancy as a preparation for parenthood [120]. The father-to-be is welcome at all visits during pregnancy. Enquiry concerning psychosocial (living situation, employment, i.e.) and physical risk factors is standardised, but there is no routine enquiry about history of violence. Although there are recommendations from the Swedish Society of Obstetrics and Gynaecology regarding how to address the issue of exposure to violence during pregnancy [121], the ANC services may vary locally from county to county (p.13) [107]. Since 2011, the private care

facilities have increased in numbers, and women have the right to choose the type of care and midwife. At visits to the midwife, screening is performed for gestational diabetes, hypertension and other complications such as preeclampsia. An obstetrician is affiliated with the ANC units and consulted if necessary. In addition, there is usually access to a psychologist and a welfare officer on a consultation basis. Collaboration with the social services for individual matters is mostly achievable. Today, there are no national guidelines for dealing with violence during pregnancy, and the way in which midwives are working with this sensitive issue seems to differ both from county to county and from clinic to clinic.

AIM

The overall aim of this thesis was to investigate pregnant women's history of violence, experiences of domestic violence during pregnancy and to explore possible associations with outcome measures as well as background factors. A further aim was to elucidate midwives' awareness of domestic violence among pregnant women as well as women's experiences and management of domestic violence during pregnancy.

- to investigate whether self-reported history of violence or experienced violence during pregnancy is associated with increased risk of labour dystocia in nulliparous women at term (Paper I).
- to explore midwives' awareness of and clinical experience regarding domestic violence among pregnant women in southern Sweden (Paper II).
- to develop a grounded theoretical model of women's experiences of intimate partner violence during pregnancy and how they manage their situation (Paper III).
- to explore the prevalence of domestic violence among pregnant women in southwest Sweden in the region of Scania and to identify possible differences between groups with or without a history of violence. A further aim was to explore associations between domestic violence and potential risk factors such as; i) socio-demographic background variables ii) maternal characteristics iii) high risk health behaviour iv) self-reported health-status and sleep as well as symptoms of depression, and v) sense of coherence.

METHODS

In this thesis a multiple methods approach is used [122-124]. Papers I and IV have a quantitative and Papers II-III a qualitative approach (Table 1).

Table 1. An overview of the methods used in the studies presented in Papers I–IV.

	Study I	Study II	Study III	Study IV
Design	Population-based multi-centre cohort study	Descriptive design with focus group interviews	A grounded theory method with individual interviews	A cross-sectional study. First part of a longitudinal cohort study
Participants	2652 nulliparous women	16 midwives	10 survivors (mothers) who had experience of being exposed to IPV during pregnancy	1939 pregnant nulliparous and multiparous women
Setting	9 obstetric departments in Denmark, birth rates per year: 850-5400	16 midwives ANC units connected to a university hospital in southern Sweden	Survivors (mothers) living in the Scania region in Sweden	17 ANCs in south-west Scania in Sweden 1 ANC specialised for complicated pregnancies 1 activity group for women with history of drug
Data collection	Prospectively collected data May 2004 – July 2005. Self-report questionnaires administered at week 37 of gestation and obstetric records.	Focus group interviews, 3-5 midwives /group, May to June 2009. Network sampling and purposive selection.	Individual interviews December 2011-May 2012. 8 women were recruited by two welfare officers. 2 women responded to announcements.	Prospectively collected data March 2012 - September 2013. Self-report questionnaires administered at 12-13 weeks of gestation.
Data analysis	Chi-square analyses, Univariate and adjusted logistic and multiple regression analyses	Content text analysis	A grounded theory	Descriptive statistics, Chi-square analyses, Bivariate logistic and multiple regression analyses
Typology of violence	History of violence Domestic violence	Domestic violence	Intimate partner violence	History of violence Domestic violence Intimate partner violence

The first and the fourth studies are observational studies, as information is collected about one or more groups of subjects without conducting any intervention [122]. Both have a prospective design where surveys were collected. The first study (Paper I) was a cohort study with four surveys collected at different time points, which made it possible to investigate causal factors [122]. The following hypothesis was tested (Paper I), based on the adenoreceptor-theory [65].

H_1: Experience of self-reported 'history of violence' increases the risk of labour dystocia in nulliparous women at term.

The fourth study (Paper IV) has a prospective cross-sectional design, and it represents the results from a longitudinal cohort study where the data collection is still ongoing. This study was carried out not only to examine prevalence rates but also to investigate the association between exposure to DV and possible risk factors.

The second study (Paper II) has a descriptive and inductive design, which is informally often called a "bottom up" approach [125]. The process of inductive reasoning begins with specific observations relevant to the aim and after collecting data, the analysis can start, and some general conclusions or theories can be developed [125].The third study (Paper III) has a grounded theory (GT) design according to Glaser [124, 126], and is a theory-generating method. Thus, the researcher has identified an area of research, but no specific research question, as the aim is to explore what is the main concern for the informants and how they handle their situation (ibid).

Paper I

The material used in the first study (Paper I) originates from the Danish Dystocia Study (DDS) [76-78].

Criteria for labour dystocia

The diagnostic criteria for labour dystocia in this study are in accordance with the American College of Obstetrics and Gynecology criteria for dystocia in labour's second stage [74] and also with the criteria for labour dystocia in first and second stage described by the Danish Society for Obstetrics and Gynaecology [127, 128] (Table. 2). The diagnosis prompted augmentation [76-78].

Table 2. Definition of stages and phases of labour and diagnostic criteria for labour dystocia for current study [76-78].

Stage of labour	Definition of stages and phases	Diagnostic criteria for labour dystocia
First stage	From onset of regular contractions leading to cervical dilatation	
Latent phase	Cervix dilatation 0 - 3.9 cm	Not given in this phase
Active phase	Cervix dilatation ≥ 4 cm	< 2 cm assessed over four hours
Second stage	From full dilatation of cervix until the baby is born	
Descending phase	From full dilatation of cervix to strong and irresistible urge to push	No descending ≥ 2 hours or ≥ 3 hours if epidural was administered
Expulsive phase	Strong and irresistible pushing during the major part of the contractions	No progress 1 hour

Design

This cohort study follows over time a homogeneous group with respect to nulliparous women, but the women differ in terms of other characteristics (i.e. age, smoking, alcohol consumption, education). The data were collected longitudinally, i.e. at four points in time: at 37 weeks of gestation, at admission to the delivery department, at diagnosis of labour dystocia and postpartum. Inclusion criteria were Danish speaking (i.e. reading/understanding) nulliparous women 18 years of age or older, with a singleton pregnancy in cephalic presentation and no planned elective Caesarean delivery or induction of labour.

Participants and Setting

Four large university hospitals, three county hospitals, and two local district departments helped with the recruitment to the DDS [76-78]. Initially, there were 8099 women potentially eligible for inclusion. However, 6356 women were invited to the DDS study and 5484 women accepted participation (external drop-out was 21.5%). For the current study, a data set was available for analysis of violence before and during pregnancy on 2652 nulliparous women. Among these, 985 (37.1%) met the protocol criteria for labour dystocia (Table 2).

Data Collection

Eight items from the questionnaire that dealt with violence and that originated from the short form of the Conflict Tactics Scale 2 [3] were used to address the question at issue. Questions concerning violence used in the current study were, for example: *Have you ever been exposed to threat of violence? Have you ever been kicked, struck with the fist or an object? Have you ever been strangulated, or attempted assault with knife or firearm? Have you ever been exposed to accomplished sexual violence?* (Appendix 1). This instrument has been used in large population-based studies in Denmark, and translation from English to Danish and back translation to English were performed prior to the Danish Health and Morbidity survey 2000 [129]. The questions were adapted for a pregnant cohort in the DDS [76-78]. Three alternatives were provided as possible answers: 'yes during this pregnancy', 'yes earlier', and 'no never'. Women were not required to provide information concerning the number of episodes of violence that had occurred. Forty percent of the questionnaires were completed in an internet version.

Variables and definitions

Prior to analysis the following background and lifestyle variables were categorised and classified as follows. *Maternal age* was categorised as 18-24, 25-29, 30-34 and >34 years. *Country of origin* was categorised as born in Denmark, born in another Nordic country, or born in another country. *Cohabiting status* was dichotomised as "yes" or "no". *Educational status* was dichotomised as ≤ 10 years or > 10 years and *employment status* as employed or unemployed (including voluntarily unemployed or studying). *Smoking status* was dichotomised as "yes" (if the woman was a daily smoker or was smoking at some point during pregnancy) or "no" (never smoked or alternatively, if she had ceased before pregnancy). U*se of alcohol* was dichotomised as "yes" (if the woman had been drinking alcohol during pregnancy at the time when the questionnaire was administered) or "no" (if the woman had been drinking solely alcohol-free beverages). *Body mass index* (BMI) was calculated from maternal weight and height before the pregnancy and classified as normal or low weight if BMI was 25, or overweight when > 25. *Threat of violence* was defined as threat of violence including threat of sexual and other forms of violence (Appendix 1 in paper I, Questions: 1, 6 -7). *Physical violence* was defined as all physical violence including being pushed or beaten, strangleholds, and attack with knife or gun (Appendix 1. Questions: 2-5). *Sexual violence* was defined as sexual coercion or rape and acts of sexual cruelty (Appendix 1. Question: 8). *Serious, physical violence* was defined as beatings, strangleholds, attack with knife and gun, coercion or rape and acts of cruelty (Appendix 1. Questions: 3-5, 8).

Statistical analysis

Non-parametric tests, i.e. chi-square, were used to investigate differences in background characteristics between women who were exposed to violence and women not exposed to violence. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated for the crude associations between various background and lifestyle characteristics (independent variables) with labour dystocia as the dependent variable for logistic regression. For logistic regression analysis, age was dichotomised as ≤ 24 or >24 years and country of origin as Danish or non-Danish. Univariate logistic regression was used to analyse the crude OR for dystocia in relation to combined various background and lifestyle characteristics and self-reported history of violence. ORs were used as estimates of relative risk. Adjusted logistic regression models were constructed to estimate OR and 95% CI for association of history of violence combined with consumption of alcohol in late pregnancy and labour dystocia. Potential confounders of association to labour dystocia included in the models were age, smoking, and overweight. Further, multiple regression was used to analyse DV (solely) and history of violence as independent variables (two separate analyses) together with the other well-documented maternal characteristics (maternal age, BMI and smoking) associated with labour dystocia. Statistical significant was defined as $p < 0.05$. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) version 16.0 for Windows.

Paper II

An inductive qualitative design was chosen to explore midwives' awareness of and clinical experience regarding DV among pregnant women.

Focus Group

The focus group interview method is particularly useful for determining people's perceptions, behaviours and attitudes, experiences, thoughts and feelings with regard to an issue or a problem [123]. The purpose of conducting focus groups is to listen and gather opinions. The questions are carefully predetermined and sequenced, using an "interview guide" (Appendix 2). Focus groups are useful for gaining an understanding about a certain issue. '*How do they think about it? How do they feel about it? How do they talk about it? What do they like or dislike about it? What keeps them from doing it?*' (p.9) [123]. According to the methods suggested by Krueger and Casey [123], the interviews were performed in a non-directive manner using open-ended questions, and the atmosphere allowed participants to respond without setting boundaries or providing clues for potential response categories. The intent of the focus group is to promote self-

disclosure among participants. When the participants feel safe and comfortable with other participants like themselves, here midwives, there is a greater chance that they will reveal sensitive information [123].

Participants and Setting

Initially, it was decided to have a focus group size of 4-5 participants. This size was regarded as optimal because the group must be small enough for everyone to have an opportunity to share insights [123] and also because of the complexity of the topic. Four focus groups were assembled, with 3-5 voluntary participants in each group, such that one group had three, two had four, and one five midwives. The demographic area where the recruited midwives were working is multicultural and ethnically heterogeneous. The particular occupational experience of the recruited midwives varied within the group and included activities such as working with women who have a 'fear of delivery', or 'substance abusers', or 'delivery', 'postpartum care' or 'sexual health guidance', and the mean working experience was 22 (min 4 - max 36) years. All the participants were midwives with either current or previous experience of working at ANCs, and all of them were female.

Recruitment

The midwives were initially recruited by network sampling, complemented by purposive selection [130]. The focus group interviews were unstructured and performed either at the midwives' work place or at the university in Malmö between May and June 2009. The participants were offered a light meal during the interviews. The first researcher (HF) was the moderator in all of the focus group interviews. The focus group interviews were recorded, and field notes were taken by the co-researcher who attended the first two focus groups as observer. A brief (15 minutes) consultation was held with the co-researcher after the first two focus group interviews, to discuss what had occurred, and the analytic sequence started at that point. The length of time for the focus group interviews varied between 57-92 minutes. All interviews started with an introductory question whereby the participants were asked to provide brief verbal associations (two or three words) concerning a pregnant woman exposed to violence. Then the conversation moved over to the key questions starting with: *Would you tell me how you work with pregnant women who are exposed to DV?* In the 'interview guide' there were four themes: 1) Recognition/Knowledge about, 2) What to do/ What do you do? 3) Strategy, and 4) Impact (Appendix 2). If the themes did not come up spontaneously, some follow-up questions could be asked, for example; *What impact does it have on you when you suspect that the pregnant woman is*

exposed to DV? What possibilities and obstacles do you have? Probing questions were, for example: *Can you develop that further? How do you react when you hear this history? How do the rest of you feel, would you like to comment on this? What thoughts do you have? Can you develop these a bit?* The final question was: *Is there anything you would like to add?*

Data Analysis

Thematic content analysis, inspired by Burnard, [131-133] was used for analysing the material. Both manifest and latent content analysis was used. The first author (HF) listened to the interviews immediately after the collection of the data. The interviews were subsequently transcribed verbatim by the first author. The respondents seldom digressed from the topic, and the 'dross'[1] was nearly non-existent. Each transcript was read thoroughly several times, and short notes or 'memos' were made in the margin of the paper. Open coding very close to the text was performed resulting in 1156 words and phrases. The co-author, independently also carried out open coding of one of the interviews. Afterwards, the authors compared and discussed their coding results, and consensus was achieved concerning the themes in the material. An initial coding framework from the interview transcripts was made to make further data processing easier. All duplication concepts and phrases were eliminated, however, without destroying the context. Initially, 26 sub-categories emerged, which were later reduced to fifteen after looking for overlapping or similar categories. The final coding framework was made after reduction of the categories in the initial coding framework, by collapsing two or more sub-categories. In the end there were 272 concepts and phrases. All text was grouped together under suitable headings, which in the end yielded thirteen sub-categories. Five categories emerged from these sub-categories, which together formed one main category which describes the main results from the interviews. Discussions and consensus between the authors was reached throughout the entire analysing process. Quotations that captured the essence of what was said were chosen from the entire text for every sub-category and category to confirm credibility. The dialogue interactions presented in the results (Paper II) reflect some of the midwives' feelings and attitudes.

Paper III

A GT method, as developed by Glaser [124, 134], was used to develop a grounded theoretical model of women's experiences of IPV during pregnancy and how they manage their situation.

1 'off the topic' material

A Grounded Theory

In GT, it is behaviours, not individuals that are categorized [124]. GT is a process of constant comparison of incidents in the narratives, and the researcher searches for similar patterns, are labelled as a category. It is a method grounded in empirical data. The method is often used to build a theoretical model of what is happening and how the situation is handled (ibid). GT allows categories and their properties grounded from the empirical material to be integrated into a hypothesis that later results in a theory or a theoretic model. In the present study, the patterns of behaviour are derived from those women who have experienced IPV while pregnant.

Participants and Setting

Women were eligible for inclusion in the study if they were mothers living in the Scania region in Sweden, had experience of being exposed to IPV during pregnancy (survivors), were separated from the perpetrator, and able to speak and understand Swedish. Ten women aged 21-44 years agreed to participate in the study. Their educational level ranged from less than high school up to university studies. Eight of the women were Swedish-born, two of whom had foreign-born parents, and two of the women were immigrants. Eight women had only one child with the perpetrator and were primiparae. Two were multiparae and had three, respectively, two children with the perpetrator. The duration of the relationship with the perpetrator varied from 1.5 to 20 years. The age of the woman's youngest child ranged from 5 months to 4 years.

Recruitment

The data collection was performed between December 2011 and May 2012. Recruitment of participants ended when no new information was forthcoming, indicating that saturation [124] had been achieved. Eight women were recruited by two welfare officers working at women's shelters who acted as gatekeepers. They informed all their clients who fulfilled the inclusion criteria about the research project, showed them an announcement about the study and enquired about participation. All women agreed to participate, and either the welfare officer acted as an intermediary or the survivor contacted the main researcher by herself. Two women responded to announcements that had been posted at two separate emergency wards for women and contacted the first researcher (HF). The informants received written information about the study before they made their decision, and they were given the opportunity to obtain further clarification from the first author. The informants voluntarily gave their written consent to

participate and spoke freely about their lived experience, through narratives, of IPV before and during pregnancy. All interviews began with informal talk about the child/children and questions about the women's background (age, education, etc.), following which the main research question was posed: *Will you please tell me your story, your experience of being exposed to violence during pregnancy?* The question was often followed by some explanation that such violence could be both physical and psychological. More specific questions were posed later during the interview, such as *how did you manage?* The first author (HF) conducted all the interviews. The women were interviewed in a safe place of their own choosing, so that they could feel free to talk at their own convenience. Five interviews were performed at the informants' homes, three at the women's shelter and two at the university. The interviews lasted between 49 minutes to 3 hours and 20 minutes.

Data Analysis

The analytic process started already during the interviews, and the first author also listened to the recorded text shortly after each interview, and memos were written down. During the data collection period the first author used a notebook where memos, thoughts and ideas were written down. According to the GT concept, "all is data" (p.12) [124]. The data collection ended when saturation in the categorisation was reached. The open coding started immediately in connection with the transcription of the interviews, which was performed by the first author. Also, the two co-authors independently carried out open coding of two randomly chosen interviews. Afterwards, the authors compared and discussed their coding results, and consensus was reached. The NVivo program was used for gathering and grouping data. The substantive coding of the material continued, and memos and annotations were continually created. During the coding process the following questions were considered: *What is this data, and how does it fit into the study? What category does this incident indicate? What is actually happening in the data? What is the informant's main concern? How does the informant deal with this concern, and how is the concern resolved during the pregnancy?* [124]. Constant comparison of incidents generated categories and their properties. Already in the first interview a conceivable core category emerged. When a mutual decision was reached designating this as the core category, the selective coding process started, i.e. which meant coding solely material that related to the core category and its concepts or property [124]. The theoretical memos, illustrated by figures and written text, were discussed throughout the entire analytic process. When saturation was reached regarding the core category and its concepts, the next stage of the analysis was to identify the emerging theoretical codes such that

the underlying patterns became visible and could be aggregated into a theoretical model. According to the GT method, a literature review was not carried out until the theoretical model had emerged [124].

Paper IV

The *aim* of the study was to explore the prevalence of DV among pregnant women in southwest Sweden in the region of Scania and to identify possible differences between groups with or without a history of violence. A further aim was to explore associations between DV and potential risk factors such as; i) socio-demographic background variables ii) maternal characteristics iii) high risk health behaviour iv) self-reported health-status and sleep as well as symptoms of depression, and v) sense of coherence.

Design

A cross-sectional design was used to examine the baseline assessment of a longitudinal, cohort study. Pregnant women who fulfilled the inclusion criteria for the study were consecutively recruited during their first visit at ANC for study participation. *Inclusion criteria* were women ≥ 18 years, registered at ANC when pregnant and who understood and could write Swedish or English. A power analyses indicated that at least 2000 participants were needed to detect with 98% certainty at least 2.5 % prevalence of DV.

Participants and Setting

The geographical area belonging to the county council of southwest Scania in Sweden is characterised by multicultural diversity. Initially, 26 ANCs in the area of a multicultural city with > 300 000 inhabitants, a university city with > 110 000 thousand inhabitants and surrounding municipalities were asked to participate in this study, and nine ANCs declined, among which five were privately driven. The population includes all registered pregnant women at 17 ANCs situated in a multicultural city (n=7), a university city (n=4) and smaller municipalities (n=6). Also included were one ANC with specialised care for complicated pregnancies such as women with diabetes and one unique activity group for women with history of drug abuse in need of extra support. Two of the ANCs in the multicultural city, one in the University City, and one in the municipalities are private driven. Most of the women would presumably give birth at the regional university hospital, which has two separate delivery departments, with a birth rate of circa 8000-9000 deliveries per year.

Recruitment

Data were collected prospectively between March 2012 and September 2013. Approximately 80 midwives (the exact number uncertain due to parental leave, sickness leave or changing working place) performed the recruitment. Before initiating the study all recruiting midwives were informed about the study design (by the first author) and were offered a half day lecture about the topic, and one fourth of the midwives participated. Every participating ANC unit had the responsibility to recruit together as one unit, and maximally 24 to 29 questionnaires were distributed to each midwife. The pregnant women were invited to participate during their first visit to ANC, in the 6-8th week of pregnancy or at the visit when registered at the ANC in gestational weeks 11-13. If the midwife neglected to ask about participation at the occasion of registration, she had the opportunity to recruit that woman at the latest during gestational week 25. Even if the woman had late entry at the ANC, it was nevertheless encouraged to recruit her. This to minimize underreporting of violence [135] since women with history of IPV are suggested to have higher odds of unintended pregnancies [84] as well as late miscarriage [41] and premature birth is common among violence exposed women [11]. The pregnant women received individually verbal and written information about the study from their midwife and were invited to answer the questionnaire in a private place at the ANC (possibilities for privacy varied between the ANCs). After giving written informed consent, they received the questionnaire. The participant placed the completed questionnaire in a sealed envelope together with the signed consent form, which was placed in a smaller sealed envelope and handed it over to the recruiting midwife. All completed questionnaires were kept in a safe place until they were collected every third week by the first author (HF), who gave each questionnaire (participant) a unique cod. In the waiting room there was a poster with information about the study and contact information to the first author. Both participants and recruiting midwives had the possibility to e-mail or call the first author whenever they wanted. After half of the recruiting period had elapsed, one additional half-day lecture about the topic was offered to the recruiting midwives. More than two-thirds of the midwives attended at this time. The lecture occasions were offered in order to promote an interest in the topic and thus to create a higher level of engagement among the recruiters.

Questionnaire and Instruments

All data were based on a self-administrated questionnaire, i.e. Questionnaire I, containing 122 questions (30 pages) that took approximately 15-30 minutes to

answer, depending on the individual. The questionnaire was developed for use in the longitudinal cohort study with three Questionnaires I-III to be administered on three separate occasions. At 33-36 weeks of gestation and one year postpartum at Child-welfare centre (in process). The longitudinal study was presented as a study of *"Pregnant women and new mothers' health and life experience"* where *'life experience'* covers experienced violence (Appendix 3).

NorVold Abuse Questionnaire (NorAQ)

The main instrument was NorAQ, which has been constructed and validated in Nordic countries [4]. The abuse variables in NorAQ have previously shown good reliability, validity and specificity [4]. All questions about abuse from the NorAQ questionnaire were administered in their original format in order to maintain the instrument's reliability, validity and specificity. This instrument measures emotional, physical and sexual abuse during childhood (< 18 years) and adulthood (≥ 18 years), and also includes a question about the age when first subjected to abuse. The current study also included a yes/no question about experience of abuse during the past 12 months, followed by the question "by whom", with eight alternatives and the possibility of *a write-in alternative*. All answer alternatives ('boxes to tick in') are followed by the alternative "by male" or "by female".

Specific definitions for NorAQ

The study uses Swahnberg et al.'s [4] definitions for severity of abuse, classified as mild, moderate or severe and also type of abuse. *Mild emotional abuse* is the experience of being systematically and persistently repressed, degraded or humiliated. *Moderate emotional abuse* is the experience of being systematically and by threat or force restricted with regard to contacts with others or subjected to total control concerning what one may and may not do. *Severe emotional abuse* is the experience of living in fear due to systematic and persistent threats by someone close. *Mild physical abuse* is being hit, smacked in the face or held in involuntary restraint. *Moderate physical abuse* is being hit with the fist(s) or with a hard object, being kicked, violently pushed, or beaten, or similar experiences. *Severe physical abuse* is being exposed to life threatening experiences, such as attempted strangulation, being confronted by a weapon or knife, or any other similar act. *Mild sexual abuse* (with no genital act) is being touched on parts of the body other than the genitals in a sexual way against one's will or being forced to touch other parts of another person's body in a sexual way. Further, *mild sexual abuse* (emotional or sexual humiliation) is the experience of being forced

to watch a pornographic film, to participate in a pornographic film or similar, being forced to show one's body naked or to look at someone else's naked body. *Moderate sexual abuse* (genital contact) is the experience of being touched on the genitals against one's will, being forced to satisfy him/herself sexually, or forced to touch another person's genitals. *Severe sexual abuse* (penetration) is forced penetration of the penis into the vagina, mouth or rectum, or forced penetration or attempted penetration by an object or other part of the body into the vagina, mouth or rectum [4].

Two questions concerning health and sleep, respectively, from the original NorAQ [4] were also included. The health question was "How do you feel your health has been, generally speaking, for the last 12 months?" with four alternatives: i) very good, ii) rather good, iii) rather poor, iiii) very poor. The sleep question was "During the last 12 months, have you suffered from insomnia to such an extent that you have had problems coping with your daily life?" with four alternatives: i) No, ii) yes but rarely, iii) yes sometimes, iiii) yes often. In addition, the questionnaire contained questions validated and applied in the Nordic abuse study [33] relating to health and socio-demographic background.

Additional questions to the questionnaire
One modified question was used from the *Abuse Assessment Screen* [136] : "*Have you been exposed to abuse during current pregnancy?" in order to* investigate emotional, physical, and sexual abuse (yes/no, if yes by whom). One modified question concerned private economy: "*If you received an unexpected bill of 20.000 SEK (approximately USD 3000 or 1875 GBP or 2243 EUR,) how easy would it be for you to pay within a week?"* [137] Choices were: i) no problem, ii) somewhat difficult, iii) very difficult.

Sense of Coherence Scale (SOC-13)
The SOC-13 measures how people view life and in stressful situations, how they identify and use their own resources, as well as general resistance resources (GRR's), to maintain and improve their health [138]. The SOC-scale instrument is reliable, valid and cross-culturally applicable with acceptable face validity [139]. Strong SOC (high score) is a significant predictor of good health [140].

Edinburgh Post-natal Depression Scale (EPDS)
Symptoms of depression were assessed using the EPDS, an instrument covering common symptoms of depression that is designed to screen for risk of depression

during the post-natal period, but can also be used during pregnancy (EDS) [141]. The only difference between EPDS and EDS is that the letter P which stands for post-natal is removed from the abbreviation. All items are the same. The EPDS has satisfactory sensitivity (85%) and specificity (77%) [142], and has been validated in a Swedish community sample against criteria for major depression, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) [143]. Also, the EPDS has been validated for the detection of depressive symptoms during pregnancy with an optimal cut-off at ≥ 13 indicating a diagnosis of probable depression (DSM-IV) [144]. The instrument has a sensitivity of 77% according to DSM-IV criteria and a specificity of 94%. The current study used the EDS full scale with 10 items on a four point scale from 0-3 (high scores = more symptoms of depression).

Alcohol Use Disorder Identification Test (AUDIT)
In the current study one question from the AUDIT was used for the detection of harmful alcohol consumption [145]. The question, which is the first item in the AUDIT, concerns the frequency of drinking alcohol. The answer alternatives were: 'never' or the amount of beverage consumption.

Variables and classification

Age was classified as 18-25, 26-34 and ≥ 35 years. *Country of origi*n was classified as born in Sweden, in other Nordic countries or in other countries. *Language was classified as* Swedish language or foreign language spoken at home. *Educational status* was classified as compulsory schooling or less, high school or less, or university. *Cohabiting status was classified as* single, living apart, or common law spouse/married. *Employment status was classified as* employed (including parental leaf and studying) or unemployed (including long illness). *Financial distress* was dichotomised as "no" (no problem) or "yes" (somewhat difficult and very difficult).

Maternal characteristics included the following measures: body mass index, use of tobacco, snuff and alcohol, whether the pregnancy was intentional, and history of abortion and miscarriage. BMI was calculated from maternal weight and height before the pregnancy and classified according to WHO's definition [146], underweight (< 18.5), normal weight (18.50- 24.99), overweight (≥ 25- 29.99), and obese (≥ 30). Smoking and snuffing were classified as "yes" (if the woman was a daily smoker or snuffer or smoking/snuffing at some point during pregnancy) and "no" (never smoked/snuffed or ceased before pregnancy).

Use of alcohol was classified as "yes" or "no". Unintended pregnancy was classified as "yes" or "no". Abortion/miscarriage was classified as "no", "miscarriage", "abortion" or both "miscarriage/abortion".

Statistical Analysis

Descriptive statistics were used to show prevalence and severity of lifetime experience of any type and level of abuse (Table 1). Chi-square analysis was used to investigate differences in socio-demographic and maternal characteristics between women with and without reported 'history of violence' (Table 2, 3). OR and 95% CI were calculated for the crude associations between possible risk factors and 'DV during pregnancy', with 'DV during pregnancy' as a dependent variable for bivariate logistic regression. *Age* was dichotomised as 18-34 or ≥ 35 years, educational status as high school or less versus university, *language* as foreign language spoken at home or Swedish (solely), *cohabiting status* as single/living apart or cohabiting with spouse/married, and *smoking and/or snuffing* as "yes" versus "no". *BMI* was dichotomised as under-/normal weight or overweight/obese, *miscarriage or abortion history* as miscarriages/abortions versus solely abortion, miscarriages or not at all, *self-reported health* as poor health versus rather good health, *lack of sleep* as "yes sometimes" and "yes often" versus *adequate sleep* "no" and "yes but rarely". For the purpose of bivariate logistic regression, a variable for depression was computed on the basis of EDS scores, i.e. symptoms of depression during pregnancy, whereby an optimal cut-off of ≥ 13 was chosen as representing presence of symptoms of depression [144]. The EDS score was computed only for those responding to all ten questions (missing = 62). In order to analyse the association between SOC score and exposure to 'DV during pregnancy', the SOC-scale was dichotomised, utilizing the first quartile of the distribution as a cut-off value (SOC ≤ 64 and SOC >64) [147]. The SOC score was only computed for those responding to all thirteen items (missing = 101). Multiple logistic regression was performed in order to evaluate the influence of variables that were significant in the bivariate logistic regression with 'DV during pregnancy' as a dependent variable; the multiple logistic regression analyses were thus step-wise adjusted (Forward selection) for EDS ≥ 13, SOC low score, miscarriage/abortion, single/living apart, lack of sleep, unemployment and also age and parity. Statistical significance was accepted at $p<0.05$. Statistical analyses were performed using SPSS version 21.0 for Windows.

RESEARCH ETHICAL CONSIDERATIONS

In accordance with the World Medical Association Declaration of Helsinki [148], the likelihood of benefits from the results of the current research was considered. The philosophical structure is built on the principle used in ethical decision making such as non-maleficence, beneficence, autonomy and justice [149]. The participants were assured of confidentiality, and the principles of autonomy and beneficence were met by the voluntary aspect of all participation in the studies (Paper I-IV). Informed written consent was obtained from all informants (Paper II-IV) and a unique code was used to distinguish data sources. The participant's right to withdraw from the study at any time without affecting care provision was clarified in the received written information before decision taking for participating. Approval was provided from the Regional Ethical Review Board in southern Sweden Dnr: 640/2008 for study II and IV and Dnr: 2011/336, 2011/703 for study III.

Study I

Permission to use a dataset for performing this study was obtained by the owner of the dataset who already had obtained a permission to establish the database from the Danish Data Protection Agency j.no. 2004-41-3995. Further, since no invasive procedures were applied in the study, no Ethics Committee System approval was required by Danish law. However, the policy of the Helsinki Declaration [148] was followed throughout the data collection and analyses. Written consent was obtained and person-specific data were protected by codes.

Study II

The relational ethics is grounded in commitments to each other, i.e. "the day to day ethical action" [150] and fits very well when considering recruitment to study II. Presumably, the caring midwife is aware of the fact that DV during pregnancy

is a serious public health issue which threatens maternal and foetal health outcomes. Therefore, it might not be that easy to discuss such delicate matters in a group of colleagues when she/he is expected to talk about shortcomings as well as good examples of caring. Relational ethics, which means to be sensitive to a particular situation through opening a dialog between and among individuals, is suitable in the focus group context. One of the three core elements[2] of relational ethics is a *mutual respect,* which includes both self-respect and respect for others and from others (p.67-69) [151]. "My" perspective can be different from another person's point of view. However, as a professional health care person, researcher and human being it is crucial to be able to listen to my colleagues with a respectful attitude because the communication with others is part of the ethics itself. According to the relational ethic, midwives most likely from time to time reflect upon whether they can act in the way they believe they should or not. Does the environment allow it? What role do societal attitudes and perspectives have to play in individual decision making? However, is it ethical to close your eyes and be silent? What does the code of ethics for midwives say? When the International Code of Ethics for midwifes [118] is taken into consideration, it becomes extremely clear how to act.

> *"Midwives respond to the psychological, physical, emotional and spiritual needs of women seeking health care, whatever their circumstances"* [118].

The dilemma when considering recruiting midwives to study II was the possibility of asking a midwife who had had own experience of abuse or had experienced-based knowledge about on-going abuse during pregnancy where she has not acted and therefore felt that it was awkward to take part in the study. However, the risk of awakening "bad" memories was considered less important than obtaining answers to the research question, because of the future work with abused pregnant women and their offspring's health outcome.

Study III- IV

According to the World Medical Association Declaration of Helsinki, "some research populations are more vulnerable than others and need special protection" [148]. Violence during pregnancy is a research topic that raises important ethical and methodological challenges in addition to those challenges that are related to research on human subjects in general [135]. WHO's ethical and safety recommendations for research on DV against women "Putting Woman first" have therefore been followed [135]. Here, not only the safety

2 Three core elements in relations ethics are meaningful interaction, engagement and mutual respect.

of the respondents is highlighted, but even the safety of the research team and that this safety consideration should guide all decisions in the project [135]. By following the WHO ethical and safety recommendations for research about DV against women, we endeavoured to design the study to minimise the risk of obtaining an underestimate of the actual figures [135]. It was important to recruit pregnant women who live in violent relationships in a safe way so that they need not be afraid of reprisal from the perpetrator, but even in a safe way for all who were involved in the recruitment and the research team, according to guide principles from WHO [135]. It is unethical to ignore the risk for women who are experiencing violence and are participating in the survey because it might provoke further violence. According to one of three core elements in the relational ethics, there is a need to try to understand the other's situation, perspective and vulnerability or in other words 'engagement' (p.103) [151]. Furthermore, it is unethical to conduct a prevalence study which might result in an under-reporting of the violence [135]. To minimize under-reporting of violence, prevalence studies need to be carefully planned methodologically and build upon current research experience. "Bad data may be worse than no data, because low prevalence estimates could potentially be used to question the importance of violence as a legitimate area of concern" p.15 [135]. On the one hand, it was necessary to consider the women's and health care personnel's safety and on the other hand, to design and recruit in such a way that under-reporting would be minimised. Additionally, it was important that the survey on violence would be framed in a way that was congruent with the woman's need to be fully informed about the nature of the questions [135]. This is the reason for camouflaging the project and not introducing it to the household and wider community as a survey on violence. Therefore, the study was framed in a different way and given the name "Pregnant women and new mothers' health and life experience", where 'life experience' covers experienced violence. However, the recruitment to the prevalence study was experienced by the research team as a dilemma because of conflicting ethical issues and because many midwives were involved in the recruitment. To deal with possible feelings of dependency on the recruiting midwife (Paper IV), both the instructions given to the recruiting midwives and the information letter were important. The midwives were instructed before study start to ask *all* pregnant women passing through the receiving area at the ANC in order not to stigmatise the issue and not to push the woman to participate in the study, and *only ask* for participation followed by giving her the written information letter where the aim of the study was very clearly written, as follows. "*The study aims to identify the extent of abuse in intimate relationships in pregnant women and to identify possible risk factors.*" Also, the following sentence was written in the information letter: "*It is completely free to discontinue participation at any time*

you want and it will not affect in any way the treatment or care you receive." The questions about abuse in the questionnaire could be memory triggers and induce negative and sad feelings in the respondents. In case a participant was in need of help, we had two voluntary welfare officers working at a shelter as a back-up for participants in study 3 and 4 (Papers III-IV).

Previous research has shown an association between physical abuse and premature labour [11]. Therefore, the recruitment needed to start in early pregnancy and the recruitment needed to be conducted in a consecutive manner in order to obtain as correct an estimate as possible of the true prevalence. After having received informed written consent at the first visit to the ANC, the pregnant women received the first questionnaire, which was also repeated later during their pregnancy (about 34-36 weeks of gestation, not included in the thesis). This was done with the aim of exploring both the prevalence and incidence of the DV and IPV (solely) during pregnancy, as it has been shown that repeated questioning is useful for increasing the likelihood of reporting experiences of physical violence [24, 35].

Perhaps it is easy for some midwives or health care professionals to think that "this is not my problem; this is the woman's private matter". However, if one considers the International Council of Nurses (ICN) code of ethics [152], then it becomes clear how to act. The fundamental responsibilities are to promote health, to prevent illness, to restore health and to alleviate suffering (ibid). Nevertheless, it can be frustrating for the midwife if there is no plan for taking care of women who are exposed to violence and the risk for escalating the violence that the woman is exposed to is very difficult to evaluate. In health care environments the focus on efficiency and on doing more, faster and better is predominating and increases the demands on the care giver. This may endanger the holistic approach, and the caring and committed persons might feel alone, powerless and voiceless [150]. The fact is that DV during pregnancy is a public health matter and poses a hazard not only to the health and life of the mother to be, but even to health and life of the unborn baby [7, 9]. Evidence suggests that many women find participating in violence research beneficial [153], and it can be the turning point for the exposed woman. Even questioning pregnant women at the antenatal care unit can be the turning point and transitional period for exposed women. However, questions about experience of violence without well-grounded apprehension can be experienced as a violation of personal integrity, especially if the woman has never experienced IPV, and this might further damage the trust and the relationship built up with the midwife (caregiver).

RESULTS

The main results from each study are presented separately underneath the corresponding paper.

Paper I

In the first study (Paper I) more than one-third or 940 (35.4 %) women of the total cohort (n = 2652) had been exposed to violence ever in their lifetime, i.e. before and/or during pregnancy, and 914 (34.5 %) reported experienced 'violence before pregnancy'. Also, 66 (2.5 %) women reported violence during current pregnancy, and of these, 26 (39.5 %) were exposed to 'violence for the first time during pregnancy'.

In the total cohort (n = 2652), the mean age of all nulliparous women was 28.2 years (SD 4.03, min 18 max 43), and 92.5 % of the women had Danish ethnicity. Maternal characteristics among the women who reported 'history of violence' (n = 940) compared to women with no 'history of violence' (n = 1712) were as follows. Significantly more exposed women were in the 18-24 age category ($p < 0.001$), were non-cohabiting ($p = 0.004$), had a lower educational level (≤ 10 years) ($p < 0.001$) and were more often unemployed ($p < 0.001$). Finally, twenty-four percent of the entire cohort of nulliparous women were smokers at term or at some point during pregnancy. Exposure to violence was proportionally more often reported by smokers than by non-smokers compared to women with no 'history of violence' ($p < 0.001$). The results showed no association between experienced violence and labour dystocia in nulliparous women at term (Table 3).

Further, women who consumed alcohol in the third trimester during pregnancy and had experienced exposure to 'history of violence' had an increased crude risk for dystocia at term (exposed: OR 1.45, 95 % CI: 1.07-1.96) compared to

alcohol consumers without 'history of violence' (non-exposed: OR 0.93, 95 % CI: 0.74-1.18). When adjusted for age, smoking and overweight, the risk for dystocia at term was slightly increased by "history of exposure to violence", OR 1.39, 95% CI (1.01 – 1.91) compared to alcohol consumers without 'history of violence', OR 0.91, 95 % CI (0.71-1.15).

Table 3. Analysis of the association between self-reported 'history of violence' and the diagnosis labour dystocia (n = 985) presented as crude OR. Total cohort (n = 2652).

Variable	n (%)	Crude OR	95% CI
History of violence	940 (35.4)	0.91	0.77-1.08
Violence before pregnancy	914 (34.5)	0.90	0.77-1.07
Violence during pregnancy	66 (2.5)	0.90	0.54-1.50
First time violence during pregnancy	26 (1.0)	1.24	0.56-2.71
Threat of violence	501 (19.0)	0.97	0.79-1.18
Physical violence	785 (30.0)	0.93	0.78-1.11
Sexual violence	164 (6.0)	1.18	0.85-1.62
Serious physical violence	451 (17.0)	1.00	0.81-1.23

A multiple regression performed with DV (solely) as an independent variable, together with factors already known to be associated with dystocia such as maternal age, BMI and smoking, showed no significant association to dystocia at term, OR 1.23 95% CI (0.89 – 1.69). Women older than 24 years and women with pre-pregnancy overweight had significantly increased risk for dystocia at term with OR 1.53 95% CI (1.16 -2.00), respectively OR 1.31 95% CI (1.07-1.62). Further, multiple regression with 'history of violence' as an independent variable together with age, BMI and smoking showed no association with labour dystocia at term, i.e. OR 0.98 95% CI (0.81-1.18).

Paper II

In Paper II the findings yielded five categories; '*Knowledge about 'the different faces' of violence', 'Identified and visible vulnerable groups', 'Barriers towards asking the right questions', 'Handling the delicate situation' and 'The crucial role of the midwife'*. Each one of these categories subsumed two to three sub-categories. All the categories with sub-categories formed one main category '*Failing both mother and the unborn baby*' (Fig. 2).

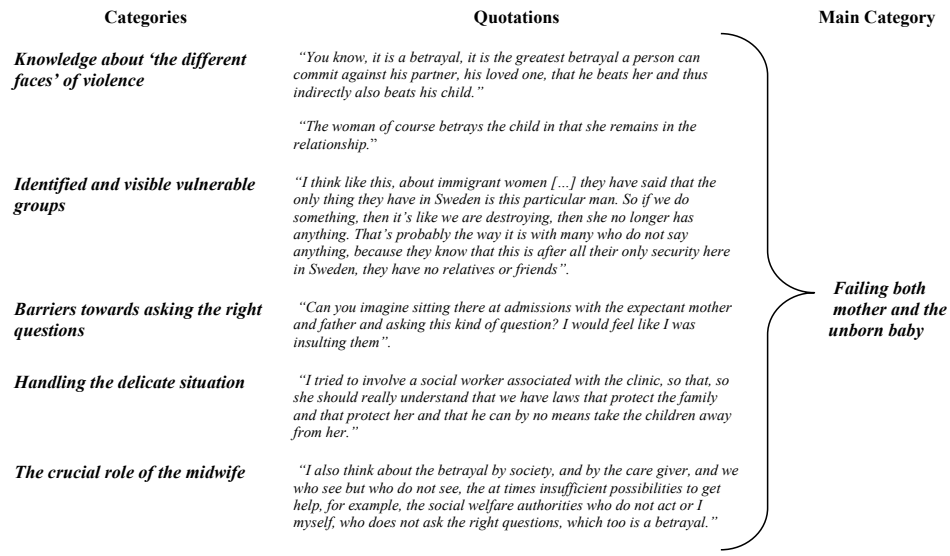


Fig 2. Overview of how the categories relate to the main category, illustrated by citations.

Failing both mother and the unborn baby

Failing both mother and the unborn baby was chosen as the main category because it emerged clearly during the focus group interviews that the unborn baby is a person lacking protection and a person that needs to be protected by taking care of the pregnant woman. Additionally, it emerged that this betrayal to the unborn baby is a phenomenon that exists on all levels in society. The failing to meet one's obligations towards the mother and her unborn baby could be either intentional or unintentional. In a violent relationship the unborn baby is indirectly or directly exposed to psychological and physical violence inflicted upon the mother. Further, according to the focus group discussions, the unborn baby, who is dependent on being taken care of, is indirectly betrayed by the mother-to-be because she does not have the capacity to protect herself and her unborn baby. The perpetrator, mostly the father-to-be, is betraying and failing his woman and unborn baby by threats or physical violence. The caregiver fails by not asking the right questions, not seeing, not hearing, not acting and not reporting to the authorities. The caregivers do not receive sufficient education about the matter, and lack written guidelines and plans of action. The caregiver, in this case the midwife, lacks support or personal guidance about how to take care of and handle the situation when a pregnant woman is exposed to DV. The employers seem to lack the resources they need to fulfil their obligation. Society

fails by not talking about this unpleasant topic, which still seems taboo. Friends, neighbours and families fail by not seeing or hearing what is going on within the four walls of the home. Betrayal exists also at the political level because this area is not sufficiently prioritised (Fig 3).

> *"I also think about the betrayal by society, and by the care giver, and we who see but who do not see, the at times insufficient possibilities to get help, for example, the social welfare authorities who do not act or I myself, who does not ask the right questions that too is a betrayal."* (Focus group 2)

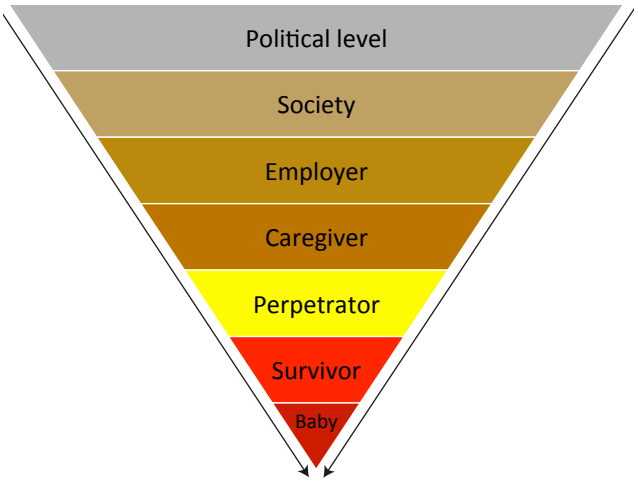


Fig. 3. Arrow of betrayal to both the mother-to-be and her unborn baby

Knowledge about 'the different faces' of violence

This category pertained to the midwives' narratives concerning their clinical experiences of perpetrator and survivor behaviour and the consequences resulting from DV. The violence described ranged from psychological to physical violence that could have devastating consequences. Some midwives had no clinical experience of violence but commented, discussed and reflected on the basis of their theoretical knowledge. Three sub-categories form this category; *'Perpetrator behaviour'* '*Survivor behaviour'*, and '*Consequences of the violence*'

"I had a woman who broke down when she came to me, because this was the first time he had abused her and she had of course reported it, but she was so distressed …that she no longer wanted to live." (Focus group 4)

Identified and visible vulnerable groups

In this category the midwives' narratives from their clinical experience yielded two clear 'at risk' groups for exposure to DV during pregnancy e.g. sub-categories, *'Immigrants'* and '*Substance user*'. However, 'young girls' and 'intellectually handicapped women' were also identified. What distinguishes these groups is that they lack the ability to take care of themselves or their unborn baby. The midwives indicated in their discussions that this group is in great need of care and attention.

"They are in a grey zone, it is dreadful, really (spoken with emphasis). It is our obligation to consider the unborn baby because it has no protection and the mother does not have the capability to protect her baby, so we need to help her, both with regard to heroin abuse and with regard to the domestic abuse." (Focus group 2)

Barriers towards asking the right questions

This category refers to the notion that the midwife herself could be the greatest obstacle towards initiating a dialogue with the pregnant woman about exposure to abuse. Thus, the midwife herself could be an obstacle as a unique individual. Her own development, knowledge, prejudice and attitudes were the main limitations concerning working with this charged and sensitive question. A hindrance could also be that the father-to-be was present during all the visits at ANC. The midwives could as well feel afraid of reporting DV. Further, the midwives do not know how to handle the situation if they do disclose such violence. There are two sub-categories in this category; '*Individual limitations*' and '*Integrity*'.

Midwife 8: I know my barriers, and that is, what do I do afterwards, or what if the husband is there too. Midwife 7: Then I absolutely do not ask. Midwife 5: I am afraid of insulting them if I am wrong, because I would feel that way myself, I think, if someone had asked me […] I would have taken it as a criticism, that I had remained in a relationship where someone hit me. A little bit later in the discussion; Midwife 8: I think that it is important that one doesn't ask the question directly, does your husband beat you, but rather one should go around it. Midwife 5: I suppose I would be able to ask whether you had been subjected to violence; there is nothing strange about that. (Focus group 2).

Handling the delicate situation

This category highlights the potential conflict between the midwife's professional obligation to protect the abused woman and the unborn baby and the survivor's wish to avoid interference on the basis of what the midwives talked about. It also reflects the midwives' way of working, which is carried out within certain restrictions. However, the midwives talk to each other and are able to ask for a colleague's opinion about how to handle difficult matters. In the interviews it was highlighted that the primary resource that the midwives have at their disposal when handling delicate situations such as DV during pregnancy is their basic education as authorized midwives and their experienced-based knowledge. Also, they have a time frame for their work and are delegated routine care assignments based on locally adapted regulations from the employer. In addition, midwives have secrecy obligations and laws that must be adhered to. Three sub-categories comprised this category; '*Professional*', '*Peer- support*' and '*Advocacy*'.

> *"[…]….when one gets an intuition that is what one goes after sometimes, when I get an uncomfortable feeling about the interaction between the man and the woman, a discomfort that won't go away."* (Focus group 2).

The crucial role of the midwife

This category concerns the midwives' insight about DV during pregnancy and their working situation when they disclose abuse. The midwives expressed having insufficient or non-existent support, lack of guidelines and written plans of action in situations when DV is disclosed. Three sub-categories form this category; '*Insight*, '*Report obligation*', and '*Working situation*'. The midwives expressed the insight that there are no winners, but only losers in a family relationship where violence exists. Therefore, it is crucial to help both partners who are living in a destructive relationship. If the question of violence could be routinely asked, and every pregnant woman received that question, it would not be as stigmatising. The midwives realised that often it is more convenient not to ask the question because they must deal with the potential consequences of bringing up such a question, and their working situation does not allow it.

> *The following interaction occurred when the midwives discussed their own role. Midwife-1: Because one of the best things we can do is to stretch out a hand, to say that if you want to talk to someone, I am here. Midwife-2: Even if she did not come to me, perhaps she went to someone else later on and talked.* (Focus group 1)

Paper III

The interviews with the survivors are the empirical basis for the grounded theoretical model. The core category *'Struggling to survive for the sake of the unborn baby'* emerged as the main concern of women who are exposed to IPV during pregnancy. The core category also demonstrates how the survivors handle their situation. Three sub core categories emerged, '*Trapped in the situation*' demonstrates how the pregnant women feel when trapped in the relationship and cannot find their way out. '*Exposed to mastery*' demonstrates the destructive togetherness whereby the perpetrator's behaviour jeopardises the safety of the woman and the unborn child. '*Degradation process*' demonstrates the survivor's experience of gradual degradation as a result of the relationship with the perpetrator. All are properties of the core category and part of the theoretical model (Fig 4).

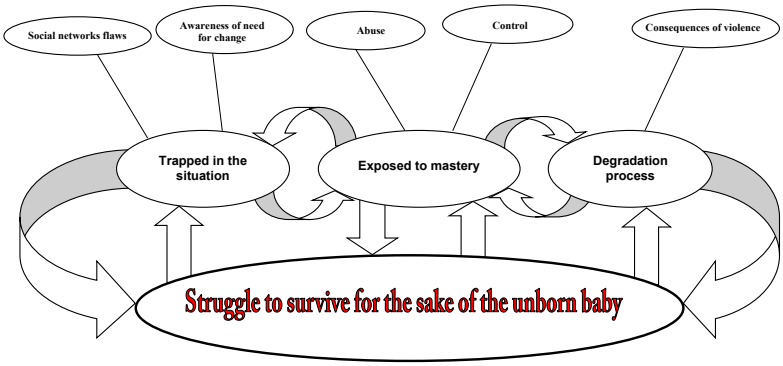


Fig.4 A theoretical model explaining the core category "Struggle to survive for the sake of the unborn baby".

Trapped in the situation

Trapped in the situation' is a property of "*struggle to survive for the sake of the unborn baby*" and demonstrates how the women feel when trapped in the relationship. Initially the women were voluntarily trapped. They felt strong attraction and had a sense of romantic togetherness. There may have been some warning signals early in the relationship. However, the survivors could not see or hear those signs and interpreted the man's behavior rather as attentiveness and caring. Sooner or later the love affair leads to pregnancy and the women feels

trapped in the pregnancy. The woman's love for her unborn baby is unconditional, and she looks forward to the possibility of family happiness. The crackled image of the relationship hopefully will be restored when the child is born. The category '*Awareness of need for change*' is a property of '*Trapped in the situation*' and demonstrates how the survivors become aware of their complex situation, i.e. to be pregnant and abused by the man they had fallen in love with. Some made attempts to seek help because of their difficult situation, while others did not seek help due to shame. However, ultimately the woman has no strength to divorce the perpetrator in her condition and is '*trapped in the situation*'. Sometimes lack of societal resources contributes to the women's decision to remain in the abusive relationship. The category '*social network flaws*' is also a property of '*Trapped in the situation*'. The woman's life is characterised by social isolation and control. The woman struggles to get the perpetrator to change and to improve himself, all to protect the unborn baby. However, all promises regarding change are only empty words. Before the women could really become aware of what is happening to them, they become metaphorically '*trapped in the tornados*' and can no longer control the situation and find their way out. These survivors live in solitary confinement and in a false scenario, longing for family happiness. Courageous attempts to fight back to regain control worsens their situation with increased assaults, leading in turn to even more feelings of entrapment in a complex and difficult situation.

Exposed to mastery

The pregnant women are "*exposed to mastery"* by the perpetrator, and they need to protect themselves and the unborn baby. The women are exposed to *psychological* inclusive *economic violence* and *physical* inclusive *sexual violence*. The perpetrator's behaviour jeopardises the family unit and the safety of the woman and her unborn child. The perpetrator controls every step the woman takes. Bit by bit the survivor's social contacts, friends and family become erased from her life. Gradually her world view shrinks, and she becomes socially isolated and struggles to survive on her own. The threats and the physical violence escalate to another level as the pregnancy advances, and the survivor becomes very stressed and petrified of her tormentor. Every day is characterized by threats and criticism and often with fighting, physical violence and tears. Sometimes the perpetrator alternates between "cold and hot" i.e. when the woman is broken down, he consoles her and in that way he feels "big and strong" (as expressed by one of the survivors). Escalation of the psychological and physical violence with aggression, hits, hair pulling, spitting on and verbally abusing occurs if the delivery date is overdue. Also, sexual violence occurs, and the perpetrator is very brutal during the sexual act and the woman is often in pain. The perpetrator's

need for power and control dominates the relationships, manifesting itself both in small and larger matters.

Degradation process

Gradually the pregnant woman become psychologically and physically degraded. The brawls and fighting as the pregnancy advances make the survivor weaker and weaker. The women are drained of energy and exhausted. All hope of improvement in the perpetrator's behaviour fades away. However, the last hope can be the birth of the baby. The survivor's self-image is twisted and filled with blame and shame irrespective of how long the relationship has lasted. "*He poisoned my blood"* or *"I felt how he crept under my skin"*. As the pregnancy advances, the women's psychological health becomes worse and they feel increasingly concerned about the health of their unborn baby. Lack of sleep is central and the perpetrator does not have any empathy or understanding for the pregnant condition and wakes the woman up in the middle of the night to scold her. The constant control and the stress contribute to the degradation. The fights and the insults continue, and the perpetrator gradually erodes the woman's self-esteem. The survivors' psychological health is worsened and they become depressed and anxious during the course of the pregnancy.

Box 1 shows facts that can have clinical significance for midwives and other health care personnel from the findings in the present study.

Box 1. Summarize of eight facts from the findings in the present study

- Violence-exposed pregnant women struggle to survive the pregnancy with the intention to protect the unborn baby.
- Violence exposed pregnant women are prone to stay in the relationship during pregnancy with the intention to protect the unborn baby.
- Violence exposed pregnant women can feel too ashamed to seek help.
- Violence exposed pregnant women are controlled and isolated.
- Violence exposed pregnant women can lack social resources.
- Violence exposed pregnant women experience escalation of the violence as the pregnancy advances.
- Violence exposed pregnant women who go beyond the due date for birth are endangering themselves and the unborn baby due to increased risk for violence.
- Violence exposed pregnant women are in lack of sleep.

Paper IV

Participants were 1939 women (Paper IV). The ANC distribution of the study sample was: multicultural city, 51.9 % (n = 1006), University City 22.3 % (n = 433) and surrounding municipalities 25.8 % (n = 500) (Diagram 1). Almost 80 % had Sweden as a country of origin and the remaining participants were born in 93 foreign countries.

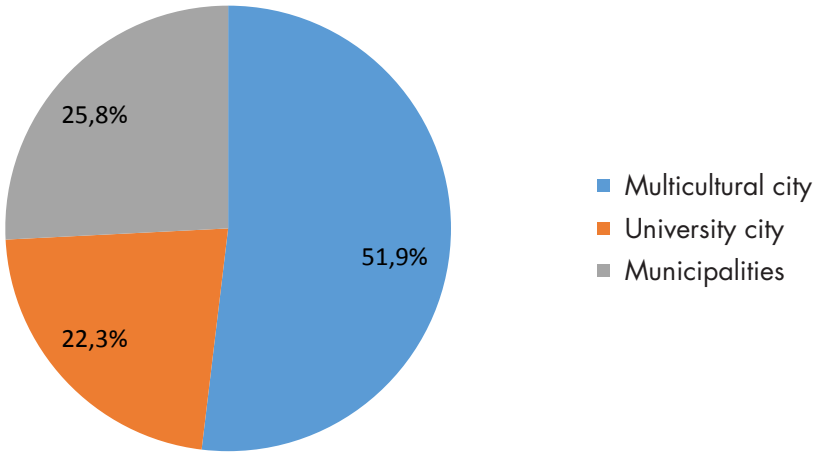


Diagram 1. The distribution of the ANC locations of the participants

History of violence

History of violence was reported by 39.5% (n = 761) women, experienced as emotional 19.5 % (n = 374), physical 29.3 % (n = 561) and sexual 15.7 % (n = 302) abuse as well as experienced abuse during pregnancy 1.5 % (n = 29) solely. Emotional abuse during current pregnancy was experienced by 1% (n = 20), physical abuse by 0.4 % (n = 7) and sexual abuse by 0.1 % (n =2). Statistical differences were found between the groups with and without history of violence, such that women with history of violence were more often single/living apart, unemployed, financially distressed, smoking/snuffing, and more often had unintended pregnancy as well as history of miscarriage/legalised abortion ($p < 0.001$). Of those women who reported 'history of violence', 16.5% (n = 61) had experienced emotional, abuse, 6.7 % (n = 36) physical abuse and 0.7 % (n = 2) sexual abuse during the past year.

Domestic violence and Intimate partner violence (solely)

The prevalence of experience of DV during pregnancy regardless of type or severity of abuse was 1.0 % (n = 18) in the total cohort (n =1939). A greater proportion of women born outside the Nordic countries compared to the native of Sweden and the other Nordic countries reported DV during pregnancy (RR, 2.4). History of physical abuse by actual intimate partner was 2.2 % (n = 42) in the total cohort (n =1939). Also, history of violence was the strongest risk factor for DV during pregnancy where all women (n=18) exposed to DV during pregnancy reported history of violence ($p < 0.001$). The presence of several symptoms of depression (controlled for low SOC score, miscarriage/abortion, single/living apart, and lack of sleep, unemployed age and parity) was associated with a 7.0 fold increased risk of DV during pregnancy (OR 7.0; 95% CI: 1.9-26.3) (Table 4).

Table 4. Association between possible risk factors and exposure to DV during pregnancy, presented as odds ratios (OR) and confidence intervals (95% CI).

Variables	Model I	Model II	Model III	Model IV	Model V	Model VI	Model VII	Model VIII
EDS ≥ 13 [a]	13.9 (4.8-40.7)	7.0 (2.0-25.2)	6.2 (1.7-22.4)	6.1 (1.7-22.3)	6.9 (1.9-24.9)	6.8 (1.9-24.9)	7.1 (1.9-26.3)	7.0 (1.9-26.3)
Low score SOC [b]		3.3 (0.8-13.2)	3.3 (0.8-13.1)	3.3 (0.8-13.1)	3.6 (0.9-14.3)	3.4 (0.8-13.6)	3.6 (0.9-14.7)	3.6 (0.9-14.9)
Miscarriage/ abortion [c]			4.2 (1.2-14.2)	4.1 (1.2-14.1)	4.7 (1.3-16.1)	4.4 (1.3-15.5)	3.8 (1.04-13.6)	3.7 (0.99-13.7)
Single/living apart [d]				1.2 (0.2-5.9)	1.3 (0.3-6.6)	1.2 (0.2-6.1)	1.0 (0.2-5.7)	1.0 (0.2-5.7)
Lack of sleep [e]					0.4 (0.1-2.2)	0.3 (0.1-1.9)	0.3 (0.1-2.0)	0.4 (0.1-2.1)
Unemployed [f]						2.2 (0.5-9.8)	2.4 (0.5-10.8)	2.4 (0.5-10.8)
Age [g]							2.8 (0.9-9.1)	2.8 (0.8-9.2)
Multipara [h]								1.1 (0.3-3.6)

[a] EDS ≥13, indicating risk of depression versus not ≤ 13 (reference category).
[b] Low score SOC indicating inability to use their own resources to maintain and improve their health in stressful situations versus medium-high score (reference category).
[c] Miscarriages and abortions versus solely abortion, miscarriages or not at all (reference category).
[d] Single/living apart versus cohabiting (reference category).
[e] Lack of sleep versus adequate sleep (reference category).
[f] Unemployed (including long illness) versus employed (including parental leave and studying) (reference category).
[g] Age ≥35 years versus age 18-34 (reference category).
[h] Parity: primiparae versus multipara (reference category).

METHODOLOGICAL DISCUSSION

The choice of methodology has been governed by the scientific questions addressed in this thesis, as an attempt to obtain the best answers to these research questions. However, the choice of method can be wrong and debatable, as there are many different ways to obtain scientific knowledge [154]. Theory of science rests on *epistemology* (the Greek word episteme = knowledge), or the way in which knowledge is developed or created about the world, and *ontology* (the Greek word *on* = reality) the study of the being [155]. Two main opposing paradigms exist for the scientific explanation of reality; i.e. the positivistic (quantitative approach) and the hermeneutic (qualitative approach) paradigms (p.94-168) [156]. Positivistic theory seeks to measure phenomena and relationships between phenomena. The hermeneutic endeavour seeks to understand human beings' subjective perceptions of the reality (ibid). Since the research questions in the first and the fourth studies (Papers I & IV) dealt with measures and associations between variables, a positivistic approach was deemed most suitable. In contrast, the second and the third studies (Papers II-III) dealt with gaining a deeper understanding of phenomena, and therefore qualitative approaches were chosen. In this thesis either deductive "top-down" approaches that test a theory (Paper I & IV) or inductive "bottom-up" approaches that build a theory (II-III) have been used [125, 157].

Paper I

According to Hempel [158] the test of a hypothesis is a logical and a primary motivation. However, carrying out a test of a hypothesis is even a method of discovery. As stated in our hypothesis, excessive stress, fear and anxiety lead to dysfunctional labour. Nevertheless, the hypothesis that nulliparous women who have been exposed to violence are more prone to labour dystocia during childbirth at term has not been confirmed. However, it is conceivable, that Type

II error (β) exists, declaring that a differences does not exist when in fact it does, called 'false negative' finding (p.169) [122]. The broad definitions of violence as well as the sample size may have led to false negative findings. The hypothesis is falsified, and according to Popper [159] all theories need to be falsifiable, but most likely the question concerning this issue needs to be more exactly and precisely formulated. In agreement with the Duhem-Quine thesis (In: Pierre Duhem; 1962, p.183-88) the help-hypothesis and/or some other conditions in the theory could be wrong [160]. Current results should be regarded as only preliminary, and further research is needed in order to confirm these apparently negative findings. The outcome risk studied gives in reality more questions than answers. In fact the epistemic risk was conducted and the hypothesis is falsified, and according to Sahlin and Persson [161] 'we don't know what we don't know'.

It would have been beneficial to take saliva samples during labour to examine the level of stress hormones in plasma. However, this information does not exist in the material investigated. Therefore we do not know if women who reported experienced violence had higher levels of stress hormones in plasma than those who did not report 'history of violence'.

Perhaps the time frame for experienced violence investigated in the current study was too broad and therefore not relevant for a study of obstetric outcome. However, according to Eberhard-Gran et al. [68], history of sexual violence in adult life is associated with an increased risk of extreme fear during labour, and it has also been suggested that pregnancy and childbirth can be major memory triggers for women who have experienced sexual abuse in childhood [69, 70].

The results also raise the question as to whether the criteria for labour dystocia are relevant for the diagnosis. The concept 'dystocia' was very well defined, in accordance with the American College of Obstetrics and Gynecology criteria for dystocia in labour's second stage [74] and with the criteria for dystocia in the first and second stage described by the Danish Society for Obstetrics and Gynaecology, [127, 128] which means that the composition of the group defined with labour dystocia is homogeneous. However, labour dystocia is still a poorly defined phenomenon which might be categorised with respect to clinical diagnosis [80]. The ethology of the diagnosis 'labour dystocia' appears to be multifaceted and therefore complex. It may well be that the current definition with a time span of four hours is too short, and therefore the prevalence of labour dystocia may be overestimated. The use of a lengthier time span criteria might lead to a reduced

number of cases diagnosed as labour dystocia, but would probably yield a more accurate estimate. The extent to which this in turn might lead to a stronger association between experienced violence and labour dystocia is unknown.

The results of this study might potentially be biased due to selection or misclassification. However, we do not find any reason to believe that systematic selection bias or misclassification occurred. Due to a cohort design based upon prospectively collected data, we were able to compare risk of labour dystocia among women exposed and unexposed to violence during the same time period. Use of prospectively collected exposure data rendered differential misclassification unlikely. However, it should be noted that all information about experienced violence was based on a self-report, and 40% of the material was collected through the internet. Technical errors may have affected the data collection such that women were unable to report if they were exposed to violence during current pregnancy or not. Therefore, the current results regarding prevalence of exposure to violence during pregnancy may be underestimated. Physical and psychological abuse in pregnant women is difficult to estimate since women who are exposed to violence may be afraid to report such violence in fear of abuse escalation [37]. Also, the violence is rarely visible for others in terms of visible bruises and injuries. Nevertheless, the population in this study consisted solely of nulliparous women, which made the cohort a homogeneous group in that respect.

One of the weaknesses in this study is that it was a study within a larger project, i.e. DDS, [76-78] and therefore, only already pre-existing data with limited access to the database were available to test the hypothesis. It was not possible to influence the questions that were asked at baseline. It might have been useful to have follow-up questions for those women who reported experience of violence, such as: *Have you discussed your experience of violence with some professional psychologist, psychotherapist, welfare officer or someone else?* Perhaps women who have discussed their experiences of violence do not have the same problems with regard to the excessive stress in the childbirth situation as do those who have been exposed to violence and have not attempted to deal with their experiences prior to delivery. These results generate a hypothesis in this context [159]. In accordance with Popper, knowledge is cumulative [159], and results from the present study can be one of the building blocks towards a solution of the mystery concerning inexplicable labour dystocia.

Paper II

The choice of method was given, due to the purpose of the study. The great advantage of focus group interviews is that it is possible to obtain a rich material in a short time [123]. Focus groups have also been found useful prior to developing further strategies, such as interventions, and an unexpressed hope was that the respondents' reactions to the focus group interviews would give some input with regard to future general guidelines as to how an intervention to disclose DV during pregnancy might work. No method is perfect, and dominant individuals can influence results. However, this was taken into account, and everyone could share their ideas and points of views. Moreover, they were encouraged to do so.

Recruitment and Participants

The purpose of the recruitment was to obtain enough variation in the level of experience and/or expertise in the topic to allow contrasting opinions among participants [123] who as a group were homogeneous in the sense that all were female midwives. The sampling strategy was to obtain volunteers initially through network sampling, which is the selection of participants through suggestions from earlier participants and thereafter complement this with purposive recruitment where the researcher selects/invites participants based on a judgement regarding who will be most informative [130]. The midwives with specialised assignments yielded heterogeneous groups concerning experience and expertise and thus perhaps a more adequate picture of midwives' general awareness and experience of DV towards pregnant women. The quality of the discussions that occur in focus group interviews is greatly affected by the group size [123]. Therefore, the size of the groups in the present study was restricted to 4-5 participants, in order to facilitate a discussion. However, one of the focus groups consisted of only three midwives because of difficulties in the recruitment of informants. This limited size of the group consisting of three members in the present study may have resulted in a smaller pool of total ideas. However, recruitment was difficult partly due to the necessity of conducting the interviews during leisure time after working hours and partly because newly graduated midwives or midwives with very brief working experience said they had no experience of abused pregnant women and therefore had nothing to share. It is also possible that some eligible candidates for the study felt discomfort with the topic, possibly had own personal experiences of DV and were afraid of disclosing their own vulnerability by 'opening Pandora's box'[3]. Additionally, they may not be comfortable with the presence of other participants in the focus groups or with the moderator.

3 Metaphore from the Greek mythelogy

The ideal focus group is composed of strangers or people who probably will not see each other again, [123] but this has not been possible in this situation. Most of the midwives in the focus groups knew each other, but were not in positions of authority towards each other. All were females and thus equal in that respect within the groups. Many of the midwives expressed the view that the focus group interview had been professionally very beneficial because now they reflected over and put more focus on this subject.

Inductive approach

An inductive approach was used for analysis of the data, which means to use the actual data itself to develop the structure of the analysis in study II and III. Therefore, it was necessary to put the pre-understanding of the matter aside as much as possible and to try to be as objective as possible when conducting the data analysis.

The method of thematic content analysis was regarded as suitable for the aim of the study II (Paper II). The analysis is a systematic procedure which helps to ensure that the findings reflect what was shared in the focus groups [131-133]. However, the fourteen stages of analysis recommended by Burnard [132] have not been followed step by step. The analytic process has been more forwards and backwards. This was to ensure that the analysis stayed as close to the original meanings and contexts as possible [132]. According to Burnards' thematic content analysis [131-133] there is no main category. However, the choice to have a main category was made, in order to highlight the main results.

Trustworthiness and Transferability

The researchers do not have dual roles as clinicians and researchers (Paper II). Nearly 50% of the informants were unknown to the moderator (HF) who had never met them before. In accordance with Krueger and Casey [123], the interviews were performed in a non-directive manner using open-ended questions, and the atmosphere allowed individuals to respond without setting boundaries or providing clues for potential response categories. Also, the interviews were unstructured and often took the form of discussions. Trustworthiness of the data and the interpretation of the analysed material have been facilitated by discussion with the second author, and consensus has been reached throughout the entire analysis process. One of the respondents read the results for evaluation. Also, the quotations and dialogue interactions presented in the results (Paper II) that captured the essence of the focus groups' discussions confirms the credibility. According to Lincoln and Cuba [162], transferability is parallel to the positivistic

concept of generalisability. In addition to that, it is the recipient who concludes whether the results can be useful. One possible limitation with regard to the transferability of the findings may be the geographic area in which the study was performed. However, in order to be able to use the results for the improvement of existing routines and for the development of future guidelines and interventions, it is necessary to investigate the study of DV within its own context.

Pre-understanding

Despite my experience as a clinically working midwife, my experience of disclosing violence during pregnancy is sparse. Furthermore, this subject was not prioritised as a task by the employer when I was working clinically. It was a taboo area to talk about in society and a private matter for the survivor. Although my clinical experience about the topic was sparse, both as a registered nurse and registered midwife, it has led to an interest in the subject. However, an attempt to put brackets on the pre-understanding was made and consisted of not reading through the scientific reports and literature which had already been collected as background for Paper II until after the analysis of the material. Only the titles and the abstracts were read some months before data collection and data analysis. Also, according to the GT method (Paper III), no literature review was carried out until the theoretical model had emerged. After the analysis of the material, the reports were then read thoroughly. This procedure was implemented to avoid being influenced by the findings from earlier reports and to be able to approach the analytic phase in a more open-minded manner.

Paper III

The GT method, by Glaser [124, 134], seemed to be suitable to explain the main concern of violence-exposed women during pregnancy. This is because GT is not about description, but about explaining what happens in the acquired data. GT is an inductive method not restricted to any particular discipline or theoretical perspective or data type. In a GT approach, the researcher is going up a level from the manifest content and developing a theory or a theoretical model.

A GT model is never right or wrong; such a model only has more or less fit, relevance, workability and modifiability [124].The four fundamental sources of validation of a GT are: fit, relevance, workability and modifiability [124, 134]. The first criteria ‘fit’ refers to how closely the concepts describe the data, the incidents or patterns they are representing. In this case, concepts and patterns that emerged in the empirical data clearly emphasised the women’s concerns

when pregnant and exposed to violence. The second criteria 'relevance' deals with the emerging concepts of the subjects' real concern. GT generates a theory about what is actually happening in the data. 'Struggling to survive for the sake of the unborn baby' with the three under core-categories appeared clearly in the survivors' stories. The third criteria 'workability' refers to how the concepts are integrated with the theory in terms of the core category and the under core categories. All possible variations of behaviour in the studied area were described, including how the women handled the main concern. The present study highlights the complexity and the individual variation of the women's experiences and also how they handled their situation. The fourth criteria 'modifiability' ensures that the theory is not forced onto the data, but rather is modified by it, as in the present study. The literature review gave indications of reasonable relevance, workability and modifiability.

Recruitment and Participants

All interviewed women had at some point received help in the form of therapy from welfare officers and/or at the women's shelter and may have been influenced by professional expressions and had attained some pre-understanding about the nature of the violence. However, none of them were in a dependent position to the researcher or knew her (meeting her for the first time) and all gave their stories voluntarily. Those who were recruited by the welfare officers may possibly have perceived themselves as being in dependent position to their therapist. However, the welfare officers interviewed the researcher who performed the interviews before they accepted to help with the recruitment to the study which shows their concern for their clients. They interviewed the researcher about the rationale for the research and acquired a perception about the researcher as a person. At the time of the interview, the informants had the possibility to withdraw from the interview. All informants expressed that they really hoped their story could be of help for other co-sisters. The first author's position as a registered nurse and midwife with a long experience of conversations about sensitive issues may have facilitated trust in the meeting [163]. It is possible that some aspects have been omitted. However, without judging the remembered traumatic memories, one may regard the women's stories as very valuable for gaining an understanding of the magnitude and nature of what occurs within the four walls of the home, when living in a violent environment. In most cases, a very brief period of time had elapsed since leaving the perpetrator (from some weeks to four years). It has been shown that traumatic memories remain quite constant even after long periods of time, but that recollection is always reconstruction [164].

Paper IV

In order to determine the prevalence of exposure to violence among pregnant women, a cross-sectional design was used. Data consisted of answers derived from the first of three questionnaires in an ongoing longitudinal cohort study. Cross-sectional studies gather all information of interest at one time (p.99) [122]. However, here the material was collected prospectively, and the recruitment period spanned over 1.5 years. For cross-sectional studies, analytic statistical methods make it possible to compare groups, calculate risk estimates and detect correlations between variables of exposure (independent) and illnesses (dependent) as well as adjust for cofounders as alternative to the cohort approaches [122].

Strength and weakness

The strength of the current study is the use of prospectively collected data in a well-defined group of pregnant women. The sample is only slightly under-powered for detection of prevalence of violence with 98% certainty of DV during pregnancy. The questionnaire was composed of questions from validated instruments [4, 139, 142-144, 165], and the questions about experienced violence were very well defined [4]. This strengthens the reliability of the study. Still, the results of this study might potentially be biased due to the selection of the subjects (p.97) [122]. Slightly more than 20% of the investigated cohort was women borne outside Sweden. In 2012 approximately 24 % of all delivered women in Sweden were foreign borne [38]. These figures suggests that foreign born women are somewhat underrepresented in the material investigated possibly due to language or cultural barriers.This might be a weakness with regard to generalisation of the results to the investigated geographical area. However, this study's results must be seen in the light of the inclusions criteria for the study where participants not understanding Swedish or English were excluded.

Recruitment

The recruitment period became twice as long as expected. Prior to the start-up of the study, all midwives received instructions to recruit consecutively and to offer all pregnant women who fulfilled the inclusion criteria an opportunity to participate in the study. However, the data collection period concurred with a strained working situation at the ANCs due to changes in the organization and the implementation of a new electronically based medical record system that further increased the work load. Therefore, it is unknown how many women actually declined to participate and the reason for it. With the knowledge about the already heavy workload at ANCs, the choice was deliberately made not to

ask the midwives to list all subjects whom they had tried to recruit and who had declined or the reason for it. Nevertheless, from some of the ANCs we did obtain voluntarily figures concerning how many women had declined and how many had been excluded due to inadequate language skills in Swedish or English. We also know that eleven (0.6 %) women who participated did not answer the questions about violence contained in the questionnaire. Among those with missing answers, proportionally more women were foreign-born, spoke foreign languages at home, and had low levels of education. This in turn suggests that the questions, due to language difficulties or a different cultural perspective, may have influenced how they interpreted the questions. Also, the questions about violence may have been perceived as very intrusive, which may have led to a lack of willingness to answer honestly when the woman answered the first questionnaire (I). It is known that repeated questions increase revelations regarding experiences of violence [24, 35]. It is possible that the women did not regard themselves as "violated", due to cultural beliefs. Also it is possible that the questionnaire may have contained too many questions and was therefore more time consuming for those who had been exposed to violence (more questions to answer). It became apparent in two cases concerning potential participants, that the questions ripped up wounds and those women became indignant and refused to take part in the study. Despite careful planning of this study, where we followed the recommended guidelines by WHO [135], unforeseen events do happen. The recruiting midwife can land in a difficult ethical situation when recruiting. In these cases the midwives were offered debriefing by a welfare-officer but they did not avail themselves of the opportunity. The survey may have awakened unpleasant memories among those two women, or they may have felt that their autonomy was intruded. The risk was apparently taken to intrude to the autonomy and perhaps undermine the relationship already built-up by the midwife as supported by the ethical analysis performed by Juth and Munthe [113].

GENERAL DISCUSSION

Our findings in the first study (Paper I) suggest that nulliparous women who have a 'history of violence' do not have an increased risk of labour dystocia. The first study ever, to our knowledge, that showed an association between abuse during pregnancy by an intimate partner and labour dystocia, was published in the Eastern Mediterranean Health Journal in the year 2009 [81]. The study had no definition of labour dystocia, and also, our definition of experienced DV is somewhat broader, which makes it difficult to compare the results. Nevertheless, in the present paper, the odds of having labour dystocia if exposed solely to DV were increased by 23 %, albeit not significantly. Thus, the evidence is inconsistent concerning the relationship between labour dystocia and intimate partner abuse. Furthermore, it is unknown what the effect might have been if the cohort had comprised both nulliparous and multiparous women. Thus, more studies are needed in order to investigate the association between DV and labour dystocia.

In the present study, women who have history of violence and who also were alcohol consumers during late pregnancy had significantly higher risk of labour dystocia at term compared to non-violence exposed women. However, it is impossible to exclude that a Type I (α) error occurred, resulting in false positive findings, i.e. declaring that a difference exists when it does not [122]. Therefore, caution is warranted in the interpretation of this finding. Nevertheless, unhealthy maternal behaviour such as drinking alcohol and using drugs when living in a violent relationship is a well-known phenomenon [43-45]. Such behaviour may reflect coping strategy by the abused woman. However, to our knowledge, associations between consumption of alcohol during the third trimester in pregnancy and experience of violence as a risk factor for labour dystocia have not previously been described in the literature. These findings are difficult to interpret and need further investigation. Thus, the current results have at the very least generated one new hypothesis in this context [159].

In study 1 (Paper I) nearly 40% of the violence-exposed nulliparous women experienced violence for the first time in their lives when pregnant. Therefore, the pregnancy per se may have triggered to violence. These findings are in accordance with findings from the WHO multi-country study where women from Brazil, Ethiopia and Serbia indicated that IPV started during pregnancy [166]. In contrast, the results in paper IV showed that all women who reported exposure to DV during pregnancy also had history of violence. However, because of different methods and definitions used in these studies it is difficult to compare the results. However, the literature seems to be inconsistent in this matter. Nevertheless, the physical and emotional changes that take place in the pregnant woman may be a surprise for the first time father-to-be, who is unprepared, and perhaps already existing strains in the relationship increase to such an extent that they lead to violence [5]. Further, history of violence was reported by 4% more women in the Swedish (Paper IV) compared to the Danish cohort (Paper I) or 39.5 % compared to 35.4 % respectively. Again, it is difficult to compare these figures because of differences in both the methods and material used. The Danish material also differs considering the participants' country of origin, as 94.5% of the pregnant women were from Denmark and other Nordic countries in the Danish material (Paper I) compared to 82.1 % Swedish-born and other Nordic countries in the Swedish material (Paper IV). Also, a greater proportion of women born outside the Nordic countries compared to native-born Swedes reported DV during pregnancy in study 4 (Paper IV). Cultural factors may be important influences on the prevalence of IPV during pregnancy, as suggested by Devries et al. [31], but this is not consistent across all cultures [2].

Due to the scarcity of studies exploring a possible association between experience of violence and labour dystocia, both of which are two major contributors to adverse maternal and foetal outcome, further research is needed. The rationale for the hypothesis is built upon the notion that excessive stress might lead to labour dystocia, which is supported by the literature [64-68, 71]. Also, previously it has been highlighted that pregnancy and childbirth can be major memory triggers for women with 'history of violence' [69, 70]. Further, transition into a new social role can be experienced as a very stressful event by the father-to-be [167, 168] and may lead to an exacerbation of pre-existing strains in the couple's relationship to such an extent that the partner uses psychological or physical violence towards the mother-to-be. At the very least, it should never be underestimated that the psychological impact (caused by emotional violence) on the physiological function is of great importance for maternal and foetal

health outcome [37, 39, 40, 60, 62, 67, 71]. Therefore, it would be beneficial for women who have a history of violence to disclose their history when meeting their midwives at ANC. In that way it would be possible to put into effect a 'package' of measures tailored to the woman's unique needs, both during pregnancy and at the delivery. Midwives' support during the process of labour and delivery has been shown to be a significant factor for the woman's experience of childbirth satisfaction, increased prevalence of a spontaneous vaginal birth [169] and even reduced need of analgesia and an instrumental delivery [170]. Further, if the labour and delivery ends with augmentation as a consequence of labour dystocia, negative birth experiences are more likely [170]. Therefore, it is crucial to have an interaction between the mother-to-be and the midwife [171]. Of course, the interaction is always crucial when working with human beings, and the clients' autonomy and self-determination must always be respected, but it is also necessary to provide for the patients' needs, security and continuity of care. Therefore, the woman-centred care philosophy [109-111] seems to be suitable, where the holistic approach focusing on the uniqueness of the woman and her needs, security and continuity of care is central (ibid).This is also in line with Swedish legislation, i.e. Health and Welfare 2§ HSL [114], where the individual's autonomy is highly respected.

The main findings in study 2 (Paper II) were that the midwives' emphasis on the unborn baby as a person lacking protection and a person that needs to be protected by taking care of the pregnant woman. Therefore, avoidance of questions pertaining to the disclosure of DV during pregnancy may be regarded as a betrayal to both the mother-to-be and the unprotected and unborn baby. Nevertheless, this question is very complex, and without good reason based on clinical observations, there is a risk that enquiry concerning DV by the midwife or other health-care professionals may not only violate the woman's autonomy, but also undermine the trust and the relationship to the woman [113]. Also, certain hindrances were apparent with regard to the midwives' being able to ask about experiences of violence, and these hindrances were not solely attributable to their unwillingness to work with this topic. The midwives thus also discussed a lack of support from the employer, such as non-existing support regarding continuous education about the matter, and lack of guidelines and plans of action (Paper II). These results are comparable to findings from another county in Sweden [93]. Still, personal limitations, fears and attitudes concerning DV must also be regarded as a barrier. Further, the obstacle posed by the mother-to-be never being alone with the midwife, as the father-to-be is present at all

ANC visits, has also been supported by earlier research [20, 93, 172-174]. The midwives' dialogues reflected some of the serious consequences that DV caused in their professional carriers in the past, and the focus group discussions also led to an increased awareness in some of the midwives and an increased emotional response. The brutality of some of the consequences for the woman and the pregnancy narrated by the midwives shows how important it is not only to detect possible DV during pregnancy, but also to put into practice a package of measures and make an attempt to protect and prevent. However, as discussed earlier, it is crucial to have guidelines and an attitude that is non-judgmental and supportive [108]. Also, it is important to keep the ethical point of view in mind and not to weaken the trust already built up by the caregiver [113]. This complex issue may be metaphorically likened to walking on a tightrope. The two most visible vulnerable risk groups the midwives could identify as being exposed to DV were 'substance users' and 'immigrants' (Paper II), but most likely these two groups are only 'the tip of the iceberg' and the main challenges will presumably be to identify those who are hidden because they are ashamed (Paper III). The literature supports the notion that shame is an intrinsic part of the violence-exposed woman's experience [22, 100, 101]. The informants in the third study (Paper III) were a heterogeneous group of survivors belonging to different socio-economic classes and included both Swedish- and foreign-born. However, DV is a complicated and somehow still taboo issue because both the survivors (Paper III) and some of the midwives (Paper II) regard this as a private matter. Moreover, the issue seems to be more difficult when cultural collisions and language barriers exist. According to focus group interviews performed by Larsson [175], it is of the utmost importance not to give special treatment to women from other cultures because of language barriers. They need the same help and support as Swedish-born women. However, midwives need to be prepared to deal with the situation that arises when a destructive relationship is disclosed (ibid). To sum up the findings from Paper II, from the midwives' point of view, the time seems ripe for taking more action in this matter. Midwives are aware about this serious issue, but need a different kind of support before they can start working purposely and actively with disclosures of such a sensitive nature. It was actually highlighted in the interviews that if this question were to become 'a routine', then the matter would not be so stigmatised. Careful anamnesis is especially crucial when dealing with women who may be living in a violent relationship. According to results from the third study (Paper III), some facts could serve as a guidance for midwives working in ANCs. For example 'lack of sleep' (Papers III-IV) seems to be very central for violence-exposed pregnant women. Therefore, such

complaints may be considered as an indication that the woman may be living in a violent relationship. Of course, 'lack of sleep' when pregnant may also be due to normal physical changes in the body. However, awareness of the fact that 'lack of sleep' is central for the violence-exposed woman is important knowledge for clinically working staff (Paper III). Also, violence-exposed women experience an escalation of abuse as the pregnancy advances and to go beyond the calculated date for the birth can be directly life threating for both the mother-to-be and the unborn child (Paper III). This is very important knowledge for both midwives and obstetricians. Paper I indicates that violence can appear for the first time during the first pregnancy, which is also supported by earlier findings [166]. Paper IV indicates that violence during pregnancy may be simply a continuum of pre-existing DV/IPV, and that it may decrease during early pregnancy. This is in accordance with findings from the WHO multi-country study on women's health and DV against women, albeit not consistent across all cultures [2]. As earlier pointed out, the literature is currently inconsistent regarding this point, and Devries et al [31] indicated that cultural factors may be important determinants of IPV during pregnancy. Further, Lau [176] proposed that the violence was likely to increase in severity over time, which is in accordance with the normalising process [90, 91]. Ultimately, there is a need of a good cooperation between health care professionals, welfare officers, social services and police authorities, and efforts for helping the individual violence-exposed pregnant woman must be as smooth as possible.

The main concern for the survivors was to survive the pregnancy for the sake of their unborn baby (Paper III). These findings may provide a deeper understanding of this complex matter for midwives and other health care providers. With regard to the main findings in the second study (Paper II), where the midwives highlighted that the unborn baby is lacking protection and thus in need of protection by taking care of the pregnant woman, it is clear that the midwives' insight coincides with the survivors' main concern presented in Paper III. In fact, violence-exposed pregnant women are prone to stay in the relationship during pregnancy in order to protect their unborn baby (Paper III). This finding is supported by earlier research [177]. For that reason, it is extremely important for the caregiver to respect the survivor´s decision, but also to be frank and to give correct information concerning the laws and obligations that the midwife has to follow. Naturally, it is of the utmost importance to give the pregnant woman not only the necessary information about sources of help available in society, but also to give continuous support. Again woman-centred care [109-111] would be

suitable for working with this matter, as it is an approach that underpins the one-to-one relationship and continuity of care with the woman, as well as focuses on the unique woman's needs in a respectful atmosphere (ibid).

The social behaviours that are demonstrated by the theoretical model in Paper III do not represent a linear process, but rather a process that moves back and forth, theoretically explained by three sub-core categories, all of which are interrelated. The sub-core category 'Trapped in the situation' explains how the pregnant women feel when trapped in the relationship. Similar to Libbus's findings [178], the women endured the violent relationship as they assumed that this was the best strategy for their unborn baby. To be trapped in the intimate violent relationship is also a part of the process of normalising [90, 91]. Congruent with some of the midwives' understanding described in Paper II, the survivors describe that the perpetrator was initially a very charming, decent and fun-loving person (Paper III). With this knowledge we know that appearances can be deceiving. Therefore, the clinical work needs to be thoroughly considered and adapted to each unique situation. Also, it is important to have in mind that all men are not perpetrators. WHO recommends women-centred care for women who experience IPV or sexual violence, where the woman's individual needs, aspirations and expectations are considered rather than the institutions' or professionals' needs [108]. In order to have the possibility to work satisfactorily with this sensitive matter, everyone within the health-care system, not only midwives and obstetricians, needs to be enlightened, and evidence-based guidelines and plans of action need to be developed and implemented as national guidelines.

The next sub-core category in the theoretical model was 'Exposed to mastery', which explains the destructive togetherness whereby the perpetrator's behaviour jeopardises the safety of the woman and the unborn child. The content of this phase of the theoretical model partly matches the results presented in Paper II, where the midwives describe and discuss their experience and awareness of the violence-exposed pregnant woman's situation. The midwives highlight the perpetrator's dominance and power over the survivor whose everyday life filled with abuse, fear and anxiety. The process of normalising, as described in Lundgren's [90, 91] model, is corroborated by our findings where the perpetrator's intent, for example, by hitting her, is to put limits on and to control her life space [91]. The survivors are not only exposed to psychological and physical violence, but also sexual violence by their intimate partner (Paper III). According to Swedish legislation, implemented in the year 1965, rape within marriage is criminalised [179]. The vulnerability associated with being pregnant and the shame associated

with being trapped in this impossible relationship stops the woman from seeking help. Also, the survivor does not always know where to seek help or how the Swedish laws are (Paper III). It is of the utmost importance to enlighten the survivor about laws, rights and obligations, when disclosing violence within the close relationship.

The third and last sub-core category in the theoretical model presented in Paper III is 'Degradation process', which explains the survivor's gradual degradation as a result of the relationship with the perpetrator and also was connected to the sub-core category 'Exposed to mastery' and constantly reiterated in every new situation. Again the process of normalising described by Lundgren [90, 91] is supported by our results where the active process of degradation is when his reality becomes hers. The following quotation illustrates very well the degradation: *"I felt how he crept under my skin"* (Paper III*)*. According to the results in Paper III, for example, the shame the survivors experience as violence-exposed was also discussed in one of the focus groups (Paper II) and highlighted as a keyword which describes the survivor's feelings. The feeling of shame as violence-exposed is supported by earlier research [22, 100, 101]. Further, the midwives' understanding described in Paper II about how the pregnant women's self-esteem crackles also agrees with the results described in Paper III, as well as described in the normalising process by Lundgren [90, 91]. The normalising process supports our findings and the entire theoretical model, whereby the survivor is gradually broken down and adjusts to the perpetrator. Lundgren's normalising process (theoretical model) is built on interviews with forty women and their former partners and the focus has not only been on the pregnancy. In the third study (Paper III) the focus is on the experience of violence during pregnancy, and the results show that the woman remains in the relationship with the perpetrator while pregnant because she thinks it is best for the unborn baby. As a health care-giver, it is extremely important to "see" the unique person and her situation. It has been highlighted that a safe and confidential environment and a non-judgmental attitude are of the utmost importance in the interrelationship between the survivor and the caregiver [22, 98, 108]. To work according to the concept women-centred care [109-111] would be appropriate to use when dealing with this delicate matter, in order to ensure that the woman can obtain support in a respectful and non-judgmental way.

In the fourth study (Paper IV), DV during pregnancy, regardless of type or severity, was reported to be 1%, which may be an underestimate, not only due to selection or non-respondent bias, but also as higher prevalence rates were

reported for history of physical violence by an actual intimate partner. These rates are similar to those in an earlier study performed in another county in Sweden [35] and appear to be realistic in a global perspective, as the prevalence seems to be lower in developed countries compared to less developed countries (more violence-tolerant societies) [30, 31]. However, it is difficult to compare these results because of different methods and definitions used as well as the lack of separation of between history of violence before or after pregnancy and violence occurring during pregnancy. However, in light of the potentially fatal consequences associated with DV, the poor maternal and fetal health outcomes [6-10, 13] and that DV is also a violation against democracy and human rights [13], only null tolerance towards VAW is acceptable, regardless of pregnancy or not. However, when a woman is pregnant, there is not only one life at risk, but at least two.

Also, the results showed that proportionally more women born outside the Nordic countries reported DV during pregnancy. These findings indicate that cultural factors are important, and are supported by the literature reporting a lower prevalence of DV in developed countries compared to less developed countries [30].

A significant association was found between the presence of several depressive symptoms and exposure to DV during pregnancy (Paper IV). Both the degradation process explained in the theoretical model (Paper III) and the midwives' awareness and experience of violence-exposed pregnant women (Paper II) agree with those findings. Indeed, these findings are also in accordance with a recently published meta-analytic review [30], and both national and international studies support the notion that symptoms of perinatal depression are significantly associated with experience of DV during pregnancy [12, 180]. Also in a sample of 1003 pregnant women in Southern Sweden, foreign-born Swedish-speaking women had a more unfavourable mental health status than their native counterparts [181]. However, whether depressive symptoms are a cause or a consequence of exposure to DV during pregnancy is unknown. Nevertheless, these results suggest that it could be of value to screen for depression perinatally.

The remaining question is what is the best way to work to protect the mother and her unborn child? What evidence do we have on this matter? According to recent Cochrane review, we know that 'screening' increases detection rates, but evidence is still lacking concerning long-term benefits of the disclosure for

the violence-exposed women [95]. However, it should be of great value for the violence-exposed women to know how and in what way society can help them. According to another recent Cochrane review [105], there is still a lack of evidence regarding the effectiveness of interventions in relation to pregnancy outcomes. The Cochrane review [105] states that is essential to make high-quality RCTs to decide whether intervention programs prevent or reduce DV during pregnancy. Further, it is essential to determine whether such prevention programs have any effect on maternal and neonatal mortality and morbidity outcomes [105]. Therefore, health care professionals need to work clinically according to already collected evidence and the best available knowledge, in order to provide full support to the-violence exposed pregnant women. Concurrent with these efforts, research in this field needs to continue.

Studies have shown that for most pregnant women the greatest risk of abuse is by someone they know and trust [2, 26], and this is congruent with the results presented in Papers III-IV. Previous studies indicate that they thus may feel very ashamed of the situation they find themselves in [22, 100, 101, 182], as revealed and presented in both Paper II and Paper III. In Sweden the time of pregnancy is a unique opportunity for the health care system to detect DV, because all pregnant women have equal rights to ANC services, which are free of charge and available all over the country. Also, pregnant women have contact repeatedly with ANC services during this period [120]. According to the Swedish health care report [119], almost 100% of pregnant women use their right to utilise ANC services. Support for survivors, increased awareness of violence and its consequences among health care professionals and available resources for abused women can reduce the consequences of violence [13]. At the first visit to the ANC when the contact is established, it is of the utmost importance to inform pregnant women about their rights and the health care personnel's duties with regard to confidentiality, but also their obligation to report, for example, if they are aware about a child/children who lives in abusive environment [115, 116, 116]. This was also highlighted by some of the midwives in the interviews (Paper II). It is crucial in the detection and preventive work for healthy mothers and child/children's outcome to always have a holistic view. Midwives cannot disregard diffuse symptomatic profiles that the pregnant woman might have, because the underlying cause can be more serious than imagined. To be believed and seen, although there are no visible signs, is of great importance. However, it is important to bear in mind that not always an underlying DV or IPV is the cause, and motivational interviewing as an instrument when working women-

centred would be very helpful [183]. In Paper III it was highlighted that in some situations, despite a pregnant woman's disclosure of her plight for health care personnel, she was only listened to, but not supported by any additional measures. The lack of further support may hypothetically be due to a lack of any plan of action at that work place and that the personnel were unaware of how to handle this delicate issue which "happened to land in their lap", in accordance with the results in Paper II. The development of guidelines for all health care professionals and here for midwives are essential in order for them to be able to work with this sensitive issue. Building up knowledge about the nature of interpersonal violence in intimate relationships and having a plan of action if detecting a violated pregnant woman are essential. If the woman is susceptible for opening up the dialogue with the midwife and is capable of entrusting her with her problems, then perhaps she may be in the process of making changes and needs more support from the midwife in order to make decisions. In accordance with the empowerment approach [184, 185], she needs to make a decision about changes in her life by herself, and the midwife should relinquish some of the control and power and exist more as a supportive human being. Also, according to Halldorsdottir and Karlsdottir [186], the professional midwife has interpersonal competence and is capable to empower and communicate with the childbearing woman and her family. In Paper II some of the midwives pointed out how important it was to have 'the door open' and 'sow some seeds', so that the survivor may seek help somewhere, if not at the ANC unit then perhaps elsewhere. To be asked questions about experienced violence could be the 'turning point' for the woman who is living in an abusive relationship. Women exposed to DV or solely IPV do not necessarily have any obvious physical evidence, but the identification of exposure is a key for prevention [9], and the professional midwife has the competency [186] to identify DV and also has the specific opportunity because of the continuity of care at the ANC. WHO has also highlighted ANCs and reproductive health care settings as particularly suited to handle this complex problem [92]. A systematic preventive work with this issue might also improve maternal and child health outcome.

CONCLUSIONS

According to the definition of labour dystocia in the first study, no increased risk was found between experienced violence and labour dystocia in nulliparous women at term. Additional research on this topic would be beneficial, including further evaluation of the criteria for labour dystocia. However, women who had experience of violence and who also were alcohol consumers during late pregnancy had higher risk of labour dystocia at term. Due to the scarcity of studies investigating the possible association between labour dystocia and violence-exposed consumers of alcohol during late pregnancy, a further exploration of this aspect is needed (Paper I).

Avoidance of questions concerning the experience of violence during pregnancy as indicated by midwives may be perceived as a failure not only with regard to the pregnant woman but also with regard to the unprotected unborn baby (Paper II). Yet the pregnant women's main concern when exposed to DV is to survive the pregnancy for the sake of the unborn baby (Paper III). Therefore this is an ethical dilemma, and careful considerations are necessary. Prevalence of DV during pregnancy in south-western Sweden was low. However, a considerable proportion of women reported history of living in a violent relationship. Both history of violence and the presence of several depressive symptoms detected in early pregnancy may indicate that the woman also is exposed to DV during pregnancy (Paper IV).

Apparently, there is a need to overcome certain hindrances both at the professional (individual) and clinical levels for satisfactory work with this sensitive issue. It is of importance to develop guidelines and a plan of action for all health care personnel at antenatal clinics as well as to provide continuous education and professional support for midwives. Collaboration between different authorities is crucial and must be smooth and seamless for the violence-exposed (pregnant) women. Increased attention to this vulnerable group of women is needed to improve maternal and child health.

IMPLICATIONS

The findings from the current study hold the potential for the following proposals/ suggestions for future preventive work;

Primary prevention by working within society. The preventive work by midwives should start at compulsory school and then continue at adolescent clinics. The topic of DV and its consequences should be a matter of course in all health practitioners' educations. However, such work should not only be done within the school systems but also in a great many different arenas in society, and not at least within the health care system.

Secondary prevention is aimed at early disease detection and thereby increases opportunities for interventions to prevent progression of the violence in this case. The preventive work involves the disclosure of the violence, and disclosure provides support and information to the survivor. Here, the midwife at the ANC can play a crucial role for the survivor and be that person who empowers and supports.

Tertiary prevention aims to reduce the negative impact of an already established disease by restoring function and reducing disease-related complications. In this context it means to support and have a plan of action for the survivor for removing themselves and their children to a safe place, and to have a package of measures to offer the survivors according to their individual needs.

FUTURE RESEARCH

The first study (Paper I) generated at least two new research questions.

- To explore the possible association between consumption of alcohol during pregnancy combined with experience of violence and labour dystocia as the outcome variable.
- To explore a cohort of both nulliparous and multiparous women and measure labour dystocia as outcome.

The second study (Paper II) generated at least one new research question.

- To conduct RCT for testing interventions programs intended to prevent or reduce DV episodes during pregnancy or to have an effect upon maternal and neonatal mortality and morbidity outcomes.

The third study (Paper III) generated at least one new research question.

- To explore violence-exposed women's experience postpartum.

The fourth study (Paper IV) is the first part of a longitudinal cohort study, and the aim is

- To conduct a follow-up of the prevalence and incidence of violence-exposed mothers postpartum.

POPULÄRVETENSKAPLIG SAMMANFATTNING

Denna avhandling handlar om att vara utsatt för familjevåld inklusive partnervåld under graviditet. Förekomsten av våld, gravida kvinnors erfarenhet av att vara utsatt, effekten på förlossningsutfallet och barnmorskors medvetenhet om ämnet har studerats. Det övergripande syftet har varit:

1. att undersöka om självrapporterat historiskt våld och/eller våld under graviditeten har samband med ökad risk för värksvaghet hos fullgångna förstföderskor i aktiv förlossningsfas (delarbete I),
2. att beskriva barnmorskors medvetenhet och erfarenhet av att möta våldsutsatta gravida kvinnor i mödrahälsovården (delarbete II),
3. att utveckla en teoretisk modell för kvinnors erfarenhet av att vara utsatta för våld av sin partner under graviditeten (delarbete III)
4. att undersöka förekomsten av familjevåld i tidig graviditet bland gravida kvinnor i sydvästra delen av Skåne, samt att undersöka sambandet mellan familjevåld och sociodemografiska bakgrundsfaktorer, känsla av sammanhang och symptom på depression, liksom att undersöka möjliga skillnader mellan de kvinnor som har historik av våld och inte (delarbete IV).

I denna avhandling definieras *familjevåld* som avsiktligt våld i nära relationer, ofta upprepat, psykiskt/emotionellt, fysiskt, sexuellt eller hot om fysiskt eller sexuellt våld utövad av nära anhörig, gift/sambo eller särbo, partner, föräldrar, syskon eller någon annan välkänd person inom familjen eller närstående (t.ex. tidigare partner). Om våldet utövas endast inom parrelationen så kallas det för *partnervåld*.

Historik om våld innebär tidigare erfarenhet av psykiskt, fysiskt och/eller sexuellt våld oavsett vem förövaren har varit.

Bakgrund

Familjevåld under graviditet är ett allvarligt folkhälsoproblem och kan utgöra ett hot mot hälsan hos såväl modern som det ofödda barnet. Våld mot kvinnor sker som regel i hemmet och kvinnor är mer utsatta för våld från en intim partner än från någon annan typ av gärningsman. Vetenskapliga studier har visat samband mellan våldsutsatthet under graviditeten och komplikationer såsom blödning och för tidig förlossning. Direkt våld mot magen ökar förekomsten av sena missfall och prematur börd då slag mot magen bl.a. kan orsaka vattenavgång eller avlossning av moderkakan, som i sin tur kan leda till kejsarsnitt, men även fosterskada och död. Det indirekta våldet då kvinnan ständigt lever under psykisk press och är rädd för sin partner innebär ökad risk att föda barn med låg födelsevikt, både för tidigt och i fullgången tid. Gravida kvinnor som är utsatta för fysiskt våld har bl.a. signifikant ökad risk att få infektioner och att ha blodbrist. Internationell forskning har visat att våldsutsatta gravida oftare är rökare och använder alkohol/droger samt går onormalt lite upp i vikt under graviditeten. Kvinnor med låg socioekonomisk status, unga ensamstående kvinnor och kvinnor med oväntade eller ovälkomna graviditeter löper större risk att vara våldsutsatta under graviditet. Äldre gifta kvinnor är mer utsatta för våld efter förlossningen. Faktorer som etnicitet, att vara född utanför Europa och att ha en nära relation med utlandsfödd man med ickeeuropeiskt ursprung, har även visat sig ha samband med utsatthet. Kvinnor som lever med en partner som har alkoholproblem eller som lever i förhållanden där både alkohol och andra droger används av partnern har ökad risk för partnervåld under graviditeten jämfört med förhållanden där partnern använder alkoholhaltiga drycker med måtta.

I Sverige har förekomsten av fysiskt våld under graviditet rapporteras vara från 1,3 till 11,0%. Denna variation i förekomst av familjevåld under graviditeten kan förklaras med att olika metoder, definitioner och mätinstrument har använts i undersökningarna vilket gör det svårt att jämföra resultaten. I södra Sverige har detta känsliga ämne sparsamt utforskats. För att kunna generalisera förekomsten av våld under graviditeten för hela Sverige behövs det ytterligare studier från olika delar av landet. Det är också viktigt att undersöka förekomsten av våld för att kunna fördela resurser till de regioner som kan ha högre förekomst av familjevåld.

Den så kallade ”normaliseringsprocessen” som inträffar efter en tid i förhållande där våld förekommer innebära att våldet efter en tid blir ett normalt inslag i förhållandet och våldsamma handlingar och beteenden blir en del av vardagen. Det onormala uppfattas av den utsatta som normalt. Detta kallas för internalisering och innebär att den våldsutsatta tar över förövarens verklighetsuppfattning. Kvinnan skuldbelägger ofta sig själv och vågar inte tala om våldet. Hon kan dessutom vara ekonomiskt eller känslomässigt beroende av mannen, vilket gör att kvinnan har svårigheter att se hela bilden av våldet innan hon lämnat relationen.

Familjevåld mot gravida kvinnor är ett ämnesområde som fortfarande förefaller vara tabubelagt i samhället. Läkare, sjuksköterskor och barnmorskor talar om och bemöter många känsliga ämnen så som rökning, alkohol, sexuellt överförbara sjukdomar, fostermissbildningar, missfall och aborter, prematur födsel och perinatal död, men våld i nära relationer är fortfarande inte ett lika självklart ämnesområde att ta upp.

Socialstyrelsen har i en studie från år 2002 visat att verksamma barnmorskor på mödravårdscentraler och ungdomsmottagningar angav tidsbrist och osäkerhet som det största hindret för att ställa frågor till alla gravida kvinnor om våld (screening). Rädslan bland barnmorskor och övrig vårdpersonal att screena för våldet och fråga den gravida kvinnan direkt är dock inte befogat. Redan år 2001 visade en nationell studie att endast 3 % av gravida kvinnor som var tillfrågade om erfarenhet av våld tyckte att den frågan var oacceptabel. För att kunna stärka den gravida kvinnans och det ofödda barnets säkerhet är det dock tydligt att det finns behov av att identifiera gravida kvinnor som lever i våldsamma förhållanden. Detta för att kunna vägleda den utsatta kvinnan och erbjuda den information och hjälp som finns att tillgå i dagens samhälle, samt för att förbättra hälsan och välbefinnandet för den våldsutsatta kvinnan. Exempelvis kan möjligheten att få prata om sin situation som våldsutsatt ha en terapeutisk effekt för den utsatta. Familjevåld är en komplex och etisk fråga. I en nyligen genomförd rapport om etiska aspekter på rutinfrågor om våldsutsatthet i hälso- och sjukvården samt socialtjänsten beställd av Socialstyrelsen visade det sig att nackdelarna med screening av våld övervägde fördelarna. Även en nyligen utförd vetenskaplig litteraturgenomgång inom ämnet visade att det fortfarande inte finns tillräckligt tunga bevis för de långsiktiga fördelarna med att screena för våldsutsatta gravida kvinnor. Det finns inte heller tillräckliga bevis för effektiviteten av insatser för familjevåld i samband med graviditet. Det finns fortfarande kunskapsluckor vad beträffar effekten av insatser för att minska familjevåldet. Ytterligare forskning

krävs för att ta reda på om effekterna av de handlingsprogram som tas fram har en gynnsam effekt eller ej. I WHOs riktlinjer från år 2013 rekommenderas inte screening av våld, däremot bör det finnas strukturerade och noggrant utarbetade frågor om våld om indikation på våld förekommer. Det ska också finnas förutsättningar att ta hand om svaren.

Egen forskning

Delarbete I utgår från en dansk databas som byggdes upp i samband med en multicenter kohort studie om bl.a. riskfaktorer för långsamt värkarbete/ värksvaghet hos förstföderskor. Ett självadministrerande frågeformulär distribuerades och fylldes i vid 37:e graviditetsveckan. Frågor om familjevåld var integrerade i formuläret. Den undersökta kohorten innefattar totalt 2652 förstföderskor. Totalt 985 (37,1%) kvinnor uppfyllde inklusionskriterierna för värksvaghet. Från den totala kohorten i den danska databasen rapporterade 940 (35.4 %) kvinnor att de blivit utsatta för övergrepp och av dessa hade 66 (2.5%) blivit utsatta för övergrepp under sin första graviditet. Av dessa kvinnor hade 26 (39.5%) aldrig tidigare blivit utsatta för övergrepp. Analysen visade inget samband mellan historiskt våld och värksvaghet, inte heller med upplevt våld under graviditeten. Däremot hade kvinnor med erfarenhet av våld och som konsumerade alkoholhaltiga drycker under senare delen av graviditeten statistiskt säkerställd ökad risk för värksvaghet (Artikel I).

Delarbete II beskriver barnmorskors medvetenhet och erfarenhet av våldsutsatta gravida kvinnor. Sexton barnmorskor verksamma vid barnmorskemottagningar i södra Sverige rekryterades genom nätverksurval samt avsiktligt urval och delades upp i fyra samtalsgrupper eller s.k. fokusgrupper. Resultatet redovisas i fem kategorier som har tagits fram med innehållsanalys och beskriver resultatet; i) *Kunskap om våldets olika ansikten* som belyser hur förövaren och offret betedde sig och vilka konsekvenser våldet fick. ii) *Identifierade och tydligt svaga grupper* där immigranter och missbrukare upplevdes vara de tydligaste riskgrupperna för att bli utsatta för våld i nära relationer. iii) *Hinder för att fråga de rätta frågorna*; här menade några barnmorskor att det största hindret var barnmorskorna själva d.v.s. deras utveckling, kunskap, fördomar, attityder samt egen rädsla för förövaren. Även att mannen var närvarande vid alla besök till barnmorskan. iv) *Hantera den delikata situationen*; detta inträffar när barnmorskorna hamnar i ett stort dilemma mellan professionella plikter samtidigt som offret inte vill att något ska göras. v) *Barnmorskornas centrala roll* beskriver barnmorskans arbetssituation med svagt eller inget stöd, brist på riktlinjer och skriven

vårdplan vid upptäckt av våld i nära relationer. Samtliga kategorier formade en huvudkategori: *Svek mot både modern och det ofödda barnet*. Denna kategori belyser att det ofödda barnet är oskyddat och behöver skyddas genom att mamman stöttas av barnmorskan (Artikel II).

Delarbete III är en intervjustudie där tio intervjuer med svensktalande kvinnor som har erfarenhet av våld i parrelationen under graviditeten är utförda och analyserade enligt grundad teori. Resultatet redovisas i en teoretisk modell där kärnkategorin *Kämpar för att överleva för det ofödda barnets skull* belyser den viktigaste frågan för kvinnor som utsätts för partnervåld under graviditeten. Denna fråga förklarar även kvinnornas strategier att hantera erfarenheter av våld under graviditeten. Ytterligare tre underkärnkategorier framträdde, i) *Fångad i situationen* som visar hur gravida kvinnor känner när de är fångade i relationen och inte kan hitta en väg ut. ii) *Utsatt för makt* visar den destruktiva samhörighet som innebär att gärningsmannens beteende äventyrar säkerheten för kvinnan och det ofödda barnet. iii) *Nedbrytningsprocessen* visar kvinnornas erfarenhet av gradvis försämring av hälsan som ett resultat av relationen med förövaren. Samtliga tre underkärnkategorier beskriver egenskaperna hos kärnkategorin och är en del av den teoretiska modellen (Artikel III).

Delarbete IV är en tvärsnittsstudie och utgör den första delen av en kohortstudie med långtidsuppföljning där förekomsten av självrapporterat emotionellt, fysiskt och sexuellt familjevåld undersöks via frågeformulär i tidig graviditet eller 12-13:e graviditetsveckan. Vidare görs en identifiering av möjliga riskfaktorer som kan ha samband med våldet. Den undersökta kohorten innefattar totalt 1939 svensk- eller engelsktalande gravida kvinnor som är 18 år eller äldre. De rekryterades vid inskrivningssamtalet på 17 barnmorskemottagningar i sydvästra Skåne. Resultatet visade att av 1939 gravida kvinnor hade 39,5% (n=761) historik om något våld/övergrepp som barn eller vuxen. Att vara ensamstående/särbo, arbetslös, ha svårigheter med ekonomin, att vara rökare/snusare, ha oplanerad graviditet liksom att ha historik om missfall/aborter var förenat med att ha rapporterad historik om övergrepp som barn eller vuxen. En procent (n=18) av de gravida kvinnorna rapporterade erfarenhet av familjevåld under nuvarande graviditet. Kvinnor med födelseland utanför de Nordiska länderna var överrepresenterade vad beträffar att vara utsatta för våld under graviditeten. Rapporterad historik om fysiskt våld utfört av aktuell partner var 2,2 %(n = 42). Att ha historik om övergrepp var den starkaste riskfaktorn för att ha erfarenhet av familjevåld under graviditet. Samtliga arton kvinnor som rapporterade övergrepp under tidig

graviditet hade historik om övergrepp som barn eller vuxen eller bådadera. Att ha ett flertal symptom på depression hade sjufaldig statistiskt säkerställd ökat risk med att vara förenad med familjevåld under graviditeten (Artikel VI).

Slutsatser

Delarbete I bidrar med kunskaper angående våld under graviditet i relation till förlångsammat värkarbete och punkterar därmed en myt om att våld skulle ha samband med ett förlångsammat värkarbete. På grund av avsaknad av studier som har tittat på samband mellan våld och värksvaghet behövs det ytterligare studier.

Delarbete II belyser barnmorskornas medvetenhet om att när de inte ställer den känsliga frågan om erfarenhet av våld/övergrepp till den gravida kvinnan kan det kännas som ett svek mot modern och det ofödda och skyddslösa barnet. Även arbetet med våldsutsatta gravida kvinnor belystes på ett tydligare sätt än tidigare och visar att det finns ett stort behov av mer information, kunskap och stöd till barnmorskorna i deras arbete med våldsutsatta gravida kvinnor.

Delarbete III ger fördjupad kunskap om kvinnors utsatthet för våld under graviditeten och kan utgöra en bas för utveckling och implementering av förebyggande handlingsprogram. Vidare blir det möjligt att utifrån studiens resultat erbjuda skräddarsydda utbildningspaket och träningsprogram för hälso- och sjukvårdspersonal när det gäller att upptäcka och förebygga våld hos kvinnor under graviditeten. För den enskilda kvinnan och hennes barn kan det leda till stora hälsovinster.

Delarbete IV visar att förekomsten av rapporterat familjevåld under graviditeten i den sydvästra delen av Skåne är låg (1 %), men rapportering av historik av våld/övergrepp indikerar dock betydande högre förekomst av kvinnor som lever i en våldsam relation. Både historik om våld/övergrepp och flera depressiva symptom som upptäcks i början av graviditeten kan tyda på att kvinnan också är utsatt för familjevåld under graviditeten.

Sammantaget verkar det finnas ett tydligt behov hos vårdpersonalen att få djupare förståelse för problemet mellan familjevåld och graviditet för att utveckla effektiva preventiva och stöttande åtgärder. I södra Sverige har detta känsliga ämne tidigare sparsamt be forskats och identifiering av familjevåld under graviditet har inte genomförts målmedvetet där personalen har haft

tydliga riktlinjer och handlingsplaner att gå efter vid eventuell upptäckt av en våldsutsatt gravid kvinna. Den framtagna teoretiska modellen *'Kämpar för att överleva för det ofödda barnets skull'* skulle kunna ge vårdpersonalen fördjupad kunskap om kvinnors utsatthet för våld under graviditeten och utgöra en bas för utveckling och implementering av förebyggande handlingsprogram. I ett multikulturellt samhälle har vårdpersonalen större utmaningar när det handlar om ett så känsligt ämne som våld i nära relationer än när det enbart handlar om svenskfödda och svensktalande. Det kan handla om kulturkrockar med den särskilda problematik som en invandrarkvinna kan ha med isolering p.g.a. språksvårigheter och för att hon inte har några släktingar, kamrater eller sociala nätverk som kan stödja henne i Sverige. Det mångkulturella samhället ställer större krav på vårdgivaren att erbjuda likvärdig vård till en heterogen grupp vårdtagare. Den utsatta gravida kvinnan finns i alla samhällsklasser och det kan eventuellt vara svårare att identifiera den svenska kvinnan som har det bra ställt och utåt lever ett välordnat liv. Därför borde det tas hänsyn till vilken vårdtyngd det finns i de olika landsdelarna. Att vara gravid och våldsutsatt av den person som man älskar/älskade är ett stort svek och en komplex verklighet för den enskilda utsatta kvinnan. Samtidigt är det ett etiskt dilemma för hälso- och sjukvården samt socialtjänsten att hantera. Utan tydlig indikation (t.ex. depression, sömnsvårigheter, upprepade infektioner, blödningar, yttre skador m.m.) på att kvinnan kan vara våldsutsatt är det knappast etiskt försvarbart att fråga rutinfrågor om våldsutsatthet. Dessutom måste det finnas beredskap att ta hand om det svar man får. Denna komplexa fråga handlar både om etik och resurser. Forskningen måste fortgå för att hitta den bästa möjliga evidens för omhändertagandet av den våldsutsatta gravida kvinnan.

ACKNOWLEDGEMENTS

I would like to thank the Faculty of Health and Society, Department of Care Science for giving me the opportunity to write this thesis for the degree of PhD. Also, I would like to express my sincere gratitude to:

Christine Wann–Hansson Associate Professor and registered nurse at the Faculty of Health and Society, Department of Care Science who took the challenge to be my main supervisor half way in the thesis. I would like to thank you for your stimulating questions and comments and thank you for placing such high demands on me when I was writing my thesis. It has encouraged me to do better and has been an important part of my education.

My co-supervisor, Senior Professor and registered nurse and registered midwife **Anna-Karin Dykes** at the Faculty of Health and Society, Department of Care Science, Malmoe University and Senior Professor at the Department of Health Sciences, Lund University. First of all, thanks for believing in me and the project and for guiding me on the way to this thesis. Also, thanks for all your patience, encouragement, good advice and support. Finally, for your thoughtful questions and comments and thank you for placing such high demands on me when I was writing my thesis. This has stimulated me to improve and has been an important part of my education.

My co-supervisor and co-author of the first paper, **Elisabeth Dejin Karlsson,** registered nurse and registered midwife and senior lecturer at the Faculty of Health and Society, Malmoe University (now retired), for believing in me and for guidance and support along the way.

Marie Torstensson Levander Professor at Faculty of Health and Society, Department of Criminology Malmoe University who accepted to be my co-supervisor during the second year working with this thesis. Thank you for your time and support.

Mahnaz N Moghaddassi and **Mathias Grahn,** Statisticians who helped me with the statistics in a very good pedagogical atmosphere.

Elizabeth Cantor-Graae an Associate Professor at the Department of Clinical Sciences in Malmö, at Lund University who has not only revised the English text, but also provided fruitful advice.

The sixteen midwives who participated in Study II and the 84 midwives who recruited 1940 pregnant women to Study IV and made it possible to obtain material for this thesis. Also the two welfare officers working at a women's shelter who acted as gatekeepers for study III and made that study possible to carry out.

Those PhD-students, lecturers and professors at the Faculty of Health and Society who have taken their time for discussing the drafts of my papers and the material for the thesis.

Vedran Boskovic for IT support, **Linda Trygg** and **Per Egevad,** who receives special thanks for supporting me with Refworks and **Maria Brandström** for support of the layout of the thesis. **Pär Hyberg** at the library, **Helena Bogazzi** with all practical matters, **Charlotte Löndahl Bechmann** for reading through the popular science summary, **Jenny Widmark** and all other helpful staff at IT- and administrative departments, at the Faculty of Health and Society, Malmoe University.

Thanks to my friends for being patient with me for I have been neglecting them the last years, but they are still there for me.

And last, but not least, my family, my dearest life mate **Jónas Ingimarsson** who has shown me great patience through periods of 'absent-mindedness' and who has still been there for me and supported me when it felt like adversity. Also, my beloved **Hildur,** our daughter, for her never ending love.

REFERENCES

1. Krug EG, Dahlberg LL, Mercy J, Zwi AB, Lozano R, editors. World report on violence and health. Geneva: World Health Organization; 2002.
2. World Health Organization (WHO). WHO Multi-country Study on Women's Health and Domestic Violence against Women. Initial results on prevalence, health outcomes and women's responses. Geneva: World Health Organization 2005.
3. Straus MA, Douglas EM. A short form of the Revised Conflict Tactics Scales, and typologies for severity and mutuality. Violence Vict. 2004 Oct;19(5):507-20.
4. Swahnberg IM, Wijma B. The NorVold Abuse Questionnaire (NorAQ): validation of new measures of emotional, physical, and sexual abuse, and abuse in the health care system among women. Eur J Public Health. 2003 Dec;13(4):361-6.
5. Gelles RJ. Violence and pregnancy: A note on the extent of the problem and needed services. The Family coordinator. 1975;24(1):81.
6. Boy A, Salihu HM. Intimate partner violence and birth outcomes: a systematic review. Int J Fertil Womens Med. 2004 Jul-Aug;49(4):159-64.
7. Jasinski JL. Pregnancy and domestic violence: a review of the literature. Trauma Violence Abuse. 2004 Jan;5(1):47-64.
8. Sharps PW, Laughon K, Giangrande SK. Intimate partner violence and the childbearing year: maternal and infant health consequences. Trauma Violence Abuse. 2007 Apr;8(2):105-16.
9. Shoffner DH. We don't like to think about it: intimate partner violence during pregnancy and postpartum. J Perinat Neonatal Nurs. 2008 Jan-Mar;22(1):39-48.
10. Chambliss LR. Intimate partner violence and its implication for pregnancy. Clin Obstet Gynecol. 2008 Jun;51(2):385-97.
11. Shah PS, Shah J, Knowledge Synthesis Group on Determinants of Preterm/LBW Births. Maternal exposure to domestic violence and pregnancy and birth outcomes: a systematic review and meta-analyses. J Womens Health (Larchmt). 2010 Nov;19(11):2017-31.
12. Howard LM, Oram S, Galley H, Trevillion K, Feder G. Domestic violence and perinatal mental disorders: a systematic review and meta-analysis. PLoS Med. 2013;10(5):e1001452.

13. World Health Organization. Violence against women. Intimate partner and sexual violence against women. Facta sheet No 239. 2012 [http://www.who.int/mediacentre/factsheets/fs239/en/] Accessed 2013, 08/07.
14. Hedin LW, Grimstad H, Moller A, Schei B, Janson PO. Prevalence of physical and sexual abuse before and during pregnancy among Swedish couples. Acta Obstet Gynecol Scand. 1999 Apr;78(4):310-5.
15. Widding Hedin L. Woman abuse during pregnancy : a prevalence study of psychological and physical abuse among Swedish women. Göteborg: 1999.
16. Stenson K. Men's violence against women : a challenge in antenatal care. Uppsala: Acta Universitatis Upsaliensis : Univ.-bibl. distributör 2004.
17. Lundgren E, Heimer G, Westerstrand J, Kalliokoski AM. Captured Queen Men´s violence against women in "equal" Sweden - a prevalence study. In: Translated by Julia Mikaelsson and Geoffrey French, editor. 1st ed. Umeå: Åström tryckeri AB; 2002. p. 3-144.
18. Socialstyrelsen (The National Board of Health and Welfare). "Tack för att ni frågar"-screening om våld mot kvinnor ("Thank you for asking"-Screening on violence against women). Stockholm: Socialstyrelsen; 2002. Report No. 2002-124-7.
19. Radestad I, Rubertsson C, Ebeling M, Hildingsson I. What factors in early pregnancy indicate that the mother will be hit by her partner during the year after childbirth? A nationwide Swedish survey. Birth. 2004 Jun;31(2):84-92.
20. Edin KE. Perspectives on intimate partner violence, focusing on the period of pregnancy. Umeå: Public Health and Clinical Medicine Folkhälsa och klinisk medicin 2006.
21. Rubertsson C. Depression and partner violence before and after childbirth. Stockholm: 2004.
22. Edin KE, Dahlgren L, Lalos A, Hogberg U. "Keeping up a front": narratives about intimate partner violence, pregnancy, and antenatal care. Violence Against Women. 2010 Feb;16(2):189-206.
23. UN General Assembly. Declaration on the Elimination of Violence against Women 20 December 1993, A/RES/48/104. 20 December 1993 [http://www.refworld.org/docid/3b00f25d2c.html] Accessed 2014, 02/17.
24. Gazmararian JA, Lazorick S, Spitz AM, Ballard TJ, Saltzman LE, Marks JS. Prevalence of violence against pregnant women. JAMA. 1996 Jun 26;275(24):1915-20.
25. WHO. Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence. Geneva: World Health Organization; 2013.
26. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH, WHO Multi-country Study on Women's Health and Domestic Violence against Women Study Team. Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence. Lancet. 2006 Oct 7;368(9543):1260-9.
27. Krantz G, Garcia-Moreno C. Violence against women. J Epidemiol Community Health. 2005 Oct;59(10):818-21.

28. Sorbo MF, Grimstad H, Bjorngaard JH, Schei B, Lukasse M. Prevalence of sexual, physical and emotional abuse in the Norwegian mother and child cohort study. BMC Public Health. 2013 Mar 2;13:186,2458-13-186.

29. Nasir K, Hyder AA. Violence against pregnant women in developing countries: review of evidence. Eur J Public Health. 2003 Jun;13(2):105-7.

30. James L, Brody D, Hamilton Z. Risk factors for domestic violence during pregnancy: a meta-analytic review. Violence Vict. 2013;28(3):359-80.

31. Devries KM, Kishor S, Johnson H, et al. Intimate partner violence during pregnancy: analysis of prevalence data from 19 countries. Reprod Health Matters. 2010 Nov;18(36):158-70.

32. Campbell J, García-Moreno C, Sharps P. Abuse During Pregnancy in Industrialized and Developing Countries . Violence Against Women. 2004;10(7):770-89.

33. Wijma B, Schei B, Swahnberg K, et al. Emotional, physical, and sexual abuse in patients visiting gynaecology clinics: a Nordic cross-sectional study. Lancet. 2003 Jun 21;361(9375):2107-13.

34. NCK Nationellt Centrum för Kvinnofrid. Våld och hälsa: en undersökning om kvinnors och mäns våldsutsatthet samt kopplingen till hälsa (Violence and health: a study about womens and mens exposure to violence as well as connection to health). Uppsala: Nationellt centrum för kvinnofrid NCK, Uppsala universitet; 2014. Report No. 2014:1.

35. Stenson K, Heimer G, Lundh C, Nordstrom ML, Saarinen H, Wenker A. The prevalence of violence investigated in a pregnant population in Sweden. J Psychosom Obstet Gynaecol. 2001 Dec;22(4):189-97.

36. Hedin LW. Postpartum, also a risk period for domestic violence. Eur J Obstet Gynecol Reprod Biol. 2000 Mar;89(1):41-5.

37. Yost NP, Bloom SL, McIntire DD, Leveno KJ. A prospective observational study of domestic violence during pregnancy. Obstet Gynecol. 2005 Jul;106(1):61-5.

38. Socialstyrelsen (The National Board of Health and Welfare). Statistikdatabas för graviditeter, förlossningar och nyfödda. 2012 [http://www.socialstyrelsen.se/statistik/statistikdatabas/graviditeter-forlossningarochnyfodda] Accessed 2014, 02/25.

39. Brown SJ, McDonald EA, Krastev AH. Fear of an intimate partner and women's health in early pregnancy: findings from the Maternal Health Study. Birth. 2008 Dec;35(4):293-302.

40. Janssen PA, Holt VL, Sugg NK, Emanuel I, Critchlow CM, Henderson AD. Intimate partner violence and adverse pregnancy outcomes: a population-based study. Am J Obstet Gynecol. 2003 May;188(5):1341-7.

41. Webster J, Chandler J, Battistutta D. Pregnancy outcomes and health care use: effects of abuse. Am J Obstet Gynecol. 1996 Feb;174(2):760-7.

42. Socialstyrelsen (The National Board of Health and Welfare). Kostnader för våld mot kvinnor (Costs of violence against women). En samhällsekonomisk analys (A socio-economic analysis). Stockholm: Socialstyrelsen; 2006.

43. Kearney MH, Haggerty LA, Munro BH, Hawkins JW. Birth outcomes and maternal morbidity in abused pregnant women with public versus private health insurance. J Nurs Scholarsh. 2003;35(4):345-9.

44. McFarlane J, Parker B, Soeken K. Abuse during pregnancy: associations with maternal health and infant birth weight. Nurs Res. 1996 Jan-Feb;45(1):37-42.

45. McFarlane J, Parker B, Soeken K. Physical abuse, smoking, and substance use during pregnancy: prevalence, interrelationships, and effects on birth weight. J Obstet Gynecol Neonatal Nurs. 1996 May;25(4):313-20.

46. Goodwin MM, Gazmararian JA, Johnson CH, Gilbert BC, Saltzman LE. Pregnancy intendedness and physical abuse around the time of pregnancy: findings from the pregnancy risk assessment monitoring system, 1996-1997. PRAMS Working Group. Pregnancy Risk Assessment Monitoring System. Matern Child Health J. 2000 Jun;4(2):85-92.

47. Coker AL, Sanderson M, Dong B. Partner violence during pregnancy and risk of adverse pregnancy outcomes. Paediatr Perinat Epidemiol. 2004 Jul;18(4):260-9.

48. Hedin LW, Janson PO. Domestic violence during pregnancy. The prevalence of physical injuries, substance use, abortions and miscarriages. Acta Obstet Gynecol Scand. 2000 Aug;79(8):625-30.

49. Fisher WA, Singh SS, Shuper PA, et al. Characteristics of women undergoing repeat induced abortion. CMAJ. 2005 Mar 1;172(5):637-41.

50. Cokkinides VE, Coker AL, Sanderson M, Addy C, Bethea L. Physical violence during pregnancy: maternal complications and birth outcomes. Obstet Gynecol. 1999 May;93(5 Pt 1):661-6.

51. Weiss HB, Lawrence BA, Miller TR. Pregnancy-associated assault hospitalizations. Obstet Gynecol. 2002 Oct;100(4):773-80.

52. El Kady D, Gilbert WM, Xing G, Smith LH. Maternal and neonatal outcomes of assaults during pregnancy. Obstet Gynecol. 2005 Feb;105(2):357-63.

53. Silverman JG, Decker MR, Reed E, Raj A. Intimate partner violence victimization prior to and during pregnancy among women residing in 26 U.S. states: associations with maternal and neonatal health. Am J Obstet Gynecol. 2006 Jul;195(1):140-8.

54. Lukasse M, Schei B, Vangen S, Oian P. Childhood abuse and common complaints in pregnancy. Birth. 2009 Sep;36(3):190-9.

55. Jacoby M, Gorenflo D, Black E, Wunderlich C, Eyler AE. Rapid repeat pregnancy and experiences of interpersonal violence among low-income adolescents. Am J Prev Med. 1999 May;16(4):318-21.

56. Berenson AB, Wiemann CM, Wilkinson GS, Jones WA, Anderson GD. Perinatal morbidity associated with violence experienced by pregnant women. Am J Obstet Gynecol. 1994 Jun;170(6):1760,6; discussion 1766-9.

57. Rachana C, Suraiya K, Hisham A, Abdulaziz A, Hai A. Prevalence and complications of physical violence during pregnancy. Eur J Obstet Gynecol Reprod Biol. 2002 6/10;103(1):26-9.

58. Schei B, Lukasse M, Ryding EL, et al. A history of abuse and operative delivery - results from a European multi-country cohort study. PLoS One. 2014 Jan 31;9(1):e87579.

59. Cheng D, Horon IL. Intimate-partner homicide among pregnant and postpartum women. Obstet Gynecol. 2010 Jun;115(6):1181-6.

60. Altarac M, Strobino D. Abuse during pregnancy and stress because of abuse during pregnancy and birthweight. J Am Med Womens Assoc. 2002 Fall;57(4):208-14.

61. Talley P, Heitkemper M, Chicz-Demet A, Sandman CA. Male violence, stress, and neuroendocrine parameters in pregnancy: a pilot study. Biol Res Nurs. 2006 Jan;7(3):222-33.

62. Pico-Alfonso MA, Garcia-Linares MI, Celda-Navarro N, Herbert J, Martinez M. Changes in cortisol and dehydroepiandrosterone in women victims of physical and psychological intimate partner violence. Biol Psychiatry. 2004 Aug 15;56(4):233-40.

63. Pico-Alfonso MA. Psychological intimate partner violence: the major predictor of posttraumatic stress disorder in abused women. Neurosci Biobehav Rev. 2005 Feb;29(1):181-93.

64. Lederman RP, Lederman E, Work BA,Jr, McCann DS. Relationship of psychological factors in pregnancy to progress in labor. Nurs Res. 1979 Mar-Apr;28(2):94-7.

65. Lederman RP, Lederman E, Work BA,Jr, McCann DS. The relationship of maternal anxiety, plasma catecholamines, and plasma cortisol to progress in labor. Am J Obstet Gynecol. 1978 Nov 1;132(5):495-500.

66. Alehagen S, Wijma K, Lundberg U, Melin B, Wijma B. Catecholamine and cortisol reaction to childbirth. Int J Behav Med. 2001;8(1):50-65.

67. Johnson RC, Slade P. Obstetric complications and anxiety during pregnancy: is there a relationship? J Psychosom Obstet Gynaecol. 2003 Mar;24(1):1-14.

68. Eberhard-Gran M, Slinning K, Eskild A. Fear during labor: the impact of sexual abuse in adult life. J Psychosom Obstet Gynaecol. 2008 Dec;29(4):258-61.

69. Courtois CA, Courtois Riley C. Pregnancy and childbirth as triggers for abuse memories: implications for care. Birth. 1992 Dec;19(4):222-3.

70. Simkin P. Early trauma, its potential impact on the childbearing woman, and the role of the midwife. Midwifery Today Int Midwife. 2009 Summer;(90)(90):19-21.

71. Ryding EL, Wijma B, Wijma K, Rydhstrom H. Fear of childbirth during pregnancy may increase the risk of emergency cesarean section. Acta Obstet Gynecol Scand. 1998 May;77(5):542-7.

72. Gifford DS, Morton SC, Fiske M, Keesey J, Keeler E, Kahn KL. Lack of progress in labor as a reason for cesarean. Obstet Gynecol. 2000 Apr;95(4):589-95.

73. Blix E, Pettersen SH, Eriksen H, Royset B, Pedersen EH, Oian P. Use of oxytocin augmentation after spontaneous onset of labor. Tidsskr Nor Laegeforen. 2002 May 30;122(14):1359-62.

74. American College of Obstetrics and Gynecology. ACOG Practice Bulletin Number 49, December 2003:Dystocia and augmentation of labor. Obstet Gynecol. 2003;102:1445-54.

75. Oscarsson ME, Amer-Wahlin I, Rydhstroem H, Kallen K. Outcome in obstetric care related to oxytocin use. A population-based study. Acta Obstet Gynecol Scand. 2006;85(9):1094-8.

76. Kjaergaard H, Olsen J, Ottesen B, Nyberg P, Dykes AK. Obstetric risk indicators for labour dystocia in nulliparous women: a multi-centre cohort study. BMC Pregnancy Childbirth. 2008 Oct 6;8:45.

77. Kjaergaard H, Olsen J, Ottesen B, Dykes A. Incidence and outcomes of dystocia in the active phase of labor in term nulliparous women with spontaneous labor onset. Acta Obstet Gynecol Scand. 2009;88(4):402-7.

78. Kjaergaard H, Dykes AK, Ottesen B, Olsen J. Risk indicators for dystocia in low-risk nulliparous women: a study on lifestyle and anthropometrical factors. J Obstet Gynaecol. 2010 Jan;30(1):25-9.

79. Treacy A, Robson M, O'Herlihy C. Dystocia increases with advancing maternal age. Am J Obstet Gynecol. 2006 Sep;195(3):760-3.

80. Lowe NK. A review of factors associated with dystocia and cesarean section in nulliparous women. J Midwifery Womens Health. 2007 May-Jun;52(3):216-28.

81. Khodakarami N, Naji H, Dashti MG, Yazdjerdi M. Woman abuse and pregnancy outcome among women in Khoram Abad, Islamic Republic of Iran. East Mediterr Health J. 2009 May-Jun;15(3):622-8.

82. Bohn DK, Tebben JG, Campbell JC. Influences of income, education, age, and ethnicity on physical abuse before and during pregnancy. J Obstet Gynecol Neonatal Nurs. 2004 Sep-Oct;33(5):561-71.

83. Dunn LL, Oths KS. Prenatal predictors of intimate partner abuse. J Obstet Gynecol Neonatal Nurs. 2004 Jan-Feb;33(1):54-63.

84. Pallitto CC, Garcia-Moreno C, Jansen HA, et al. Intimate partner violence, abortion, and unintended pregnancy: results from the WHO Multi-country Study on Women's Health and Domestic Violence. Int J Gynaecol Obstet. 2013 Jan;120(1):3-9.

85. Pallitto CC, Campbell JC, O'Campo P. Is Intimate Partner Violence Associated with Unintended Pregnancy? A Review of the Literature. Trauma Violence Abuse. 2005 July 1;6(3):217-35.

86. Gazmararian JA, Adams MM, Saltzman LE, et al. The relationship between pregnancy intendedness and physical violence in mothers of newborns. The PRAMS Working Group. Obstet Gynecol. 1995 Jun;85(6):1031-8.

87. Wilson LM, Reid AJ, Midmer DK, Biringer A, Carroll JC, Stewart DE. Antenatal psychosocial risk factors associated with adverse postpartum family outcomes. CMAJ. 1996 Mar 15;154(6):785-99.

88. Muhajarine N, D'Arcy C. Physical abuse during pregnancy: prevalence and risk factors. CMAJ. 1999 Apr 6;160(7):1007-11.

89. Martin SL, Beaumont JL, Kupper LL. Substance use before and during pregnancy: links to intimate partner violence. Am J Drug Alcohol Abuse. 2003 Aug;29(3):599-617.

90. Lundgren E. Våldets normalisering och andra våldsförståelser. (The process of normalising violence). Stockholm: Riksorganisationen för kvinnojourer och tjejjourer i Sverige ROKS 2012.

91. Lundgren E. The process of normalising violence. Stockholm: Riksorganisationen för kvinnojourer och tjejjourer i Sverige ROKS 2004.

92. WHO. Gender, women and health. Strengthening the health sector response. Recommendation 11: Use reproductive health services as entry points for identifying and supporting women in abusive relationships, and for delivering referral or support services. 2008 [http://www.who.int/gender/violence/who_multicountry_study/summary_report/chapter6/en/index4.html] Accessed 2009, 06/15.

93. Edin KE, Hogberg U. Violence against pregnant women will remain hidden as long as no direct questions are asked. Midwifery. 2002 Dec;18(4):268-78.

94. Bacchus L, Mezey G, Bewley S, Haworth A. Prevalence of domestic violence when midwives routinely enquire in pregnancy. BJOG. 2004 May;111(5):441-5.

95. Taft A, O'Doherty L, Hegarty K, Ramsay J, Davidson L, Feder G. Screening women for intimate partner violence in healthcare settings. Cochrane Database Syst Rev. 2013 Apr 30;4:CD007007.

96. Stenson K, Saarinen H, Heimer G, Sidenvall B. Women's attitudes to being asked about exposure to violence. Midwifery. 2001;17(1):2-10.

97. Renker PR, Tonkin P. Women's views of prenatal violence screening: acceptability and confidentiality issues. Obstet Gynecol. 2006 Feb;107(2 Pt 1):348-54.

98. Bacchu L, Mezey G, Bewley S. Women's perceptions and experiences of routine enquiry for domestic violence in a maternity service. BJOG. 2002 Jan;109(1):9-16.

99. Kitzinger S. Sheila Kitzinger's letter from Europe: silence is collusion. Birth. 2002 Sep;29(3):207-9.

100. Lutz KF. Abused pregnant women's interactions with health care providers during the childbearing year. J Obstet Gynecol Neonatal Nurs. 2005 Mar-Apr;34(2):151-62.

101. Engnes K, Liden E, Lundgren I. Experiences of being exposed to intimate partner violence during pregnancy. Int J Qual Stud Health Well-being. 2012;7:10.3402/qhw.v7i0.11199. Epub 2012 Mar 15.

102. Ramsay J, Richardson J, Carter YH, Davidson LL, Feder G. Should health professionals screen women for domestic violence? Systematic review. BMJ. 2002 Aug 10;325(7359):314.

103. Kiely M, El-Mohandes AA, El-Khorazaty MN, Gantz MG. An integrated intervention to reduce intimate partner violence in pregnancy: a randomized controlled trial. Obstet Gynecol. 2010 Feb;115(2 Pt 1):273-83.

104. El-Mohandes AA, Kiely M, Gantz MG, El-Khorazaty MN. Very preterm birth is reduced in women receiving an integrated behavioral intervention: a randomized controlled trial. Matern Child Health J. 2011 Jan;15(1):19-28.

105. Jahanfar S, Janssen PA, Howard LM, Dowswell T. Interventions for preventing or reducing domestic violence against pregnant women. Cochrane Database Syst Rev. 2013 Feb 28;2:CD009414.

106. Andréasson C, Stensson K, Björck A, Heimer G. Den Svenska hälso- och sjukvårdens arbete inom kompetens området våld mot kvinnor. Nationell kartläggning. 2006 Rikskvinnocentrums rapportserie 2006-2. Uppsala: Nationellt. Report No. 2.

107. NCK Nationellt Centrum för Kvinnofrid. Att fråga om vålsutsatthet som en del av anamnäsen. 2010. Report No. 4.

108. World Health Organization (WHO). Responding to intimate partner violence and sexual violence against women. WHO clinical and policy guidelines. 2013.

109. Australian College of Midwives. ACM Philosophy for Midwifery. 2011 [http://www.midwives.org.au/scripts/cgiip.exe/WService=MIDW/ccms.r?pageid=10019] Accessed 2014, 02/23.

110. The Royal Collage of Midwifery. The Royal Collage Statement: Woman Centered Care. 2011 [http://www.rcm.org.uk/college/policy-practice/position-statement/] Accessed 2014, 02/23.

111. Fahy K. What is woman-centred care and why does it matter? Women Birth. 2012 Dec;25(4):149-51.

112. Berg M, Asta Olafsdottir O, Lundgren I. A midwifery model of woman-centred childbirth care--in Swedish and Icelandic settings. Sex Reprod Healthc. 2012 Jun;3(2):79-87.

113. Juth N, Munthe C. Etiska aspekter på rutinfrågor om våldutsatthet i hälso-och sjukvården samt socialtjänsten. Rapport beställd av Socialstyrelsen. (An ethical analysis concerning the consequences of routine enquiry about violence by the health-care professionals and the social services: Report on request from the National Board of Health and Welfare). Philosophy, Linguistics & Theory of Science: University of Gothenburg; 2012.

114. Hälso Och Sjukvårdslag (1982:763), 2§.

115. Socialtjänstlag (2001:453), 5 kap 11 §.

116. Patientsäkerhetslag (2010:659) , 6 kap. 5 §.

117. Tystnadsplikt & Sekretess (2010:659), 6 kap. 12-16 §.

118. ICM International. ICM International Code of Ethics for Midwives. 2008 [http://www.internationalmidwives.org/assets/uploads/documents/CoreDocuments/CD2008_001%20ENG%20Code%20of%20Ethics%20for%20Midwives.pdf] Accessed 2008, 09/03.

119. Socialstyrelsen (The National Board of Health and Welfare). Folkhälsorapport 2012 (Swedish health care report). Stockholm: Socialstyrelsen 2012.

120. Mattsson LÅ, editor. Mödrahälsovård sexuell och reproduktiv hälsa. rapport nr 59. 1st ed. Göteborg: Svensk Förening för Obstetrik och Gynekologi SFOG; 2008.

121. Collberg P, Berglund A, Banke G. Mödrahälsovårdens folkhälsoarbete. In: Mattsson LÅ, editor. Mödrahälsovård, sexuell och reproduktiv hälsa. Stockholm: Svensk förening för obstetrik och gynekologi; 2008. p. 29-42.

122. Altman DG. Practical Statistics For Medical Research. First edition 1991, reprinted ed. United States of America: Boca Raton, Florida: Chapman & Hall/CRC 1999.
123. Krueger RA, Casey MA. Focus groups : a practical guide for applied research. 4 [updat] ed. Thousand Oaks, Calif.: Sage Publications 2009.
124. Glaser BG. Att göra grundad teori: problem, frågor och diskussion (In English: Doing grounded theory : issues and discussions). Mill Valley Calif; Växjö: Sociology Press; Thuleducare distributör 2010.
125. Web center for Social Research Methods. Research Methods Knowledge Base. Deduction & Induction. 2006 [http://www.socialresearchmethods.net/kb/dedind.php] Accessed 2014, 02/18.
126. Glaser BG. Doing grounded theory : issues and discussions. Mill Valley, Calif.: Sociology Press 1998.
127. Danish Society of Obstetrics and Gynecology. Dystocia in first stage of labor. 1999 [http://www.dsog.dk/files/dystoci-aktiv-fase.htm] Accessed 2009, 09/17.
128. Danish Society of Obstetrics and Gynecology. Dystoci in the second stage of labor. 2000 [http://www.dsog.dk/files/dystoci-secondstage.htm] Accessed 2009, 09/17.
129. National Institut of Public Health. The Danish health and Morbidity survey 2000. 2000 [http://www.si-folkesundhed.dk/susy/index.htm] Accessed 2009, 01/15.
130. Polit DF. Essentials of nursing research : methods, appraisal, and utilization. Study guide. 6th ed. Philadelphia: Lippincott Williams & Wilkins 2006.
131. Burnard P, Gill P, Stewart K, Treasure E, Chadwick B. Analysing and presenting qualitative data. Br Dent J. 2008 Apr 26;204(8):429-32.
132. Burnard P. A method of analysing interview transcripts in qualitative research. Nurse Educ Today. 1991 Dec;11(6):461-6.
133. Burnard P. Teaching the analysis of textual data: an experiential approach. Nurse Educ Today. 1996 Aug;16(4):278-81.
134. Glaser BG. Theoretical sensitivity: advances in the methodology of grounded theory. Mill Valley, Calif.: Sociology Press 1978.
135. WHO. Putting women first: Ethical and safety recommendations for research on domestic violence against women. Geneva, Switzerland: Global programme on evidence for health policy; 2001. Report No. WHO/FCH/GWH/01.1.
136. Parker B, McFarlane J. Identifying and helping battered pregnant women. MCN Am J Matern Child Nurs. 1991 May-Jun;16(3):161-4.
137. Statistiska centralbyrån. *ULF – undersökningarna av levnadsförhållanden (ULF-Survey on Swedish living conditions)*. Stockholm: Official Statistics of Sweden; 2007.
138. Antonovsky A. Unraveling the mystery of health: how people manage stress and stay well. 1st ed. San Francisco: Jossey-Bass 1991.
139. Antonovsky A. The structure and properties of the sense of coherence scale. Soc Sci Med. 1993 Mar;36(6):725-33.

140. Eriksson M, Lindstrom B. Antonovsky's sense of coherence scale and its relation with quality of life: a systematic review. J Epidemiol Community Health. 2007 Nov;61(11):938-44.

141. SBU- Statens beredning för medicinsk utvärdering (The Swedish Council on Technology Assessment in Helth Care). SBU.Diagnostik och uppföljning av förstämningssyndrom. En systematisk litteraturöversikt (Diagnosis and monitoring of mood disorders. A systematic literature overview). Stockholm: Statens beredning för medicinsk utvärdering (SBU); 2012. SBU-rapport nr 212. ISBN 978-91-85413-52-2. Stockholm: SBU; 2012. Report No. 212.

142. Cox JL, Holden JM, Sagovsky R. Detection of Postnatal Depression. Development of the 10-item Edinburgh Postnatal depression Scale. British Journal of Psychiatry. 1987;150:782-6.

143. Wickberg B, Hwang CP. The Edinburgh Postnatal Depression Scale: validation on a Swedish community sample. Acta Psychiatr Scand. 1996 Sep;94(3):181-4.

144. Rubertsson C, Borjesson K, Berglund A, Josefsson A, Sydsjo G. The Swedish validation of Edinburgh Postnatal Depression Scale (EPDS) during pregnancy. Nord J Psychiatry. 2011 Dec;65(6):414-8.

145. Saunders EE. Screening for domestic violence during pregnancy. Int J Trauma Nurs. 2000 Apr-Jun;6(2):44-7.

146. WHO. Global Database on Body Mass Index. BMI classificatons. 2013 [http://apps.who.int/bmi/index.jsp?introPage=intro_3.html] Accessed 2013, 10/23.

147. Ekelin M, Crang Svalenius E, Larsson AK, Nyberg P, Marsal K, Dykes AK. Parental expectations, experiences and reactions, sense of coherence and grade of anxiety related to routine ultrasound examination with normal findings during pregnancy. Prenat Diagn. 2009 Oct;29(10):952-9.

148. WMA General Assembly: Fortaleza, Brazil 2013. World Medical Association Declaration of Helsinki. Ethical Principles for Medical Research Involving Human Subjects. WHO. 2013 [http://www.wma.net/en/30publications/10policies/b3/] Accessed 2013, 10/30.

149. Beauchamp TL, Childress JF. Principles of biomedical ethics. 4.ed ed. New York: New York Oxford Univ. Press 1994.

150. Austin W. The ethics of everyday practice: healthcare environments as moral communities. ANS Adv Nurs Sci. 2007 Jan-Mar;30(1):81-8.

151. Bergum V, Dossetor J. Relational Ethics; The Full Meaning of Respect. 1st ed. Hagerstown: University Publishing Group 2005.

152. International Council of Nurses (ICN). The INC code of ethics for nurses. 2005 [http://www.icn.ch/icncode.pdf] Accessed 2008, 10/26.

153. Center for Health and Gender Equity. Measuring Violence Against Women Cross-Culturally. Notes from a Meeting. June 29, 1995. document.*. 1995 [http://www.popline.org/node/309675] Accessed 2008, 11/5.

154. Persson J, Sahlin NE. A philosophical account of interventions and causal representation in nursing research. Int J Nurs Stud. 2009 Apr;46(4):547-56.
155. Wulff HR. Medicinens filosofi (Philosophy of Medicin: An introduction). Göteborg: Daidalos : Vinga press 1992.
156. Hartman J. Vetenskapligt tänkande: från kunskapsteori till metodteori. Lund: Studentlitteratur 1998.
157. Chalmers AF. Vad är vetenskap egentligen? (in english: What is this thing called science?). 3, omarb uppl ed. Nora: Nya Doxa 2003.
158. Hempel CG. Philosophy of natural science. Englewood Cliffs, N.J. : Upper Saddle River, N.J.: Prentice Hall 1966.
159. Popper K. Conjectures and refutations : the growth of scientific knowledge. London: 1963.
160. Chalmers AF. Vad är vetenskap egentligen? 3, omarb uppl ed. Nora: Nya Doxa 2003.
161. Sahlin N. E., Persson J. Epistemic risk: the significance of knowing what one does not know. 2004 [http://www.fil.lu.se/sahlin/risk/content.html] Accessed 2009,11/08.
162. Guba EG. Fourth generation evaluation. Newbury Park, Calif: Sage 1989, chapter 8.
163. Kvale S. Den kvalitativa forskningsintervjun (The qualitative reaserch interview). Johanneshov: Tpb 2012.
164. McNally R. Debunking myths about trauma and memory. Canadian journal of psychiatry. 2005;50(13):817-22.
165. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption--II. Addiction. 1993 Jun;88(6):791-804.
166. Garcia-Moreno C, Jansen H, Ellsberg M, Heise L, Watts C. WHO Multi-Country study on women's health and domestic violence against women.
Geneva, World Health Organization. . 2005.
167. Finnbogadottir H, Crang Svalenius E, Persson EK. Expectant first-time fathers' experiences of pregnancy. Midwifery. 2003 Jun;19(2):96-105.
168. Genesoni L, Tallandini MA. Men's psychological transition to fatherhood: an analysis of the literature, 1989-2008. Birth. 2009 Dec;36(4):305-18.
169. Hodnett ED, Gates S, Hofmeyr GJ, Sakala C. Continuous support for women during childbirth. Cochrane Database Syst Rev. 2013 Jul 15;7:CD003766.
170. Waldenstrom U. Experience of labor and birth in 1111 women. J Psychosom Res. 1999 Nov;47(5):471-82.
171. Kjaergaard H, Foldgast AM, Dykes AK. Experiences of non-progressive and augmented labour among nulliparous women: a qualitative interview study in a Grounded Theory approach. BMC Pregnancy Childbirth. 2007 Jul 28;7:15.
172. Stenson K, Sidenvall B, Heimer G. Midwives' experiences of routine antenatal questioning relating to men's violence against women. Midwifery. 2005 Dec;21(4):311-21.

173. Salmon D, Murphy S, Baird K, Price S. An evaluation of the effectiveness of an educational programme promoting the introduction of routine antenatal enquiry for domestic violence. Midwifery. 2006 Mar;22(1):6-14.

174. Mezey G, Bacchus L, Haworth A, Bewley S. Midwives' perceptions and experiences of routine enquiry for domestic violence. BJOG. 2003 Aug;110(8):744-52.

175. Larsson M. Att fråga kvinnor med olika etnisk och kulturell bakgrund om våld i en nära relation- en fokusgruppsstudie (Asking women from different ethnic and cultural background of violence in an intimate relationship, a focus group study). In: Att fråga om våldsutsatthet som en del av anamnesen. 1 uppl ed. Uppsala: Nationellt centrum för kvinnofrid NCK; 2010. p. 31-40.

176. Lau Y. Does pregnancy provide immunity from intimate partner abuse among Hong Kong Chinese women? Soc Sci Med. 2005 7;61(2):365-77.

177. Campbell JC, Campbell DW. Cultural competence in the care of abused women. J Nurse Midwifery. 1996 Nov-Dec;41(6):457-62.

178. Libbus MK, Bullock LF, Nelson T, Robrecht L, Curry MA, Bloom T. Abuse during pregnancy: current theory and new contextual understandings. Issues Ment Health Nurs. 2006 Nov;27(9):927-38.

179. Brottsbalk 1962:700, 6 Kap §1.

180. Rubertsson C, Wickberg B, Gustavsson P, Radestad I. Depressive symptoms in early pregnancy, two months and one year postpartum-prevalence and psychosocial risk factors in a national Swedish sample. Arch Womens Ment Health. 2005 Jun;8(2):97-104.

181. Wangel AM, Schei B, Ryding EL, Ostman M, BIDENS STUDY GROUP. Mental health status in pregnancy among native and non-native Swedish-speaking women: a Bidens study. Acta Obstet Gynecol Scand. 2012 Dec;91(12):1395-401.

182. Lutz KF. Abuse experiences, perceptions, and associated decisions during the childbearing cycle. West J Nurs Res. 2005 Nov;27(7):802,24; discussion 825-30.

183. Miller WR. Motivational interviewing. 3rd ed. New York, NY: Guilford Press 2013.

184. Halldorsdottir S, Karlsdottir SI. Empowerment or discouragement: women's experience of caring and uncaring encounters during childbirth. Health Care Women Int. 1996 Jul-Aug;17(4):361-79.

185. Tengland PA. Empowerment: a goal or a means for health promotion? Med Health Care Philos. 2007 Jun;10(2):197-207.

186. Halldorsdottir S, Karlsdottir SI. The primacy of the good midwife in midwifery services: an evolving theory of professionalism in midwifery. Scand J Caring Sci. 2011 Dec;25(4):806-17.

APPENDICIES

1. Questions about violence used in the first study (Paper I)
2. Discussion guide (Paper II)
3. Questionnaire I - (Paper IV)

Appendix 1.
Questions concerning violence used in study 1 (Paper I) originating the Danish Dystocia Study [1-3].

	Yes during this pregnancy	yes earlier	no, never
1. Have you ever been exposed to threat of violence?	□	□	□
2. Have you ever been pushed, shaken or struck lightly?	□	□	□
3. Have you ever been kicked, struck with a fist or object?	□	□	□
4. Have you ever been thrown against furniture, into walls, down stairs or similar?	□	□	□
5. Have you ever been strangulated, attempted assault with a knife or firearm?	□	□	□
6. Have you ever been exposed to another form of violence?	□	□	□
7. Have you ever been exposed to threat of sexual violence?	□	□	□
8. Have you ever been exposed to accomplished sexual violence?	□	□	□

If you have answered yes to one or more of above questions about violence and sexual violence

9. By, whom was the violence perpetrated?

Your husband/Co-habitant	□
A person you knew very well from your family	□
A person you knew very well (not family member)	□
A person you knew superficially (family or other)	□
A person you did not know	□

If there is something you really want to add to the questions about violence and assault you can write it down here.

_____

_____

_____

_____

1. Kjaergaard H, Olsen J, Ottesen B, Nyberg P, Dykes AK: **Obstetric risk indicators for labour dystocia in nulliparous women: a multi-centre cohort study.** BMC Pregnancy Childbirth 2008, **8**:45.

2. Kjaergaard H, Dykes AK, Ottesen B, Olsen J: **Risk indicators for dystocia in low-risk nulliparous women: a study on lifestyle and anthropometrical factors.** J Obstet Gynaecol 2010, **30**(1):25-29.

3. Kjaergaard H, Olsen J, Ottesen B, Dykes A: **Incidence and outcomes of dystocia in the active phase of labor in term nulliparous women with spontaneous labor onset.** Acta Obstet Gynecol Scand 2009, **88**(4):402-407.

Appendix 2. Discussion guide for study 2 (Paper II)

Introductory question for the focus group discussion
Would you like to describe how you, as midwives, work with pregnant women who are exposed to domestic violence?

Themes	Investigative questions
Recognition/Knowledge about	*How do you ask the pregnant woman about possible exposure to domestic violence?* *How can you find out whether the pregnant woman has been exposed to domestic violence?*
What to do/ what do you do	*What do you do when you realize that the pregnant woman is exposed to violence in the home?* *What ways do you have for helping the woman?*
Proficiency/ competency	*Did you learn anything about domestic violence during pregnancy when you were training to become a midwife?* *What have you learned about domestic violence after you received your midwifery examination?*
Strategy	*What would your preferred mode of action be, when it concerns domestic violence during pregnancy?*
Impact	*What impact does it have on you when you suspect that the pregnant woman has been exposed to domestic violence?* *What impact does it have on you when you know that the pregnant woman has been exposed to domestic violence?*

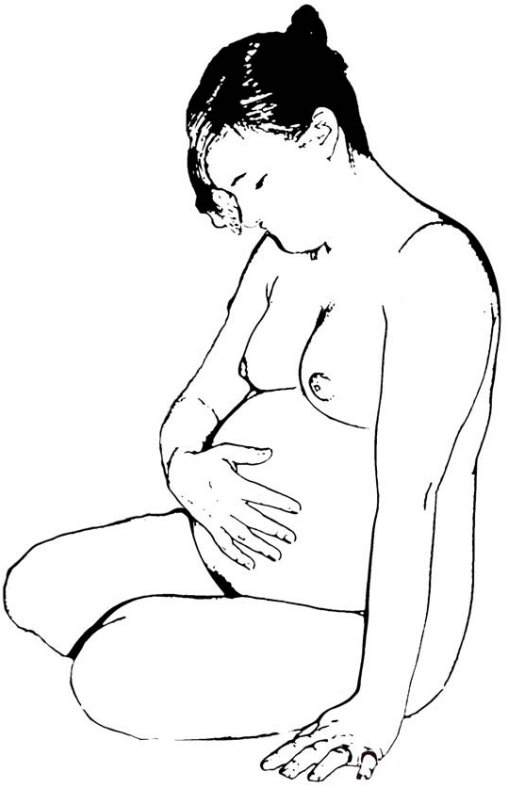
Code | | | | | | 1 |

Scientific study

Pregnant women and new mothers' health and life experience

Questionnarie 1

Completed by the woman when enrolled at ante natal care



INSTRUCTION

Fill in the questionnaire where you are undisturbed and can have peace and quiet. Take one question at time and answer it as best you can, without reflecting/thinking too much. If you have not found any answers, that exactly fits what you feel choose the one that is closest to your opinion. Both positive and negative responses are equally important.

If you have been exposed/subjected to abuse, please try to answer the questions in the questionnaire, even if you feel uncomfortable. By means of your answers, health care professionals in the health care services will gain more knowledge, so that they/we can better find out about and take care of patients who have a background of abuse. If you haven't been exposed/subjected to abuse, the questionnaire might be irritating and you might feel that the questions are unnecessary to answer. But your answers are also of the very highest value!

THE QUESTIONNAIRE CONSISTS OF THE FOLLOWING PARTS

I General

II Pregnancies, deliveries, contacts with gynecologists

III Health

IV Psychological abuse, with follow-up questions

V Abuse in health care services, with follow-up questions

VI Physical abuse, with follow-up questions

VII Sexual abuse, with follow-up questions

VIII Abuse during present pregnancy

IX Concluding questions

The questionnaire will be read by a scanner therefore, the following points are important:

- **Use a black or blue ballpoint**
- **In the boxes, attach a check**
- **If you have checked the wrong box, fill it out completely**
- **Please write figures clearly**
- **Please write clearly if you type free text**

date ☐☐☐☐ - ☐☐ - ☐☐

I. GENERAL

1. How old are you? ☐☐ **years**

2. How many years of school have you completed? (Check one)

☐ Elementary school or less (6-9 years)

☐ Upper secondary schools (10-13 years)

☐ Collage of higher learning or university < 4 years (15 years)

☐ Collage of higher learning or university > 4 years (more than 15 years)

3. What jobs have you mainly had, or what have you mainly lived by, during the last year? (Check one)

☐ Working

☐ Housewife

☐ Parental or pregnancy leave

☐ Unemployed or in labour market training

☐ Student

☐ Sic-listed

☐ Welfare takers

☐ Retired (including sick-pay, disability pension, early retirement)

☐ Other, namely

4. In what country are you born?

5. Are you Swedish citizen?

☐ Yes

☐ No

6. What language do you speak at home?

7. If you received unexpected bill of 20.000 SEK, how easy would it be for you to pay within a week?

☐ No problem

☐ Pretty hard

☐ Very hard

8. Who do you live together with? (Check one)

☐ None, I am singel

☐ I am singel and live together with underage child/childrens

☐ Partner (spouse)

☐ Live - apart

☐ Other, namely

9. How tall are you? ☐☐☐ **cm**

10. How much did you weight before pregnancy? ☐☐☐ **kg**

11. Have you smoked/do you smoke daily?

☐ Yes

☐ Yes, but quit before pregnancy

☐ Not since I knew I was pregnant

☐ Never

12. Do you use a snuff?

☐ Yes

☐ Yes, but stopped before pregnancy

☐ Not since I knew I was pregnant

☐ Never

Prior to the questions 13-15 so means with a "drink" for example following:

A can of beer
A small strong beer
One glass red or white wine
One glass of fortified wine
One glass small spirits, such as 4 cl shot

13. How often do you have a drink containing alcohol?

☐ Never

☐ Monthly or less

☐ 2-4 times a month

☐ 2-3 times a week

☐ 4 or more times a week

14. How many drinks containing alcohol do you have on a typical day when you are drinking?

☐ 1-2

☐ 3-4

☐ 5-6

☐ 7-9

☐ 10 or more

15. How often do you have six or more drinks on one occaision?

☐ Never

☐ Less than monthly

☐ Monthly

☐ Weekly

☐ Daily or almost daily

Here are some questions that relate to different areas of life. Each question has seven response options. Please check the number that most closely matches your answer. Give only one answer to each question.

16. Do you have the feeling that you don't really care about what goes on around you?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very seldom or never — very often

17. Has it happened in the past that you were surprised by the behavior of people whom you thought you knew well?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

never happened — always happened

18. Has it happened that people whom you counted disappointed you?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

never happened — always happened

19. Until now your life has had:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

no clear goals or purpose at all — very clear goals and purpose

20. Do you have the feeling that you're being treated unfairly?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

21. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

22. Doing the things you do every day is:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

a source of deep pleasure and satisfaction — a source of pain and boredom

23. Do you have very mixed-up feelings and ideas?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

24. Does it happen that you have feelings inside you would rather not feel?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

25. Many people-even those with a strong character-sometimes feel like sad sacks (losers) in certain situations. How often have you felt this way in the past?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

never — very often

26. When something happened, have you generally found that:

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

you over-estimated or under-estimated its importance — you saw things in the right proportion

27. How often do you have the feeling that there's little meaning in the things you do in your daily life?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

28. How often do you have feelings that you're not sure you can keep under control?

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

very often — very seldom or never

II. PREGNANCIES, DELIVERIES, CONTACTS WITH GYNECOLOGISTS

29. In what week of pregnancy are you now? ☐☐

30. Is the pregnancy planned?

☐ Yes

☐ No

31. How do you feel now that you are pregnant? (Check one)

☐ Very positive

☐ Positive

☐ Both positive and negative

☐ Negative

☐ Very negative

☐ Neither negative or positive

32. Have you been pregnant before? (This also applies to pregnancy ended in miscarriage or death during pregnancy)

☐ No

☐ Yes

33. How many children have you given birth to? ☐☐

34. How many children live today? ☐☐

35. Have you ever had a miscarriage or an abortion? (Check one or more)

☐ No

☐ Yes, I have had a miscarriage ☐☐ time/-s

☐ Yes, I have had an abortion ☐☐ time/-s

36. How did you experience your last delivery? (Check one)

☐ Purely a positive experience

☐ Mainly positive experience, but with negative elements

☐ Mainly a negative experience, but with positive elements

☐ Purely a negative experience

37. What was the reason for your last visit to the gynaecologist/midwife? (Check one or more)

☐ New pains in lower abdomen, in genitals or pain during intercourse (that is, the pain has appeared during the last three months)

☐ Sustained pains in lower abdomen, in genitals or pain during intercourse (that is, the pain has prevailed for a period longer than three months)

☐ Sexual problems

☐ Inconvenience that the doctor has no explanation, but I did not have to worry about

☐ Different kinds of problems when urinating, as for instance a frequent need to urinate, urine leakage or frequent burning when you urinate

☐ Abortion counselling

☐ Involuntary childlessness

☐ Other reason, namely

38. Recall when you last were examined by a gynecologist/midwife: At that time, how did you experience lying in the examination chair and being examined with an instrument and the gynecologist's/midwife's hands?

(Answer by one check that best corresponds to how much discomfort you experienced)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

No discomfort at all — Extreme discomfort

39. Was it a female or male gynecologist/midwife who examined you last time?

☐ Female

☐ Male

III. HEALTH

As you are pregnant, we would like to know how you are feeling, questions 40-49. Please check the answer that comes closest to how you have felt IN THE PAST 7 DAYS, not just how you feel today.

40. I have been able to laugh and see the funny side of things

☐ As much as I always could

☐ Not quite so much now

☐ Definitely not so much now

☐ Not at all

41. I have looked forward with enjoyment to things

☐ As much as I ever did

☐ Rather less than I used to

☐ Definitely less than I used to

☐ Not at all

42. I have blamed myself unnecessarily when things went wrong

☐ Yes, most of the time

☐ Yes, some of the time

☐ Not very often

☐ No, never

43. I have been anxious or worried for no good reason

☐ No, not at all

☐ No, hardly never

☐ Yes, sometimes

☐ Yes, very often

44. I have felt scared or panicky for no very good reason

☐ Yes, quite a lot

☐ Yes, sometimes

☐ No, not much

☐ No, not at all

45. Things have been getting on top of me

☐ Yes, most of the time I haven't been able to cope at all

☐ Yes, sometimes I haven't been coping as well as usual

☐ No, most of the time I have coped quite well

☐ No, I have been coping as well as ever

46. I have been so unhappy that I have had difficulty sleeping

☐ Yes, most of the time

☐ Yes, sometimes

☐ No, not very often

☐ No, not at all

47. I have felt sad or miserable

☐ Yes, most of the time

☐ Yes, quite often

☐ Not very often

☐ No, not at all

48. I have been so unhappy that I have been crying

☐ Yes, most of the time

☐ Yes, quite often

☐ Only occasionally

☐ No, never

49. The thought of harming myself has occurred to me

☐ Yes, quite often

☐ Sometimes

☐ Hardly ever

☐ Never

50. How do you feel your health has been, generally speaking, for the last 12 months? (Mark one)

☐ Very good

☐ Rather good

☐ Rather poor

☐ Very poor

51. How many times have you visited a doctor for your own sake during the last 12 months? (Check one)

☐ Never

☐ 1-3 visits

☐ 4-6 visits

☐ 7 visits or more

52. Have you been on sick leave or unable to cope with your daily tasks for more than two weeks altogether for the last 12 months?

☐ No

☐ Yes, approximately ☐☐ weeks in all

53. Have you been hospitalized during the last 12 months? (Don't include childbirth!)

☐ No

☐ Yes, approximately ☐☐ days or ☐☐ weeks in all

54. Have you ever asked for help from a psychiatrist or psychologist for problems of your own? (Check one)

☐ No

☐ Yes, earlier, but not for the last 12 months

☐ Yes, during the last 12 months

55. During the last 12 months, have you suffered from anguish to such an extent that you have found it hard to cope with your daily life? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

56. During the last 12 months, have you suffered from depression for a longer period and to such an extent that you have found it hard to cope with your daily life? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

57. During the last 12 months, have you suffered from insomnia to such an extent that you have had problems coping with your daily life? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

58. During the last 12 months, have you suffered from various physical troubles (e.g stomachache, headache, dizziness or muscular pain) to such an extent that you have had problems coping with your daily life? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

59. How do you feel, in general, that sex worked for you under the last year? (Check one)

☐ I have not had sex for the last 12 months

☐ Very poorly

☐ Rather poorly

☐ Rather well

☐ Very well

60. During the last 12 months, have you experienced unpleasant recollections intruding to disturb you, that you can do nothing about? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

61. During the last 12 months, have you avoided situations in order not to have unpleasant recollections or feelings, and has that interfered with what you wanted to do? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

62. During the last 12 months, have you ever felt as if your feelings were numbed for a long period? (Check one)

☐ No

☐ Yes, but rarely

☐ Yes, sometimes

☐ Yes, often

63. Please check what medicines/drugs you have used last year

	Never	Occasionally	Short period	Longer period	All the time
Sleeping pill	☐	☐	☐	☐	☐
Pain-relieving	☐	☐	☐	☐	☐
Antidepressants	☐	☐	☐	☐	☐
Psychotropic drugs	☐	☐	☐	☐	☐
Sedatives	☐	☐	☐	☐	☐
Amphetamine	☐	☐	☐	☐	☐
Cocaine	☐	☐	☐	☐	☐

IV. PSYCHOLOGICAL ABUSE WITH FOLLOW-UP QUESTIONS

The following questions deal with psychological abuse. We ask you to mark if you have experienced any of the following events; as a child or as an adult.

If you answer yes to any of the questions 64-66 we call it - in this study - that you have been subjected to psychological abuse.

64. Have you experienced anybody systematically and for any longer period trying to repress, degrade or humiliate you? (Check one)

☐ No

☐ Yes - (One or two Check)

	☐	☐
	As a child (younger than 18 years)	As an adult (18 years or older)

65. Have you experienced living in fear because somebody systematically and for a longer period has threatened you or somebody close to you? (Check one)

☐ No

☐ Yes - (One or two Check)

	☐	☐
	As a child (younger than 18 years)	As an adult (18 years or older)

66. Have you experienced anybody systematically and by threat or force trying to limit your contacts with others or totally control what you may and may not do? (Check one)

☐ No

☐ Yes - (One or two Check)

	☐	☐
	As a child (younger than 18 years)	As an adult (18 years or older)

If you answered Yes to any of the questions 64-66 , continue to question 67.
If you answered No to all three questions 64-66, go directly to question 76!

67. How old were you when you were first subjected to any of this?

☐☐ **years**

68. Have you experienced anything like this during the last 12 months?

☐ No

☐ Yes

69. How much do you suffer <u>now</u> from the consequences of the psychological abuse you have experienced?

(Answer by mark one check at the number that best corresponds to how much you suffers at present!)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

Suffer not at all — Suffer terribly

70. Who subjected you to psychological abuse? (One or more marks to left) Mark with one check if it was a man or a woman who has/have subjected you to abuse

		Man	Woman
☐	Former partner	☐	☐
☐	Current partner	☐	☐
☐	Stepparent	☐	☐
☐	Parents	☐	☐
☐	Siblings	☐	☐
☐	A person who you knew and that you in any way, dependent on (eg your boss, teacher, doctor)	☐	☐
☐	One for you complete stranger	☐	☐
☐	Other, namely	☐	☐

71. Have you been a victim of psychological abuse more than one person (at the same or at different times)? (Check one)

☐ No, only by one person

☐ Yes, by more than one person at same time

☐ Yes, by more than one person with different occasions

72. Have you told anybody about your experiences of psychological abuse? (Check one)

☐ No

☐ Yes, for

73. How old were you when you first told somebody about your experiences of psychological abuse?

☐☐ **years**

74. Have you ever sought help for the suffering you experienced because you have been subjected to mental abuse?

☐ No

☐ Yes

75. Recall your last visit to gynecologist/midwife:
Did you speak to the gynecologist/midwife about your being subjected to psychological abuse?

☐ No

☐ Yes, I told about it spontaneously

☐ Yes, when he/she asked about it

☐ He/she knew already

V. ABUSE IN HEALTH SERVICES, WITH FOLLOW-UP QUESTIONS

The following questions deal with abuse in health services. We ask you to mark if you have experienced any of the following events; as a child or as an adult.

If you answer yes to any of the questions 76-78 we call it - in this study - that you have been subjected to abuse in health services.

76. Have you ever felt offended or grossly degraded while visiting health services, felt that someone exercised blackmail against you or did not show respect for your opinion - in such a way that you were later disturbed by or suffered from the experience? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

77. Have you ever experienced that a "normal" event while visiting health services suddenly became a really terrible and insulting experience, without you fully knowing how this could happen? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

78. Have you experienced anybody in health service purposely - as you understood - hurting you physically or mentally, grossly violating you or using your body to your disadvantage for his/her own purpose? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

If you answered Yes to any of the questions 76-78 , continue to question 79.
If you answered No to all three questions 76-78, go directly to question 88!

79. How old were you when you were first subjected to any of this?

☐☐ **years**

80. Have you experienced anything like this during the last 12 months?

☐ No

☐ Yes

81. How much do you suffer <u>now</u> from the consequences of the abuse in health services you have experienced?

(Answer by mark one check at the number that best corresponds to how much you suffers at present!)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Suffer not at all — Suffer terribly

82. Who exposed you to abuse in health services? (One or more check marks to left)

Check if it was a man or a woman who exposed you to abuse.

		Man	Woman
☐	Gynecologist	☐	☐
☐	Other doctor	☐	☐
☐	Midwife	☐	☐
☐	Nurse	☐	☐

83. Have you been a victim for abuse in health services by more than one person (at the same or at different times)? (Check one)

☐ No, only by one person

☐ Yes, by more than one person at same time

☐ Yes, by more than one person with different occasions

84. Have you told anybody about your experiences of abuse in health services?

☐ No

☐ Yes, for ☐

85. How old were you when you first told somebody about your experiences of abuse in health services?

☐☐ **years**

10011

86. Have you ever tried to get help for the suffering you have gone through because of your being subjected to abuse in health services?

☐ No

☐ Yes

87. Recall your last visit to gynecologist/midwife:
Did you speak to the gynecologist/midwife about your being subjected to abuse in health services?

☐ No

☐ Yes, I told about it spontaneously

☐ Yes, when he/she asked about it

☐ He/she knew already

VI. PHYSICAL ABUSE, WITH FOLLOW-UP QUESTIONS

The following questions deal with <u>physical abuse</u>. We ask you to mark if you have experienced any of the following events; as a child or as an adult

If you answer <u>yes</u> to any of the questions 88-90 we call it - in this study - that you have been subjected to <u>physical abuse</u>.

88. Have you experienced anybody hitting you, smacking your face or holding you firmly against your will? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

89. Have you experienced anybody hitting you with his/her fist(s) or with a hard object, kicking you, pushing you violently, giving you a beating, thrashing you or doing anything similar to you? (Mark one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

90. Have you experienced anybody threatening your life by, for instance, trying to strangle you, showing a weapon or knife or by any other similar act? (Mark one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

If you answered <u>Yes</u> to any of the questions 88-90, continue to question 91.
If you answered <u>No</u> to all three questions 88-90, go directly to question 100!

91. How old were you when you were first subjected to any of this?

☐☐ **years**

92. Have you experienced anything like this during the last 12 months?

☐ No

☐ Yes

93. How much do you suffer now from the consequences of the physical abuse you have experienced?

(Answer by mark one check at the number that best corresponds to how much you suffers at present!)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

Suffer not at all — Suffer terribly

94. Who subjected you to physical abuse? (One or more checks to left)

Mark with one check if it was a man or a woman who has/have subjected you to abuse.

		Man	Woman
☐	Former partner	☐	☐
☐	Current partner	☐	☐
☐	Stepparent	☐	☐
☐	Parents	☐	☐
☐	Siblings	☐	☐
☐	A person who you knew and that you in any way, dependent on (eg your boss, teacher, doctor)	☐	☐
☐	One for you complete stranger	☐	☐
☐	Other, namely	☐	☐

95. Have you been a victim of physical abuse more than by one person (at the same or at different times)? (Check one)

☐ No, only by one person

☐ Yes, by more than one person at same time

☐ Yes, by more than one person with different occasions

96. Have you told anybody about your experiences of physical abuse? (Check one)

☐ No

☐ Yes, for

97. How old were you when you first told somebody about your experiences of physical abuse?

☐☐ **years**

98. Have you ever sought help for the suffering you experienced because you have been subjected to physical abuse?

☐ No

☐ Yes

99. Recall your last visit to gynecologist/midwife:
Did you speak to the gynecologist/midwife about your being subjected to physical abuse?

☐ No

☐ Yes, I told about it spontaneously

☐ Yes, when he/she asked about it

☐ He/she knew already

VII. SEXUAL ABUSE WITH FOLLOW-UP QUESTIONS

The following questions deal with <u>sexual abuse</u>. We ask you to mark if you have experienced any of the following events; as a child or as an adult

If you answer <u>yes</u> to any of the questions 100-103 we call it - in this study - that you have been subjected to <u>sexual abuse</u>.

100. Has anybody <u>against your will</u> touched your genitals, used your body to satisfy him/herself sexually or forced you to touch anybody else's genitals? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

101. Has anybody <u>against your will</u> put his penis into your vagina, mouth or rectum or tried any of this; put in or tried to put an object or other part of the body into your vagina, mouth or rectum? (Mark one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

102. Has anybody <u>against your will</u> touched parts of your body other than the genitals in a "sexual way" or forced you to touch other parts of his or her body in a "sexual way"? (Mark one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

103. Have you in any other way been sexually humiliated; e.g. by being forced to watch a porno movie or similar <u>against your will</u>, forced to participate in a porno movie or similar, forced to show your body naked or forced to watch when somebody else showed his/her body naked? (Check one)

☐ No

☐ Yes - (One or two checks)

☐	☐
As a child (younger than 18 years)	As an adult (18 years or older)

If you answered <u>Yes</u> to any of the questions 100-103, continue to question 104.
If you answered <u>No</u> to all three questions 100-103, go directly to question 113!

104. How old were you when you were first subjected to any of this

☐☐ **years**

105. Have you experienced anything like this during the last 12 months?

☐ No

☐ Yes

106. How much do you suffer <u>now</u> from the consequences of the <u>sexual abuse</u> you have experienced?

(Answer by mark one check at the number that best corresponds to how much you suffers at present!)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

Suffer not at all — Suffer terribly

107. Who subjected you to sexual abuse? (One or more checks to left)

Mark with one check if it was a man or a woman who has/have subjected you to abuse.

		Man	Woman
☐	Former partner	☐	☐
☐	Current partner	☐	☐
☐	Stepparent	☐	☐
☐	Parents	☐	☐
☐	Siblings	☐	☐
☐	A person who you knew and that you in any way, dependent on (eg your boss, teacher, doctor)	☐	☐
☐	One for you complete stranger	☐	☐
☐	Other, namely	☐	☐

108. Have you been a victim of sexual abuse more than one person (at the same or at different times)? (Check one)

☐ No, only by one person

☐ Yes, by more than one person at same time

☐ Yes, by more than one person with different occasions

109. Have you told anybody about your experiences of sexual abuse? (Check one)?

☐ No

☐ Yes, for

110. How old were you when you first told somebody about your experiences of sexual abuse?

☐☐ **years**

111. Have you ever sought help for the suffering you experienced because you have been subjected to sexual abuse?

☐ No

☐ Yes

112. Recall your last visit to gynecologist/midwife:
Did you speak to the gynecologist/midwife about your being subjected to sexual abuse?

☐ No

☐ Yes, I told about it spontaneously

☐ Yes, when he/she asked about it

☐ He/she knew already

VIII. ABUSE DURING PRESENT PREGNANCY

113. Have you been exposed to <u>psychological abuse</u> during current pregnancy?

☐ No

☐ Yes, by whom

114. Has you been exposed to <u>abuse in health services</u> during current pregnancy?

☐ No

☐ Yes, by whom

115. Has you been exposed to <u>physical abuse</u> during current pregnancy?

☐ No

☐ Yes, by whom

116. Has you been exposed to sexual abuse during current pregnancy?

☐ No

☐ Yes, by whom

IX. CONCLUDING QUESTIONS

117. Do you think that your experiences of abuse have any connection to the problems you sought help for at your last visit to a gynecologist/midwife?

(Answer by mark one check at the number that best corresponds to how much you suffers at present!)

☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
0	1	2	3	4	5	6	7	8	9	10

No connection at all — very strong connection

118. Have you ever reported an instance of abuse to the police? (Check one)

☐ No

☐ Yes, once

☐ Yes, several times

119. What was the result of your report? (Check one)
(Choose the last, if you have reported abuse many times)

☐ No police investigation

☐ The police made an investigation, which later was closed

☐ The police investigated and the suspect was arrested, but not prosecuted

☐ The prosecuted was acquitted at court and the case is closed

☐ The prosecuted was convicted and sentenced to

☐ I withdrew my report because

☐ Other, namely

120. Today many people are afraid of being subjected to abuse. Are you afraid of being subjected to abuse? (Answer by mark one check the number that best corresponds to what you feel!)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

Not at all afraid — Extremely scared

121. How large do you assume the risk is that you will be subjected to abuse during the next month? (Answer by mark one check the number that best corresponds to what you think)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

0% risk of being abused — 100 % risk of being abused*

* Means that you will be abused during the next few months.

122. Has the experience of reading and answering this questionnaire made you feel uncomfortable?

(answer by mark one check the number that best corresponds to what you think)

☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10

No feelings at all of discomfort — Very intensive feelings of discomfort

FINALLY

					1

If you wish to take a contact to someone to discuss issues, thoughts or feelings brought by filling in this form, you can search doctoral student Hafrún Finnbogadóttir midwife and lecturer at Malmö University on telephone 040-6657465 or mobile 0725-327277.

Comments

Most of the questions in the questionnaire come from well-known and tested questionnaires. See the following references (1-7).
Questions 13-15 comes from Alcohol Use Disorders Identification Test (AUDIT)1.
Questions 16-28 comes from Sense of Coherence Survey (Soc-13)2-3.
Questions 31-39, 50-62, 64-112, 118-122 are from the main instrument and comes from NorVold Abuse Questionnaire (NorAQ)4.
Questions 40-49 comes from Edinburgh Postnatal Depression Scale (EPDS)5-6.
Questions 113-116 are modified and come originally from Abuse Assessment Screen (AAS) and has been used by Swedish researches7.
In addition to these there are questions concerning your age, background and lifestyle.

1) Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption--II. Addiction 1993 Jun;88(6):791-804.

2) Antonovsky A. Unraveling the mystery of health : how people manage stress and stay well. 1st ed. San Francisco: Jossey-Bass; 1991.

3) Antonovsky A. The structure and properties of the sense of coherence scale. Soc Sci Med 1993 Mar;36(6):725-733.

4) Swahnberg IM, Wijma B. The NorVold abuse questionnaire (NorAQ): Validation of new measures of emotional, physical, and sexual abuse, and abuse in the health care system among women. Eur J Public Health. 2003 Dec;13(4):361-6.

5) Cox JL, Holden JM, Sagovsky R. Detection of Postnatal Depression. Development of the 10-item Edinburgh Postnatal depression Scale. British Journal of Psychiatry 1987;150:782-786.

6) Wickberg B, Hwang CP. The Edinburgh Postnatal Depression Scale: validation on a Swedish community sample. Acta Psychiatr Scand 1996 Sep;94(3):181-184.

7) Stenson K, Heimer G, Lundh C, Nordstrom ML, Saarinen H, Wenker A. The prevalence of violence investigated in a pregnant population in Sweden. J Psychosom Obstet Gynaecol. 2001 Dec;22(4):189-97.

LUND UNIVERSITY
Faculty of Medicine

hafrun.finnbogadottir@mah.se

MALMÖ UNIVERSITY

I

Finnbogadóttir et al. BMC Pregnancy and Childbirth 2011, 11:14
http://www.biomedcentral.com/1471-2393/11/14

BMC
Pregnancy & Childbirth

RESEARCH ARTICLE Open Access

A multi-centre cohort study shows no association between experienced violence and labour dystocia in nulliparous women at term

Hafrún Finnbogadóttir[1*†], Elisabeth Dejin-Karlsson[1†], Anna-Karin Dykes[1,2†]

Abstract

Background: Although both labour dystocia and domestic violence during pregnancy are associated with adverse maternal and fetal outcome, evidence in support of a possible association between experiences of domestic violence and labour dystocia is sparse. The **aim** of this study was to investigate whether self-reported history of violence or experienced violence during pregnancy is associated with increased risk of labour dystocia in nulliparous women at term.

Methods: A population-based multi-centre cohort study. A self-administrated questionnaire collected at 37 weeks of gestation from nine obstetric departments in Denmark. The total cohort comprised 2652 nulliparous women, among whom 985 (37.1%) met the protocol criteria for dystocia.

Results: Among the total cohort, 940 (35.4%) women reported experience of violence, and among these, 66 (2.5%) women reported exposure to violence during their first pregnancy. Further, 39.5% (n = 26) of those had never been exposed to violence before. Univariate logistic regression analysis showed no association between history of violence or experienced violence during pregnancy and labour dystocia at term, crude OR 0.91, 95% CI (0.77-1.08), OR 0.90, 95% CI (0.54-1.50), respectively. However, violence exposed women consuming alcoholic beverages during late pregnancy had increased odds of labour dystocia, crude OR 1.45, 95% CI (1.07-1.96).

Conclusions: Our findings indicate that nulliparous women who have a history of violence or experienced violence during pregnancy do not appear to have a higher risk of labour dystocia at term, according to the definition of labour dystocia in this study. Additional research on this topic would be beneficial, including further evaluation of the criteria for labour dystocia.

Background

Accumulating knowledge suggests that domestic violence occurring during pregnancy is a serious public health issue due to the risk for adverse maternal and fetal health outcomes [1-3]. Labour dystocia, another serious complication in obstetrics, has also been increasingly highlighted during the past decades [4-9]. Labour dystocia is defined as a slow or difficult labour or childbirth. According to Kjaergaard et al. [10] the term 'dystocia' is frequently used in clinical practice, yet there is no consistency in the use of terminology for prolonged labour or labour dystocia [4,6,11,12]. However, labour dystocia accounts for most interventions during labour [4,6,7]. Although both labour dystocia [4,7] and domestic violence during pregnancy [1,2] are associated with adverse maternal and fetal outcome, evidence in support of a possible association between experiences of violence and labour dystocia is sparse. One recent study from Iran has shown an association between experienced abuse by an intimate partner and labour dystocia, and such abuse included psychological threats as well as physical, or sexual abuse [13].

Although the demographic background of women exposed to domestic violence may vary widely, some women are more vulnerable and at increased risk [14]. Disadvantaged women, with low socio-economic status [15-17] and younger age, [18] as well as single women

* Correspondence: hafrun.finnbogadottir@mah.se
† Contributed equally
[1]Department of Nursing, Faculty of Health and Society, Malmö University, Malmö, Sweden
Full list of author information is available at the end of the article

at younger age, [15-17] certain ethnic groups [15,17,19] and even women with a partner born outside Europe [17] are more likely to be exposed to domestic violence. Also unhealthy maternal behaviour such as smoking [20-23] and use of alcohol and drugs during pregnancy are more common among women who live in violent relationships [20,21]. Pregnant women exposed to violence have a greater risk of delivering babies with low birth weight, [20,22,24] premature labour, [22,25] abruption of placenta [25] and fetal trauma [22,24,25] or death [22,24,26] and are also at increased risk of caesarean section [25].

Some identified risk factors for dystocia are high maternal age, [10,11] short maternal height, [27,28] overweight, [10] obesity [29] and smoking [30]. Also, high fetal weight increases the risk for prolonged labour [31] and labour dystocia [32]. Further, up to 50% of unplanned caesarean sections among nulliparous women are related to labour dystocia [4,6].

Already thirty years ago, Lederman et al. [33] showed that physical and psychosocial characteristics of the woman, such as maternal emotional stress related to pregnancy and motherhood, partner and family relationships, and fears of labour were significantly associated with less efficient uterine function, higher state of anxiety, higher epinephrine levels in plasma and longer length of labour. The higher levels of epinephrine may disrupt the normal progress in labour or the coordinated uterine contractions explained by an adrenoreceptor theory [34]. Subsequently, Alehagen et al. [35] confirmed significantly increased levels of all three stress hormones from pregnancy to labour and drastically increased levels of epinephrine and cortisol compared with nor-epinephrine, indicating that mental stress is more dominant than physical stress during labour. Maternal psychosocial stress, family functioning and fear of childbirth may have an association with specific complications such as prolonged labour or caesarean section [36]. History of sexual violence in adult life is associated with an increased risk of extreme fear during labour, [37] and fear of childbirth in the third trimester has been shown to increase the risk of prolonged labour and emergency caesarean section [38]. Thus, the current body of evidence in this area would support the hypothesis that experience of violence before and/or during pregnancy increases the risk of labour dystocia.

The aim of this study was to investigate whether self-reported history of violence or experienced violence during pregnancy is associated with increased risk of labour dystocia in nulliparous women at term.

Methods

The material used in this study originates from the Danish Dystocia Study (DDS), a population-based multi-centre cohort study, and 8099 nulliparous women were potentially eligible for inclusion in the study [8-10]. However, 6356 women were invited to the DDS study (external drop-out was 21.5%) and 5484 women accepted participation. For the current sub-study, a data set on 2652 nulliparous women who fulfilled the inclusion criteria (showed below) was available for analyses of exposure to violence before and during pregnancy. Among these, 985 (37.1%) met the protocol criteria for labour dystocia (Table 1). These diagnostic criteria are in accordance with the American College of Obstetrics and Gynecology (ACOG) criteria for dystocia in labour's second stage [6] and also with the criteria for labour dystocia in first and second stage described by the Danish Society for Obstetrics and Gynecology [39,40]. The diagnosis prompted augmentation (i.e. with oxytocin stimulation) [8-10].

Data were collected prospectively between May 2004 and July 2005. Participants were recruited from nine obstetric departments in Denmark with annual birth rates between 850-5400 per year. The departments were four large university hospitals, three county hospitals, and two local district departments. Recruitment of the women took place in the antenatal clinics at 33 gestational weeks, and baseline information was collected at 37 gestational weeks. *Inclusion criteria* were Danish speaking (i.e. reading/understanding) nulliparous women at 18 years of age or older, with a singleton pregnancy in cephalic presentation and no planned elective caesarean section or induction of labour. *Exclusion criteria* were nulliparous women with a delivery < 37 or > 42 weeks of gestation, induction, elective caesarean section and breech presentation (n = 1115 or 17.5% in DDS). All data were based on a self-administrated questionnaire and on

Table 1 Definition of stages and phases of labour and diagnostic criteria for dystocia for current sub-study [8-10]

Stage of labour	Definition of stages and phases	Diagnostic criteria for dystocia
First stage	***From onset of regular contractions leading to cervical dilatation***	
Latent phase	Cervix dilatation 0 - 3.9 cm	Not given in this phase
Active phase	Cervix dilatation ≥ 4 cm	< 2 cm assessed over four hours
Second stage	***From full dilatation of cervix until the baby is borne***	
Descending phase	From full dilatation of cervix to strong and irresistible urge to push	No descending ≥ 2 hours or ≥ 3 hours if epidural was administrated
Expulsive phase	Strong and irresistible pushing during the major part of the contractions	No progress ≥ 1 hour

information contained in obstetric records filled out by the midwives at admission and postpartum. Forty percent of the questionnaires were completed in an internet version. Fourteen (0.5%) of the 2652 women did not answer the questions about violence and were classified as having no exposure to violence.

Eight items in the questionnaire dealt with violence and originated from the short form of the Conflict Tactics Scale (CTS2S) [41]. This instrument has been used in large population-based studies in Denmark, and translation from English to Danish and back translation to English were performed prior to the Danish Health and Morbidity survey 2000 [42]. The questions were adapted for a pregnant cohort in the DDS [8-10]. Three alternatives were provided as possible answers to the various exposure questions: 'yes during this pregnancy', 'yes earlier', and 'no never'. Women were not required to provide information concerning the number of episodes of violence that had occurred (Additional file 1).

'*History of violence*' was defined as experience of violence ever in lifetime before and/or during pregnancy, '*Violence before pregnancy*' as experienced violence ever in lifetime before pregnancy, '*Violence during pregnancy*' as experienced violence during pregnancy (with or without violence before pregnancy) and '*Violence for the first time during pregnancy*' as experienced violence during pregnancy without experienced violence before pregnancy.

Further, for the purpose of analysis, violence was categorized as i) threat of violence, ii) physical violence, iii) sexual violence, and iv) serious violence. However, a more detailed description of the prevalence of violence will be published elsewhere by another research group.

For the purpose of the current sub-study, the concept *domestic violence* was defined as exposure to psychological and/or physical abuse by 'Your husband/Co-habitant' or 'A person you know very well in your family', according to the first two alternatives in question 9 in the questionnaire (Additional file 1).

Background and lifestyle factors were classified as follows. *Maternal age* was classified as 18-24, 25-29, 30-34 and >34 years. *Country of origin* was classified according to whether the woman was born in Denmark, in another Nordic country, or in other country. *Cohabiting status* was divided into yes or no. *Educational status* was dichotomised as ≤ 10 years or > 10 years and *employment status* as employed or unemployed (including voluntary unemployed or studying). *Smoking status* was classified as "yes" (if the woman was a daily smoker or was smoking at some point during pregnancy) or "no" (never smoked or alternatively, if she had ceased before pregnancy) and *use of alcohol* as "yes" (if the woman had been drinking alcohol during pregnancy at the time when the questionnaire was administered) or "no" (if the woman had been drinking solely alcohol-free drinks). *Body mass index* (BMI) was calculated from maternal weight and height before the pregnancy and classified as normal or low weight if BMI was ≤ 25, or overweight when > 25. Infant *birth weight* was dichotomised as < 3500 g or ≥ 3500 g and *delivery mode* as partus normalis (PN) or instrumental delivery, including caesarean section and vacuum extraction (VE).

Ethics

Since no invasive procedures were applied in the study, no Ethics Committee System approval was required by Danish law. The policy of the Helsinki Declaration was followed throughout the data collection and analyses. Written consent was obtained and person-specific data were protected by codes. Permission to establish the database was obtained from the Danish Data Protection Agency (j. no. 2004-41-3995).

Statistical methods

Chi-square analysis was used to investigate differences in background characteristics between women who were exposed to violence and women not exposed to violence. Odds ratios (OR) and 95% confidence intervals (95% CI) were calculated for the crude associations between various background- and lifestyle characteristics and labour dystocia, with dystocia as the dependent variable for logistic regression. Age was dichotomised as ≤ 24 or >24 years and country of origin as Danish or non-Danish. Univariate logistic regression was used to analyse the crude odds ratios for dystocia in relation to various background- and lifestyle characteristics and self-reported history of violence. Further, multiple regression was used to analyse domestic violence (solely) and history of violence as independent variables (two different analysis) together with the other well-documented maternal factors (maternal age, BMI and smoking) associated with dystocia. Odds ratios were used as estimates of relative risk. Statistical significance was accepted at $p < 0.05$. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) version 16.0 for Windows.

Results

Table 2 provides a descriptive overview of the maternal characteristics for the total cohort of 2652 women, with and without self-reported experience of 'history of violence', 'violence before pregnancy' and 'violence during pregnancy'.

Among the 940 (35.4%) women who reported experience of 'history of violence', 914 (97.2%) reported experienced 'violence before pregnancy'. Also, 66 (2.5%) women reported violence during current pregnancy (Table 2). Of these women, 26 (39.5%) were exposed to 'violence for the first time during pregnancy'. All

Table 2 Descriptive overview of maternal characteristics in nulliparous women who have reported experienced violence before and/or during pregnancy **compared to women not exposed to violence (n = 2652)**

Characteristics	Total	History of violence		P (2-sided)	Violence before pregnancy		P (2-sided)	Violence during pregnancy		P (2-sided)
	n (%)	Not exposed n (%)	Exposed n (%)		Not exposed n (%)	Exposed n (%)		Not exposed n (%)	Exposed n (%)	
Total	2652 (100.0)	1712 (64.7)	940 (35.4)		1738 (65.5)	914 (34.5)		2586 (97.5)	66 (2.5)	
Age, years										
18 - 24	440 (16.5)	233 (13.6)	207 (22.1)	< 0.001	236 (13.6)	204 (22.4)	< 0.001	420 (16.3)	20 (30.8)	0.02
25 - 29	1300 (49.0)	884 (51.6)	416 (44.4)		901 (51.8)	399 (43.8)		1274 (49.3)	26 (40.0)	
30 - 34	728 (27.5)	476 (27.8)	252 (26.9)		481 (27.7)	247 (27.1)		712 (27.6)	16 (24.6)	
> 34	180 (6.8)	119 (7.0)	61 (6.5)		120 (6.9)	60 (6.6)		177 (6.7)	3 (4.6)	
Missing	4 (0.2)									
Country of origin										
Denmark	2452 (92.5)	1577 (92.1)	875 (93.1)	NS	1603 (92.2)	849 (92.9)	NS	2390 (92.4)	62 (93.9)	NS
Nordic countries	54 (2.0)	38 (2.2)	16 (1.7)		38 (2.2)	16 (1.8)		53 (2.0)	1 (1.5)	
Other countries	146 (5.5)	97 (5.7)	49 (5.2)		97 (5.6)	49 (5.4)		143 (5.5)	3 (4.5)	
Missing	0 (0.0)									
Cohabiting status										
Yes	2517 (94.9)	1645 (99.7)	872 (98.8)	0.004	1668 (99.7)	849 (98.7)	0.003	2461 (99.5)	56 (94.9)	< 0.001
No	16 (0.6)	5 (0.3)	11 (1.2)		5 (0.3)	11 (1.3)		13 (0.5)	3 (5.1)	
Missing	119 (4.5)									
Education status										
> 10 years	2128 (80.3)	1436 (84.7)	692 (74.7)	< 0.001	1457 (84.6)	671 (74.6)	< 0.001	2083 (81.5)	45 (68.2)	< 0.006
≤10 years	494 (18.6)	260 (15.3)	234 (25.3)		265 (15.4)	229 (25.4)		473 (18.5)	21 (31.8)	
Missing	30 (1.1)									
Employment status										
Employed	1849 (69.7)	1237 (74.1)	612 (66.8)	< 0.001	1255 (74.0)	594 (66.7)	< 0.001	1805 (71.6)	44 (68.8)	NS
Unemployed	737 (27.8)	433 (25.9)	304 (33.2)		441 (26.0)	296 (33.3)		717 (28.4)	20 (31.2)	
Missing	66 (2.5)									
Smoking										
No	1995 (75.2)	1377 (80.9)	618 (65.9)	< 0.001	1396 (80.8)	599 (65.7)	< 0.001	1953 (75.9)	42 (63.6)	0.022
Yes	645 (24.3)	325 (19.1)	320 (34.1)		332 (19.2)	313 (34.3)		621 (24.1)	24 (36.4)	
Missing	12 (0.5)									
Use of alcohol										
No	1895 (71.5)	1240 (77.0)	655 (73.3)	NS	1256 (76.7)	639 (73.6)	NS	1851 (75.0)	44 (69.8)	NS
Yes	637 (24.0)	398 (24.3)	239 (26.7)		408(24.5)	229 (26.4)		618 (25.0)	19 (30.2)	
Missing	120 (4.5)									
BMI										
Normal or low (≤ 25)	1954 (73.7)	1261 (77.5)	693 (77.9)	NS	1282 (77.6)	672 (77.8)	NS	1902 (77.6)	52 (80.0)	NS
Overweight (> 25)	563 (21.2)	366 (22.5)	197 (22.1)		371 (22.4)	192 (22.2)		550 (22.4)	13 (20.0)	
Missing	135 (5.1)									

Statistical significance is accepted at $p < 0.05$.

† Same women can occur in more than one group.

women exposed to violence for the first time during their first pregnancy were Danish, three (11.5%) women in the age group 18 - 24 years, 17 (65.4%) at age 25- 29, five (19.2%) at age 30-34 and one (3.8%) >34 years. Three (11.5%) women were not cohabiting, five (19.2%) had ≤ 10 years education, eight (30.8%) were unemployed, seven women were smokers (26.9%), ten (38.4%) were alcohol consumers at the 37th week of gestation, and five (19.2) had BMI > 25.

Of the 940 women who had a 'history of violence', 697 (77%) answered a question concerning whom the perpetrator was. Thirty-seven percent had been exposed to domestic violence. Further, 22% to violence by someone they knew very well (not family member) and 15% by someone they knew superficially (family or other). The perpetrator was a stranger in 26% of the cases. Of the 66 women who had been exposed to violence during pregnancy, 53 (80%) answered the question about the perpetrator, and in 23 (43.0%) cases they were exposed to domestic violence.

The median age of all nulliparous women was 28 years. In the violence-exposed group significantly more women were in the 18-24 age categories in all three violence exposure groups ($p < 0.001$, $p < 0.001$, $p = 0.020$). No differences in exposure to violence were found in relation to country of origin. In the total sample, 94.9% of the women (n = 2517) were cohabiting. Across all categories of exposure to violence, such exposure was proportionally more often reported by non-cohabiting women ($p = 0.004$, $p = 0.003$ respectively $p < 0.001$) albeit only 16 (0.6%) of the women were not cohabiting. Slightly more than eighty percent (80.3%) of the women had more than 10 years of schooling. Exposure to 'history of violence' and 'violence before pregnancy' was more frequently reported by women who had a lower educational level (≤ 10 years) compared to women not exposed ($p < 0.001$), as well as in the group 'violence during pregnancy' ($p < 0.006$). Over two-thirds (69.7%) of the women were employed. The exposed group differed from the non-exposed group before pregnancy in that more women were unemployed ($p < 0.001$). However, there was no significant difference in employment status among the group of 66 (2.5%) women who were violence-exposed during pregnancy (Table 2).

More than twenty-four percent (24.3%) of these nulliparous women were smokers at term or at some point during pregnancy. Exposure to violence was proportionally more often reported by smokers than by non-smokers across all categories ($p < 0.001$, $p < 0.001$, $p = 0.022$). Twenty-four percent of the nulliparous reported that they consumed alcohol during pregnancy, in 37th week of pregnancy (Table 2). The quantity ranged between 1 to 10 units of alcoholic beverages per week. However, there were no significant differences in alcohol consumption between violence-exposed or unexposed women. No differences in exposure to violence were found in relation to BMI.

Crude odds ratios showed no association between experiences of 'history of violence' and dystocia (n = 940) OR 0.91, 95% CI (0.77-1.08), 'violence before pregnancy' and dystocia (n = 914) OR 0.90, 95% CI (0.77-1.07), 'violence during pregnancy' and dystocia (n = 66) OR 0.90, 95% CI (0.54-1.50), or 'first time violence during pregnancy' (n = 26) OR 1.24, 95% CI (0.56-2.71) and dystocia. Moreover, no significant associations were found between dystocia at term and any of the various categorizations of violence: i) 'threat of violence' OR 0.97, 95%CI (0.79-1.18), ii) 'physical violence' OR 0.93, 95%CI (0.78-1.11), iii) 'sexual violence' OR 1.18, 95%CI (0.85-1.62) and iv) 'serious violence' OR 1.00, 95%CI (0.81-1.23).

A multiple regression done with 'domestic violence' (solely) as an independent variable together with already known factors as maternal age, BMI and smoking associated with dystocia showed no significant association to dystocia at term, OR 1.23 95% CI (0.89 - 1.69). Women older than 24 years and women with pre pregnancy overweight had significantly increased risk for dystocia at term with OR 1.53 95% CI (1.16 -2.00) respectively OR 1.31 95% CI (1.07-1.62). Further, multiple regression with 'history of violence' as an independent variable together with age, BMI and smoking showed no association to dystocia at term with OR 0.98 95% CI (0.81-1.18).

Table 3 shows the relationship between background and lifestyle characteristics and the risk (crude odds

Table 3 Maternal background characteristics as risk factors for dystocia in nulliparous women with and without experience of history of violence, as shown by crude odds ratios (OR) and 95% confidence intervals

Characteristics	History of violence (n = 940)		No history of violence (n = 1712)	
	Total cases of dystocia (n = 337)		Total cases of dystocia (n = 648)	
	Dystocia/no dystocia	OR 95% CI	Dystocia/no dystocia	OR 95% CI
Age > 24 years	279/449	1.64 (1.16-2.30)	574/905	1.36 (1.02-1.83)
Non-Danish	21/44	0.84 (0.49-1.44)	58/77	1.26 (0.88-1.80)
Not cohabiting	4/7	1.02 (0.29-3.52)	1/4	0.41 (0.05-3.64)
Low educational status (≤10 years)	85/149	1.00 (0.74-1.38)	84/176	0.76 (0.57-1.00)
Unemployed	120/183	1.23 (0.93-1.63)	154/279	0.89 (0.71-1.12)
Smoking	118/202	1.06 (0.80-1.41)	122/203	0.98 (0.77-1.26)
Alcohol consumption	100/139	1.45 (1.07-1.96)	144/254	0.93 (0.74-1.18)
Overweight > 25 BMI	80/117	1.26 (0.91-1.75)	156/210	1.26 (0.99-1.60)

ratios) for dystocia in women with and without exposure to 'history of violence'. Women older than 24 years had significantly increased risk for dystocia at term, irrespective of exposure to violence (exposed: OR 1.64, 95% CI: 1.16-2.30; unexposed: OR 1.36, 95% CI: 1.02-1.83). Also, women who consumed alcohol during pregnancy and had experienced exposure to 'history of violence' had an increased risk for dystocia at term (exposed: OR 1.45, 95% CI: 1.07-1.96).

Women giving birth to an infant with a birth weight of 3500 g or more (n = 1231) had significantly increased risk of dystocia irrespective of exposure to violence (exposed (n = 424): OR 2.0, 95% CI: 1.49-2.69; unexposed (n = 807): OR 1.39, 95% CI: 1.12-1.71). Women with dystocia had significantly increased risk for instrumental deliveries (n = 632) compared to normal deliveries, irrespective of exposure to violence (exposed (n = 221): OR 4.45, 95% CI: 3.23-6.11; unexposed (n = 410): OR 4.21, 95% CI: 3.33-5.33).

Discussion

More than one third (35.4%) of the women in this study had been exposed to violence ever in their lifetime, i.e. before and/or during pregnancy. However, no association was found between experienced violence and labour dystocia in nulliparous women at term. Therefore, our findings suggest that women who have been exposed to violence ever in lifetime before and/or during pregnancy are not at a higher risk of prolonged delivery process at term. However, as this is the first study ever with the specific aim to examine the potential association between history of violence and labour dystocia, the current results should be regarded as only preliminary, and further research is needed in order to confirm these apparently negative findings. Nevertheless, recent findings by Khodakarami et al. [13] did show an association between experienced intimate partner violence and labour dystocia. However, Khodakarami et al. [13] did not define dystocia, and also, our definition of experienced domestic violence is somewhat broader, which makes it difficult to compare the results. Yet, in our study, the odds of having dystocia if exposed solely to domestic violence were increased by 23%, albeit not significantly. These two major challenges in obstetrics thus appear mostly to have different underlying risk factors, although smoking is common to both exposure to violence [20-23,30] and prolonged labour [30], which can in turn lead to labour dystocia.

The subjects investigated in our study are primarily Danish women (92.5%), i.e. they were born in Denmark and have Danish ethnicity. Due to ethical considerations, women younger than 18 years were excluded in this study in respect for Danish law regarding autonomy, because otherwise parental consent would have been necessary for participation in the study.

The mean age of the nulliparous women was rather high, i.e. 28 years. In accordance with results from previous studies, [16-18] younger age (< 24 years) is a risk group for exposure to violence. The results in our study showed that women older than 24 years with or without experience of violence had significantly increased risk for dystocia at term, although in the non-violence exposed group, the association may be regarded as marginally significant due to the lower limits of the confidence interval. Earlier studies have shown that increasing maternal age has a strong association with labour dystocia [10,11].

Women exposed to violence were more often smokers, in accordance with what several international studies have shown, [21-23] even though smoking has been decreasing in Denmark during the last decade, especially in the age-group 25-44 years [42]. A nation-wide study in Denmark showed that in the year 2005, smoking prevalence at some point in pregnancy was 16% [43]. However, our study had the same definition of smoking as in the study of Egebjerg Jensen et al.[43], and the prevalence of smoking during pregnancy was higher, i.e., 24.3% in our study. It is alarming if the smoking prevalence is increasing during pregnancy.

Another background variable that might be of importance for an association between exposure to violence and labour dystocia is alcohol. In the current study, women who had experience of violence and who also were alcohol consumers during late pregnancy had higher risk of dystocia at term compared to non-violence exposed women. The calculated odds ratio was significant (p = 0.017), albeit the strength of the association may perhaps best be regarded as modest in the current context, in that these are crude odds ratios, i.e. unadjusted for any other background characteristics. In accordance with earlier results, [20,21] unhealthy maternal behaviour such as use of alcohol and drugs during pregnancy are more common among women who live in violent relationships. Yet, to our knowledge associations between consumption of alcohol during the third trimester in pregnancy and experience of violence as a risk factor for labour dystocia have not been described in the literature before. These findings are difficult to interpret and need further investigation.

In the present study 2.5% (n = 66) of nulliparous women were exposed to violence during the pregnancy and 39.5% (n = 26) of them had never been exposed to violence previously. Thus, the violence was initiated during their first pregnancy. The size of this group was however limited and these results would need to be investigated further. Transition into a new social role can be experienced as a very stressful event for the father to-be [44] and may lead to increased pre-existing strains in the couple's relationship to such an extent that the partner uses psychological

or physical violence towards the mother to-be. However, our definition of 'history of violence' in this study includes all experienced violence during and before pregnancy, and thus, intimate partner violence is only one possible component.

It should be noted that the current results regarding prevalence of exposure to violence may conceivably represent an underestimate of the true rates. Technical errors affected the internet data collection (40% of the material), such that women were unable to report whether they were exposed to violence during current pregnancy or not. More specifically, they were only provided with two alternatives of answers in the questionnaire, instead of three. Also, the true prevalence of physical and psychological abuse in pregnant women is difficult to estimate since women who are exposed to violence may be afraid to report such violence in fear of abuse escalation [24]. First time pregnancy may escalate existing stressors in the couple's relationship which can lead to psychological or physical abuse and this in turn may result in prolonged labour [33-36]. Nevertheless, in the current study, there was no association between exposure to 'first time violence during pregnancy and dystocia'. However, there were only 26 women in this group. Despite the limited size of this group, the odds of having dystocia were increased by almost 25%, albeit not significantly. Thus, the question remains as to whether a significant association between dystocia and exposure to first time violence during pregnancy would be obtained in a larger sample. A potential weakness in the current study is the small number of individuals in some of the sub-group analyses.

In current study overweight pre pregnancy showed significant increased risk of more than 30% to having dystocia at term irrespective if exposed solely to domestic violence or to history of violence. Kjaergaard et al. [10] has already presented overweight as a riskfactor for labour dystocia from the DDS [8-10].

Some potential obstetrical risk factors for dystocia were also analysed in relation to violence. Our findings showed that delivering a baby with a birth weight ≥ 3500 g was associated with dystocia at term without any association with exposure of violence. Yet, Kjærgaard et al.[8] have already shown on the DDS material that expecting a child with a birth weight > 4000 g was associated with increased risk of dystocia. Indeed, high birth weight as a predisposing factor for prolonged labour and labour dystocia is well-described in the literature [31,32]. Women exposed to violence more often give birth to low birth weight babies [20,22,24]. However, birth weight is probably not the sole explanation for labour dystocia, and women may have prolonged second stage without any correlation to birth weight [45]. It should also be noted that some studies have found no association between violence and low birth weight [14,46]. Furthermore, unknown factors such as psychosocial stress may also have some importance in this context. However, Nystedt et al. [47] could not find a link between a low level of psychosocial resources in early pregnancy and increased risk for prolonged labour. The etiology of the diagnosis labour dystocia appears to be multifaceted and therefore complex.

In addition, although instrumental delivery is a well-known independent consequence of dystocia, [4,6] we did not find any association between instrumental delivery and experience of violence with labour dystocia. Women with labour dystocia had significantly increased risk for instrumental deliveries, irrespective of exposure to violence or not, a finding which is unremarkable. Previous studies have found that women reporting physical violence during pregnancy are more likely to be delivered by caesarean section than those who are not exposed to physical violence [25,48]. However, it is important to keep in mind that in the current sample, only nulliparous women at term were included and thus all premature deliveries were excluded.

Methodological discussion

The results of this study might potentially be biased due to selection or misclassification. However, we do not find any reason to believe that systematic selection bias or misclassification occurred. The current cohort design based upon prospectively collected data enabled the comparison of risk of labour dystocia among women exposed and un-exposed to violence during the same time period. The population in this study consisted only of nulliparous women which made the cohort a homogeneous group in that respect. Also, the concept 'dystocia' was very well defined, in accordance with ACOG criteria for dystocia in labour's second stage [6] and with the criteria for dystocia in the first and second stage described by the Danish Society for Obstetrics and Gynecology, [39,40] which means that the composition of the group defined with labour dystocia is homogeneous. However, our results raise the question as to whether these criteria for labour dystocia are relevant for the diagnosis. Labour dystocia is still a poorly defined phenomenon which might be categorized with respect to clinical diagnosis [12]. It may well be that the current definition with a time span of four hours is too short, and therefore the prevalence of dystocia may be overestimated. The use of a lengthier time criteria might lead to a reduced number of cases diagnosed as dystocia, but would probably yield a more accurate estimate. The extent to which this in turn might lead to a stronger association between experienced violence and labour dystocia is unknown.

The internal non-response rate of the questions about violence was only 0.5% that is, only 14 women in this cohort did not answer the violence questions at all. The limited number of women with missing information on

violence exposure is unlikely to have affected the results in any major way, and we can only speculate as to whether these women were exposed to violence or not. However, as mentioned above, technical errors due to the use of the internet for data collection (40% of the answers at baseline) provided only two alternatives for answers regarding violence exposure, i.e. 'yes earlier', or 'no never', instead of three alternatives. Misclassification of responses could potentially have led to an underreporting of exposure to violence during pregnancy at term. MacMillan et al.[49] found that computer-based screening did not increase prevalence, and that written screening methods yielded fewest missing data.

The questions measuring violence used for this substudy have been previously validated and used in a Danish general population [42]. However, since the questions have not been adapted to a pregnant cohort before, this may have influenced the findings obtained. Further, it is possible that the rather broad time frame for experienced violence investigated in the current study is not relevant for a study of obstetric outcome. However, according to Eberhard-Gran et al., [37] history of sexual violence in adult life is associated with an increased risk of extreme fear during labour. In our hypothetical model excessive stress, fear and anxiety are related to dysfunctional labour. Screening for violence is not a routine in all countries. If it could be known for the midwife and the obstetrician prior to delivery that the woman had been exposed to excessive stress due to domestic violence before or during pregnancy, then health care practitioners could provide closer monitoring throughout pregnancy and during delivery. The caring process could be more carefully scrutinised to the unique woman's needs. However, the extent to which closer monitoring would decrease risk for labour dystocia is still an unanswered question.

Conclusions

The hypothesis that nulliparous women who have been exposed to violence are more prone to labour dystocia during childbirth at term has not been confirmed. Due to the current scarcity of studies exploring a possible association between violence and labour dystocia, two major contributors to adverse maternal and fetal outcome, the extent to which a relationship might exist would need further investigation. In this regard, it would also be beneficial if the criteria for the definition dystocia could be further evaluated.

Additional material

Additional file 1: Appendix. Questions concerning violence used in the current study.

Acknowledgements

The authors would like to thank Hanne Kjaergaard (HK) who gave us permission to use the database from the Danish Dystocia Study, Mahnaz N Moghadassi, statistician, Department of Community Medicine, Division of Social and Preventive Medicine, Lund University, Sweden, for assistance and help with performing the analyses, and Malmo University, Faculty of Health and Society for economic support.

Author details

[1]Department of Nursing, Faculty of Health and Society, Malmö University, Malmö, Sweden. [2]Division of Nursing, Department of Health Sciences, Medical Faculty, Lund University, Lund, Sweden.

Authors' contributions

All authors contributed to the planning of the study. Analyses were planned by all authors. HF performed the analysis and all authors interpreted the results. HF wrote the drafts of the manuscript, which the other authors commented on and discussed. All authors approved the final manuscript.

Competing interests

The authors declare that they have no competing interests.

Received: 18 December 2009 Accepted: 21 February 2011
Published: 21 February 2011

References

1. Jasinski JL: **Pregnancy and domestic violence: a review of the literature.** *Trauma Violence Abuse* 2004, **5(1)**:47-64.
2. Shoffner DH: **We don't like to think about it: intimate partner violence during pregnancy and postpartum.** *J Perinat Neonatal Nurs* 2008, **22(1)**:39-48.
3. Boy A, Salihu HM: **Intimate partner violence and birth outcomes: a systematic review.** *Int J Fertil Womens Med* 2004, **49(4)**:159-164.
4. Gifford DS, Morton SC, Fiske M, Keesey J, Keeler E, Kahn KL: **Lack of progress in labor as a reason for cesarean.** *Obstet Gynecol* 2000, **95(4)**:589-595.
5. Blix E, Pettersen SH, Eriksen H, Royset B, Pedersen EH, Oian P: **Use of oxytocin augmentation after spontaneous onset of labor.** *Tidsskr Nor Laegeforen* 2002, **122(14)**:1359-1362.
6. American College of Obstetrics and Gynecology: **ACOG Practice Bulletin Number 49, December 2003:Dystocia and augmentation of labor.** *Obstet Gynecol* 2003, **102**:1445-1454.
7. Oscarsson ME, Amer-Wahlin I, Rydhstroem H, Kallen K: **Outcome in obstetric care related to oxytocin use. A population-based study.** *Acta Obstet Gynecol Scand* 2006, **85(9)**:1094-1098.
8. Kjaergaard H, Olsen J, Ottesen B, Nyberg P, Dykes AK: **Obstetric risk indicators for labour dystocia in nulliparous women: a multi-centre cohort study.** *BMC Pregnancy Childbirth* 2008, **8**:45.
9. Kjaergaard H, Olsen J, Ottesen B, Dykes A: **Incidence and outcomes of dystocia in the active phase of labor in term nulliparous women with spontaneous labor onset.** *Acta Obstet Gynecol Scand* 2009, **88(4)**:402-407.
10. Kjaergaard H, Dykes AK, Ottesen B, Olsen J: **Risk indicators for dystocia in low-risk nulliparous women: a study on lifestyle and anthropometrical factors.** *J Obstet Gynaecol* 2010, **30(1)**:25-29.
11. Treacy A, Robson M, O'Herlihy C: **Dystocia increases with advancing maternal age.** *Am J Obstet Gynecol* 2006, **195(3)**:760-763.
12. Lowe NK: **A review of factors associated with dystocia and cesarean section in nulliparous women.** *J Midwifery Womens Health* 2007, **52(3)**:216-228.
13. Khodakarami N, Naji H, Dashti MG, Yazdjerdi M: **Woman abuse and pregnancy outcome among women in Khoram Abad, Islamic Republic of Iran.** *East Mediterr Health J* 2009, **15(3)**:622-628.
14. Kearney MH, Haggerty LA, Munro BH, Hawkins JW: **Birth outcomes and maternal morbidity in abused pregnant women with public versus private health insurance.** *J Nurs Scholarsh* 2003, **35(4)**:345-349.
15. Bohn DK, Tebben JG, Campbell JC: **Influences of income, education, age, and ethnicity on physical abuse before and during pregnancy.** *J Obstet Gynecol Neonatal Nurs* 2004, **33(5)**:561-571.
16. Dunn LL, Oths KS: **Prenatal predictors of intimate partner abuse.** *J Obstet Gynecol Neonatal Nurs* 2004, **33(1)**:54-63.

17. Radestad I, Rubertsson C, Ebeling M, Hildingsson I: **What factors in early pregnancy indicate that the mother will be hit by her partner during the year after childbirth? A nationwide Swedish survey.** *Birth* 2004, **31(2)**:84-92.
18. Valladares E, Pena R, Persson LA, Hogberg U: **Violence against pregnant women: prevalence and characteristics. A population-based study in Nicaragua.** *BJOG* 2005, **112(9)**:1243-1248.
19. Muhajarine N, D'Arcy C: **Physical abuse during pregnancy: prevalence and risk factors.** *CMAJ* 1999, **160(7)**:1007-1011.
20. McFarlane J, Parker B, Soeken K: **Abuse during pregnancy: associations with maternal health and infant birth weight.** *Nurs Res* 1996, **45(1)**:37-42.
21. McFarlane J, Parker B, Soeken K: **Physical abuse, smoking, and substance use during pregnancy: prevalence, interrelationships, and effects on birth weight.** *J Obstet Gynecol Neonatal Nurs* 1996, **25(4)**:313-320.
22. Coker AL, Sanderson M, Dong B: **Partner violence during pregnancy and risk of adverse pregnancy outcomes.** *Paediatr Perinat Epidemiol* 2004, **18(4)**:260-269.
23. Goodwin MM, Gazmararian JA, Johnson CH, Gilbert BC, Saltzman LE: **Pregnancy intendedness and physical abuse around the time of pregnancy: findings from the pregnancy risk assessment monitoring system, 1996-1997. PRAMS Working Group. Pregnancy Risk Assessment Monitoring System.** *Matern Child Health J* 2000, **4(2)**:85-92.
24. Yost NP, Bloom SL, McIntire DD, Leveno KJ: **A prospective observational study of domestic violence during pregnancy.** *Obstet Gynecol* 2005, **106(1)**:61-65.
25. Rachana C, Suraiya K, Hisham A, Abdulaziz A, Hai A: **Prevalence and complications of physical violence during pregnancy.** *Eur J Obstet Gynecol Reprod Biol* 2002, **103(1)**:26-29.
26. Janssen PA, Holt VL, Sugg NK, Emanuel I, Critchlow CM, Henderson AD: **Intimate partner violence and adverse pregnancy outcomes: a population-based study.** *Am J Obstet Gynecol* 2003, **188(5)**:1341-1347.
27. Sheiner E, Levy A, Katz M, Mazor M: **Short stature–an independent risk factor for Cesarean delivery.** *Eur J Obstet Gynecol Reprod Biol* 2005, **120(2)**:175-178.
28. McGuinness BJ, Trivedi AN: **Maternal height as a risk factor for Caesarean section due to failure to progress in labour.** *Aust N Z J Obstet Gynaecol* 1999, **39(2)**:152-154.
29. Sheiner E, Levy A, Menes TS, Silverberg D, Katz M, Mazor M: **Maternal obesity as an independent risk factor for caesarean delivery.** *Paediatr Perinat Epidemiol* 2004, **18(3)**:196-201.
30. Guirgis RR, Clark AD, Hogston P, Golland IM, Bevan JR, Francis JG, Higgins B: **The effects of smoking on labour after uncomplicated pregnancy: a comparison between the progress and outcome of labour in 400 smokers and 400 matched non-smokers.** *J Obstet Gynaecol* 1997, **17(2)**:149-152.
31. Mocanu EV, Greene RA, Byrne BM, Turner MJ: **Obstetric and neonatal outcome of babies weighing more than 4.5 kg: an analysis by parity.** *Eur J Obstet Gynecol Reprod Biol* 2000, **92(2)**:229-233.
32. Selin L, Wallin G, Berg M: **Dystocia in labour - risk factors, management and outcome: a retrospective observational study in a Swedish setting.** *Acta Obstet Gynecol Scand* 2008, **87(2)**:216-221.
33. Lederman RP, Lederman E, Work BA Jr, McCann DS: **Relationship of psychological factors in pregnancy to progress in labor.** *Nurs Res* 1979, **28(2)**:94-97.
34. Lederman RP, Lederman E, Work BA Jr, McCann DS: **The relationship of maternal anxiety, plasma catecholamines, and plasma cortisol to progress in labor.** *Am J Obstet Gynecol* 1978, **132(5)**:495-500.
35. Alehagen S, Wijma K, Lundberg U, Melin B, Wijma B: **Catecholamine and cortisol reaction to childbirth.** *Int J Behav Med* 2001, **8(1)**:50-65.
36. Johnson RC, Slade P: **Obstetric complications and anxiety during pregnancy: is there a relationship?** *J Psychosom Obstet Gynaecol* 2003, **24(1)**:1-14.
37. Eberhard-Gran M, Slinning K, Eskild A: **Fear during labor: the impact of sexual abuse in adult life.** *J Psychosom Obstet Gynaecol* 2008, **29(4)**:258-261.
38. Ryding EL, Wijma B, Wijma K, Rydhstrom H: **Fear of childbirth during pregnancy may increase the risk of emergency cesarean section.** *Acta Obstet Gynecol Scand* 1998, **77(5)**:542-547.
39. **Danish Society of Obstetrics and Gynecology (in Danish). Dystocia in first stage of labour.** 1999 [http://www.dsog.dk/files/dystoci-aktiv-fase.htm].
40. **Danish Society of Obstetrics and Gynecology (in Danish). Dystocia in the second stage of labour.** 2000 [http://www.dsog.dk/files/dystoci-secondstage.htm].
41. Straus MA, Douglas EM: **A short form of the Revised Conflict Tactics Scales, and typologies for severity and mutuality.** *Violence Vict* 2004, **19(5)**:507-520.
42. **The Danish Health and Morbidity survey 2000.** [http://www.si-folkesundhed.dk/susy/index.htm].
43. Egebjerg Jensen K, Jensen A, Nohr B, Kruger Kjaer S: **Do pregnant women still smoke? A study of smoking patterns among 261,029 primiparous women in Denmark 1997-2005.** *Acta Obstet Gynecol Scand* 2008, **87(7)**:760-767.
44. Finnbogadottir H, Crang Svalenius E, Persson EK: **Expectant first-time fathers' experiences of pregnancy.** *Midwifery* 2003, **19(2)**:96-105.
45. Schiessl B, Janni W, Jundt K, Rammel G, Peschers U, Kainer F: **Obstetrical parameters influencing the duration of the second stage of labor.** *Eur J Obstet Gynecol Reprod Biol* 2005, **118(1)**:17-20.
46. Webster J, Chandler J, Battistutta D: **Pregnancy outcomes and health care use: effects of abuse.** *Am J Obstet Gynecol* 1996, **174(2)**:760-767.
47. Nystedt A, Hogberg U, Dejin-Karlsson E, Lundman B: **Low psychosocial resources during early pregnancy are not associated with prolonged labour.** *Eur J Obstet Gynecol Reprod Biol* 2006, **125(1)**:29-33.
48. Cokkinides VE, Coker AL, Sanderson M, Addy C, Bethea L: **Physical violence during pregnancy: maternal complications and birth outcomes.** *Obstet Gynecol* 1999, **93(5 Pt 1)**:661-666.
49. MacMillan HL, Wathen CN, Jamieson E, Boyle M, McNutt LA, Worster A, Lent B, Webb M, McMaster Violence Against Women Research Group: **Approaches to screening for intimate partner violence in health care settings: a randomized trial.** *JAMA* 2006, **296(5)**:530-536.

Pre-publication history
The pre-publication history for this paper can be accessed here:
http://www.biomedcentral.com/1471-2393/11/14/prepub

doi:10.1186/1471-2393-11-14
Cite this article as: Finnbogadóttir *et al.*: A multi-centre cohort study shows no association between experienced violence and labour dystocia in nulliparous women at term. *BMC Pregnancy and Childbirth* 2011 **11**:14.

II

Midwifery 28 (2012) 181–189

Contents lists available at ScienceDirect

Midwifery

journal homepage: www.elsevier.com/midw

Midwives' awareness and experiences regarding domestic violence among pregnant women in southern Sweden

Hafrún Finnbogadóttir, RNM, MNSc (Lecturer, PhD-student)[a,*], Anna-Karin Dykes, RN, RM, PhD (Professor)[a,b]

[a] Department of Nursing, Faculty of Health and Society, Malmö University, SE-205 06 Malmö, Sweden
[b] Division of Nursing, Department of Health Sciences, Medical Faculty, Lund University, Sweden

ARTICLE INFO

Article history:
Received 17 February 2010
Received in revised form
31 October 2010
Accepted 21 November 2010

Keywords:
Domestic violence
Pregnancy
Awareness

ABSTRACT

Objective: to explore midwives' awareness of and clinical experience regarding domestic violence among pregnant women in southern Sweden.
Design: an inductive qualitative design, using focus groups interviews.
Setting: midwives with experience of working in antenatal care (ANC) units connected to two university hospitals in southern Sweden. Participants 16 midwives recruited by network sampling and purposive sampling, divided into four focus groups of three to five individuals.
Findings: five categories emerged: 'Knowledge about 'the different faces' of violence', perpetrator and survivor behaviour, and violence-related consequences. 'Identified and visible vulnerable groups', 'at risk' groups for exposure to domestic violence during pregnancy, e.g. immigrants and substance users. 'Barriers towards asking the right questions', the midwife herself could be an obstacle, lack of knowledge among midwives as to how to handle disclosure of violence, fear of the perpetrator and presence of the partner at visits to the midwife. 'Handling the delicate situation', e.g. the potential conflict between the midwife's professional obligation to protect the pregnant woman and the unborn baby who is exposed to domestic violence and the survivor's wish to avoid interference. 'The crucial role of the midwife', insufficient or non-existent support for the midwife, lack of guidelines and/or written plans of action in situations when domestic violence is disclosed. The above five categories were subsumed under the overarching category 'Failing both mother and the unborn baby' which highlights the vulnerability of the unborn baby and the need to provide protection for the unborn baby by means of adequate care to the pregnant woman.
Key conclusions and implication for practice: avoidance of questions concerning the experience of violence during pregnancy may be regarded as a failing not only to the pregnant woman but also to the unprotected and unborn baby. Nevertheless, certain hindrances must be overcome before the implementation of routine enquiry concerning violence during pregnancy. It is important to develop guidelines and a plan of action for all health-care personnel at antenatal clinics as well as to provide continuous education and professional support for midwives in southern Sweden.

Introduction

Domestic violence during pregnancy is a serious public health issue and poses a threat to optimal maternal and fetal health (Boy and Salihu, 2004; Jasinski, 2004; Shoffner, 2008). Domestic violence during pregnancy is defined as physical, sexual or psychological/emotional violence, or threats of physical or sexual violence that are inflicted on a pregnant woman by the marital/cohabiting partner, parents, siblings, or any other relatives. Women who are afraid of their intimate partner both before and during pregnancy have poorer physical and psychological health during pregnancy (Janssen et al., 2003; Brown et al., 2008). The lack of consensus in the literature with regard to whether routine screening of domestic violence during pregnancy can be justified illustrates the complexity of this controversial subject. Systematic review of quantitative studies conducted at primary care, emergency departments and antenatal clinics indicate a general lack of evidence in support of benefits associated with screening for domestic violence during pregnancy, and therefore, screening programmes in health-care settings may not be justified (Ramsay et al., 2002). However, more recent evidence suggests that screening for domestic violence during pregnancy may be beneficial. A recently published randomised controlled trial with a brief cognitive behavioural intervention during prenatal care showed a discernible positive effect on intimate partner violence and pregnancy outcome in

* Corresponding author.
E-mail address: Hafrun.Finnbogadottir@mah.se (H. Finnbogadóttir).

0266-6138/$ - see front matter © 2010 Elsevier Ltd. All rights reserved.
doi:10.1016/j.midw.2010.11.010

a high risk minority, African-American women (Kiely et al., 2010). Two studies conducted in Sweden have highlighted the importance of screening for women who are living in abusive relationships in order to ensure the continued safety of pregnant women and their unborn babies (Hedin et al., 1999; Edin and Hogberg, 2002). It has also been shown in a study conducted in the UK that routine enquiry for domestic violence during pregnancy increases the rate of detection (Bacchus et al., 2004). Still, domestic violence against pregnant women is a sensitive subject that seems to be taboo in some societies, and it may be difficult to broach this topic during a clinical encounter (Edin and Hogberg, 2002; Kitzinger, 2002). However, two studies from Sweden and respectively the USA, have shown that pregnant women find it acceptable to be asked about exposure to violence by their midwife/prenatal care provider (Stenson et al., 2001; Renker and Tonkin, 2006), if such enquiry is conducted in a safe, confidential environment and by a health professional who is empathic and non-judgmental (Bacchu et al., 2002). Nevertheless, health practitioners need a clearer understanding of the relationship between domestic violence and pregnancy to make it possible to develop and implement effective prevention and intervention programmes (Hedin and Janson, 2000; Edin and Hogberg, 2002; Jasinski, 2004). In addition, health-care providers who have received training are more likely to screen for violence (Jasinski, 2004).

The first scientific report from Sweden concerning domestic violence during pregnancy published approximately a decade ago (Hedin et al., 1999) received considerable attention among researchers, the government, and the media. A national Swedish project was conducted by the National Board of Health and Welfare (Socialstyrelsen, 2002) with the aim of developing methods for routine screening regarding violence against women. The results from the project indicated that hindrances for such screening were midwives' uncertainty and lack of time. In newly published national antenatal care recommendations, violence in intimate relationships was highlighted as a public health problem, and the inclusion of such information in the woman's anamnesis seems to be increasingly relevant (Collberg et al., 2008). To our knowledge, pregnant women are not routinely questioned about experiences of violence at the antenatal care (ANC) facilities in southern Sweden today. Therefore, in order to ensure the development of a contextually relevant working plan, it would be useful to explore midwives' perceptions concerning domestic violence. The aim of this study was to explore midwives' awareness of and clinical experience regarding domestic violence among pregnant women in southern Sweden.

Swedish antenatal care

In Sweden all pregnant women have equal rights to ANC services which are free of charge and available throughout the country. The midwife has the main responsibility for the normal pregnancy and supervises the pregnant woman. Routine care during pregnancy consists of 8–10 visits, preferentially to the same midwife for the purpose of continuity, and one visit 8–10 weeks' post partum. In addition, the parents are invited to group support and education during pregnancy as a preparation for parenthood. The partner is welcome to be present at all visits during pregnancy. Questioning for psychosocial (living situation, employment, i.e.) and physical risk factors is standardised, but there is no routine question about the experience of violence. Although there are national recommendations regarding how to address the issue of exposure to violence during pregnancy (Collberg et al., 2008), the ANC services may vary locally from county to county. Also, it is up to the individual midwife whether or not to request that the woman's partner leave the room, in order that she may conduct a private conversation with the pregnant woman. The midwife is not obligated to ask if the woman has any experience of violence or if she is living in a violent relationship/environment. However, the midwife/health-care provider is obligated to report to the social services if she/he has knowledge concerning family violence when there are other children in the family (SFS, 2001: 453). An obstetrician is associated with the ANC unit and consulted if regarded necessary. In addition, access to a psychologist and welfare officer is available on a consultation basis. Collaboration with the social services for individual matters is possible.

Method

An inductive qualitative design was chosen. The data collection method consisted of focus group interviews (Krueger and Casey, 2009), with groups of midwives who were encouraged to talk to one another freely about their clinical experiences of pregnant women who were exposed to domestic violence. Midwives were encouraged to narrate and exchange anecdotes, ask questions and comment on one another's points of view (Krueger and Casey, 2009). The focus group interview method is particularly useful for determining people's perceptions, behaviours and attitudes, experiences, thoughts and feelings about an issue or a problem (Krueger and Casey, 2009). All interviews started with an introductory question whereby the participants were asked to provide brief verbal associations (two or three words) concerning a pregnant woman exposed to violence. Then the discussion moved over to the key question, starting with: *Tell me how you work with pregnant women who are exposed to violence?* The focus group interview took place mostly as individual narrative from one of the midwives which then initiated a more general focus group discussion about the complicated topic.

Settings and participants

Four focus groups were assembled, with three to five voluntary participants in each group, such that one group had three, two had four, and one had five midwives. The midwives were initially recruited by network sampling, complemented by purposive selection (Polit, 2006). All but one of the midwives was working in ANC units connected to two university hospitals in southern Sweden at the time the focus group interviews were performed. This demographic area is multicultural and is ethnically heterogeneous. The particular working area experience of the recruited midwives varied within the group and included activities such as working with women who have a 'fear of birth', or 'substance abusers', or 'birth', 'postpartum care' or 'sexual health guidance'. The mean working experience was 22 (min 4–max 36) years.

Data collection

The focus group interviews were performed either at the midwives' work place or at the University of Malmö during May–June 2009. The first author (H.F.) was moderator in all of the groups. Interviews were recorded, and field notes were taken by the co-author (A.K.D.) who attended the first two focus groups as observer. A brief (15 minutes) consultation was held with the co-author after the first two focus groups, to discuss what had occurred, and the analytic sequence started at that point. Both authors are midwives with long clinical experience.

Analysis

Content text analysis, inspired by Burnard (1991, 1996; Burnard et al., 2008), was used for analysing the material. Both manifest and latent content text analysis was used. The first author (H.F.) listened to the interviews immediately after the collection of the data, and they were subsequently transcribed verbatim also by the first author (H.F.). Each transcript was read thoroughly, and short notes were made in close proximity to the text in the margin of the

paper. Open coding of the text was performed. The second author (A.K.D.) independently also carried out open coding of one of the interviews. Afterwards, the co-authors compared and discussed their coding results, and consensus was achieved concerning the themes in the material. An initial coding framework from the interview transcripts was made to facilitate further data processing. The final coding framework was made after reduction of the categories in the initial coding framework. All text was grouped together under suitable headings, which yielded in the end 13 sub-categories. Five categories emerged from these sub-categories, which together formed one overarching category which described the results from the interviews. Consensus between the first and the second author was reached throughout the whole analysing process by continued discussions. Quotations that captured the essence of what was said were chosen from the entire text for every sub-category and category to confirm credibility. The dialogue interactions presented in the text reflect some of the midwives' feelings and attitudes.

Ethical considerations

The midwives were fully informed, both written and verbally, about the aim of the study by the first author (H.F.). Informed written consent was obtained from all informants and confidentiality ensured. Approval for the study was provided by the Regional Ethical Review Board in southern Sweden Dnr:640/2008.

Findings

The results yielded five categories, 'Knowledge about 'the different faces' of violence', 'Identified and visible vulnerable groups', 'Barriers towards asking the right questions', 'Handling the delicate situation' and 'The crucial role of the midwife'. Each one of these categories subsumed two to three sub-categories. These five categories together with the sub-categories formed one overarching category 'Failing both mother and the unborn baby' (Fig.1).

Knowledge about the 'different faces' of violence

This category pertained to the midwives' narratives concerning their clinical experiences of perpetrator and survivor behaviour, as well as the potential consequences resulting from domestic violence. The violence described ranged from psychological to physical violence with potentially devastating consequences. Some midwives had no clinical experience of violence but commented, discussed and reflected on the basis of their theoretical knowledge. Three sub-categories form this category; '*Perpetrator behaviour*' '*Survivor behaviour*', and '*Consequences of the violence*'. The perpetrator was described as changeable and calculating with 'different faces'. In the narratives, the perpetrator could be the husband/co-habitor, boyfriend, parents or mother-in-law. Sometimes the midwives perceived the perpetrator to be a very charming and understanding person at their first meeting, yet also a person with a controlled façade. Further, the perpetrators were described as very threatening, aggressive, and unpleasant. Pregnancy could trigger the violence, but could also prevent the survivor from more serious physical violence:

> He thought she was fat and bloated….then she reported that he had beaten her. That he had said that if she hadn't been pregnant, he would have beaten her even more. (Focus group 4)

The narratives show that the survivor can have insight and express that she wants a divorce, but then fear takes over, and she does not do anything about her situation. The survivor is seen as psychologically distressed person with low self-esteem, who is living in fear and shame and who perceives herself to be unique. Dread of leaving the perpetrator, seeking help or filing a police report predominates because of her fear of losing her children.

> There is always a psychological break-down before the physical violence, by then the woman has already been so destroyed…., it is a deep process that has started a long, long time ago because as long as she stays with him, she still has control over him and his cycle of violence. […]Her self-esteem disappears […] So she can't manage this herself, she must have help to break out of this, as I see it […] yes, her deepest feeling about this is shame, I haven't thought about this previously, but actually it is such a keyword. (Focus group 2)

The midwives also told about pregnant women who had had diffuse troubles during pregnancy, such as indistinct abdominal pain and lower back pain. The survivor could suffer from anxiety or depression and could express suicidal thoughts:

> I had a woman who broke down when she came to me, because this was the first time he had abused her and she had of course reported it, but she was so distressed ….that she no longer wanted to live. (Focus group 4)

Some of the midwives told about women who had had an abortion because of the violent relationship they were living in. One pregnancy ended in intrauterine death at gestational week 22–23, and another pregnancy in premature birth at gestational week 34. In another narrative, the social services were aware that a pregnant woman was exposed to violence and had therefore implemented some measures. Nevertheless, that particular case ended with a femicide. Domestic violence was often discovered first at post partum due to visible bruises, or the newly delivered woman's spontaneous reports about what she had been exposed to. The midwives also expressed the view that stress caused by the domestic violence could result in having a small-for-gestational age (SGA) baby.

Identified and visible vulnerable groups

Within the category 'identified and visible vulnerable groups', two main sub-categories emerged from the midwives' narratives. These were '*Immigrants*' and '*Substance user*'. However, 'young girls' and 'intellectually handicapped women' were also identified as vulnerable groups. Midwives described immigrant women who had been exposed to domestic violence. These women were very lonely, without family and friends and had difficulties in expressing themselves in Swedish or in English. The perpetrator was often their only source of security here in Sweden and they were extremely isolated, socially. Also, some of the midwives identified young pregnant girls who had been exposed to 'honour-related violence' and who were hidden from their parents and the rest of the family:

> Yes, wrong guy, not violence by the partner but violence by parents, relatives, that is common. I have had several young girls born during the 80's who get into substance abuse because they have been subjected to this. (Focus group 3)

The pregnant substance users find themselves in a 'grey zone', meaning that although on a deeper level, they want help to quit their substance abuse, despite support from their midwife and a team of social workers, they readily fall back into substance abuse. The distinctive characteristic of this group is their inability to take care of themselves or their unborn baby. According to the midwives, this particular group is in great need of care and attention:

> They are in a grey zone, it is dreadful, really. (spoken with emphasis) It is our obligation to consider the unborn baby because it has no protection and the mother does not have the

capability to protect her baby, so we need to help her, both with regard to heroin abuse and with regard to the domestic abuse. (Focus group 2)

Barriers towards asking the right questions

This category refers to the notion that the midwife herself could be the greatest obstacle towards initiating a dialogue with the pregnant woman about exposure to violence. Thus, the midwife as a unique individual, her own development, knowledge, prejudice and attitudes posed limitations concerning working with this charged and sensitive question. Another perceived barrier was the presence of the woman's partner during all the visits at ANC and the difficulties in circumventing this problem due to lack of private time earmarked with the woman:

> There is nothing but you yourself, there are my own limitations with regard to how much I can manage to absorb, what I can deal with, and what I can manage to accomplish, then there is the obstacle that sometimes the husband is there too, which makes one wonder what is going to happen to the woman afterwards, will it become worse if I dig into this right now? … But one has to keep an eye on it and offer the woman support if she so wishes. (Focus group 2)

The midwives also expressed fear of reporting domestic violence, as well as lack of knowledge concerning how to handle the situation if they did disclose such violence. There are two sub-categories in this category; '*Individual limitations*' and '*Integrity*'. The midwives could blame themselves for having missed signs during the pregnancy and for not being aware of what the pregnant woman had been exposed to, until post partum when the newly delivered woman spontaneously reported what had happened. *There are probably many I have missed, for sure* (Focus group 2). Also, the midwives were afraid of reporting to the authorities when the man was very aggressive, due to fear of retaliation to themselves or to their families. *But, it's obvious that if someone threatens me a man threatens me, if you report this, then […] then I would be terribly afraid* (Focus group 2). Further, some of the midwives pointed out, as a possible weakness on their part, their fear of being perceived negatively by the pregnant woman:

> We are so terrifically concerned about our relationship, we midwives, so we don't dare bring matters to a head, because what if they don't like us and they switch midwives, then one is really worthless (said with emphasis). (Focus group 4)

For some of the midwives it was out of the question to ask the mother-to-be about whether she had any experience of violence, and especially if the partner was present. According to the midwife, it would be an insult to the partner, if she were to ask this question. However, another midwife thought the most important aspect was how to phrase the question. The following interaction occurred when the interviewer asked about possible barriers towards asking the pregnant woman about experiences of violence. Midwife 8: *I know my barriers, and that is, what do I do afterwards, or what if the husband is there too.* Midwife 7: *Then I absolutely do not ask.* Midwife 5: *I am afraid of insulting them if I am wrong, because I would feel that way myself, I think, if someone had asked me […] I would have taken it as a criticism, that I had remained in a relationship where someone hit me.* A little bit later in the discussion; Midwife 8: *I think that it is important that one doesn't ask the question directly, does your husband beat you, but rather one should go around it.* Midwife 5: *I suppose I would be able to ask whether you had been subjected to violence; there is nothing strange about that* (Focus group 2). Another interaction concerned how to document the experience of violence, where the focus was on personal integrity. Midwife 6: *There should be some, […] exposure to violence […] a little box to check off for this in the maternal records.* Midwife 8: *Right, that's where it could be.* Midwife 7: *Do you really think that it should be there, checked off in a little box?* Midwife 8: *Yes, why not?* Midwife 6: *Yes, it has to be noted somewhere, at least there where one writes about care, if it includes religion, then it could also include violence.* Midwife 8: *More as a box to be checked off, I think.* Midwife 7: *No, I don't know. I think that it very much has to do with integrity, at least that it should not be visible on a piece of paper one carries around, which moreover the husband can see, I feel a bit doubtful about that […] There must be another way.* (Focus group 2)

Handling the delicate situation

This category reflects the midwives' particular work situation, which is carried out within certain restrictions. The primary resource that midwives have at their disposal when handling delicate situations such as domestic violence during pregnancy, is their basic education as authorised midwives and their experience-based knowledge. Also, they have a specific time frame for their work and are delegated routine care assignments based on the locally adapted regulations from the employer. In addition, midwives have confidentiality obligations and laws that must be adhered to. Three sub-categories comprised this category; '*Professional*', '*Peer-support*' and '*Advocacy*'. The midwives talked about their own efforts, but also told about their restrictions as professional midwives. Some midwives meant that it is crucial although difficult to be honest with the survivor and to confront the pregnant woman with difficult questions. Further, as a midwife, one can only support and guide the victimised pregnant women in her decisions. However, sometimes the midwives found themselves in a great dilemma, due to on the one hand, the legal regulations regarding the reporting of domestic violence, and on the other hand the exposed woman's unwillingness to change her situation. The midwives identified different professionals and authorities such as welfare officers and social services they can contact in the matter. Also, they emphasised how important it is with cooperation between different professionals. Some of the midwives highlighted the need to know where to put the focus, as a professional midwife. To be observant was central, but sometimes the observations were themselves rather diffuse; they had a 'gut-feeling' for example about the interplay between the couple but nothing specific to go on. Although the feeling that something might be wrong was present, they did not have any evidence. However, sometimes they had something concrete to guide their suspicions, such as bruises on the over arm. The midwives relieve their pressure by talking to each other and are able to ask for a colleague's opinion about how to handle difficult matters. They seek confirmation about how they have acted in a specific situation. Sometimes the midwives acted as the pregnant woman's and the unborn baby's advocate. The midwives described how great their responsibility is, and that they put an intensive focus on their task in an attempt to protect the woman and the unborn baby. The midwives were aware that woman who is exposed to violence does not have the capacity to protect herself or her unborn baby:

> I tried to persuade her not to take him back, but she did, it was a very complicated situation because she had given up the care of her previous children to the father and this was a new relationship. (Focus group 4)

The crucial role of the midwife

This category concerns the midwives' insight about domestic violence during pregnancy and their working situation when they disclose abuse. Three sub-categories form this category: '*Insight*,

'*Report obligation*', and '*Working situation*'. The midwives expressed the insight that there are no winners, but only losers in a family relationship where violence exists. Therefore, it is crucial to help both partners who are living in a destructive relationship. If the question of violence could be routinely asked, and every pregnant woman received that question, it would not be as stigmatising. The midwives realised that often it is more convenient not to ask the question because they must deal with the potential consequences of bringing up such a question, and their working situation does not allow it. They described how they needed to get courage to ask the 'difficult' question, i.e. when they suspected domestic violence during pregnancy. Almost none of the midwives could recall any education concerning violence during pregnancy, and thus, they would like to receive more education and supervision in this matter. Some of the midwives were uncertain about whether their knowledge in this matter was correct, and they were aware that the proportion of unreported violence may be large. Some midwives expressed their concern regarding the unprotected fetus/unborn baby. All in all, the discussion seemed to lead to greater insight about the limits of one's own and one's colleague's knowledge about the most appropriate way to handle this sensitive matter. The following interaction occurred when the midwives discussed their own role. Midwife 1: *Because one of the best things we can do is to stretch out a hand, to say that if you want to talk to someone, I am here.* Midwife 2: *Even if she did not come to me, perhaps she went to someone else later on and talked* (Focus group 1).

All the midwives were not clear about when they were obligated to report suspicion of 'incongruity' and only few of them had reported by themselves. In the discussion the midwives gave each other advice and helped each other to sort out the laws. The following interaction took place: Midwife 8: *One can of course submit an anonymous report, one has the right to report anonymously.* Midwife 6: *No, not we.* Midwife 8: *How so, don't we? Don't we have the right to that?* Midwife 7: *No, not within the health care sector, I also thought so, but no, we do not have that right […] if you are a private person, then so.* Midwife 8: *Yes but then I have been misled* (Focus group 2). Additionally, the midwives thought there were great difficulties concerning differences in confidentiality as

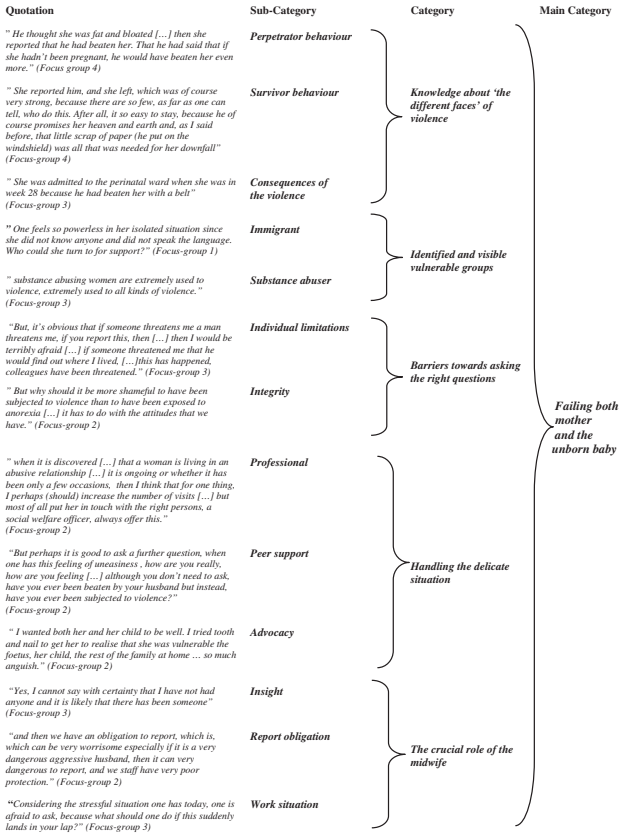


Fig. 1. Overview of the categories and the sub-categories with quotations to the main category 'Failing both mother and the unborn baby'.

stipulated by the laws pertaining to social welfare and the laws pertaining to health care. Some of the midwives knew that they were obligated to report merely if there was a suspicion that someone was being abused.

> At times we must also make a report to the social services …. It is always (so)….we have an obligation to report the merest suspicion that someone may be abused, if there are other children in the family. The unborn child can of course not be reported until it is born, but one can report a concern for the woman already during pregnancy. We do this sometimes. (Focus group 2)

However, the midwives were also aware that they had very poor protection if the perpetrator was an extremely aggressive and dangerous man. Ultimately, the midwives were aware that the unborn baby is not a legal person according to Swedish law. The midwives expressed the need of support from the employer when they report violence, i.e. there should be a natural way to do this with clear guidelines, and that the midwife should not stand alone behind the report. Supervision was not routinely provided and most of the midwives had no case guidance or personal guidance connected to their working place. Feedback was very uncommon or non-existent after disclosure and reporting of violence. There was consensus in all the focus groups about non-existing education or the lack of further education about domestic violence during pregnancy from the employer. Some, but not all of the midwives, were aware of the existence of new national guidelines for ANCs with recommendations of routine enquiry:

> The national guidelines actually provide some suggestions regarding how to pose these questions. ….There are several examples, so we do actually have an instrument to work with. (Focus group 1)

The midwives expressed feelings of frustration, inadequacy, anger and sadness when they disclosed pregnant woman living in violent relationship because they themselves also felt exposed, due to insufficient or no support, and a lack of guidelines and written plans of action governing that situation.

> To sum it all up, this is a rather important question, a difficult question, and it would be helpful with some type of framework […] secure guidelines and support. When it is difficult, it is very troubling, when it is a difficult case, we are rather alone – in that sense we are very small in relation to the health-care system, there is very little protection when it comes to it (Focus group 2).

Failing both mother and the unborn baby

Failing both mother and the unborn baby was chosen as the main category because it emerged clearly during the focus group interviews that the unborn baby is a person lacking protection and a person that needs to be protected by taking care of the pregnant woman. The failing to meet one's obligations towards the mother and her unborn baby could be either intentional or unintentional. In a violent relationship the unborn baby is indirectly or directly exposed to psychological and physical violence inflicted upon the mother. Further, according to the focus group discussions, the unborn baby, who is dependent on being taken care of, is indirectly betrayed by the mother-to-be because she does not have the capacity to protect herself and her unborn baby. The perpetrator, mostly the partner, is betraying his woman and unborn baby by threats or physical violence. The caregiver fails by not asking the right questions, not seeing, not hearing, not acting and not reporting to the authorities. The employees do not receive sufficient education about the matter, and lack written guidelines and/or plans of action. The caregiver, in this case the midwife, lacks support or personal guidance about how to take care of and handle the situation when a pregnant woman is exposed to domestic violence. The employer seems to lack the resources they need to fulfil their obligation. Society fails by not adequately addressing this topic, which still seems taboo. Friends, neighbours and families fail by not seeing or hearing what is going on within the four walls

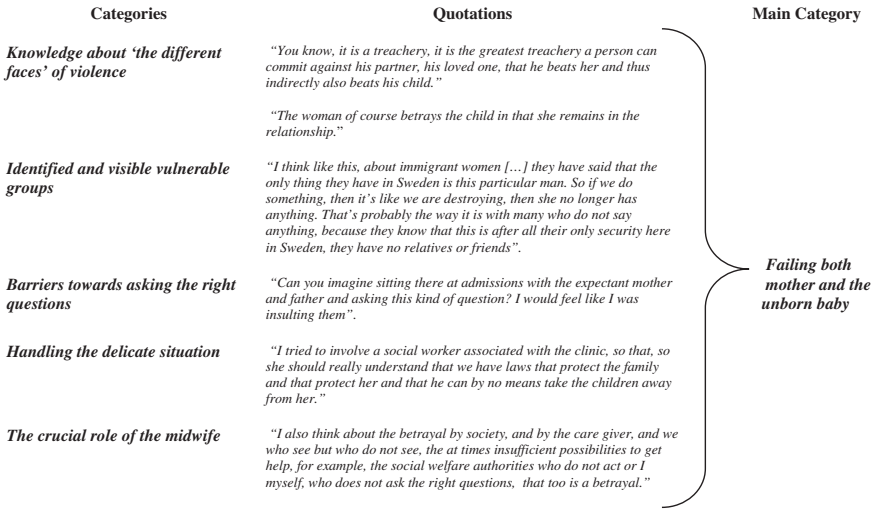


Fig. 2. Overview of how the categories relate to the main category, illustrated by citations.

of the home. Thus, failing both mother and the unborn baby is a phenomenon that exists on all levels in society (Figs. 1 and 2).

Discussion

The current findings indicate that midwives are aware of the importance of protecting the unborn baby through adequate care of the pregnant woman. The overarching category '*Failing both mother and the unborn baby*' could be perceived as an emotionally laden expression. However, the results showed that the midwives expressed clearly that they felt insufficient in their approach and care of the mother and thus, insufficient also with regard to the unborn baby. Midwives need better working conditions and support to have possibilities to take care of this complicated topic. Although midwives were aware of the need to address domestic violence during pregnancy, there appear to be a number of obstacles that need to be overcome before the introduction of routine enquiry. Currently, the midwives have no written guidelines, plans of action and have insignificant or non-existent support from the employer, findings which are similar to those previously found in another county in Sweden (Edin and Hogberg, 2002). Another Swedish study has highlighted the need for private consultation at the ANC units and the local health-care management's responsibility to provide education and instructions related to routine enquiry (Stenson et al., 2005).

Initially, it was decided to have a focus group size of four–five participants. This size was regarded as optimal because the group must be small enough for everyone to have opportunity to share insights (Krueger and Casey, 2009). However, one of the focus groups consisted of only three midwives because of difficulties in the recruitment of informants. Recruitment was difficult partly due to the necessity of conducting the interviews during leisure time after working hours and partly because newly graduated midwives or midwives with very brief working experience said they had no experience of pregnant women who are survivors of domestic violence and therefore had nothing to share. It is also possible that some eligible candidates for the study felt discomfort with the topic, or with the presence of other participants in the focus groups or with the moderator. Therefore, the possibility of response bias cannot be excluded.

The sampling strategy, which was to get volunteers initially through network sampling and thereafter complement this with purposive recruitment of midwives with specialised assignments yielded heterogeneous groups and thus perhaps a more adequate picture of midwives' general awareness and experience of domestic violence against pregnant women. We did not find any reason to believe that systematic selection bias occurred.

Most of the midwives in the focus groups knew each other, but were not in positions of authority towards each other. All were females and thus homogeneous in that respect within the groups. Many of the midwives expressed the view that the focus group interview had been personally very beneficial because now they reflected over and put more focus on this subject.

Nearly 50% of the informants were unknown for the moderator (H.F.) and she had never met them before. In accordance with Krueger and Casey (2009), the interviews were performed in a non-directive manner using open-ended questions, and the atmosphere allowed individuals to respond without setting boundaries or providing clues for potential response categories.

Trustworthiness of the data and the interpretation of the analysed material were facilitated by discussion with the second author (A.K.D.), and consensus was reached throughout the entire analysis process. One of the respondents was asked to read the results for evaluation. Further, the researchers do not have dual roles as clinician and researcher.

Congruent with the literature (Boy and Salihu, 2004; Jasinski, 2004; Shoffner, 2008), the midwives identified by their narratives several serious consequences of domestic violence that may endanger maternal and fetal health outcome. They identified small-for-gestational age, possibly due to stress, which is supported by previous studies (Janssen et al., 2003; Coker et al., 2004; Yost et al., 2005), premature labour (Rachana et al., 2002; Yost et al., 2005) and fetal death (Janssen et al., 2003; Coker et al., 2004; Yost et al., 2005). Other consequences described by the midwives included the decision to have an abortion as supported from earlier findings (Hedin and Janson, 2000), diffuse and various health troubles (Coker et al., 2000), depression, and suicidal ideation (Martin et al., 2006; Brown et al., 2008), as well as femicide (Harper and Parsons, 1997; McFarlane et al., 2002). The severity of these consequences supports the need for efforts to deal with not only the detection of violence-exposed women, but also the need for preventive and supportive measures.

In their narratives of their clinical experience the midwives identified two very vulnerable groups clearly at increased risk for exposure to violence during pregnancy: 'substance users' and 'immigrants'. Previous research supports an association between substance use during pregnancy and exposure to domestic violence (Martin et al., 1996, 2003) and also between ethnicity and pregnancy related violence (Bohn et al., 2004; Radestad et al., 2004). Obviously, such groups warrant extra attention, and multicultural areas in the country may need more financial resources for interpreter costs. Working in a multi-cultural area may place new demands on the midwives. To be able to offer adequate care to heterogeneous pregnant women, it is necessary to map out and identify groups at increased risk for domestic violence in order to allocate resources.

The midwives expressed consensus about the partner's presence at all visits at ANC as a barrier against enquiry about experience of violence. This notion is also supported by previous research (Edin and Hogberg, 2002; Mezey et al., 2003; Stenson et al., 2005; Salmon et al., 2006). However, some of the midwives thought that it depended upon how the question was formulated and also upon their own personal limitations, fears and attitudes concerning domestic violence. The sensitivity of the subject and the risk it poses for the midwife's relationship to the mother-to-be and/or the partner was the most prominent personal limitation concerning potential questioning about domestic violence. Earlier studies have shown similar findings (Edin and Hogberg, 2002; Stenson et al., 2005). Nevertheless, there was consensus that questioning about experience of violence was an important task for midwives working at ANC units, in accordance with earlier findings (Stenson et al., 2005). However, these findings are different from those of Mezey et al. (2003) who suggested that it was not realistic to expect midwives to have time for counselling women who are exposed to domestic violence. Still, lack of time was another obstacle mentioned in the present study which also is supported by previous findings (Mezey et al., 2003; Stenson et al., 2005), albeit this was not the most outstanding obstacle. The midwife's own fear of the perpetrator and his possible revenge if the midwife probed into this matter was highlighted as an obstacle in most of the groups. Most of the participating midwives in this study felt that they were not adequately prepared to deal with survivors of domestic violence due to lack of knowledge and support. The clinical encounter with a pregnant woman exposed to violence is not only complex but also has ethical aspects. On the one hand, the pregnant woman needs to attain the insight that she is exposed to violence, yet on the other hand, there is also the need to protect the woman's integrity and autonomy. Also, the midwife is compelled to follow Swedish law and wishes to keep the survivors' confidence. Further, the midwife needs to consider the consequences of disclosing the violence for the woman, the unborn

baby and the whole family (including other children in the family). Changes cannot be forced, but need to come from the survivor, but perhaps the midwife can be that supportive and neutral person in the survivor's life during her pregnancy.

In the present study the midwives regarded the documentation of abuse not only as a security problem at the ANC, but also as an infringement on the woman's personal integrity. However, the midwives did not agree as to whether it should be a 'check box' in the records or not. In agreement with another Swedish study, documentation of domestic violence could be regarded as a security problem in antenatal care (Stenson et al., 2005). However, in the National Antenatal Care Programme, violence in intimate partner relationships is highlighted as a public health problem, and therefore it would be vital to have this information in the women's anamnesis (Collberg et al., 2008). It seems urgent to find a solution to the problem with regard to the safe documentation of reported abuse.

In the current study the midwives expressed considerable anguish concerning the violence-exposed woman's unwillingness to take active steps regarding her situation. However, findings from a study in Australia showed that hardly a quarter of the pregnant women who disclosed domestic violence wanted further support offered by the midwives (Jones and Bonner, 2002). According to Price and Baird (2001) every midwife who has asked about and received knowledge concerning pregnant woman exposed to violence has contributed in some manner towards ending the abuse, and thereby has also made a difference. In the present study some of the midwives expressed the notion that a question may be a means of 'sowing a seed' and an 'opening up' which can be a turnover for the survivor, who may then do something about her situation. However, it is not enough for the midwife to be sensitive in the given situation and to open up the possibility of a dialogue. She must also be aware of the consequences of her initiative and therefore, she must also have a plan of action.

Antenatal care in Sweden has a homogeneous organisation throughout the country. Nevertheless, this specific issue has not received the same level of attention in all counties. Moreover, according to a systematic review of quantitative studies, the international literature is not consistent with regard to whether it is beneficial or not to 'screen' or 'routinely enquire' about violence in close relationships during pregnancy (Ramsay et al., 2002). In contrast, one expert on issues concerning pregnancy and birth regards the silence as a 'conspiracy with the perpetrator' (Kitzinger, 2002). This view is also in agreement with Price and Baird (2001) who consider that failure to ask the question, when all signs are present, can only be regarded as collusion on behalf of the perpetrator. In the present study not all midwives felt comfortable about posing the question, an attitude which is not strange in light of the feelings expressed with regard to being ill-equipped for the initiation of addressing domestic violence. However, if guidelines for the discovery of and management of domestic violence were to be introduced in their work, this question would not be as stigmatised, as supported by earlier findings (Price et al., 2005). It is interesting to note that although midwives are working with many sensitive subjects, such as sexually transmitted diseases, abortions and prenatal death, still they are often concerned and reluctant to ask questions about abuse for fear of alienating and offending women (Kitzinger, 2002). A realistic work situation with clear guidelines and plans of action is clearly needed. According to the present study, guidelines and plans of action are generally absent unless the woman belongs to the group of women who are exposed to 'violence of honour' or who are 'substance abusers'. If guidelines and a plan of action is present, it is possible to offer support for the survivor and thereby protection for the unborn baby. Otherwise many survivors will remain undetected. If the midwife is aware of domestic violence during the pregnancy, she can treat this as an 'at risk' pregnancy and may thus prevent maternal and/or fetal negative health outcome. Social support to the mother-to-be has also been found to protect against the negative effects of violence for both mothers and their infants (Huth-Bocks et al., 2002).

One possible limitation for the transferability of the findings may be the demographic area in which the study was undertaken. However, in order to be able to use the results for the improvement of existing routines and for the development of future guidelines and interventions, it is necessary to investigate the study of domestic violence within its own context.

Conclusions and implications

Avoidance of questions concerning the experience of violence during pregnancy may be regarded as a failing not only with regard to the pregnant woman but also with regard to the unprotected and unborn baby. The midwives clearly recognised the need to identify domestic violence during pregnancy as an important task to work with, despite the many barriers that exist with regard to enquiry about exposure to domestic violence. Thus, there is a need to overcome certain hindrances before addressing domestic violence during pregnancy actively. It is important to develop guidelines and plans of action for all health-care personal at ANCs as well as continuous education and professional support for midwives in southern Sweden.

Acknowledgement

We would like to thank the participating midwives who made this study possible and the Faculty of Health and Society, Malmö University, Sweden which has supported this study.

References

Bacchu, L., Mezey, G., Bewley, S., 2002. Women's perceptions and experiences of routine enquiry for domestic violence in a maternity service. BJOG: An International Journal of Obstetrics and Gynaecology 109, 9–16.

Bacchus, L., Mezey, G., Bewley, S., et al., 2004. Prevalence of domestic violence when midwives routinely enquire in pregnancy. BJOG: An International Journal of Obstetrics and Gynaecology 111, 441–445.

Bohn, D.K., Tebben, J.G., Campbell, J.C., 2004. Influences of income, education, age, and ethnicity on physical abuse before and during pregnancy. Journal of Obstetric, Gynecologic, and Neonatal Nursing: JOGNN/NAACOG 33, 561–571.

Boy, A., Salihu, H.M., 2004. Intimate partner violence and birth outcomes: a systematic review. International Journal of Fertility and Women's Medicine 49, 159–164.

Brown, S.J., McDonald, E.A., Krastev, A.H., 2008. Fear of an intimate partner and women's health in early pregnancy: findings from the Maternal Health Study. Birth (Berkeley, California) 35, 293–302.

Burnard, P., 1996. Teaching the analysis of textual data: an experiential approach. Nurse Education Today 16, 278–281.

Burnard, P., 1991. A method of analysing interview transcripts in qualitative research. Nurse Education Today 11, 461–466.

Burnard, P., Gill, P., Stewart, K., et al., 2008. Analysing and presenting qualitative data. British dental Journal 204, 429–432.

Coker, A.L., Sanderson, M., Dong, B., 2004. Partner violence during pregnancy and risk of adverse pregnancy outcomes. Paediatric and Perinatal Epidemiology 18, 260–269.

Coker, A.L., Smith, P.H., Bethea, L., et al., 2000. Physical health consequences of physical and psychological intimate partner violence. Archives of Family Medicine 9, 451–457.

Collberg, P., Berglund, A., Banke, G., 2008. Mödrahälsovårdens folkhälsoarbete. In: Mattsson, L.Å. (Ed.), Mödrahälsovårdens , sexuell och reproduktivhälsa. Svensk förening för obstetrikochgynekologi, Stockholm, pp. 29–42. Antenatal Cares' Public Health Work. In: Mattsson, L.Å. (Ed.), Antenatal care, sexual and reproductive health. Swedish Society of Obstetric and Gynecology [in Swedish].

Edin, K.E., Hogberg, U., 2002. Violence against pregnant women will remain hidden as long as no direct questions are asked. Midwifery 18, 268–278.

Harper, M., Parsons, L., 1997. Maternal deaths due to homicide and other injuries in North Carolina: 1992–1994. Obstetrics and Gynecology 90, 920–923.

Hedin, L.W., Grimstad, H., Moller, A., et al., 1999. Prevalence of physical and sexual abuse before and during pregnancy among Swedish couples. Acta Obstetricia et Gynecologica Scandinavica 78, 310–315.

Hedin, L.W., Janson, P.O., 2000. Domestic violence during pregnancy. The prevalence of physical injuries, substance use, abortions and miscarriages. Acta Obstetricia et Gynecologica Scandinavica 79, 625–630.

Huth-Bocks, A.C., Levendosky, A.A., Bogat, G.A., 2002. The effects of domestic violence during pregnancy on maternal and infant health. Violence and Victims 17, 169–185.

Janssen, P.A., Holt, V.L., Sugg, N.K., et al., 2003. Intimate partner violence and adverse pregnancy outcomes: a population-based study. American Journal of Obstetrics and Gynecology 188, 1341–1347.

Jasinski, J.L., 2004. Pregnancy and domestic violence: a review of the literature. Trauma, Violence & Abuse 5, 47–64.

Jones, C., Bonner, M., 2002. Screening for domestic violence in an antenatal clinic. Australian Journal of Midwifery: Professional Journal of the Australian College of Midwives Incorporated 15, 14–20.

Kiely, M., El-Mohandes, A.A., El-Khorazaty, M.N., et al., 2010. An integrated intervention to reduce intimate partner violence in pregnancy: a randomized controlled trial. Obstetrics and Gynecology 115, 273–283.

Kitzinger, S., 2002. Sheila Kitzinger's letter from Europe: silence is collusion. Birth (Berkeley, California) 29, 207–209.

Krueger, R.A., Casey, M.A., 2009. Focus Groups: A Practical Guide for Applied Research. Sage Publications, Thousand Oaks, CA.

Martin, S.L., Beaumont, J.L., Kupper, L.L., 2003. Substance use before and during pregnancy: links to intimate partner violence. The American Journal of Drug and Alcohol Abuse 29, 599–617.

Martin, S.L., English, K.T., Clark, K.A., et al., 1996. Violence and substance use among North Carolina pregnant women. American Journal of Public Health 86, 991–998.

Martin, S.L., Li, Y., Casanueva, C., et al., 2006. Intimate partner violence and women's depression before and during pregnancy. Violence Against Women 12, 221–239.

McFarlane, J., Campbell, J.C., Sharps, P., et al., 2002. Abuse during pregnancy and femicide: urgent implications for women's health. Obstetrics and Gynecology 100, 27–36.

Mezey, G., Bacchus, L., Haworth, A., et al., 2003. Midwives' perceptions and experiences of routine enquiry for domestic violence. BJOG: An International Journal of Obstetrics and Gynaecology 110, 744–752.

Polit, D.F., 2006. Essentials of Nursing Research: Methods, Appraisal, and Utilization. Study Guide. Lippincott Williams & Wilkins, Philadelphia.

Price, S., Baird, K., 2001. Domestic violence in pregnancy. Practising Midwife 4, 12–14.

Price, S., Baird, K., Salmon, D., 2005. Asking the question: antenatal domestic violence. The Practising Midwife 8, 21–22 24–25.

Rachana, C., Suraiya, K., Hisham, A., et al., 2002. Prevalence and complications of physical violence during pregnancy. European Journal of Obstetrics Gynecology and Reproductive Biology 103, 26–29.

Radestad, I., Rubertsson, C., Ebeling, M., et al., 2004. What factors in early pregnancy indicate that the mother will be hit by her partner during the year after childbirth? A nationwide Swedish survey. Birth (Berkeley, California) 31, 84–92.

Ramsay, J., Richardson, J., Carter, Y.H., et al., 2002. Should health professionals screen women for domestic violence? Systematic review. BMJ (Clinical Research edition) 325, 314.

Renker, P.R., Tonkin, P., 2006. Women's views of prenatal violence screening: acceptability and confidentiality issues. Obstetrics and Gynecology 107, 348–354.

Salmon, D., Murphy, S., Baird, K., et al., 2006. An evaluation of the effectiveness of an educational programme promoting the introduction of routine antenatal enquiry for domestic violence. Midwifery 22, 6–14.

SFS, 2001:453, Socialtjänstlag (2001: 453) [Homepage of Regeringskansliets Rättsdatabaser] [Online]. 〈http://www.notisum.se/rnp/sls/lag/20010453.htm〉 (last accessed 25 October 2010) [in Swedish].

Shoffner, D.H., 2008. We don't like to think about it: intimate partner violence during pregnancy and postpartum. The Journal of Perinatal & Neonatal Nursing 22, 39–48.

SOCIALSTYRELSEN, 2002. "Tack för att ni frågar"-screening om våld mot kvinnor. 2002-124-7. Stockholm: ISBN: 91-7201-662-0.

Stenson, K., Saarinen, H., Heimer, G., et al., 2001. Women's attitudes to being asked about exposure to violence. Midwifery 17, 2–10.

Stenson, K., Sidenvall, B., Heimer, G., 2005. Midwives' experiences of routine antenatal questioning relating to men's violence against women. Midwifery 21, 311–321.

Yost, N.P., Bloom, S.L., McIntire, D.D., et al., 2005. A prospective observational study of domestic violence during pregnancy. Obstetrics and Gynecology 106, 61–65.

III

Struggling to survive for the sake of the unborn baby: a grounded theory model of exposure to intimate partner violence during pregnancy

Hafrún Finnbogadóttir (HF), RNM, Lecturer, PhD student [a]

Anna-Karin Dykes (AKD), RNM, PhD, Senior professor [a, b]

Christine Wann-Hansson, RN, PhD, Associate professor [a, c]

[a] Faculty of Health and Society, Department of Care Science, Malmö University, Sweden

[b] Department of Health Sciences, Medical Faculty, Lund University, Sweden

[c] The Swedish Society for Health Sciences (Vårdalinstitutet) LU

Correspondence to:

Hafrún Finnbogadóttir

Faculty of Health and Society,

Department of Care Science

Malmö University

SE 205 06 Malmö

Sweden

Phone +46 40 6657465 Cellular +46 705 686686

E-mail: hafrun.finnbogadottir@mah.se

Abstract

Background Intimate partner violence (IPV) during pregnancy is a serious matter which threatens maternal and fetal health. The aim of this study was to develop a grounded theoretical model of women's experience of IPV during pregnancy and how they handle their situation.

Method Ten interviews with women who had experience of being exposed to IPV during pregnancy were analyzed using the grounded theory approach.

Results The core category 'Struggling to survive for the sake of the unborn baby' emerged as the main concern of women who are exposed to IPV during pregnancy. The core category also demonstrates how the survivors handle their situation. Also, three sub- core categories emerged, 'Trapped in the situation' demonstrates how the pregnant women feel when trapped in the relationship and cannot find their way out. 'Exposed to mastery' demonstrates the destructive togetherness whereby the perpetrator's behavior jeopardizes the safety of the woman and the unborn child. 'Degradation process' demonstrates the survivor's experience of gradual degradation as a result of the relationship with the perpetrator. All are properties of the core category and part of the theoretical model.

Conclusion The theoretical model "Struggling to survive for the sake of the unborn baby" highlights survival as the pregnant women's main concern and explains their strategies for dealing with experiences of violence during pregnancy. The findings may provide a deeper understanding of this complex matter for midwives and other health care providers. Further, the theoretical model can provide a basis for the development and implementation of prevention and intervention programs that meet the individual woman's needs.

Clinical recommendations

Survivors of violence during pregnancy need help to navigate among possible services and authorities, and a continuum of professional services in society is essential. Therefore, collaboration between different authorities is crucial and must be smooth and seamless for the violence-exposed (pregnant) women.

Keywords Intimate partner violence, pregnancy, experience

Introduction

Violence against women is a well-known public health problem worldwide, and it is also a violation of human rights [1]. The period of pregnancy is unfortunately no protection against intimate partner violence (IPV) [2, 3]. Previous Scandinavian interview studies highlight the complexity of being pregnant and abused by the intimate partner [2, 3] and emphasize the woman's need for "keeping up a front" for the surroundings [3] due to difficult existential choices related to ambivalence [2]. Women who are afraid of their intimate partner both before and during pregnancy have poorer physical and psychological health during pregnancy [4, 5]. Thus, IPV during pregnancy is a serious matter that threatens maternal and fetal health outcomes [1, 6-10].

Worldwide, the prevalence of violence against pregnant women ranges between 1.2 – 66 % [6]. A WHO study showed that between 4-12% of women are subjected to physical violence during pregnancy, and in more than 90% of the cases the perpetrator is the biological father to the unborn baby [11]. In Swedish studies the prevalence of physical or sexual abuse during pregnancy varies from 1.3% to 11% [12-14]. This variation is probably attributable to the use of different methods, definitions, and cultural differences, thus making it difficult to compare results across studies [15]. The prevalence of IPV may also be underreported because of shame and fear of escalation of the abuse should the abuse become known [3, 15, 16]. IPV during pregnancy is defined in this study as physical, sexual or psychological, mental or emotional violence, or threats of physical or sexual violence that are inflicted on a pregnant woman by an intimate male partner, or marital/cohabiting partner. This definition has been modified from recommended definitions by Krantz and Garcia-Moreno [17].

Exposure to violence during pregnancy is often unrecognized and/or unsuspected by others, and therefore not addressed by professionals in health care settings [9]. A Swedish interview study with midwives working in antenatal care (ANC) highlighted the vulnerability of the unborn child and the need to provide protection by means of adequate care to the pregnant woman living in a violent relationship [18]. The midwives themselves and their own personal barriers may be the main obstacle to working with this delicate matter, and therefore it is necessary to provide carefully designed educational programs to all clinically active midwives [18]. However, lack of consensus exists as to whether routine screening of domestic violence during pregnancy can be justified, thus illustrating the complexity of this controversial subject. A Cochrane review shows that screening for women exposed to IPV in health care settings is likely to increase detection rates, but evidence is still lacking concerning the long-term benefits for the violence-exposed women. Further, no study has compared the benefits of universal screening versus selective screening for high risk groups, such as pregnant women [19]. Another Cochrane review showed insufficient evidence regarding the effectiveness of interventions for domestic violence in relation to pregnancy outcomes [20]. Although evidence-based interventions are needed, little is known about the actual experiences and primary concerns of women exposed to violence during pregnancy. In order to gain a deeper understanding regarding the subjective experience of exposure to violence during pregnancy, it is necessary to develop a theoretical model that reflects the survivors' behavior and needs. The aim of this study was to develop a grounded theoretical model of women's experiences of intimate partner violence during pregnancy and how they manage their situation.

Method

The grounded theory method, as developed by Glaser [21, 22], was considered suitable for the aim of the study. The research questions were: *What are the women's experiences of being exposed to violence during pregnancy? What are the emerging concepts described by the women?* In grounded theory it is behaviors, not individuals, which are categorized [21]. The grounded theory method is used to build a theoretical model of what is happening and how the situation is handled [21]. In the present study, the patterns of behavior are those described by women who have experienced intimate partner violence while pregnant.

Settings and participants

Women were eligible for inclusion in the study if they were mothers living in the Scania region in Sweden, had experience of being exposed to IPV during pregnancy (survivors), were separated from the perpetrator, and able to speak and understand Swedish. Ten women aged 21-44 years agreed to participate in the study. Their educational level ranged from less than high school up to university studies. Eight women were Swedish-born, among whom two had foreign-born parents and two were immigrants. Eight women had only one child with the perpetrator and were primiparae. Two were multiparae and had three, respectively, two children with the perpetrator. The duration of the relationship with the perpetrator varied from 1.5 to 20 years. The age of the woman’s youngest child ranged from 5 months to 4 years.

Data collection

The data collection was performed between December 2011 and May 2012. Recruitment of participants ended when no new information was forthcoming, indicating that saturation had been achieved. Eight women were recruited by two welfare officers working at women’s shelters who acted as gatekeepers. They informed all their clients who fulfilled the inclusion criteria about the

research project, showed them an announcement about the study and inquired about participation. All women agreed to participate, and either the welfare officer acted as an intermediary or the survivor contacted the main researcher by herself. Two women responded to announcements that had been posted at two separate emergency wards for women and contacted the first author (HF). The informants received written information about the study before they made their decision, and they were given the opportunity to obtain further clarification from the first author. The informants voluntarily gave their written consent to participate and spoke freely about their lived experience, through narratives, of intimate partner violence before and during pregnancy. All interviews began with informal talk about the child/children and questions about the women's background (age, education, etc.), following which the main research question was posed: *Will you please tell me your story, your experience of being exposed to violence during pregnancy?* The question was often followed by some explanation that such violence could be both physical and psychological. More specific questions were posed later during the interview, such as *how did you manage?* The first author conducted all the interviews. The women were interviewed in a safe place of their own choosing, so that they could feel free to talk at their own convenience. Five interviews were performed at the informants' homes, three at the women's shelter and two at the Faculty of Health and Society. The interviews lasted between 49 minutes to 3 hours and 20 minutes.

Analysis

The analytic process started already during the interviews, and the first author also listened to the recorded text shortly after each interview and memos were written down. During the data collection period the first author used a notebook where memos, thoughts and ideas were written down. In the grounded theory concept "all is data" p.12 [21]. The data collection ended when

saturation in the categorization was reached. The open coding started immediately in connection with the transcription of the interviews, performed by the first author (HF). Also, the two co-authors independently carried out open coding of two randomly chosen interviews. Afterwards, the authors compared and discussed their coding results, and consensus was reached. The NVivo program was used for gathering and grouping data. The substantive coding of the material continued, and memos and annotations were continually created. During the coding process the following questions were considered: *What is this data, and how does it fit into the study? What category does this incident indicate? What is actually happening in the data? What is the informant's main concern? How does the informant deal with this concern, and how is the concern resolved during the pregnancy?* Constant comparison of incidents generated categories and their properties. Already in the first interview a conceivable core category emerged. When a mutual decision was reached designating this as the core category, the selective coding process started, i.e. which meant coding solely material that related to the core category and its concepts or property. The theoretical memos, illustrated by figures and written text, were discussed throughout the entire analytic process. When saturation was reached regarding the core category and its concepts, the next stage of the analysis was to identify the emerging theoretical codes such that the underlying patterns became visible and could be aggregated into a theoretical model. According to the grounded theory method, a literature review was not carried out until the theoretical model had emerged.

In accordance with Krantz and Garcia-Moreno [15], the following definitions of violence were utilized during the analytic process: *Physical violence* is exercised through physically aggressive acts such as kicking, biting, slapping, and beating or even strangling. *Psychological, mental, or emotional violence* describes acts such as preventing a woman from seeing family and friends,

ongoing belittlement or humiliation, economic restrictions, violence or threats against cherished objects and other forms of controlling behaviors. *Sexual violence* includes forced sex through the use of physical force, threats, and intimidation, forced participation in degrading sexual acts as well as acts such as denial of the right to use contraceptives or to adopt measures to protect against sexually transmitted diseases [15].

Ethical considerations

The informants were given written and oral information about the aim of the study and the nature of the interview, and were informed that they could end the interview at any time. Furthermore, all women were informed that their participation in the study was anonymous, that all information would be treated with confidentiality, and that the presentation of the findings would ensure that individuals could not be identified. After the interview the first author made sure that the informants were not psychologically distressed due to the interview and that there was no need of immediate emotional support. According to the Declaration of Helsinki [23] the likelihood of benefits from the current research was considered. Violence during pregnancy is a research topic that raises important ethical and methodological challenges in addition to those challenges that are related to research on human subjects in general [24]. The World Health Organisation's (WHO) ethical and safety recommendations for research on domestic violence against women have therefore been followed [23]. Approval for the study was provided by the Swedish Regional Ethical Review Board (Dnr: 2011/336, 2011/703).

Findings

The core category, **'Struggling to survive for the sake of the unborn baby'** and three sub- core categories, i.e. 'Trapped in the situation', 'Exposed to mastery' and 'Degradation process,' together with five categories, emerged from the data and formed the theoretical model (Fig.1).

The analysis revealed that women who experienced IPV during their pregnancy were deeply concerned not to harm the unborn baby. Their main concern emerging from the interviews is *'Struggling to survive for the sake of the unborn baby'.* The survivors deal with constant fear and violence during their pregnancy and are emotionally overloaded. They worry about whether the noise and abuse they are exposed to can affect the pregnancy and the unborn baby. The entire pregnancy revolves around not making 'that person' upset or mad and to survive despite the perpetrator's impulsive anger. A deliberate choice is to stay in the relationship despite the abuse, and to avoid exposing the unborn baby to the additional stress that might be provoked by divorce proceedings, custody and support issues, etc. Stress is considered by these women to be more dangerous for the unborn baby, and they regard stress as increasing the risk for premature birth.

"I worried very much that I might cause her harm because I had this inner stress… I had this inner stress all the time, the whole time, and I was terrified that it was going to damage her."

The interaction between the couple triggers the violence and the pregnancy is tinged with constant brawl and violation. The women's feelings of joy about the pregnancy are replaced by terror and fear. The survivors expressed anxiety regarding their unborn baby's health and handled the situation in different ways according to the complexity of the situations. The survivors expressed caring for their unborn baby and attempting to minimize the effect of the abuse as much as they could by means of different coping strategies. For example, a survivor could in a

dialogue with herself realize that she needs to protect the unborn baby, thereby convincing herself that the relationship will become better postpartum. Worries about whether the unborn child would be affected by the mother-to-bee's sadness were common among these women. The mother-to-be tries to avert her thoughts by walking, reading books and watching TV. The survivor also copes by talking to the 'belly' and creates a relation with the unborn baby. She convinces herself and the unborn baby that together they can carry it through. Sometimes the survivors make an effort to answer back and to stand up for themselves. However, their awareness of the pregnancy and the life growing inside forces them to resign themselves to their situations and not to take any risks that might lead to an escalation of the violence. Although a woman can feel so depressed that she considers taking her own life, the unborn baby's existence prevents such acting. Step by step the survivors adapted to the perpetrator to avoid brawls, fights and insults, because they sought to protect the unborn baby.

"He leaned over the table and started to hyperventilate. I managed just in time to leap to the side so the table flew right into the wall… I was so scared. He started to scream and howl and I'm like between the wall and … the wall is here and he just…. I am crying and I can only think about my belly."

Trapped in the situation

The women felt *"trapped in the situation"* i.e. pregnant and exposed to violence by their partner and sometimes also exposed to violence by another family member in his family (domestic violence). '*Trapped in the situation'* is a property of *"struggle to survive for the sake of the unborn baby"* and demonstrates how the women felt when trapped in the relationship. All of the

relationships started out with the idea of romantic togetherness. Some women made a commitment directly from a stable relationship (experienced as dull), throwing themselves into the "storm" of a new relationship. Metaphorically, the pendulum swung completely over to the other side. Also, some women were very much influenced by perceptions concerning commonalities with regard to spirituality and culture. Nevertheless, initially the women were voluntarily trapped. Early in the relationship there may have been some warning signals, such as spurts of anger and controlling behavior, but the survivors did not want to hear or see these signs and were prone initially to interpret these as attention and caring. The man was experienced as very decent, fun, and devoted. However, such behavior tended to last only as far as the relationship remained the way he wanted it to be. The love affair either led to pregnancy very early in the relationship or after many years of confinement. The women felt trapped in the pregnancy and they expressed their love for the new unborn life in unconditional terms. *"Of course, my future was lying there inside me, so I mean but in reality I felt like I couldn't go on (said with great emphasis) because I felt so awful…. But I had no choice. You can't just say, I have had enough, really, because I am the one carrying this responsibility, I am carrying this life, I can't do anything except try to keep going on".* The survivors also believed that the relationship would become better because of the pregnancy and they looked forward to the possibility of family happiness.

The category *'Awareness of need for change'* is a property of the sub-core category *'trapped in the situation'* and demonstrates how the survivors became aware of their complex situation, i.e. to be pregnant and abused by the man they had fallen in love with. Some made attempts to seek help with the situation and others did not seek help due to shame. For example, the healthcare givers were told by one survivor that her husband was not acting decently towards her. No initiative

from the staff was evident, even though they were listening. In one case, a woman also told her ANC midwife everything, since she had decided to divorce her husband. However, ultimately she had no strength to divorce him in her condition and was '*trapped in the situation'.* Another woman called her mother and told her about her difficult relationship and that she did not have the energy to live in this situation. She wanted to finish the relationship and to leave her tormentor for good. The mother expressed sympathy with her daughter's difficulties, yet she said *"Can't you stay with him anyway… so she didn't support me completely."*

Lack of societal resources contributed to the women's decision to remain in the abusive relationship. The category 'social network flaws' is therefore also a property of the sub-core category 'Trapped in the situation'. Regular time with a welfare officer might have at least helped a woman to air the pressure she had at home. However, these women's lives were characterized by social isolation and control. The woman's daily life shrank when the perpetrator never allowed the woman to meet friends or parents by herself. The women struggled to get the perpetrators to change and to improve themselves, all to protect the unborn baby. However, all promises regarding change were only empty words. Before the women could really become aware of what was happening to them, they became metaphorically 'trapped in the tornados' and could no longer control the situation and find their way out. These survivors lived in solitary confinement and in a false scenario, longing for family happiness. Courageous attempts to fight back to regain control worsened their situation with increased assaults, leading in turn to even more feelings of entrapment in a difficult situation.

Exposed to mastery

The pregnant women were "*exposed to mastery"* by the perpetrator and they needed to shield themselves and the unborn baby. '*Exposed to mastery'* is a property of *'Struggling to survive for the sake of the unborn baby'* and demonstrates the destructive togetherness. The women's stories, which reflect their memory of the perpetrators' behaviour while pregnant, contained descriptions of exposure to *psychological* inclusive *economic violence* and *physical* inclusive *sexual violence*. The perpetrators' behaviour jeopardized the family unit and the safety of the woman and their unborn child.

Women who had earlier experience of abuse primarily tried to adapt to avoid flare-ups, as a means of protecting the unborn baby. However, women who were experiencing the abuse for the first time during their first pregnancy initially fought back verbally and physically until they realized that they might hurt the unborn baby, and then they became resigned. The perpetrator controlled every step the woman took and demanded that she report everything she did, as in a cross-examination. *"So I couldn't dispose over my own time like I would have wanted to"*. Bit by bit the survivor had to erase both friends and family from her life. Email, face book and mobile phones were controlled. Gradually her life world shrinks and she becomes socially isolated and struggles to survive on her own. At the same time as the belly became bigger, the flare-ups occurred more frequently and the violence escalated to another level. The perpetrator could be manipulative and become charming when necessary. A typical maneuver was for the perpetrator to express regret with flowers or presents, as if he were afraid that the woman would abandon him. Every day was characterized by threats and criticism and often with fighting and tears. "*I just felt that my life was total darkness; I felt that I was truly in hell; that was the way I felt when I was with him."*

Sometimes the perpetrator alternated between *"cold and hot",* i.e. when the woman was broken down, he consoled her and in that way he felt "big and strong" (as expressed by one of the survivors). The psychological violence could also appear as indifference towards the pregnancy, or inattentiveness with regard to the pregnancy or the changes in the woman's body due to the pregnancy. For example, one woman experienced no empathy and was left alone at the delivery ward, bleeding in the early part of the third trimester, and it was not until three days later that her boyfriend returned. *"I didn't have a cell phone with me because it was acute, so I gave birth to a baby … alone… and I didn't know what was going on."*

The physical intimacy disappeared as the pregnancy advanced and the perpetrator could also have love affairs with other women. Economic violence could take the form of gambling away the woman's entire savings or as cheapness regarding the woman's every day needs. The threats escalated as the pregnancy advanced. Threats such as knocking out her teeth or death threats exacerbated the level of psychological violence until the survivor became very stressed and petrified of her tormentor. *"Now he said I'm going to kill you…. And he got that dark evil look and he trembled and hyperventilated".*

The physical violence also escalated as the pregnancy advanced. In the beginning it could be a slap and a grab, but also a kick in the chest resulting in fracture and both physical and psychological health consequences. Escalation of psychological and physical violence with aggression, hits, hair pulling, spitting on and verbally abusing could occur if the delivery date was overdue. Also, sexual violence occurred in the women's stories. The perpetrator's jealousy against the growing belly was obvious; he did not show any respect towards the belly. When they made love, it was the perpetrator that "got sex" and he was very brutal and the woman was often in pain. Several rapes by the perpetrator were experienced and some woman did not dare to

move. "*It was better just to give him what he wanted…. I was forced to; maybe I cried and tried to push him away… No."*

The perpetrators' need of power and control dominated the relationships, manifesting itself both in small (what kind of soap the woman uses) and larger matters. The perpetrator was almighty and a woman could be forced to terminate an initiated in vitro fertilization or forced to have an abortion (against her will and beliefs) the first time that she was pregnant. Such experiences were very difficult to live with.

Degradation process

Gradually the pregnant women became psychologically and physically degraded. *Degradation process* is a property of *"Struggle to survive for the sake of the unborn baby"* and illustrates how the survivors expressed their degradation process as a result of their relationship with the perpetrator. The brawls and fighting made the survivor weaker and weaker as the pregnancy advanced. The women felt that they were drained of energy and exhausted. The survivors' hope that the perpetrators behavior would change faded away. The last hope could for some women, however, be the birth of the baby. "*I wanted to leave him, but then I wanted to give him a chance, maybe the birth would calm him down, when he got the chance to hold the baby in his arms, maybe he would come to realize that … I hoped somehow that he would be overcome with some sort of fantastic feeling of love… (it was) the last hope, the last tiny shred of hope that when he became a father, then he would … if anything was going to calm him down, it would be that."*

The survivors who lived in the relationship for many years ultimately were no longer themselves. *"He actually transformed me into somebody I'm not".* The survivor's self-image was twisted and

they were filled with blame and shame irrespective of how long the relationship had lasted. "*He poisoned my blood"* or *"I felt how he crept under my skin"*. As the pregnancy advanced, the women's psychological health became worse and they felt increasingly concerned about the health of the unborn baby.

Lack of sleep was central, and during pregnancy the survivor never obtained sufficient rest because of the constant fights. The perpetrator did not have any empathy or understanding for the pregnant condition and could wake the woman up in the middle of the night to scold her. The constant control and the stress contributed to the degradation. Finally, the easiest way to survive the pregnancy was to give up and to put down the battle-axe. "I just couldn't deal with the "battle" so even though it felt wrong, I moved back." The fights and the insults continued, and the perpetrator gradually eroded the women's self-esteem. The survivors' psychological health deteriorated and they became depressed and anxious during the course of the pregnancy. *"I felt very sad during pregnancy, and it is supposed to be a happy time; during pregnancy you are supposed to feel happy, but I didn't. I feel sad now (she weeps silently) when I talk about it."*

Discussion

In this grounded theory study a core category derived from the empirical data emerged: 'Struggling to survive for the sake of the unborn baby'. The core category was the main concern of these women and also explained how the survivors handled their difficult situation. The social behaviors that are demonstrated by the theoretical model do not represent a linear process, but rather a process that moves back and forth between the three sub- core categories, all of which are interrelated. The sub- core category 'Trapped in the situation' explained how the pregnant

women felt when trapped in the relationship. The initial development of the relationship was included in this sub- core category. This sub- core category was in turn connected to the next sub-core category 'Exposed to mastery' (and vice versa) and was reiterated throughout the pregnancy in every new situation that arose. 'Exposed to mastery' explained the destructive togetherness whereby the perpetrator's behavior jeopardizes the safety of the woman and the unborn child. This phase was chronic during the relationship, and the violence increased as the pregnancy advanced. The sub- core category 'Degradation process' explained the survivor's gradual degradation as a result of the relationship with the perpetrator and was connected to 'Exposed to mastery' and constantly reiterated in every new situation. However, all three sub- core categories with categories are properties of the core category 'Struggling to survive for the sake of the unborn baby' (Fig. 1). This model may constitute a basis for the development and implementation of targeted prevention and intervention programs meeting the individual woman's needs. The current findings highlight the importance of being able to identify those women who are exposed to IPV during pregnancy and the importance of being attentive towards their needs. However, it is not sufficient to be attentive towards the survivor; it is also necessary to have a plan of action [18] and to act depending upon how serious the violence is judged to be.

It should be emphasized that the stories were obtained in a Swedish context by women who recently had left the violent relationship, and some did not at all feel safe whereas others had developed a new life situation. All of the women had received professional support at some point or had talked to a welfare officer. Although some time had passed since their delivery (5 months-4 years), their memories of their pregnancies were fresh in their minds.

The four fundamental sources of validation of a grounded theory (GT) are: fit, relevance, workability and modifiability [21, 22]. A grounded theory model is never right or wrong; such a

model only has more or less fit, relevance, workability and modifiability (ibid). The first criteria 'fit' refers to how closely the concepts describe the data, the incidents or patterns they are representing. In this case, concepts and patterns that emerged in the empirical data clearly emphasized the women's concerns when pregnant and exposed to violence. The second criteria 'relevance' deals with the emerging concepts of the subjects' real concern. GT generates a theory about what is actually happening in the data. 'Struggling to survive for the sake of the unborn baby' with the three under core-categories appeared clearly in the survivors' stories. . The third criteria 'workability' refers to how the concepts are integrated with the theory in terms of the core category and the under core categories. All possible variations of behaviour in the studied area were described, including how the women handled the main concern. The present study highlights the complexity and the individual variation of the women's experiences and also how they handled their situation. The fourth criteria 'modifiability' ensures that the theory is not forced onto the data, but rather is modified by it, as in the present study. The literature review gave indications of reasonable relevance, workability and modifiability.

The literature review concerning this topic [2, 3, 25-27] confirmed that the current findings were in accordance with previous studies. However, the core concept 'Struggling to survive for the sake of the unborn baby', which emerged as the violence-exposed pregnant woman's main concern, has not previously been identified. In a Swedish qualitative study [3] the notion of "struggle" is apparent in the survivors' need for "keeping up a front". This strategy was employed by violence-exposed women to shut others out while making up their minds about how and when to act and change their lives. In a GT study from the USA [26] concerning abuse during pregnancy the core category was "Living two lives" and referred to the abused pregnant woman's perception that she was living two different lives. One life was public, reflecting the

pregnancy, and the other life reflected the abusive relationship [26]. Further, a later study by Lutz et al [27] integrated the theory of abuse with the theory of becoming a mother, as a way of understanding women's behaviour and responses to IPV during pregnancy. The concept "struggling to survive" in the final stage of their theory reflected recovering after leaving the abuser and the survivors' grief and search for meaning. Engnes et al's [2] qualitative study from Norway highlighted the phenomenon as characterized by ambivalence and difficult existential choices. Additionally, a study [25] that aimed to help providers to better understand the experience of abused pregnant women suggested specific clinical stage-based interventions to assist women at various points in their struggle to survive. All in all, the findings from the earlier studies [2, 3, 25-27] and the present study show that the women not only struggle for their own survival, but as in our study, struggle primarily for the sake of the unborn baby.

In our theoretical model the concept 'Trapped in the situation' demonstrates how the pregnant women feels trapped in the marriage, pregnancy and the tornados of violence and cannot find the way out. The concept 'Trapped in the situation' has been addressed in Landenburger's theoretical model, in the second phase (of four), i.e. the 'enduring phase', which described the entrapment in and recovery from an abusive relationship in non-pregnant women [28, 29]. Libbus et al. [30] conducted a qualitative study to describe pregnant women's relationships with abusive intimate partners using Landenburg's [28, 29] four phase model: binding, enduring, disengaging and recovering as a theoretical framework; however Landenburg's model appeared not to have a good fit with regard to pregnant women. In Libbus et al's [30] study the women became trapped and endured violent relationships if they perceived this to be the best strategy for their unborn child. This is in accordance with the core category 'struggling to survive for the sake of the unborn baby' in our theoretical model. Our findings seem to extend Landenburg's [29]

theoretical model and also include pregnant women. This is important knowledge for midwives, other health care personal and providers because the violence-exposed pregnant woman needs special support and empowerment during her pregnancy. The survivors remain in the relationship because it feels safer for the unborn baby and possibly safer for the other children in the family as well. Therefore, it is extremely important for the caregiver to show that she respects her decision and to give the pregnant woman the necessary information about how society can help.

The concept 'Exposed to mastery' demonstrates the survivors' experience of destructive togetherness filled with both psychological and physical violence. Other researchers [2, 3, 25-31] working with the same topic have not exactly touched upon the concept 'Exposed to mastery' in the same manner. The experienced violence is multi-faceted and an individual approach is necessary to meet the unique person's needs. Relational ethics, which means to be sensitive to a particular situation through opening a dialogue between and among individuals [32], is a very suitable approach to the situation when disclosure of domestic violence occurs. Also person-centred care can be a useful model in these situations [33] which means an attitude of being with people in a respectful and non-hierarchal way. Person-centred approach is a collaborative approach whereby the provider (i.e. midwife) evokes the person's own intrinsic motivation and resources for change (ibid). However, provision of care needs to be coordinated and integrated to meet the individual needs and health concerns.

The concept 'Degradation process' refers to the survivors' inability to leave the abusive relationship despite their intentions, because the women's self-esteem and self-respect has faded away and they feel drained of energy. The survivor wants to believe that the violence will come to an end when the baby is born. The feeling of a physically exhausted body and powerlessness was also seen in Engnes et al's study [2]. Further, Campell and Campell [34] proposed that the

pregnant woman most likely stays in the relationship during pregnancy because she wants to make the relationship work, and she believes that having a baby will reduce the abusive behaviour. Also, in an Australian study [31] the women's experiences were variously described as loss of self, being controlled and destruction, aspects which are related to the meaning of the concept 'Degradation process' in our theoretical model.

Our main findings showed that women with experience of IPV during pregnancy were deeply concerned about not harming the unborn baby. Moreover, their efforts to find their way out of a severe situation were fraught with difficulties and often were poorly received. Thus, the survivor was often exposed to a "two-faced reaction" on the part of the healthcare personnel. In other words, an authority person such as a doctor, midwife, welfare officer or relatives and friends listened to a violence-exposed woman's story, but did nothing to help. This can be a sign of lack of knowledge about this delicate matter and may also indicate the need for attitude changes in society. Ultimately, it may be evidence in support of the notion that plans of action at ANC are non-existent, as earlier shown [18]. Midwives are in a unique position to work with this sensitive matter since they have continual contact with the pregnant woman. These women need to have a permissive environment and to be treated with sensitivity and non-judgmental, empathetic behavior. Furthermore, the midwives' role is not only to identify and support the violence-exposed woman during her pregnancy, but also to refer her to a person with professional expertise within this area. Therefore, it is crucial to have a well- thought-out plan of action, such that healthcare givers know what to do when they encounter a woman who is exposed to violence during pregnancy. However, midwives´ and all health-care personnel's knowledge also needs to be grounded in the survivor's own experience.

Conclusion

The theoretical model "Struggling to survive for the sake of the unborn baby" highlights survival as the pregnant women's main concern and explains their strategies for dealing with experiences of violence during pregnancy. Such a model may serve as a useful source of information about this complex matter for midwives and other care providers' and also as a guide to the basic concerns of the violence-exposed pregnant woman. Further, the model can provide a basis for the development and implementation of prevention and intervention programs meeting the individual woman's needs.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

HF and AKD conceived the study. The interviews and transcription were performed by the first author HF. All authors HF, AKD, CWH participated in its design and coordination and helped to draft the manuscript. All author read and approved the final manuscript.

Acknowledgement

We are grateful to the ten women who shared their experience of violence during pregnancy and gave us the possibility to conduct this. We also want to thank the two gatekeepers who helped

with the recruitment of survivors. General Maternity Hospital Foundation has contributed with funding for this research. We also acknowledge Malmoe University, Faculty of Health and Society for economic support.

References

1. **World Health Organization; Violence against women. Intimate partner and sexual violence against women. Facta sheet No 239**
[http://www.who.int/mediacentre/factsheets/fs239/en/]

2. Engnes K, Liden E, Lundgren I: **Experiences of being exposed to intimate partner violence during pregnancy.** Int J Qual Stud Health Well-being 2012, **7**:10.3402/qhw.v7i0.11199. Epub 2012 Mar 15.

3. Edin KE, Dahlgren L, Lalos A, Hogberg U: **"Keeping up a front": narratives about intimate partner violence, pregnancy, and antenatal care.** Violence Against Women 2010, **16**(2):189-206.

4. Brown SJ, McDonald EA, Krastev AH: **Fear of an intimate partner and women's health in early pregnancy: findings from the Maternal Health Study.** Birth 2008, **35**(4):293-302.

5. Janssen PA, Holt VL, Sugg NK, Emanuel I, Critchlow CM, Henderson AD: **Intimate partner violence and adverse pregnancy outcomes: a population-based study.** Am J Obstet Gynecol 2003, **188**(5):1341-1347.

6. Jasinski JL: **Pregnancy and domestic violence: a review of the literature.** Trauma Violence Abuse 2004, **5**(1):47-64.

7. Boy A, Salihu HM: **Intimate partner violence and birth outcomes: a systematic review.** Int J Fertil Womens Med 2004, **49**(4):159-164.

8. Sharps PW, Laughon K, Giangrande SK: **Intimate partner violence and the childbearing year: maternal and infant health consequences.** Trauma Violence Abuse 2007, **8**(2):105-116.

9. Shoffner DH: **We don't like to think about it: intimate partner violence during pregnancy and postpartum.** J Perinat Neonatal Nurs 2008, **22**(1):39-48.

10. Chambliss LR: **Intimate partner violence and its implication for pregnancy.** Clin Obstet Gynecol 2008, **51**(2):385-397.

11. Garcia-Moreno C, Jansen H, Ellsberg M, Heise L, Watts C: ***WHO Multi-Country study on women's health and domestic violence against women.*** **Geneva, World Health Organization.** 2005.

12. Hedin LW, Grimstad H, Moller A, Schei B, Janson PO: **Prevalence of physical and sexual abuse before and during pregnancy among Swedish couples.** Acta Obstet Gynecol Scand 1999, **78**(4):310-315.

13. Stenson K, Heimer G, Lundh C, Nordstrom ML, Saarinen H, Wenker A: **The prevalence of violence investigated in a pregnant population in Sweden.** J Psychosom Obstet Gynaecol 2001, **22**(4):189-197.

14. Lundgren E, Heimer G, Westerstrand J, Kalliokoski AM: **Captured Queen Men´s violence against women in "equal" Sweden - a prevalence study.** In 1 st edition. Edited by Anonymous Umeå: Åström tryckeri AB; 2002:57-66.

15. Krantz G, Garcia-Moreno C: **Violence against women.** J Epidemiol Community Health 2005, **59**(10):818-821.

16. Yost NP, Bloom SL, McIntire DD, Leveno KJ: **A prospective observational study of domestic violence during pregnancy.** Obstet Gynecol 2005, **106**(1):61-65.

17. Garcia-Moreno C, Heise L, Jansen HA, Ellsberg M, Watts C: **Public health. Violence against women.** Science 2005, **310**(5752):1282-1283.

18. Finnbogadottir H, Dykes AK: **Midwives' awareness and experiences regarding domestic violence among pregnant women in southern Sweden.** Midwifery 2012, **28** (2): 181-189.

19. Taft A, O'Doherty L, Hegarty K, Ramsay J, Davidson L, Feder G: **Screening women for intimate partner violence in healthcare settings.** Cochrane Database Syst Rev 2013, **4**:CD007007.

20. Jahanfar S, Janssen PA, Howard LM, Dowswell T: **Interventions for preventing or reducing domestic violence against pregnant women.** Cochrane Database Syst Rev 2013, **2**:CD009414.

21. Glaser BG: *Att göra grundad teori: problem, frågor och diskussion (In English: Doing grounded theory: issues and discussions):* Mill Valley Calif; Växjö: Sociology Press; Thuleducare distributör; 2010.

22. Glaser BG: *Theoretical sensitivity: advances in the methodology of grounded theory:* Mill Valley, Calif.: Sociology Press; 1978.

23. WMA General Assembly: Tokyo 2004.: **World Medical Association Declaration of Helsinki. Ethical Principles for Medical Research Involving Human Subjects.** 2004.

24. WHO: **Putting women first: Ethical and safety recommendations for research on domestic violence against women.** 2001, **WHO/FCH/GWH/01.1.**

25. Kramer A: **Stages of change: surviving intimate partner violence during and after pregnancy.** J Perinat Neonatal Nurs 2007, **21**(4):285-95; quiz 296-7.

26. Lutz KF: **Living two lives: a grounded theory of abuse during pregnancy.** Commun Nurs Res 2004, **37**:101, 103-9.

27. Lutz KF, Curry MA, Robrecht LC, Libbus MK, Bullock L: **Double binding, abusive intimate partner relationships, and pregnancy.** Can J Nurs Res 2006, **38**(4):118-134.

28. Landenburger K: **A process of entrapment in and recovery from an abusive relationship.** Issues Ment Health Nurs 1989, **10**(3-4):209-227.

29. Landenburger KM: **Exploration of women's identity: clinical approaches with abused women.** AWHONNS Clin Issues Perinat Womens Health Nurs 1993, **4**(3):378-384.

30. Libbus MK, Bullock LF, Nelson T, Robrecht L, Curry MA, Bloom T: **Abuse during pregnancy: current theory and new contextual understandings.** Issues Ment Health Nurs 2006, **27**(9):927-938.

31. McCosker H, Barnard A, Gerber R: **Phenomenographic study of women's experiences of domestic violence during the childbearing years.** Online J Issues Nurs 2004, **9**(1):12.

32. Bergum V, Dossetor J: *Relational Ethics; The Full Meaning of Respect:* 1st ed. Hagerstown: University Publishing Group; 2005.

33. Miller WR: *Motiverande samtal: att hjälpa människor till förändring (In Swedish: Motivational interviewing):* 4 ed. Stockholm: Natur & kultur; 2013.

34. Campbell JC, Campbell DW: **Cultural competence in the care of abused women.** J Nurse Midwifery 1996, **41**(6):457-462.

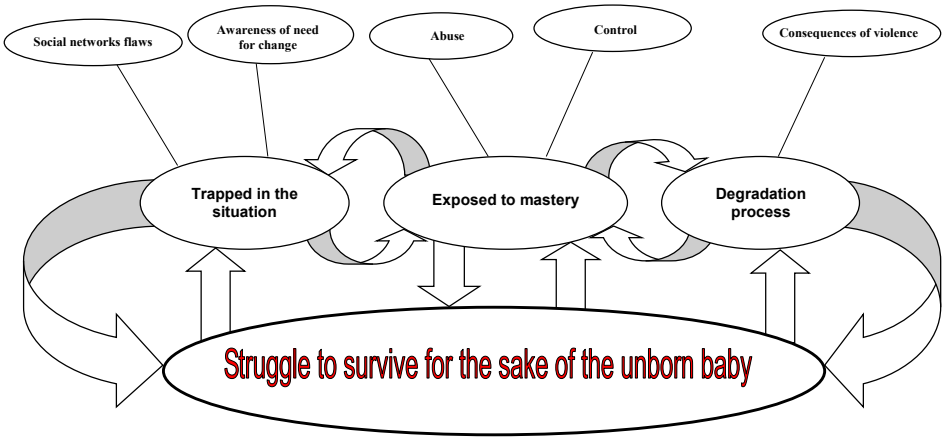


Fig.1 A theoretical model explaining the core category “Struggle to survive for the sake of the unborn baby”.

IV

PREVALENCE OF DOMESTIC VIOLENCE DURING PREGNANCY AND RELATED RISK FACTORS: A CROSS-SECTIONAL STUDY IN SOUTHERN SWEDEN

Hafrún Finnbogadóttir [a, *], Anna-Karin Dykes [a, b, *, §], Christine Wann-Hansson [a, c, *]

[a] Faculty of Health and Society, Department of Care Science,
Malmö University, Sweden
[b] Department of Health Sciences, Medical Faculty, Lund University, Sweden
[c] The Swedish Society for Health Sciences (Vårdalinstitutet) LU

*These authors contributed equally to this work

[§]Corresponding author

E-mail addresses:

HF hafrun.finnbogadottir@mah.se
AKD anna-karin.dykes@med.lu.se
CWH christine.wann-hansson@mah.se

Abstract

Background Domestic violence during pregnancy is a serious public health issue which threatens maternal and foetal health outcomes. The aim of the study was to explore prevalence of domestic violence among pregnant women in southern Sweden (Scania) and to explore associations with background factors, as symptoms of depression and sense of coherence.

Methods This study has a cross-sectional design and is the first part of a longitudinal, cohort study. Inclusion criteria were women ≥ 18 years, registered at antenatal care when pregnant and who understand and write Swedish or English. Questionnaires were collected prospectively at seventeen antenatal care receptions situated in the two cities and six smaller municipalities in Scania. Statistical analyses were done using descriptive statistics, chi-square tests, bivariate logistic regression and multiple regression with Odds ratios (OR) and 95% confidence intervals (95% CI).

Results Study sample included 1939 women. History of violence was reported by 39.5% (n =761) women. Significant differences were obtained between the groups with or without history of violence regarding being single/living apart, unemployment, financial distress, smoking/snuffing, unintended pregnancy as well as history of miscarriage/legalised abortion ($p < 0.001$). Experience of domestic violence during pregnancy regardless of type or level of abuse was 1.0 % (n = 18); history of physical abuse by actual intimate partner was 2.2 % (n = 42). History of violence was the strongest risk factor associated with domestic violence during pregnancy, where all women (n=18) exposed reported history of violence ($p < 0.001$). Several symptoms of depression (adjusted for low socio-economic status, miscarriage/abortion, single/living apart, lack of sleep, unemployment, age and parity) were associated with a 7.0 fold risk of domestic violence during pregnancy (OR 7.0; 95% CI: 1.9-26.3).

Conclusions The reported prevalence of domestic violence during pregnancy in southwest Sweden is low. However, a considerable proportion of women reported history of living in a violent relationship. Both history of violence and the presence of several depressive symptoms detected in early pregnancy may indicate that the woman also is exposed to domestic violence during pregnancy. Increased attention to this vulnerable group of women is needed to improve maternal and child health.

Key words domestic violence, pregnancy, prevalence, risk factors, depression

Background

Domestic violence (DV) during pregnancy is a serious public health issue which threatens maternal and foetal health outcomes [1-7]. DV is defined according to World Health Organisation (WHO) as psychological/emotional, physical, or sexual violence, or threats of physical or sexual violence that are inflicted on a woman by a family member: an intimate male partner, marital/cohabiting partner, parents, siblings, or a person very well known within the family or a significant other (i.e. former partner) when such violence often takes place in the home [8]. The prevalence of DV against pregnant women varies widely in the literature, ranging from 1.2 to 66 % [2]. This variation is probably attributable to differences across studies in sampled populations, as well as differences in methodologies, definitions, and cultural aspects that make it difficult to compare the results [2, 9]. The prevalence regarding intimate partner violence (IPV) during pregnancy has been demonstrated in the first global report of internationally comparable data on populations from 19 countries, ranged between 2.0% and 13.5 % [10]. A recently published meta-analysis of 92 independent studies concerning prevalence and risk factors associated with DV among pregnant women showed an average prevalence of emotional abuse of 28.4 %, and prevalence rates of physical abuse and sexual abuse were 13.8 % and 8.0 %, respectively [11]. Further, the overall prevalence of DV during pregnancy in less developed countries is higher (27.7%) than that in developed countries (13.3%) [11]. Most of the violence against women occurs at home; thus women are more at risk of violence from an intimate partner than from any other type of perpetrator [12].

A meta-analysis of 55 independent studies found that the strongest predictor of DV among pregnant women was experience of abuse before pregnancy [11]. Pregnant women whose partners previously abused them had four times greater odds of being abused during pregnancy than those women who had no history of violence. Other risk factors identified for DV among pregnant women were single marital status, lower education, low socioeconomic status, alcohol abuse (above all by the perpetrator), and unintended or unwanted pregnancy [11]. IPV is a strong risk factor for unintended pregnancy and abortion across variety of settings worldwide [13], and women undergoing repeated induced abortion are more likely to have a history of physical abuse by a male partner or a history of sexual abuse [13-15]. High levels of symptoms of mental disorders such as depression, anxiety and post-traumatic stress disorder during the perinatal period are also significantly associated with experience of DV both during lifetime and pregnancy [16].

DV during pregnancy also confers a risk for the unborn child. Thus, a systematic review of thirty studies showed that abused pregnant women are 1.5 times more likely to deliver a low birth-weight baby and almost 1.5 times more likely to have preterm births [7]. Moreover, ablation placenta, uterus rupture, [17, 18] foetal trauma [18, 19] or foetal death [19-21] have also been reported. The most extreme consequence of violence during pregnancy is femicide (homicide of females) and most likely by a current or former intimate partner [22].

In previous Swedish prevalence studies of physical or sexual abuse during pregnancy the prevalence varied between 1.3% and 11% [23-25]. However, these studies were conducted almost two decades ago, and due to continuous societal changes it is important to obtain more current prevalence rates. Further, the Swedish National Council for Crime Prevention has reported increasing numbers of abused women during the last two decades, with an increase of 1 % during 2012 and primarily increases in single mothers and women in the workforce. The increasing figures can partly be explained by changes in legislation in the beginning of the 1980s such that abused women could no longer withdraw already submitted written reports of abuse [26]. Also, several studies from different regions in the country are required in order to be able to understand the entire population in the increasingly multicultural society of Sweden, as well as to allocate resources to those regions that might have higher prevalence rates of DV. Finally, results from a survey concerning DV during pregnancy would highlight the problem and hopefully increase awareness and action for identification and prevention. The *aim* of the study was to explore the prevalence of DV among pregnant women in southwest Sweden in the region of Scania and to identify possible differences between groups with or without a history of violence. A further aim was to explore associations between DV and potential risk factors such as; i) socio-demographic background variables ii) maternal characteristics iii) high risk health behaviour iv) self-reported health-status and sleep as well as symptoms of depression, and v) sense of coherence.

Methods

This study has a cross-sectional design and is the first part of a longitudinal cohort study. According to the WHO's ethical and safety recommendations for research into DV against women it is important that the survey on violence is framed in a different way, and also that the woman is fully informed about the nature of the questions [27]. Our study is framed as "*Pregnant women and new mothers' health and life experience"* were *'life experience'* covers experienced

violence. Pregnant women who fulfilled the inclusion criteria for the study were consecutively recruited during their first visit at Antenatal Care (ANC) for study participation. *Inclusion criteria* were women ≥ 18 years, registered at ANC when pregnant and who understood and could write Swedish or English. A power analysis indicated that at least 2000 participants were needed to detect with 98% certainty at least 2.5 % prevalence of DV.

ANC's services in Sweden

In Sweden the ANC services are included in the overall health insurance system, free of charge (inclusive private care facilities) and available all over the country. Since the autumn 2011, private care facilities have increased in number, and women have the right to choose the type of care and midwife by herself. Midwives have the main responsibility for the normal pregnancy, and the father-to-be is also welcome to attend ANC visits. According to Swedish health care reports, almost 100% of pregnant women utilise their right to ANC services [28].

Settings and participants

The geographical area of Scania in southwest Sweden is characterised by multicultural diversity. Initially 26 ANCs in the area, a multicultural city with > 300 000 inhabitants), a university city with > 110 000 thousand inhabitants and surrounding municipalities were asked to participate in this study, among which nine ANCs declined. Four public ANC's in the municipality's area and five privately driven ANC's in the multicultural city declined to participate in the study due to high work load, or a new organization. The population includes all registered pregnant women at 17 ANCs situated in the multicultural city (n=7), the University City (n=4) and smaller municipalities (n=6). One ANC providing specialised care for complicated pregnancies such as women with diabetes and one unique activity group for women with history of drug abuse in need of extra support were also included. Two of the ANCs in the multicultural city, one ANC in the University City and one ANC in the municipalities are private care facilities. Most of the women in the sample would presumably give birth at the regional university hospital, which has two separate delivery departments, with an approximately birth rate of 8000-9000 deliveries per year.

Recruitment

Data were collected prospectively between March 2012 and September 2013. Approximately 80 midwives performed the recruitment. Prior to the study all recruiting midwives were personally informed about the study design by the first author (HF). At every participating ANC maximally 24 to 29 questionnaires were

distributed to each midwife. The pregnant women were invited to participate during their first visit to ANC, during the 6-8th week of pregnancy or at the visit when registered at the ANC during gestational weeks 11-13. If the midwife missed the opportunity to recruit the woman at these time periods, she was given the opportunity to recruit that woman at the latest during gestational week 25. If the woman had been delayed in registration at the ANC, the midwife was still encouraged to recruit her. The pregnant women received individually verbal and written information about the study by their midwife and were invited to answer the questionnaire in a private place at the ANC facility (possibilities for privacy varied between the facilities). After giving written informed consent, they received the questionnaire. The participant placed the completed questionnaire in a sealed envelope together with the signed consent form, which was similarly placed in a smaller sealed envelope and handed them over to the recruiting midwife. The woman was promised confidentiality and it was completely up to her if she disclosed to her midwife that she was living in a violent relationship. All answered questionnaires were kept in a safe place until they were collected every third week by the first author (HF) who gave each questionnaire (participant) a unique code. Both participants and recruiting midwives had the possibility to e-mail or call the first author whenever they wished. To facilitate the recruitment when the women were accompanied by their partner, simultaneously the partner was invited to take part in another study completely independent from the present study, *Fathers to-be and new fathers'/partners', health and lifestyle*. In the waiting room there were two different posters with information about the studies.

Questionnaire

All data were based on a self-administrated questionnaire with 122 questions that took approximately 15-30 minutes to answer, depending on the individual.

NorVold Abuse Questionnaire (NorAQ)

The main instrument was the NorAQ, constructed and validated in Nordic countries [29]. This instrument measures emotional, physical and sexual abuse as a child (< 18 years) and as an adult (≥ 18 years), and also includes a question about the age when first subjected to abuse. Further, a yes/no question about experience of abuse during the past 12 months is included, followed by the question "by whom", with eight alternatives and the possibility of *a write-in alternative*. All answer alternatives ('boxes to tick in') are followed by the alternative "by male" or "by female". The abuse variables in NorAQ have previously shown good reliability, validity and specificity [29]. All questions about abuse from the NorAQ

questionnaire were administered in their original format in order to maintain the instrument's reliability, validity and specificity. Further, the questionnaire also included one question concerning health and one concerning sleep from the original NorAQ. The health question "How do you feel your health has been, generally speaking, for the last 12 months?" had the following four alternatives: i) very good, ii) rather good, iii) rather poor, iiii) very poor; sleep question "During the last 12 months, have you suffered from insomnia to such an extent that you have had problems coping with your daily life?" had the following four alternatives: i) No, ii) yes but rarely, iii) yes sometimes, iiii) yes often. In addition, the questionnaire contained questions validated and applied in the Nordic abuse study [30] relating to health and socio-demographic background.

Additionally questions to the Questionnaire

One modified question was used from the *Abuse Assessment Screen* (AAS), "*Have you been exposed to abuse during current pregnancy?"* in order to investigate emotional, physical, and sexual abuse (yes/no, if yes by whom). One question concerned private economy: "*If you received an unexpected bill of 20.000 SEK, (approximately USD 3000 or 1875 GBP or 2243 EUR) how easy would it be for you to pay within a week?"* [31] Choices were: i) no problem, ii) pretty hard, iii) very hard.

Sense of Coherence Scale (SOC-13)

Views on life, stress management and the use of one's own resources to maintain and improve health were measured by a short form of the SOC-13 [32]. The SOC-scale instrument is reliable, valid and cross-culturally applicable with acceptable face validity [33]. Strong SOC (high score) is a significant predictor of good health [34].

Edinburgh Postnatal Depression Scale (EPDS)

Symptoms of depression were assessed using the EPDS, an instrument covering common symptoms of depression and that is designed to screen for risk of depression during the postnatal period [35], but can also be used during pregnancy (EDS) [36]. The instrument EPDS has a satisfactory sensitivity (85%) and specificity (77%) [35], and has been validated in a Swedish community sample against criteria for major depression, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) [37]. Also, the EDS has been validated for the detection of depressive symptoms during pregnancy with an optimal cut-off at ≥ 13 and indicates qualification for a diagnosis of probable depression (DSM-IV) [36]. The instrument has a sensitivity of 77% according to

DSM-IV criteria and a specificity of 94%. The current study used the EDS full scale with 10 items on a four point scale from 0-3 (high scores = more symptoms of depression).

Alcohol Use Disorders Identification Test (AUDIT)

Finally, one question from the AUDIT was used for the detection of harmful alcohol consumption [38]. The question, which is the first item in the AUDIT, concerns the frequency of drinking alcohol. The answer alternatives were: 'never' or the amount of beverage consumption.

Classification of the variables

Age was classified as 18-25, 26-34 and ≥ 35 years. *Country of origin* was classified as born in Sweden, in another Nordic country or in other countries. *Language* was dichotomised as Swedish language or foreign language spoken at home. *Educational status* was classified as compulsory school or less, high school or less, or university. *Cohabiting status* was classified as single, living apart, or common law spouse/married. *Employment status* was dichotomised as employed (including parental leave and studying) or unemployed (including long illness). *Financial distress* was dichotomised as "no" (no problem) or "yes" (serious financial distress).

Maternal characteristics concerning *body mass index* (BMI) were calculated from maternal weight and height before the pregnancy and classified according to WHO's definition [39] as underweight (< 18.5), normal weight (18.50- 24.99), overweight (≥ 25- 29.99), and obese (≥ 30). *Smoking* was dichotomised as "yes" (if the woman was a daily smoker or smoking at some point during pregnancy) and "no" (never smoked or ceased before pregnancy). *Snuffing* was dichotomised as "yes" (if the woman was a daily user of snuff or snuffing at some point during pregnancy) and "no" (never snuffed or ceased before pregnancy). *Use of alcohol* was dichotomised as "yes" or "no". *Unintended pregnancy was dichotomised as* "yes" or "no". *Abortion/miscarriage* was classified as "no", "miscarriage", "abortion" or both "miscarriage/abortion".

Definitions

The study uses Swahnberg et al.'s [29] definitions for severity of abuse, classified as mild, moderate or severe and also type of abuse. *Mild emotional abuse* is the experience of being systematically and persistently repressed, degraded or humiliated. *Moderate emotional abuse* is the experience of being systematically

and by threat or force restricted with regard to contacts with others or subjected to total control concerning what one may and may not do. *Severe emotional abuse* is the experience of living in fear due to systematic and persistent threats by someone close.

Mild physical abuse is being hit, smacked in the face or held in involuntary restraint. *Moderate physical abuse* is being hit with the fist(s) or with a hard object, being kicked, violently pushed, or beaten, or similar experiences. *Severe physical abuse* is being exposed to life threatening experiences, such as attempted strangulation, being confronted by a weapon or knife, or any other similar act.

Mild sexual abuse (with no genital act) is being touched on parts of the body other than the genitals in a sexual way against one's will or being forced to touch other parts of another person's body in a sexual way. Further, *mild sexual abuse* (emotional or sexual humiliation) is the experience of being forced to watch a pornographic film, to participate in a pornographic film or similar, being forced to show one's body naked or to look at someone else's naked body. *Moderate sexual abuse* (genital contact) is the experience of being touched on the genitals against one's will, being forced to satisfy him/herself sexually, or forced to touch another person's genitals. *Severe sexual abuse* (penetration) is forced penetration of the penis into the vagina, mouth or rectum, or forced penetration or attempted penetration by an object or other part of the body into the vagina, mouth or rectum [29].

History of violence is defined as lifetime experience of emotional, physical or sexual abuse, occurring during childhood (< 18 years), adulthood (≥ 18 years) or both, regardless of the level of abuse or the perpetrator's identity, in accordance with the operationalization of the questions in the NorAQ [29].

Ethical considerations

As recommended by the Declaration of Helsinki [40], the likelihood of benefits from the current research was considered. Research on violence against women during pregnancy raises important ethical and methodological challenges in addition to those raised by any other type of research on human subjects [27]. Therefore, the current study was conducted in accordance with the WHO's ethical and safety recommendations for research on DV against women [27]. Approval was provided from the Regional Ethical Review Board in Southern Sweden (Dnr: 640/2008).

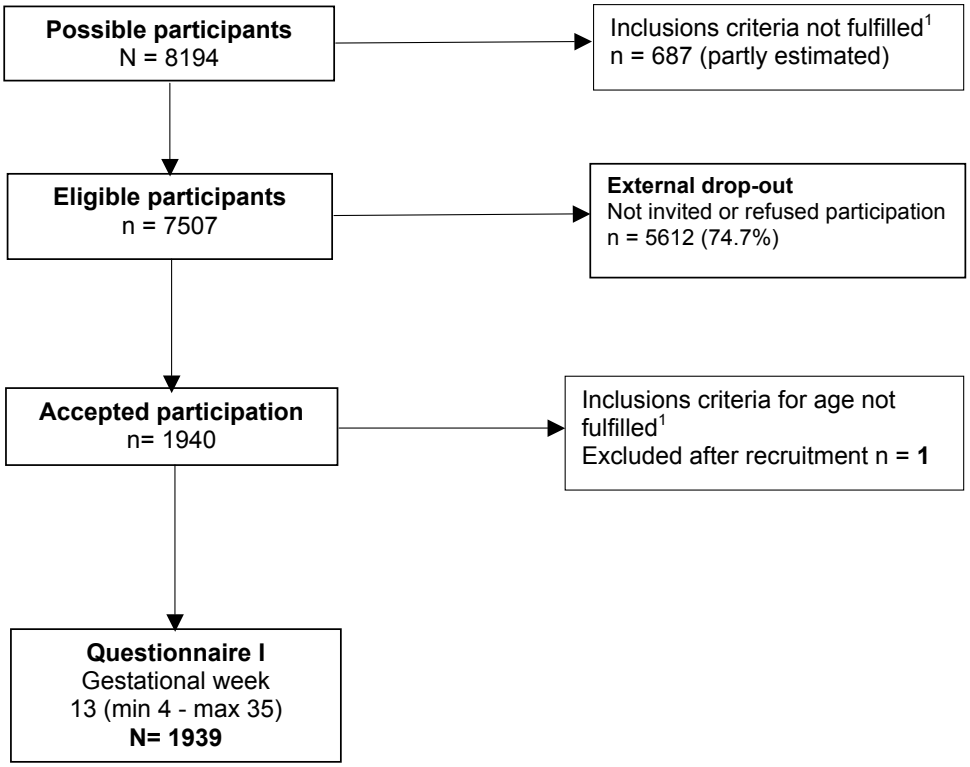
Statistical methods

Descriptive statistics were used to show prevalence and severity of lifetime experience of any type and level of abuse (Table 1). Chi-square analysis was used to investigate differences in socio-demographic and maternal characteristics between women with and without reported 'history of violence' (Table 2, 3). OR and 95% CI were calculated for the crude associations between possible risk factors and 'DV during pregnancy', with 'DV during pregnancy' as a dependent variable for bivariate logistic regression. *Age* was dichotomised as 18-34 or ≥ 35 years, educational status as high school or less versus university, *language* as foreign language spoken at home or Swedish (solely), *cohabiting status* as single/living apart or cohabiting with spouse/married, and *smoking and/or snuffing* as "yes" versus "no". *BMI* was dichotomised as under-/normal weight or overweight/obese, *miscarriage or abortion history* as miscarriages/abortions versus solely abortion, miscarriages or not at all, *self-reported health* as poor health versus rather good health, "*lack of sleep* versus *adequate sleep*". For the purpose of bivariate logistic regression, a variable for depression was computed on the basis of EDS scores, i.e. symptoms of depression during pregnancy, whereby an optimal cut-off of ≥ 13 was chosen as representing presence of symptoms of depression [36]. The EDS score was computed only for those responding to all ten questions (missing = 62). In order to analyse the association between SOC score and exposure to 'DV during pregnancy', the SOC-scale was dichotomised, utilizing the first quartile of the distribution as a cut-off value (SOC ≤ 64 and SOC > 64) [41]. The SOC score was only computed for those responding to all thirteen items (missing = 101). Multiple logistic regression was performed in order to evaluate the influence of variables that were significant in the bivariate logistic regression with 'DV during pregnancy' as a dependent variable; the multiple logistic regression analyses were thus step-wise adjusted (Forward selection) for EDS ≥ 13, SOC Low score, miscarriage/abortion, single/living apart, lack of sleep, unemployment and also age and parity. Statistical significance was accepted at $p<0.05$. Statistical analyses were performed using the Statistical Package for Social Sciences (SPSS) version 21.0 for Windows.

Results

In total 1940 women accepted participation in the study. One woman was excluded because of age ≤ 18 years (Figure 1), leaving 1939 women primarily recruited during gestational week 13 (mean 12.84, SD 5.11, min 4- max 35). The distribution of the participants was: multicultural city, 51.9 % (n = 1006),

University City 22.3 % (n = 433) and surrounding municipalities 25.8 % (n = 500). Almost 80 % had Sweden as a country of origin and the remaining participants were born in 93 foreign countries. Reported 'DV during pregnancy', regardless of type or level of abuse, was 1.0 % (n = 18) in the entire cohort. Greater proportion of women born outside the Nordic countries compared to the native of Sweden reported DV during pregnancy (RR, 2.4). In the total cohort 39.5% (n =761) of the women reported experience of 'history of violence' with eleven answers missing (Table 1). Among the eleven cases with missing answers, there was a greater percentage of women who were foreign-born, who spoke foreign languages at home, and who were low educated.



1) All women ≥ 18 years, registered when pregnant and who got sufficient reading and writing skills in Swedish or English.

Figure 1. Flowchart over recruitment to the study

Table 1. Type and severity of abuse: lifetime and during pregnancy (N = 1939)

Type and severity of abuse	*missing* n 11*	**History of violence** [a] n (%) 761 (39.5)	**During pregnancy** [b] n (%) 29 (1.5)
Lifetime emotional abuse	20	374 (19.5)	20 (1.0)
Mild	36	307 (16.1)	
Moderate	28	187 (9.8)	
Severe	28	203 (10.6)	
Experienced emotional abuse first time	18		
Age < 18 years		208 (58.4)	
Age ≥ 18 years		148 (41.6)	
Any emotional abuse past year [c]	5		
Yes		61 (16.5)	
No		308 (83.5)	
Lifetime physical abuse	24	561 (29.3)	7 (0.4)
Mild	53	529 (28.0)	
Moderate	41	203 (10.7)	
Severe	32	127 (6.7)	
Experienced physical abuse first time	41		
Age < 18 years		355 (68.3)	
Age ≥ 18 years		167 (31.7)	
Any physical abuse past year [c]	20		
Yes		36 (6.7)	
No		505 (93.3)	
Lifetime sexual abuse	20	302 (15.7)	2 (0.1)
Mild[1]	33	212 (11.1)	
Mild[2]	34	144 (7.6)	
Moderate	45	208 (11.0)	
Severe	53	49 (2.6)	
Experienced sexual abuse first time	12		
Age < 18 years		196 (67.6)	
Age ≥ 18 years		94 (32.4)	
Any sexual abuse past year [c]	7		
Yes		2 (0.7)	
No		293 (99.3)	

*Did not answer the questions about abuse, [a] Any type of abuse during lifetime, [b] Self-reported abuse during pregnancy irrespective of the perpetrator, [c] Any type of abuse experienced past 12 months, [1] Emotional or sexual humiliation, [2] No genital contact

DV during pregnancy and abuse committed by intimate partner (solely)

DV by actual intimate partner in terms of lifetime emotional abuse was 0.8 % (n =16) and seven of these reported 'DV during pregnancy'. Reported DV by actual intimate partner in terms of lifetime physical abuse was 2.2 % (n = 42) and seven of these reported 'DV during pregnancy'. Reported DV by actual intimate partner in terms of lifetime sexual abuse was 0.2 % (n =4) and two of these reported 'DV during pregnancy'.

DV and the perpetrator

Of those 19.5 % (n = 374) women who reported lifetime emotional abuse (table 1), 66.3 % (n = 248) were exposed to DV and the perpetrator was male in all cases and in six cases also female (figures not offered in table 1). Among the 29.3 % (n = 561) women who reported lifetime physical abuse (table 1), 74.2 % (n = 416) were exposed to DV and the perpetrators were male in all cases but one, and in 28 cases females were also involved (figures not offered in table 1). Among those 15.7% (n = 302) women who reported lifetime sexual abuse (table 1), 37.1 % (n = 112) were exposed to DV and the perpetrators were male in all cases, and in one case also female (figures not offered in table 1).

Experience of a history of violence

Table 1 provides prevalence and severity of lifetime experience of emotional 19.5 % (n = 374), physical 29.3 % (n = 561) and sexual 15.7 % (n = 302) abuse as well as experienced abuse during pregnancy 1.5 % (n = 29) solely. Emotional abuse during current pregnancy was experienced by 1% (n = 20), physical abuse by 0.4 % (n = 7) and sexual abuse by 0.1 % (n =2). Of those women who reported 'history of violence', 16.5% (n = 61) had experienced emotional abuse, 6.7 % (n = 36) physical abuse and 0.7 % (n = 2) sexual abuse during the past year (Table 1).

Differences between groups with or without a history of violence

Table 2 shows the distribution of the socio-demographic factors for the total cohort (n =1939) of women with or without experience of a "history of violence". Statistical differences were found between the groups with regards to cohabitation, employment- and financial distress ($p = 0.001$). Further, table 3 shows the results regarding maternal characteristics and high risk health behaviour for women with or without experience of a 'history of violence'. There were statistical difference between the groups regarding smoking and snuffing, unintended pregnancies and experience of legalised abortion or having had both a miscarriage and legalised abortion ($p < 0.001$).

Table 2. Distribution of socio-demographic background factors at recruitment to the study (N = 1939).

Characteristics	Total	History of violence [a]		P
		No	Yes	
	n (%)	n (%)	n (%)	OR, 95% CI
	1928 (99.4)	1167 (60.5)	761 (39.5)	
*Missing**	11 (0.6)			
Age , years				
18-25	339 (17.5)	206 (17.8)	133 (17.8)	
26-34	1211 (62.5)	750 (64.9)	461 (61.6)	NS
≥ 35	354 (18.2)	200 (17.3)	154 (20.6)	
Missing	35 (1.8)			
Country of origin				
Sweden	1545 (79.6)	923 (79.2)	622 (81.8)	
Nordic countries	47 (2.5)	27 (2.3)	20 (2.6)	NS
Other countries	334 (17.2)	216 (18.5)	118 (15.5)	
Missing	13 (0.7)			
Language				
Swedish	1461(75.3)	871 (74.9)	590 (77.7)	
Foreign language	461 (23.8)	292 (25.1)	169 (22.3)	NS
Missing	17 (0.9)			
Educational status				
Compulsory school or less	60 (3.1)	29 (2.5)	31 (4.1)	
High school or less	576 (29.7)	338 (29.0)	238 (31.3)	NS
University	1291 (66.6)	799 (68.5)	492 (64.7)	
Missing	12 (0.6)			
Cohabiting status				
Single	55 (2.8)	22 (2.0)	33 (4.4)	< 0.001
Living apart	51 (2.6)	19 (1.7)	32 (4.3)	1.6 (1.36-1.9)
Common law spouse/married	1763 (91.0)	1085 (96.4)	678 (91.3)	
Missing	70 (3.6)			
Employment status				
Employed	1820 (93.9)	1121 (96.1)	699 (91.9)	< 0.001
Unemployed	107 (5.5)	45 (3.9)	62 (8.1)	2.2 (1.5-3.3)
Missing	12 (0.6)			
Financial distress				
No	1004 (51.8)	653 (56.0)	351 (46.2)	< 0.001
Yes	922 (47.5)	513 (44.0)	409 (53.8)	1.5 (1.2-1.8)
Missing	13 (0.7)			

Statistical significance is accepted at $p < 0.05$, two-tailed.
Chi-square analysis is used
[a] Has reported lifetime experience of emotional, physical or sexual abuse
* Did not answer the questions about abuse

Table 3. Overview of maternal characteristics and high risk health behavior at recruitment (N = 1939).

Characteristics	**Total**	**History of violence** [a]		
		No	**Yes**	**P**
Total n (%)	n (%)	n (%)	n (%)	**OR, 95% CI** [b]
	1928 (99.4)	1167 (60.5)	761 (39.5)	
*Missing**	11 (0.6)			
Parity				
Primiparae	817 (42.1)	480 (44.9)	337 (47.3)	NS
Multiparae	966 (49.9)	590 (55.1)	376 (52.7)	
Missing	156 (8.0)			
BMI				
Underweight	79 (4.1)	51 (4.5)	28 (3.8)	NS
Normal weight	1289 (66.5)	789 (70.3)	500 (68.3)	
Overweight	232 (12.0)	198 (17.6)	134 (18.3)	
Obese	154 (4.3)	84 (7.5)	70 (9.6)	
Missing	85 (4.4)			
Smoking				
No	1575 (81.2)	991 (87.9)	584 (78.6)	<0.001
Yes	296 (31.5)	137 (12.1)	159 (21.4)	2.0 (1.5-2.5)
Missing	68 (3.5)			
Snuffing				
No	1786 (92.1)	1096 (97.2)	690 (92.9)	<0.001
Yes	84 (4.3)	31 (2.8)	53 (7.1)	2.7 (1.7-4.3)
Missing	69 (3.6)	1870 (96.4)		
Use of alcohol				
No	878 (45.3)	528 (47.0)	350 (47.5)	NS
Yes	982 (50.6)	595 (53.0)	387 (52.5)	
Missing	79 (4.1)			
Unintended pregnancy				
No	1569 (80.9)	991 (85.9)	578 (76.9)	<0.001
Yes	336 (17.3)	162 (14.1)	174 (23.1)	1.8 (1.4-2.3)
Missing	34 (1.8)			
Abortion/miscarriage				
No	1125 (58.0)	742 (65.3)	383 (51.8)	<0.001
Miscarriage	342 (17.7)	209 (18.4)	133 (18.0)	
Abortion	286 (14.8)	133 (11.7)	153 (20.7)	
Miscarriage/abortion	123 (6.3)	53 (4.7)	70 (9.5)	
Missing	63 (3.2)			

Statistical significance is accepted at $p < 0.05$, two-tailed. Chi-square analysis is used
[a] Has reported lifetime experience of emotional, physical or sexual abuse,
[b] If the groups were ≥ 4, OR with CI not calculated.
* Did not answer the questions about abuse

Association between possible risk factors and exposure to DV during pregnancy

The strongest risk factor for DV during pregnancy was 'history of violence', whereby all women (n=18) exposed to 'DV during pregnancy' also had reported 'history of violence' ($p < 0.001$). Unemployed women were 5.1 times more likely to report being exposed to 'DV during pregnancy' ($p < 0.002$). Women who were single or living apart were 6.9 times more likely to be exposed to 'DV during pregnancy' ($p < 0.001$). Further, women having a history of miscarriages and abortions were 7.6 times more likely to be exposed to 'DV during pregnancy' ($p < 0.001$). Those who reported lack of sleep during the past year were 4.7 times more likely to be exposed to 'DV during pregnancy' ($p = 0.001$). Women having EDS score ≥ 13 indicating presence of several symptoms of depression were 13.4 times more likely to be exposed to 'DV during pregnancy' ($p < 0.001$). Finally, women having low score on SOC indicating inability to use their own resources to maintain and improve their health in stressful situations were 9.1 more likely to be exposed to 'DV during pregnancy' ($p < 0.001$) (Table 4).

Table 4. Association between possible risk factors and exposure to DV during pregnancy (N = 1939).

		DV during pregnancy		P-value
Independent variabel	n %	n (%)	OR 95 % CI	(two-tailed)
History of violence[1]	745	18 (2.4)	-	<0.001
Age ≥ 35	351	6 (1.7)	2.6 (0.9-7.3)	NS
Multiparae	949	12 (1.3)	0.6 (0.2-1.6)	NS
Low educational status	616	7 (1.1)	1.3 (0.5-3.4)	NS
Unemployed	103	4 (3.9)	5.1 (1.7-15.9)	0.002
Foreign language	442	6 (1.4)	1.6 (0.61-4.40)	NS
Single/living apart	101	5 (5.0)	6.9 (2.4 -19.7)	0.001
Financial distress	896	12 (1.3)	2.2 (0.8-6.0)	NS
Alcohol consumption	971	8 (0.8)	0.7 (0.3-1.8)	NS
Smoking/snuffing	345	5 (1.4)	1.5 (0.6 - 4.7)	NS
Overweight/obese	478	6 (1.3)	1.4 (0.5-3.8)	NS
Unintended pregnancy	331	5 (1.5)	1.8 (0.6-5.1)	NS
Miscarriage/abortion	119	6 (5.0)	7.6 (2.8 - 20.6)	<0.001
Self-reported poor health	109	2 (1.8)	2.0 (0.5-9.0)	NS
Lack of sleep	145	5 (3.4)	4.7 (1.7 - 13.5)	0.001
EDS ≥ 13	166	10 (6.0))	13.4 (5.2- 34.4)	<0.001
SOC Low score	454	12 (2.6)	9.1 (2.9-28.5)	<0.001

Statistical significant is accepted at $p < 0.05$

[1]All (n=18) reported history of violence and therefore OR with 95% CI not showed

When the analyses were controlled for low SOC score, miscarriage/abortion, single/living apart, lack of sleep, unemployment (significant in the bivariate analysis), age and parity, only EDS ≥ 13 remained significant ($p < 0.004$) and had 7.0 fold risk associated with 'DV during pregnancy'. Marginal associations were also found between 'DV during pregnancy' and miscarriage/abortion ($p = 0.053$), low SOC-score ($p = 0.075$) and age ≥ 35 years ($p = 0.097$) (Table 5).

Table 5. Association between possible risk factors and exposure to DV during pregnancy (n = 18) presented by OR with 95% CI.

Variables	**Model I**	**Model II**	**Model III**	**Model IV**	**Model V**	**Model VI**	**Model VII**	**Model VIII**
EDS ≥ 13 [a]	13.9 (4.8-40.7)	7.0 (2.0-25.2)	6.2 (1.7-22.4)	6.1 (1.7-22.3)	6.9 (1.9-24.9)	6.8 (1.9-24.9)	7.1 (1.9-26.3)	7.0 (1.9-26.3)
Low score SOC [b]		3.3 (0.8-13.2)	3.3 (0.8-13.1)	3.3 (0.8-13.1)	3.6 (0.9-14.3)	3.4 (0.8-13.6)	3.6 (0.9-14.7)	3.6 (0.9-14.9)
Miscarriage/abortion [c]			4.2 (1.2-14.2)	4.1 (1.2-14.1)	4.7 (1.3-16.1)	4.4 (1.3-15.5)	3.8 (1.04-13.6)	3.7 (0.99-13.7)
Single/living apart [d]				1.2 (0.2-5.9)	1.3 (0.3-6.6)	1.2 (0.2-6.1)	1.0 (0.2-5.7)	1.0 (0.2-5.7)
Lack of sleep [e]					0.4 (0.1-2.2)	0.3 (0.1-1.9)	0.3 (0.1-2.0)	0.4 (0.1-2.1)
Unemployed [f]						2.2 (0.5-9.8)	2.4 (0.5-10.8)	2.4 (0.5-10.8)
Age [g]							2.8 (0.9-9.1)	2.8 (0.8-9.2)
Multipara [h]								1.1 (0.3-3.6)

[a] EDS ≥13, indicating risk of depression versus not ≤ 13 (reference category).
[b] Low score SOC indicating inability to use their own resources to maintain and improve their health in stressful situations versus medium-high score (reference category).
[c] Miscarriages and abortions versus solely abortion, miscarriages or not at all (reference category).
[d] Single/living apart versus cohabiting (reference category).
[e] Lack of sleep versus adequate sleep (reference category).
[f] Unemployed (including long illness) versus employed (including parental leave and studying) (reference category).
[g] Age ≥35 years versus age 18-34 (reference category).
[h] Parity: primiparae versus multipara (reference category)

Discussion

This study showed that the prevalence of 'DV during pregnancy' was 1%. However, more women reported a history of emotional, physical and sexual abuse performed by their actual intimate partner and also experiences of abuse during the past year. Women born outside Nordic countries were proportionally over-represented among those who experienced 'DV during pregnancy'. To our knowledge 'DV during pregnancy' has not previously been explored among pregnant woman in the same catchment area. Participation recruitment was mostly performed during the first and early second trimesters of pregnancy, and therefore, the results reflect responses to questions about abuse that were posed only once and at this particular time. It has been shown that repeated questioning increases the likelihood of disclosing experiences of physical violence [24, 42]. Further, the true prevalence of abuse may be difficult to determine because of fears concerning abuse escalation, if the abuse were to become known by the perpetrator [21]. However, the occurrence of current abuse may also be underestimated due to selection or non-respondent bias. A British longitudinal study indicated that the time of pregnancy was not a sensitive period for DV compared to the postpartum period, where prevalence of physical violence during pregnancy was 1 % compared to almost 3 % three years later [43]. Therefore, hypothetically, early pregnancy may be protective for women who live in violent relationships. However, the literature is not consistent concerning decreased violence when the woman becomes pregnant [10, 16, 44, 45]. Devries et al [10] found that in countries reporting high levels of severe IPV, women did not necessarily report high levels of IPV during pregnancy, indicating that cultural factors may be important determinants of IPV during pregnancy. Previous studies have also indicated that IPV could start during pregnancy [45] or be initiated during the first pregnancy [44].

History of physical abuse performed by the actual intimate partner was reported by 2.2 % (n = 42) of the subjects. These figures are similar to a previous Swedish study conducted in Uppsala where 2.8 % (n = 29) admitted physical abuse by a close acquaintance the year before pregnancy, during pregnancy or 20 weeks postpartum [24]. Nevertheless, it is difficult to compare these results due to the use of different methods and definitions and the lack of separation of history of violence before or after pregnancy from violence during pregnancy. However, in a global perspective the prevalence rates of DV during pregnancy appear to be realistic, since in more developed countries rates seem to be lower than in developing countries [10, 11]. However, current results indicate that there is a

need for increased attention to this vulnerable group of women who are exposed to violence during their pregnancy and to offer them first line help according to the WHO [46]. It could be of significance for the women exposed to violence to know in what matters society can help them and in what way they can get support from their midwives.

In the present study 'history of violence' or lifetime experience of emotional, physical or sexual abuse was reported by 39.5 % (n = 761) of the women and was absolutely the strongest indicator of exposure to 'DV during pregnancy'. This is in accordance with results from a newly conducted meta-analytic review [11]. The response rates reported for 'history of violence' are slightly higher than those reported by non-pregnant women visiting gynaecological clinics in Sweden (37.5 %) [30], as also measured by the NorAQ instrument. However, the rate reported by Stensson et al [24] for lifetime emotional, physical or sexual abuse in pregnant women was considerably lower (19.4 %), albeit another instrument was used. Also, the Stensson et al [24] data collection was performed during 1997-1998, and several years have elapsed since this time. The prevalence rates of reported violence against women from the Swedish National Council for Crime Prevention have steadily been increasing during the past years, which partly can be explained by changes in the legislation in the beginning of the 1980s, whereby already submitted written reports about abuse cannot be subsequently withdrawn [26]. Also, media and authorities have called attention to the topic, and hopefully tolerance levels and attitudes towards DV are changing to the benefit of DV survivors.

In the present study the findings showed that the presence of several symptoms of depression was 7.0 fold more likely to be associated with 'DV during pregnancy'. Those findings are in accordance with a recently conducted meta-analytic review [11]. Both national and international studies show that several symptoms of perinatal depression are indeed significantly associated with the experience of 'DV during pregnancy' [16, 36, 47]. However, the direction of causality with regard to these findings has yet to be determined. The extent to which depression is a consequence of DV or a contributing factor for exposure to DV is entirely unknown. Nevertheless, the most important concern is the pregnant woman's health, and midwives and other health care professionals need to be aware of these results and to take action accordingly. Screening for depression during pregnancy together with anamnesis on history of violence may be the best way to address DV during pregnancy. The conversation between the pregnant woman

and the health care giver must be performed in a safe, confidential atmosphere in an empathic and non-judgmental manner. Both relational ethics, i.e. sensitivity to a specific situation through the initiation of a dialogue between and among individuals [48], and a person-centred care, i.e. an attitude of being with people in a respectful and non-hierarchal way, [49] could be helpful approaches. However, it is not enough to address the violence, but it is also crucial to have guidelines and a plan of action for all health care personnel [50] in an attempt to improve health outcomes for mother and child. However, a recent Cochrane review has presented insufficient data regarding the usefulness of interventions for DV in relation to pregnancy outcomes [51]. Therefore it seems extremely important to focus on testing interventions with the aim of improving the care of those vulnerable women.

Strength and weaknesses in the study

The strength of the current study is its sample size (n = 1939) and the use of prospectively collected data in a well-defined group of pregnant women. Moreover, the study is only slightly under-powered for detection of prevalence with 98% certainty of DV during pregnancy. However, the results of this study might potentially be biased due to selection or non-respondent bias. Slightly more than 20% of the investigated cohort were women borne outside Sweden. In 2012 approximately 24 % of all delivered women in Sweden were foreign borne [52]. These figures suggests that foreign born women are somewhat underrepresented in the material investigated possibly due to language or cultural barriers. Since, proportionally more women born outside Nordic countries reported 'DV during pregnancy' suggests the prevalence to be underestimated. Moreover, according to our inclusion criteria participants not understanding Swedish or English were excluded. This might be a weakness with regard to generalisation of the results to the population in the investigated geographical area. In 11 cases the participants did not answer the questions related to violence. Analysis of those 11 women may indicate cultural barriers as there were proportionately more women who did not answer the specific questions about abuse who were foreign born, spoke another language than Swedish at home and had a low level of education. However, it's also possible, that the questions were felt to be so intrusive that the participant was not prepared to answer them. Only four of the ANC's receptions have recruited consecutively as instructed and the rest of the receptions have performed convenient recruitment. Therefore, the reported prevalence of current abuse may be underestimated. The data collection period coincided with a strained working situation at the ANCs due to changes in the organization and implementation of a

new electronically based medical record system which further increased the work load. An additional possible explanation for under-estimation is that some of the midwives could be an obstacle by themselves. Because of their lack of knowledge about the topic and their fear concerning what to do about disclosure of violence [50], they may have avoided the recruitment of women. Another weakness in the study is uncertainty with regard to exactly how many potentially eligible women were not invited to participate or how many who declined participation in the study. Therefore, unfortunately the prevalence of 'DV during pregnancy' may be underestimated. Also, it was not possible to translate the questionnaire to other languages than English, and therefore women who did not have sufficient reading and writing skills in Swedish or English were excluded. However, at least 20% of the included women were foreign-born and originated from 93 different countries.

Conclusions

The results showed a low prevalence of 'DV during pregnancy' in the included group of women from this area of Sweden. However, prevalence rates concerning reported history of emotional, physical and sexual abuse performed by actual intimate partner and history of exposure to violence during the past year indicate that a significant higher prevalence of women are living in a violent relationship. Also, the fact that four of ten women have some 'history of violence' which is the strongest factor associated with 'DV during pregnancy' must be carefully considered by midwives, obstetricians and other health care givers. Additionally, the knowledge that high levels of depressive symptoms are associated with DV during pregnancy should lead to actions to address mental disorders during early pregnancy. Both 'history of violence' and depressive symptoms detected in early pregnancy can indicate that the woman also is exposed to 'DV during pregnancy'. There is a need to increase attention to this vulnerable group of women who are living in dysfunctional and violent relationships.

List of Abbreviations

AAS = Abuse Assessment Screen
ANC = Antenatal Care
AUDIT = Alcohol Use Disorders Identification Test
BMI = Body Mass Index
CI = Confidence intervals
DSM = Diagnostic and Statistical Manual of Mental Disorders
DV = Domestic violence
EDS = Edinburgh Depression Scale
EPDS = Edinburgh Postnatal Depression Scale
IPV = Intimate partner violence
NorAQ = NorVold Abuse Questionnaire
OR = Odds Ratios
SOC-13 = Sense of Coherence Scale-short form
WHO = World Health Organisation's

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

HF and AKD conceived the study. Collection of data were performed by the first author HF. All authors HF, AKD, CWH participated in the study design and coordinated and helped to draft the manuscript. All authors read and approved the final manuscript.

Acknowledgement

The authors would like to thanks all the midwives who carried out the recruitment and gave us possibility to carry this study out. General Maternity Hospital Foundation has contributed with funding for this research. The Swedish Society for Health Sciences (Vårdalinstitutet) has contributed with admission for scanning to this research. We also acknowledge that both Department of Health Sciences, Medical Faculty, Lund University and Malmoe University, Faculty of Health and Society has supported this research.

NorAQ was developed by NorVold, a research network established in 1997 to explore the prevalence of violence against women and its effects on women's health. The NorVold research network was supported by grants from the Nordic Council of Ministers. Principal investigators: Barbro Wijma, Berit Schei. Coordinator: Katarina Swahnberg. Local investigators: Denmark: Katrine Sidenius, Malene Hilden, Finland: Erja Halmesmäki, Ulla Pikkarinen, Iceland: Tora Steingrimsdottir, Norway: Berit Schei, Hildegunn Stoum-Hinsverk, Kristin Offerdal, Sweden: Barbro Wijma, Katarina Swahnberg.

References

1. **World Health Organization; Violence against women. Intimate partner and sexual violence against women. Facta sheet No 239** [http://www.who.int/mediacentre/factsheets/fs239/en/]
2. Jasinski JL: **Pregnancy and domestic violence: a review of the literature.** Trauma Violence Abuse 2004, **5**(1):47-64.
3. Boy A, Salihu HM: **Intimate partner violence and birth outcomes: a systematic review.** Int J Fertil Womens Med 2004, **49**(4):159-164.
4. Chambliss LR: **Intimate partner violence and its implication for pregnancy.** Clin Obstet Gynecol 2008, **51**(2):385-397.
5. Sharps PW, Laughon K, Giangrande SK: **Intimate partner violence and the childbearing year: maternal and infant health consequences.** Trauma Violence Abuse 2007, **8**(2):105-116.
6. Shoffner DH: **We don't like to think about it: intimate partner violence during pregnancy and postpartum.** J Perinat Neonatal Nurs 2008, **22**(1):39-48.
7. Shah PS, Shah J, Knowledge Synthesis Group on Determinants of Preterm/LBW Births: **Maternal exposure to domestic violence and pregnancy and birth outcomes: a systematic review and meta-analyses.** J Womens Health (Larchmt) 2010, **19**(11):2017-2031.
8. Krug EG, Dahlberg LL, Mercy J, Zwi AB, Lozano R: **World report on violence and Health.** 2002.
9. Krantz G, Garcia-Moreno C: **Violence against women.** J Epidemiol Community Health 2005, **59**(10):818-821.
10. Devries KM, Kishor S, Johnson H, Stockl H, Bacchus LJ, Garcia-Moreno C, Watts C: **Intimate partner violence during pregnancy: analysis of prevalence data from 19 countries.** Reprod Health Matters 2010, **18**(36):158-170.
11. James L, Brody D, Hamilton Z: **Risk factors for domestic violence during pregnancy: a meta-analytic review.** Violence Vict 2013, **28**(3):359-380.
12. Garcia-Moreno C, Jansen HA, Ellsberg M, Heise L, Watts CH, WHO Multi-country Study on Women's Health and Domestic Violence against Women Study Team: **Prevalence of intimate partner violence: findings from the WHO multi-country study on women's health and domestic violence.** Lancet 2006, **368**(9543):1260-1269.
13. Pallitto CC, Garcia-Moreno C, Jansen HA, Heise L, Ellsberg M, Watts C, WHO Multi-Country Study on Women's Health and Domestic Violence: **Intimate partner violence, abortion, and unintended pregnancy: results from the WHO Multi-country Study on Women's Health and Domestic Violence.** Int J Gynaecol Obstet 2013, **120**(1):3-9.
14. Hedin LW, Janson PO: **Domestic violence during pregnancy. The prevalence of physical injuries, substance use, abortions and miscarriages.** Acta Obstet Gynecol Scand 2000, **79**(8):625-630.
15. Fisher WA, Singh SS, Shuper PA, Carey M, Otchet F, MacLean-Brine D, Dal Bello D, Gunter J: **Characteristics of women undergoing repeat induced abortion.** CMAJ 2005, **172**(5):637-641.

16. Howard LM, Oram S, Galley H, Trevillion K, Feder G: **Domestic violence and perinatal mental disorders: a systematic review and meta-analysis.** PLoS Med 2013, **10**(5):e1001452.

17. El Kady D, Gilbert WM, Xing G, Smith LH: **Maternal and neonatal outcomes of assaults during pregnancy.** Obstet Gynecol 2005, **105**(2):357-363.

18. Rachana C, Suraiya K, Hisham A, Abdulaziz A, Hai A: **Prevalence and complications of physical violence during pregnancy.** Eur J Obstet Gynecol Reprod Biol. 2002, **103**(1):26-29.

19. Coker AL, Sanderson M, Dong B: **Partner violence during pregnancy and risk of adverse pregnancy outcomes.** Paediatr Perinat Epidemiol 2004, **18**(4):260-269.

20. Janssen PA, Holt VL, Sugg NK, Emanuel I, Critchlow CM, Henderson AD: **Intimate partner violence and adverse pregnancy outcomes: a population-based study.** Am J Obstet Gynecol 2003, **188**(5):1341-1347.

21. Yost NP, Bloom SL, McIntire DD, Leveno KJ: **A prospective observational study of domestic violence during pregnancy.** Obstet Gynecol 2005, **106**(1):61-65.

22. Cheng D, Horon IL: **Intimate-partner homicide among pregnant and postpartum women.** Obstet Gynecol 2010, **115**(6):1181-1186.

23. Hedin LW, Grimstad H, Moller A, Schei B, Janson PO: **Prevalence of physical and sexual abuse before and during pregnancy among Swedish couples.** Acta Obstet Gynecol Scand 1999, **78**(4):310-315.

24. Stenson K, Heimer G, Lundh C, Nordstrom ML, Saarinen H, Wenker A: **The prevalence of violence investigated in a pregnant population in Sweden.** J Psychosom Obstet Gynaecol 2001, **22**(4):189-197.

25. Lundgren E, Heimer G, Westerstrand J, Kalliokoski AM: **Captured Queen Men´s violence against women in "equal" Sweden - a prevalence study.** In 1 st edition. Translated by Julia Mikaelsson and Geoffrey French. Umeå: Åström tryckeri AB; 2002:57-66-3-144.

26. **The Swedish National Council for Crime Prevention;Women abuse** [http://www.bra.se/bra/bra-in-english/home/crime-and-statistics/women-abuse.html]

27. WHO: **Putting women first: Ethical and safety recommendations for research on domestic violence against women.** 2001, **WHO/FCH/GWH/01.1.**

28. Socialstyrelsen (The National Board of Health and Welfare): *Folkhälsorapport 2012 (Swedish health care report):* Stockholm: Socialstyrelsen; 2012.

29. Swahnberg IM, Wijma B: **The NorVold Abuse Questionnaire (NorAQ): validation of new measures of emotional, physical, and sexual abuse, and abuse in the health care system among women.** Eur J Public Health 2003, **13**(4):361-366.

30. Wijma B, Schei B, Swahnberg K, Hilden M, Offerdal K, Pikarinen U, Sidenius K, Steingrimsdottir T, Stoum H, Halmesmaki E, Nordic cross-sectional study: **Emotional, physical, and sexual abuse in patients visiting gynaecology clinics: a Nordic cross-sectional study.** Lancet 2003, **361**(9375):2107-2113.

31. Statistiska centralbyrån: ***ULF – undersökningarna av levnadsförhållanden (ULF-Survey on Swedish living conditions)*.** 2007.

32. Antonovsky A: *Unraveling the mystery of health: how people manage stress and stay well:* 1st ed. San Francisco: Jossey-Bass; 1991.

33. Antonovsky A: **The structure and properties of the sense of coherence scale.** Soc Sci Med 1993, **36**(6):725-733.

34. Eriksson M, Lindstrom B: **Antonovsky's sense of coherence scale and its relation with quality of life: a systematic review.** J Epidemiol Community Health 2007, **61**(11):938-944.

35. Cox JL, Holden JM, Sagovsky R: **Detection of Postnatal Depression. Development of the 10-item Edinburgh Postnatal depression Scale.** British Journal of Psychiatry 1987, **150**:782-786.

36. Rubertsson C, Borjesson K, Berglund A, Josefsson A, Sydsjo G: **The Swedish validation of Edinburgh Postnatal Depression Scale (EPDS) during pregnancy.** Nord J Psychiatry 2011, **65**(6):414-418.

37. Wickberg B, Hwang CP: **The Edinburgh Postnatal Depression Scale: validation on a Swedish community sample.** Acta Psychiatr Scand 1996, **94**(3):181-184.

38. Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M: **Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption--II.** Addiction 1993, **88**(6):791-804.

39. **WHO;Global Database on Body Mass Index. BMI classificatons.**[http://apps.who.int/bmi/index.jsp?introPage=intro_3.html]

40. **World Medical Association Declaration of Helsinki. Ethical Principles for Medical Research Involving Human Subjects.**[http://www.wma.net/en/30publications/10policies/b3/]

41. Ekelin M, Crang Svalenius E, Larsson AK, Nyberg P, Marsal K, Dykes AK: **Parental expectations, experiences and reactions, sense of coherence and grade of anxiety related to routine ultrasound examination with normal findings during pregnancy.** Prenat Diagn 2009, **29**(10):952-959.

42. Gazmararian JA, Lazorick S, Spitz AM, Ballard TJ, Saltzman LE, Marks JS: **Prevalence of violence against pregnant women.** JAMA 1996, **275**(24):1915-1920.

43. Bowen E, Heron J, Waylen A, Wolke D, ALSPAC Study Team: **Domestic violence risk during and after pregnancy: findings from a British longitudinal study.** BJOG 2005, **112**(8):1083-1089.

44. Finnbogadottir H, Dejin-Karlsson E, Dykes AK: **A multi-centre cohort study shows no association between experienced violence and labour dystocia in nulliparous women at term.** BMC Pregnancy Childbirth 2011, **11**:14.

45. Garcia-Moreno C, Jansen H, Ellsberg M, Heise L, Watts C: ***WHO Multi-Country study on women's health and domestic violence against women.***
Geneva, World Health Organization. 2005.

46. World Health Organization (WHO): **Responding to intimate partner violence and sexual violence against women. WHO clinical and policy guidelines.** 2013:1-68.

47. Rubertsson C, Wickberg B, Gustavsson P, Radestad I: **Depressive symptoms in early pregnancy, two months and one year postpartum-prevalence and psychosocial risk factors in a national Swedish sample.** Arch Womens Ment Health 2005, **8**(2):97-104.

48. Bergum V, Dossetor J: *Relational Ethics; The Full Meaning of Respect:* 1st ed. Hagerstown: University Publishing Group; 2005.

49. Miller WR: *Motiverande samtal: att hjälpa människor till förändring (In Swedish: Motivational interviewing):* 3rd ed. Stockholm: Natur & kultur; 2013.

50. Finnbogadottir H, Dykes AK: **Midwives' awareness and experiences regarding domestic violence among pregnant women in southern Sweden.** Midwifery 2012, **28**(2):181-189.

51. Jahanfar S, Janssen PA, Howard LM, Dowswell T: **Interventions for preventing or reducing domestic violence against pregnant women.** Cochrane Database Syst Rev 2013, **2**:CD009414.

52. **Socialstyrelsen (The National Board of Health and Welfare). Statistikdatabas för graviditeter, förlossningar och nyfödda. 2012** [http://www.socialstyrelsen.se/statistik/statistikdatabas/graviditeter-forlossningarochnyfodda]

Malmö University Health and Society Doctoral Dissertations

Ross, M. W. Typing, doing and being. A study of men who have sex with men and sexuality on the Internet. 2006:1

Stoltz, P. Searching for meaning of support in nursing. A study on support in family care of frail aged persons with examples from palliative care at home. 2006:2

Gudmundsson, P. Detection of myocardial ischemia using real-time myocardial contrasts echocardiograpy. 2006:3

Holmberg, L. Communication in palliative home care, grief and bereavement. A mother's experiences. 2007:1

Ny, P. Swedish maternal health care in a multiethnic society – including the fathers. 2007:2

Schölin, T. Etnisk mångfald som organisationsidé. Chefs- och personalpraktiker i äldreomsorgen. 2008:1

Svensson, O. Interactions of mucins with biopolymers and drug delivery particles. 2008:2

Holst, M. Self-care behaviour and daily life experiences in patients with chronic heart failure. 2008:3

Bahtsevani, C. In search of evidence-based practices. Exploring factors influencing evidence-based practice and implementation of clinical practice guidelines. 2008:4

Andersson, L. Endocytosis by human dendritic cells. 2009:1.

Svendsen, I. E. In vitro and in vivo studies of salivary films at solid/liquid interfaces. 2009:2.

Persson, K. Oral health in an outpatient psychiatric population. Oral status, life satisfaction and support. 2009:3.

Hellman, P. Human dendritic cells. A study of early events during pathogen recognition and antigen endocytosis. 2009:4.

Baghir-Zada, R. Illegal aliens and health (care) wants. The cases of Sweden and the Netherlands. 2009:5.

Stjernswärd, S. Designing online support for families living with depression. 2009:6.

Carlsson, A. Child injuries at home – prevention, precautions and intervention with focus on scalds. 2010:1.

Carlson, E. Sjuksköterskan som handledare. Innehåll i och förutsättningar för sjuksköterskors handledande funktion i verksamhetsförlagd utbildning – en etnografisk studie. 2010:2.

Sinkiewicz, G. Lactobacillus reuteri in health and disease. 2010:3.

Tuvesson, H. Psychiatric nursing staff and the workplace. Perceptions of the ward atmosphere, psychosocial work environment, and stress. 2011:1.

Ingvarsdotter, K. Mental ill health and diversity. Researching human suffering and resilience in a multicultural context. 2011:2.

Hamit-Eminovski, J. Interactions of biopolymers and metal complexes at biological interfaces. 2011:3.

Mellgren, C. What´s neighbourhood got to do with it? The influence of neighbourhood context on crime and reactions to crime. 2011:4.

Annersten Gershater, M. Prevention of foot ulcers in patients with diabetes mellitus. Nursing in outpatient settings. 2011:5.

Pooremamali P. Culture, occupation and occupational therapy in a mental care context- the challenge of meeting the needs of Middle Eastern immigrants. 2012:1

Gustafsson A. Aspects on sepsis: treatment and markers. 2012:2

Lavant, E. Multiplex HLA-DR-DQ genotyping. For genetic epidemiology and clinical risk assessment. 2012:3

Wangel, A-M. Mental ill-health in childbearing women. Markers and risk factors. 2012:4

Scaramuzzino, R. Equal opportunities? - A cross-national comparison of immigrant organisations in Sweden and Italy. 2012:4

Ivert, A-K. Adolescent mental health and utilisation of psychiatric care - The role of parental country of birth and neighbourhood of residence 2013:1

Znamenskaya, Y. Effect of hydration on thermodynamic, rheological and structural properties of mucin. 2013:2

Andersson, F. The female offender. Patterning of antisocial and criminal activity over the life-course. 2013:3

Lindroth, M. Utsatthet och sexuell hälsa – en studie om unga på statliga ungdomshem. 2013:4

Hulusjö, A. The multiplicities of prostitution experience – narratives about power and resistance. 2013:5

Falk, M. Direct electron transfer based biofuel cells. Operation in vitro and in vivo. 2014:1

Finnbogadóttir, H. Exposure to domestic violence during pregnancy. Impact on outcome, midwives' awareness, women´s experience and prevalence in the south of Sweden. 2014:2

The publications are available online.
See www.mah.se/muep

ISBN 978-91-7104-541-6 (print)
ISBN 978-91-7104-542-3 (pdf)
ISSN 1653-5383

MALMÖ HÖGSKOLA
205 06 MALMÖ, SWEDEN
WWW.MAH.SE