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Organizational health literacy responsiveness within Danish maternity care: a qualitative study exploring health professionals' experiences

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ABSTRACT

Background: Organizational health literacy responsiveness is the degree to which health care organizations support their patients' health literacy needs e.g., by making physical or digital navigation and access easier or by making written information easier to understand. Organizational health literacy responsiveness has been sparsely explored in maternity care.

Aim: To explore health professionals' perspectives on organizational health literacy responsiveness in Danish maternity care, underpinned by the seven areas described in the Organizational Health Literacy Responsiveness framework.

Methods: A qualitative study using a deductive approach and thematic content analysis. We conducted thirteen semi-structured interviews with health professionals working in maternity care.

Results: Several factors were identified that strengthens responsiveness. These include managers that adapt to local context and balance political influence, a holistic and person-centred culture for care, effective program planning and successful internal interdisciplinary collaboration, beneficial partnerships across sectors, and organizational structures and strategies to support responsiveness related to communication, accessibility, and navigation. However, stigmatization within the organizational culture presents a barrier to delivering holistic and person-centred care, health professionals lack support and strategies to respond to pregnant women with resistance towards services and non-attenders, information overload by health professionals increases misunderstandings, and different digital communication preferences between health professionals and pregnant women affected by organizational structures were potential barriers to responsiveness. Also, external interdisciplinary collaboration presented a challenge. The availability of time, resources, and educational support for staff was different between care programs to increase equitable solutions based on pregnant women's different needs, but health professionals struggle to balance the differentiation.

Conclusion: This study highlights the complexity in the organization of maternity care, including several factors that strengthen or limit organizational responsiveness. There is a need to approach and accommodate the experienced barriers that prevent personalized and equitable care by increasing the organizational support for responsiveness.

PLAIN LANGUAGE SUMMARY

Organizational health literacy is the degree to which health care organizations support, adapt, and accommodate their patients' health literacy needs. In this study, we explored health professionals' perspectives on organizational health literacy responsiveness in Danish maternity care. We found that the organization of maternity care services greatly impacts a professional's ability to respond to pregnant women's health literacy needs. Several factors strengthened health literacy responsiveness in the organization of maternity care services, however barriers for responsiveness were also experienced by health professionals. Exploring the barriers identified in this study may help improve the organisation of maternity care services to respond in an equitable way to individual needs of pregnant women and increase health literacy responsiveness.

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Introduction

The International Union for Health Promotion and Education (IUHPE) states health organizations have a responsibility to respond to the different health literacy needs of individuals in society (Bröder et al., 2018). This responsibility is embedded in the concept of organizational health literacy, which is defined by the IUHPE as the way in which services and organizations make health information and resources available and accessible to people according to their health literacy needs (Bröder et al., 2018; Batterham et al., 2017). The World Health Organization emphasizes that health literate organizations lower the complexity in the delivery of services to ease the burden on individuals. Awareness of responsiveness in health services and promoting ways and actions to strengthen health literacy in policies, processes, and practices is highlighted as an important factor (Kickbusch et al., 2013; World Health Organization. Regional Office For Europe, 2019). In addition, the World Health Organization recommends organizing maternity care to ensure a positive pregnancy experience (World Health Organization, 2016). Studies have shown that healthy behaviour and lifestyle during pregnancy is negatively affected by unmet health literacy needs and challenges (Dayyani et al., 2019; Pirdehghan et al., 2020; Poorman et al., 2014). Health literacy is the combination of personal competencies and situational resources needed for individuals to access, understand, appraise, and use information and services to make decisions about health (Bröder et al., 2018). Health literacy among pregnant women varies due to different socio-economic determinants and individual characteristics, including education level, employment, socio-economic class, family income (Charoghchian Khorasani et al., 2018; Dadipoor et al., 2017; Duggan et al., 2014; Naigaga et al., 2015; Vilella et al., 2016), parity, and ethnicity (Brorsen et al., 2022; Villadsen et al., 2020). However, the concept is dynamic and associations must always be assessed within their contexts (Bröder et al., 2018). Health literacy levels strongly affect understanding of health and pregnancy information (Cho et al., 2007; Guler et al. 2021; Vilella et al., 2016; Wilson et al., 2012; You et al., 2012). Health literacy has also been negatively linked to an increased risk of morbidity (Berkman et al., 2011), including development of complications in pregnancy and birth such as preeclampsia or gestational diabetes mellitus (Chari et al., 2014; Pirdehghan et al., 2020; You et al., 2012). Conversely, when pregnant women perceive their own health literacy to be good, active technology engagement (eHealth Literacy) (Kim et al., 2018; Shieh et al., 2009), interaction with health professionals (Endres et al., 2004; Solhi et al., 2019; Vamos et al., 2019) and informed decision-making increases (Barnes et al., 2019; Murugesu et al., 2021). Hence, health literacy development is an important factor in pregnancy and is linked to the health of mothers and babies.

Existing literature provides several guides and frameworks for implementing and promoting organizational health literacy. These vary in terms of the number of responsiveness areas they include (Bremer et al., 2021; Farmanova et al., 2018; Trezona et al., 2017). We used the organizational health literacy responsiveness (Org. HLR) framework for this study (Trezona et al., 2017). It was originally developed in collaboration with health and social service professionals, and hence is closely linked to healthcare practice. It also includes a broad spectrum of organizational health literacy responsiveness areas at different levels of the health organization, from the external policy level, to leadership, community, citizens, and the health workforce level (Trezona et al., 2017). Despite existing guidelines for implementing organizational health literacy (Bremer et al., 2021; Farmanova et al., 2018), only a few studies have explored (i) organizational health literacy responsiveness in maternity care and (ii) how the organization of maternity care inhibits or promotes health professionals' abilities to support the different health literacy needs of pregnant women (Creedy et al., 2021; Hedelund Lausen et al., 2018; Hughson et al., 2018). However, these studies were performed in different settings and more knowledge is needed about strengths and barriers for responsiveness in the organization of maternity care services.

This study aimed to explore health professionals' perspectives on organizational health literacy responsiveness within maternity care, underpinned by the seven areas described in the Org. HLR framework.

Methods

Qualitative approach and research paradigm

We used a qualitative study design, applying deductive content analysis (Elo & Kyngäs, 2008). This was guided by previous knowledge, theory and a framework to structure the thematic analysis (Elo & Kyngäs, 2008). The deductive content analysis approach was applied with the intention of exploring the topic of inquiry starting from existing theory. We chose this approach by assuming that core concepts of the organizational health literacy responsiveness phenomenon

were well defined and accessible in existing literature (Farmanova et al., 2018). This hermeneutic constructivist research paradigm helped us explore and illuminate health professionals' understanding of organizational health literacy responsiveness in a maternity care setting (Peck & Mummery, 2018).

Context

Participants were recruited from maternity care sites including midwifery clinics and hospitals in the Central Denmark Region. The organization of Danish maternity care is based on guidelines from the Danish Health Authority, which covers all five Danish administrative regions (Sundhedsstyrelsen, 2013). Each Danish Region has some leeway to adapt the organization of maternity care services to their local context, but the basic organization of maternity care is largely uniform across the country. In addition, each Region has its own organizational birth plan. The first consultation for pregnant women in Danish maternity care is at the general practitioner, when the pregnancy is confirmed. A holistic assessment of the pregnant woman's health status according to physiology, psychology, medical, and social factors is reviewed in collaboration with the general practitioner, the midwife, and the pregnant woman and her partner. If there are any specific social concerns, a social worker is invited to participate in the pregnancy, birth, and post-partum periods. The initial needs assessment in maternity care builds on a four-level risk categorization. Level 1 is categorized as low risk and level 4 as high risk. The level division guides the planning of care. Women categorized as 'Level 1' receive basic care services. These services are provided in a shared capacity between general practice, the midwifery clinic, and the municipality. For Levels 2, 3, and 4, pregnant women are referred to additional care services depending on their individual needs. Higher risk pregnancies involve more interdisciplinary collaboration and communication between sectors and more health professionals. In this study, we distinguish between different care programs within maternity care.

Sampling strategy

We used purposeful sampling (Whitehead et al., 2020) and invited health professionals working in basic or additional maternity care services to participate in the study. Participants were eligible for participation if: (1) they were working in the midwifery clinic or at the maternity ward in the hospital, (2) they had a professional background as a midwife, obstetrician, social worker, manager, nurse, or health care worker. See Table 1 for participant characteristics.

Table 1. Participant characteristics.

Profession	Years in current position	ID
Midwife	12	ID1
Midwife	11	ID2
Midwife	9	ID4
Midwife	12	ID8
Midwife	9	ID12
Team manager (midwife)	13	ID5
Team manager (midwife)	12	ID13
Social worker	1	ID6
Social worker	5	ID9
Nurse auxiliary	4	ID7
Obstetrician	10	ID3
Obstetrician	11	ID10
Obstetrician	6	ID11

Potential participants were identified by one of the authors and invited via email to participate. In total, 16 participants were invited. We scheduled a mutually convenient time, date, and location for the interviews. An informed consent form was sent by email, and this was signed prior to commencement of the interview. We planned to conduct between 12 to 15 interviews based on available time and resources for the study and to be able to include a variety of health professionals with different backgrounds.

Data collection

We conducted semi-structured interviews during June to September 2022. Data analysis began in July 2022 and proceeded simultaneously with ongoing data collection. Two authors conducted the face-to-face interviews.

Interviews were conducted using a pre-developed interview guide (see Supplementary Table 1). This was based on recommendations from Kallio et al. (2016) and was inspired by the seven domains within the organizational health literacy responsiveness (Org-HLR) framework (Trezona et al., 2017). As such, we focused on retrieving and using previous knowledge, formulating a preliminary interview guide, pilot testing the guide and finalizing the complete guide. Interviews were audio recorded using a dictaphone. Audio files were uploaded to a two-way authenticator protected and encrypted drive and deleted from the dictaphone immediately after each interview.

Data management

All data processing was handled on a two-way authenticator encrypted drive, to which only two members

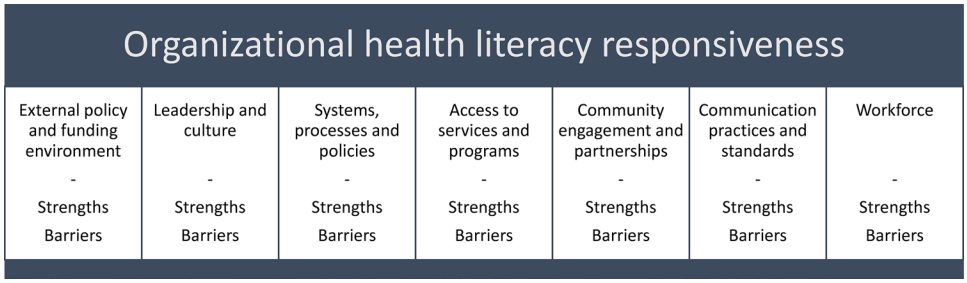

Figure 1. Deductive content analysis categorization matrix based on the seven domains underpinning the organizational health literacy responsiveness framework (Org. HLR) (Trezona et al., 2017).

of the research team had access. Audio files were transcribed into text and anonymized, with all names and identifiers deleted. Participants were given a unique ID number. Signed informed consent forms were also stored on the encrypted drive. All data and information will be deleted five years after collection at the latest.

Data analysis

Each interview was analysed using deductive content analysis in three steps described by Elo and Kyngäs (2008): (1) preparation, (2) organising and (3) reporting. In the first phase, we developed a deductive content analysis categorization matrix (see Figure 1) based on the seven areas in the Org. HLR framework (Elo & Kyngäs, 2008; Trezona et al., 2017). See Figure 1.

In the second phase (Elo & Kyngäs, 2008) we familiarized ourselves with the data by transcribing, reading and re-reading transcripts. The material was organized into initial codes using the deductive content analysis matrix (Figure 1). When the initial codes were applied, we analysed each matrix for strengths and barriers and sorted data by content into categories. We conducted several rounds of analysis in the organizing phase. Finally, we presented results based on the analysis from the reporting phase (Elo & Kyngäs, 2008).

Researcher characteristics and reflexivity

Researcher characteristics and the practice of reflexivity ensure that researchers are aware and deliberately reflect on any preconceptions and reactions they might have about participants in the interview situation (Berger, 2015). The two researchers who conducted the interviews were positioned within the public health arena and had clinical experience. This may have affected their understanding of the setting, the participants' roles as health professionals, and the phenomenon of interest. Hence, reflexivity about studying the familiar was emphasised (Berger, 2015) and the two interviewers reflected on their preconceptions due to their backgrounds in public health prior to conducting the interviews. Both were trained and skilled in qualitative interview methodology and strategies.

Ethical issues pertaining to human participants

Our study was approved by the Danish Data Protection Agency with Aarhus University (journal number 2016-051-000001 and serial number 2779). It followed the principles of the Helsinki declaration (World Medical Association, 2013). Participants were able to withdraw at any time and at any stage of the study, at which point we would delete all material relating to the specific participant. None of the participants withdrew their consent. All data was handled confidentially and in accordance with General Data Protection Regulation (GDPR) to ensure participant's privacy.

Findings

Thirteen health professionals with different professional backgrounds working in Danish maternity care participated in the study (see Table 1).

In 13 qualitative interviews lasting for approximately 60 minutes each (min. 49 minutes; max. 73 minutes), we identified three main thematic categories: (1) Impact of strengths, (2) Barriers for responsiveness, and (3) Strength or barrier depending on availability (Table 2).

Synthesis and interpretation

Impact of strengths

As outlined above, several factors impact and strengthen health literacy responsiveness within Danish maternity care services.

Managers adapt, create leeway and balance political influence. We identified a theme illustrating 'room for

Table 2. Categories and underlying themes identified from the content analysis.

Category	Underlying theme
Impact of strengths	Managers adapt, create leeway and balance political influence.
	Holistic and person-centred culture for care.
	Effective program planning increases successful internal interdisciplinary collaboration.
	Beneficial partnerships with a range of stakeholders and wider social network.
	Strategic meetings guide coordination and collaboration.
	Use of different learning styles support communication and delivery of information.
	Strategies to accommodate accessibility and navigation skills in a heterogeneous group of women.
Barriers for responsiveness	Stigmatization within the organizational culture as a barrier to delivering holistic and person-centred care.
	Resistance towards services and non-attenders decrease health professionals' perceived possibilities for responsiveness.
	Health professionals provide information overload and the risk of misunderstandings increases.
	Different digital communication needs and platform preferences between health professionals and pregnant women.
	External interdisciplinary collaboration presents a challenge.
Strength or barrier depending on availability	The balance of different funding and time availability between care programs present a challenge.
	Ongoing development and educational support for staff.

flexibility', which related to specific situations where decision-making was possible outside official guidelines. Most participants agreed that their managers trusted their professional judgement and agreed to follow their assessment. Hence, participants experienced that their managers adapted their decision-making to local needs.

> "Sometimes we circumvent the criteria. I have a couple (pregnant woman and partner) at the moment, who, if I am being honest, do not belong in the care program they are referred to. I brought up their case during a team meeting and asked if we could make changes to their care program and the answer was yes. There is an acknowledgement of my professionalism." ID11

We also observed that some managers did not uncritically adhere to higher-level recommendations, but simply adapted to local contexts and made decisions based on what would work in practice. Managers participating in this study explained that there were different strategies in place, and that some managers chose to always adhere to regional recommendations, while others were more reluctant to support recommendations when they did not align with local priorities.

> "There are different strategies. Some have a strategy saying, 'we do whatever pleases the regional politicians.'" ID13

There was also a general perception that managers did their very best to create economic flexibility. One participant explained that funding was insufficient. The participant's manager accommodated this by searching for additional funding to help provide resources for specific cases or services. This implied a large commitment to create the best care conditions.

> "We have just done a lot of things by ourselves (found additional resources). My colleagues often laughed and said, 'you are self-financing'. I mean we did finance some things ourselves." ID13

Holistic and person-centred culture for care. Participants reported that they attempted to care for pregnant women in a holistic and comprehensive way. The benchmark for their care provision and consultation was the pregnant woman's specific situation, available resources, and the women's context. There was a general understanding that pregnant women had different needs for support.

> "I plan based on the person in front of me. Anything else would not make sense. Women are not identical." ID8

Some of the participants also explained that pregnant women often had their own solutions to challenges in life and the participants tried not to act as experts in those situations. Hence, they acknowledged and encouraged the pregnant women's view on things.

> "You can't just think 'I'm the expert'. We can learn a lot from them. In many ways, they are resourceful in terms of their challenges as they need to cope and live with their vulnerabilities. Therefore, they sometimes have amazing solutions to their life situations." ID11

Most participants reported that important information 'rose to the surface' when a safe space was created between the pregnant woman and the health professional. Hence, trust and rapport were very important factors. Some of the pregnant women's' experiences affected their ability to trust the system and the health professionals. For example, some of the women had previously experienced being 'lost'

between services and sectors. The participants therefore expressed the need to overcome mistrust and assure pregnant women that health professionals' support was for their benefit and care. They also expressed a profound wish to create equity in the healthcare system and in the care of pregnant women despite their challenges or their preconceptions of the system. However, they were aware that engagement should be kept to a professional level.

> "We need to create a space where women want to open up and trust that they can tell me anything and that I will provide care for them no matter what they tell me." ID2

> "I can't take for granted that the women trust in me to only want what's best for them. I need to show them." ID12

Also, some participants explained that if the trust and relationship building failed, it could be very hard to re-establish. This underlined the importance of trust and rapport.

> "If the pregnant woman feels genuinely misjudged or if the chemistry is for some reason off between us, it can be very hard to make right." ID4

However, even though trust establishment and engagement were very important factors, some participants felt that over-engagement could also present a challenge and cause exhaustion.

> "You can, for sure, also bring too much of yourself into the care situation and get exhausted. […] Empathy should be switched off again so that you don't 'live' in a lot of people and take their destinies with you home. You won't last long in this profession if you do." ID8

Effective program planning increases successful internal interdisciplinary collaboration. Another theme that underpinned excellent organizational health literacy was effective systems and guidelines for program planning within maternity care. Specifically, in terms of visitation, referral, and needs assessment. Program planning continued throughout the pregnancy and was based on current needs assessment. Most participants reported that their different responsibilities were well established.

> "The health visitors (responsible for referring women to services) assess whether the pregnant woman needs a clarifying consultation. It is primarily the general practitioner who makes the assessment. I'm booked in if there are specific challenges (mentally or socially)." ID6

> "We have women referred who need more care than we can provide. It can be due to mental problems, physical diagnosis, something socially related, lack of housing or social isolation or social stress related to upbringing." ID11

In addition, most participants reported that medical records were helpful and supported effective program planning in terms of needs assessment, referral, and visitation. They mentioned electronic patient records[1], social plans[2], and the pregnancy travel charts[3] as supportive tools.

> "We write a broad journal focusing on both physical, mental, and social medical records […] and then we assess whether they need care in one service program or another." ID5

We also found that the need for different professionals, interdisciplinary collaboration, and partnerships increased when the complexity of a pregnancy was higher. In general, most participants reported a positive experience with internal interdisciplinary collaboration within services and teams. Positive factors included sparring across different disciplines with different professional views, the joy of pulling together, and the ability to lean on others to coordinate care.

> "Sometimes the health care worker reports back on something from her point of view, and I think 'wow – that was a good observation. I had my suspicions, but it helps to see it from her point of view'. The collaboration can confirm or deny suspicions. It's like the cog wheels fit together." ID2

Beneficial partnerships with a range of stakeholders and the social network. Most participants reported that meaningful consultations and beneficial partnerships took place with a range of health, community, social service, and non-governmental organizations in maternity care across the local community. The general perception was that the social workers were skilled in coordinating collaboration and partnerships.

> "We collaborate with a range of organizations including the healthcare nurses, the Family Department in the Social Administration, Municipal intensive care aids, the Psychiatric Department, the Centre for Sexual Abuse and the Clinic for Post-Traumatic Stress Disorder." ID13

> "We refer our pregnant women to a lot of different services. There are potential partners everywhere. One example is if the father has a conviction. Then we collaborate with the prison service. Or if the woman has a disability or pain problem, then we collaborate with the pain clinic. There are a lot of partners." ID12

Significant attention was given to the importance of health and social networks surrounding the pregnant woman. Some pregnant women were well

supported by family and friends and the health professionals put a lot of effort into involving the women's own social network. The people in the woman's network could be a key resource according to study participants.

> "He (the father) is a major resource when the woman is challenged." ID8

If the pregnant woman did not have a secure social network, participants explained that they could refer her to different network groups. In some cases, a mentor or a support person was also assigned by the municipality. This arrangement ensured that the pregnant woman had a key person to engage with and to help her during the pregnancy.

> "If they don't have any network at all, then it's good that we have our social worker. [.] The social worker knows how to apply for a support person and knows about non-governmental organizations and voluntary organizations." ID2

Strategic meetings guide coordination and collaboration. Another theme demonstrated the importance of regular weekly meetings in maternity care. The purpose of the meetings was to exchange knowledge, coordinate care, and communicate about the pregnant women. Participants described the importance of these meetings as they secured effective interdisciplinary communication and helped ensure collaborative solutions. Informal communication between health professionals proceeded throughout the workday, during lunch, in the morning, or while passing each other in the hallways.

> "We meet every Monday and have patient reviews, where we list women and partners, we have concerns about." ID5

> "Our team meetings support collaboration. Every Monday we meet and exchange thoughts about the women. Every other Monday we have a one-hour meeting where the pediatrician participates. We also have the chance to discuss more acute topics during the week in morning breaks. And daily during lunch." ID8

Use of different learning styles support communication and delivery of information. Most participants explained how they used different communication strategies to ensure that the information they provided was understandable. They adapted their communication to individual women's needs and were aware of their language and how they addressed the women. They also used techniques including teach-back method to involve each woman in conversation.

> "You need to adapt your communication to the person in front of you. If a pregnant woman says, 'then I smoke 40 smokes', I call them smokes instead of cigarettes." ID7

> "I ask them to sum up during and at the end of our conversation. Like 'what do you think you have learned today?'. It gives me an indication of whether I've shared the right information with her." ID12

Also, the participants used and applied different tools to support communication. For example, they used visual tools and pregnant women's travel charts to ensure that pregnant women received and understood all necessary information.

> "I write on their travel charts 'you must feel life every day and reach out and contact me if you don't'." ID12

> "I use visual tools a lot more now than earlier. […] We have two dolls, which are life size and have a realistic weight. She gets one of them and I take the other. We also have a crocheted breast we can look at. We get very concrete. […] Sometimes we draw. I have a large board in my office. It's different what I use depending on what makes sense for the woman." ID2

Different strategies to accommodate accessibility and navigation skills in a heterogeneous group of women. Pregnant women attending maternity care are a group with great diversity and have different needs related to the access and navigation of services. Some women positively reached out to services, while others did not. Similarly, some searched for information themselves and others did not. Health professionals in this study were aware of differences in accessibility and navigation skills among the pregnant women. A common strategy was to personalize communication and support.

> "Some Google a lot for information because they think they need all kinds of expert knowledge. Others don't search at all or are neither capable nor interested. They might be okay anyway because they don't worry as much. It is my job to provide every type with knowledge." ID1

However, some participants worked with women who had more challenges and tended to worry more about internet search results. They resolved these issues by calling the health professionals by phone. One example was a woman who called the midwife more than 30 times during a month. The health professionals solved this specific case by providing a

mentor. A mentor from the municipality can be offered when navigation and accessibility was particularly difficult. A mentor could support the pregnant woman in planning and structuring their pregnancy and, for example, attend meetings and consultations with the pregnant woman.

> "Some of them have a mentor (from the municipality), who helps them weekly to structure their daily life, attend and commit to appointments, and sometimes they come along to the midwife consultation as well, if the pregnant woman finds it helpful. Then the mentor can help to follow up on the things we address in the midwifery consultation." ID4

Barriers for responsiveness

We identified a number of barriers for health literacy responsiveness perceived by participants in this study. Commonly for most of the barriers they were relate to the interaction between health professionals and pregnant women.

Stigmatization within the organizational culture as a barrier to holistic and person-centered care. We identified a theme indicating stigmatization related to maternity care culture and organization. A major barrier, which most participants mentioned, was the name of one of the care programs and the wording about the service on the official webpage. The service was called 'team vulnerable pregnant women´. The participants felt that the name was stigmatizing. It caused mistrust between caregivers and the pregnant women, and this mistrust was experienced as a barrier for the participants to be responsive to the women.

> "We struggle with the name. One can easily feel stereotyped. We often see families who have some vulnerabilities but manage quite well. It is a troubling name and a stamp on the pregnant woman. "ID8

Similar problems were expressed in relation to some of the wording on the hospital's webpage, which also affected the participants' possibilities of being responsive negatively. The participants explained that they spent time convincing the pregnant women and their partners that they did not view them as vulnerable, and that there were strengths in vulnerability as well. However, sometimes the damage was irreparable.

> "I often think that there is a barrier to overcome, and we put in the effort to convince the women that we have their best interests at heart and that we don't view them as incompetent parents when we call them vulnerable." ID6

> "Some pregnant women come to us and say, 'I'm not an addict because I'm a pain patient.'" (Talking about misunderstanding from webpage) ID9

The participants were highly aware of potential stigmatization and put in effort and developed strategies to prevent it. As one participant emphasized the importance of not making notable and visual differences between women attending different services. She used the same stickers on the pregnancy travel chart belonging to pregnant women attending different care programs. Hence, she attempted to be responsive and circumvent stigmatization.

> "I have tried to streamline our stickers on the women's travel charts because the pregnant women should not feel that they have a different travel chart, which looks different because they are enrolled in another service program (they are sitting in the same waiting area for different services). You shouldn't be able to see from the travel chart which service you are enrolled in." ID4

Also, some participants explained that most services were strategically placed in the same physical location. Hence, the women waited in the same waiting areas, and it was not clear whether the women were waiting for one service or another.

> "It is good that we are physically located in the same building. It counteracts stigmatization and marginalization. "ID3

Resistance towards services and non-attenders decrease health professionals' perceived possibilities for responsiveness. Some participants reported that high-risk pregnant women were occasionally absent and did not show up for appointments. This was particularly pertinent if the women were resistant towards enrollment in a specific care program.

> "We still have a lot of women who don't show up. Especially the more challenged ones. And those who have resistance towards services." ID12

However, the resistance could also be present when the women did show up for care.

> "I experience a 'don't get too close' and 'I'll keep you at arm's length distance' – a bit of suspicion." ID8

Non-attenders presented a challenge in relation to access. Participants expressed a need for more flexibility to accommodate this problem. The participants experience the organizational structure reduce the room for responsiveness, when pregnant women have resistance towards services. They don't feel that they

have enough possibilities to respond to challenges with non-attenders.

> "Due to the complexity, there could be a buffer and more flexibility to, for example, do home visits once in a while. We have some women who never show, and their home and lives are messy." ID5

One participant mentioned that sometimes the solution was to enroll challenged women in the service program they wanted despite professional assessment that another service program was more suitable. The argument was that care programs were voluntary, and if health professionals were not able to convince a pregnant woman of the benefits of attending a service program based on her needs, she could be enrolled in the services she wanted instead.

> "The service offer is voluntary, and the women might say that they do not wish to attend. Then they are enrolled in the service program they wish for instead." ID13

Health professionals provide information overload and the risk of misunderstandings increases. The majority of participants reported that it was difficult to balance the delivery of sufficient information about care without overloading the pregnant women. They explained that an overload of information increased the risk of misunderstanding. Participants wish to be responsive to the women's needs when they provide information, however they also feel the system imposes them to provide a certain and prespecified amount of information. Experiences by health professionals also suggest that pregnant women miss important information, for example about different roles of health professionals, due to this overload.

> "It's my task to deliver sufficient information without overloading them. That easily happens in this system." ID1

> "Last week I saw a woman who had seen me once for two hours and then she said, 'I haven't seen a midwife yet'. Alright I didn't do it right because I'm her midwife. And then someone else called yesterday and said, 'I need to cancel my appointment with my social worker and…'. And in the middle of the conversation, I realized that she thought I was her social worker." ID4

The participants had developed different strategies to prevent information overload and misunderstandings. This included reducing expectations and narrowing down information flow to the most necessary information in the shortest form.

> "I'm highly conscious that I don't want to overload the women. Sometimes you need to deliver seven messages, but you adapt and only deliver the two most important ones." ID11

> "It's very difficult because I'm very verbose. Often if I'm in doubt I use more words. That's not appropriate with this group. I work a lot on this thinking 'if I need to reduce this information to only one sentence, what will I say then?'" ID10

Different digital communication needs and platform preferences between health professionals and pregnant women. Data protection strategies introduced different preferences in digital communication. A common experience was that health professionals used Emento[4] to ensure secure communication and to gather all digital communication in one place. However, participants experienced that pregnant women would much rather use other media from their everyday life, such as messenger or text messaging. The women did not pay attention to data protection and regulations. Hence, participants experienced a barrier relating to digital communication when it came to preferred media and data protection. They wished to be responsive to the women's digital communication preferences but experienced they were restricted by data regulations.

> "We send out messages in Emento and regularly remind them. Especially if they text message us. 'We would like you to contact us through Emento. We wish to protect you and store your personal information safely. You can only call our mobile numbers, do not text them'. I think it's confusing with all the ways they can contact us. I understand why they think 'there is a mobile number. I'll just text that'." ID2

> "When I say that we wish to protect them and not store their information, they don't care. It's not their needs." ID1

Despite being instructed to use Emento, some participants reported that they adapted to the problem of different digital communication preferences and used text messaging to communicate as well. They also tried to communicate in a clear and easily understandable way.

> "Sometimes I send a text message with information about something I told them. I write it in a text message so they can easily remember it. It is a way of helping them, but it needs to be short and not too long." ID9

External interdisciplinary collaboration presents a challenge. Challenges in interdisciplinary collaboration between different sectors was linked to a lack of knowledge about different responsibilities and service content between hospitals and the municipality.

> "It's easier for me as I know what they do in the municipality. I feel that others, especially midwives, have a lot of good will and wish to contribute and refer to a lot of services, but you must remember that the municipality is responsible for that. Someone is already handling that. There is no reason for duplication of effort." ID6

It was also reported that some health professionals working at the hospital did not know the extent of the services that the municipality provided. This increased the fear of nobody taking on responsibility for the women. In these cases, some participants stated that the women received several services offers from both the municipality and the region, which increased confusion and stress, instead of helping the women.

> "Regional health professionals say, 'she is here all the time – are they doing enough in the municipality?'." ID6

> "In my experience, the pregnant women are a bit stressed out because they have a lot of things to attend to during pregnancy, especially if they have a lot of challenges." ID8

Strength or barrier depending on availability

The difference in funding and time between care programs is an organizational structure to increase equity by using differentiation between programs to match different pregnant women's needs. This following section shows that the participants had several positive experiences with differentiation but also struggle in other cases, indicating challenges related to balancing the different availability of funding and time between care programs, and a need for organizational support in these cases.

The balance of different funding and time availability between care programs present a challenge. Participants in this study were affected by differences in the level of program funding and available resources between different care programs. Within one of the care programs participants reported that the budget and availability of resources was higher and that health professionals could request more resources if needed. For example, one participant working in this service program explained that she could easily request and receive aids, such as dolls and other learning tools, to support communication with pregnant women.

> "It is the same health care system but in this service program we can say 'we would like to have two dolls that cost 1200 DKK'. 'Alright here you go'. That is just unheard of in the other service program. "ID4

All participants working in this specific service program also reported that they could attend more seminars and that that the seminar budget was larger for health professionals working in this service area.

> "I have a feeling that the seminar budget is higher. If I say 'I believe that this seminar would be beneficial' then I would most likely be allowed to attend." ID11

The availability of time per pregnant woman was also different between care programs. Some participants felt that there was acknowledgement from 'higher up' that it is harder to set a time limit for high-risk pregnant women who have more complex needs. This increases the need for time and flexibility in care provision. All health professionals in this study generally expressed positive experiences with the extra time offered in some of the care programs.

> "In general, I set aside an hour for the first consultation. I know that some will walk through my door, and I will think 'I don't need an hour with you'. But imagine if I did? It gives me possibilities. I don't need to end a conversation. If we are finished after half an hour, they just leave after half an hour. I always have a lot of administrative work to do." ID12

> "There is acknowledgement that high-risk pregnant women need more support and something else, and that it is difficult to pre-specify the needed timeframe. "ID8

In contrast, the general experience of participants was that the narrower timeframe in other care programs was challenging. Most felt that the flexibility in some care programs should apply in all care programs. Balancing the differentiation of time and funding availability between care programs may also present a barrier in particularly challenging cases. Participants explained that there was a limit to their ability to differentiate care between women due to the total available time.

> "I often say 'it's not the service we provide, which is challenged, it's the service provided in the rest of maternity care. Everyone should have access to what we provide in the care program I work in." ID4

> "The hard part is that sometimes you need to differentiate, and it can be difficult to make room for very challenged women, who require much more time. I don't think that there is time for that." ID12

Ongoing development and educational support. This theme illustrates that participants working in specific care programs had possibilities to attend annual seminars and lectures and to receive support for

ongoing development to update their skills and knowledge. The need for ongoing support for development was acknowledged.

> "Once in a while we are at seminars and get updated on communication strategies. We have had skilled professionals helping us. We have also had supervision with a psychologist. We have good support in my opinion." ID12

> "We have professional supervision every third month. And then we all have a course in mentalization[5]. And then we were all on a two-day seminar as a basis thing. There is acknowledgement that we need to be 'refueled'." ID2

However, these possibilities did not apply to the same extent for those working in other care programs due to reduced funding. Hence, there was a lack of ongoing educational support for health professionals working in some maternity care services.

> "I have a feeling that the seminar budget is higher in the other service program." ID11

> "It is easier to attend courses in this service program. The money is just not available to the same extent in this service program." ID1

Discussion

Main findings

We aimed to explore health professionals' perspectives on organizational health literacy responsiveness in Danish maternity care and found that several organizational factors strengthen responsiveness in maternity care. These were: effective program planning, flexible managers who adapt to local context, successful internal interdisciplinary collaboration, applying different strategies to support pregnant women's needs in a holistic way, beneficial partnerships across sectors, inclusion of social networks to support care, and introducing strategies to support communication and prevent misunderstandings. However, we also identified barriers to organizational health literacy responsiveness, including stigmatization within the organizational culture as a barrier to provide holistic and person-centred care, a decrease in health professionals' perceived possibilities for responsiveness due to resistance towards services and non-attenders, information overload by health professionals that increase misunderstandings, different preferences in relation to digital communication platforms between health professionals and pregnant women, and challenges related to external interdisciplinary collaboration. Some care programs receive more time, economic resources, and educational support than others, which increase equitable care based on women's different needs, but also introduces challenges for health professionals related to balancing the different availability in some cases.

Integration with prior work and implications

The interview guide developed for this study was underpinned by the seven areas included in the Organizational Health Literacy responsiveness framework (Org. HLR) (Trezona et al., 2017). In a review by Farmanova et al. from 2018 nine operational frameworks for organizational responsiveness were identified, with Org. HLR being one of them (Farmanova et al., 2018). The nine frameworks focus on different areas within organizations but have several overlapping areas. All frameworks align in their objective to help explore an organization's health literacy capacity. Farmanova et al. argue that a system-level approach and effort is needed to address health literacy, instead of exclusively focusing on individual or interpersonal health literacy (Farmanova et al., 2018). We chose the Org. HLR framework to guide the development of our interview guide as it was one of the first empirically developed frameworks for organizational responsiveness and includes a broad spectrum of areas highlighting the interconnection between leadership, organizational culture, systems, processes, policies, access, community engagement, partnerships, communication practice and the workforce.

We identified several factors that strengthened organizational health literacy responsiveness in Danish maternity care. This aligns with the Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development, which stipulates that increasing health literacy and people's potential to make healthy decisions for themselves and their families should be one of the core actions within and across health literate organizations, emphasizing the concept's importance and implication for practice (World Health Organization, 2016). We argue that the identified strengths for responsiveness in this study are of great importance for the future planning and organization of maternity services and can inspire similar organization of maternity care in other countries or settings. However, the context should always be a key consideration when interpreting our findings.

We also identified barriers to organizational health literacy responsiveness in maternity care. Some of these barriers were similar to those identified in the

review by Farmanova et al. Farmanova et al. identified barriers such as limited or no buy-in from leadership, lack of cultural change and innovation, not having procedures, policies, and protocols supporting health literacy practice, lack of time, lack of resources, and lack of training in health literacy (Farmanova et al., 2018). We found that some of the key barriers for organizational responsiveness identified by Farmanova et al. may contradictorily strengthen responsiveness if prioritized within the organization. In our study, we found that managers tried to adapt decision-making to local context, that health professionals and managers in maternity care strived for a holistic and supportive culture and tried to develop different strategies to support women, and that procedures, standards and strategies were in place to support communication, internal collaboration, inclusion of social network and partnerships with other organizations and communities. However, we also identified barriers to responsiveness related to procedures, policies, and protocols including stigmatization within the organizational culture, lacking strategies to accommodate resistance towards services and non-attendance, and difficulties related to digital communication preferences. These barriers impact health professionals perceived possibilities to be responsive and respond to individual needs of pregnant women, suggesting a need for organizational strategies and procedures that support personalized care. Our findings also suggest that lack of time, funding and educational support for staff can be barriers to organisational health literacy responsiveness. Differentiation increases equity when resources are based on pregnant women's specific needs, but also balanced. Health professionals should have organizational support to deal with challenges related to specific cases where the differentiation is a barrier for responsiveness.

Only a few studies have investigated and explored organizational health literacy responsiveness within maternity care (Creedy et al., 2021; Hedelund Lausen et al., 2018; Hughson et al., 2018). These studies were both qualitative studies conducted in Australia with a similar design and scope as this study. We found that time availability affects organizational responsiveness in maternity care. The two Australian studies also found that barriers for enhancing health literacy in maternity care included limited time availability in consultations (Hedelund Lausen et al., 2018; Hughson et al., 2018). One of the Australian studies also found that organizational challenges included lack of health literacy education for staff, problems accessing maternity care, and a lack of systematic assessment of individual health literacy levels (Hedelund Lausen et al., 2018). Aligned with the Australian study, we also found educational support to be an important factor for organizational health literacy responsiveness, as well as ongoing education and development for staff. We also identified barriers related to accessibility including resistance towards services and problems with non-attendance. Also, individual health literacy levels were mainly assessed by health professionals in Danish maternity care when they communicated with the pregnant women, rather than being systematically assessed or measured. Our findings do not support the lack of systematic assessment of individual health literacy levels as a barrier for organizational responsiveness. However, systematic assessment was not a focus in our interview guide and similar problems may be relevant in Danish maternity care. A systematic assessment of individual health literacy could potentially increase the opportunity to accommodate individual needs more systematically and screening could be a promising initiative moving forward. The other study from Australia (Hughson et al., 2018) found that barriers to organizational health literacy responsiveness included interpreter issues. We did not identify problems related to interpreter issues, but this may not necessarily indicate that such barriers do not exist within the Danish context.

Our study highlights health professionals' experiences with organizational health literacy responsiveness in Danish maternity care. Although these findings are important, organizational health literacy responsiveness within maternity care should be viewed in a broader lens focusing on the different incentives that affect actions and interaction (Clark & Wilson, 1961; Merchant et al., 2003). The organization of maternity care plays out at different levels and involves different stakeholders with different incentives including political, economic, professional, and patient perspectives. Those factors that are experienced as strengths or barriers by health professionals and managers may not be experienced in the same way by pregnant women or from a broader political perspective.

Strengths and limitations

The deductive approach may have introduced some limitations to this study (Azungah, 2018; Hyde, 2000). Using a deductive approach may solely include categories that are directly generated from the already established theory or model – in this case, the Org. HLR framework. The framework guided development of the interview guide and the content analysis, and hence, there is a risk that we missed additional and relevant knowledge that was not embedded in the

framework and established theory. However, we argue that the empirical nature and broad inclusion of domains in the Org. HLR framework minimised this risk and we did not have any left-over data. To the best of our knowledge, this is the first study to use this framework for exploring organizational health literacy responsiveness in maternity care. It therefore provides important information about strengths and barriers to responsiveness, which can be adapted to other contexts and settings.

We used a variety of strategies to enhance trustworthiness of the findings in this study. We focused on the credibility, transferability, dependability, and confirmability. We used triangulation analysis meaning that two researchers independently analyzed the data to illuminate potential blind spots in the process and to increase the credibility of our findings. We cannot assume that findings in this study are applicable to other contexts, but we provide a clear description of the context of this study in an attempt to guide transferability of findings. The chosen qualitative approach, research paradigm, sampling strategy, data collection methods, data collection instruments and data analysis steps were described in detail to ensure dependability, also attempting to assure that the analysis could be repeated and result in similar findings. All findings were supported by direct quotes. Hence, we considered credibility, transferability, dependability, and confirmability to enhance trustworthiness of the findings in this study (Connelly, 2016).

Conclusion

We found that health professionals within maternity care reported positive organizational health literacy responsiveness in many areas that helped them provide excellent care for pregnant women and their families. Organizational health literacy responsiveness in Danish maternity care may be strengthened by factors such as effective program planning, successful internal interdisciplinary collaboration, beneficial partnerships, and communication strategies. We also found that health professionals experienced different barriers to organizational responsiveness and their possibilities to respond to individual needs of women including stigmatization within the organizational culture as a barrier to provide holistic and person-centred care, a risk of information overload by health professionals because of the organizational recommendations, and problems related to digital communication platforms due to differences between the organizational way and women's preferences. Also, participants in this study perceived barriers for responsiveness and lack of strategies related to situations were pregnant women had resistance towards services or did not show up for care. Finally, participants experienced challenges related to external interdisciplinary collaboration. We argue that by identifying and addressing these barriers, it may be possible to increase organizational health literacy responsiveness in Danish maternity care. Organizational health literacy responsiveness may be negatively affected within some services in Danish maternity care, due to lack of funding, lack of time and reduced educational support for staff, even though differentiation between care programs increases equitable solutions based on individual needs. Findings indicate that health professionals struggle to balance the differentiation between funding and time availability in different care programs and a need for organizational support to ensure responsiveness.

The findings in this study provide useful guidance for planning and organizing maternity care services and programs as they highlight strengths and barriers experienced by health professionals working in maternity care services. As always, findings should be interpreted in context and attention should also be given to other organizational incentives and perspectives.

Notes

1. A digital record of the woman's health data related to the pregnancy.
2. A plan written by the social worker for the woman's pregnancy course if there are any specific social challenges.
3. A chart with the woman's health data related to the pregnancy, which she brings to each appointment during the pregnancy course.
4. A Danish app used at included study sites for digital support, guidance and communication offered to pregnant women in maternity care.
5. The ability to interpret or understand behavior (one's own as well as that of others) that is psychologically motivated in terms of underlying intentions and mental states, such as thoughts, feelings, wishes, and intentions.

Authors' contribution

M.M. drafted the manuscript and designed the tables and figures. M.M. and C.S.J. conducted interviews, independently analysed, and synthesised the results. R.D.M. informed and invited the participants to take part. B.R., R.D.M. and H.T.M. supervised the qualitative analyses. All authors were involved in revision of the manuscript and approved the final version.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

The authors confirm that the data supporting the findings of this study are available on request to the corresponding author.

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References

Azungah, T. (2018). Qualitative research: Deductive and inductive approaches to data analysis. *Qualitative Research Journal*, *18*(4), 1–15.

Barnes, L. A. J., Barclay, L., McCaffery, K., & Aslani, P. (2019). Women's health literacy and the complex decision-making process to use complementary medicine products in pregnancy and lactation. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy*, *22*(5), 1013–1027.

Batterham, R. W., Beauchamp, A., & Osborne, R. H. (2017). Health literacy. In Quah S. R. (Ed.), *International encyclopedia of public health* (2nd ed., pp. 428–437). Academic Press.

Berger, R. (2015). Now I see it, now I don't: researcher's position and reflexivity in qualitative research. *Qualitative Research*, *15*(2), 219–234.

Berkman, N. D., Sheridan, S. L., Donahue, K. E., Halpern, D. J., & Crotty, K. (2011). Low health literacy and health outcomes: An updated systematic review. *Annals of Internal Medicine*, *155*(2), 97–107.

Bremer, D., Klockmann, I., Jaß, L., Härter, M., von Dem Knesebeck, O., & Lüdecke, D. (2021). Which criteria characterize a health literate health care organization? – A scoping review on organizational health literacy. *BMC Health Services Research*, *21*(1), 664.

Bröder, J., Chang, P., Kickbusch, I., Levin-Zamir, D., McElhinney, E., Nutbeam, D., Okan, O., Osborne, R., Pelikan, J., Rootman, I., Rowlands, G., Nunes-Saboga, L., Simmons, R., Sørensen, K., Van den Broucke, S., Velardo, S., & Wills, J. (2018). IUHPE position statement on health literacy: A practical vision for a health literate world. *Global Health Promotion*, *25*(4), 79–88.

Brorsen, E., Rasmussen, T. D., Ekstrøm, C. T., Osborne, R. H., & Villadsen, S. F. (2022). Health literacy responsiveness: A cross-sectional study among pregnant women in Denmark. *Scandinavian Journal of Public Health*, *50*(4), 507–515.

Chari, R., Warsh, J., Ketterer, T., Hossain, J., & Sharif, I. (2014). Association between health literacy and child and adolescent obesity. *Patient Education and Counseling*, *94*(1), 61–66.

Charoghchian Khorasani, E., Peyman, N., & Esmaily, H. (2018). Measuring maternal health literacy in pregnant women referred to the healthcare centers of Mashhad, Iran. *Journal of Midwifery and Reproductive Health*, *6*(1), 1157–1162.

Cho, R. N., Plunkett, B. A., Wolf, M. S., Simon, C. E., & Grobman, W. A. (2007). Health literacy and patient understanding of screening tests for aneuploidy and neural tube defects. *Prenatal Diagnosis*, *27*(5), 463–467.

Clark, P. B., & Wilson, J. Q. (1961). Incentive systems: A theory of organizations. *Administrative Science Quarterly*, *6*(2), 129–166.

Connelly, L. M. (2016). Understanding research. Trustworthiness in qualitative research. *MEDSURG Nursing*, *25*(6), 435–436.

Creedy, D. K., Gamble, J., Boorman, R., & Allen, J. (2021). Midwives' self-reported knowledge and skills to assess and promote maternal health literacy: A national cross-sectional survey. *Women and Birth: Journal of the Australian College of Midwives*, *34*(2), e188–e195.

Dadipoor, S., Ramezankhani, A., Alavi, A., Aghamolaei, T., & Safari-Moradabadi, A. (2017). Pregnant women's health literacy in the south of Iran. *Journal of Family & Reproductive Health*, *11*(4), 211–218.

Dayyani, I., Terkildsen Maindal, H., Rowlands, G., & Lou, S. (2019). A qualitative study about the experiences of ethnic minority pregnant women with gestational diabetes. *Scandinavian Journal of Caring Sciences*, *33*(3), 621–631.

Duggan, L., McCarthy, S., Curtis, L. M., Wolf, M. S., Noone, C., Higgins, J. R., O'Shea, S., & Sahm, L. J. (2014). Associations between health literacy and beliefs about medicines in an Irish obstetric population. *Journal of Health Communication*, *19*(Suppl 2), 106–114.

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, *62*(1), 107–115.

Endres, L. K., Sharp, L. K., Haney, E., & Dooley, S. L. (2004). Health literacy and pregnancy preparedness in pregestational diabetes. *Diabetes Care*, *27*(2), 331–334.

Farmanova, E., Bonneville, L., & Bouchard, L. (2018). Organizational health literacy: Review of theories, frameworks, guides, and implementation issues. INQUIRY. *Journal of Health Care Organization, Provision, and Financing*, *55*, 0046958018757848.

Guler, D. S., Sahin, S., Ozdemir, K., Unsal, A., & Uslu Yuvacı, H. (2021). Health literacy and knowledge of antenatal care among pregnant women. *Health & Social Care in the Community*, *29*(6), 1815–1823.

Hedelund Lausen, L., Smith, S. K., Cai, A., Meiser, B., Yanes, T., Ahmad, R., & Rowlands, G. (2018). How is health literacy addressed in primary care? Strategies that general practitioners use to support patients. *Journal of Communication in Healthcare*, *11*(4), 278–287.

Hughson, J. A., Marshall, F., Daly, J. O., Woodward-Kron, R., Hajek, J., & Story, D. (2018). Health professionals' views on health literacy issues for culturally and linguistically diverse women in maternity care: Barriers, enablers and the need for an integrated approach. *Australian Health Review: A Publication of the Australian Hospital Association*, *42*(1), 10–20.

Hyde, K. F. (2000). Recognising deductive processes in qualitative research. *Qualitative Market Research: An International Journal*, *3*(2), 82–90.

Kallio, H., Pietilä, A.-M., Johnson, M., & Kangasniemi, M. (2016). Systematic methodological review: Developing a framework for a qualitative semi-structured interview guide. *Journal of Advanced Nursing*, *72*(12), 2954–2965.

Kickbusch, I., Pelikan, J., Apfel, F., & Tsouros, A. (2013). *Health literacy: The solid facts*. World Health Organisation, Regional Office for Europe.

Kim, J., Mathews, H., Cortright, L. M., Zeng, X., & Newton, E. (2018). Factors affecting patient portal use among low-income pregnant women: Mixed-methods pilot study. *JMIR Formative Research*, *2*(1), e6.

Merchant, K. A., Van der Stede, W. A., & Zheng, L. (2003). Disciplinary constraints on the advancement of knowledge: The case of organizational incentive systems. *Accounting, Organizations and Society*, *28*(2–3), 251–286.

Murugesu, L., Damman, O. C., Derksen, M. E., Timmermans, D. R. M., de Jonge, A., Smets, E. M. A., & Fransen, M. P. (2021). Women's participation in decision-making in maternity care: A qualitative exploration of clients' health literacy skills and needs for support. *International Journal of Environmental Research and Public Health*, *18*(3), 1130.

Naigaga, M. D., Guttersrud, Ø., & Pettersen, K. S. (2015). Measuring maternal health literacy in adolescents attending antenatal care in a developing country – the impact of selected demographic characteristics. *Journal of Clinical Nursing*, *24*(17–18), 2402–2409.

Peck, B., & Mummery, J. (2018). Hermeneutic constructivism: An ontology for qualitative research. *Qualitative Health Research*, *28*(3), 389–407.

Pirdehghan, A., Eslahchi, M., Esna-Ashari, F., & Borzouei, S. (2020). Health literacy and diabetes control in pregnant women. *Journal of Family Medicine and Primary Care*, *9*(2), 1048–1052.

Poorman, E., Gazmararian, J., Elon, L., & Parker, R. (2014). Is health literacy related to health behaviors and cell phone usage patterns among the text4baby target population? *Archives of Public Health = Archives Belges De Sante Publique*, *72*(1), 13.

Shieh, C., Mays, R., McDaniel, A., & Yu, J. (2009). Health literacy and its association with the use of information sources and with barriers to information seeking in clinic-based pregnant women. *Health Care for Women International*, *30*(11), 971–988.

Solhi, M., Abbasi, K., Ebadi Fard Azar, F., & Hosseini, A. (2019). Effect of health literacy education on self-care in pregnant women: A randomized controlled clinical trial. *International Journal of Community Based Nursing and Midwifery*, *7*(1), 2–12.

Sundhedsstyrelsen. (2013). Anbefalinger for svangreomsorgen. www.sst.dk.

Trezona, A., Dodson, S., & Osborne, R. H. (2017). Development of the organisational health literacy responsiveness (Org-HLR) framework in collaboration with health and social services professionals. *BMC Health Services Research*, *17*(1), 513.

Vamos, C. A., Merrell, L., Detman, L., Louis, J., & Daley, E. (2019). Exploring women's experiences in accessing, understanding, appraising, and applying health information during pregnancy. *Journal of Midwifery & Women's Health*, *64*(4), 472–480.

Vilella, K. D., Alves, S. G., de Souza, J. F., Fraiz, F. C., & Assunção, L. R. (2016). The association of oral health literacy and oral health knowledge with social determinants in pregnant Brazilian women. *Journal of Community Health*, *41*(5), 1027–1032.

Villadsen, S. F., Hadi, H., Ismail, I., Osborne, R. H., Ekstrøm, C. T., & Kayser, L. (2020). ehealth literacy and health literacy among immigrants and their descendants compared with women of Danish origin: A cross-sectional study using a multidimensional approach among pregnant women. *BMJ Open*, *10*(5), e037076.

Whitehead, D., Ferguson, C., Geri Lobiondo-Wood, P., & Judith Haber, P. (2020). *Nursing and midwifery research: Methods and appraisal for evidence based practice*. Elsevier Health Sciences.

Wilson, F. L., Mayeta-Peart, A., Parada-Webster, L., & Nordstrom, C. (2012). Using the teach-back method to increase maternal immunization literacy among low-income pregnant women in Jamaica: A pilot study. *Journal of Pediatric Nursing*, *27*(5), 451–459.

World Health Organization. (2016). *Shanghai Declaration on promoting health in the 2030 agenda for sustainable development* [Paper presentation]. The Ninth Global Conference on Health Promotion, Shanghai. www.who.int.

World Health Organization. (2016). WHO recommendations on antenatal care for positive pregnancy experience.

World Health Organization. Regional Office For Europe, Bakker, M. M., Putrik, P., Aaby, A., Debussche, X., Morrissey, J., Borge, C. R., Nascimento do, Ó. D., Kolarčik, P., Batterham, R., Osborne, R. H., & Maindal, H. T. (2019). Acting together – WHO National Health Literacy Demonstration Projects (NHLDPs) address health literacy needs in the European Region. *Public Health Panorama*, *5*(2–3).

World Medical Association. (2013). World Medical Association Declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, *310*(20), 2191–2194.

You, W. B., Wolf, M., Bailey, S. C., Pandit, A. U., Waite, K. R., Sobel, R. M., & Grobman, W. (2012). Factors associated with patient understanding of preeclampsia. *Hypertension in Pregnancy*, *31*(3), 341–349.