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International Journal of Clinical Pharmacy

ISSN 2210-7703
Volume 41
Number 4

Int J Clin Pharm (2019) 41:1021-1030
DOI 10.1007/s11096-019-00840-4



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Perceptions of medicine use among pregnant women: an interview-based study

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Abstract

Background When women are in a condition that requires medicines during pregnancy they have to balance the health benefits of the medical treatment against the potential risk of harming their unborn child. Too high teratogenic risk perceptions among pregnant women can lead them to stop taking the medicine, worsening the symptoms for the mother and even harming their foetus. Many women today who use over-the-counter and prescribed medicines have been shown to change their medical behaviour when they become pregnant. **Objective** To explore in depth the perceptions of medication use among women during their pregnancy. **Setting** The Capital Region of Denmark. **Methods** Participants were recruited from social network groups on Facebook and from participants in lectures and antenatal classes for pregnant women in two hospitals. Two focus groups interviews and three individual semi-structured interviews were conducted. The interview guides were based on existing literature and relatively unstructured, with an emphasis on open-ended questions. Interview transcripts were analysed using the phenomenological approach of meaning condensation. **Main Outcome measure** Pregnant women's perceptions of medicine including aspects related to their safety feeling of medicines and perceived support from health care professionals. **Results** The women believed that it is less safe to take medicines during pregnancy, largely due to the risk of the child getting a disease in the future, but also due to the risk of malformation. Lack of clinical tests and uncertainty about how the unborn child reacts to medications were reported causes of these concerns. Most participants were concerned about using medicines and avoided them if possible, including over-the counter medicines. Conversations with physicians had a calming effect although the physicians appeared to be unclear in their guidance regarding dietary supplements. Some women received conflicting information on the Internet. Several suggestions were made about how to reduce uncertainties about the safety of taking medicines during pregnancy. **Conclusion** Many pregnant women are concerned about how to use medicines. To reduce these concerns and ensure the appropriate use of medicines during pregnancy, initiatives are needed to strengthen evidence-based advice from health care professionals, especially during the first trimester.

Keywords Denmark · Medicine use · Perceptions · Interview · Pregnancy

Impacts on practice

- Pregnant women in Denmark, more than previously reported, lack trust in the safety of medicines, including herbal and OTC medicines, and this influences the way they take medicine during this period.
- For health professionals it is important to know women's restrictive attitudes towards medicines during pregnancy, so that they can help the pregnant women balance their medicine intake.
- Pregnant women in Denmark are not aware of help-lines handled by specialists in medicines during pregnancy and these support tools should be better promoted.

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Introduction

Many women today who use over-the-counter (OTC) and prescribed medicines change their medical behaviour when they become pregnant [1–3]. When women require treatment for a condition that entails taking medication during pregnancy it causes concerns and uncertainties for the mother and her health care providers because they have to balance the health benefits of the treatment against the potential risk to the unborn child [4–6]. In general, most pregnant women believe that medicines are helpful and safe to use. However, during pregnancy, medicine use appears to be more restricted [1–3].

Thus, several quantitative studies have shown that pregnancy is a strong determinant of low medical adherence including both temporary discontinuation and cessation of medication [3, 7–10]. For example among pregnant women treated with psychotropic medication, the prescription rate falls during early pregnancy, increasing again after the birth of the child [7–9]. Women's beliefs, attitudes and knowledge about medicine use are therefore likely to influence their use of medicine during pregnancy and the most commonly reported reason for reducing use of medicines is the fear of harming their unborn child [2, 3].

However, leaving some diseases untreated may lead to complications and worsening of symptoms for the mother and may even cause harm to the foetus [3, 11, 12]. In Denmark, the recommendations of the Midwives Association are to use as few medicines as possible during pregnancy [13]. Although these recommendations sound reasonable, taking the existing concerns among pregnant women into account, such recommendations might contribute to a too restrictive approach towards medicine. Information about whether to use a particular drug during pregnancy is provided in leaflets included in the packaging and in the summary of the product characteristics of the medicine. However, these often consist only of general statements, which can be misleading for women and health care providers, making medication use during pregnancy difficult [14]. Recent studies have observed that women tend to overestimate the degree of teratogenic risk of both OTC and prescribed medicines [4, 15–18].

Women's perception of risk towards medicine during pregnancy is thus an important factor affecting the treatment and use of medication, sometimes perhaps in an inappropriate way. However, to our knowledge, the underlying perceptions and beliefs about medicine use during pregnancy that lead to the overestimation of risk and to non-compliance have not been investigated in depth.

Aim of study

The aim was to explore in depth the perceptions of medication use among women during their pregnancy. As one sub-aim was to understand any difference in perception between different kinds of medicines during pregnancy, OTC medicines in this study was defined as registered drugs being purchased without prescription, however not including herbal medicines which pertain to other legal requirements for market authorisation.

Ethics approval

Before each interview, the participants gave their signed informed consent. Data confidentiality and anonymity was guaranteed, and participants were informed that they could withdraw from the study at any time. The Data Protection Agency administered by the Faculty of Health and Medical Sciences, University of Copenhagen, approved the conditions under which data were stored and processed (Journal no.: SUND-2018-19). The number of the letter/ act of the Ethics approval was: 504-0023/16-3000.

Methods

Focus group interviews and semi-structured interviews were conducted to understand women's perceptions of medication use related to pregnancy. Hence, a phenomenological approach underpinned the study trying to understand medicines use and perceptions of medicines from the perspective of pregnant women. A qualitative method is preferable when an in-depth understanding of human behaviour and actions is desired, including establishing their underlying causes [19, 20]. In interviews, participants are able to express feelings, perceptions, experiences and ideas from their own perspective [19, 20]. An advantage of using focus group interviews is the ability to generate data through social interactions that may be richer than what could be obtained from individual interviews [21]. Semi-structured interviews were however also conducted with some participants who felt more comfortable doing an individual interview. To ensure the transparency and validity of the study, the consolidated criteria for reporting qualitative research (COREQ) were adopted [22]. Relevant aspects of the COREQ guidelines concerning this study included thorough descriptions of the recruitment process, data collection, and data analysis.

Recruitment of participants

A purposive sampling method was used. The eligibility criteria were that subjects had to be pregnant women with experience of using some type of OTC or prescription

medication in Denmark during their pregnancy. Facebook was screened for social groups engaged in discussions around pregnancy. The groups were then approached to ask for permission to post an invitation to participate in the study. The pregnant women were also recruited from women attending lectures and antenatal classes for pregnant women in two hospitals in the Capital Region of Copenhagen. Some women were recruited by the snowball process, having heard about the study from other participants [20]. Pregnant women who expressed an interest in participating received written information about the purpose of the study. All participants received a gift to the value of approximately 25 euros as an appreciation for their time.

Data collection

Participants provided demographic data before the start of the interview by completing a brief questionnaire about age, education level, marital status, number of pregnancies, trimester of current pregnancy and their general use of medication. The focus group interview guide was unstructured, with an emphasis on several open-ended questions. The themes were based on existing literature in the field and regarded (a) the women's perceptions of medicine use and whether it had changed when they became pregnant, and (b) their relationship with health care professionals around the use of medicines during pregnancy along with information gathering more in general. Finally, participants were asked if they had any suggestions on how to improve any challenges regarding use of medicines during pregnancy. To facilitate in-depth reflections about perceptions of medicine, participants were first asked to rate how safe they felt about OTC medicines, prescription medicines and herbal medicines during and not during pregnancy by showing them a visual scale from 1 to 10. Specific examples were given of each type of medicines: prescription medicine: phenoxymethyl-penicilline tablets, OTC medicine: paracetamol tablets and herbal medicine: capsules of cranberry extracts. Extensive probing was then done to understand why participants rated the medicines as they did. The interview guide for the semi-structured interviews covered similar topics to those of the focus group interviews.

The focus group interviews were conducted in premises of the University of Copenhagen, whereas two of the three individual interviews were conducted in the participant's home. The focus group interviews were led by RSN and SK, and the semi-structured interviews were conducted by RSN. Field notes were made and all interviews were audio-recorded.

Data analysis

Interviews were transcribed verbatim in order to maintain the integrity of the content and to reduce reporting bias [19]. The transcripts were read through several times to obtain a further understanding of the participants' different statements and perceptions. All interviews were then analysed using the approach of meaning condensation. This phenomenological analytical approach enables participants' perceptions and statements to be condensed into shorter formulations summarizing the data [23]. Hence, the overall purpose of meaning condensation is to keep the perspective of participants but at the same time to be able to compare the statements and make them briefer. In this way, meaning units were extracted from the transcripts. The meaning units were coded, and the content of the extracts pertaining to the same code then merged and condensed into shorter statements. Common tendencies among the interviewees were identified. To increase validity, i.e., to reduce interpretation bias, the authors discussed the findings of the analysis to arrive at a consensus interpretation. Quotes were selected to illustrate the findings.

The interviews and analysis were carried out in Danish. Quotes were translated into English. Two authors agreed on the translation to ensure that it represented the opinions expressed by the participants.

Results

Ten pregnant women participated in the study. Interviews with two focus groups (of four and three individuals) and three individual semi-structured interviews were carried between 10 April and 9 May 2018. The focus group interviews lasted between 1 and 1.5 h and the individual interviews lasted between 20 and 35 min.

Characteristics and demographic data of the pregnant women are presented in Table 1. The average age of participants was 30 years, ranging from 22 to 36 years. Half of the participants had been educated up to college level, and half of them had university degrees. The majority of participants were experiencing their first pregnancy, and most were in their third trimester. Five of the pregnant women used medicine on a daily basis, while four used medications less frequently than once a month (Table 1). One woman reported not using any type of medication.

The analysis resulted (as indicated by the interview guide) in three overall themes: Perceptions and use of different types of medicines during pregnancy, relationship with health care professionals (and information gathering), and suggestions for the future. However, during the analysis a specific sub-theme of information gathering emerged with

Table 1 Characteristics and demographic data of participants, *N*=10

Characteristic	<i>N</i>
Education level	
High-school graduate or equivalent	5
College graduate or higher	5
Marital status	
Single	0
In relationship	10
Number of previous pregnancies	
None	8
One	2
More than one	0
Trimester of pregnancy	
First (1–3 months)	1
Second (4–6 months)	2
Third (7–9 months)	7
Complications earlier in same pregnancy	
Yes	1
No	9
General use of medicine	
Every day	4
Every 2–3 days	1
Once a week	0
Once a month	0
Less than monthly	4
Never	1
Type of medication	
Over-the-counter	4
Prescribed	4
Both types	1
N/A	1

regard to the use of the internet and social media, which was therefore also included in the results.

Overall perception of medicines

The average scores of *feeling of safety* about using *OTC*, *prescribed* and *herbal medicines* in general and during pregnancy are presented in Fig. 1.

OTC medicine was, on average, rated as the safest type of medicine to use, followed by prescription medicine and lastly herbal medicines, in general and specifically during pregnancy.

It's because I think it's (ed. OTC medicines) safe enough not to be on prescription, that's why there is no big danger in taking it. (P8)

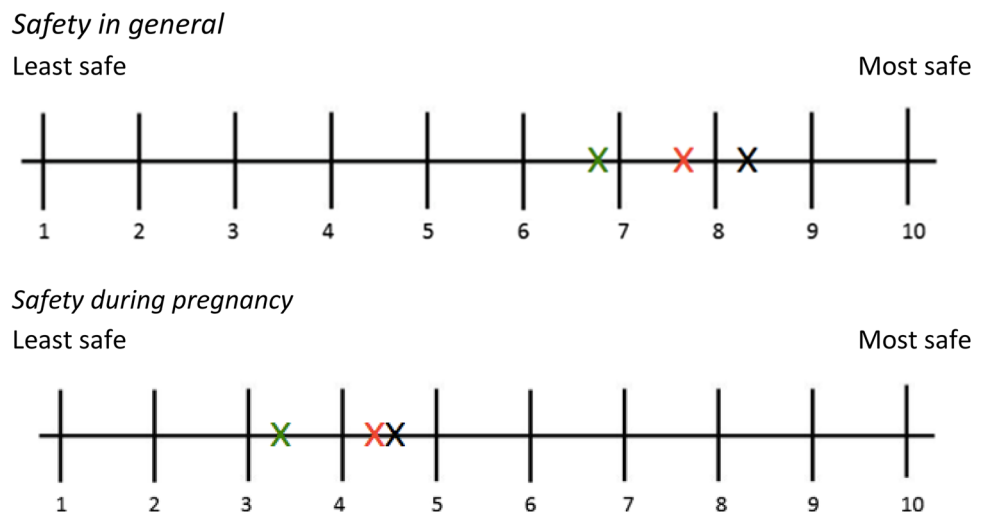
I have put it (ed. OTC medicines) rather high between 9 and 10. I don't think a lot about it when I take Panodil (ed. paracetamol) and it's because I feel it's safe... (P3)

The average feeling of safety score for all types of medicine in general was 7.5 dropping to 4.1 during pregnancy. However, there were some disparities. Some participants felt equally safe using prescription and OTC medicines, and almost half of the participants felt prescription medicines to be safer to use during pregnancy than OTC medicines as the physician was then involved.

I scored prescription medicine a little lower than before but still as the safest to use since the physician is involved... I mean you get the drug for a reason... and there is a physician to evaluate if it's safe to use or not... but again I would rather avoid it if I could. (P8)

Participants' perceptions of the safety were based on whether they thought the products were thoroughly tested and, for some participants, whether there was a particular reason

Fig. 1 Average feeling of safety about using medicine in general and during pregnancy. Over-the-counter medicine, X-Black; prescribed medicine, X-Red; herbal medicine, X-Green. (Color figure online)



why some products were allowed to be sold OTC rather than being prescription-only. Most participants thought that herbal medicines were the least safe type of medicine to use because they were less thoroughly tested before being made commercially available.

...[ed. OTC] are thoroughly tested, it's something I trust because of the procedure before it comes on the market, et cetera. I think it's sufficient for me to trust it and because it's OTC it's something I'm capable of handling myself. (P7)

...[ed. herbal medication] it's because everyone can make some kind of preparation and say that it's super healthy and works really well with no side effects... but is it tested, do we really knew that? So in that manner I would be more sceptical. (P8)

The women who thought prescription and OTC medicines were generally equally safe identified testing as their only basis for distinguishing between the medicines, whereas those who felt more safe using OTC medicines than prescription medicines argued that the reason why OTC medicines could be obtained without consulting a physician was because they were safer and easier to use.

Worries about using medicine during pregnancy

The average score of feeling of safety about using medicine was lower during pregnancy. In general, participants perceived that the testing of products was less trustworthy in pregnant women compared to non-pregnant women and other individuals, in particular with regard to potential effects on the unborn child. A few participants explained that they knew how their own body reacted to medicine but could not judge how the developing baby would respond.

I know how my own body reacts towards Panodil (ed. paracetamol) but have no idea how the baby will react... (P3)

Several participants stated that this uncertainty could be reduced by involving the physician, which is why some women felt prescription medicines to be safer to use than OTC medicines during pregnancy.

The majority of the women dealt with worries about taking medicines during their pregnancy due to unknown long-term adverse events on the child. Heart failure, reduced fertility, social difficulties in school, growth disorders, asthma and allergies were disorders that concerned them.

...and if there is some kind of relation, which is not discovered yet... so in 20 years from now there might be a higher risk for something we do not know yet. (P2)

There is some (ed. medicine) which you just know causes damage to the foetus directly and you should stay away from it and then there is something else where it's more that there can be an indication that the child can get ADHD due to you have eaten too many painkillers or whatever... (P7)

A few participants were more worried about malformations such as heart defects and other congenital consequences of in utero exposure. In addition to their worries about diseases and malformations, some participants explained that they would be ashamed and feel guilty if they were the cause of something happening to their new baby.

... some kind of malformation, heart failure or something like a chronic disease the child should live with... and I think that you would have a feeling of enormous guilt... since it's my fault that I have taken some medicine. (P7)

Use of medicines

While participants would normally take medicine to treat an illness or to relieve symptoms, they would rather avoid taking medicine during pregnancy. Most of the participants reported that they had limited their consumption mainly of OTC medication during their pregnancy. Even if OTC medicines were thought to be the safest type of medicine, women still avoided them during pregnancy if possible.

Even if it's OTC medicine and the leaflet says that you can use it during pregnancy, I rather not just to be safe unless it's absolutely necessary... (P2)

...I had to deal with pneumonia three times at the beginning of my pregnancy and I did not take any kind of pain relief... I could not make myself do it... I would rather deal with the pain and be careful... (P4)

Though most of the women had doubts about using medicine, some said that medication should not be avoided at all cost. A few women explained it could cause harm to the child if medicine needed to treat a certain disease was avoided. Some also mentioned that it was better for the child that the mother gets well instead of being ill during the pregnancy. Further, two of the ten participants said that they did not worry about taking medication during their pregnancy.

I have been on penicillin during the pregnancy because it's not beneficiary if I'm ill, then it's better to get over it. So, it's about for example that I just got a urinary tract infection and it's not good for the foetus or for the baby because it makes my uterus hard ...and the only way to treat it is with medicine... (P10)

Patient–physician relationship and information gathering

The majority of the women were satisfied with the help they received from physicians and other health care professionals during their pregnancy. When concerns about medicines arose during pregnancy they appreciated a consultation with their physician. Even if the physician could not do anything for them, a brief conversation made some participants feel more relaxed.

I had lung flu with a cold for a very long time among other disorders and I was worried... I called the physician many times and he talked to me and said that I shouldn't worry about it and that it wasn't dangerous for me... and that was really a relief for me to hear... we can't really do anything about it for now we'll have to wait and see. (P2)

Some women mentioned that they missed the advice from health care professionals not to worry too much about everything, because they were anxious about doing something wrong, especially at the beginning of their pregnancy.

One participant had mixed feelings about physicians and the health care system, although she mentioned that her relationship with the midwives during pregnancy had been a very supportive one. This opinion about midwives was shared by most other participants.

The effectiveness of the physicians' help regarding use of dietary supplements such as vitamins during pregnancy was considered to be mixed. Two participants mentioned their physician gave unclear answers regarding supplement use, and another explained that her physician only mentioned what she had used during her own pregnancy. This type of advice caused doubts in some women, since they had to decide for themselves what to use.

That he on principle does not recommend any dietary supplements but you can take it if you think it's a good idea. (P2)

My doctor, she said: "I didn't use it when I was pregnant" – that is the fish oil, when I asked... (P3)

Getting in contact with their physician was considered to be time-consuming. Especially if an answer was needed immediately, the Internet was considered to be a rapid and straightforward way to obtain information. Most of the women also asked family members or friends for advice if they had previous experience of pregnancy or if they worked in the healthcare system.

Participants emphasised the importance of using one's common sense, particularly when using the Internet and social media, since it is easy to become confused and worried by all the available information. The different opinions among

pregnant women and all the available information on the Internet related to pregnancy would for some make it difficult to judge what was right or wrong. Some women had negative experiences with forums for pregnant women as some members of these groups tried to give advice to others in ways that focus group participants believed could be harmful for the mother and the child they were expecting, thus adding to their concerns.

...there is always someone who isn't a healthcare professional that tries to advise others what to do... but instead they should call their physician and find out what to do or call 1813 [ed. emergency call] instead of asking thousands of pregnant women who have got no clue about what they are doing. (P5)

You have worries for a reason... but suddenly many pregnant women can get hold of some completely insane information that can do more harm than good for some women... and I have seen that too many times, so I try to avoid these places. (P6)

Further, some participants held the view that the official guidelines provided by health authorities for pregnancy were overwhelming and could be confusing.

Suggestions for the future

Participants made various suggestions about how to deal with the many concerns and questions concerning the use of medicine during pregnancy. An online forum in which pregnant women could ask questions about medicines that would be answered by health care professionals was one suggestion. A similar idea was that the National Board of Health could design a pregnancy app to answer questions about medicines. A few women suggested they should receive more advice about medicines during their first consultation with the physician or midwife. This could be supported by handing out pamphlets at the end of the consultation so women would not forget all the information they had received.

I think it helps a lot with those doctors who have E-consultation, then you don't have to queue up for half a day to ask something which is not urgent and which doesn't need to be answered right now ... (P7)

And small cards for apps that you can install on your phone and things like that. There is a lot of things out there, but yes, a lot of information at the first consultation that would definitely be nice... (P1)

Discussion

To sum up the results, our group of pregnant Danish women believed that medicines were less safe during pregnancy mostly because of the risk of the child getting a disease in the future, but also because of the risk of malformation. The lack of clinical tests and uncertainty about how the unborn child might react to medication with otherwise known effects were reported as the causes of these concerns. Therefore, medicines that were normally taken were avoided if possible. Conversations with physicians had a calming effect on some women. However, physicians appeared to be unclear in their guidance about the use of dietary supplements. Most of the women also asked friends and family members for advice. Despite the many advantages of using the Internet, some women came across a large amount of conflicting information. Several suggestions were made about how to reduce uncertainties surrounding taking medicines during pregnancy. These findings will be put into broader context in the following.

Concerns about medicine use

The women in this study believed that using OTC, prescribed and herbal medicines was less safe during pregnancy, and that medicines should be avoided if possible. The tendency to use fewer medicines during pregnancy described here corroborates the findings of another study in which the majority of women would not use a medication they would otherwise have used had they not been pregnant [3]. One of the reasons behind these concerns might be due to the Thalidomide as today many recommendations and warnings for pregnant women exist [24]. For example, the Danish National Board of Health has published an information leaflet for pregnant women describing how to handle: diet, dietary supplements, alcohol, tobacco, medicine, physical activity and chemical substances [25]. Such recommendations inevitably encourage pregnant women to be highly aware of their actions during pregnancy which might explain why they (in order to live up to societal expectations) are also very cautious about using medicines. These results are supported by McDonald et al. who discussed how pregnant women have to balance being a “good mother” who should protect their babies from harm and put their children’s needs before their own yet at the same time be “responsible” i.e. to take medicines as advised by health professionals [26]. Indeed, a recent review identified both cognitive, emotional and social factors involved in pregnant women’s decision making of whether to take antidepressants; which illustrates the complexity of this process [27].

The main reason for avoiding medication during pregnancy was the fear of harming the unborn child. Women expressed their concern about the child developing diseases not only during childhood, such as allergies and attention deficit disorders, but also in adulthood, for example reduced fertility. A recent Dutch questionnaire study asked pregnant women to rate their level of concern about taking medication during pregnancy. 35% of the participants reported a fear of congenital birth defects, 35% reported being afraid of having a miscarriage, and 23% reported fearing that the child would suffer from an increased risk of an allergic disease due to their use of medicine [4]. Thus, participants in our study showed more varied concerns, in particular with regard to long-term adverse effects on the child. This difference could be due to differences in study designs; however, this new result might also indicate that women’s concerns about medicines during pregnancy have expanded.

As a consequence of their concerns, the majority of the women in this study curbed their use of medication during pregnancy. Such restricted use of medicine during pregnancy is consistent with the findings of other studies [2, 3, 7–9, 28]. However, whereas those studies focused primarily on the limited use of prescription medicines, our study showed that women also reduce their consumption of OTC medication, thereby showing another new and important aspect in relation to promoting balanced use of medicines during pregnancy.

Most of the women in our study expressed concern during their pregnancy, but two participants were not as concerned about using medicines. These two women had a higher level of education than the other participants. In the study by Nordeng et al. (2010), pregnant women with a lower educational level were more likely than more highly educated women to believe that medicines do more harm than good and are more addictive [3]. This may be a reason for the minor concerns about using medication reported by the two women in our study.

Relationship with the physician

Participants reported feeling their concerns were alleviated after talking to their physician. Hence, our results corroborate those of several other studies that found counselling during pregnancy to enhance adherence and to be able to assuage any unrealistically strong perceptions of teratogenic risk among pregnant women [29–31]. Participants in our study also reported how they particularly needed support regarding their concerns about taking medicines during the first trimester. This finding supports the recommendation of another study that there should be more interventions during early pregnancy to prevent adverse events and to influence medicine use [29].

Our study also illustrated some doubts of participants on the part of the physicians when it came to the use of dietary supplements during pregnancy. Furthermore, overestimation of teratogenic risk among physicians has been reported in other studies [5, 6, 17, 18, 32]. Disparities in physician's perceptions of the risk of taking medicines may lead to unnecessary concerns for some women during pregnancy, and can potentially affect their treatment [32]. As physicians have a central role in managing pregnant women's concerns over the use of medicines, these issues must be resolved so that the women receive the best possible medical treatment.

Midwives were also briefly mentioned by participants in this study who in general spoke positively about their support during pregnancy. An overall positive view of midwives of pregnant women is supported by a Dutch study where pregnant women found midwives to be a reliable source of health information however also reported that not all of their health related questions had been answered during consultations [33]. As to midwives' roles in advising specifically about medicines during pregnancy, there seem to be some debate. One Australian study found that midwives did not themselves agree on how to support pregnant women with asthma including how to handle their medication [34]; and another study exploring pregnant women's use of complementary and alternative medicines found that midwives (and physicians) similarly to this study tended to avoid giving direct advice. Instead the health care professionals tried to make the pregnant woman responsible for the decision of whether or not to take the supplements [35].

Information gathering about medicine

Advice and opinions given by relatives and friends were important to participants for alleviating questions and concerns. Most of the women also used the Internet to obtain additional information about all aspects of their pregnancy. A study from 2013 also found that 76% of the women included searched the Internet for pregnancy-related safety information about medication [36], thereby confirming that the Internet is widely used by pregnant women today.

Some women in our study had negative experiences when searching the Internet, especially when participating in forums related to pregnancy. Some studies have assessed the quality of the information available on the Internet and found some of it to lack supporting evidence and some to contain inaccuracies [37, 38]. Furthermore, social media has often been found to highlight the risks rather than benefits of using medicine during pregnancy [17]. The experiences reported by participants in this study reveal that some women have now started to be critical of information from the Internet, although more initiatives are needed to ensure that they are not misled by this commonly accessed source of information.

Advice is appreciated

Some women suggested creating an online forum for pregnant women in which health care professionals could deal with questions about medicines. Telephone and online medicine teratogen information services have already been established in several European countries, including Denmark [14], and medicine information services have demonstrably boosted the rational use of medicine and prevented misadventures during pregnancy [39]. However, the participants in our study were not aware of the Danish forum, so increasing awareness of such resources might be a promising way forward to reduce concerns and promote adequate use of medicines during pregnancy.

Strengths and limitations

By using focus groups and individual interviews in this qualitative study we were able to explore pregnant Danish women's perceptions about medicine use. Hence, a strength of this study was the discovery of various aspects of women's perceptions. In addition, the diversity of participants with respect to their level of education and pattern of medication use makes the results more transferable to the general population. However, since this was a small qualitative study, the results were limited by the number of participants. Also, when considering the validity of the study, it should be remembered that most of the women were in their third trimester, which may influence the way they perceive medicine use, given that a previous study found that women in their first trimester reported higher risk scores than those in later stages of their pregnancy [4].

Conclusion

The majority of pregnant women in this qualitative study were concerned about their use of medicine during pregnancy, including uncertainties about long-term future adverse events that might harm their child. Lack of clinical tests and uncertainty about how the unborn child might react to medication with otherwise known effects were reported causes of these concerns. The perceptions curbed the women's use of medicines during pregnancy, including OTC remedies. A consultation with the physician was considered essential to relieve the concerns some women have during pregnancy, although physicians have also been shown to overestimate teratogenic risks. Initiatives, such as online forums administered by health care professionals, are needed to strengthen evidence-based advice, in

particular during the first trimester. Such resources should also be better promoted.

Acknowledgements None.

Funding No funding was received in relation to the study.

Conflicts of interest The authors declare no conflict of interest.

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