Care during pregnancy and childbirth for migrant women: How do we advance?
Development of intervention studies – The case of the MAMAACT intervention in Denmark

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The increased risk of adverse pregnancy and childbirth outcomes demonstrated for many non-Western migrants in Europe, Australia and North America may be due to inadequate use and suboptimal quality of care. It is indicated that a poor user–provider interaction leads to inequity of pregnancy and delivery care. This review demonstrated that there is no evidence of best practice antenatal care for migrant women. Health system interventions for improved maternal and child health among migrants should be based on thorough needs assessments, contextual understanding and involvement of the target group and health-care providers. We present the Danish MAMAACT study as a strategic perspective on how to move forward, and we describe methodological steps in intervention development. Based on a mixed method needs assessment, the MAMAACT study aimed to enhance the communication between migrant women and midwives during antenatal care regarding warning signs of pregnancy and how to access acute care.

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Introduction

Inequalities in pregnancy and childbirth outcomes between migrants and non-migrants in Western industrialized countries are documented, and research on how to reduce these inequalities is needed [1–3]. In this paper, we review the scientific literature on access to and the quality of health care for pregnant and delivering non-Western migrant women in Europe, Australia and Northern America, and we give an overview of the debates regarding health system responses. Finally, we describe the development of an intervention from the Danish context, the MAMAACT study, as a strategic perspective on how to move forward in antenatal care (ANC) of migrant women.

Literature review

Access to ANC

Globally, it is estimated that 82% of delivering women at least attend one ANC visit during pregnancy [4]. The World Health Organization (WHO) recommends four visits during pregnancy as a minimum [5]; however, in most high-income countries, more visits are provided as the standard. Despite universal access to health care in most industrialized Western countries, the general trend is that non-Western migrant women are less likely to initiate ANC timely, and totally they have fewer visits during pregnancy compared with non-migrant women [6–9]. In a systematic review, it was found that barriers for ANC attendance among non-Western migrant women most frequently were lack of knowledge regarding Western health systems and poor language proficiencies [10]. Multiparity, unplanned pregnancy, perceiving ANC as unnecessary and socio-economic hardship were classified as individual barriers. At the health system level, the accessibility was challenged by incompatible opening hours, transport issues, lack of cultural sensitive health-care providers, indirect discrimination and the feeling of being treated badly by the health-care provider [10]. For undocumented migrants, lack of entitlements and insurance coverage are barriers for access to health care [3]. A study from the US shows that undocumented migrant women, who had obtained an identification document by being involved in an integration project, had similar utilization levels as documented migrants, indicating that health-care access can be mitigated by integration policy [9].

Quality of ANC

Studies in general indicate inadequate quality of care for migrant women during the perinatal period [1,11], for example, lower rate of interventions during childbirth and less assessment of maternal mental well-being after childbirth among migrant women [7]. Audits of perinatal deaths in Norway and Sweden have shown that suboptimal obstetrical care more often occurred to women of non-Western origin, and that this was a cause of increased risk of perinatal death [12,13]. In Sweden, miscommunication and lack of implementation of clinical guidelines were identified as key parameters. In the Norwegian study, incoherent assessment and management of fetal growth restriction was reported. Further, the risk of maternal death has been found to be higher among migrant women than among non-migrants [14,15], and this disparity has also been linked to suboptimal care, indicating that some of these deaths were preventable and due to health system delays in general [7] or due to inappropriate management of pre-eclampsia specifically [16].

In a literature review, Small et al. assessed the expectation to care from the migrant women’s perspectives, and they found that migrant women expect the same from maternity care as non-migrant women (safe, high quality, attentive and individualized care); however, migrant women’s expectations to care were less often fulfilled [17].

Insufficient use of interpreter services in health care for migrants [17–20] and the importance of overcoming the language barriers by good-quality interpreter service are consistently reported [10,21,22]. Challenges for implementing interpretation services are related to quality and accessibility of and trust in professional interpreters [20] as well as lack of time in the care provision. It is documented that the linguistic barriers interact with cultural differences between migrants and health-care providers, and they challenge the interpersonal interaction [2,17,20]. Lack of mutual understanding and
trust between providers and migrant women are considered to result in delays in optimal facility-based maternal health care, expressed as women's choice of late booking, non-adherence or inappropriate decision-making as well as provider frustration resulting from the inability to initiate optimal treatment [23]. The challenges of interpreter services and cross-cultural communication potentially result in an increased risk of incorrect diagnosis, compromised quality of care and less satisfaction with care [18,22,24,25].

Health system responses

The response of health-care systems to the challenge of ensuring the health of migrants is under debate [26], and it is mainly characterized by principles [21,27]. There is very little evidence on effective health system initiatives [28,29], and evidence on best practice for ensuring health care for pregnant and delivering migrant women is lacking. Currently, the most important steps at government level for improved access to health care for migrants are to ensure the entitlement of all groups to health care, including undocumented migrants. Further, the development of migrant health policies in order to operationalize the entitlements, to ensure responsiveness of the health system to the needs of migrants and finally to ensure good quality and comparative data collection on migrant health are highlighted [29]. An overview of current migrant health policies in Europe shows that only 11 countries in the European Union (EU) have migrant health policies, and these address very different aspects of users or providers as well as specific health topics or migrants in general [28,30]. At the health system level, the responsibility to accommodate the potential needs of migrants should be seen as a task for entire organizations as much as for individuals [29]. Health systems could ensure diversity among health-care providers, and they actively aspire to involve migrant communities in user boards when planning and evaluating health-care delivery and health-promoting interventions [27]. When it comes to the individual effort of health-care providers to overcome social and cultural barriers in care provision, training in cultural competencies in undergraduate studies (like universities in medical schools in US, Canada, UK, Sweden and the Netherlands) or at later stages as well as the use of cultural mediators seems promising [29]. Complicating the matter of cultural sensitive health care is the risk of stereotyping and further marginalizing migrants. It has been found that too much attention to presumed cultural factors from the provider’s side can obscure the attention to the obstetric needs of the woman [20]. Previously, training in cultural competencies was based on an understanding of homogeneous cultural groups; however, currently, ensuring that health-care providers are open and respectful towards diverging cultural perceptions of health and reflective about their own culture and implicit assumptions is central [29]. Kleinman and Benson suggest a model for how providers could learn to make the patients' understanding of what matters most to them regarding their health and treatment central to the care provision [31].

We have identified four intervention studies for improved reproductive health among migrants. A controlled non-randomized intervention study conducted group-based perinatal education for women of Turkish background in the Netherlands, and it was found that the women improved their knowledge and intentions for behaviours regarding smoking, infant care and psychosocial maternal health; however, no changes in practice were demonstrated [32]. The study was well received by health-care providers as well as the ethnic minority women [33]. In the US, Rasinski et al. indicated a positive effect of a targeted 2-year educational initiative for black women on the risk of sudden infant death syndrome (SIDS) in a pre- and post-design, as effect was seen on safe sleep locations [34]. It was significantly more beneficial for the women to be guided by health professionals in how to put their newborn to sleep, as compared with observing the health professional doing it. A randomized controlled trial (RCT) from the US found that individually tailored counselling sessions (eight times, 35 min) in primary care for pregnant African-American women had better effect on eliminating risk behaviours regarding smoking, depression and intimate partner violence than routine group care [35]. We conclude that the studies were diverging regarding quality, outcome, target group and context; however, they all indicated encouraging effects of educational health system interventions on migrants' health behaviours.

Members of the ROAM research collaboration [36] state that efforts should be made to increase women’s understanding of the care provision and to improve the communication as well as reduce the
discrimination in the health system [17]. They stress that the assessment of quality and effectiveness of current care for migrant women is hampered by the lack of measurement tools for international comparative studies. The Migrant Friendly Maternity Care Questionnaire (MFMQC) involving scientific experts in identifying important topics and validated questions and migrant women in making it culturally appropriate has therefore been developed [36].

Improved pregnancy and delivery care for migrants: the MAMAACT study

Denmark is a welfare state [37] with 5.6 million inhabitants of whom 11.1% are migrants [38]. In 2012, the SULIM project was initiated in Denmark in order to improve the knowledge for developing and implementing preventive initiatives for migrants across various institutional settings taking a life-course approach covering health in different phases of life [39]. One part of the project was to address the perinatal health, including an intervention for improved reproductive health (the MAMAACT study). In Denmark, all women with permanent residence have the right to free health care, and during pregnancy women are entitled to a minimum of three visits at the general practitioner (GP) and six visits at hospital-based midwives [40]. Nuchal translucency (gestational weeks 11–13) and malformation scans (gestational weeks 18–20) are offered, and induced abortion is legal until 12 weeks of gestation, where after special authorization is needed [41]. Increased induced abortion rates have been found among migrant women compared with Danish-born women [42], and it was reported that migrant women had insufficient knowledge about contraception [43] and the reproductive physiology [44]. Further, compared with Danish-born women, increased risks have been found among migrant women for perinatal mental disorders [45] and preterm delivery [46]. The risks of small for gestational age [46], stillbirths, infant death [47,48] and child mortality [49] were increased among offspring to migrant women. These disparities were particularly and consistently found among the migrant women born in Turkey, Pakistan and Somalia and their offspring.

With this justification, we will describe the development of an interventional study. The steps in the intervention development will be thoroughly described using the MAMAACT as an example, in an attempt to provide rigorous methodological tools for bridging intervention research and ethnic minority research. The intervention development steps are modelled as in Fig. 1, showing how different steps are linked together, starting from the top and moving down. However, in real life, it is important to keep the process explorative and allow the steps to overlap in an iterative process.

It is important to combine top-down with bottom-up perspectives in intervention development as using evidence-based knowledge about causes and effects (top-down) is crucial for programmes to be effective, but likewise the involvement of the people who know the reality of the setting (bottom-up) is warranted as social change and successful implementation depend on the programme context [50]. Further, in research regarding the health of migrant women, the inclusion of migrant women themselves could be seen as ethically important [51]. A participatory approach should be considered in all intervention development steps, which is indicated in the right side of Fig. 1.

The needs assessment

Interventions have to build up from a clear specification of the problems and identification of the target population [52]. Explorative and detailed approaches to singling out problems and target groups are recommended as previously hidden aspects might emerge and the ideal approach to the problem can be selected [50]. We started out by getting an overview of research in the field, and then we initiated a thorough mixed-method needs assessment in order to fill the gaps in current knowledge regarding possible mechanisms behind the poor reproductive health, but also to gain contextual understanding of the care provision for pregnant migrant women in Denmark.

A series of epidemiological studies were conducted to better understand the reproductive health patterns among migrant women in Denmark. We found that non-Western migrant women used ANC less than women of Danish origin [53]; however, no differences were seen between descendants of migrants and women of Danish origin. Suboptimal breastfeeding was more frequent among non-Western migrant women and their descendants than among women of Danish origin. There was no evidence for ethnic differences in the frequency of breastfeeding support provided at the hospital level.
Further, using an indirect approach analysing diseases with autosomal recessive inheritance, we found that consanguinity most likely accounts for some, however, a minor part, of the ethnic disparity in child mortality [55].

A case-series study was initiated to analyse the characteristics of perinatal deaths at the largest maternity ward in Denmark in 2006–2010 according to the maternal country of origin [56]. This study included 125 perinatal deaths. The data indicated that intra-partum death could be more frequent in the non-Western group, and that death caused by maternal disease (pre-eclampsia), lethal malformation and preterm birth may be more frequent than among offspring of Danish-born women. There seemed to be a delayed response in getting the appropriate care when experiencing warning signs like bleeding, lack of fetal movements or symptoms of pre-eclampsia, maybe due to late response of the women, maybe due to delays in communication and negotiation of access to the right care at the facility level.

We included all public-financed maternity wards in a telephone survey to assess the organization of the midwife-based ANC for migrant women in Denmark [57]. After the identification of clinics providing migrant-targeted ANC, structured interviews with the midwives responsible for the targeted care were conducted. Six of 24 maternity wards were providing some kind of migrant-targeted ANC, which implied longer consultations and increased attention to the individual needs of the women. The care was described as emphasizing navigation in the health-care system, supporting body awareness, and using interpreters. Arguments for not providing targeted care were that migrant women had nothing more in common than non-migrant pregnant, and that targeted care was stigmatizing. With migrant-targeted ANC, the identification of women to target was a critical issue, including a risk of

Figure 1. Model of intervention development.
stigmatizing. With universal care, there was a risk of neglecting the disadvantages pregnant migrant women may experience regarding communication beyond the dominant cultural health perceptions.

We conducted a qualitative study on the perception of migrant women regarding pregnancy and childbirth and their experiences with the Danish ANC to ensure that the intervention would be based on the target groups’ own needs and priorities. We conducted 10 semi-structured interviews with Danish [2], Somali [4], Lebanese [2] and Pakistani [2] born mothers, who had given birth in Denmark recently. Women were recruited through visiting nurses, mothers groups and snowballing. All interviews were in Danish; however, a Somali interpreter participated and translated a few difficult parts in three of the interviews. All interviews were recorded, transcribed and analysed thematically. Social isolation, gender issues and being ethnic minority were important contextual issues. In general, the women described their ANC services in positive terms; however, the midwife-based ANC was evaluated as rushed and merely a physiological check rather than a needs-based dialogue with attention to the matters important to the women.

Further, to include the perceptions of health professionals and to gain insight into the context of ANC provision, we conducted semi-structured qualitative interviews with GPs [4] and a visiting nurse, and we observed ANC visits at midwives [21], the first ANC visit at GPs [9], home visits with a visiting nurse [4] and a mothers group, all located in areas with high density of migrant residents. We learnt that the provision of ANC is occurring under a tight schedule, and the demands for registration lead to standardization of the communication especially between the midwives and the women, and directs focus towards healthy behaviours like nutritional supplements and physical activity. It seemed that the standardized communication did not promote active engagement of the women. A high number of consecutive consultations with no breaks scheduled, but 30-min break for lunch and telephone consultations, caused frustrations amongst the midwives. It was explained as a choice between being attentive to the woman in the consultation and then delayed and having to work beyond the paid hours or keeping the time not giving time to the needs-based communication. Communication on warning signs of pregnancy and how to navigate in the health system was inconsistent and not a high priority. The procedure of screening for glucose and proteins in the urine was organized so that women had to conduct this individually before the consultations, and the manual in the toilets was in Danish only. The women often forgot to stix the urine before the consultation and in those cases the midwives instructed the women to do so after and to interrupt the next consultation if there were any questions or abnormalities. There was a limited use of professional interpreters at both the midwife and the GP, and also family members were used. If interpreters were attending a midwife consultation, no extra time followed.

The selection of project outcomes

The findings of the needs assessment were summed up, and the potential mechanisms behind the increased risk of poor reproductive outcomes among migrant women were mapped. We included socio-economic, demographic, cultural and obstetric factors as well as perspectives related to health care, health behaviours and health status. It was clear that the mechanisms behind the ethnic disparity in reproductive health were multiple and complex, and it was only possible to address a small part in the intervention study. Our attention shifted from attention to determinants to attention to what needed to change in order to prevent the health problem [58]. We narrowed down the explorative needs assessment to a specific intervention by considering the overall pattern and clustering, strength and changeability of the different determinants of stillbirth and infant mortality. Both the strength and changeability of determinants were analysed according to epidemiological research, theoretical perspectives of the interaction between health-care providers and users, and the contextual data from the needs assessment.

From the needs assessment, we saw that there was a range of aspects related to the organization and communication in the midwife-based ANC, which potentially hindered active engagement of women during consultations and attention to the individual needs and diversity of women, warning signs of pregnancy as well as how to navigate in the health system. We assumed that the current organization and communication resulted in delays in appropriate care when pregnancy complications occurred, and finally this could lead to an increased risk of poor reproductive outcomes among migrants. This emerging pattern could be supported by the above-mentioned research in migrant reproductive health,
especially the aspects of mutual broken trust between user and provider and suboptimal maternity care [16,23]. The ability to respond to body signals and take appropriate health decisions has similarities with the term ‘health literacy’ [59,60]. Cultural health capital (CHC) is a Bourdieu-inspired elaboration of health literacy, where attention is given to how broad social inequalities operate in patient—provider interactions, and shape the content and tone of health-care encounters [61]. Thus, also from a theoretical perspective, it seemed relevant to improve the interaction between migrant women and health-care providers in order to diminish the disparity between migrant and non-migrant women in pregnancy and delivery outcomes. Finally, the incipient experiences of positive effects of educational health system interventions directed us towards addressing when to react and where to go in a facility-based approach. Thus, we chose to work the project objective of improving the management of pregnancy complications through timely and appropriate response to warning signs of pregnancy.

The development of the programme theory

With this project objective, the research group drafted the initial thoughts of potential activities for how to achieve this, including both an individual level (migrant women) and societal level (health system). The study was to be implemented at the largest maternity ward in Denmark, where 22% of delivering women were first- or second-generation migrants. We organized a project group with the leading ANC midwives in order to assure contextual relevance, ownership and intervention fit. Thereafter, we met regularly with the project group to discuss and adjust project development.

How the study activities (input) were expected to lead to the project outcomes were drafted as a programme theory [62], which is shown in Fig. 2. We used an educational approach where the midwives were the frontline workers, who should drive the change at the facility level in order to create change amongst the pregnant migrant women. Although the study was designed to address the needs of migrant women, it was decided to include all women no matter the origin, because we considered it beneficial for all.

We organized a user board with migrant women either young unmarried women with health studies background or women, who recently had given birth (recruited amongst the women participating in the qualitative interview in the needs assessment). They were involved individually when uncertainties occurred, and further we conducted a debate in the evening with dinner, where we discussed the programme theory and study inputs in lay terms.

The development of activities

We developed an educational material in the form of a folder (see Fig. 3) and a smartphone app (see Fig. 4) containing information regarding when pregnant women should contact the labour ward to

<table>
<thead>
<tr>
<th>Input</th>
<th>Proximal project outcomes</th>
<th>Distal outcomes Level 1</th>
<th>Distal outcomes Level 2</th>
<th>Long-term impact</th>
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<tbody>
<tr>
<td>- The MAMAACT folder and smartphone app on warning signs of pregnancy</td>
<td>Health system: - Provision of health education using the MAMAACT folder and smartphone app</td>
<td>Health system: - Midwives manage warning signs of pregnancy adequately</td>
<td>Adequate treatment of pregnancy complications and timely intervention</td>
<td>Reduced stillbirth and infant death among migrants</td>
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<td>- Trainings of midwives in intercultural collaboration in care provision</td>
<td>- Needs-based communication aspiring active involvement of pregnant women in ANC consultations</td>
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<td>- Five more minutes in the first ANC consultation per woman</td>
<td>- Cultural sensitive care provision</td>
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<td>- Dialogue meetings with the midwives</td>
<td>- Extra alertness to the women’s description of body symptoms at the emergency unit for pregnant women</td>
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<td>Migrant women:</td>
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<td>- Knows the warning signs of pregnancy</td>
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<td>- Knows the navigation structure of the health system for the warning signs of pregnancy</td>
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<td>- Downloads the MAMAACT smartphone app</td>
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<td>- Can formulate the signals of the body to the midwife</td>
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<td>- Take active part of ANC consultations</td>
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Figure 2. Programme theory of the MAMAACT study.

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receive appropriate help. This was inspired by health education materials on danger signs from low-income settings [16,63]. The midwives specified the important warning signs (e.g. bleeding and headache) by stating where in the body and how strong a symptom should be in order to be serious and exactly where to go for which symptom. The folder and app were in lay terms carefully considering not scaring the women and adapted to an appealing and culturally appropriate look. It was translated into six different languages: Arabic, Persian, English, Somali, Turkish and Urdu by an enterprise; however, we had to employ a group of ethnic minority women with health-related studies or work to back-

Figure 3. The MAMAACT folder on warning signs of pregnancy, English version.

Figure 4. The MAMAACT smartphone app on warning signs of pregnancy, Somali version.

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translate and customize the wording to an informal language. In the app, all information was stored as speak as well. The material was pilot-tested among midwives, midwife students and migrant women, and it was adjusted accordingly. The folder was to be distributed to pregnant women at the first midwife-based ANC visit at 13–15 gestational weeks.

We developed a 5-h training session for the midwives conducting ANC and answering the emergency phone at the maternity ward. The objective of the training was to create awareness about the increased risk of poor reproductive outcomes among some migrants in Denmark and the mechanisms behind, to strengthen the skills of intercultural communication in care provision, to know and manage the MAMAACT folder and app, and finally to know and understand the own implementing role of the MAMAACT project. The part on intercultural communication was conducted as case-based discussions facilitated by clinicians from a migrant medical unit, and the main focus was on making the midwives reflect on their own implicit assumptions and experiences with diverging cultural perceptions of health, pregnancy and delivery, and the guiding principle was to treat every woman as an individual. A total of 40 midwives participated, however, in groups of approximately 13 on three different days.

As a response to the tight ANC schedule, we supported the implementation of the folder and app with five more minutes per first ANC consultation per woman.

In order to translate the training in intercultural collaboration into care provision, we planned to conduct three rounds of dialogue meetings with the ANC midwives during the intervention period. They were meetings of around 1 h after finishing the ANC schedule, where all midwives at the ANC clinic were gathered for reflections on cultural diversity in care provision and the MAMAACT study progress and implementation.

The implementation

The maternity ward where the study was implemented had four geographically separated ANC clinics, and we decided to implement the study at two of these, keeping two as controls. An implementation time frame was developed to ensure the needed time for the intervention to get fully rolled out and to be withheld for enough time to fit with the evaluation design. The above-mentioned dialogue meetings with the midwives also served to identify and find solutions to implementation challenges. We also conducted meetings with the managing midwives to follow and adjust study implementation.

The evaluation plan

Evaluation theory

The MAMAACT study constitutes a complex intervention with a range of interrelated activities aimed at several current practices of ANC. According to the British Medical Council, evaluations of complex interventions constitute multistage processes with feasibility studies in early stages, followed by larger effectiveness studies, preferably RCT [64]. The attention to outcomes should be supplemented with the analysis of the process of implementation, and effects of intervention components should be studied separately and in combination to explore mechanisms of effect [65]. Another perspective based on realist philosophy of science argues that public health interventions are so dependent on the implementation context that the research question should be: What works for whom under which circumstances and why [62]. From this perspective, evaluations should intend to link context, mechanisms and outcomes in the analysis [66], and compare the intended programme theory with the real-life implementation, and, thus, the understanding of RCT as the gold standard for evaluation is challenged.

Evaluation objectives

As the research in health care for migrant women is scarce, the development of the MAMAACT intervention was innovative, and it should be seen as developmental work. The evaluation was designed to assess the feasibility of the study, why rich data on the implementation process, acceptability among the midwives and migrant women were collected. However, we also aimed at a quantitative evaluation of the proximal project outcomes regarding the knowledge of warning signs and...
perceived actions (see Fig. 2) using a before-and-after comparison of the intervention clusters relative to the control clusters.

Collection of evaluation data

We conducted a survey among pregnant women attending for midwife-based ANC at the study hospital in gestational weeks 27–32 before and after the intervention. The questionnaire included questions regarding knowledge about warning signs of pregnancy and perceived actions in case of warning signs besides questions about sociodemography and ethnicity and the women’s experiences of the interactions between themselves and the midwife and the ANC. The questionnaire included adapted versions of the MFMCQ questions [36]. The end line survey also included evaluation questions regarding the MAMAACT folder and smartphone app. The questionnaire was pilot-tested and translated to Arabic, English, Persian, Somali, Turkish and Urdu, as well as adapted for cultural appropriateness. The results of these surveys are currently being analysed, but the first results indicate that the ethnic distribution of respondents reflects the population, which is an unexpected and encouragingly high participation rate for the migrant women [67].

The implementation process is analysed using the information from the dialogue meetings with the midwives. These data add up to 21 recorded focus group discussions. As the meetings were considered intervention activities with the aim of withholding the reflections on cultural diversity in care provision, the meetings were semi-structured allowing the midwives to highlight the topics of importance. We used separate interview guides for the three different rounds of meetings, which were developed as the study progressed, initially focusing on challenges for implementation and later on the midwives reflections on care provision for migrant women.

Summary

Disparities in access to and quality of pregnancy and delivery care are documented for non-Western migrants in Europe, North America and Australia. There is lack of evidence regarding how to improve the reproductive health care for migrant women, and intervention research is needed. Main issues challenging the quality of care are inadequate use of interpreters and poor cross-cultural communication. Universal entitlements for health care, use of interpreter services, collection of good-quality comparative data and training of health-care providers in cross-cultural communication are highlighted as relevant initiatives. The development of the Danish MAMAACT study was described as a strategic perspective on how to move forward in pregnancy and delivery care for migrants. The intervention development was thoroughly described in order to provide methodological tools for bridging intervention and migrant health research. The needs assessment revealed that improved communication in the midwife-based ANC regarding warning signs of pregnancy and how to access acute care was needed. The ANC midwives at intervention settings were trained in intercultural communication, and a folder and smartphone app on warning signs of pregnancy were distributed to all women attending ANC, irrespective of origin. The intervention development steps and tools from the MAMAACT study using a participatory approach could be inspiring to others in their effort to improve the health of pregnant and delivering migrant women.

Practice points

- Use of professional interpreters in maternal care provision is important to ensure equality of care
- Mutual trust between migrant women and health-care providers is important to ensure quality of care
- Ensuring that migrant women knows how to navigate in the health system can reduce delay in health-care seeking and appropriate treatment

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Research agenda

- Research in international comparative methodological tools for assessing migrant women’s reproductive health is needed
- Intervention research for improved pregnancy and delivery care for migrant women is needed
- More research is needed to explore and elaborate on the influence of contextual insight and participatory approaches in intervention development for improved health of migrants

Conflicts of interest

None.

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