



VITAMIN D DEFICIENCY AMONG SOMALI WOMEN IN SWEDEN: AN INTERVIEW STUDY ON SELF-CARE ADVICE IN PHARMACY PRACTICE

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VITAMIN D DEFICIENCY AMONG SOMALI WOMEN IN SWEDEN: AN INTERVIEW STUDY FOCUSING ON SELF- CARE ADVICE

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Somali women living in Sweden are at increased risk of vitamin D deficiency, yet their perspectives on this condition and on pharmacy-supported self-care remain underexplored, partly due to linguistic and cultural barriers. Vitamin D deficiency is well documented in Nordic countries, particularly among individuals with darker skin pigmentation and limited ultraviolet B exposure.

This study aims to explore how Somali women in Sweden understand health, perceive vitamin D, and seek self-care advice, particularly in relation to pharmacy counselling.

A qualitative design was used, based on semi-structured interviews with six Somali women residing in southern Sweden. Participants were purposively selected to capture variation in familiarity with vitamins and self-care practices. Interviews were conducted in Somali and analyzed using reflexive thematic analysis.

The findings show how health is often understood in terms of everyday functioning and ability to manage daily responsibilities. Knowledge about vitamin D varies between participants: some had a partial understanding and used supplements inconsistently, while others considered vitamin D less legitimate than doctor-prescribed medicines. Sources of health information are family members, friends, and social media, while pharmacies are less perceived as places for self-care advice. Language barriers and uncertainty about the role of pharmacists sometimes limits interaction.

The results suggest that pharmacies may represent an underused resource for self-care advice among Somali women. These findings highlight the potential importance of accessible and culturally sensitive communication from pharmacists when providing guidance on vitamin D supplementation and other self-care products.

Keywords: vitamin D deficiency, pharmacy counselling, Somali women, Sweden, health literacy

PREFACE

I would like to thank my supervisors, Jonas Olofsson and Carl Ursing, for their support and guidance throughout this work. I would also like to thank Nur Ali Nur (Somali mother-tongue teacher for upper secondary and lower secondary school) for his support with the translation and for carefully reviewing the material to ensure that nuances and meanings were preserved. Finally, I would like to thank all the participants for taking part in this study.

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BACKGROUND

Vitamin D is essential for bone health, immune function, and muscle strength. The body produces it when skin is exposed to UVB sunlight, but in Sweden, UVB radiation is too weak for synthesis during the autumn and winter months (Holick, 2007). This places the entire population at risk of low vitamin D levels if dietary intake and supplementation are insufficient (Livsmedelsverket, 2025). However, some groups face a significantly higher risk. Skin pigmentation reduces vitamin D production from sunlight, and individuals with darker skin require longer sun exposure to produce the same amount as those with lighter skin (Holick, 2007). Clothing habits that cover most of the body further limit sun exposure, and dietary sources of vitamin D are limited (Osmancevic et al., 2016).

For these reasons, Somali women living in Sweden have been identified as a particularly vulnerable group. Osmancevic et al. (2016) confirmed that vitamin D deficiency is common among Somali women in Sweden and showed that supplementation effectively raises vitamin D levels. The researchers attributed this vulnerability to a combination of factors: *"Lack of ultraviolet B (UVB) at higher latitudes, clothing habits where most of the body surface is covered, dark skin pigmentation and low vitamin D intake, both in terms of food and dietary supplements"* (Osmancevic et al., 2016, p. 535).

But risk factors alone do not explain why some women take vitamin D consistently while others do not. Understanding how Somali women themselves think about vitamin D, health, and self-care is equally important. A community-based study by Lee et al. (2019) in London explored Somali women's knowledge about vitamin D and found that language barriers significantly impacted healthcare access. Importantly, attendees *"felt the mother figure was 'the most important' influencer of both child and wider community health"* (Lee et al., 2019, p. 1322), highlighting the central role Somali women play in shaping health behaviors within their families and communities.

In a Swedish context, Kalliokoski et al. (2021) conducted focus group interviews with Somali-born pregnant women and new mothers to explore how their views on vitamin D changed after receiving information. The study found *"improved understanding of vitamin D deficiency, symptoms and attitudes, but varying applied*

behaviors related to sun exposure" (Kalliokoski et al., 2021, p. 2). This suggests that while information can improve knowledge, changing long-standing habits requires a deeper understanding of women's everyday lives and cultural contexts.

Despite this growing recognition, a gap remains. Existing studies have explored knowledge and attitudes, often in the context of interventions or community events. Less is known about the everyday understandings that Somali women in Sweden hold about vitamin D outside such structured settings. Pharmacies are the primary access point for vitamin D and other over-the-counter supplements, and pharmacists play a crucial role in guiding safe self-care. However, pharmacists face a professional dilemma: symptoms like fatigue and muscle pain could indicate vitamin D deficiency, but they may also signal underlying conditions requiring medical attention. Balancing self-care advice with appropriate referral requires not only medical knowledge but also an understanding of how patients interpret their own symptoms and the advice they receive.

For pharmacy counseling to reach Somali women effectively, it must connect with what they already know, what they believe, and how they prefer to learn. Without understanding their perspective, the insider's point of view, the information pharmacists provide may never truly reach them or make sense in their daily lives. This study therefore aims to explore how Somali women in Sweden experience, understand, and perceive vitamin D and the self-care advice provided through pharmacies. By doing so, it seeks to inform more effective, patient-centered counseling that bridges the gap between biomedical knowledge and lived experience, while also supporting pharmacists in navigating the boundary between self-care advice and medical referral.

A total of six Somali women participated in this study and having lived in Sweden between 6 and 14 years. Participants were grouped into two broad categories based on their familiarity with vitamin D and self-care: three participants (X1, X2, X3) reported greater familiarity, while three (Z1, Z2, Z3) described more limited knowledge. The analysis resulted in five main themes, each addressing different aspects of the research aim: how health and tiredness are understood, how knowledge and perceptions of vitamin D vary between groups, how pharmacies

are experienced as a source of self-care advice, and how health information is sought through social networks and digital platforms.

AIM

The aim of this study was to explore how Somali women in Sweden understand the impact of Vitamin D on the health and seek self-care advice, particularly in the context of pharmacy counseling.

MATERIAL AND METHOD

Study design

This study used a qualitative research design to understand the emic perspective, the insider's point of view, of Somali women. Capturing this perspective requires flexibility, interpretation, and close attention to meaning, which a qualitative approach allows (Braun & Clarke, 2006). A quantitative design, such as a survey, could have measured how many women use vitamin D supplements or identified statistical correlations, but it would not have captured how women understand health, why they make certain self-care choices, or how they experience pharmacy interactions. Mixed methods were considered, but since this study is exploratory and little research has been done on this group before, a purely qualitative design was a better fit. The goal was to gain a deep, context-based understanding of how Somali women in Sweden experienced, understood, and perceived vitamin D and the self-care advice they received through pharmacies.

Throughout the study, I kept a sex and gender perspective in mind. Because the research focuses on Somali women's experiences, I intentionally chose to include only female participants. This helped me capture perspectives shaped by gendered roles in health, caregiving, and family responsibilities. And as a Somali woman myself, I had a deeper understanding of these matters.

Participants and recruitment

For this study, six adult Somali women were recruited through the Somaliska kvinnoföreningen i Lund (Somali Women's Association in Lund). This recruitment method was chosen because the association serves as a trusted community hub, making it easier to reach women who might otherwise be

difficult to contact. The association has approximately 80 members in total, of whom about 42 are women and around 20 are regularly active (personal communication, chairperson of Somaliska kvinnoföreningen i Lund, March 2026).

A purposive sampling strategy was used, meaning participants were selected deliberately because they had the specific background and experiences the study aimed to explore (Guest, Bunce, & Johnson, 2006). Information about the study was shared orally in Somali with members of the association, and information letters in Swedish and English were also made available.

From the pool of interested women, participants were strategically selected to ensure a diverse range of experiences. This was important because the study aimed to capture different perspectives on vitamin D and self-care: three participants with limited knowledge about vitamins and self-care, and three participants with some prior exposure to or understanding of these topics, perhaps through personal use, family, or previous encounters with healthcare.

Inclusion criteria were: Somali woman, 18 years or older, living in southern Sweden in the Lund or Malmö area.

Data collection

To explore how Somali women understand vitamin D and self-care, one-on-one semi-structured interviews were chosen. This method allowed me to stay focused on the topics I needed to cover while still giving participants the freedom to talk about what mattered to them. I could follow up on unexpected answers, explore topics in more depth, and adjust my language to match each woman's level of understanding (Kvale & Brinkmann, 2014). This flexibility was essential for capturing not only what participants said, but also the meanings behind their words.

The interviews were conducted in Somali to ensure participants could speak comfortably and naturally. Each interview lasted between 30 and 45 minutes and took place at the associations venue, which was available to all members. The interviews were conducted between the 9th and the 11th of march, with sessions starting in the afternoon. Participants were contacted initially through the

association, followed by individual phone calls to confirm time and location. As a member, I had access to contact details through my personal network. This were used only to arrange interview times and were not stored as part of the research data. The interviews were audio-recorded to ensure accurate transcription.

To guide the interviews, an interview guide was used, organized around the themes I wanted to explore: everyday understandings of health, experiences of tiredness and self-care, knowledge and perceptions of vitamin D, sources of health advice, and interactions with pharmacies. The questions were framed in an open-ended way, drawing on principles of cultural humility (Stubbe, 2020). This approach helped ensure the interviews were conducted in a respectful and participant-centered manner.

Each interview began with broad questions about health and daily life. This was a conscious choice: jumping straight into questions about vitamin D or pharmacies might have felt abrupt. Starting broadly gave participants time to feel comfortable before moving into more specific topics. Once the conversation was flowing, participants were encouraged to guide the way, while I ensured that all themes in the interview guide were covered. Example opening questions included: "When you think about your health and feeling good in your body, what things come to mind?" and "What does tiredness mean to you?"

The full interview guide is provided in Appendix [Interview Guide].

Data processing and analysis

Transcription and translation

Once the interviews were completed, the audio recordings were transcribed verbatim, meaning word-for-word, in Somali then translated into English for analysis. Translation is not merely a technical task but also an interpretive one, as meanings can be shaped by linguistic and cultural context (Temple & Young, 2004). To preserve meaning, the translations were carefully re-read. And to further strengthen accuracy and cultural sensitivity, a native Somali-speaking upper secondary school teacher assisted in clarifying culturally specific expressions. This helped ensure that the translations captured participants'

intended meanings. The teacher reviewed only anonymized written transcripts and had no access to audio recordings or direct contact with participants.

Thematic analysis

For the analysis, I used reflexive thematic analysis, a method designed to identify, analyze, and report patterns of meaning within qualitative data (Braun & Clarke, 2019). I chose this approach because it is particularly useful for exploring participants' experiences, understandings, and perceptions.

A key feature of reflexive thematic analysis is that the researcher's subjectivity is viewed as a resource that can deepen the interpretative process rather than as a source of bias to be eliminated (Braun & Clarke, 2019). This aligned with my position as a Somali-speaking researcher with insider knowledge of the community, as it allowed me to draw on this understanding when interpreting the data.

The analysis followed the six phases outlined by Braun and Clarke (2006), but not in a fixed order. Instead, the process involved moving back and forth between the data and interpretations, revisiting earlier phases as new insights emerged. The phases are summarized in Table 1.

Phase	Description
Familiarization	This phase involves repeatedly reading the translated transcripts to build a deep understanding, while recording initial observations and noteworthy points in a reflexive journal.
Generating initial codes	The dataset is systematically coded for both explicit (semantic) and underlying (latent) meanings.
Searching for themes	Codes are grouped into potential themes by identifying broader patterns.
Reviewing themes	Themes are reviewed against the data and refined, merged, or discarded as needed.
Defining and naming themes	Each theme is clearly defined and linked to the research question.
Producing the report.	Findings are written up using interview extracts to present a coherent analysis.

Throughout the process, the analysis remained guided by the three thematic areas that the interview guide was designed to explore: health awareness, knowledge

about vitamin D, and experiences with pharmacy advice. At the same time, I stayed open to new and unexpected themes that emerged from the data

Trustworthiness

To ensure the quality and trustworthiness of this study, I used the framework developed by Nowell et al. (2017), which builds on Lincoln and Guba's (1985) criteria for evaluating thematic analysis. The four criteria and how they were addressed are summarized in Table 2.

Criterion	Definition	How it was addressed
Credibility	Referring to how confident we can be that the findings are true.	Strengthened through prolonged data engagement and supervisor discussions.
Transferability	Can the findings be generalized to other contexts.	Detailed descriptions of participants, context, and methods were provided to support transferability of the findings
Dependability	How consistent has the research process been, in terms of systematic usage of methods and analysis.	Systematic use enabled through a reflexive journal documenting decisions and processes.
Confirmability	Findings come from the data itself rather than from the researcher's own biases.	Achieved by maintaining an audit trail linking findings to the data.

ETHICAL CONSIDERATION

This study followed the ethical principles outlined in the Swedish Ethical Review Act (SFS 2003:460), which provides the legal framework for research involving human participants in Sweden.

Informed consent

Before participation, all women received oral information about the study in Somali, as well as information letters in Swedish and English for those who might want their children to read it to them. This approach ensured that the information was fully understood, in line with the principle of respect for persons, which requires treating participants as autonomous individuals capable of making informed decisions (SFS 2003:460). Written informed consent was obtained from all participants before the interviews began. The information letter clearly stated

that participation was voluntary, that participants could withdraw at any time without giving a reason, and that withdrawal would have no negative consequences (SFS 2003:460). The letter also explained that all collected material would be destroyed once the thesis project had been completed.

Data handling and confidentiality

The interviews were audio-recorded using a private mobile phone. To protect participant confidentiality, no names, age, or other identifying information were recorded; participants were instead referred to by codes (X1, X2, Z1, Z2, etc.) throughout the recordings. All recorded data were stored locally on the password-protected mobile phone and accessed only by me during transcription. In accordance with the General Data Protection Regulation (European Union, 2016) and the European Code of Conduct for Research Integrity (ALLEA, 2023), no external cloud services were used for storage.

Minimizing harm

The study did not involve physical interventions and was considered low risk. Participants could decline to answer any question they found uncomfortable. If a participant showed signs of distress, the interview would be paused and offer support or the option to stop. This approach helped minimize potential harm in line with the principle of beneficence, meaning that participants' welfare was always prioritized over the needs of society and science (SFS 2003:460, 8 §).

Ethical review

The study was reviewed by the ethics committee at Malmö University, ensuring accountability and oversight in accordance with established research ethics procedures (SFS 2003:460).

RESULTS

Theme 1: Health as Function, Not Prevention

A central finding was that participants understood health primarily in practical terms, as the ability to carry out daily responsibilities rather than as a state of well-being to be actively maintained. Across both groups, health was described in

relation to work, childcare, and household duties. This pattern suggests that health becomes noticeable mainly when illness disrupts these functions.

Table 1. Participants' understandings of health as functional capacity and daily responsibility (X = greater familiarity with vitamins; Z = more limited familiarity)

Code	Example Quote	Description
Health as absence of illness	"Health means not being sick, you know? Being able to work, to cook, to take care of the house. If nothing hurts, then I'm healthy." (Z2)	Health was described as simply not being sick. When nothing hurt and daily tasks could be done, participants considered themselves healthy.
Health as capacity to care for others	"For me, health is about having energy to take care of my family. If I'm healthy, my children are healthy." (X1)	Being healthy meant having enough energy to care for children and family. This view tied personal health directly to family responsibilities.
Self-care as secondary to responsibilities	"I don't have time to think about my health. The kids, the house, everything. If I'm not sick in bed, I'm fine." (X3)	Thinking about self-care was described as difficult because daily demands left little time or energy.

While most participants described health in functional terms, one participant offered a broader view that included mental well-being and lifestyle habits, showing that not everyone shared the same understanding.

Theme 2: Tiredness as a Normalized Experience

Tiredness emerged as a common and expected part of everyday life, closely linked to caregiving, work, and family concerns. Rather than being interpreted as a potential symptom of vitamin D deficiency, tiredness was described as a natural consequence of daily burdens. This normalization of tiredness may help explain why fatigue, a potential symptom of vitamin D deficiency, was rarely interpreted as a health concern requiring professional advice.

Table 2. Participants' experiences of tiredness and their self-care responses (X = greater familiarity with vitamins; Z = more limited familiarity)

Code	Example Quote	Description
Tiredness as normal	"Tiredness is very common, especially among Somali women I know. We carry so much, work, children, worry about family back home." (X1)	Tiredness was described as something almost all women in their social circles experienced. It was seen as an unavoidable part of juggling work, children, and family worries.
Self-care responses to tiredness	"When I feel very tired, I rest, I drink tea with lots of sugar, honestly." (Z1)	When tired, participants described resting, drinking tea, or using traditional remedies. These were practical, low-effort responses rather than attempts to address an underlying cause.
Experimentation with supplements	"I bought something once. I saw it on TikTok... I took it for maybe three weeks? I didn't notice anything different. So I stopped." (Z3)	Some participants had tried vitamins or supplements recommended by friends or on social media. The motivation was often to gain energy, but when no effect was noticed, they stopped.
Social media as source of remedies	"I saw it on TikTok, a Somali woman, she was saying it's good for energy and hair and everything." (X3)	TikTok was described as a platform where health products and remedies were encountered. Participants saw videos promoting supplements for energy, hair, and overall health.

Participants described various responses to tiredness, ranging from rest and traditional remedies to experimenting with supplements recommended by friends or on social media. However, the underlying pattern was that tiredness was rarely seen as a medical issue requiring professional advice.

Theme 3: Knowledge and Perceptions of Vitamin D

Clear differences emerged between the X and Z groups in how vitamin D was understood and valued.

Subtheme 3a: Partial Awareness, Inconsistent Use (X Group)

Participants in the X group had heard about vitamin D and associated it with bones, sunlight, or general health benefits. However, their understanding remained incomplete, and supplement use was described as irregular.

Table 3a. Knowledge and perceptions of vitamin D among participants with greater familiarity (X group)

Code	Description	Example Quote
Awareness without understanding	Participants knew the name and that it was “good,” but could not explain what vitamin D actually did in the body.	"I've heard the name. My friend takes it, she says it's good. But honestly? I don't really know what it does exactly" (X1)
Irregular use	Supplement use was described as inconsistent. Some bought it occasionally but did not see it as essential. Others took it only when reminded.	"I buy it sometimes. But if it runs out, I don't rush to buy more immediately... I take it when I feel like it." (X2)
Forgetting as reason for non-use	Even among those who intended to take it, remembering daily was difficult. Family members sometimes had to remind them.	"I take it sometimes, but not every day. I forget. My daughter reminds me." (X3)

Subtheme 3b: Vitamin D as "Not Real Medicine" (Z Group)

Participants in the Z group had more limited understanding of vitamin D. A recurring pattern was the distinction between "real medicine" prescribed by doctors and over-the-counter products, which were viewed as less legitimate.

Table 3b. Knowledge and perceptions of vitamin D among participants with more limited familiarity (Z group)

Code	Description	Example Quote
Legitimacy tied to prescription	For some participants, "real medicine" was what doctors prescribed. Vitamins bought freely were seen as less serious or even unnecessary.	"Real medicine is what the doctor gives you. This vitamin, you just buy it yourself. Anyone can buy it. So how can it be real medicine?" (Z3)
Skepticism toward supplements	If vitamin D were truly important, participants reasoned, doctors would mention it or prescribe it. The fact that it was sold over the counter made it seem optional.	<i>"If it was medicine that was needed, the doctor would prescribe it. When I go to the doctor, they check my blood, they never mention it. So maybe it's not that serious."</i> (Participant Z2)
Discontinuation due to lack of effect	When no immediate improvement was felt, participants stopped taking vitamin D. This was especially common when symptoms like joint pain did not change.	"I took it before. My daughter bought it for me. But I stopped because it didn't help." (Z1)
Preference for home remedies	Traditional remedies such as ginger, honey, and lime were preferred for minor health issues because they felt natural and familiar. And little faith was had for vitamin D.	"If I have something small, like a cold or feeling tired, I use home remedies. Ginger, lime, honey, things from nature. I don't need some vitamin pills " (Z2)

One participant replaced vitamin D with a product she found on TikTok because she felt it actually worked. Her experience shows that perceived effectiveness can outweigh concerns about where a product comes from, and that tangible results often guide health decisions more than expert advice.

Theme 4: Experiences with Pharmacy and Self-Care

Participants' experiences with pharmacies varied, largely shaped by language ability and perceptions of the pharmacy's role. This theme directly addresses the study's aim regarding self-care advice in pharmacy contexts.

Table 4. Perceptions of vitamin D as less legitimate than prescribed medicines (Z group: more limited familiarity with vitamins)

Code	Description	Example Quote
Comfortable interaction (Swedish speakers)	Participants with stronger Swedish skills described feeling confident asking questions and receiving advice. They saw pharmacies as accessible.	"I feel comfortable. I speak Swedish pretty well now, so I can explain what I need." (X2)
Language barriers	For others, pharmacy staff spoke too fast or used unfamiliar words, making them hesitant to ask questions. Some worried about buying the wrong product.	"The staff speak very fast, use hard words. I feel a little shy to ask too many questions. But I do go there myself." (X1)
Reliance on family	Participants with limited Swedish often brought children or relatives to communicate with staff. Going alone was seen as difficult or impossible.	"I go to the pharmacy with my daughter or my son. They talk to the staff. I wait." (Z3)
Pharmacy as prescription-only place	Some participants viewed pharmacies mainly as places to collect prescribed medicines, not as places to seek self-care advice. Vitamin D, being over the counter, did not feel like it belonged there.	"The pharmacy is for real medicine... Why bother go all the way to a pharmacy for vitamin D..?" (Z1)

This pattern suggests that pharmacies, despite being the primary access point for vitamin D supplements, were not consistently perceived as accessible spaces for self-care advice, particularly among women with limited Swedish capacity or those who viewed pharmacies mainly as prescription services.

Theme 5: Sources of Health Information

Across both groups, family and social networks were the primary sources of health advice. Daughters played a particularly important role as intermediaries, both interpreting information and sharing content from social media.

Table 5. Participants' experiences with pharmacy interactions and perceived accessibility of self-care advice (X = greater familiarity with vitamins; Z = more limited familiarity)

Code	Description	Example Quote
Family as first source	When health questions arose, participants first turned to sisters, friends, or other women they trusted. Familiarity and shared background made this advice feel reliable.	"First, I would ask my sisters or my friends. If they recommend something, I trust them because they are like me." (X1)
Daughters as intermediaries	Daughters often acted as bridges to health information. They translated, recommended products, and shared what they saw online.	"My daughter, she's always sending me things to try. Vitamins, powders, creams. She means well." (Z1)
Social media as information source	TikTok and other platforms were commonly used to find health information. Videos about vitamins, remedies, and products were shared within social networks.	"I ask my friends. We have a group, we share videos from TikTok." (Z1)
Caution toward social media	Some participants approached social media content with skepticism, recognizing that not everything was trustworthy.	"There's a lot of talk on TikTok... I try to be careful. You must check." (X2)
Uncertainty about credibility	Participants sometimes struggled to distinguish between genuine advice, advertising, and AI-generated content. Despite this, they still tried products recommended online.	"On TikTok they show many things... I don't always know what is real and what is AI." (Z)

The findings suggest that health information circulates through trusted social ties, but also through digital platforms where credibility is not always clear.

Participants were not passive recipients; they described evaluating products based on personal experience, though professional advice was not always sought in this process. This active evaluation, combined with the normalization of tiredness and the distinction between "real medicine" and supplements, shapes how health information is received, interpreted, and acted upon.

DISCUSSION

Results discussion

The aim of this study was to explore how Somali women in Sweden understand health, perceive vitamin D, and seek self-care advice, particularly in relation to pharmacy counselling. The findings suggest that these understandings and perceptions are shaped not only by knowledge about vitamin D itself but also by broader factors such as everyday responsibilities, social relationships, language barriers, and access to digital health information.

Knowledge and perceptions of vitamin D

The findings regarding knowledge of vitamin D partly aligned with earlier Swedish research while adding nuance. Kalliokoski et al. (2021) showed that Somali-born women's understanding of vitamin D improved when information was provided through targeted interventions. Similarly, this study found that participants had some awareness of vitamin D, particularly among those with prior exposure to health information. However, consistent with Kalliokoski et al., this study also found that increased awareness did not always translate into consistent use. Even participants who had heard of vitamin D and knew it was considered beneficial often described irregular supplement use or uncertainty about its purpose. This suggests that knowledge alone is not enough to change behavior; other factors such as trust, perceived legitimacy, and everyday responsibilities also play a role.

Lee et al. (2019) found that Somali women showed interest in vitamin D information when it was communicated through community-based engagement, highlighting the importance of social networks in health behavior. This aligns

with the findings of this study, where family and community ties emerged as central to how participants sought and trusted health advice.

A more fundamental barrier emerged in how some participants distinguished between “real medicine” and over-the-counter products. For women with limited prior knowledge, “real medicine” was associated with prescriptions from doctors, while vitamin D, which could be bought freely, was sometimes viewed as optional or less trustworthy. This distinction is not entirely about knowledge but about trust, trust in the healthcare system, trust in the authority of prescriptions, and trust in the legitimacy of products sold without a prescription.

This finding has implications beyond the six women in this study. It suggests that for some groups, the perceived legitimacy of a health product is tied to institutional authority. When vitamins and supplements are sold in the same setting as prescription medicines, customers may not automatically grant them equal value. For pharmacy counselling to be effective, it may need to address this symbolic gap by explaining not only what vitamin D does, but also why it matters even though it is not prescribed.

Social networks, trust, and pharmacy access

Social networks played a central role in how participants made health decisions. Many women described turning first to sisters, daughters, friends, or community members. These findings are consistent with Lee et al. (2019), who highlighted the importance of family and community influence in health behaviour. In this study, trust was often based on familiarity and shared background rather than formal expertise. This has implications for pharmacy counselling. Professional advice may be medically accurate, but it does not automatically carry social trust. If women do not already feel a connection to the pharmacy setting, they may not seek advice there. Language barriers compounded this issue. Some women described feeling hesitant, relying on children to communicate, or viewing pharmacies mainly as places to collect prescribed medicines. These experiences support earlier findings that language barriers affect healthcare access (Lee et al., 2019), but they also show that the issue is not only linguistic, it is also relational. Even when pharmacists are available to counsel, that role may remain underused if women do not feel the pharmacy is a place where their questions belong.

Digital health information and active decision-making

Social media, particularly TikTok, emerged as an influential source of health information. Participants described encountering videos about vitamins, remedies, and health products, often shared through friends or family members. Several participants expressed uncertainty about the credibility of this information, describing difficulties distinguishing between genuine advice, advertising, and AI-generated content.

Yet participants were not simply passive recipients of social media influence. Many described evaluating products based on their own experiences, deciding whether to continue using them depending on whether they felt an effect. In situations where professional advice felt less accessible, social media appeared to fill an important role in shaping self-care decisions.

This reflects a shift in how health information is accessed and evaluated. For some women, digital platforms have become a primary source of health knowledge, sometimes replacing or bypassing traditional healthcare settings. This trend is not limited to this group, but it raises important questions for pharmacy practice. If women already turn to TikTok for advice, how can pharmacies engage with them where they already seek information? And how can professional advice be made as accessible and relatable as the content they encounter online?

How the study contributes to current pharmaceutical paradigm

The findings of this study suggest that vitamin D deficiency among Somali women in Sweden cannot be understood solely as a biomedical issue or as a simple lack of knowledge. Instead, engagement with vitamin D and self-care advice is shaped by a combination of everyday responsibilities, social relationships, trust in different information sources, language barriers, and the growing influence of digital health information. More broadly, this study highlights the importance of understanding health literacy not only as individual knowledge but as situated in everyday life. It shows how trust, embodiment, and social context shape whether women act on health information. These insights are not unique to Somali women; they reflect broader dynamics in how people navigate health information in pluralistic, multilingual, and digitally mediated

environments. What makes them particularly relevant is that they emerge from a group that is often discussed in biomedical terms, as a population at risk, but less frequently heard in their own words.

For pharmacy practice, the implications are clear. Improving self-care counselling requires more than providing information. It requires building trust, addressing language barriers, recognizing how women already seek advice, and meeting them where they are, whether that is in the pharmacy, in their social networks, or on digital platforms. For counselling to be effective, it must be accessible, culturally meaningful, and delivered in ways that patients feel comfortable engaging with.

Method discussion

The study focused on participants' perceptions and experiences rather than objective measurements. The findings therefore do not indicate whether participants were vitamin D deficient, whether specific supplements were clinically effective, or whether pharmacy advice resulted in measurable health outcomes. Instead, the study provides insight into how participants understand and navigate these issues in everyday life. The study also represents a snapshot in time and cannot show how participants' understandings or practices may change over longer periods.

This study used a qualitative design based on semi-structured interviews, which suited the aim of the research well. Since the study focused on participants' experiences, understandings, and perceptions, a qualitative approach made it possible to explore meanings that would likely have been difficult to capture using quantitative methods alone (Kvale & Brinkmann, 2014). For example, a survey could have measured awareness of vitamin D or how often supplements were used, but it would probably not have revealed how participants distinguish between what they described as "real medicine" and over-the-counter products, how daughters sometimes act as intermediaries in health decisions, or how recommendations seen on TikTok are interpreted and used in everyday life.

Another important strength was that the interviews were conducted in Somali. Since the study explored lived experiences and culturally shaped understandings, it was important that participants could express themselves in the language they

felt most comfortable using. Conducting the interviews in Somali likely reduced language barriers and allowed participants to explain their thoughts more freely than if the interviews had been conducted in Swedish. This is particularly relevant because language barriers themselves appeared as a theme in relation to experiences with pharmacies.

However, translating the interviews from Somali into English introduced certain methodological challenges. Translation is not only a technical process but also an interpretive one (Temple & Young, 2004). As a Somali-speaking researcher with cultural familiarity, I likely had advantages in building rapport with participants, understanding cultural references, and interpreting meaning (Braun & Clarke, 2019). Participants may have felt more comfortable sharing their experiences with someone who understood both the language and the cultural background, which may have strengthened the depth of the data. However, insider research can also involve challenges. When the researcher shares a cultural background with participants, some assumptions may feel obvious and therefore remain unexamined. Reflexive thematic analysis helped address this by recognizing that the researcher is part of the interpretive process rather than a completely neutral observer (Braun & Clarke, 2019).

The study included six participants. Although this number is small, it is common in qualitative interview studies where the goal is to gain depth rather than statistical generalization (Guest et al., 2006). The findings therefore provide insight into how these participants described their experiences, but they should not be generalized to all Somali women living in Sweden. Experiences may vary depending on factors such as age, education, migration history, health status, or level of Swedish language proficiency. The recruitment strategy also deserves reflection. Participants were recruited through a Somali women's association, which was both practical and culturally appropriate. This approach has likely helped establish trust and made it easier to recruit participants. At the same time, it may have introduced some selection bias, since women connected to such associations may differ from those who are more socially isolated or less comfortable participating in organized activities. Dividing participants into two groups based on their familiarity with vitamins and self-care was useful because it allowed comparison between different levels of knowledge. However, this

categorization may also simplify a more complex reality. Knowledge is rarely simply present or absent, and participants often moved between these categories in more nuanced ways. The distinction between the X and Z groups was helpful for organizing the analysis, but it should not be understood as fixed.

Another limitation of this study is that the COREQ checklist (Tong, Sainsbury & Craig, 2007), was not used. COREQ is a checklist that outlines what should be included when reporting qualitative research, in order to make the study more transparent and easier to understand. While several of the aspects included in COREQ were addressed in this study, the checklist was not used in a structured way from the beginning. This can be seen as a limitation, as such guidelines help ensure that important parts of the research process are clearly described and easy to follow. Using COREQ could also have made the study easier to assess and compare with other qualitative research.

Despite these limitations, the study offers valuable insight into how a small group of Somali women in Sweden describe their experiences and understandings of vitamin D and self-care within their specific social and cultural context. By focusing on perspectives that are often discussed in biomedical terms but less frequently heard in their own words, the study contributes to a more nuanced understanding of how health information is received, interpreted, and acted upon. This broader perspective may help healthcare professionals understand why simply providing information about vitamin D does not always lead to changes in behavior.

Practical Implications

The findings of this study offer several practical implications for pharmacy practice and public health communication.

First, counselling about vitamin D may need to go beyond simply informing patients that it is "important." The results suggest that many women may not fully understand what vitamin D does, may not view it as legitimate treatment, or may discontinue supplementation if they do not notice immediate effects. Pharmacy counselling may therefore benefit from explaining not only the purpose of vitamin D but also why its effects may not be immediately noticeable. Emphasizing that

preventive supplementation often works gradually and without visible short-term changes may help address the gap between biomedical explanations and how individuals evaluate treatments in everyday life.

Second, the findings suggest that pharmacies may need to more actively present themselves as places where people can seek advice about self-care, not only as locations for collecting prescription medicines. If some women primarily associate pharmacies with "real medicine," the counselling role of pharmacists may remain underused. Clearer communication, culturally sensitive engagement, and the use of simpler language may help reduce these barriers. Making pharmacy environments feel more accessible, both linguistically and socially, may encourage more women to ask questions about vitamins and other self-care products.

Third, the strong influence of daughters, family networks, and social media suggests that health communication may be more effective when it reaches beyond the individual patient. Community-based education, Somali-language information materials, and collaboration with trusted community actors may strengthen the impact of public health efforts. Because platforms such as TikTok already function as sources of health information, future communication strategies may also need to consider how digital spaces shape health decisions. Engaging with the environments where women already encounter health information, whether through social networks or online platforms, may help improve the reach and relevance of health messages.

Future Research

Future research could build on the findings of this study in several ways. Larger qualitative studies involving Somali women from different parts of Sweden could explore whether similar patterns appear in other social or geographic contexts. Comparative studies could also examine whether differences exist between younger and older women in how they understand vitamin D, pharmacies, and digital health information, particularly since social media use and digital literacy may vary across generations.

Another important area for future research would be intervention-based studies that examine whether culturally adapted and language-accessible pharmacy counselling can improve trust, understanding, and sustained use of vitamin D supplements. Such studies could explore outcomes such as adherence to supplementation, confidence in seeking pharmacy advice, or changes in perceptions of vitamin D as “real medicine.”

Mixed-methods studies that combine qualitative interviews with clinical measurements of vitamin D status could also provide valuable insights. This approach would allow researchers to explore not only how women understand and manage vitamin D in everyday life, but also how these experiences relate to measurable health outcomes.

Finally, future research could explore how women’s understandings and practices change over time, particularly as they spend more years living in Sweden, develop stronger language skills, and gain more experience interacting with healthcare and pharmacy services.

CONCLUSION/S (OR CONCLUSION/S)

This study shows that Somali women’s perceptions of vitamin D and self-care are shaped by more than biomedical information alone. Health was often understood in terms of everyday functioning and responsibility, while tiredness was commonly normalized as part of daily life. Among participants who had some awareness of vitamin D, understanding was often partial and supplement use inconsistent. Participants with more limited knowledge sometimes viewed vitamin D as less legitimate than doctor-prescribed medicine, which reduced its perceived importance.

Family members, particularly daughters, played an important role in health decision-making. At the same time, language barriers and uncertainty about the role of pharmacies limited some women’s engagement with pharmacy staff. Social media, especially TikTok, also emerged as an influential source of health information, although participants sometimes found it difficult to assess the reliability of the information they encountered.

These findings suggest that improving support around vitamin D for Somali women in Sweden requires more than simply increasing awareness. Effective counselling must also consider trust, accessibility, language, and the everyday ways in which women interpret symptoms and health products. By highlighting these perspectives, this study contributes to a more patient-centered understanding of vitamin D self-care and underlines the importance of culturally and linguistically responsive approaches within pharmacy practice and public health communication.

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Appendix: Interview Guide

The interview guide was organized around five thematic areas central to the research aim: everyday understandings of health, experiences of tiredness and self-care, knowledge and perceptions of vitamin D, sources of health advice, and interactions with pharmacies. The questions were framed in an open-ended and culturally sensitive manner, drawing on principles of cultural humility (Stubbe, 2020). The interview opened with broad questions about health and daily life, after which the conversation was guided by participants' responses while ensuring that each thematic area was explored.

Opening Questions

"When you think about your health and feeling good in your body, what things come to mind?"

"What does tiredness mean to you?"

Thematic Areas

Theme 1: Everyday understandings of health

How do you know when you are healthy?

What do you do to take care of your health?

Are there things that make it difficult to take care of your health?

Theme 2: Experiences of tiredness and self-care

Can you tell me about times when you have felt tired?

What do you usually do when you feel tired?

Have you ever tried anything to feel less tired?

Theme 3: Knowledge and perceptions of vitamin D

Have you heard about vitamin D?

What have you heard?

What do you think it does?

Do you take vitamin D?

If yes, why? If no, why not? Where did you learn about vitamin D?

Theme 4: Sources of health advice

Who do you talk to when you have questions about your health?

Do you ask family members? Friends? Others?

Have you ever looked for health information online? Where?

Theme 5: Interactions with pharmacies

When do you visit a pharmacy?

Have you ever asked for advice at the pharmacy?

If yes, what was that like? What do you think about the information you get at the pharmacy?

Is there anything that makes it easy or difficult to talk to pharmacy staff?

Closing Question

Is there any questions or anything you would like to add about health, vitamin D, or pharmacies that we haven't talked about?