



THE TRAUMA-RELATED MENTAL HEALTH ISSUES OF FEMALE PRISONERS: THE NEED FOR TRAUMA-SPECIFIC INTERVENTION

A REVIEW OF THE LITERATURE

REBECCA WOOD

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Mental illness is far higher among prisoners than in general populations, especially for female prisoners. Previous research has discovered that traumatic experience plays a crucial role in the development of psychiatric disorder and other mental health issues in female prisoners. The present paper reviews eight articles, investigating into the negative outcomes associated with trauma-related mental health issues for female prisoners, and how their trauma-related mental health needs are addressed in prison. Systematic text condensation was used to discover similar themes and meanings throughout the articles. The results found a high prevalence of unrecognized and misdiagnosed trauma-related mental health issues across the articles, in particular post-traumatic stress disorder, with treatment having too much focus on substance abuse rather than addressing trauma directly. The review concludes that current prison screening measures and interventions do not identify trauma-related mental health issues adequately or address trauma directly. As a result, prison services do not meet the complex trauma needs of women. Further research needs to be conducted in this area for this population, as trauma-specific treatment is in its infancy.

Keywords: Female prisoners, mental illness, psychiatric disorder, trauma experience, trauma intervention, trauma needs.

FOREWORD

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INTRODUCTION

It is well understood from research that prisons all over the world detain huge numbers of inmates with mental health issues (Blaauw, Roesch & Kerkhof, 2000). One particular study found a vast 90% of prisoners in England and Wales to have some type of mental health problem (Singleton et al., 1998). At the same time, a large body of literature suggests that mental illness among prisoners is far higher than the non-imprisoned population (Fazel et al., 2016; Gates et al., 2017; Kjelsberg et al., 2006; Singleton et al., 1998). In fact, Fazel and Seewald (2012) found severe mental illness in 33,588 prisoners from 24 countries which greatly exceeded the numbers of the general population. Common mental health problems among offender groups include anxiety, depression, personality disorder, post-traumatic stress disorder (PTSD), psychosis, substance misuse, self-harm and suicide (Fazel et al., 2016). More specifically, the Office for National Statistics (ONS) (1997) conducted the first full survey of the mental health of prisoners in England and Wales (Singleton et al., 1998), and compared certain mental health disorders to the general population. It was discovered that 66 percent of prisoners had personality disorder compared to 5.3 percent of the general population, 45 percent of prisoners had anxiety or depression compared to 13.8 percent of the general population, 45 percent of prisoners were drug dependent compared to 5.2 percent of the non-imprisoned population, 30 percent were alcohol dependent compared to 11.5 percent of the general population, and 8 percent of the prison population had psychosis compared to 0.5 percent of the general population. Similarly, Stewart (2008) conducted a mental health survey on newly sentenced prisoners compared to general populations which found greater levels of psychosis (18% vs 9% respectively), anxiety and depression (56% vs 34%), self-harm (14% vs 5%), and suicide attempts (19% vs 7%).

The Mental Health Act attempts to manage mental illness in criminal justice settings, for example, the court can rule that someone convicted of an offence should be detained in hospital to receive treatment instead of being sent to prison. In addition, a convicted prisoner can be transferred to hospital for treatment, or a prisoner on remand can be transferred to forensic mental health services. Furthermore, if the person poses a risk to others a restriction order can be added where patients are closely monitored. Despite this, there seems to be a continuous increase in mental health issues within prison populations across different nations (Tyler, Miles, Karadag & Rogers, 2019). In fact, in the last 20 years there has been a number of changes within the prison system. In the UK, for example, there has been an increase in prison population, a decrease in prison staff, and changes in mental health practice in prisons (Tyler et al., 2019). The National Audit Office Report (Ismail & de Viggiani, 2018) and the NICE guidelines on mental health in the criminal justice system (Bradshaw et al., 2017) have requested a need for updated research on the mental health of prisoners, and how mental functioning of offenders in prison has changed since the 1997 ONS study. In response to this, Tyler et al. (2019) discovered that the prevalence rates for present day mental disorder was particularly high, especially for anxiety, personality disorder, mood disorders, and risk of suicide.

Gender differences in the mental health of prisoners

Of particular interest, the study found that female prisoners had increasingly higher levels of mental health disorders compared to males, especially for psychotic disorders, personality and mood disorders, PTSD and risk of suicide.

(Tyler et al., 2019). Another study investigated into the potential gender differences in chronic psychiatric, medical and substance-dependence disorders among prisoners. In comparison to men, women had a far greater prevalence of all psychiatric and medical conditions, as well as drug dependence. Interestingly, this also included conditions recorded higher in men in the general population (Binswanger et al., 2010). Furthermore, McCorkle (1995) discovered a strong relationship between mental illness and behavior among female prisoner populations compared to males. Light, Grant and Hopkins (2013) also investigated into whether there are gender differences in mental health issues amongst prisoner populations, with results from the surveying prisoner crime reduction (SPCR) longitudinal study. It was discovered that female SPCR prisoners reported worse mental health than male SPCR prisoners and to non-imprisoned women in the general population. Further support is provided by Fazel et al. (2016), who found greater psychiatric disorders, especially drug misuse and depression, are regularly reported in female prisoners.

The impact of trauma for female prisoners

When considering possible reasons for these gender differences in mental health illness among prisoners, it is important to understand that the pathways to prison often greatly differ between males and females. Evidently, females are far more likely than males to report a background of sexual, physical and emotional abuse prior to criminality (Bloom & Covington, 2008; Messina, Burdon, Hagopian & Prendergast, 2006). Another study discovered that physical, psychological, and sexual victimization in women directly impacts offending, resulting from multiple traumatic experiences effecting psychosocial functioning (DeHart, 2008). Therefore, in response to traumatic experience it seems women seem to fall into pathways of crime which in turn has a significant impact on mental illness in female offenders. In further support of this, Messina and Grella (2006) discovered a strong relationship between childhood abuse and adult mental illness among imprisoned women. As a result of these trauma experiences prior to imprisonment, the mental health needs of women in prison are often very different to that of men.

A high volume of research has recently investigated into this connection between trauma-based experiences and serious mental illness, and how it is far higher among women prisoners' compared to men. For example, Komarovskaya, Booker Loper, Warren and Jackson (2011) investigated gender differences in traumatic exposure and subsequent PTSD symptoms among male and female prisoners, and a particularly high 94.7% of prisoners had at least one trauma experience. It appeared male prisoners witnessed harm to others in childhood and adolescence, whereas for female prisoners' interpersonal sex-related trauma in childhood, adolescence and adulthood was more common. Overall, women were discovered to have much higher rates of PTSD compared to men. More, Drapalski, Youman, Stuewig and Tangney (2009) discovered that women reported higher rates of trauma symptoms in comparison to men, and were in more urgent need of mental health services.

Consequently, it seems female prisoners need considerable attention when investigating how trauma experiences exacerbate complex mental health issues. Foy, Ritchie and Conway (2012) conducted a literature review from approximately 1992-2012 which looks into trauma-related mental health issues for female offenders. The review consists of 33 studies which are all consistent in

the importance of trauma experiences leading to serious mental health issues for female offenders, both internationally and in the US. Moreover, Bloom, Owen and Covington (2003) suggest that due to the gender specific needs of female offenders there should be gender specific differences within prison mental health services, taking into account the context of women's lives and experiences. The researchers argue that if experiences of trauma are not considered effectively, women will not benefit from mental health interventions in prison or after release. Further, Wolff et al. (2011) argue that due to the complex nature of women's mental health issues associated to previous traumatic experience, prison services may have difficulty addressing such needs in prison. Furthermore, despite previous research providing understanding into the connection between traumatic events and psychiatric disorder for female offenders, there seems to be a lack of research providing insight into the subsequent consequences for female prisoners. In addition, there seems to be inadequate knowledge on how prison systems manage female prisoners with these types of trauma-related mental health issues.

Aim and research questions

On this note, it seems important to review the existing literature that looks into trauma and how it impacts female prisoners, in order to bring together the most important findings on the matter. More specifically, this paper aims to investigate into the negative outcomes associated with trauma-related mental health issues for female prisoners, as well as discovering how the trauma-related mental health needs of female prisoners are addressed in prison. The research questions are as followed: What are the consequences for female prisoners with trauma-related mental health issues? How do prison mental health services address traumatic experience for women?

METHOD

The chosen method for the aim and research questions was a systematic literature review. Currently, there are very limited reviews on trauma and female prisoners. Perhaps, this is due to the topic being a relatively new area of research (Foy et al., 2012). Thus, conducting a systematic literature review feels particularly important and relevant, to bring together the most current and significant findings.

Henceforth, it is an exciting time to be gathering research on the subject (Byrne & Howells, 2002). A systematic literature search was carried out in order to discover appropriate material for the review. The databases used were ProQuest, which is a platform for several other databases, PubMed, Medline and Sage Journals. These particular databases were chosen because they offer a wide variety of articles relating to behavioural science including criminology, psychology and sociology.

It is important to note, that within ProQuest, there were 8 main databases, which were: ABI/INFORM Global; Ebook Central; ProQuest Dissertations & Theses A&I; PsycARTICLES; PsycINFO; PTSDpubs; Publicly Available Content Database; and the Social Science Premium Collection which included 8 databases within it. These were: Criminology Collection; Education Collection; International Bibliography of the Social Sciences (IBSS); Library & Information Science Collection; Linguistics Collection; Politics Collection; Social Science Database; and Sociology Collection.

However, after considering each of these databases individually it seemed appropriate to exclude some of them due to them not being directly related to criminology, psychology or sociology. The databases that were excluded were: ABI/INFORM Global; Ebook Central; Education Collection; Library & Information Science Collection; Linguistics Collection; and the Politics Collection. These were removed manually by unselecting them in the tab named databases. This left a total of nine databases (within ProQuest) which were included in relation to the aim of the study. These were ProQuest Dissertations & Theses A&I; PsycARTICLES; PsycINFO; PTSDpubs; Publicly Available Content Database; Criminology Collection; International Bibliography of the Social Sciences (IBSS); Social Science Database; and finally, the Sociology Collection. Subsequently, searches were conducted in PubMed, Medline and Sage Journals. It is also important to note that searches only included studies written in English.

Ethical considerations

As the literature review is based on peer reviewed scholarly journals, and no involvement with new participants, there were no ethical issues to consider in relation to the process of the review. When looking at the results from the eight articles presented in the review, there were no ethical dilemmas in the findings to consider.

Procedure

The database searches were carried out on the 3rd May 2019. As previously mentioned, considering the changes that have occurred within the UK prison system in the last 20 years (Tyler et al., 2019) and the recent guidelines urging the need for updated research since the ONS 1997 study in the UK and in other countries (Ismail & de Viggiani, 2018; Bradshaw et al., 2017), it seemed appropriate to conduct the database search within the last 20 years. Thus, the specified date range was between 1999 and 2019. Further specification came from selecting the peer reviewed option, only searching within abstracts, and selecting only scholarly journal articles. The literature search was based on three clusters with related terms. These three clusters were mental impairment, incarcerated women and previous trauma. (See table 1).

Table 1. Clusters and search terms.

Clusters	Search terms
Mental impairment	mental health, mental health issues, mental illness, mental disorder, psychiatric morbidity
Incarcerated women	female prisoners, female inmates, female offenders
Previous trauma	trauma, trauma experience, history of trauma, trauma needs, unmet needs, trauma treatment, trauma intervention, trauma therapy

The final search string was as followed:

("mental health" OR "mental health issues" OR "mental illness" OR "mental disorder*" OR "psychiatric morbidity") AND ("female prisoners" OR "female inmates" OR "female offenders") AND ("trauma" OR "trauma experience*" OR

"history of trauma" OR "trauma needs" OR "unmet needs" OR "trauma treatment*" OR "trauma intervention*" OR "trauma therapy").

The same search string was used in all databases, producing 78 studies in ProQuest, 27 studies in PubMed, 25 studies in Medline and 5 studies in Sage Journals. The total number of results was 135. After duplicates were manually removed from the searches, there were 41 studies remaining. Subsequently, the sorting procedure allowed studies that were relevant to the aim of the study to be included. This was achieved by reading the titles and abstracts, and the full text when the abstract didn't suffice.

Inclusion and Exclusion Criteria

The abstracts were key in determining which studies would be included or not. Firstly, studies would only be included if they investigated females whilst imprisoned. However, if the study were to be conducted after females were released yet greatly focused on their time in prison, the study would still be included. Therefore, the research had to focus on experiences whilst females were imprisoned, rather than experiences after release. At the same time, only studies with females were included. Those that also considered male prisoners were not included, as they took focus from the specific trauma-needs of women. Moreover, the abstract had to inform the reader that the study was based on either the female prisoner's perspectives, i.e. through a subjective point of view using interviews, or were based on responses given directly by female prisoners through self report measures or assessment tools. Additionally, the abstracts had to discuss trauma experiences of some kind prior to imprisonment. If the study rather focused on victimization in prison, or after release, it would be disregarded as this is a different area of research. Furthermore, the study would only be included if the abstract focused on psychological trauma-related mental health, rather than biological or physical aspects, such as traumatic brain injury. Finally, studies that focused on crime prevention for trauma-survivors on release from prison, rather than focusing on the needs of females with trauma-related histories whilst in prison were excluded.

RESULTS

Eight studies ended up meeting the inclusion criteria for the systematic literature review (Matheson, Brazil, Doherty & Forrester, 2015; Pimlott Kubiak, Beeble & Bybee, 2010; Wolff et al., 2010; Ariga et al., 2008; Lynch, Fritch & Heath, 2012; Green et al., 2016; Rowan-Szal et al., 2012; Völm & Dolan, 2009). Among the eight articles, the sample of participants ranged from 31 to 1397, and all studies were female only. The total number of participants were 3308. The studies were conducted in the UK, the US, Canada and Japan. These particular eight studies were included in the review because they specifically related to the research questions, after considering the inclusion and exclusion criteria. Therefore, providing meaningful and rich data in the results.

It is important to mention, in article one (Matheson et al., 2015) participants had been released from prison within the last 18-months before conducting the interview. This article was still included, however, as it focused greatly on the experiences and needs of women whilst they were in prison and, thus, was in line

with the inclusion criteria. In the remaining seven articles, all females were incarcerated at the time of study. In addition, article four (Ariga et al., 2008) included incarcerated juvenile female offenders. Initially, juvenile offenders were an exclusion criterion due to the mental health needs of juveniles potentially being very different to that of adult women. However, after reading the full text it seemed appropriate to still include in the review. In the seventh article (Rowan-Szal et al., 2012), it is important to note that 542 of the sample were special-needs women from a special-needs prison facility, and 855 of the sample were regular prisoners from a regular treatment prison facility. Finally, it is worth mentioning that article eight (Völlm & Dolan, 2009), focused on previous trauma specifically related to self-harm, and the subsequent consequences for female prisoners. However, after reading the full text it fell in accordance with the other articles, and sufficed the inclusion criteria for the review.

Assessment Measures

Among the eight articles a variety of different assessment measures were used, including screening measures, scales, self measures, and interviews to identify and assess the trauma-related mental health needs of women from the female prisoner's perspectives. These assessment measures were important for the results of the review, as they were key in determining whether current assessment measures are adequately identifying trauma-related mental health issues, and how trauma issues are being addressed. Appendix 1 provides clearly laid out information for each of the articles, including the number of participants, participant prison status, prison location, and the specific assessment measures used.

Analysis

The eight articles were individually coded using Malterud's (2012) systematic text condensation analysis. The analysis involved four steps: Firstly, the researcher established similar themes throughout the eight texts. Secondly, the researcher derived codes from these themes by identifying and sorting meaning units. This allowed for the third step; condensation of codes to meaning. Followed by the final step of synthesizing, which involved the process of condensation to description and concepts (Malterud, 2012). This is a widely used and popular analytic method for cross-case thematic analysis of qualitative data, including written texts and interviews (Malterud, 2012). A positive feature of systematic text condensation is its explorative and descriptive method, making it a flexible approach in the search for codes and themes.

Findings

Among the eight articles three common themes were discovered, which were as followed: "Unrecognized trauma issues and misdiagnosis" (theme 1), "PTSD and Comorbidity" (theme 2), and "Substance misuse programs" (theme 3). These themes were then sorted into related codes. Figure 1 below (page 11) shows step one and two of systematic text condensation; themes and their related codes.

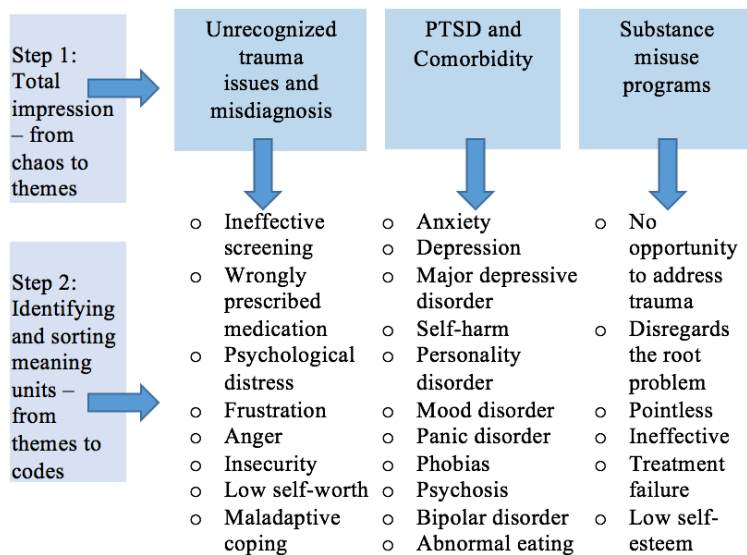


Figure 1. Themes and related codes.

Turning now to step three of systematic text condensation, where the meaning of these themes and their related codes are considered. Themes 1 and 2 were directly related to the first research question (what are the consequences for female prisoners with trauma-related mental health issues?). Looking at the first theme, it can be understood that the re-occurrence of unrecognized trauma issues and misdiagnosis throughout the articles resulted in a variety of negative consequences, including ineffective screening, wrongly prescribed medication, maladaptive coping, psychological distress and other negative emotions. Thus, this means trauma-related mental health issues were not being treated. In regards to the second theme, the high prevalence of PTSD and comorbidity across the articles indicates a high level of unmet trauma needs that are worsened when left untreated. The third theme; substance misuse programs, was directly related to the second research question (how do prison mental health services address traumatic experience for women?). The articles highlight that female prisoners have no opportunity to explore their trauma issues in prison, and that prison mental health services fail to address trauma issues directly. Consequently, prison services rather focus on substance abuse instead. See figure 2 below (page 12) for step three of systematic text condensation; from code to meaning.

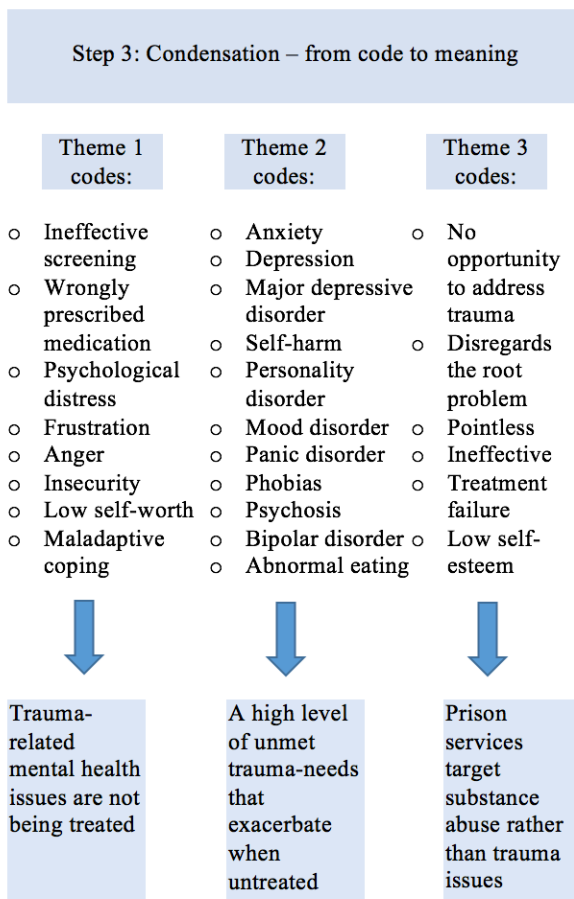


Figure 2. Codes and related meanings.

After having completed the first three steps of the analysis, we can now look into the final step of systematic text condensation which is synthesizing; from condensation to descriptions and concepts. Here we bring all the themes, codes and their related meanings together from the eight articles.

Findings for theme 1; Unrecognized trauma issues and misdiagnosis

Looking first to consider theme 1, a considerable number of participants among the eight articles had a trauma-related mental illness that was either unrecognized or misdiagnosed, and as a result was not being treated adequately. Matheson et al.’s (2015) study found that in prison participants wanted to talk about their trauma experiences more directly, but felt they didn’t have the opportunity to do so. From the view of the female prisoners, this led to a wide range of negative emotions, including extreme frustration and low self worth, which was a regular feeling across the articles. Consequently, some of the women in the study also felt they were prescribed unnecessary medication, which they described would only numb the pain and ignore the source of the problem. Matheson et al (2015) urge the need for better screening measures and treatment, both on entry to prison and prior to release.

When considering Pimlott Kubiak et al.’s (2010) study, the researchers argue that prisons often lack sufficient measures to detect the high rates of mental illness among this population, and that screening measures do not effectively identify trauma-related disorders in females. One common screening measure used is the

K6, and the results found this tool to miss a sizeable portion of female inmates with PTSD, major depressive disorder and other trauma-related issues. In response to this, the researchers suggest it is important to lower the cut score for what constitutes trauma because of the high rates of trauma exposure among female prisoners, and the subsequent consequences of their unmet mental health needs. By the same token, findings from Lynch et al. (2012) discovered the incarcerated women in the study to be highly distressed with multiple experiences of trauma, resulting in highly complex trauma needs that were unrecognized. Additionally, Rowan-Szal et al. (2012) discovered a high occurrence of unrecognized trauma issues among female prisoners with PTSD and other mental illness. They recommend brief assessments for identifying trauma-related mental health symptoms (TRMAForm and HLTHForm). The researchers argue these easy to administer and reliable assessments offer practical measures of PTSD, therefore, introducing these into screening procedures would allow prison services to manage services related to trauma more efficiently.

Furthermore, a traumatic history of self-harm or suicidal tendency was related to high mental health needs in prison (Völlm & Dolan, 2009; Ariga et al., 2008). Among these female prisoners, a large proportion had not been identified by the prison service assessment measures. Consequently, in the Völlm & Dolan (2009) study specifically, previous self-harming behaviour and suicidal tendencies that were unrecognized in prison led to a high prevalence of psychological distress among female prisoners. This in combination to the prison environment worsened self-harm behaviour for a high number of these female inmates whilst in prison. Thus, indicating the dangerous consequences for female prisoners with trauma-related mental health issues in relation to self-harm histories. Similarly, Ariga et al. (2008) discovered female offenders with unrecognized or misdiagnosed trauma-related mental health issues had a significantly higher risk of self-harm and suicidal tendency than those without histories of trauma.

Findings for theme 2; PTSD and comorbidity

Moving on to theme 2, PTSD was remarkably high among female prisoners in all the articles. At the same time, comorbidity was very common with participants often having two or more mental health disorders (Green et al., 2016; Rowan-Szal et al., 2012; Wolff et al., 2010; Pimlott Kubiak et al., 2010; Lynch et al., 2012; Ariga et al., 2008). Green et al. (2016) suggest that traumatic life events contribute massively to comorbidity, and discovered large numbers of multiple mental health disorders among the sample, in particular PTSD. Similarly, Rowan-Szal et al. (2012) discovered high rates of PTSD, and several other mental illnesses among the incarcerated women. In addition, Wolff et al. (2010) found that out of the female prisoners meeting criteria for PTSD, 90% also had substance abuse disorder and 60% had anxiety disorder. At the same time, the majority of women in the PTSD groups had major depression. A substantial number of the female prisoners in Pimlott Kubiak et al.'s (2010) study also met the criteria for both PTSD and major depression. Lynch et al. (2012) also found one in five female prisoners to have PTSD, as well as significant depressive symptoms and substance misuse disorders. This high prevalence of multiple disorders and trauma-related issues among these female prisoners, indicates the high level of unmet trauma-needs in women's prisons.

By the same token, the results from Ariga et al. (2008) found PTSD to be extremely high in juvenile female offenders, and those with PTSD also showed a

remarkably high level of psychiatric comorbidity. More specifically, with depression, panic disorder, agoraphobia, separation anxiety disorder, obsessive compulsive disorder, psychotic disorder, and as mentioned previously, suicidal tendency. Interestingly this study, produced an independent finding which was the relationship between PTSD symptoms and abnormal eating behavior. This is in comparison to all the other seven studies which focused on adult female offenders. This suggests trauma experience results in different consequences for female juvenile offenders in comparison to female adult offenders.

Findings for theme 3; Substance misuse programs

Turning now to theme 3, it can be widely understood from the articles that trauma-related mental illness, such as PTSD, and substance abuse issues came hand in hand. For example, Wolff et al. (2010), found 90% of women in the sample who met some form of PTSD criteria, also met the criteria for substance abuse disorder. Moreover, 83% of the female prisoners in Green et al.'s (2016) study had more than one type of substance use disorder, with trauma history contributing massively to this diagnosis, as well as 75% of the female prisoners in Rowan-Szal et al.'s (2012) study who were found to be drug dependent. Similarly, a substantial proportion of female prisoners in Lynch et al.'s (2012) study had trauma-related mental illness, with 72% also meeting criteria for drug dependency.

However, the results suggest that prison services tend to focus on addressing only substance abuse and not the related trauma issues. For example, in Lynch et al.'s (2012) study, female prisoners strongly felt that current prison services focused too much on substance abuse, rather than the traumatic experiences which led them to substance misuse in the first place. More specifically, the participants would often link histories of trauma with substance abuse and low self-esteem. Similarly, the women in Matheson et al. (2015) study also spoke about this connection between trauma history, substance misuse and low self-esteem. The women in the study suggested they had a lack of opportunity to address their trauma histories effectively, and argued that trauma experiences were the reasons why they began to misuse drugs or alcohol initially. As a result, they felt interventions in prison were pointless, because the root cause of their substance issues were not being addressed.

When considering Matheson et al. (2015) and Lynch et al.'s (2012) studies specifically, there was a strong sense of understanding among the female participants that their past trauma experiences were the direct cause of their substance abuse problems. This means the female prisoners had already taken the first steps themselves in understanding this relationship between trauma and substance abuse. Unfortunately, having no opportunity to explore this further is a serious problem, as the female prisoners were unable to confront their trauma histories. Therefore, substance misuse interventions that do not simultaneously consider trauma-specific elements are wasteful, as the underlying issues of trauma that led to substance abuse in the first place will still be there. Thus, it seems only focussing on the link between substance abuse and criminal behaviour is meaningless.

DISCUSSION

This review examined eight articles, and investigated into the negative outcomes associated with trauma-related mental health issues for female prisoners, as well as how the trauma-related mental health needs of female prisoners are addressed in prison. The review assessed the consequences for female prisoners with trauma-related mental health issues, and how prison mental health services address traumatic experience for women. The similar findings across the eight studies indicate that current prison screening measures do not adequately identify trauma-related mental health issues, and current prison interventions do not address issues directly relating to trauma. Consequently, prison services fail to meet the complex trauma needs of female prisoners.

Discussion in relation to theme 1; Unrecognized trauma issues and misdiagnosis

Arguably, we can understand from previous research that trauma has been largely associated with the development of complex mental illness among female prisoners. Despite this, a reoccurring topic throughout the review was unrecognized trauma, misdiagnosis and subsequent untreated trauma-related mental health issues. These results are similar to those reported by Martin and Hesselbrock (2001) who also state female prisoners have substantial mental health requirements that are often wrongly identified, and as a result, are inadequately treated, which is further supported by other research (Bloom & Covington, 2008; Bloom et al., 2003). In fact, Moloney and Moller (2009) suggest that the prison experience actually worsens psychological distress associated with trauma, by failing to meet the specific needs of female prisoners who have encountered traumatic experience. The researchers advocate for specialty programmes within prisons that focus purely on mental health issues related to complex histories of trauma.

Discussion in relation to theme 2; PTSD and comorbidity

Another major finding was the remarkably high prevalence of PTSD among all the articles, which was consistent with other research (Messina et al., 2014; Komarovskaya et al., 2011; Drapalski et al., 2009). Additional support on this is provided by Baranyi et al. (2018), who conducted a systematic review to estimate the prevalence rates of PTSD in prison populations. It was discovered that levels of PTSD were particularly high, especially among female prisoners. Furthermore, in the present paper the rates of comorbidity were particularly high amongst all the articles. This correlates well with the findings provided by Byrne and Howells (2002) and Messina et al. (2014) who also indicate major problems of psychiatric disorder (in particular PTSD), and comorbidity. Further, much research has discovered comorbidity to be highly related to traumatic experience (Tyler et al., 2019). In response to this, Baranyi et al. (2018) argue it is crucial for trauma-specific approaches and PTSD treatments to be well established into female prison services. It is also important to discuss the finding of higher risk for self-harm, in response to neglected trauma needs for females. Interestingly, one particular study investigated into self-harm and gender differences in prison populations. It was discovered that women were 14 times more likely to harm themselves in prison compared to men (Gatherer, Møller & Hayton, 2018). This further indicates the urgency for gender-specific treatment in prison for women to overcome their trauma experiences and the subsequent negative outcomes.

Discussion in relation to theme 3; Substance misuse programs

Moreover, the results discovered that the majority of female prisoners with trauma histories and subsequent trauma-related mental health issues, also had problems with substance abuse. This claim is supported by Cormier, Dell and Poole (2004) who suggest past trauma exposure is directly related to alcohol and drug addiction. Grella, Stein and Greenwell (2005) also found a direct link between traumatic event history, substance abuse, and crime in female offenders. Further, Messina, Calhoun and Braithwaite (2014) argue that traumatic experiences in women directly effects psychological well-being, substance misuse and criminal activity. Despite this, the current review found female prisoners were not able to address their trauma histories, and could only focus on substance abuse and crime. This falls in accordance to traditional prison interventions which focus purely on substance dependence, and allows women to explore their relationship between substance use and criminality. Therefore, traditional prison interventions fail to explore the crucial relationship between trauma and substance abuse (Matheson et al., 2015). Consequently, the pernicious effects of untreated trauma issues greatly exacerbate females' capabilities to cope on release from prison (Belknap, Lynch & DeHart, 2016; Scott Lurigio, Dennis & Funk, 2016). As a result, females are much more likely to re-offend and return to other negative behaviors, such as substance misuse or alcohol dependence (Richie, 2018). In fact, research indicates that offenders with untreated mental health issues are much more likely to violate parole or probation (Skeem et al., 2009), and return to substance misuse as a way of coping (Brooker et al., 2011).

On this note, one particular study compared re-offending in female offenders who had substance misuse treatment in prison compared to offenders who didn't have treatment in prison. It was discovered that there were no differences between the treatment and no treatment groups in terms of returning to custody (Messina, Burdon & Prendergast, 2006). This further indicates the need for interventions to focus on aspects other than substance misuse, and instead target the underlying issues. This being said, trauma-specific interventions would focus on the root cause of the problem, and allow female prisoners to understand that substance abuse may be used as a coping mechanism to block out the pain, fear, or anger associated with past trauma histories. Thus, it seems exploring past trauma is the crucial element in stopping substance misuse among female prisoners, which in turn is highly likely to prevent re-offending.

Growing support for addressing trauma-issues in female prisons

Notwithstanding such criticism in regards to the lack of trauma-specific interventions, there are some trials in process specifically for female prisoners with histories of trauma, in an attempt to support this population group more effectively (Lewis, 2006). Firstly, Wolff, Frueh, Shi and Schumann (2012) investigated the implementation and effectiveness of a cognitive-behavioral intervention (Seeking Safety) for PTSD and substance use disorder in incarcerated women who experienced trauma in childhood. Support for Seeking Safety was provided by the changes pre and post treatment on the PTSD checklist and the Global Severity Index. Further, three-quarters or higher of the participants reported the intervention to be helpful for traumatic stress symptoms, coping skills, substance use, and feelings of safety. Thus, Seeking Safety could be a worthy intervention to introduce into female prisons, as it considers both the substance abuse and the previous trauma associated with it.

Additionally, Sacks et al. (2008) researched into the relationship between multiple Axis I mental health diagnoses and trauma exposure, and treatment outcomes for female prisoners who are in prison substance misuse interventions. The researchers investigated the success of therapeutic community (TC) treatment, which was specially adapted for female prisoners who have experienced trauma, and compared to a cognitive behavioral treatment group. It was discovered that the TC group was far more effective compared to the control group, among all Axis I mental health disorders. Therefore, showing how TC could also be an effective intervention introduced in prisons for female inmates with complex mental health diagnoses and a history of trauma. Furthermore, Ball et al. (2013) investigated a new psycho-educational intervention for female offenders with behavioral problems, mental health issues, and past traumatic experience. Statistically significant differences were discovered before and after the intervention, indicating this type of intervention could be useful in addressing the psychological distress among female prisoners' caused by a history of complex trauma.

Although prison will never be the optimum environment for female offenders to address their trauma-related mental health needs (Bebbington et al., 2017), evidence on how people handle traumatic experiences show there are resources that allow for better adaption (Sygit-Kowalkowska et al., 2017). One way to reflect upon positive adaption is through psychological resilience. Sygit-Kowalkowska et al. (2017) looked into this, and investigated how psychological resilience can effect the mental health of imprisoned women for better psychological well-being. The researchers found that psychological resilience is key in creating conditions that allow for better adaption in prison, and helps reduce the negative aspects associated with incarceration.

Thus far, this paper has focused specifically on the trauma-related mental health issues of female prisoners. Conversely, it is also important to briefly mention the impact of trauma exposure on physical health issues as well as mental health issues among female prisoners. One study discovered that traumatic-event exposure in childhood was strongly correlated to both physical and mental health issues in adulthood among female prisoners (Messina & Grella, 2006). Consequently, Harner and Burgess (2011) suggest that if social and health services in female prisons do not address the interrelation between trauma, gender, and mental illness, already existing physical health issues of female inmates will worsen. The researchers suggest a trauma-based framework should be used to aid clinical interventions with female prisoners, which will also help female offenders better deal with both physical and mental health issues once they re-enter the community on release from prison.

Limitations

Turning now to consider limitations of the systematic literature review. One limitation could be that the articles in review only considered four industrialized countries (UK, US, Canada and Japan). Therefore, it could be seen as having low external validity and the results may not reflect a global perspective. It would be interesting to explore other countries to see whether they produce similar findings. Nonetheless, the four countries produced remarkably similar issues and recommendations, which suggests the current review can be generalized to these countries. Further, these four countries are part of the Group of Twenty (G20) which makes them rich and powerful countries. Despite this, the results still found

prison services to be severely lacking in effective treatment for trauma. This raises cause for concern, as it could potentially imply the existence of an even higher number of trauma-related mental health issues and unmet needs in poorer and lesser powerful countries. Another limitation could be the number of studies used in the review. As previously mentioned, eight studies ended up meeting the specific inclusion criteria, however, this is still a relatively small number of studies to provide results that can impact change. Notwithstanding such limitation, the articles in review still provided rich and meaningful data that has the potential to influence positive change in female prisons.

Considerations

When reflecting over the chosen articles, it is important to note that investigating purely into female prisoners gave a specific focus to the review that might not have generated the same quality had male prisoners also been considered. For instance, one particular article which investigated into the mental health needs of both female and male offenders overlapped in terms of feelings and experiences, which made it difficult to distinguish the gender-specific needs of male and female prisoners (Bebbington et al., 2017). To avoid these same issues, it felt appropriate to only consider female experiences in prison. Of course, it would be interesting to compare the negative consequences of trauma experiences between male and female prisoners, yet a substantial body of research had already discovered females to have much higher levels of trauma experiences and far greater mental health needs (Komarovskaya et al., 2011; Drapalski et al., 2009). Thus, providing further support to having only researched into articles focussing specifically on the gender-specific issues surrounding women prisoners.

Importance of findings and future research

The findings from this systematic literature review have identified a serious problem that currently exists within female prisons. A remarkably high number of female inmates have experienced some kind of traumatic experience in their lives, which has led to substance abuse, criminal activity and subsequent trauma-related mental illness. Yet, there is a serious lack of efficient screening measures and interventions within prison services specifically designed to identify and address these trauma issues. This means, current prison services are wasting valuable time on substance misuse, rather than focusing on the significant aspect of trauma. Of course, trauma-specific treatment is in its infancy and much further research is needed in this area. However, the results from this particular review could be used as a starting point for future studies, in which researchers divulge into what needs to be done in female prison services to execute this highly needed trauma-specific treatment effectively. Additionally, the results could be used to promote further studies in accumulating similar findings, as a greater number of studies could mean there is a greater chance for impactful change. Finally, as previously mentioned it would be worth future studies exploring other countries, ideally ones that are less rich and powerful, in order to investigate whether the existence of unmet trauma-related mental health needs are as prevalent or potentially even higher than the four countries investigated in this review. This could be very important, as the findings from this review could indicate a serious flaw in current prison systems all over the world.

Conclusion

Overall, trauma-related mental health is an extremely prevalent issue for female prisoners, and treatment must be tailored to individual needs, past experiences and

in relation to their mental health problem. The current paper aimed to raise greater awareness for the importance of addressing trauma issues in female prisoners, in a hope for effective change to be made in prison mental health services. Certainly, if mental health services in female prisons could introduce a trauma-specific element into current frameworks, where past traumatic experiences are addressed, a sufficiently higher number of inmates with trauma-based mental illness could be much better supported. This would not only allow for better rehabilitation in the prison environment, but it would benefit the whole of society once female inmates re-enter the community. Undoubtedly, female prisons are in desperate need of trauma-specific treatment to manage the increasingly high numbers of female prisoners with complex trauma-based mental health disorders. Henceforth, prisons need to implement trauma-specific screening measures and treatments into their mental health services as soon as possible.

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APPENDIX

Appendix 1. Participant information and assessment measures for all articles.

Appendix 1

Articles	Participants	Status	Location	Assessment Measure
Matheson et al. (2015)	31 females	Released from prison within the last 18-months before conducting the interview.	Canada	Drug Abuse Screening test; Alcohol Dependence Scale; Problems Related to Drinking Scale.
Pimlott Kubiak et al. (2010)	515 females	Imprisoned	US	Patient Health Questionnaire; Short Screening Scale for <i>DSM-IV</i> PTSD; K6
Wolff et al. (2010)	97 females	Imprisoned	US	Clinician-Administered PTSD Scale; Structured Clinical Interview <i>DSM-IV</i> -Non-Patient Version; Trauma History Questionnaire; Life Stressor Checklist-Revised.
Ariga et al. (2008)	64 juvenile females	Imprisoned	Japan	Traumatic event checklist of the Clinician-Administered PTSD Scale for <i>DSM-IV</i> ; Mini-International Neuropsychiatric Interview for children and adolescents; CAPS structured clinical interview; DSM Scale for Depression; Barratt Impulsiveness Scale; Eating Attitudes Test-26; Parental Bonding

				Instrument; Impact of Event Scale-Revised.
Lynch et al. (2012)	102 females	Imprisoned	US	Demographics Questionnaire; Trauma History Questionnaire; Severity of Violence Against Women Scales; Brief Symptom Inventory; PTSD checklist – Civilian Version; Center for Epidemiological Studies – Depression Scale; Alcohol and Drug Use History Questionnaire; Open-ended interview about treatment needs.
Green et al. (2016)	464 females	Imprisoned	US	Composite International Diagnostic Interview; Life Stressor Checklist-Revised; Turner and Associates' Adversity Scale.
Rowan-Szal et al. (2012)	1397 females	Imprisoned	US	TRMAForm; PTSD Checklist; HLTHForm; Kessler Psychological Distress Scale (K10); PSYForm; SOCFForm; TCUDS II screening instrument.
Völlm & Dolan (2009)	638 females	Imprisoned	UK	The Prison Screening Questionnaire; The Questionnaire on Suicidal Intent and Self-harm; The Camberwell Assessment of Need-Forensic Version.