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Health counselling in dental care for expectant parents: A qualitative study

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Abstract

Objectives: Interventions during pregnancy and early childhood have been shown to impact dental health. Thus, Antenatal Care and Dental Care collaborated in an intervention called Health Counselling in Dental Care (HCDC). HCDC was offered free of charge to first-time expectant parents and was aimed at reducing the frequency of dental caries in children and their parents. However, the intervention reached less than 50% of the parents. The aim of this study was to explore facilitators of, barriers to, and suggestions for increased participation in HCDC.

Methods: Data were collected through semi-structured, face-to-face interviews with expectant parents. Participants were purposively sampled based on having been invited to HCDC and to achieve a variation in socio-demographics. Interviews were audio recorded, transcribed verbatim and analysed using conventional qualitative content analysis.

Results: In total, 16 interviews were conducted (10 women, 6 men). Six categories representing three facilitators and three barriers for participation emerged. The facilitators were the midwife's crucial role for disseminating information about HCDC and motivating participation, that the parents perceived HCDC as valuable for themselves and their offspring, and a desire for new or more knowledge. The barriers included a shortage of information regarding the counselling, a perceived lack of value for the parents and offspring, and the timing of the counselling during pregnancy.

Conclusions: The midwives were crucial in providing information and motivation for HCDC participation. To increase attendance, sufficient information regarding the benefits of counselling is required, and the timing needs to be flexible and family-centred.

KEYWORDS

antenatal care, dental care, health counselling, interviews, pregnancy, prevention

1 | INTRODUCTION

Dental caries is one of the most common preventable chronic diseases in childhood worldwide, and this susceptibility remains throughout life.[1] It is a complex disease caused by interaction between biological, behavioural and socio-environmental risk factors.[2] In recent years, the global epidemiology of early childhood caries has shown an increased prevalence of caries in preschool children in both developed and developing countries.[3] Caries in early childhood is also associated with an increased risk of caries in permanent dentition, and a strong relationship has been shown between caries in early childhood and caries prevalence at 15 years of age.[4-6] In Sweden today, almost one in five 6-year-olds has caries or filled teeth.[7]

The psychosocial environment during childhood has an impact on dental health later in life.[8] There is evidence that maternal oral health and oral hygiene practices influence both the general and oral health of children[9] and interventions during pregnancy and early childhood have been shown to impact long-term dental health.[10,11] Early interventions to prevent caries should be based on caries risk indicators such as family characteristics and child oral health habits.[12] Good oral hygiene habits should be established during infancy and be maintained throughout childhood.[8]

Oral health promotion integrated into nursing practice is an intervention that is capable of reducing oral health disparities.[13] Factors contributing to a downward trend in caries prevalence included better oral hygiene, dietary habits and increased rates of Dental Care (DC) visits among young children, as reported by their caregivers.[14] Those who benefited most were particularly poor and disadvantaged communities. A study of a small group of public health nurses showed that they experience that it is both appropriate and realistic to integrate oral health prevention into their daily work despite having a busy schedule.[13] This knowledge of the benefits of early dental health prevention have been taken into account in the Salut Child Health Intervention Programme initiated in 2005 by the health authorities of Västerbotten County in northern Sweden as a result of alarming reports of child overweight and obesity[15] and trends of increased dental caries.[16] The programme includes a package of interventions that start during pregnancy using a family-centred approach, as described in detail elsewhere.[17-19] Research findings suggests that the Salut Programme is an effective universal intervention for improving maternal and child health with good value for the money.[19] However, the literature is limited about dental health counselling during pregnancy.[11,20] Although pregnancy has been shown to be a period in life during which first-time parents are open to lifestyle changes,[21] their focus is primarily on ensuring the health of the foetus, and creating a healthy environment for the child when growing up.

From 2010 to 2016, according to the Salut Programme, midwives in the county were supposed to offer all expectant parents a visit free of charge to health counselling in dental care (HCDC) provided by a dental hygienist. The counselling was based on motivational interviewing, a suitable method for lifestyle counselling that has shown promising results in areas such as Dental Care.[22] However, for unknown reasons, the HCDC reached less than 50% of the first-time expectant parents in 2012 (unpublished data) and then decreased further. It was unclear whether the explanation for the lack of attendance was a lack of referrals of first-time expectant parents from the midwives to the DC, if the midwives tried to motivate participation at all, if families had difficulties accessing the intervention, if there was a lack of motivation for the intervention or if there were other unknown reasons. From 2017 onwards, a review and programme evaluation were initiated to establish how dental health prevention for expectant parents could be improved. Due to the large research gap on dental health counselling during pregnancy,[11,20] as well as participation of first-time expectant parents, it is important to explore how dental health prevention for expectant parents can be improved. Thus, the aim of this study was to explore facilitators of and barriers to participation in health counselling in DC for first-time expectant parents and to explore factors that could increase participation in the future.

2 | METHODS

2.1 | Study context

This study was conducted in Västerbotten County, in Northern Sweden, which has around 3000 births annually. Antenatal care (ANC), Child Health Care, and DC for children are all tax-funded and free of charge to the parents. Nearly all pregnant women enrol in ANC during the first pregnancy trimester, in which midwives are responsible for maternal and foetal surveillance and health counselling. According to local guidelines, apart from the HCDC during pregnancy, all children are invited to a DC visit at about 2 years of age.[23] This visit focuses on dental health with the aim of identifying children at increased risk of caries. The basic dental programme includes examination and treatment when needed, as well as teaching and motivating children and parents to brush their teeth twice a day with fluoride toothpaste. The goal is to keep as many children as possible caries-free.

2.2 | Description of Health Counselling in Dental Care (HCDC)

As part of the Salut Programme, ANC and DC collaborated from 2010 to 2016 in the intervention called HCDC, which is the focus of this study. The purpose of introducing HCDC as part of the Salut Programme during pregnancy was to provide the unborn child with the most optimal conditions for good health via the parents. At the first ANC visit at around gestational week 11, the midwife in charge was to inform the expectant parents about the offer of an HCDC visit at some point during gestational weeks 14–33. After receiving informed consent from the expectant parents, the midwife forwarded the completed health questionnaires to the DC with a notification

that the parents had agreed to participate in HCDC. After receiving the questionnaires, including the agreements, the DC sent an invitation to the expectant parents to participate in an HCDC visit. This invitation was commonly sent by the dental hygienist conducting the HCDC, but sometimes via a dental nurse at the clinic. During the HCDC visit, the dental hygienist would cover the areas of oral hygiene, dietary and tobacco habits, and DC visits, taking into account the parents' responses in the questionnaires.[18] HCDC was aligned with the WHO recommendation for counselling for maternal and new-born health, described as

> an interactive process between the skilled attendant/ health worker and a woman and her family, during which information is exchanged and support is provided so that the woman and her family can make decisions, design a plan and take action to improve their health.[24]

2.3 | Study design

A qualitative research design was adopted, in which a qualitative inquiry with face-to-face interviews was used to deepen the understanding of facilitators of and barriers to participation in HCDC for first-time expectant parents. This study used an abductive approach in which data collection and analysis were conducted in parallel.[25] The abductive approach implies that results from the first interviews guided the development of the interview guide, and thereby the subsequent interviews.

2.4 | Informants

The potential informants were purposively selected based on their responses to the Salut Programme's health questionnaires, completed by most parents in the first trimester before their first visit to ANC. All first-time expectant parents who had completed the questionnaires were eligible to participate and were included in the initial selection. Informants were then purposively selected to have a maximum variation sample based on the following socio-demographic variables: areas of residence, education levels and country of origin, but also in terms of BMI and different lifestyle characteristics. Only women at a gestational age of 17-33 weeks and their partners were included in the study.

2.5 | Data collection procedure

Semi-structured face-to-face interviews[26] were conducted between May 2014 and April 2015. The interview guide was developed based on previous experiences from the Salut Programme.[18] The interviews were conducted by the second author. After the first two interviews, the first, second and last author met to discuss emerging issues and ideas that needed to be further explored in the subsequent interviews. This discussion involved revising the interview guide and information to participants. The final interview guide covered the following three areas: (a) the midwives' mode of invitation to HCDC; (b) the DC invitation to the parents; and (c) reasons for participation or non-participation in HCDC and suggestions on how to increase participation (Table 1). The semi-structured interview guide allowed the informants to add new aspects that could be related to barriers and facilitators of participation in HCDC that had not been included as questions in the guide.

All informants chose to be interviewed in their home and the interviews lasted from 12 to 31 minutes. After each interview, notes were written in a reflective journal as recommended[25] and were used during the analysis. One female participant asked to be interviewed with her husband in the same room because of her hesitancy about speaking Swedish.

TABLE 1 Interview guide

Areas[a] and target groups[b] and questions
I. The midwife's mode of invitation to HCDC[c]
All participants
• Can you tell us how the midwife presented the HCDC?
• Did you experience that your midwife motivated you to attend the HCDC? If yes, how?
• If not, could you tell me more about it?
II. Dental Care's invitation to the parents
All participants
• How did you experience the invitation you received from dental care?
• Do you feel that the invitation was addressed to you alone or to both of you?
• How would you describe that you (or both of you) were involved?
III. Reasons for participation/ non-participation in HCDC and how to increase participation
All participants
• Please describe the reasons why you chose to participate/ not to participate?
• How, in your opinion, could we get more parents to participate in the HCDC?
Non-participants in HCDC
• Is there anything that could have been made different so that you would have chosen to participate?
• Did you have any knowledge previously concerning what the HCDC would be about that made you choose not to participate?
• Please describe the reasons why you chose not to participate.
• Although you did not participate, do you think that HCDC could motivate you to
• change your lifestyle in any way? Oral hygiene/ dental care visits/ tobacco habits/dietary habits.
• If yes, how and why? If no, why not?

[a]The interview guide's three areas (I–III) and their related questions.

[b]The respective question were posed to all participants or only to non-participants (i.e. those who chose not to participate in HCDC or had not received the invitation).

[c]HCDC, Health Counselling in Dental Care.

2.6 | Data analysis

The interviews were digitally recorded and transcribed verbatim by the second author. This formed the basis for a qualitative analysis using conventional content analysis.[27-29] This entailed back-and-forth movement between the transcripts, meaning units, condensed meaning units, codes and categories. Conventional content analysis is appropriate when existing theory or research literature on a phenomenon is limited.[28] With this approach, researchers avoid using preconceived categories; instead, categories and names of categories emerge from the data.[29] The first and the second author took turns in leading the analyses in close collaboration with the last author. To negotiate the findings and improve the coding scheme, the first and the second author coded all interviews, while the last author coded a subset. The focus of the analysis was on the manifest content of the interviews and exploring facilitators of and barriers to participating in HCDC for first-time expectant parents. In this, the categories referred mainly to a descriptive level of the content of the text.[27,30] The analysis also included some aspects of advice from the informants on how to increase HCDC participation and their experiences of HCDC. Mid-way through the analyses, initial results were presented to the Salut Programme Strategic Group and a group of midwives involved in delivering the programme. Their input helped to improve the coding scheme. During these meetings, initial results were confirmed by the participants. These participants also provided additional aspects on reasons for participation/non-participation in the HCDC and reflections on the midwife's role in the process, which were brought into the analysis.

Finally, the results were reflected upon and discussed by the entire research team and revised accordingly to improve the results. An example of the analytical process is given in Table 2.

2.7 | Trustworthiness

Measures were taken to increase the credibility, dependability, transferability and confirmability of the study.[25,27] *Credibility* was aimed for by inviting both HCDC participants and non-participants representing both genders and a variation regarding age, socio-demography, country of origin, BMI and lifestyles. It was also increased by presenting an example from the analytical process (Table 2) and representative quotations from most of the informants.[27] We further strived to increase credibility by presenting our results and receiving feedback from groups involved in the HCDC, but who were not part of the research team. *Dependability* was considered by conducting regular peer-debriefing sessions all the way from the study design through data analysis and interpretation of the results. To increase *transferability*, we provided extensive descriptions about the context, the selection process of the participants and their characteristics, and the process of data collection and analysis as well as a comprehensive presentation of the findings. *Confirmability* was supported by having a multidisciplinary research team, with both "insiders" (SK, JvD, AI, EE) and "outsiders" (KL) to the research field.[25]

2.8 | Ethical approval and consent to participate

Ethical approval was obtained from the Regional Ethical Review Board in Umeå for the Salut Programme's data collection (Dnr 2010-63-31), and an additional application was approved for this interview study (Dnr 2013-376-32). Participation was voluntary and informed consent was obtained both in writing and verbally prior to the interviews. The informants' confidentiality was safeguarded throughout the research process and in the publication. The study was carried out in accordance with the ethical principles in the Helsinki Declaration.[31]

3 | RESULTS

Out of 54 potential informants (29 women and 25 men), 38 individuals declined to participate, 50% women and 50% men. The final sample comprised 16 informants, involving six couples (six women and six men) and another four women who participated alone as their male partners did not wish to participate. The median age of the women was 27 years (range 23-36) and 28 years among the men (range 26-39). Six out of the ten women and three out of the six men had participated in HCDC. The informants' characteristics, according to self-reported data from the health questionnaires, are given in Table 3. Six out of ten women and all of the men were born in Sweden. Six out of the ten women and three of the six men were living in urban areas. Level of education, BMI and lifestyle characteristics differed between the sexes and participants/non-participants.

Six categories representing three facilitators (3.1) and three barriers (3.2) to HCDC participation emerged in the analyses (Table 4). All categories were represented by information from both male and female informants. In addition, the informants' suggestions regarding factors that could increase pregnant women's access to dental services in the future are provided. These factors are presented last in the results after the categories have been presented.

TABLE 2 Illustration of the qualitative content analysis process moving from meaning unit to category

Meaning unit	Condensed meaning unit	Code	Category
…what she (the midwife) has said that I should do I have willingly done; I mean I have adopted her suggestions and advice and so on…	What she has said that I should do I have done; I have adopted her suggestions and advice.	Adopts the midwife's suggestions and advice	Midwife crucial for motivation and information.

TABLE 3 Socio-demographics, BMI and lifestyle characteristics of informants

Characteristics	All n = 16	Women n = 10	Men n = 6	HCDC-participation[a] Yes n = 9	HCDC-participation[a] No n = 7
Sex					
Men	6	0	6	3	3
Woman	10	10	0	6	4
Age group (y)					
20-25	3	3	0	1	2
26-30	10	5	5	5	5
31-	3	2	1	3	0
Country of birth					
Sweden	12	6	6	6	6
Other	4	4	0	3	1
Area of residence					
Urban	9	6	3	6	3
Rural	7	4	3	3	4
Level of education					
Compulsory school (9 y)	1	0	1	1	0
Upper secondary school (12 y)	5	2	3	2	3
Post-secondary education (<3 y)	4	4	0	2	2
(≥3 y)	6	4	2	4	2
BMI[b] (kg/m^2)					
Normal weight (18.5-24.9)	10	7	3	4	6
Overweight (25.0-29.9)	4	2	2	3	1
Obesity (≥30.0)	1	0	1	1	0
Tobacco habits					
No use	13	8	5	7	6
Yes, using cigarettes	0	0	0	0	0
Yes, using snuff	3	1	2	2	1
Tooth-brushing					
Twice a day or more often	13	9	4	8	5
Once a day or more seldom	3	1	2	1	2
Intake of pastries, biscuits, sweets, crisps or soft drinks					
1–2 times/wk or more seldom	9	6	3	4	5
Once a day or more often	7	4	3	5	2
Intake of fruits and vegetables					
1-2 times/d or more often	13	7	6	8	5
1-2 times/wk or more seldom	3	3	0	1	2
Level of physical activity[c]					
Above recommended level	5	3	2	3	2
Below recommended level	11	7	4	6	5

[a]HCDC, Health Counselling in Dental Care.

[b]BMI missing for one person.

[c]Physical activity at a moderate to high level of 150 min (or more) per week according to recommendations.

3.1 | Facilitators for HCDC participation

3.1.1 | The midwife is crucial for disseminating information and motivating expectant parents

The informants emphasized the midwife's crucial role in conveying the HCDC option and its content, as well as motivating or failing to motivate participation in HCDC. The informants described a variation in how much the midwife had informed and motivated them regarding HCDC participation.

Overall, the informants had considerable trust in the midwife's experience and knowledge. This implied that if the midwife had conveyed to the informants that HCDC participation is important, they also felt that it was important.

> Well, I think so… that if she [the midwife] says so then … because you listen to her a lot… and if she says it would be good if you attended, you know, and it's about your child and so on … you listen to her advice.
>
> Informant no 3, man, participant in HCDC

> I imagine there are a lot of people who think like I do that … you listen to her [the midwife] a great deal … so she has a great deal of power in her hands … to influence you … regarding what could be good to attend.
>
> Informant no 6, woman, non-participant in HCDC

Some of the informants stated that the midwife's role in HCDC participation was of additional importance when being a first-time expectant parent.

> I feel very susceptible as a first-time parent when I'm with the midwife and I listen to her a lot, what she's

TABLE 4 An overview of the categories representing facilitators and barriers for participation in HCDC[a]

Categories	A brief description of each category
Facilitators	
I. The midwife is crucial for disseminating information and motivating expectant parents.	The importance of the midwife to give information and to motivate for HCDC participation.
II. Important for the health of my baby or a win-win situation for both of us.	The health of the baby and/or of the expectant parent was a motive for participation.
III. A desire for new or more knowledge.	An interest of having new or more knowledge was an additional motive for participation.
Barriers	
I. Limited or missing information and/or motivation from Antenatal Care and Dental Care.	Some of the informants received no invitation, incomplete information or an unclear purpose of HCDC.
II. What's in it for me/us and our baby?	Lack of motivation when the value of HCDC for the parent or the offspring was unclear.
III. HCDC was offered and/or held at the wrong time during the pregnancy.	The timing of the visit was inappropriate – either too early or too late in the pregnancy.

[a]HCDC, Health Counselling in Dental Care.

> saying, and I have great faith in her, you know … how should I put it … what she tells me is good for me and … I have happily accepted her tips and advice and so on.
>
> Informant no 6, woman, non-participant in HCDC

In addition, the midwife's information and motivation was the "starting point" for the two subsequent HCDC facilitating categories. If the midwife's information and motivation was successful, then the parents could reflect on the potential benefits of their participation, whether it was for their own or their offspring's health, or an interest in seeking more knowledge.

3.1.2 | Important for the health of my baby or a win-win situation for both of us

Some informants stated that they had chosen to participate because they believed it to be of importance for their own health and well-being, their offspring's health and well-being, or a combination of both. For the parents' health, it was important to participate in HCDC in order to learn more about their dental health and also their health in general. Some participants chose to participate because they wanted to change their general lifestyle.

> … you want to learn as much as possible because it will benefit your child.
>
> Informant no 4, woman, participant in HCDC

> … OK, I want to know what I'm allowed to eat during the pregnancy, because the midwife said I could eat anything. But she can't tell me about problems with the teeth, and I have to go there [to the dentist's] to ask them instead.
>
> Informant no 2, woman, participant in HCDC

When the reason given for HCDC participation was their offspring, this was motivated by the informants' wish to learn everything that could contribute to their offspring's general health and not specifically their dental health. Another reason for HCDC participation was a desire to change a habit that could make a positive contribution to their own health, and, consequently, also their offspring's health, because they share the same family environment.

> You're set to change your behaviour and so on. It's good to hear what is being said and whether there's anything new… and what applies.
>
> Informant no 10, man, participant in HCDC

3.1.3 | A desire for new or more knowledge

In the interviews, it became evident that the pregnancy had brought about a general desire for new or more knowledge, which was described as a facilitating factor in HCDC participation. The parents wanted information on general lifestyle and health, and more specifically on dental habits and dental health.

> I've heard things from the dentist about what to do but haven't heard what it is like for the child. You want to learn as much as you can.
>
> Informant no 4, woman, participant in HCDC

It's because you are in that situation … and then you want to know everything …, you do, that's what it's like.

Informant no 5, man, participant in HCDC

Some informants stated that a general curiosity about the HCDC content was their reason for participating.

Well, I was mainly curious to see what it was and what the content included.

Informant no 10, man, participant in HCDC

To learn something … because everything is so new … there's a lot that is very new, and you don't know anything about it.

Informant no 11, woman, participant in HCDC

For some of the informants, this curiosity about the HCDC content was enough to motivate their participation even when the purpose and/or the content of the HCDC had been somewhat unclear.

We actually didn't really know what it [HCDC] was… We have been kind of open and then this is also our first child … so you want to kind of receive all the information you can… and then it was the case that we didn't really know what it [HCDC] was going to be about, so we chatted a bit beforehand so that: 'well, what's this all about and why' and then you get curious about what it is.

Informant no 9, woman, participant in HCDC

3.2 | Barriers to HCDC participation

3.2.1 | Limited or missing information and/or motivation from ANC and DC

Some of the informants stated that they had not received any information, or very limited information, from the midwife about HCDC. Other informants described that they had received the information from the midwife but that they had not received the invitation from DC.

Well – it's difficult of course when you don't know anything about it … but yes, I would have gone if I had known about it.

Informant no 13, woman, non-participant in HCDC

A recurring message from the informants was their uncertainty about the purpose of HCDC, including whether it was for the parents' or the offspring's health. There was also uncertainty as to whether the dental information related to during or after the pregnancy.

Oh! … well it says health and dental health but not which period it's about… whether it's before or after the birth.

Mmmm … whether it's about your own teeth or the child's teeth?

(Interviewer)

Exactly… for my part it is only about after the child has been born … because I can't brush her teeth (now).

Informant no 14, man, non-participant in HCDC

Some of the informants stated that the midwife had not motivated them to participate in HCDC. The reasons stated ranged from not having been motivated at all to being motivated but not enough to participate.

No, I didn't feel she had [motivated the informant to attend HCDC]. Rather, it, was, more like an opportunity but that she didn't tell me much about it.

Informant no 6, woman, non-participant in HCDC

No … I don't really think so … it didn't feel like she [the midwife] thought it was like really that important, though she didn't say it was unimportant either.

Informant no 16, woman, non-participant in HCDC

3.2.2 | What's in it for me/us and our baby?

In this category, some informants described a lack of internal motivation to participate. The participants also stated that this lack of motivation related to the feeling that they already had the knowledge and/or experience that they needed on this topic. This experience/knowledge sometimes related more to their own dental health than their offspring's.

Mm. I think actually that it was more spontaneous that we felt … well, we had such a lot on both of us then and then there was yet another thing to try to fit in… it felt like it wasn't so long since we had been to the dentist's to have our teeth checked … we didn't see it as a priority … It felt unnecessary … We didn't really grasp the point of it.

Informant no 6, woman, non-participant in HCDC

The lack of motivation could also be related to the fact that the informants could not see the use of counselling.

> It's not the visit itself that was off-putting but more that … I felt it wasn't necessary … really and then it felt like a waste of time.
>
> Informant no 8, Man, non-participant in HCDC

A number of informants stated that they wanted to participate but with everything else going on in their lives/families, as well as other obligations, they simply could not fit this in.

> The reason was I had to work. I had planned to go but then work rang at the last minute … but I wanted to go because I was curious and wanted to learn… when everything is so new [with the pregnancy] … and then that you have never heard it all … I wanted to go.
>
> Informant no 12, man, non-participant in HCDC

3.2.3 | HCDC was offered and/or held at the wrong time during the pregnancy

One recurring message from the informants was that the timing of the HCDC visit was wrong, both with respect to when it was offered by the midwife and when it took place. If this could have been changed, the informants would perhaps have been more motivated to participate. One of the timing aspects was related to the fact that the HCDC information was given already during the first ANC visit. The general feeling was that this was too early in the pregnancy to focus on the offspring's teeth. At that time of the pregnancy, the focus of expectant parents was on taking in and understanding that they were expecting a baby. The focus was also on their offspring's general health and not specifically on dental health.

> … My focus was on something completely different, and understanding that you were going to have a child yourself was something very new… but I don't think I reacted to anything specific she [the midwife] said, but she mentioned the health dialogue at the dentist's briefly.

> I believe that during our first visit [to the midwife], we were not interested in teeth or oral hygiene at all, we just wanted to sort of … well get used to the idea of having a child so to speak…
>
> Informant no 16, non-participant in HCDC

An HCDC invitation that was too early during the pregnancy was also described by participants.

> It felt that it would be a long time before teeth arrive, so you don't think it is really urgent at that point, so we didn't go for the dialogue… I thought that it was so early; I was in week 12 but the baby wouldn't get its teeth for around a year or so, so it felt like it was almost too early.
>
> Informant no 4, woman, participant in HCDC

However, one of the informants stated that the HCDC had been planned too late in the pregnancy, as the expectant mother could be too tired to participate.

> We visited the dentist in my 6th month. Maybe they could have called during the 4th month, not too late, because then you are more tired and don't want to go.
>
> Informant no 2, woman, participant in HCDC

3.3 | Recommendations for increasing HCDC participation

3.3.1 | Factors described by HCDC participants

The main suggestion for recruiting more HCDC participants was to postpone the invitation to a later point in the pregnancy, and that the invitation not be given at the first ANC visit around gestational week 11. Another suggestion was to provide HCDC at the ANC premises (or close by) or over the phone in order to make it easier for the parents to participate.

> I don't know, but maybe it [HCDC] could be in connection with doing something else … like, for example, visiting the midwife… that it would be possible to combine the two or something. Because when you're working, then the appointment with the midwife has to fit in with both our work schedules and then the health dialogue [at the dentist's] would be a separate appointment… so if they could collaborate in some way…
>
> Informant no 1, woman, participant in HCDC

3.3.2 | Factors described by HCDC non-participants

The main message was that the midwife should have emphasised the importance of HCDC, as she is the first person to meet expectant parents and usually has their trust, as described above in the category "Midwife crucial for providing information and motivation." Moreover, non-participants suggested that the written information should be clearer, for instance, the purpose of HCDC needs to be more explicitly phrased. They also suggested that the information and invitation should come from the DC, not from the midwife.

> How do you attract the parents? Well, maybe the midwife as the first person you meet should encourage

you to say yes … how [HCDC] can be beneficial and that it's not anything that's dangerous and so on.

Informant no 15, woman, non-participant in HCDC

Yes, I think this needs to be discussed in more detail with the midwife…, and the idea behind it and why it's so important and so on… because, as I remember it, it was more in passing… and then, as you said, maybe it could be done over the phone if it's just a dialogue… a health dialogue … I thought it was more of an examination [of the parent's teeth].

Informant no 6, woman, non-participant in HCDC

As previously mentioned, the non-participants had different ways of expressing the importance of facilitating HCDC. It was not only by offering it in the same building as the ANC (or close by), but also preferably closely linked in time in order to make it possible to have the visit at the ANC and HCDC following each other during one day. Another suggestion was to have the information available online because a great deal of health care-related information is already available via this channel.

4 | DISCUSSION

To our knowledge, this is one of the first studies evaluating participation of first-time expectant parents in a dental health programme starting already during pregnancy. Our main finding among the facilitators for participation in HCDC was that the midwife was crucial for providing information about the counselling and for motivating the expectant parents regarding the importance of participating in HCDC and that the expectant parents expressed a considerable trust in the midwife in this role. This is in congruence with a previous study from the Salut Programme, including parents of 1½-year-old children participating in the Programme, showing a high level of trust in midwives as well as other healthcare providers (such as dental hygienists and child healthcare nurses).[21] It has also been suggested in other studies that midwives have a unique opportunity to provide appropriate oral health instructions.[32,33]

In line with our study findings where the expectant parents described a "desire for new or more knowledge," the parents of 1½-year-old children in another Salut Programme study portrayed themselves as highly receptive to health messages regarding the effect of their lifestyle on foetal health.[21] However, contrary to our results where HCDC was considered to be a win-win situation for the parent and the child, the motivation to prioritize their own health appeared to be low during this period. In congruence with our study, a questionnaire study among new mothers by Amin and ElSalhy found that two of the most important motives for DC participation during pregnancy were the perceived need for the services and the benefits for the expectant parent's own health.[34] By better explaining the benefits of HCDC, the perceived need for the service could increase.

The barriers for participation included a shortage of information regarding counselling, a perceived lack of value for the parents and offspring, and poor timing of the counselling during pregnancy. According to local guidelines, the ANC's midwives were expected to provide sufficient information on the benefits of counselling and to encourage all first-time expectant parents to participate in HCDC.

As the present study did not include the midwives, we can only speculate whether sufficient information was provided to the expectant parents regarding HCDC or not. Future research could possibly explore this further by, for example, studying the fulfilment of checklists on what information was provided and/or by conducting observations of the encounter between midwives and expectant parents.

Also, even if the information had been provided, this does not necessarily mean that the recipients have heard and understood the information. One explanation for the perceived lack of information and motivation to participate in HCDC could be that the midwife was unable to prioritise counselling about oral health with the expectant parents, not least because of her workload. This might result in minimal or no time to inform and motivate expectant parents about HCDC. The fact that oral health was a topic that was not prioritised by the midwives was emphasised in a study by Lim et al.[35] In that study, Australian midwives reported that oral health is generally not a topic that is prioritized on their prescribed checklist of topics to discuss with women, and they would only consider discussing oral health if time permitted. Even if the midwives in the Australian study understood the potential benefits of incorporating oral health discussions into ANC visits, they reported that they often prioritized other topics such as childbirth and breastfeeding over oral health due to time constraints as well as a lack of confidence on the topic. In future research, it would be of interest to study the midwives' perspectives on barriers and facilitators to participation in HCDC as suggested by Lim et al.[35]

Another reason to the insufficient information or motivation described by the informants in our study could be that midwives do not feel they have enough training or have not been given such training in oral health to inform or motivate parents. In another similar geographical area as the present study, studies have investigated whether midwives in ANC are in an ideal position to promote another field outside of their main expertise, namely a healthy diet, thereby helping women to not only lower the risks of pregnancy complications and adverse birth outcomes, but also to improve maternal health.[36,37] These studies highlighted that midwives had experienced insufficient knowledge of dietary issues and related risks and that they had difficulties in providing dietary advice and counselling to pregnant women. The midwives' concerns confirmed that they needed further training in dietary issues and consultation. The need for further education and training of ANC staff to counsel regarding oral health in an effective way has been identified in an Australian study.[38] Moreover, ANC professionals were positive towards promoting oral health if they had first received the appropriate training. Flemming et al[39] presented a synthesis of nine qualitative studies exploring health professionals' perceptions and experiences of the barriers to and facilitators of supporting smoking cessation during pregnancy and post-partum in high-income countries. Like the present study, they illuminated the importance of a trusting relationship between health professionals and expectant parents as a prerequisite for the counselling. They also indicated the manifest need

for more professional training, including both prequalification training and post-qualification programmes across different groups of health professionals involved in promoting smoking cessation.

The second main barrier to HCDC participation in our study was the perceived lack of value of the HCDC for the parents and the offspring as mentioned under this category, which was also confirmed in the aforementioned study by Lim et al.[35] In addition to the reasons already mentioned by the informants, the lack of perceived value could be related to a focus on the foetus' health in general and the upcoming delivery and parenthood. A systematic review on perspectives of pregnant women on health promoting behaviours that the most important motivator for health promoting behaviours among pregnant women was the health of the foetus and the newborn baby.[40] Additionally, the perceived lack of value could be due to insufficient information and motivation from the midwife, as was described above.

The third barrier was that HCDC was at the wrong time of the pregnancy and thereby not seen as a priority. The advice of the expectant parents in our study regarding increased participation was to postpone the HCDC invitation to later in pregnancy and to offer HCDC in conjunction with an ANC visit, and, if possible, at the same location or close by. Other suggestions were conducting HCDC over the phone or replacing it with online information only. A potential way of addressing timing would be to transfer the oral health counselling from DC to ANC, the latter having many visits during the pregnancy. This has been suggested by Douglass et al, who showed that oral health counselling was successful in changing selected oral health behaviours when used also by non-dental personnel.[41] However, this suggestion was contradicted in the previously mentioned study by Wennberg, that was conducted in the county of Västerbotten like the present study.[36] Wennberg summarised her findings thusly:

> Pregnant women and midwives are not in tune with each other about dietary counselling.

It was highlighted that pregnant women are well informed and interested in risk reduction regarding their child's health and well-being and that they try to do their best to improve their diet during pregnancy. However, their diet did not reach levels of healthy eating recommendations and became even less healthy after pregnancy. This also appears to be partly relevant for the relation between the expectant parents in this study, who stated that they were uncertain of what the HCDC visit would achieve and that they believed that they already had the required knowledge and/or experience on this topic. That a healthy lifestyle is simply perceived as "common knowledge" was also conveyed by the parents of 1½-year-old children in another Salut Programme study.[21]

4.1 | Study limitations and measures to increase trustworthiness

One limitation of this study is that many of those who were invited (70%) declined to participate in the study and these people could have had different experiences from those who participated. Another possible limitation is that the interviews were quite short. However, in order to ensure that a variety of experiences were captured, data were collected until saturation was reached. In this process, it was determined that the data were sufficiently rich to be able to answer the aim of this study.

5 | CONCLUSIONS

The midwives played a crucial role in providing information and motivation to expectant parents about the importance of participating in HCDC. A shortage of information for the expectant parents, a perceived lack of value and inconvenient timing were regarded as barriers to participation. In order to increase HCDC attendance, and thereby possible health benefits, its timing needs to be flexible. The possibility of using online dental information as an alternative, or as a complement, should be explored in the future.

6 | CLINICAL RELEVANCE

6.1 | Scientific rationale for the study

Studies that explore facilitators of and barriers to participation in dental health counselling for first-time expectant parents are limited.

6.2 | Principal findings

The midwife was crucial for providing information and motivation to participate in HCDC. Limited or missing information of the intervention and its timing were the main barriers.

6.3 | Practical implications

The timing of the visit needs to be adapted to the needs of the expectant parents and must be family-centred. Greater opportunities to succeed with dental health counselling would be likely if sufficient information were to be provided by the midwives, or online dental information could be an alternative or complementary approach.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

EE, AI, SK and KL conceived and designed the study and its analytical framework; EE and SK had primary responsibility for interview guide development; EE was responsible for patient enrolment; EE, SK and KL performed the data collection; and SK carried out the interviews. KL performed the analyses in collaboration with SK and EE. EE and KL had the main responsibility for writing the manuscript. All authors (KL, AI, SK, JvD and EE) discussed the interpretation of the data, contributed to the writing process, and approved the final manuscript.

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