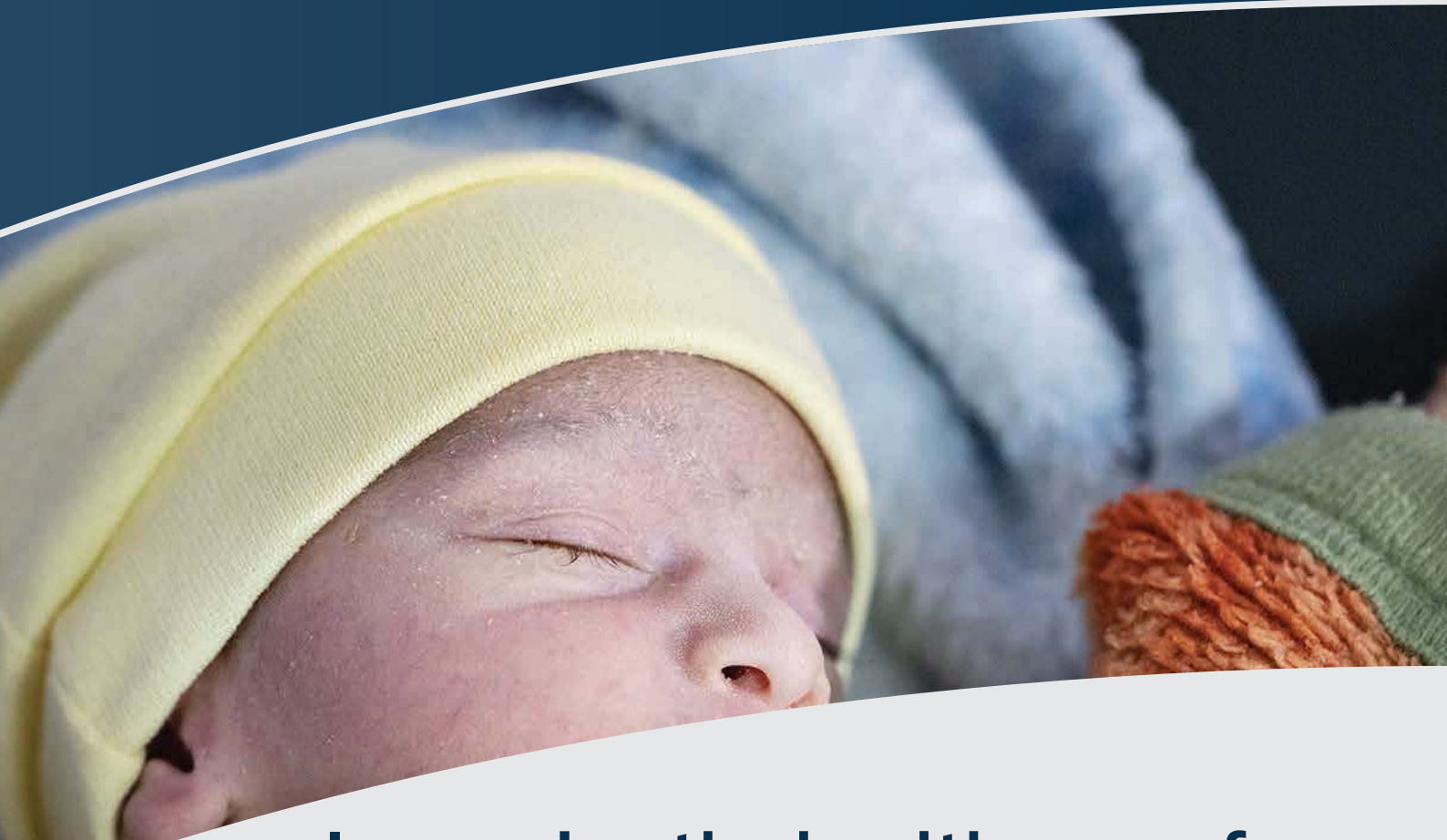




**World Health
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REGIONAL OFFICE FOR **Europe**



Improving the health care of pregnant refugee and migrant women and newborn children

Technical guidance



This project is funded by
the European Commission.



**Knowledge Hub
on Health and Migration**

The Migration and Health programme

The Migration and Health programme, the first fully fledged programme on migration and health at the WHO Regional Office for Europe, was established to support Member States to strengthen the health sector's capacity to provide evidence-informed responses to the public health challenges of refugee and migrant health. The programme operates under the umbrella of the European health policy framework Health 2020, providing support to Member States under four pillars: technical assistance; health information, research and training; partnership building; and advocacy and communication. The programme promotes a collaborative intercountry approach to migrant health by facilitating cross-country policy dialogue and encouraging homogeneous health interventions along the migration routes to promote the health of refugees and migrants and protect public health in the host community.

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Abstract

While the amplitude and direction of variations in outcomes differ between host countries, migrant origin/status and the outcome examined, there is a marked trend for worse pregnancy-related indicators among refugees and migrants. Being a migrant can be considered a risk factor in itself for poorer maternal and newborn health outcomes and also be a proxy for other risk factors and potential explanations. This technical guidance identifies problems and entry points for interventions for maternal and newborn health in refugees and migrants in the WHO European Region. Policy considerations are outlined for four main areas affecting refugee and migrant maternal and newborn health: individual health status, accessibility of health care, quality of care, and health care policy and financing systems.

Keywords

INFANT HEALTH, MATERNAL HEALTH, MATERNAL HEALTH SERVICES, TRANSIENTS AND MIGRANTS, REFUGEES, HEALTH SERVICES ACCESSIBILITY, EUROPE

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Abbreviations

CS	caesarean section
EU	European Union
Euro-PERISTAT	European Perinatal Health Report
FGC	female genital cutting
ROAM	Reproductive Outcomes and Migration (International Research Collaboration)
SDG	Sustainable Development Goal
UNFPA	United Nations Population Fund

Summary

The demand on reproductive health services, particularly at the local level, is steadily growing and the increasing number of female migrants creates added pressure. Although there is an abundance of research on maternal and newborn health, little focuses specifically on migrants. The Health Evidence Network synthesis report 45 in 2016 identified key issues and opportunities for interventions for improving maternal and newborn health in refugees and migrants in the WHO European Region. This technical guidance builds on this report to emphasize policy considerations and to identify available tools and future challenges for all relevant stakeholder groups.

Literature on maternal and newborn health in refugees and migrants in the WHO European Region was examined with a focus on systematic reviews. An intersectional approach was used to explore how gender, ethnicity, citizenship, class and religion intersect with surrounding societal power structures in order to identify implementation considerations for more sustainable and equitable maternal and newborn health care for all.

The WHO European Region is very diverse, and pregnancy outcomes of refugee and migrant women in comparison with women from the host populations vary accordingly. Most research shows poorer maternal and newborn health outcomes in migrants, although some studies show equal or better outcomes. It should always be borne in mind that all findings are context related. Migrants' health profiles reflect their medical histories as well as the disease burden and quality of care in their country of origin or transit country. These differences are compounded by pregnancy; consequently, particular attention needs to be paid to pregnant women. Care and social support during pregnancy are crucial to ensuring a safe delivery and healthy mothers and infants.

Many refugee and migrant women have additional needs (economic, financial and social) that may interfere or compete with pregnancy care. Being a refugee or migrant can be considered a risk factor in itself and also be a proxy for other risk factors such as lower socioeconomic status, higher burden of disease in the country of origin, language difficulties or low health literacy.

The policy considerations are outlined for four main areas affecting equitable health and care: individual health status, accessibility of health care, quality of care, and health care policy and financing systems. Case studies illustrate specific issues and promising interventions for improving maternal and newborn health in the Region, which may stimulate further research and practice development.

Introduction

In the WHO European Region, women now make up over 50% of the migrant population and are overrepresented in higher-risk groups such as those who have experienced violence or trafficking (80%) (1–4). For example, 500 000 Syrian women of reproductive age were living as refugees in Turkey in 2015 according to the United Nations Population Fund (UNFPA), of which at least 30 000 were at some stage of pregnancy (5). All this has demographic implications. Since 1990, migration has been the biggest driver of population growth in several European countries (6). As of 2006, 10% of births across the WHO European Region were from migrant mothers, with this reaching 20% in England and Wales (United Kingdom), the Netherlands and Sweden and over 15% in Belgium (6). Despite this, at the time, the net effect on countries' overall fertility rate was 0.05–0.1 (6).

Large numbers migrating into an area puts pressure on health systems, particularly at a local level (3). Births to migrant mothers are also unequally distributed geographically (7), posing particular challenges and changing the health care needs and health care delivery in areas of high concentration.

Maternity care

Continuity of care is a key concept in addressing maternity care. Factors occurring before pregnancy, such as heart disease, infection, undernutrition or violence, may have implications for pregnancy and its outcomes. These need to be identified and taken into consideration when planning care. Maternity care itself includes care provided during pregnancy (antenatal care), during labour and after giving birth (postnatal care). Care and social support during pregnancy are key to ensuring safe delivery and healthy mothers and infants (8). WHO recommends a minimum of eight visits for antenatal care as well as provision of postnatal care as maternal death can occur up to 42 days after the end of pregnancy (8). A complete care package should be provided for refugee and migrant women as for all women (Annex 1 outlines key interventions in clinical management of pregnancy and childbirth); however, many refugee and migrant women have additional needs (e.g. economic and social) that may interfere or compete with pregnancy care. Their health profiles reflect their medical histories as well as the disease burden and quality of care in their country of origin or transit country (4). These differences are compounded by pregnancy and, consequently, particular attention must be paid to maternity care.

The Minimal Initial Service Package for sexual and reproductive health provides international guidelines for crisis situations (9) and in 2013 the WHO Regional Office for Europe published an assessment tool for the quality of outpatient antenatal and postpartum care for women and newborns (10). The assessment tool provides indicators and criteria to evaluate and improve quality of care and can be adapted for the specific context of migrant women and for specific national contexts.

Policy context

Care for refugees and migrants, specifically pregnant women, has been called for in numerous policy documents from both health decision-making bodies and the wider context, such as within the Universal Declaration of Human Rights (11). In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development (12), which contains a specific health-related Sustainable Development Goal (SDG 3, good health and well-being) plus others that impact on maternal and newborn health in migrants: SDG 5 (gender equality) and SDG 10 (reduced inequalities) (13). Specifically, SDG 5.6 states that countries must “ensure universal access to sexual and reproductive health and reproductive rights” (13).

In Europe, resolution 1509 on human rights of irregular migrants adopted by the Council of Europe in 2006 stated (point 13.2) “emergency health care should be available to irregular migrants and states should seek to provide more holistic health care, taking into account, in particular, the specific needs of vulnerable groups such as children, disabled persons, pregnant women and the elderly” (14). Following the SDGs, the importance of migrant health was further underscored within Horizon 2020, from the European Union (EU), in the section dealing with health, demographic change and well-being (15) and the WHO resolution WHA61.17 on the health of migrants (16).

Building on these, in September 2016 the WHO Regional Office for Europe adopted the Strategy and Action Plan for Refugee and Migrant Health in the WHO European Region, which set out key priorities/strategic areas (3). This called for universal health coverage, person-centred health systems and intersectoral coherence in policies affecting refugees and their access to care. The Strategy and Action Plan emphasized the importance of improving the health of the most vulnerable, including children and pregnant women, and prioritized issues related to sexual and reproductive health. This was followed in 2017 by the endorsement at the World Health Assembly of a resolution on the health of refugees and migrants (17). The full declaration and its accompanying framework will be submitted to the Seventy-second World Health Assembly in May 2019. The first four guiding principles in this resolution were:

- the right to the enjoyment of the highest attainable standard of physical and mental health;
- equality and non-discrimination;
- equitable access to health services; and
- people-centred, refugee- and migrant- and gender-sensitive health systems.

While these policy documents outline what health systems should include in order to be refugee and migrant sensitive, it is less clear how this might be achieved for mother and newborn health specifically. Because many factors intersect in this area, an intersectional approach encompassing both medicine and social sciences is needed to explore how gender, ethnicity, class, religion and other issues impact on equitable reproductive health provision.

Objective

The purpose of this technical guidance is to give an overview of the scientific and clinical evidence of why it is crucial to address inequity in maternal and newborn health in a migration perspective in the WHO European Region, building on previous findings published in the Health Evidence Network synthesis report 45, which identified key problems and entry points for interventions for maternal and newborn health in refugees and migrants in the Region (5). The technical guidance is intended to provide information for all relevant stakeholders (decision-makers at national, local and health care provision levels) about the key facts, priority actions, available tools and guidelines and future challenges for maternal and newborn health for refugees and migrants and to provide practical suggestions and considerations based scientific evidence where available and on experience.

Methodology

Following WHO definitions, maternal health is the health of women during pregnancy, childbirth and the postpartum period (up to six weeks), and newborn health refers to the first month of life for a baby. While other elements of sexual and reproductive health are of concern in migrants, such as higher rates of unwanted pregnancies and abortion, low use of contraception and high rates of sexually transmitted diseases, these are beyond the remit here, where the focus is specifically on pregnancy and childbirth.

A synthesis of the literature on maternal and newborn health in migrants in the WHO European Region was conducted, with a focus on systematic reviews. The search of databases was supplemented by snowball-searching of reference lists in the included papers and with recommendations of participating experts (Annex 2). Studies were selected if they included information on pregnancy outcomes of migrant women, perinatal outcomes, risk factors for negative pregnancy and perinatal outcomes, and interventions and policies that address the access and provision of health care services for these groups. Policy considerations were based on both peer-reviewed and grey literature to reflect best practice and solutions to the barriers identified in the analysis. Case studies were chosen to illustrate a range of interventions implemented by various stakeholders.

Overview

Trends

While the amplitude and direction of differences in outcomes varied between host countries, country of origin of the migrant and outcome examined, there was a marked trend for worse pregnancy-related indicators in migrants, for example:

- maternal death and severe maternal morbidity;
- mental ill health such as postpartum depression;
- perinatal and neonatal morbidity and mortality including stillbirth, preterm birth and congenital anomalies; and
- suboptimal quality of care.

Risk factors for divergent outcomes

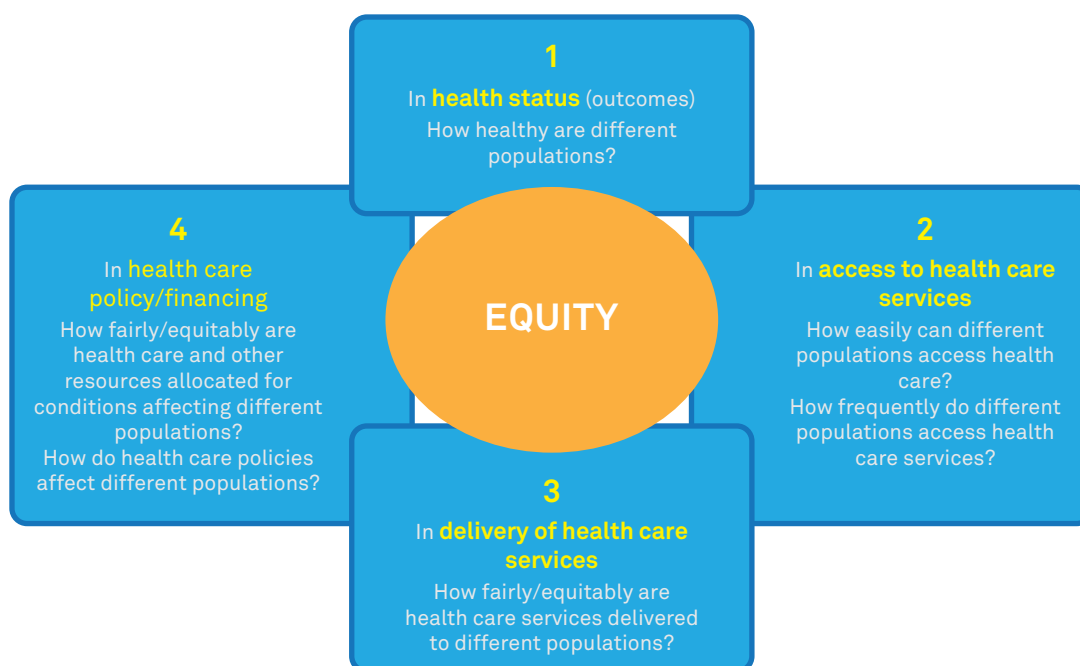
Some of the potential explanations and risk factors for divergent outcomes among migrants are:

- genetic and biological factors such as consanguinity and thalassaemia;
- higher burden of disease in countries of origin or transit (e.g. HIV, tuberculosis);
- societal factors such as lower education and socioeconomic status, and lack of social support;
- misconceptions between providers and patients through different cultural concepts and acceptability of care, or more directly through lack of interpretation services; and
- health system dimension such as lack of access to care and the social security system.

A framework for equity in health

The Reproductive Outcomes and Migration (ROAM) International Research Collaboration has produced a framework for equity in health (Fig. 1).

Fig. 1. Framework for equity in health



Source: With permission from Lang et al., 2008 (18).

Specific issues in provision of health care to mothers and newborns

The following boxes provide examples of some specific issues that may arise in providing care for refugee and migrant mothers and newborns. These issues are discussed in more detail in the following Evidence section.

Awareness of patient's background is a key component of quality of care

Factors occurring before pregnancy (e.g. heart disease, infection, undernutrition or violence) may have implications for pregnancy and its outcomes and need to be identified and taken into consideration when planning care. Refugees and migrants can come from a region (or transit through a region) with a higher burden of a disease that is uncommon in the host country. Awareness of the potential issues related to a migrant's background allows additional health checks to be instituted to provide good-quality care (Box 1).

Box 1. Failure to identify a condition led to maternal death

An unaccompanied 16-year-old woman from Somalia became pregnant in the host country with the young father also a refugee and teenager. The health care provider at the antenatal clinic recognized her low socioeconomic status and lack of family support as risk factors and thought that developing symptoms of nausea, fever and severe headaches were related to the pregnancy and pressure from her social situation. Although a screening laboratory test at the antenatal clinic was positive for tuberculosis, there was no attempt to go deeper into her history. Her health deteriorated, with vomiting, fever and extremely severe headaches, and at gestational week 25 she died in hospital from cardiac arrest. Postmortem examination revealed brain tuberculosis.

Some diseases are uncommon in the majority of countries of the WHO European Region and so there is a risk that medical staff will not take these into consideration. In this case, screening was carried out for tuberculosis and HIV but cerebral tuberculosis was not identified.

Provision of interpretation services to ensure good communications

The need for interpretation services in maternal health has been recognized since the 1990s and is called for in all guidelines and recommendations, yet these services are still lacking in many health care facilities (Box 2).

Box 2. Lack of interpretation led to missed diagnosis

A 39-year-old refugee from the Syrian Arab Republic with five children did not speak the language of the host country. She was discharged from the gynaecological ward after a late miscarriage but presented some days later at the health centre with breathing problems and chest pain. The general practitioner, suspecting a lung embolism, referred her to hospital. However, at the hospital, the doctor did not take an appropriate medical history or carry out an appropriate medical examination. There was no interpretation service available and no common language and so she was sent home with painkillers and died a few days later from embolism.

If an interpretation service had been available, the symptoms, recent pregnancy and diagnosis by the referring doctor could have been communicated in the hospital, thus enabling appropriate care and avoiding the death of this mother.

Provision of information on entitlements for both users and providers of health care

Often both health care providers and users can be confused about entitlements to health care, particularly if the migrant's situation is irregular (Box 3). Provision of universal health coverage would avoid such dilemmas, but where restrictions do occur it is important that information on entitlements to care is clear and shared.

Box 3. Providing care to trafficked women

An EU national from an eastern European country who had been trafficked to the United Kingdom and forced to engage in sex work sought care at a health facility at 4 months of gestation. Because she could not provide her passport and proof of address, she was turned away. She accessed care using a fake registration but was unwilling to accept the help of a caseworker because she was afraid any disclosure about her trafficking would get her in trouble with her trafficker. Although she gave birth at the maternity unit, she was constantly concerned about being reported.

If health care staff had been aware of her entitlement to health care in pregnancy or if the health system had provided universal health care coverage, even to irregular migrants, then she would have moved smoothly into the system at first contact. Assuring women in these situations about the confidentiality of their care can increase trust between them and the provider. Additionally, collaboration of the health system with other social welfare institutions such as social workers could increase the support provided.

Provision of person-centred, culturally sensitive and preventive care

Women are more likely to have complications during childbirth if they have undergone female genital cutting (FGC). The provision of antenatal care is also an opportunity to explore cultural issues and changing views of traditions such as FGC among migrants in their host countries (Boxes 4 and 5).

Box 4. Antenatal care for a woman with FGC and suspicion of FGC

A couple originally from Eritrea and expecting their second child attended the antenatal clinic. The wife had been cut at a very young age but had no physical or mental problems and enjoyed her sexual life with her husband. The midwife reminded them about the legal aspect of FGC in the host country asked them about the tradition. They assured her that they had left the tradition and would only circumcise the newborn if it was a boy. However, they did not return for postpartum care and went to Eritrea with their daughters. After their return, the parents came to the health clinic with the 6-month-old baby and her 4-year-old sister. The midwife was concerned that FGC had occurred while they were away and a genital examination failed to identify any labia minora. Although the parents again said that they would not circumcise daughters, the midwife was still suspicious and suggested that the girls should be examined by specialists. Although the parents became nervous, they accepted and the specialists concluded that the two girls had normal genital anatomy and no signs of trauma or scars.

This is a good example of the provision of person-centred, culturally sensitive and preventive care. At antenatal care, the health care provider talked to the couple and discussed their attitude to the tradition of FGC. At the postpartum visit, the parents were encouraged to accept referral for an expert opinion to establish whether or not FGC had occurred.

Box 5. Cultural fears of medical interventions in childbirth

A 28-year-old mother from Somalia with only limited local language skills refused induction of labour and went spontaneously into labour at gestational week 43+1. Two hours into her labour there was indication of threatening fetal distress and although the health care providers recommended an emergency caesarean section (CS), the woman and her husband refused. There was difficulty in communication and no interpreter was available. After 30 minutes, the couple accepted an emergency CS but the baby's life could not be saved.

The next day the family explained to the health care providers the belief in her community that surgery increased her risk of dying (linked to the higher incidence of deaths with CS in Somalia). If the doctor or midwife had been aware of this fear, it could have been discussed during antenatal care and the perinatal death might have been avoided.

Evidence

In general, while there is a lot of research on maternal and newborn health, less has focused specifically on migrants, with country of birth being the most common variable used to indicate a refugee or migrant. However, a large proportion of research in migrant health is on maternal and newborn health (19). Being a migrant can be considered a risk factor and at the same time can be a proxy for other risk factors, such as lower socioeconomic status, higher burden of disease and cultural norms in the country of origin, language difficulties or low health literacy.

The WHO European Region is very diverse and pregnancy outcomes of migrant women in comparison with women from the host population vary accordingly, from similar in Norway and Sweden to less good in Italy and the United Kingdom (20). Outcomes vary among different migrant groups and between and within countries, and not all migrant groups are worse off compared with the host population.

Most research shows poorer maternal and newborn outcomes in refugees and migrants, although some studies show equal or better outcomes. These better outcomes are generally explained by strong informal support networks and an absence of risk factors common in receiving countries, such as tobacco and alcohol use. There is great diversity in outcomes depending on the host country, characteristics of migrants (e.g. origin or migration status) and outcome of interest, but the overall tendency is worse outcomes in migrants (5,21). The main risk factors contributing to worse outcomes in migrants are socioeconomic status and education. Conversely, there are a number of healthy factors that protect migrant women from being at higher risk of maternal and newborn ill health (20,22–24):

- mother's background and origin from a high-resource country with high Gender-related Development Index, advanced health care system and lower burden of disease on a population level;
- high socioeconomic status or education level of the woman and, to some extent, high education level of the husband;
- knowledge of local language and solid social network/social capital;
- length of stay in the host country with more access to care and interventions for those with a longer stay; and
- migration to a country with a strong integration policy (as measured by the Migrant Integration Policy Index (25)).

Maternal health

Mortality and morbidity

Migrant women show higher mortality and morbidity compared with women from host countries, particularly if migrating from lower-income countries or applying for

international protection (7,26–30). According to a meta-analysis in 2014 of 42 million women and almost 5000 deaths in 13 countries in western Europe, migrant women were twice as likely to die during or shortly after birth (26). In Kyrgyzstan in 2013, 26% of maternal deaths were in migrant women who did not attend antenatal care and were admitted to obstetric departments in severe conditions (5). In eastern Europe, maternal mortality was often associated with migration and working abroad, partly attributed to unstable jobs and potentially harmful work conditions (5).

This variation on a regional level is significant but a trend remains, from Georgia to the United Kingdom, and in some cases despite a good socioeconomic situation and healthy lifestyle (5,31). For example, maternal death in France is twice as high for women from Africa, North and South America and Asia than for women from the host population. This risk is quadrupled when looking at specific causes of deaths (32), primarily linked to the higher burden of disease in sending countries (e.g. tuberculosis, HIV, heart disease and hypertensive disorders).

Confidential enquiries in the United Kingdom found some groups of migrant women, such as Jamaicans and Pakistanis, to be overrepresented among those who died (33). Studies in Denmark and Sweden have shown that women from sub-Saharan Africa and low-income countries were at higher risk of near-miss events (26,27,30,34). Newly arrived women, especially if they are at later stages of pregnancy, and those with no legal residence or with an uncertain legal status are at particularly increased risk of negative outcomes (7,19,35). Overall, there is a higher burden of disease in refugee and migrant women, linked to a combination of pre-existing conditions, biological predisposition and socioeconomic situation in the host country. While there is a great variation in the incidence of pre-eclampsia and eclampsia worldwide (5–26%), little is known about varying rates in migrants and non-migrant women (30). There seems to be a higher risk of eclampsia in sub-Saharan women (36).

Gestational diabetes

Some migrant women are also at higher risk of gestational diabetes than women in host countries (37), although a study in Turkey reported the opposite (38), indicating again that migrant women should not be seen as a homogeneous group. Some groups of migrant women also suffer from a higher burden of anaemia (32). Research indicates migrants are at higher risk of mental health disorders such as postpartum depression, possibly because of risk factors such as socioeconomic disadvantage, marginalization, insecurity, isolation, experiences prior to migration and general poor health and difficulty in integration (5,39–41). In countries where state support after childbirth is present, such as Sweden, the levels of symptoms are lower (42). However, cultures have different constructs of health and mental well-being and the underlying assumptions behind the definition of postpartum depression are based on western values; consequently, the cross-cultural relevance of postpartum depression can be questioned (42). A study in Sweden indicated that Somali women had a focus on “moving on” in a pragmatic way to cope with experiences of violence in the country of origin and refugee-related stress, through spiritual faith, motherhood and practical

support rather than through counselling. Therefore, they might not be familiar with the host society's preventive psychological care and active patient involvement (43).

Perinatal issues

The available research indicates that it is mainly women from some Asian and sub-Saharan African countries who show worse perinatal outcomes than women of the host country (22–24). Migrant women generally have higher rates of CS (5,44,45), although Syrian refugees in Turkey have lower rates than Turkish women (31). However, Turkey has the highest rates of CS in the Member States of the Organisation for Economic Co-operation and Development (46), another reminder that all findings should be context related. Women from sub-Saharan Africa and south Asia have overall higher rates of CS than non-migrant women, whereas women from Latin America and north Africa and the Middle East have, overall, higher rates of emergency CS (44). Fewer planned CS and use of epidural analgesia has been noted among migrants in Germany and Sweden (32,47). The WHO statement on CS in 2015 noted that “at population level, caesarean section rates higher than 10% are not associated with reductions in maternal and newborn mortality rates”, and also that “the effects of caesarean section rates on other outcomes, such as maternal and perinatal morbidity, paediatric outcomes and psychological or social well-being are still unclear” (48). It concluded that more research was needed to understand the health effects of CS on immediate and future outcomes (48). Too few, but too late, or too many occurrences of CS may be indications of suboptimal care (48). WHO has recommended subpopulation analysis to understand CS data and to support delivery of interventions and prevention to specific subgroups that are at risk of either under- or overuse of CS. For refugees and migrants, increased need for interventions could indicate ill health, a lack of provision of health care or some social and personal preferences (see Box 5) (49,50). If morbidity at birth is higher in migrants, logically there should be an increase in CS rates; however, if only emergency CS rates are higher, not planned CS rates, it may indicate that the interventions occur too late (51). Increased rates of emergency CS in general are worrying and are also related to economic incentives within health systems (52). There is very little research available that has compared rates for instrumental deliveries other than CS (vacuum and forceps deliveries) in migrant women and their counterparts from the host population, but there appear to be equal or lower rates in migrants (53,54).

FGC

A multicountry study in 2006, commissioned by WHO in Africa, showed that women were more likely to have complications during childbirth if they had undergone FGC (55). In the European context, some studies have indicated an increased risk for tearing during childbirth (56–58). However, studies using audit as a method to explore complications among migrants and its link to FGC found no correlation between the high rates of perinatal and maternal mortality in migrant women and FGC, nor has obstructed or prolonged labour, caused by scar tissue of circumcision, been linked to maternal or perinatal mortality (4,59–63). In Europe, substantial knowledge exists on how to

take care of already circumcised women and girls, and there are recommendations regarding best practices and for prevention (63). A review of cultural change after migration showed a radical change in FGC practices (64) and a change in attitudes on continuation, particularly when it came to the extensive forms of FGC (cutting tissue type 1, 2 or 3) (65).

Exposure to violence

Several maternal and newborn health outcomes are associated with exposure to violence, sexual violence or intimate partner violence (66,67). A study in Spain highlighted that migrant women were particularly vulnerable to being killed through intimate partner violence (68) and one in Switzerland found irregular migrants were more likely to be exposed to violence during pregnancy than women with legal residency (69). Women who have been trafficked may find it difficult to access maternity care and be afraid to share details of their situation, which can lead to health problems (70). Health care staff should be trained to recognize indicators of trafficking, such as late booking of maternity care, reluctance to accept a caseworker to help with translation, not being able to speak the language or having limited knowledge of the area in which the woman is living (see Box 3) (70).

Newborn health

According to the 2010 European Perinatal Health Report (Euro-PERISTAT), preterm infants and those with low birthweights are more likely to die or to have severe neurodevelopmental disorders, hence the importance of addressing any disparities in newborn health (35).

Studies have reported worse perinatal outcomes in migrants compared with host populations in the EU (71,72). African and Asian migrants had a higher risk of preterm births, and increased fetο-infant mortality has been noted in African, particularly north African, and Asian migrants (23,73). Studies on ethnic groups in the Netherlands in 2013 showed higher incidence of stillbirth and neonatal death in African, south Asian and other non-western women but better outcomes in western and east Asian migrants (32). This was confirmed in a 2016 study showing that, despite variation according to migrant groups, women who had migrated to Europe were at higher risk of stillbirth than non-migrant women (31).

Gestational length and preterm birth can differ according to race, ethnicity and migrant status (74). A higher prevalence of low birthweight and small for gestational age (a proxy for placenta problems) was seen in all births from migrants in Finland, Italy, Norway and Sweden (24,75). Women from sub-Saharan Africa appeared to have a higher risk of delivering newborns with low birthweight but the risk varied for other ethnicities, with migrants sometimes presenting the same or a lower risk than non-migrant women (21,73,76,77). Additionally, a protective effect of being foreign born has been found for certain neonatal outcomes in women matched by ethnicity (73). In Belgium, risk of

preterm delivery (considered a quality of care issue as it can be detected and to some extent prevented with antenatal care) was 23% lower in migrants than for women from the host country (21).

In Spain, African newborns have been shown to require more neonatal intensive care due to preterm birth, lower Apgar score and macrosomia (78). This study would suggest that, although migrant mothers have higher risks for negative pregnancy outcomes, migrant newborns receive optimal care; however, a study in Sweden came to the opposite conclusion (24). One problem in interpreting the results of various studies is that many of the tools used in the EU to assess health outcomes do not take ethnic diversity into consideration. Birthweight charts based on local population standards may lead to misclassification of migrant populations (79).

Studies from many European countries indicate a higher prevalence of congenital anomalies and stillbirths in babies born from migrant parents from north Africa, the Indian subcontinent and the Middle East, particularly migrants from Pakistan and Turkey (31,32). While stillbirths were higher in ethnic minorities, this was mainly linked to congenital malformations rather than socioeconomic status. Consanguinity as a risk factor should be approached with a life-course perspective (31).

Maternal and newborn health care services

Reduced access to health care facilities and worse obstetric outcomes have been identified for migrants (5,32). Migrant women in an irregular situation often have particular difficulty in accessing care (see Box 3) (32,80). Adequacy of antenatal care has been shown to be lower in migrant women (81).

Use of epidural analgesia varies markedly between groups of different origin but there is no consistent pattern of migrants using more or less than the host population (7). Access issues such as insurance may have a role but differences remain in studies with equal insurance access, highlighting cultural preference, pain differentials, biological differences and also more complex interactions at play between the patients and the health care providers. Pain thresholds have both a genetic and a cultural component (82).

There is no preference for home births in migrants coming from areas with high prevalence of non-institutional deliveries, which indicates awareness and trust of the health care system in the new home country (83). As some migrants come from cultures where homebirth is traditional, it also indicates a capacity for rapid adaptation in health-seeking behaviour. Refusal to be treated by a male obstetrician or nurse at antenatal care has been reported in some groups, which could jeopardize quality of care (84).

Later initiation of antenatal care is detected in some migrants (85), as well as underutilization and inadequate use of antenatal care among African, Asian, European and Middle-Eastern migrants (78,86) and late initiation of antiretroviral therapy in HIV-positive pregnant women (87). For example, migrants in the Netherlands and Sweden

tended to start antenatal care later than non-migrants, and migrants in the United Kingdom were four times more likely to initiate antenatal care later than recommended (81). This means that migrant women are less likely to receive the recommended eight scheduled antenatal care visits according to the latest WHO guidelines (8). Other studies show higher unplanned visits to the delivery ward, resulting in strain on the health care facility (86).

Areas for intervention

The challenges and barriers identified in refugee and migrant maternal and newborn health are examined using the ROAM framework (Fig. 1) to describe equitable health care as a product of four main factors: individual health status, accessibility, quality of care, and health care policy and financing systems. Suggestions for improvements in these areas for intervention are made but should always be considered in the light of the country context (88).

Individual health status

Consanguinity heightens the risk of carrying autosomal recessive genes and plays a role in increasing incidences of foeto-infant mortality and congenital malformations in migrants from certain ethnic groups (31). Studies from Norway showed that children of related parents, both from migrant and non-migrant groups, were twice as likely to develop malformations, although the rate of intermarriage in some migrant groups was higher (89). However, the prevalence of consanguinity has considerably reduced in Europe in recent years, with acculturation playing an important role in the change (90).

Migration status can be a proxy for several risk factors that are associated with the generally worse maternal and perinatal outcomes experienced by some migrant groups (5), particularly those originating from low- and middle-income countries (91–93). Outcomes are dependent on factors such as migrants' initial health status, type of migration, events during transit and conditions in the host country (5,31,73).

Diseases such as tuberculosis, HIV or malaria acquired in home countries (which often have a higher burden of disease), during transit or in detention centres can negatively impact pregnancy and perinatal outcomes after arrival. Some diseases are uncommon in the majority of the countries of the WHO European Region and so there is a risk that European medical staff might not detect and diagnose signs of such diseases (59).

Health literacy has been defined as “people’s knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgements and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain and improve quality of life during the life course” (94). A low level of health literacy is one of the factors that may explain the health-seeking behaviour of migrant women (32). The level of health literacy can be understood using a questionnaire (95) and issues that may be particularly problematic for refugee and migrant women include:

- feeling understood and supported by health care providers and being able to actively engage with them;
- knowing how to find good health information, being able to read and understand it well enough for active management of personal health (Case study 1);

- having social support for health (Case study 2); and
- understanding the health care system in order to navigate it.

Social capital, or network, includes relatives, friends and other supportive relationships, all of which have an effect on women's health-seeking behaviour, antenatal care and postpartum care (47). Women may not be able to take optimal care of their pregnancy or their newborn if they have competing priorities with concerns such as homelessness, poverty or family issues (7,81). Lack of networks in the host country and language barriers also make it harder to access health care (Case study 2) (7). At the same time, many migrants experience a shift in identity in the resettlement context, with an altered sense of belonging (99) and possibly feelings of alienation, isolation and loneliness (100). Maternal mental well-being and stress during pregnancy can have an impact on fetal development and pregnancy outcomes (101).

Case study 1. Migrant-friendly information in mother and child care

The Migrant-friendly Hospitals initiative was implemented in hospitals in 12 European countries between 2002 and 2004 and aimed to address the disparities in care and outcome between migrants and host populations. There were three subprojects: migrant-friendly information in mother and child care, improved interpretation services and staff training in cultural competence.

Migrant women and families were empowered to self-manage prenatal and parental care by increasing their access to adequate information (through brochures, videos and training courses), improving their health literacy and knowledge of services available and supporting culturally sensitive relationships between patients and providers. Although attendance was low, women who attended the courses and used the material were highly satisfied and felt their knowledge had improved.

Sources: Ludwig Boltzmann-Institute for the Sociology of Health and Medicine, 2005 (96,97).

Case study 2. Volunteer support for very disadvantaged pregnant women and new mothers (United Kingdom)

Trained volunteers with similar background and experiences to vulnerable women were linked with them to provide various forms of support from pregnancy to up to two years after birth. The initiative reported the development of a stronger relationship of trust between migrants and local women, higher awareness about antenatal and child care practices and increased access to antenatal care in migrant women.

Source: Balaam et al., 2016 (98).

Recommendations

- Implement plain-language health information initiatives concerning maternity care (antenatal and postnatal) and issues such as the health risks of consanguineous parenting. Use workshops, brochures or advertising campaigns with a socioculturally appropriate content that communicates meaningful and reliable health information in an easily understood manner and encourages participation.
- View country of birth as a risk marker for screening and for further individual detailed obstetric history rather than considering migration in itself as a risk factor.
- Increase the awareness of health care providers about the higher burden of some diseases in specific migrant groups and how some diseases can affect pregnancy outcomes. Provide a systematic approach to identify a migrant's status at antenatal care and to address the associated increased risk factors with adequate screening tests and additional care.
- Address socioeconomic issues associated with negative pregnancy outcomes (e.g. poor living conditions, unemployment, need to support families and poverty), as well as related stress, through intersectoral efforts.
- Share responsibility for health literacy between stakeholders, such as government agencies; health care facilities and professionals; health communicators, educators and literacy practitioners; and community- and faith-based organizations.
- Implement programmes or promote policies to support organizations that pair expecting migrant women with women from a similar background who have already experience birth in the new country and are settled in the community.

Accessibility of health care

Access to health is a quite complex for everyone and includes adequacy of supply (or availability) affordability, physical accessibility and acceptability of services. Refugees and migrants often struggle with barriers such as ability to pay, irregular status, uncertainty about where to go, transportation, lack of incentives to seek health care and language barriers (44,60,81). Identified risk factors for lower attendance at antenatal care in migrant women were maternal age below 20 years, poverty, single mothers, having several children, unplanned pregnancy, low levels of education and proficiency in the host language, and lack of health insurance (81). This is consistent with studies on the general population. A qualitative enquiry in Sweden revealed that some health care personnel were unaware of the difference in legal status between refugees and asylum seekers, with consequences for their entitlement to care (102). On some occasions, migrants might have beliefs that conflict with health care practice in the host country. For example, the fear of medical interventions held by some Somalis (see Box 5) could mean that they will avoid any action they think might lead to CS, which can include epidural analgesia, induction of labour and even antenatal care (7).

The antenatal care visit is key to date the pregnancy, to detect adverse intrauterine growth, to detect and manage pre-eclampsia (which if uncontrolled can lead to

adverse fetal growth and fetal distress (33) and to detect congenital malformations and chromosomal abnormalities. WHO recommends a minimum of eight contacts with antenatal care (8).

Communication is a key to successful health care consultation (Case study 3). Barriers related to communication are associated with effects on quality of care, user satisfaction, health outcomes, resource utilization, unnecessary invasive procedures and mortality (5,7,60,104,105). Effective communication in migrants is threatened by language proficiency but also by subtler cultural and socioeconomic factors (7). Perception of the communication process is often worse in patients who are female, from a poorer socioeconomic background or younger (7). Lack of adequate translation services can hamper service delivery (32,47,50). Using the patient's relatives as translators has proved to be inadequate (84). Identified barriers to maternal care services include differences in expectations of language level in both providers and patients, lack of clarity about who is responsible for translating services, cultural awareness, level of professionalism, provider type or gender, and level of medicalization of pregnancy and delivery (50,84). Some reports show migrants had unfounded beliefs of what they were or were not entitled to and what providers were willing to give them (4). These different expectations can be cultural barriers to optimal care.

Case study 3. Helping migrant pregnant women and new mothers navigate the health system (Austria and Italy)

An intervention was implemented in two hospitals to provide guidance on navigating the health care system and ethno-culturally sensitive information on maternal and newborn health to Turkish (Austria), Indian and Pakistani (Italy) women. It involved specifically tailored information material, delivery of prenatal courses according to needs and literacy levels with the help of cultural facilitators/translators, and provision of babysitting and taxi services. The study reported high patient satisfaction and knowledge, as well as increased awareness of the need to understand the role of male family members and community involvement to improve participation in the courses.

Source: Karl-Trummer et al., 2006 (103).

Bilateral trust and acceptability are prerequisites for optimal care and it can be challenging to find the best way to establish a trusting relation when providers and patients have very different backgrounds (106). While faith and conceptions of health may be related (and it can be useful if health care providers are aware of this), it can be harmful to make assumptions regarding a person's beliefs based on their origin or a religious sign in their appearance. An example would be a provider not offering screening to a Muslim woman on the assumption that she has a set of strong religious beliefs, for example on malformation or abortion. Conceptions of motherhood, health and expectations of health care vary with culture, faith and so on, but also with individuals (47). This can lead to difficulties in communication that are not related

to language; these often come under the term cultural barriers, for which the use of a culture mediator may be beneficial. Cultural mediators are often from the same community as the patients and can bridge the communication gap from background conceptions.

Recommendations

- Make antenatal care easily accessible for migrants, regardless of legal status and ability to pay for health care. Every migrant woman should be informed about where and when to consult an antenatal clinic.
- Raise awareness among health care providers about the legal status and rights of migrants in particular groups, such as refugees and applicants for international protection.
- Reduce barriers of costs and transportation by providing, when possible, maternal and neonatal health services at community clinics rather than at hospitals.
- Develop specifically tailored information materials in the target group's native language about warning signs of pregnancy and navigating the health care system, and provide social support during antenatal care.
- Provide and guarantee professional translation services in health care facilities for all individuals who require support. Use cultural mediators but assure the patient of confidentiality.

Quality of care

Some studies indicate similar health care utilization for migrant women and host women, suggesting that any observed differences could reflect quality of care rather than quantity (32,93). A study from Germany revealed that access to health care services was similar for the majority of migrant women during pregnancy, thus suggesting that differences in outcomes related to the quality and content of antenatal care (32). Substandard maternity care has been repeatedly shown to be more frequent for migrant women (7,32,60,81,93,107). In a study in the Netherlands, migrants reported delays in receiving information about diagnosis and treatment (32). Studies from Sweden and the United Kingdom presented common expectations of maternity care – that it would be respectful, informative and kind – but that migrant women were less likely to feel satisfied with the care provided (107). Case studies 4 and 5 describe interventions to improve maternal and child health outcomes.

Case study 4. Improving communication between midwives and migrant women during antenatal care (Denmark)

The intervention aimed to decrease stillbirths and infant deaths among migrants by providing adequate treatment of pregnancy complications. The materials and methods used included the development of a folder with information materials, an educational app, training of midwives about outcomes in migrants, allocation of five more minutes in the first antenatal care consultation per woman and organization of dialogue meeting to promote reflection on the health encounters and the intervention. The main reported outcomes were increased trust between midwives and patients and a reduction in delays of health care seeking due to more knowledge about the health care system.

Source: Villadsen et al., 2016 (108).

Case study 5. Improving child and maternal health outcomes for refugee and migrant women (United Kingdom)

The MAMTA programme has been running since 2006 with the aim of educating women on preconception care, lifestyle changes (healthy diet, not smoking), courses of action if warning signs are noticed during pregnancy, breastfeeding, safe sleeping for the baby, why antenatal care is important and how to register for a general practitioner. The message is delivered in an empowering way to help mothers overcome the barriers they might encounter in the health system. The women are recruited from antenatal clinics and general practice offices, but also actively sought out in their local community. The programme reported that no stillbirths were registered in the more than 12 000 women who had taken part in the programme.

Source: MAMTA, 2018 (109).

Migrant maternal deaths from pre-eclampsia were mostly linked to insufficient diagnostic testing when indicated, inadequate management, insufficient stabilization before transport to tertiary care centres and failure to consider timely delivery (27,59). A study in France estimated quality of care to be so much lower in migrants that 25.5% of deaths could be avoided (compared with 12.7% in the host population) (32). There is no evidence that the higher risk for adverse maternal or perinatal outcomes among women originating from countries with high prevalence of FGC (110) is related to scarring in the external genitals or that the suboptimal care received was linked to lack of management of FGC (61,62). Health care staff in the WHO European Region should have knowledge of FGC, and most countries have guidelines in order to provide appropriate care, including defibulation (63). WHO recently updated guidelines for health care providers on health complications and FGC (111).

Recommendations

- Make screening processes inclusive for all.
- Adopt a person-centred model of care in health care units that involves providing the same quality of care to all pregnant women (e.g. timeliness, information, respect, sufficient diagnostics, adequate management and transport), regardless of migration status, and that is sensitive to diversity when this does not interfere with health care provision.
- Refer refugee and migrant women to a higher level of care if a risk assessment suggests that they should be screened for tuberculosis, pre-eclampsia and a small for gestational age fetus.
- Use professional interpreters and cultural mediators when needed, rather than family members, to facilitate communication between medical staff and refugee and migrant women. Consider telephone sessions as a cost-effective alternative when face-to-face interpreting services are not an option.

Health care policy and financing systems

Integration refers to the process by which migrants become accepted into society, both as individuals and as groups. Integration is complex and has legal, economic, societal and cultural dimensions. Integration policies include family reunion, access to nationality, antidiscrimination, education, health, labour market mobility, permanent residence and political participation. The ultimate goal of integration is equal rights, obligations and opportunities for all, regardless of origin or ethnicity. Each country should aim to strengthen their integration policies within its own context.

A systematic review of birth outcome studies in European countries between 1966 and 2004 found differences in maternal and newborn health status between migrants and non-migrant women were reduced in countries with strong integration policies (20). Rates of low birthweight infants dropped from 54% to approximately 0% once adjusted for weak/strong integration policy, and preterm births reduced from 47% with a weak integration policy to 16% with a strong integration policy (20). Newborns from migrant women in countries with strong integration policy had a similar rate of congenital malformation as women from the host population whereas in countries with weak integration policy the rate of congenital anomaly was increased by 78% in migrants (20).

Strong integration policies have been shown to benefit maternal and newborn health and, inversely stringent integration policies have a negative impact (20, 112). Possible mediators for this effect include increased accessibility, reduced language barriers and reduced stress, which has an impact on child development in utero (20).

Different financing mechanisms for health systems influence access to health care for refugees and migrants as for other vulnerable groups. Although some countries have found that irregular migrants will go to a hospital if they need to (28), other studies have

suggested that irregular situation is an additional risk factor for negative outcomes compared with other migrants (32,80) and for late antenatal care initiation, with one study showing irregular migrants initiated antenatal care four weeks later than women with a residency permit (80). Migrants may not be able to access health care or may fear to seek health care if they are irregular migrants. Each country should aim to minimize those barriers encountered by migrants when accessing health care, within their own national and regional context (Case study 6).

Case study 6. Provision of municipal resources for maternal and child health (Spain)

The intervention aimed to prevent, identify and follow-up on all societal–sanitary risk situations in children, provide health education, improve affective relationship within families, offer women an informal educational space to talk about childbearing and childrearing and provide information about available societal–educational and health resources. The intervention targeted migrant, minority and non-minority families with children up to 3 years of age and poor socioeconomic status, such as families needing support in childrearing and education, single-parent homes, socially isolated families, families at risk of breaking down and families needing help with their children to go to work.

Resources made available by the municipality of Lleida through this programme and other services appeared to respond to the social and health needs of host and migrant families, although a formal evaluation does not seem to have occurred.

Source: Machado et al., 2009 (113).

Recommendations

- Provide support and services that fulfil the two overarching policies of equity in health and gender equity by integrating migrants into current health systems with awareness of their diversity and different needs, without stigmatizing or underestimating them.
- Promote health systems in which the health care provider makes decisions based only on professional clinical judgement rather than convenience or monetary motives.
- Support integration in all areas of society with policies that are relevant to maternal and newborn health, such as access to health, antidiscrimination, education, family reunion and facilitation of language acquisition.
- Provide full health coverage for all pregnant women and their newborns regardless of their migration status.
- Promote postpartum contraceptive counselling as a cost-effective way to improve maternal and newborn health and reduce unwanted pregnancies.

Policy considerations

This section will highlight good practice but also gaps in service provision and suggest potential solutions that can be transferred and adapted to a wide number of contexts, integrating with existing national health systems and surveillance systems. All have to be considered in the light of the context of a country, its health system, social security system and local and migrant populations. A number of reports (outlined in the Introduction) provide support and guidelines for ensuring that migrants make the best use of health services in the host country, particularly for maternal and newborn health (3,4,33). The previous section (Areas for intervention) outlined recommendations related to four factors: individual health status, accessibility, quality of care, and health care policy and financing systems. The following policies considerations draw these together.

Health considerations

Support migrant mothers to actively manage their own health status

The three-delay framework suggests that health care can be delayed for refugee and migrant women at three stages: seeking care, reaching care (facility accessibility) and receipt of optimal care.

- Plain-language health information initiatives (e.g. workshops, brochures or advertising campaigns) with a socioculturally appropriate content can communicate meaningful and reliable health information in an easily understood manner.
- Production and promotion of health literacy is best achieved with the involvement of intersectoral stakeholders (e.g. government agencies; health care facilities and professionals; health communicators, educators and literacy practitioners; and community- and faith-based organizations).
- Peer-support initiatives can help migrants to develop social networks, including with other mothers of a similar background. Such pairing of pregnant migrant women with women from a similar background who have already experience birth in the new country and are settled in the community have been shown to improve a woman's self-management of her health care.
- Migrant women could also be involved in the design of health programmes and to act as mediators to support migrants in making the best use of health services.

Support effective communication within health care

- Good communication between health professionals, between patients and professionals and between the different levels within a health service are all important in the provision of effective maternal and newborn health care, particularly when language and culture may be barriers.

- Interpretation is a top priority to reduce communication barriers, as is investment in skills in the local language for refugees and migrants. Cultural mediators can be used to relieve communication barriers but patients must be assured of confidentiality with any third party involvement.
- Professional interpreters and cultural mediators should be used to facilitate communication between medical staff and migrant women, rather than using family members. Telephone sessions are a cost-effective alternative when face-to-face interpreting services are not an option.
- Support groups and specifically tailored information materials in the target group's native language can communicate information about warning signs of pregnancy, navigating the health care system, and social support during antenatal and postnatal care.

Provide person-centred health care

- Appropriate care and forward planning can identify high-risk women and prevent death and complications through adequate counselling and interventions (e.g. for uncommon diseases or for consanguineous parenting).
- Health care providers should have recourse to information about the higher burden of some diseases in specific migrant groups, how some diseases can affect pregnancy outcomes and any screening tests and additional care needed. Country of birth/transit rather than migration in itself should be used as a risk marker for screening and for further individual detailed obstetric history.

Ensure equitable accessibility for maternal and newborn care

Although almost all the Member States of the WHO European Region have committed to ensure the right to the highest attainable standard of (maternal) health for all, entitlement remains varied throughout the Region and capacity in maternity and newborn health care is often under pressure for both migrant and host populations.

- Antenatal care should be easily accessible for migrants, regardless of legal status and ability to pay for health care. Every migrant woman should be informed about where and when to consult an antenatal clinic.
- The same quality of care should be provided to all pregnant women (e.g. timeliness, information, respect, sufficient diagnostics, adequate management and transport), regardless of migration status. Care should be sensitive to diversity when this does not interfere with health care provision.
- Health care providers should be made aware of the legal status and rights of migrants in particular groups, such as refugees and applicants for international protection.
- Barriers of access, such as the costs of attending health care and transportation, can be reduced by providing, when possible, maternal and neonatal health services at community clinics rather than at hospitals.

Target socioeconomic factors associated with poor maternal and newborn health

- Ideally, health service professionals should have the ability to interact with other services for actions on social determinants (e.g. homelessness, poverty or family issues).
- Intersectoral policy-making is needed to reduce socioeconomic factors associated with poor maternal and newborn health.

Ensure health care policy and financing systems are migrant friendly

- Support and health services should fulfil the two overarching policies of equity in health and gender equity by integrating refugees and migrants into current health systems, with awareness of their diversity and different needs.
- Health systems should be such that health care providers make decisions based only on professional clinical judgement rather than convenience or monetary motives.
- The provision of universal health coverage for all pregnant women and their newborns regardless of their migration status would avoid issues regarding rights of access to care and help to reduce later emergency care with its social and financial costs.
- Postpartum contraceptive counselling should be promoted as a cost-effective way to improve maternal and newborn health and reduce unwanted pregnancies.
- As socioeconomic status is the overarching determinant for good health, this is an area where intersectoral policy-making can be most effective.

Considerations for data collection and research for evidence-informed policy-making

While the policy documents and research outlined in this technical guidance indicate areas where migrant maternal and newborn health could be targeted, it is less clear what health systems should include in order to be refugee and migrant sensitive as this topic lacks research. Good information is needed to plan health care and resource allocation on both a national and regional level. Consequently, research issues are also briefly touched upon here.

Ensure clarity in defining migrant groups

- The use of more standardized definitions when collecting data would support research on migrants as many studies currently have used different definitions and indicators and so cross-comparisons are difficult.
- The type of migration (e.g. refugees, irregular migrants, labour migrants) also has an influence on pregnancy outcomes and should be recorded for both mother and father (7).

Collect data to support evidence-informed policy-making

- Information routinely collected in national birth registers for perinatal and maternal health surveillance should include migrant-specific information including country of birth, length of time in country, language fluency, migration status and ethnicity in commonly defined categories. These can act as proxies for socioeconomic status, genetic risk or possible ethnic/racial disadvantage. Asking about ethnic background is considered taboo in several countries and is, therefore, not collected but it can be very relevant.
- The establishment of national birth registers for perinatal and maternal health surveillance with common indicators and migrant-relevant information would allow monitoring, high-quality registry studies as well as international comparisons. The Euro-PERISTAT surveillance system has developed a database of indicators (Annex 3). Of the participating countries, 80% collect information on country of birth. This project has recently been integrated into the European joint action on health programme and has the potential to provide quality data for evidence-informed decision-making on migrant maternal and newborn health throughout the WHO European Region.
- Transnational surveillance systems such as Euro-PERISTAT provide a good basis for setting up adequate data collection systems. The PERISTAT indicator list (Annex 3) could be revised to include additional indicators relating specifically to migration, such as maternal fluency in the local language, time in the host country or paternal country of birth.
- Data collection methods should ensure that migrants are not excluded because they do not speak the language or do not fit into the standard protocol made for the majority population.
- It is hard to consistently dissociate the effect of migration from possible confounding factors (e.g. socioeconomic status, maternal age, language fluency, history of violence or trauma). Consequently, data collection should be as comprehensive as possible before these data are used to draw conclusions for policy-making.

Support research studies that include migrants in assessments of maternal and newborn health

- Because gender, ethnicity, class and religion intersect with surrounding societal power structures, an intersectional methodological and analytical approach encompassing both medicine and social sciences is advised.
- Migrants are underrepresented in population studies for a number of reasons, such as lack of access to landlines or being unable to speak the local language. In addition, most studies on maternal and newborn health in migrants originate from North America and Australia and so might not be generalizable to the European context.
- Experimental studies that test the efficacy and the cost-effectiveness of current practices would support the institution of best practices. Comparison of similar populations in the country of origin and the host country could provide more precise information on the attributable part of difference in outcomes that is linked to migration.

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Annex 1. Clinical management of pregnancy: key interventions

Antenatal care

- Essential preventive and health-promoting care (including prevention of mother-to-child transmission of infections and provision of vaccinations);
- Dietary intervention, including micronutrient supplementation;
- Maternal and fetal assessment;
- Counselling for pre-existing conditions (e.g. HIV-positive women); and
- Interventions for common physiological symptoms and management of complications during pregnancy, as well as interventions to improve utilization and quality of antenatal care.

Intrapartum care

- Respectful labour and childbirth care, including provision of continuity of care, having an established referral plan, allowing mobility in labour and birth position of choice;
- Regular labour monitoring including for oral fluid and food;
- Pain relief strategies; and
- Effective communication by staff, and emotional support by companion of choice.

Postpartum care for mother and newborn

- Essential preventive and health-promoting care;
- Identification and management of delivery complications;
- Postpartum contraceptive counselling;
- Counselling for pre-existing conditions (e.g. HIV-positive women);
- Support for breastfeeding; and
- Essential and preventive care for healthy newborns, identification and management of newborn problems (particularly if preterm or low birthweight).

Annex 2. Search strategy

Databases

The search was conducted in CINAHL (Cumulative Index to Nursing and Allied Health Literature), Cochrane, Google Scholar, PubMed, Scopus and Social Science Citation Index on 20–23 January 2018 and updated 15 May 2018. A number of studies were also obtained through snowballing and from recommendations of the participating experts.

Search terms

Target groups: (pregnant wom* OR newborn* OR neonate*) AND (migra* OR migrant* OR irregular migra* OR undocumented migra* OR asylum seeker* OR refugee*).

Outcomes: pregnancy outcome OR maternal mortality OR maternal morbidity OR near-miss OR pre-eclampsia OR eclampsia OR gestational diabetes OR anemia OR mental health OR depression OR psychosis OR anxiety OR cesarean section OR CS OR vacuum extraction OR perinatal outcome OR perinatal mortality OR stillbirth OR perinatal morbidity OR low-birth-weight OR congenital malformations.

Risk factors and policies/interventions: care OR “prenatal care” OR “antenatal care” OR “postpartum care” OR “postnatal care” OR “obstetric care” OR access* OR afford* OR utilize* OR quality OR language OR communication OR cultural sensitivity OR service* OR delivery OR “good practice” OR intervention* OR program* OR community OR polic*

Country search: all 53 Member States of the WHO European Region and “European Union” or “EU” or “WHO European Region”

Annex 3. Euro-PERISTAT indicators

Indicator	
<i>Fetal, neonatal and child health</i>	
C1	Fetal mortality rate by gestational age, birth weight, and plurality
C2	Neonatal mortality rate by gestational age, birth weight, and plurality
C3	Infant mortality rate by gestational age, birth weight, and plurality
C4	Distribution of birth weight by vital status, gestational age, and plurality
C5	Distribution of gestational age by vital status and plurality
R1	Prevalence of selected congenital anomalies
R2	Distribution of Apgar scores at 5 minutes
R3	Fetal and neonatal deaths due to congenital anomalies
R4	Prevalence of cerebral palsy
<i>Maternal health</i>	
C6	Maternal mortality ratio
R5	Maternal mortality by cause of death
R6	Incidence of severe maternal morbidity
R7	Incidence of tears to the perineum
<i>Population characteristics/risk factors</i>	
C7	Multiple birth rate by number of fetuses
C8	Distribution of maternal age
C9	Distribution of parity
R8	Percentage of women who smoked during pregnancy
R9	Distribution of mothers' educational level
R10	Distribution of parents' occupational classification
R11	Distribution of mothers' country of birth
R12	Distribution of mothers' prepregnancy body mass index
<i>Health care services</i>	
C10	Mode of delivery by parity, plurality, presentation, previous caesarean section, and gestational age
R13	Percentage of all pregnancies following treatment for subfertility
R14	Distribution of timing of first antenatal visit
R15	Distribution of births by mode of onset of labour
R16	Distribution of place of births by volume of deliveries
R17	Percentage of very preterm babies delivered in units without a neonatal intensive care unit (NICU)
R18	Episiotomy rate
R19	Births without obstetric intervention
R20	Percentage of infants breast fed at birth

Note: C: core; R: recommended.

Source: Zeitlin et al., 2010 (1).

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The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

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