

Pilot Implementation & Assessment Report (D6.1.)



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FOREWORD

The EU/CHAFEA funded ORAMMA (Operational Refugee And Migrant Maternal Approach) pilot project is an integrated, woman centered, culturally sensitive, and evidence-based approach to perinatal health care for migrant, asylum seeking or refugee (MAR) women. This approach includes detection of pregnancy, care during pregnancy and birth, and support after birth. It is facilitated by multidisciplinary teams including midwives, social care providers (SCPs), General Practitioners (GPs) and Maternity Peer Supporters (MPSs), with the active participation of women from the MAR communities, to ensure a safe journey to motherhood, improve access and delivery of maternal healthcare for refugee and migrant women, and to improve maternal health equality within the European Union. Moreover, the project aimed to increase awareness, commitment and action towards improving the maternal health of refugees within the EU.

There is an increasing need for a prompt, coordinated, and effective response for all MAR pregnant and lactating women with newborn babies. MAR women face specific health risks and challenges during the perinatal period which need to be addressed by well-trained multidisciplinary teams of healthcare professionals, as they are characterized by a complex physical, psychological and mental state of health. Most MAR pregnant women, their families and their communities are not empowered to be healthy, do not always have adequate capacity to provide appropriate care during pregnancy or when the new baby has arrived, neither are they able to make healthy decisions and act upon those decisions, including the decision to seek care when needed. There is a lack of empowerment manifested in several levels while additionally gender constraints may prevent some MAR women from expressing the need for and obtaining care during the perinatal period. With this knowledge the EU-funded international project "Operational Refugee and Migrant Maternal Approach" (ORAMMA) pilot study was developed to address the situation of pregnant migrants in Europe. The aim of this project was to improve the outcomes of pregnancies in migrants by training midwives on cultural competences and providing support by other migrant women, called maternity peer supporters (MPS). The MPS is a volunteer who acts as a cultural bridge between the pregnant migrant and the midwife. The ORAMMA project developed, pilot implemented and evaluated by comparative analysis an integrated and cost-effective approach on safe motherhood provision for MAR women, taking into consideration (a) best practices, (b) the special risks and characteristics of the target group and (c) the transferability of the model in different healthcare systems across the EU: from camp sites in Greece, to the National Health Service in the United Kingdom, and the community-based midwifery model in Netherlands.

ORAMMA's vision was to a) strengthen the perinatal healthcare provision in primary care settings for MAR women and their families, b) promote community-based health care models for MAR populations and c) promote safe pregnancy and childbirth through efficient access to quality maternity care for all MAR women and their newborn babies, by developing an operational and strategic approach.

1. BACKGROUND

The number of international migrants continues to grow rapidly worldwide. Europe is currently experiencing an unprecedented influx of refugees, asylum seekers and other migrants. Over the past two decades, the global population of forcibly displaced people has grown substantially from 33.9 million in 1997 to 65.6 million in 2016, and it remains at a record high. Most of this increase was concentrated between 2012 and 2015, driven mainly by the Syrian conflict. But this rise was also due to other conflicts in the region such as in Iraq and Yemen, as well as in sub-Saharan Africa including Burundi, the Central African Republic, the Democratic Republic of Congo, South Sudan, and Sudan. The increase of recent years has led to a major increase in displacement: from about 1 in 160 people a decade ago to 1 in 113 today (UNHCR, 2017).

Between 2000 and 2017 the number of migrants has increased from 173 to 258 million, thirty percent of which go to Europe (IMR, 2017). People migrate for different reasons; flee because of conflict, political persecution or from natural disasters. Others migrate in search of better opportunities or because of poverty and a lack of access to basic needs as healthcare, education, water, food and housing (Oberoi et al, 2013; UNHCR, (link)). An estimated 362,000 refugees and migrants risked their lives crossing the Mediterranean Sea in 2016, with 181,400 people arriving in Italy and 173,450 in Greece. In the first half of 2017, over 105,000 refugees and migrants entered Europe (UNHCR, 2017).

Migration can have consequences on people's physical and mental health and wellbeing. In general, although often healthy when leaving their country of origin, the health of MARs deteriorates over time, and usually, they rate themselves to have poorer health compared to the native population of their host countries (DOTW, 2016). Poor health is influenced by chronic stress related to migration and precarious socio-economic living conditions, unhealthy lifestyle, low health literacy, and healthcare that is not tailored to the needs of the MARs. Linguistic and cultural differences as well as socioeconomic barriers hamper access to and the quality of healthcare (Ngo-Metzger et al, 2003).

Many migrating women are at childbearing age and once they get pregnant during or after migration, they experience their first pregnancy in a foreign country (IMR, 2017). There is wide heterogeneity amid studies that have investigated pregnancy outcomes amongst MAR women, relevant to: (a) study design view, (b) definition of what a migrant is and (c) the outcomes. This reflects the heterogeneity of women themselves in terms of country of origin, reason for migration and the host countries in which they gave birth. Being a migrant is not a consistent marker of risk for poor pregnancy outcomes, and the effects of migration can differ (Gagnon et al., 2009). Refugees, asylum-seekers and those who have lived in camps or come from war-torn regions may be at risk of poorer health because of gender-based violence, post-traumatic stress, poor nutritional status and infectious diseases (UNHCR, (link)). Economic migrants, in contrast, may be of a higher socioeconomic group and in better health than the native population of their host country, the so-called "healthy migrant effect" (Gagnon AJ, Redden KL, 2016). Generally, studies have shown that MARs are more likely to suffer from chronic diseases such as diabetes, cardiovascular diseases, mental health problems as well as reproductive health problems (Amara, Aljunid, 2014).

Due to the limitations of existing statistical data and audit, it is not possible to determine the exact differences between maternal mortality and morbidity between MAR women and the host population across Europe. However, there is some evidence from the United Kingdom that maternal mortality and morbidity is higher amongst women from specific geographical regions; with significantly higher risk of maternal death in women born in Bangladesh, Pakistan, Jamaica, Nigeria

and Poland (Knight et al., 2016), and higher rates of preterm birth, low birthweight, preterm birth and congenital malformations amongst MAR women (Ngo-Metzger et al., 2003; Bollini et al., 2009)).

Depending on the country of origin, MAR women are more likely to be subject to sexual violence, have unmet contraceptive needs and unwanted pregnancies, experience a higher incidence of induced abortions (Vangen et al, 2008; Rodriguez-Alvarez et al., 2016) and have higher rates of perinatal morbidity and mortality (Manktelow et al., 2017). In a Swedish study, African MARs had 18 times higher risk of neonatal deaths compared to Swedish mothers (Essen et al., 2002). One study however, indicated that recent immigrants were more likely to have better outcomes in terms of low-birth-weight babies and preterm births than women born in the receiving country (Kirby RS, 2011) while another study found no such correlation (Reime et al., 2006). Other authors have observed an increased preterm delivery (PTD) rate in MAR women (Sosta et al., 2008; Schaaf et al., 2013; Juarez et al., 2017) that varied by ethnic group; for example, an odds ratio of 3.54 in African women in Italy and a 1.8 percentage point increased risk in African women compared with host women in Portugal (Manktelow et al., 2017; Harding et al., 2006). In Norway, the risk of pre-eclampsia was lower in MARs related to Norwegian women but increased by length of residence in Norway (Naimy et al., 2015), other studies demonstrate that risk of pre-eclampsia differs by MAR group, generation and host country (Mladovsky P., 2007; Jacquemyn et al, 2012).

1.1. Challenges related to the perinatal care of migrant or other refugee women

Migration increases MAR's vulnerability and puts women's physical and mental well-being at risk. Generally, studies have shown that MAR women are more likely to suffer from chronic diseases such as Diabetes Mellitus, cardiovascular diseases, mental health problems (Amara AH, Aljunid SM., 2014) and reproductive health problems such as sexual transmitted infections, including HIV, hepatitis B etc. (Keygnaert et al, 2014). In general, although often healthy when leaving their country of origin, the health of migrants deteriorates over time, and in general, they rate themselves to have poorer health compared to the native population of the host countries (Higginbottom et al, 2013; Poeran et al, 2013; Schaaf et al, 2013; Wahlberg et al, 2013, Almeida et al, 2014). The background for this deterioration is formed by poor living conditions and limited access to health and social care.

Multiple studies have shown that pregnant migrants are at risk of maternal and neonatal mortality, and complications of severe morbidity during pregnancy. This is in the first place, because of the higher prevalence of physical and/or mental health problems by migrants (Almeida et al, 2013). Conditions during migration, low socioeconomic position and irregular status may all have a negative impact on maternal health. Poorer maternal health in migrant compared with non-migrant women is often related to risk factors that precede a woman becoming pregnant, such as availability of family planning, health-seeking behaviours, gender-based violence and migration-related procedures, as well as the risks of the perinatal period (Keygnaert et al, 2016). In addition, migrants can suffer from physical diseases that are unknown or poorly understood in their new country of residence (Oberoi et al, 2013; Burnett et al, 2001).

Besides health status, several social and cultural aspects aggravate the vulnerability of pregnant migrants. For example, difficulties in accessing obstetric and midwifery care, language barriers and cultural differences. (Almeida et al, 2013, Wolff et al, 2008, van Loenen et al, 2018, Akhavan S., 2012). The quality of antenatal, intrapartum and postnatal care is affected by poor communication (Bray et al, 2010). In some cases, interpretation services are used to meet the needs of HCPs, like conveying information or obtaining informed consent, rather than being used routinely to develop a

genuine dialogue with MAR pregnant women (Bray et al, 2010). MAR women are at higher risk of incorrect diagnosis due to communication difficulties compared to non-migrant women (Villadsen et al, 2016). There is evidence that MAR mothers have difficulties communicating, symptoms that could be indicative of pregnancy problems and that some women stopped attending follow-ups, because of poor communication (Phillimore J, 2015). They were also found to express a poor understanding of the purpose of prenatal monitoring (Khanlou N., 2017).

The expectations of women regarding examinations may differ from the host care system's recommended examinations. Some procedures may be unacceptable in the context of various cultures and religions (e.g., amniocentesis, fetal malformation screening), or the necessity of each screening test may not be well understood (Pottie et al, 2011). If medical recommendations are not compatible with individuals' health beliefs, dietary practices, views and perceptions about health and illness, the care plan is less likely to be followed (Giger et al, 2007).

Studies show that health service providers have an over-reliance on ad hoc, 'informal' interpretation from family, friends, other patients and non-medical personnel, raising issues about quality of interpretation and confidentiality (Lyons et al, 2008). Midwives and other HCPs should consider that some of these women may experience domestic violence and controlling relationships from family members that are used as mediators for communication. This has been identified as preventing women from getting the care they need and impacting on their and the fetus's health. HCPs should not involve relatives or husbands for interpretation because of confidentiality issues that may have a negative impact on the women (Phillimore et al, 2010). Furthermore, the lack of knowledge of medical terminology by informal interpreters may lead women to undergo medical interventions that they had not consented to, without the procedures being explained or understood (Phillimore J, 2015; Lyberg et al, 2012).

Lack of understanding of different traditions surrounding pregnancy and childbirth can also exacerbate communication difficulties. Misunderstanding can also occur if some traditions are at odds with the routine practices and recommendations from maternity care providers (Lyons et al, 2008).

Culturally appropriate services may be helpful to motivate women's utilization of maternity care (Phillimore et al, 2010; AHMC, 2010). MAR women have expressed difficulties with integration of their cultural beliefs with the recommended health care practices during the intrapartum period, and lack of understanding of the informed consent process for procedures during delivery (Khanlou N., 2017). Others have mentioned that their language and communication needs were not met (Phillimore J et al, 2010). Many women have expressed a preference for a female physician during the labour and delivery process (Khanlou N., 2017).

MAR women during the postpartum period may also experience problems related to expectations within their family and community norms regarding motherhood that may impede women's attendance to healthcare services or follow ups (Khanlou N., 2017). For example, breastfeeding initiation may be delayed due to cultural beliefs which deprives babies from colostrum intake (Dennis C-L, 2007).

Cultural diversity is sometimes challenging for midwives, general practitioners (GPs) and other healthcare providers, in their duty to act as advocates for MARs (Lyberg et al, 2012). In some cases, MAR women evaluate the midwife-based antenatal care (ANC) as rushed and merely a physiological check, rather than being orientated to women's needs (Villadsen et al, 2016).

Racism is a very real issue within the health and maternity services, which can have tangible effects, but is rarely explored. Several studies conducted within maternity services showed that ethnic minority women encountered racism (Lyons et al, 2008). Due to the limitations of existing statistical data and audit, it is not possible to determine the exact differences in access to perinatal health services and maternal mortality and morbidity between migrant women and the host population across Europe. However, there is evidence that MAR women's access to perinatal healthcare services is influenced by financial constraints, administrative problems, coverage issues, lack of information, low levels of health literacy, language barriers, fear of authorities and previous bad experience (Iliadi P., 2008; Schoevers MA et al, 2010; Bradby H et al, 2015; Phillimore J., 2016; SH-CAPAC., 2016). Furthermore, cultural differences and incompatibilities also hamper access to and delivery of quality healthcare or result in delayed referral to the services (Almeida et al, 2014; Ngo-Metzger et al, 2003; Wolff et al, 2008; Gagnon AJ et al, 2009; Esscher et al, 2013; EURO-PERISTAT, 2013; Delnord et al, 2015).

As far as pregnancy outcomes are concerned, there is a wide heterogeneity of evidence from studies amongst migrant women. This reflects the heterogeneity of the women themselves in terms of country of origin, pre-migration risk factors, reason for migration and the host countries in which they gave birth. Being a migrant is not a consistent marker of risk for poor pregnancy outcomes, and the effects of migration may differ (Gagnon et al, 2009; Keygnaert et al, 2015). Thus, some studies have shown disparities in maternal mortality and morbidity, which are higher amongst migrant women. Poorer perinatal outcomes (such as miscarriages, stillbirths, complications etc) are higher amongst migrant women and the rates of preterm birth, low birth weight and congenital malformations are higher amongst migrant women's babies (Schaaf et al, 2013; EURO-PERISTAT, 2013; Mladovsky P., 2007; Sosta et al, 2008; Bollini et al, 2009; Gissler et al, 2009; FRA, 2013; Luque-Fernandez et al, 2013; Juarez et al, 2016; Khanlou et al, 2017). Pregnant women with complex social factors are known to book later, on average than other women and late booking is known to be associated with poor obstetric and neonatal outcomes (CEMCH, 2007). There is evidence of underutilization of prenatal visits among MARs, which translates into a delayed first prenatal visit (Bray et al, 2010; Otero-Garcia et al, 2013), usually classified as presenting for ANC at over 20 weeks' gestation (Lyons et al, 2008).

In addition, migrants often live isolated with limited social networks and lack of support from family. These factors often result in misunderstandings, decreased confidence and insecurity (McLeish J., 2005; Boerleider et al, 2015). To help these women, barriers must be tackled, and this could be achieved by offering social support in order to decrease the feeling of isolation and unhappiness and increase the feeling of confidence during pregnancy (McLeish J, Redshaw M, 2017). Social support also reduces the chance of complications during and after delivery. Studies show that social support is associated with shorter labour and a decreased need for analgesics, oxytocin, forceps and caesarean section (Simkin PP, O'Hara M, 2002; Kennell et al, 1991). Moreover, postnatal or antenatal depression occur less frequently (McLeish J, Redshaw M., 2017).

1.2. Access to perinatal healthcare (Access of migrants, refugees and asylum-seeking women in perinatal healthcare services (antenatal, intrapartum, postnatal period)).

Greece

Perinatal services for refugees/migrants are provided in a number of different ways: Antenatal Care (ANC) and Postnatal Care (PNC) services are offered in camps by Non-Governmental Organizations (NGOs) and, in some sites, by KEELPNO. ANC/PNC services are available by appointment in the public health system; however, accessing appointments are often difficult for MAR women. EKEPY helps to facilitate booking appointments in the public system but cannot force hospitals and clinics to provide timely appointments. The lack of translators/cultural mediators also makes obtaining appointments and having meaningful interactions during the appointment difficult.

All births are planned for hospital delivery. Medical staff have expressed concern about not having seen the mothers before delivery, not having complete medical records and not sharing a common language in which to communicate with the mothers during delivery.

Costs for perinatal health care services are covered by a combination of NGO's providing free care and the public health system covering cost within the social public health financing scheme.

The Netherlands

Migrants, refugees and asylum-seeking women can obtain perinatal healthcare services, but the access and costs vary depending on the status of their asylum application and the type of reception (Government of the Netherlands. Asylum Policy; European network to reduce vulnerabilities in health, 2016).

Asylum seekers centre (AZC)

Each asylum seekers' centre has a GCA general medical practice located on or nearby the premises (Health Centre for Asylum Seekers). Often, this is the first place where pregnancy is detected. Once the pregnancy is confirmed, the GCA is responsible to give relevant health education and to refer the woman to a midwifery service or hospital if needed. Every refugee waiting for their asylum claim receives a basic health insurance, free of charge (Asylum Seekers Healthcare Regulations). The basic health insurance is set down by the government and includes: medical care, post-natal care and midwifery services, dentistry for under 18 years old, ambulance services, certain medications and rehabilitation care (e.g. diet advice). Pregnancy termination is not included in the standard health package but is fully reimbursed under the Law on Long-term Healthcare. Contraception, however, is only covered under the basic insurance when someone is younger than 21 or on medical grounds.

Emergency reception

When there is no space at an asylum seekers' centre, refugees can be temporary placed at an emergency reception. For example, pavilions, multi-purpose halls, holiday parks. At this place, as well in an asylum seekers' centre, the COA (Central Agency for the Reception of Asylum Seekers) is responsible for the health care. The COA is responsible for the reception, supervision and departure of asylum seekers in the Netherlands (Central Agency for the Reception of Asylum Seekers).

Crisis reception

If there is no reception capacity in the above-mentioned locations, refugees can be placed in a crisis reception which is of a very temporary nature (in principle, for a maximum of 72 hours). For

example, reception is sport centers. In these locations, the municipality is responsible for organizing health care. They often use the help of regional public health services (GGD).

When application is granted

When a refugee has been granted a (temporary) residence permit (status) based on an asylum application, they are called “status holder”. From that point they leave the asylum seekers’ centre and move to a regular accommodation in a municipality. For refugees with a residence permit, the organization and funding of care are the same as for all residents of the Netherlands. They must pay for (basic) health insurance (monthly premiums). Once they have paid the franchise (“own risk”), insurance holders do not have to pay any costs for services included in the standard package. From this point refugees are also required to register with a general practitioner in the municipality they live (GP or primary care provider). General practitioners are the gatekeepers of access to other healthcare services. However, midwife services can be accessed without referral, although a referral by the GP is preferred.

In 2012, the centralized reimbursement of costs for interpreting and translation services offered by the Ministry of Health, Welfare and Sport ended (except for interpreting services used for asylum seekers and women’s shelters). As a result, healthcare workers, including general practitioners, midwives and hospitals, are responsible for the costs incurred for interpreting or translation services. Many field parties, health professionals and institutions have expressed their opinion on this topic. They point out that the quality, safety and accessibility of the care is affected by this decision. From May 2017, the government restarted the reimbursement of the costs for interpreting services in certain situations. After a refugee is registered with a general practice, it is possible for GPs to use interpreting services free of charge for the first six months.

Undocumented migrants

The Dutch health care system requires all residents to purchase a health insurance covering a standard package of essential health care. Undocumented migrants, however, have been excluded from health insurance since 1998. Nonetheless, they have the right to ‘medically necessary care’. Undocumented migrants are expected to pay for treatment themselves, unless it is proven they have difficulty in paying. Since 2009 there has been a special government fund to pay for medical care for illegal immigrants. Except for care for pregnant women and childbirth (for which 100% reimbursement is possible), GP’s can recover 80% of the cost of a consultation for an undocumented patient from the healthcare authorities. In the case of secondary care, medical costs are only reimbursed for hospitals which entered into an agreement with the healthcare authorities (Dutch Central Administration). In practice, there are many barriers to healthcare for undocumented people.

United Kingdom

In England, there is free hospital treatment to asylum seekers with a current claim, those refused asylum seekers who are receiving Section 95 or Section 4 support and unaccompanied children in the care of the local authority (HM Government, 2015). Current asylum seekers are entitled to register with a general doctor although in practice many face barriers in registering.

Free hospital treatment is not generally available to asylum seekers who are not on Section 95 or Section 4 support. Hospital doctors should not refuse treatment that is urgently needed for refused asylum seekers who are not receiving Section 95 or Section 4 support, but the hospital is required to charge for it. The hospital also has discretion to write off the charges. Any course of treatment

should be continued if it is under way at the time when asylum is refused, and thus when Section 95 support stops for single people (Department for Health, 2015).

Accident and emergency services (but not follow-up in-patient care) and treatment for listed diseases are free to all including refused asylum seekers who are not on asylum support. General doctors have the same discretion to register refused and unsupported asylum seekers that they have for any person living in their area (British Medical Association, 2012).

In Scotland all asylum seekers are entitled to full free health care, including those refused asylum seekers not on Section 4 support and including the spouse/civil partner and any dependent children of any of these people (Scottish Government, 2010).

In Wales, regulations which entailed charging refused asylum seekers were introduced, but after lobbying these charges were revoked (NHS Wales, 2009).

In Northern Ireland, exemptions for refugees and asylum seekers are similar to those in England except that refused asylum seekers are able to obtain free health care while they remain in Northern Ireland (Northern Ireland, 2015).

Access to mental health services is not guaranteed and is often lacking (Fassil, Burnett, 2014).

Specialised treatment for victims of torture and traumatised asylum seekers is available but is in short supply. It is provided by several independent charities. Specialist trauma practitioners, including psychiatrists, psychologists and trauma counsellors and therapists, also work in health authorities and trusts around the country, but they are few and access is extremely limited. Language and cultural barriers also hinder appropriate referrals from workers with initial contact and impede asylum seekers' own awareness of what is available. Smaller NGOs also specialise in counselling for refugees (Asylum in Europe, 2017).

In practice, inadequate levels of support, destitution and the charging regime impede and discourage access to healthcare. Mothers on asylum support who are required to move during pregnancy usually lose continuity of ante-natal care. Moves during pregnancy may take place including at very late stages of pregnancy, even when doctors and midwives advise against a move, and are thought to contribute to the far higher infant and mother mortality rate which there is among asylum seekers (Refugee Council and Maternity Action, 2013).

In 2017 the government announced its intention to extend charging for many more frontline services (except GPs) and to introduce a duty for health services in England to check a person's immigration status before treating. To enable this to happen regulations were introduced to Parliament; some changes were made in August 2017 and others in October 2017 (The National Health Service, 2017). During a parliamentary debate the government agreed to review the impact of the regulations.

1.3. National recommendations regarding perinatal healthcare for migrants, refugees and asylum-seeking women

Greece

There are not any national recommendations regarding perinatal healthcare for migrants, refugees and asylum-seeking women

The Netherlands

The Dutch government emphasizes the importance of accessible sexual and reproductive health education for female refugees, including information about the Dutch care system. The government recommends municipalities to include sexual and reproductive health of refugees in their policy plans. Municipalities and public health and community care workers must be aware of the vulnerability of this group and their specific health risks. This requires a tailored approach that takes into consideration the specific questions and needs of refugees (Centre of healthy living, Netherlands).

At the end of 2015, the Dutch Ministry of Health, Welfare and Sport asked for a knowledge synthesis on the health of recently arrived refugees including indications for expected questions about care, support and prevention. It contains useful information for municipalities and all parties involved in the health, care, participation and support for refugees. This knowledge synthesis is followed by a publication which describes recommendations how to respond to the health issues and how to prevent health problems among recently arrived refugees. Both reports have been presented to the House of Representatives of the Netherlands (Pharos, 2016).

A summary of recommendations from the report regarding maternal and perinatal health:

- An integral approach is necessary to improve the maternal and perinatal healthcare of refugees as some problems are caused by factors out of reach of healthcare (social economic differences, not speaking the Dutch language)
- Be sensitive: midwifery care and maternity care workers should be sensitive to the expectations of refugee women in relation to support and care. Women are more likely to seek care when health professionals are empathic and culturally competent.
- The use of special trained key persons to provide information about maternal and perinatal health care.
- Information should be provided in an early stage and should include information about the Dutch perinatal health care system and basic information about the human body, getting pregnant, giving birth, sexual health, contraception and abortion. Both women and men should be informed.
- To provide high-quality obstetric care to refugee women, enough time during consultation is required.
- Good health care must be maintained when care is transferred between different health care entities when refugee women move from the asylum seekers centre to a municipality.
- Further research is needed to investigate how perinatal care can be improved.

United Kingdom

NICE guidance concerning maternity care for women with complex social factors identifies migrants, refugees, asylum seekers and women with little or no English as a distinctive risk group who face multiple barriers to accessing maternity services (Feldman, 2016; NICE, 2010). The report

recommends that commissioners should monitor local needs and adjust services accordingly, that midwives undertake training to understand the specific needs of these women, and that the women are offered information concerning their access and entitlement to care (NICE, 2010). It also recommends that interpreting services are offered and that commissioners offer flexibility in the number and length of ante-natal appointments when interpreters are used, over and above the appointments outlined in national guidance (NICE, 2010).

1.4. Professional guidelines regarding perinatal healthcare for migrants, refugees and asylum-seeking women

Greece

International guidelines for comprehensive emergency obstetric neonatal care (CEmONC) are followed in Greece. Moreover, there are guidelines regarding prenatal diagnostics, and prenatal care plan for Greek women by the Hellenic Obstetrics and Gynecology Institution.

The Netherlands

The following professional guidelines are available regarding perinatal healthcare for migrants, refugees and asylum-seeking women in the Netherlands.

- In 2016, the Royal Dutch Organization of Midwives (KNOV) in association with multiple organizations (COA, GCA, GGD, Dutch Society for Gynecology and Obstetrics (NVOG) etc.) has developed a guideline regarding perinatal healthcare for asylum seekers: “Ketenrichtlijn geboortezorg asielzoekers December 2016” (KNOV, 2016). This guideline reflects the roles and tasks of different healthcare workers responsible for the care of pregnant asylum-seeking women.
- The regional public health service (GGD Haaglanden) and midwifery health group (VZH) in The Hague developed a care pathway for healthcare professionals working in primary and secondary maternal care (published in 2016). This care pathway seeks to systematically document best clinical practice in care for pregnant refugee women or women trying to conceive living in the area of The Hague (GGD Haaglanden, VZH).
- In 2009, Pharos (Dutch Centre of Expertise on Health Disparities) in cooperation with the Dutch Society for Gynaecology and Obstetrics and 12 other professional associations developed a protocol for professionals who are confronted with female genital mutilation/cutting (FGM/C): “Model Protocol on medical care for women and girls who have been circumcised” (Pharos, 2012). In 2010 and 2012 it was revised. This model protocol states recommendations on how various medical professions can offer medical, psychological and sexological care. This model also pays attention to care in the long term and contains information about care during pregnancy and childbirth.
- Two guidelines are available about the use of interpreters in healthcare. These guidelines are also valuable in obstetrics. One guideline is developed by The Royal Dutch Medical Association (KNMG), the professional organization for physicians of the Netherlands, in association with many other health organizations including the KNOV: “Kwaliteitsnorm tolkgebruik bij anderstaligen in de zorg” (KNMG, 2014). The other guideline is developed in 2008 by the Dutch Health Care Inspectorate but is not entirely up to date: “Wanneer laten tolken? Veldnormen voor de inzet van tolken in de gezondheidszorg” (Dutch Healthcare Inspectorate, 2008).

United Kingdom

The existing United Kingdom guidelines are: NICE Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors (NICE, 2010).

1.5. Position statements regarding perinatal healthcare for migrants, refugees and asylum-seeking women

Greece

There are not any position statements regarding perinatal healthcare for migrants, refugees and asylum-seeking women in Greece.

The Netherlands

There are no specific position statements regarding perinatal healthcare for migrants, refugees and asylum-seeking women in the Netherlands.

United Kingdom

The Royal College of Obstetricians and Gynaecologists (RCOG) responded with the following statement on NICE Pregnancy and complex social factors: a model for service provision for pregnant women with complex social factors:

"This guideline...demonstrates how important it is to have a joined-up approach in the care of these women so that their needs are provided for, they are healthy throughout the pregnancy and after the birth and their baby has a good start in life. For appropriate care to be given to these vulnerable women, we need to get to them early, which is why the public health message must be: 'Keep to your antenatal appointments with your midwife or speak to your GP as soon as you know you are pregnant'. However, many of these women tend to seek medical help at the very last minute, by which time, it may be too late. We need to think of ways to overcome these challenges so that we reach out to these women. Services should be tailored to their specific needs." (RCOG, 2010).

1.6. Perinatal pathway

Greece

Migrants, refugees and asylum-seeking women can obtain perinatal healthcare services in public health settings, free of charge. Midwifery services may be offered at camp settings, at offices ran by NGOs and at the outpatient departments of hospitals. Two international NGOs currently provide perinatal care for women- Medicine du Monde and IFRC in camps and the MDM Poly Clinic. They also liaise with the public health system through EKEPY and personal/professional contacts within certain hospitals. Typically, refugee/migrant women are meant to go directly to the closest hospital/clinic in their area. However, many women are directed by the local hospitals/clinics to visit Maternity Hospital for care. This is troubling for a few reasons- all hospitals should be equipped to perform normal deliveries; however, they often refer to the tertiary-level hospitals. The local hospitals site lack of staff, equipment, and translators for referring refugee/migrant patients. Tertiary hospital staffs have said that they are overwhelmed and receive most of the refugee/migrant women and poor host population women for deliveries in the Attica region.

In general, once the pregnancy is confirmed, the woman refers to the setting where the midwife records the women's medical history, runs routine blood and urine tests, and calculates the due date, based on the date of her last menstrual period. Additional visits are scheduled once a month, if the pregnancy is believed to be routine. From week 32 until week 36, the woman is seen twice a month. After week 36, she is usually seen once a week. Her weight and blood pressure, uterine growth and the position of the fetus is checked. Once a month a general blood test (specially to test

sugar and iron levels) and urine test is done. During pregnancy the pregnant can have the Nuchal Translucency ultrasound, the Fetal Anomaly ultrasound and Doppler. She can also have her labour free of charge at a public health hospital and refer to the hospital again if there is a medical need during the postnatal period.

The Netherlands

In the Netherlands, maternity care is organized in a model consisting of so called primary, secondary and tertiary care. Primary care is mainly provided by primary care midwives. These midwives' practices are community based, outside of the hospital. Secondary and tertiary care is provided by obstetricians and specialized "clinical" midwives in general (secondary care) and academic hospitals (tertiary care). Low risk pregnancies (prenatal care), childbirth (natal care) and postpartum periods (postnatal care) are supervised in primary maternal care. In general, only women and newborns with complications or an increased risk for developing complications are referred to secondary maternity care. There are strict protocols and guidelines issued by the National Midwife association KNOV, together with the Dutch College of Gynecologists for the amount of and content of pre- and postnatal controls (KNOV).

Prenatal care

This period encompasses supervision of pregnant women from pregnancy confirmation during the prenatal period until birth. It consists of an intake and several follow-up visits in which diagnostic, counseling and health education activities are performed. According to the standards of the Royal Dutch Organization of Midwives (KNOV), the first prenatal visit (intake) should ideally be made between the 6th and 8th week of pregnancy. Throughout pregnancy 10-16 prenatal visits should ideally be made, with an average of 13, depending on necessary medical care and the needs and expectations of clients. Pregnant women undertake a ultrasound at 20 weeks of pregnancy to check the baby's health for congenital malformations and conditions.

Natal care

This encompasses supervision during birth. Depending on their preference, women may give birth at home, a maternity hotel, a birth centre or an outpatient clinic; always under supervision of a primary care midwife. If no serious health problems arise during pregnancy, delivery can take place at home. However, more and more women choose to give birth in a hospital or "mother-and child unit" near a hospital. The additional costs must be paid by the woman herself whereas home delivery is included in the fee the midwife receives from the health insurance.

Postnatal care

Postnatal care offers supervision to women and their newborns. After the delivery women are sent home, where for one week after birth a special maternity care assistant visits on a daily basis, for several hours to support the mother and child. This maternity care is also covered in the health insurance up to a certain amount. During that week the midwife also visits mother and child for medical controls and health promotion (e.g. on breastfeeding and contraception).

As all persons in the Netherlands are registered in a general practice, and usually the GP is the first to know a woman is pregnant and refers her to the midwife, it is custom the GP visits the newborn baby and the mother also during the first 10 days.

United Kingdom

Antenatal care - taken from United Kingdom National Institute of Clinical Excellence (NICE) guidance Antenatal care for Uncomplicated Pregnancies (CG62) (NICE, 2008).

Women access antenatal care by presenting to the General Practitioner and are then referred to a community midwife, or directly presenting to a community midwife.

A booking is ideally performed by 10 weeks and antenatal care is being discussed with the woman (incl. screening tests). Pregnant women should be offered opportunities to attend participant led antenatal classes, including breastfeeding workshops.

Midwife and GP led models of care should be offered to women with an uncomplicated pregnancy. A system of clear referral paths should be established so that pregnant women who require additional care are managed and treated by the appropriate specialist teams when problems are identified.

Pregnant women should be offered an early ultrasound scan between 10 weeks 0 days and 13 weeks 6 days to determine gestational age and to detect multiple pregnancies.

Professionals should monitor the woman's smoking status and offer smoking cessation advice, encouragement and support throughout the pregnancy and beyond. Maternal weight and height should be measured at the booking appointment, and the woman's body mass index should be calculated.

Pregnant women who have had female genital mutilation should be identified early in antenatal care through sensitive enquiry, and antenatal examination undertaken to allow planning of intrapartum care.

Ultrasound screening for fetal anomalies should be routinely offered, normally between 18 weeks 0 days and 20 weeks 6 days.

All pregnant women should be offered screening for Down's syndrome, which should be performed by the end of the first trimester (13 weeks 6 days), but provision should be made to allow later screening (which could be as late as 20 weeks 0 days) for women booking later in pregnancy.

Blood pressure measurement and urinalysis for protein should be carried out at each antenatal visit to screen for pre-eclampsia. All pregnant women should be made aware of the need to seek immediate advice from a healthcare professional if they experience symptoms of pre-eclampsia.

Symphysis–fundal height should be measured and recorded at each antenatal appointment from 24 weeks. Fetal presentation should be assessed by abdominal palpation at 36 weeks or later, when presentation is likely to influence the plans for the birth. Auscultation of the fetal heart is unlikely to have any predictive value and is not routinely recommended. However, when requested by the mother, auscultation of the fetal heart may provide reassurance.

Women with uncomplicated pregnancies should be offered induction of labour beyond 41 weeks. Prior to formal induction of labour, women should be offered a vaginal examination for membrane sweeping. From 42 weeks, women who decline induction of labour should be offered increased antenatal monitoring consisting of at least twice weekly cardiotocography and ultrasound estimation of maximum amniotic pool depth.

All women who have an uncomplicated singleton breech pregnancy at 36 weeks should be offered external cephalic version. Exceptions include women in labour and women with a uterine scar or abnormality, fetal compromise, ruptured membranes, vaginal bleeding and medical conditions.

Intrapartum care - Taken from NICE guidance "Intrapartum care for healthy women and babies."(CG190) (NICE , 2014)

Both multiparous and nulliparous women may choose any birth setting (home, freestanding midwifery unit, alongside midwifery unit or obstetric unit).

Maternity services should provide a model of care that supports one to one care in labour for all women. Providers, senior staff and all healthcare professionals should ensure that in all birth settings there is a culture of respect for each woman as an individual undergoing a significant and emotionally intense life experience, so that the woman is in control, is listened to and is cared for with compassion, and that appropriate informed consent is sought.

Postnatal care - Taken from NICE guidance "Postnatal Care up to 8 weeks after birth" (CG37) (NICE, 2015)

A documented, individualised postnatal care plan should be developed with the woman ideally in the antenatal period or as soon as possible after birth. This should include relevant factors from the antenatal, intrapartum and immediate postnatal period details of the healthcare professionals involved in her care and that of her baby, including roles and contact details plans for the postnatal period.

At the first postnatal contact, women should be advised of the signs and symptoms of potentially life-threatening conditions and to contact their healthcare professional immediately or call for emergency help if any signs and symptoms occur.

All maternity care providers should implement an externally evaluated, structured program that encourages breastfeeding, using the Baby Friendly Initiative as a minimum standard.

At each postnatal contact, women should be asked about their emotional wellbeing, what family and social support they have and their usual coping strategies for dealing with day-to-day matters. Women and their families/partners should be encouraged to tell their healthcare professional about any changes in mood, emotional state and behaviour that are outside of the woman's normal pattern.

At each postnatal contact, parents should be offered information and advice to enable them to assess their baby's general condition, identify signs and symptoms of common health problems seen in babies and how to contact a healthcare professional or emergency service if required.

Women should be offered an opportunity to talk about their birth experiences and to ask questions about the care they received during labour.

Infants - A complete examination of the baby should take place within 72 hours of birth. The newborn blood spot test should be offered to parents when their baby is 5-8 days old. An infant hearing screen should be completed before discharge from hospital or by week 4 in the hospital program or by week 5 in the community program. Parents should be offered routine immunisations for their baby according to the schedule recommended by the Department of Health.

1.6.1. Needs of migrant women in pregnancy

Greece

During Sexual Reproductive Health (SRH) working group meetings, coordinators from NGOs, UN, KEELPNO and MOH report that the refugee/migrant women would like more female doctors and mediators. There has been some translation of health information/brochures. There have been reports that refugee/migrant women are afraid to deliver in hospitals because they fear they will be 'forced' to have a C-Section. It is important to note that the C-Section rate in Greece is among the

highest in the world and that there is no conclusive proof that the C-Section rate among refugee/migrant women is any higher than the host population.

- Language barrier. Communication among immigrants and service providers is ineffective. The integration of professional interpreters in the health care system is highly needed.
- Cultural issues. Cultural needs and expectations are often unknown or unable to be met in the Greek health care system. Gender based issues often arise during perinatal care. Migrant/refugee women are afraid of male doctors thus they don't go to hospital even if they face serious health problems. Lack of companionship during childbirth is often described and cultural mediators are not allowed in the birth room. Also, other cultural issues (e.g. religion) may prevent appropriate care to be given.
- Factors associated with Utilization of Health Services. Migrants are not familiar with the health care services provided and access to health care is usually problematic. Bureaucratic issues and complex procedures usually arise. Hospitals are overloaded and appointments regarding antenatal care are not booked on time. Also, migrant women have a different perception of quality of care. The lack of appropriate care for sexual violence victims is also mentioned.
- Mental Health status. Migrant women often suffer from psychological distress caused by difficult living conditions, lack of social support, violence they confront and poverty. This leads sometimes to inefficient health behaviors.

The Netherlands

In 2016, a report was written about the experiences of recently arrived refugees living in Dutch municipalities (Pharos).¹ Focus group discussions and in-depth interviews were held with Syrian families about different topics, including maternity care.

Several Syrian refugees stated in the interviews that the inability to speak and to understand the Dutch language constitutes a major barrier in communication with healthcare professionals. Not being aware of healthcare pathways and when to address to in case of an arising complaint has also been mentioned (Pharos, 2016 [2]).

United Kingdom

This requires focused investigations through interviews, focus groups or survey methodology.

1.6.2. Needs of healthcare professionals

Greece

Health professionals report that there are shortages of critical supplies (gloves, face masks, etc.) and medicine in public. The lack of cultural sensitivity as well as the inexistent mediators/interpreters and translation of medical terminology make their jobs more difficult.

The following practice points and recommendations were formed upon exploring the barriers and the facilitators regarding access, availability and quality of perinatal care for migrants, refugees and asylum-seeking women in Greece from the PHC provider and the PHC user perspective:

Barriers

- Language barrier. Communication among immigrants and service providers is ineffective. The integration of professional interpreters in the health care system is highly needed.

- Language barrier. Access to preventive health care and perinatal care is essential with language barriers adequately addressed to ensure effective care. The use of professional interpreters in maternal care provision is important.
- Different providers' gender. Availability of same gender health care providers is necessary to address culturally driven resistance in patient-doctor communication.
- Strict hospital rules regarding companionship during labour. Available support during labour should be discussed during pregnancy care, and measures taken to ensure that migrant women have adequate support with communication in labour, including the possibility of a bilingual labour companion or support person (doula) if needed).
- Low sense of safety to seek care due to irregularity. migrant women should be informed before pregnancy - even from their country of origin - about their rights in the country of destination and especially about their right to a safe perinatal journey, despite of their migrant status and regularity.
- Financial incapacity preventing safe perinatal practices. Migrant women should be informed before pregnancy - even from their country of origin - about the availability of free access and free-of-charge perinatal services in the country of destination, despite their migrant status and regularity as well as despite the social insurance coverage.
- Generalized disappointment with the health care system: Migrant women usually come to the country of destination with high expectations from its people and services either due to being cheated by those who arranged their transfer or due to overestimating the country of destination. The difficulties in gaining a legal status and ensuring access to services, turns enthusiasm into disappointment and often this results in emotional reactions such as withdrawal from negotiating their rights. Culturally appropriate assistance with navigation to the local services needs to be available to migrant women from the moment of their arrival to the country of destination to prevent the emotional burn out and the psychological consequences of distress and withdrawal. Ensuring that migrant women knows how to navigate in the health system can reduce delay in health-care seeking and appropriate treatment.
- Racism victimization activates a generalized resistance and suspicion to system requirements. Migrant women are often treated with racism by the local population and sometimes are humiliated. This often makes them feel unwanted and prevents them from investing on the health care system and from building trustful relationships with the health care providers. Mutual trust between migrant women and health-care providers is important to ensure quality of care. Action to tackle racism and xenophobia in local society needs to be strengthened to ensure that migrants will trust the local setting, its people and services.
- Cultural issues. Cultural needs and expectations are often unknown or unable to be met in the Greek health care system. Gender based issues often arise during perinatal care. Migrant/refugee women are afraid of male doctors thus they don't go to hospital even if they face serious health problems. Lack of companionship during childbirth is often described and cultural mediators are not allowed in the birth room. Also, other cultural issues (e.g. religion) may prevent appropriate care to be given.
- Factors associated with Utilization of Health Services. Migrants are not familiar with the health care services provided and access to health care is usually problematic. Bureaucratic issues and complex procedures usually arise. Hospitals are overloaded and appointments regarding antenatal

care are not booked on time. Also, migrant women have a different perception of quality of care. The lack of appropriate care for sexual violence victims is also mentioned.

- Mental Health status. Migrant women often suffer from psychological distress caused by difficult living conditions, lack of social support, violence they confront and poverty. This leads sometimes to inefficient health behaviors.
- Low capacity to meet migrants' health care needs in a culturally appropriate manner: Health care providers seem to lack cross-cultural training and resources to assist migrant women in a culturally appropriate manner. The lack of cultural mediators and interpreters in the busy PHC environment, seems to be a serious shortcoming, which needs further attention, especially when combined with staff and resource shortages. The lack of social and family network to assist in women's compliance with therapy and care pathway, is an important shortcoming and introduces many difficulties to the health care providers, who need to collaborate with important others for serious medical conditions of the migrant women. Effective cross-cultural communication is not easy to achieve in a system that lacks resources to enable the development of a culturally competent workforce. Moreover, the lack of cross-cultural training allows stereotyped thinking and does not reinforce trustful and caring relationship between the health care providers and the migrant women.
- Doctor-centered system with low investment on the health care team: The health care system seems to highly depend on the medical doctor instead of the health care team and this makes it less flexible especially during a period of crisis. The health care team needs to be strengthened and patient care needs to be re-allocated in a balanced manner to all the team members. Certain medical practices may need to be allocated to other health care professionals for time saving and quality improvements (e.g. prescription by a midwife or nurse). Social workers and mental health professionals need to be part of the team to address the multiple psychosocial problems that co-exist or present as a result of the medical problem.
- Low service integration and low continuity of care: Despite the multi morbid profile of migrant women, medical and psychosocial services in the community are not horizontally connected and this increases the effort of the women in seeking help. Bio-psychosocial assessment and treatment ends up being problematic although necessary to meet the women's health care needs in a holistic manner. The lack of horizontal integration of services needs to be addressed through organizational changes in the PHC setting in order to improve continuity of care especially in this difficult to reach population.
- Low engagement in a period of crisis - service providers' burn out: The financial crisis has introduced many changes including merging or closure of services, salary cuts, staff and equipment shortages and this increases the burden of health care providers. There seems to be insufficient mechanisms to address this huge psychological and physical burden and prevent providers' burn out, which highly affects the quality of care.

(The following points were recommended for an improved response to perinatal health care needs of migrant, refugee and asylum-seeking women)

- Midwives to have more rights: Midwives could be given the right to prescribe certain tests and drugs and save physicians' and patients' time while facilitating patients' navigation to the health care system.

- More midwives to help migrant refugee women: Increasing the number of midwives especially at primary care level could facilitate early prevention and more efficient management of perinatal conditions in migrant, refugee and asylum-seeking women.
- Protocols to support care: Protocols of care could facilitate perinatal care by
- Creation of teams of the same philosophy e.g. team for refugee/women
- Birth centers in the hospital
- More social workers to support social care of vulnerable women and facilitate their access to support resources: More social workers are warranted at primary and secondary care level to address the administrative issues of migrant women as well as care to organize the care pathway for migrant women, arrange networking and referral of women across the services they need, and follow up women throughout the care pathway and afterwards. This would improve access to support resources for migrants and facilitate continuity of care.
- Emotional support to be available: Perinatal phases are associated with emotional tension and fragility and the need for specialized support is evident. Migrant, refugee and asylum-seeking women are at increased risk of emotional distress or breakdown. There are several factors key to considering the emotional health of female refugees and asylum-seekers and the need for emotional support, especially during the perinatal period. Among the most common conditions that affect refugee's mental health is a history of torture that necessitated their urgent transfer, the sex and gender-based violence due to cultural proneness, female genital mutilation (FGM), unemployment and racism and the stress of obtaining a legal status in the country of destination.
- High psychological distress due to migration conditions, which prevents efficient self-care, self-hygiene and help-seeking. Migrant women are often confronted with many difficulties and this contributes to high levels of psychological distress. Long-term social and psychological support should be offered to them, starting from their arrival to the country, for them to prevent mental health problems from occurring.
- cultural proneness to healthy motherhood: Despite the difficulties met in the country of destination, migrant women often hold favourable attitudes to healthy reproduction and motherhood such as young reproductive age, breast feeding and natural labour, which are culturally driven and need to be reinforced and safeguarded.
- High compliance with local rules and healthy citizen profile: Migrant women usually become very loyal citizens in the country of destination as soon as they gain a legal status. Action to facilitate early settlement in the country of destination needs to be taken.
- Community integration that supports informal care practices and community support: There is evidence of informal care practices enhanced by the high levels of community integration. This facilitates perinatal care through providing a supporting environment for women in the community especially for those with low access to formal care.
- Workforce that studied and lived in other countries - with high exposure to other cultures: There are many GPs and other health professionals serving the national health care system that completed undergraduate and postgraduate studies in other countries of Europe and outside Europe. This exposure to other cultures increases their understanding of other cultures, their open-ness in cultural difference and increases their cultural sensitivity. These people are often used in-formally to facilitate the interaction with people of different origins as they combine a scientific background in

the health professions as well as an exposure to other cultures. Such professionals could be very useful in strategies aiming at enhancing cross-cultural communication.

- European standards of care have been adopted but not applied: There are European standards that have been adopted by the Greek government through legislative acts but never actually applied (e.g. prescribing ability of midwives for certain tests). These may be easily put into effect since the legislative basis is in place.

The Netherlands

An electronic survey was sent to several midwife practices in the Netherlands in June 2017 concerning midwives' experiences in providing care to female refugees, asylum seekers and migrants

Additional or alternative services

All of the respondents reported that their unit provided additional or alternative services for pregnant refugee, migrant or asylum-seeking women. These included: (telephone) interpreting services, translated leaflets, longer consulting time and informative meetings about pregnancy, birth and puerperal period in English. One midwife reported that in the past they made use of trained and certified health educators to give health education to refugees in their own language and culture (VETC). Since the costs were not reimbursed anymore, these VETC workers were no longer used. Three units provided a doula service, but two respondents reported that this service was too expensive for refugees and asylum seeking women. One respondent was known with a doula (a native Dutch woman) experienced in providing care to refugees and asylum-seeking women. None of the respondents were known with cultural (immigrant) doulas. One unit did have contact with a Syrian midwife and were exploring if she could give support to pregnant refugees consulting the unit.

Guidelines, protocols and training

Four respondents were aware of existing guidelines and protocols regarding the care of refugee, migrant or asylum-seeking pregnant women. These included the guideline regarding perinatal healthcare for asylum seekers developed by the Royal Dutch Organization of Midwives (KNOV) and the care pathway for antenatal care for refugees.

Three respondents received additional training; one respondent participated in a course about FGM, one respondent followed a training program about providing care to vulnerable pregnant women and one respondent joined a meeting about antenatal care for refugees. Four respondents reported that they would like to have (more) training in (intercultural) communication and how to provide adequate care and support to refugees (including information about backgrounds of women they are likely to be caring for, Syrian refugee women).

Barriers and recommendations

All of the respondents reported that they experienced certain barriers in providing care to pregnant refugees, migrants and asylum seeking women, these include: communication barriers (and as a result misperceptions), lack of knowledge of the Dutch healthcare system, different cultural background and beliefs (affecting the women's expectation of care), precarious finances, low educational level, limited time (during consultation) and discontinuity of care due to frequent transfers.

Suggestions as to how antenatal care for refugees, migrants and asylum seeking women could be improved included: free access to (telephone) interpreting services and VETC workers, better access to translated materials (available in all relevant languages), a health befriending or social network

for the pregnant women, antenatal classes, sufficient time during consultation in the antenatal setting, a central source of information which midwives can consult and interventions to improve continuity of care (pregnant women should not be dispersed so often and a better cooperation between asylum seekers centres).

We conducted a semi-structured interview with a midwife working within a secondary care setting (unit of obstetrics and gynaecology). The hospital was located nearby an application centre for asylum seekers (Ter Apel). She is experienced in delivering care to pregnant refugees and asylum seekers.

Barriers experienced

A diversity of difficulties is experienced. For example, a variety of cultural backgrounds and beliefs and communications problems. Not only a different language was described as challenging, but also a low level of (health) literacy. The low ability to read and understand health information together with a lack of knowledge about the Dutch maternity care system or western medicine makes it hard to create mutual understanding. This makes it difficult to explain why certain laboratory examinations or antenatal screening are helpful. As a result, women sometimes refuse certain medical actions. In some cases, women did not want to be seen by a male health worker.

Needs in providing adequate perinatal healthcare

There is a need of more alternative methods of communication. Telephone interpreting is described as beneficial but also other resources are necessary. For example: websites with visual footage, like videos spoken in different languages, and translated leaflets with more pictures and less text. Midwives will be better prepared for working with female refugees and asylum seekers if they could participate in a training program about intercultural communication. It would be helpful to combine certain education programs with an e-learning with background information about the (perinatal) health of refugees and asylum seekers. Furthermore, cultural doulas could possibly contribute to the improvement of perinatal healthcare.

Additional or alternative services

Mostly telephone interpreters are used for interpretation. This was experienced as positive. There are several alternative methods of communication available (translated leaflets, videos, audio). It is possible for midwives to follow a training program about low literacy which is organized by the Royal Dutch Organization of Midwives (KNOV). Subsidy has been received to start group education to pregnant asylum seekers, but this has not yet started because of the relatively small group of women who can participate. Cultural doulas were not available at this unit.

United Kingdom

Exploring health care professionals' needs requires further data collection via interviews or focus groups. However, we have carried out desk research and a UK based survey exploring perspectives of the Heads of midwifery regarding health professional's needs and to identify good practice /case study models of maternity care for pregnant migrant women in United Kingdom.

2. METHODOLOGY OF PILOT IMPLEMENTATION

2.1. Greece

The implementation of the ORAMMA project took place at Helena Venizelou's Maternal District Hospital, in Athens. Data inclusion was from March to December 2018.

Health and social care providers

The multidisciplinary team working in the hospital was consisted of 2 midwives, 2 social workers and 1 obstetrician. Furthermore, since the majority of the refugees in Greece live in camps, a network with the HCPs there was created in order to facilitate the communication with pregnant women and to ensure the continuity of care. In this network, there were 2 midwives and 1 GP involved. All the members of the multidisciplinary team were trained. They were all recruited through professional networks. All the HCPs had experience with providing care in MAR women.

Maternity peer supporters

The recruitment of maternity peer supporters took place via Almasar, an urban non-profit organization, with the main purpose of action being the intercultural empowerment of foreign and local youth as well as the organizations and immigrant societies that reside in Greece, organizing intercultural events, which promote diversity and cultural interaction. Almasar informed women from their network about this activity. They used posters and the project's flyer as informative material. The inclusion criteria of MPSs were: (a) Living in Athens for a few years, (b) Arab/ Farsi - speaking, (c) Also speaking English and/ or Greek. All the MPSs were trained according to the ORAMMA approach, in a 3-day training programme. MPSs acted as volunteers, thus, they didn't sign any confidentiality contract. The ORAMMA team included 6 MPSs. One MPS was 'matched' with 3-5 pregnant women, according to the spoken language. The MPS was called to come to hospital when one of the pregnant women, that were 'matched' to her, had an appointment.

MAR women

For the recruitment, there was a collaboration with another EU funded programme named PHILOS (<https://philosgreece.eu/en/>) which occupies health care professionals (incl. midwives) inside camps. So, a network between ORAMMA team and the midwives in camps was created, in order to recruit pregnant women. The inclusion criteria were: (a) Gestational age preferably between 16th - 24th week, (b) Not high-risk pregnancies, (c) Not blood relation with the baby's father (this criterion was added after the pilot's beginning, at the request of Elena Venizelou's hospital). When a pregnant woman visited the camp's midwife, the latter informed her about ORAMMA project (taking into consideration the inclusion criteria). If the woman wanted to be included in the survey, the midwife communicated with the ORAMMA team and scheduled the first appointment for the pregnant woman.

Model of care

Care was provided in the hospital instead of a camp because it is very difficult to get permission to visit a camp, due to bureaucracy and safety reasons. Furthermore, in camps there is lack of equipment (e.g. ultrasound scan machine, etc.) and in case there was a complication where the pregnant woman had to be transferred to the hospital immediately (i.e. in case of foetal heart rate anomaly), the transfer would be very difficult. The appointments were taking place as follows: (a) in the first appointment (in the hospital), except for the midwives, the obstetrician was also present and when the woman's booking appointment was over, she had an interview with a social worker, (b) in every following antenatal appointment, the obstetrician was informed about the progress of the pregnancy and the overall care (by the midwives) and in case of complications, the woman was

referred to him. The social workers were available too, in case there was the need for women to be assessed again by them.

Data collection

Data were collected during the appointments, by the trained midwives and social workers included in the ORAMMA team. For this purpose, Personal Operational Plan was used, as medical record card.

2.2. The Netherlands

The implementation of the ORAMMA project took place in 4 primary care midwifery practices from different areas in the Netherlands (Nijmegen, Utrecht, Rhenen and Arnhem). Data inclusion was from January 2018 to March 2019.

Health Care Professionals

In the beginning of the project, an online questionnaire was sent to primary care midwifery practices. This was done to collect information regarding their care for MARs (about barriers, facilitators, cultural doula's, implications for improvement of care etc.). They were asked if they could be contacted again in a later stage. These midwives were then emailed with information about the project and whether they would be interested to participate. Other primary care midwifery practices were also emailed if they were based within travel distance from the Nijmegen area. Eight midwives from 5 primary care midwifery practices (from different areas in the Netherlands) were involved in the project. All the midwives had experience with providing care for migrant/refugee women. Eventually, 4 primary care midwifery practices were able to recruit pregnant migrant women suitable for participation

Maternity Peer Supporters

The recruitment of the MPS was done through several ways. The midwives involved were asked if they knew women who were suitable to become MPSs. Furthermore, a collaboration with a "cultural doula" experienced in guiding pregnant migrant women took place and she looked for any woman suitable in her network. Several non-profit organizations (such as the Dutch council for Refugees and Pharos, Dutch Centre of Expertise on Health Disparities), (local) voluntary organizations, doula organizations, and key persons from MAR communities were contacted. Women that wanted to become an MPS were also asked to look in their own network for other suitable women. For the purpose of this, informative leaflets were made and disseminated (face to face, per email, and on social media). The inclusion criteria for MPSs were: (a) Born outside the Netherlands or with great affinity with working with migrant women (for instance, second generation immigrants were also included), (b) Speaking both Dutch and their mother tongue (preferably Arab, Tigrinya or Farsi), (c) Knowledge of the Dutch healthcare system. Twelve MPSs were involved in the project. Every MPS was matched with one pregnant migrant woman, except for 2 MPSs. One of them was matched with three pregnant women, the other with two pregnant women. This was done because there were no other MPS speaking the same language and living in the same area as the pregnant woman.

MAR women

For the recruitment of the women a collaboration took place with the 5 midwifery practices involved in the project. When a (new) pregnant woman with a migrant background consulted the midwife, she informed her about the project, and she was handed out an information leaflet (available in English, Arabic, Tigrinya and Dutch). The inclusion criteria for women were: (a) Born outside the Netherlands (like from a non-western country/Africa/Middle-East/Asia), (b) 18 years or older, (c)

Living in the Netherlands for less than 5 years, (d) Gestational age less than 20 weeks (later on few women more than 20 weeks pregnant were also included because the midwives informed really needed the guidance and there were difficulties in recruiting enough pregnant women for the pilot). When the pregnant woman wanted to participate in the project, the member of the research team was informed and, with the woman's consent, she received the woman's details (name, country of origin, language proficiency, gestational age, and contact details). From this moment on the research member matched the pregnant woman with a suitable MPS (preferable someone with same language and/or country of origin). The MPS was informed by the research member about the pregnant woman after which the MPS would call the woman, give additional info about the project in the same language, introduce herself to her, and if the woman still wanted to participate, they would arrange their first meeting. After one week the MPS was phoned by the research member to ask whether (the first phone) contact between her and the woman was successful. The MPS would still have individual meetings with these women. Individual contact between project members and the MPS was maintained every 4 weeks by phone, or more often when required by the MPS.

Model of care

Primary care midwifery practices from five different areas in the Netherlands were involved in the pilot (Nijmegen, Utrecht, Rhenen, Arnhem, Wageningen). One practice (Wageningen) was not able to recruit migrant women suitable for inclusion within the recruitment's timeframe. The pregnant migrant women involved all lived in the area where these 4 primary care midwifery practices were based. The MPS matched with the pregnant migrant women also lived in these areas. Some pregnant women gave birth in the hospital, but data was still collected through their primary midwife. Midwifery care, such as the number, moment and content of appointments, was arranged following regular Dutch midwifery care (guidelines are set by the Royal Dutch Organisation of Midwives- KNOV), without any intervention in the regular care offered by the midwives. MPSs often joined the pregnant women on their appointments with the midwife.

Data collection

Data were collected during the appointments, by the trained midwives included in the ORAMMA team. For this purpose, a structured data collection form, created by the ORAMMA team, was used.

2.3. United Kingdom

The setting for the implementation of ORAMMA's pilot intervention in the UK was Jessop Wing Hospital, part of the Sheffield Teaching Hospitals NHS Foundation Trust in Sheffield.

Health Care Professionals

After an initial discussion and agreement with the midwifery team management, research team members offered to attend the community team meetings for all six teams across Sheffield, of which three were available and accepted. A team member attended North, West, and Central team meetings to provide a summary of the project and the training, and all other community midwives working in the Sheffield area were sent written information about the project and a summary of the training. All obstetricians at the Jessop Wing were informed about the project via email. Five midwives were recruited from different geographical community midwifery teams to attend 4 hours ORAMMA training including the additional support needs of migrant women, the experiences of migrant women receiving perinatal care and cultural competence and trauma-aware care.

Maternity Peer Supporters

MPS were recruited from the community via information events, and approaching international community groups, women's swimming sessions, English classes, community centers, and the marketplace. Snowballing occurred, as MPS who were recruited also identified other women to become an MPS. The MPS were trained using the ORAMMA MPS training package over 2 and a half days. The inclusion criteria were: (a) Time availability, (b) Training package completion, (c) Were from a minority ethnic group and (d) Speaking of English and another language. After women had consented to take part in the ORAMMA project, an MPS who had undergone the ORAMMA training and who spoke the same language as the woman was identified by the research team. With consent, the woman's telephone number was shared with the MPS, who contacted the woman directly to arrange the first meeting. In some cases, the MPS was accompanied by a member of the research team during the first meeting, for additional support. In total 17 MPSs were matched with a recently arrived pregnant woman. Four MPSs supported two women concurrently.

MAR women

In collaboration with Jessop Wing research midwives, community midwives were asked to provide eligible women with study information when undertaking their initial booking or follow up appointments and to signpost these women to the research midwife team for follow up and consent. The research midwives also screened new referrals and hospital antenatal clinic lists for eligible women. Once identified the research midwives or research team at Sheffield Hallam University contacted eligible women. Study information was provided to those women not already in receipt of it and time given to consider the study. Written study information was translated into Arabic (as this was the most commonly spoken language amongst the volunteers) and for other languages interpreters translated the information sheet in depth. Interpreters were used to ensure the woman fully understood study involvement. The research midwives and research team at Sheffield Hallam University were responsible for taking written consent from women who agree to participate in the study. Women were eligible for inclusion if: (a) They had lived in the UK for 5 years or less and entered the UK from a non-EU country, (b) They spoke English or Tigrinya or Amharic or Urdu or Somali or Arabic or French or Farsi or Kiswahili or Swahili or Indonesian or Malaysian or Puthwari (due to the availability of MPS who spoke these languages), (c) They had booked for maternity care at The Jessop Wing, (d) They were less than 36 weeks pregnant or had arrived into Sheffield and presented for the first booking appointment at more than 36 weeks pregnant, (e) They were aged 18 years or over

Model of care

An interdisciplinary team of midwives, obstetricians, council-based social support workers and MPSs delivered the study pilot model. The care was coordinated by the midwife; midwife-led care was offered to women with low risk, and consultant-led care to those women with high risk pregnancies. Antenatal appointments were arranged directly by community midwives, with referral into the hospital for ultrasound scans and obstetrician appointments as required. Women had a named midwife, with other midwives within the team covering for annual leave or illness. Women eligible for midwife-led care had the choice of birth at home or in the hospital (midwife-led care unit if appropriate), whereas women requiring consultant-led care were advised of the benefits of giving birth in the hospital. City council-based social support workers worked alongside midwives in the care of eight women, to give social care and ensured that women were signposted to appropriate services for their social needs. In addition to the above care women were offered maternity peer supporter visits which commenced at 14-16 weeks gestation or as soon as possible if the woman was beyond this gestation at recruitment. It was recommended that MPS visits were monthly up to 28 weeks of pregnancy, and thereafter fortnightly until birth. Where possible, MPSs were encouraged

to offer to attend for birth support. It was recommended that the MPS visited the woman up to 6 weeks postnatally on a weekly basis. It was advised that the actual pattern of visiting was determined by availability and flexibility of the MPS and the needs of the individual woman.

Data collection

Women's outcome data were collected by the research team at Sheffield Hallam University, by accessing the Jessop Wing electronic data system and paper patient records held within the hospital. Some postnatal data were collected by the MPS and from the 'My Maternity Plan' document.

3. RESULTS

3.1. Pilot implementation results

Design & Sample

The ORAMMA pilot implementation sessions were part of the “WP6: Pilot implementation and assessment” activities that took place in three different European countries: Greece, The Netherlands and United Kingdom. The study was conducted over a 12-month period (February 2018-February 2019).

During the implementation, 88 pregnant women; migrant, asylum seeking, and refugee (MAR) were recruited.

Data collection

Data were collected through a structured data collection form, created by the ORAMMA team. This form was based on expert-opinion and a literature review [Appendix 1].

Data analysis

Responses were coded and entered into IBM SPSS Statistics version 20, for statistical analysis. For reproducibility reasons and ease of tracking the steps of statistical analysis, all data were further entered in R 3.0.3 (Team, R. C. (2013). R: A language and environment for statistical computing).

Data were incorporated in R from SPSS via the haven package (Hadley Wickham and Evan Miller (2019). haven: Import and Export 'SPSS', 'Stata' and 'SAS' Files. R package version 2.1.0.). Three functions were created within R to systematically produce descriptive tables of continuous, dichotomous and polytomous outcomes separate by country (available upon request). Percentages were reported for categorical variables, whereas, medians (minimums and maximums) were reported for continuous variables. The term average within the result section refers to the median.

Multiple regressions were performed to check for associations of continuous variables. The α -level for the conducted statistical tests was set to be equal to 0.05 (5%). Due to the small number of observations, the number of covariates (possible confounders) in multiple regression, were kept limited. Moreover, we restricted to simpler and more targeted associations to avoid false positive results. Data manipulation was performed via base R and the package dplyr (Hadley Wickham, Romain Francois, Lionel Henry and Kirill Muller (2018). dplyr: A Grammar of Data Manipulation. R package version 0.7.5.).

All results were sent to a single .xlsx file via the use of package xlsx (Adrian A. Dragulescu and Cole Arendt (2018). xlsx: Read, Write, Format Excel 2007 and Excel 97/2000/XP/2003 Files. R package version 0.6.1.) and then incorporated in the final text.

Results

Out of the 88 MAR pregnant women recruited during the implementation according to the eligible criteria of each country (see section 3), 72 were finally included in the study (dropout rate 18.18%). Out of the 72 women, 33 (45.83%) were from Greece, 18 (25%) were from the Netherlands and 21 (29.17%) were from United Kingdom. From the 16 MAR pregnant women dropped out of the study, 10 (62.50%) moved to another region or country, 5 (31.25%) had different expectations from the project and 1 (6.25%) dropped out for other reasons [Figure 1].

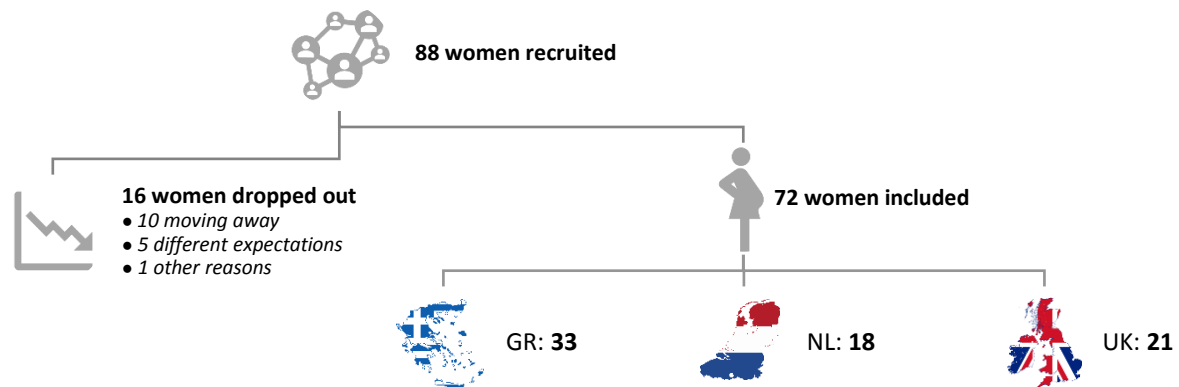


Figure 1. Study flow diagram

3.1.1. Participants

Age

The average age of the women was 29 years old for the United Kingdom and 27 for The Netherlands. Women in Greece were the youngest, with the average age to be 26 years [Table 1].

Table 1. Age, per country.

	Greece	UK	The Netherlands
Age, in years; median (range)	26 (17,39)	29 (18,34)	27 (20,40)

Countries of origin

In both Greece and the Netherlands 63.6% (n= 21) and 44.4% (n= 8) respectively of the women were from Syria, whereas, in the United Kingdom only 14.2% (n= 3) of the women were born in Syria. We observed high heterogeneity in the countries of origin.

Table 2. Countries of birth, per country.

	NL	UK	GR	TOTAL
Afghanistan	0 (0%)	0 (0%)	2 (6.06%)	2 (2.78%)
Cameroon	0 (0%)	0 (0%)	1 (3.03%)	1 (1.39%)
Democratic Republic of Congo	0 (0%)	1 (4.76%)	1 (3.03%)	2 (2.78%)
Eritrea	0 (0%)	3 (14.29%)	0 (0%)	3 (4.17%)

Table 2. Countries of birth, per country.

	NL	UK	GR	TOTAL
Ethiopia	0 (0%)	0 (0%)	1 (3.03%)	1 (1.39%)
Gambia	1 (5.56%)	0 (0%)	0 (0%)	1 (1.39%)
India	0 (0%)	2 (9.52%)	0 (0%)	2 (2.78%)
Iran	0 (0%)	3 (14.29%)	0 (0%)	3 (4.17%)
Iraq	0 (0%)	0 (0%)	6 (18.18%)	6 (8.33%)
Kurdistan	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Kuwait	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Morocco	1 (5.56%)	0 (0%)	0 (0%)	1 (1.39%)
Nigeria	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Pakistan	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Saudi Arabia	0 (0%)	2 (9.52%)	1 (3.03%)	3 (4.17%)
Sri Lanka	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Sudan	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Syria	8 (44.44%)	3 (14.29%)	21 (63.64%)	32 (44.44%)
Yemen	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
<i>Missing</i>				<i>8 (11.11%)</i>

Migration details

In Greece, all the women were refugees, asylum seekers or undocumented migrants. In the Netherlands and the United Kingdom, most women were spousal migrants (NL 61.5%, n=8; UK 42.8%, n= 9) or refugees (NL 38.4%, n=5; UK 38.1%, n=8).

Table 3. Migration status, per country.

	NL	UK	GR	TOTAL
Refugee	5 (38.46%)	8 (38.10%)	12 (36.36%)	25 (34.72%)
Asylum seeker	0 (0%)	2 (9.52%)	19 (57.58%)	21 (29.17%)
Failed asylum seeker	0 (0%)	1 (4.76%)	1 (3.03%)	2 (2.78%)
Spousal migrant	8 (61.54%)	9 (42.86%)	0 (0%)	17 (23.61%)
Education visa	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Undocumented migrant	0 (0%)	0 (0%)	1 (3.03%)	1 (1.39%)
<i>Missing</i>				<i>5(6.94%)</i>

The average time of stay in the country was quite similar between Greece and United Kingdom. In Greece it was the shortest (9 months, range 1 month – 3 years and 1 month), followed by the United Kingdom (10 months, range 4 months – 3 years and 7 months), and lastly The Netherlands (2 years and 2 months, range 6 months – 4 years and 5 months).

Table 4. Average time of stay in host country, per country.

NL	2 years and 2 months, range 6 months – 4 years and 5 months
UK	10months, range 4 months – 3 years and 7 months
GR	9 months, range 1 month – 3 years and 1 month

Education

Thirty three percent of the women in United Kingdom (n= 7) had a university education, whereas in The Netherlands only 10% (n= 1), and in Greece only 12.1% (n= 4), went to university. In Greece, the majority of women had secondary school education (36.6%, n=12) and in the Netherlands 30% (n= 3) of the women had no formal education.

Table 5. Educational level, per country.

	NL	UK	GR	TOTAL
No formal education	3 (30.00%)	3 (14.29%)	5 (15.15%)	11 (15.28%)
Primary school	3 (30.00%)	5 (23.81%)	10 (30.3%)	18 (25.00%)
Secondary school	2 (20.00%)	4 (19.05%)	12 (36.36%)	18 (25.00%)
Undergraduate university education	1 (10.00%)	7 (33.33%)	4 (12.12%)	12 (16.67%)
Postgraduate university education	1 (10.00%)	2 (9.52%)	2 (6.06%)	5 (6.94%)
Missing				8 (11.11%)

Partner

In all countries, the majority of the women had a partner (GR 84.8%, n= 28; UK 95.2%, n= 20; NL 100%, n=14) [Table 6], where most of women were living with their partner [Table 7].

Table 6. Existent partner, per country.

	NL	UK	GR	TOTAL
No	0 (0%)	1 (4.76%)	5 (15.15%)	6 (8.33%)
Yes	14 (100%)	20 (95.24%)	28 (84.85%)	62 (86.11%)
Missing				4 (5.56%)

Table 7. Living with the partner, per country.

	NL	UK	GR	TOTAL
Yes	14 (100%)	17 (85%)	28 (100%)	59 (81.94%)
No, separate accommodation	0 (0%)	2 (10%)	0 (0%)	2 (2.78%)
No, separate country	0 (0%)	1 (5%)	0 (0%)	1 (1.39%)
Missing				10 (13.89%)

In Greece, 48.4% (n= 16) of the women's partners were blood relatives, whereas in the United Kingdom and in the Netherlands this number was only 23.8% (n= 5) and 14.2% (n= 1), respectively.

Table 8. Blood relation with partner, per country.

	NL	UK	GR	TOTAL
No	11 (78.57%)	14 (66.67%)	11 (33.33%)	36 (50.00%)
Yes	2 (14.29%)	5 (23.81%)	16 (48.48%)	23 (31.94%)
Not reported	1 (7.14%)	2 (9.52%)	6 (18.18%)	9 (12.50%)
Missing				4 (5.56%)

The average age of the partners was 33 years old for the United Kingdom and 31 years old for The Netherlands (based on 2 reported ages of partners). Partners in Greece were the oldest, 35 years old on average.

Table 9. Partners' age, in years; median (range), per country.

NL	31 (31,31)
UK	33 (19,47)
GR	35 (24,53)

The partners' average time of stay in the country was quite similar between the Netherlands and United Kingdom. In Greece it was the shortest (9 months, range 1 month – 10years), followed by the the Netherlands (3 years and 4 months, range 7 months – 20 years), and lastly United Kingdom (3 years and 5 months, range 1 month – 19 years).

Table 10. Partners' average time of stay in host country, per country.

NL	3 years and 4 months, range 7 months – 20 years
UK	3 years and 5 months, range 1 month – 19 years
GR	9 months, range 1 month – 10years

Regarding the migration status of partners, in Greece, about half (57.1%, n=16) of them were asylum seekers. In the Netherlands and the United Kingdom, most partners were refugees (NL 81.8%, n= 9; UK 36.84%, n=16).

Table 11. Partners' migration status, per country.

	NL	UK	GR	TOTAL
Non-migrant	1 (9.09%)	1 (5.26%)	0 (0%)	2 (2.78%)
Refugee	9 (81.82%)	7 (36.84%)	9 (32.14%)	25 (34.72%)
Asylum seeker	0 (0%)	2 (10.53%)	16 (57.14%)	18 (25.00%)
Failed asylum seeker	0 (0%)	1 (5.26%)	1 (3.57%)	2 (2.78%)
Economic migrant	1 (9.09%)	0 (0%)	1 (3.57%)	2 (2.78%)
Education visa	0 (0%)	1 (5.26%)	0 (0%)	1 (1.39%)
Undocumented migrant	0 (0%)	0 (0%)	1 (3.57%)	1 (1.39%)
Other	0 (0%)	7 (36.84%)	0 (0%)	7 (9.72%)
Missing				14 (19.44%)

Accommodation

In Greece, the majority of the women (63.6%, n=21) live in a migrant/ refugee camp. In the United Kingdom and The Netherlands none of the women do. In these countries all the women live in rented accommodation with family and/ or friends, paid either by themselves or by state.

Table 12. Type of current housing, per country.

	NL	UK	GR	TOTAL
Detention centre	0 (0%)	1 (4.76%)	1 (3.03%)	2 (2.78%)
Migrant / refugee camp	0 (0%)	0 (0%)	21 (63.64%)	21 (29.17%)
Rented with family - state paid	1 (7.14%)	8 (38.1%)	4 (12.12%)	13 (18.06%)
Rented shared - state paid	1 (7.14%)	3 (14.29%)	4 (12.12%)	8 (11.11%)
Rented - self paid	9 (64.29%)	7 (33.33%)	1 (3.03%)	17 (23.61%)
With friends / family	3 (21.43%)	1 (4.76%)	1 (3.03%)	5 (6.94%)
Other	0 (0%)	1 (4.76%)	1 (3.03%)	2 (2.78%)
<i>Missing</i>				4 (5.56%)

3.1.2. Prenatal data

Previous pregnancies

In the Netherlands and United Kingdom, most women (NL 33.3%, n=6; UK 42.9%, n= 9) were pregnant for the first time, whereas in Greece this number was only 15.2%. In Greece the majority of women were pregnant for the third time (24.2%, n=8), while there were a lot of women who had gotten pregnant over 4 times (21.2%, n=7), something that was not the case for United Kingdom and the Netherlands.

Table 13. Number of pregnancies (including this one), per country.

	NL	UK	GR	TOTAL
1 pregnancy	6 (33.3%)	9 (42.9%)	5 (15.2%)	20 (27.78%)
2 pregnancies	2 (11.1%)	8 (38.1%)	6 (18.2%)	16 (22.22%)
3 pregnancies	4 (22.2%)	3 (14.3%)	8 (24.2%)	15 (20.83%)
4 pregnancies	1 (5.6%)	0 (0.0%)	7 (21.2 %)	8 (11.11%)
>4 pregnancies	1 (5.6%)	1 (4.8%)	7 (21.2%)	9 (12.50%)
<i>Missing</i>				4 (5.56%)
Average number of pregnancies	2 (1,6)	2 (1,6)	3 (1,10)	N/A

Weeks of gestation

In Greece, the average week of gestation at booking appointment was 22⁺³ weeks (range 11-35⁺³ weeks). The average week of gestation at inclusion was similar between the Netherlands (7⁺⁶ weeks, range 5 – 17⁺³ weeks) and the United Kingdom (8⁺⁵ weeks, range 6⁺³ – 24⁺⁴ weeks).

Table 14. Average week of gestation at booking appointment, per country.

NL	7 ⁺⁶ weeks, range 5 – 17 ⁺³ weeks
UK	8 ⁺⁵ weeks, range 6 ⁺³ - 24 ⁺⁴ weeks
GR	22 ⁺³ weeks, range 11-35 ⁺³ weeks

Smoking, alcohol & drugs

The majority of smokers was noticed in Greece, where 9% (n= 3) were smokers and 3% (n= 1) used to smoke prior to pregnancy. Greece had also the higher percentage of pregnant women who were not smokers, but they were living in a smoking environment (33.3%, n=18). However, the majority of women in all three countries had never smoked or were just passive smokers.

Table 15. Smoking status, per country.

	NL	UK	GR	TOTAL
Never smoked- <u>no</u> passive smokers	12 (85.71%)	21 (100%)	18 (54.55%)	51 (70.83%)
Never smoked- passive smokers	1 (7.14%)	0 (0%)	11 (33.33%)	12 (16.67%)
Smoked prior to pregnancy	0 (0%)	0 (0%)	1 (3.03%)	1 (1.39%)
Smoker	1 (7.14%)	0 (0%)	3 (9.09%)	4 (5.56%)
Missing				4 (5.56%)

In all the three countries almost none of the women consumed alcohol [Table 16] or prescription drugs [Table 17].

Table 16. Alcohol intake prior to pregnancy, per country.

	NL	UK	GR	TOTAL
No	10 (100%)	20 (95.23%)	33 (100%)	63 (87.50%)
Yes	0 (0%)	1 (4.76%)	0 (0%)	1 (1.39%)
Missing				8 (11.11%)

Table 17. No prescription drugs & herbal remedies, per country

	NL	UK	GR	TOTAL
No	12 (92.31%)	21 (100%)	30 (90.91%)	63 (87.50%)
Yes	1 (7.69%)	0 (0%)	3 (9.09%)	4 (5.56%)
Missing				5 (11.11%)

Weight and BMI

The average BMI at booking was the lowest in The Netherlands (22.5, range 16.4- 34.5), while in Greece and United Kingdom it was almost the same [Table 18]. Also, women in Greece tend to be heavier than those in the other two countries.

Table 18. Weight and BMI at booking appointment, per country

	NL	UK	GR
Weight (kg)	60.0 (47, 83)	58.1 (48.7, 102)	66.4 (40, 116)
BMI (Kg/m²)	22.53 (16.46, 34.55)	25.22 (19.26, 36.14)	25.21 (16.44, 43.13)

Anaemia

During booking appointment, 9 women (64.2%) from the Netherlands, 6 women (18.18%) from Greece and one woman (4.76%) from UK were found with anaemia [Table 19]. The lower average haemoglobin value was recorded in the Netherlands (8.6, range 6.3- 11.3) and the highest in United Kingdom (12.8, range 11 - 13.9).

Table 19. Presence of anaemia at booking appointment, per country

	NL	UK	GR	TOTAL
No	5 (35.71%)	20 (95.24%)	27 (81.82%)	52 (72.22%)
Yes	9 (64.28%)	1 (4.76%)	6 (18.18%)	16 (22.22%)
Missing				4 (5.56%)
Average Hb (g/dL)	8.6 (6.3,11.3)	12.8 (11,13.9)	11.8 (9.5,13.3)	N/A

During the 28th week of gestation, 11 women (55%) from United Kingdom and 5 women (16.13%) from Greece were diagnosed with anaemia. For the Netherlands, there were no data available for this variable.

Table 20. Presence of anaemia at 28th week of pregnancy, per country

	NL	UK	GR	TOTAL
No	0 (NaN%)	9 (45%)	26 (83.87%)	35 (48.61%)
Yes	0 (NaN%)	11 (55%)	5 (16.13%)	16 (22.22%)
Missing				21 (29.17%)

For all three countries, more than half of women were prescribed with iron tablets during pregnancy, with the lower percentage (52.3%, n= 11) being found in the United Kingdom.

Table 21. Iron tablets/ transfusion prescribed during pregnancy, per country

	NL	UK	GR	TOTAL
No	4 (28.57%)	10 (47.62%)	8 (24.24%)	22 (30.56%)
Yes	10 (71.43%)	11 (52.38%)	25 (75.76%)	46 (63.89%)
Missing				4 (5.56%)

Folic acid

In contrast to the iron tablet prescription, the number of women that took folic acid prior to 12 weeks of gestations highly differs between the countries; in Greece only 15.1% (n= 5) of the sample had taken folic acid, while in The Netherlands this percentage was 71.4% (n= 10) and in the United Kingdom almost everyone (90%, n=18) took folic acid prior to 12 weeks.

Table 22. Folic acid prior to 12 weeks, per country

	NL	UK	GR	TOTAL
No	4 (28.57%)	2 (10%)	28 (84.85%)	34 (47.22%)
Yes	10 (71.43%)	18 (90%)	5 (15.15%)	33 (45.83%)
Missing				5 (6.94%)

Gestational diabetes

In Greece and in the Netherlands, about half of the women (48.8%, n=16 and 57.1%, n=8, respectively) had undertaken GTT during their pregnancies, while in United Kingdom almost all (90,4%, n=19) had.

Table 23. Glucose Tolerance Test (GTT) undertaken during pregnancy, per country

	NL	UK	GR	TOTAL
No	6 (42.86%)	2 (9.52%)	17 (51.52%)	25 (34.72%)
Yes	8 (57.14%)	19 (90.48%)	16 (48.48%)	43 (59.72%)
Missing				4 (5.56%)

Regarding the women who had not undertaken GTT, for 13 women (76.4%) in Greece the GTT could not be performed since they had overcome the 28th week of gestation at booking appointment. This was not the case for the Netherlands and United Kingdom, although in these countries, women who had not undertaken GTT were before the 26th week of gestation at booking appointment [Table 24].

Table 24. GTT not undertaken in correlation to GA in booking appointment (in weeks), per country

	NL	UK	GR	TOTAL (n=25)
<26th w	6 (100%)	2 (100%)	3 (17.65%)	11 (44%)
26th - 28th w	0 (0%)	0 (0%)	1 (5.88%)	3 (4%)
>28th w	0 (0%)	0 (0%)	13 (76.47%)	13 (52%)
Missing				0 (0.00%)

Gestational diabetes had been diagnosed to 18.7% (n= 3) of the women who had undertaken GTT in Greece, 50% (n= 4) in the Netherlands and 15.7% (n= 3) in United Kingdom.

Table 25. Presence of Gestational Diabetes to women who had undertaken GTT, per country

	NL	UK	GR	TOTAL (n=43)
No	4 (50%)	16 (84.21%)	11 (68.75%)	34 (79.07%)
Yes	4 (50%)	3 (15.79%)	3 (18.75%)	8 (18.60%)
Missing				1 (2.33%)

Maternal complications

In Greece, one third of the sample (33.3%, n=11) had at least one complication in current pregnancy, with the most frequent- reported to be gestational diabetes, followed by hypertensive disorders and infections.

In United Kingdom, more than half of women (52.3%, n= 11) had at least one complication, with gestational diabetes and bleeding to be the most frequent. In UK there was also 1 case that it was not reported whether complications were observed or not.

The Netherlands reposted the lowest percentage of complications (16.6%, n=3), with 2 cases to be diagnosed with amniotic fluid abnormalities. Although, there were 5 missing cases for this variable.

Table 26. Complications in current pregnancy, per country.

	NL	UK	GR	TOTAL
No	10 (55.56%)	9 (42.86%)	22 (66.67%)	41 (56.94%)
Yes	3 (16.65%)	11 (52.38%)	11 (33.33%)	25 (34.72%)
Missing				6 (8.33%)

Table 27. Type of complications (frequency) in current pregnancy, per country.

	NL	UK	GR	TOTAL
Amniotic fluid abnormalities (Hydramnios/ Oligohydramnios, Premature rupture of membranes)	2	0	0	2
Antepartum bleeding, requiring blood transfusion	0	3	1	4
CMV	0	0	1	1
Foetal position abnormalities, dystocia	0	2	0	2
Foetus abnormalities (Malformations, Macrosomia, SGA)	1	1	0	2
Gestational Diabetes	4	3	3	10
Hyperemesis gravidarum	0	1	0	1
Hypertensive disorders (Pre-eclampsia/ Eclampsia/ HELLP)	0	0	2	2
Loss of pregnancy prior to 20 weeks	0	0	1	1
Placental abnormalities (Placenta accreta/ praevia, placental abruption)	0	1	1	2
Preterm birth	0	2	0	2
Thromboembolism	0	1	0	1
Urinary and/ or vaginal infections (Asymptomatic bacteriuria, chlamydia)	0	1	2	3

Mental health

In the Netherlands 28.5% (n= 4) of the women reported a history of mental health disorders (anxiety disorder and mild depression), in the United Kingdom 20% (n= 4) did (anxiety, depression and flashbacks following experience of repeated rape) and in Greece 21.2% (n= 7) did (mild depression, severe depression, anxiety disorder).

Table 28. History of mental health disorders, per country

	NL	UK	GR	TOTAL
No	10 (71.43%)	16 (80%)	26 (78.79%)	52 (72.22%)
Yes	4 (28.57%)	4 (20%)	7 (21.21%)	15 (20.83%)
Missing				5 (6.94%)

In the United Kingdom, two women reported a history of female genital mutilation. In Greece and The Netherlands this was not reported.

3.1.3. Intrapartum data

Gestational age at birth

In Greece and United Kingdom, the average week of gestation at birth was similar (GR: 39⁺¹, range 36⁺² - 41⁺¹ and UK: 39⁺⁴, range 34⁺⁶ - 41⁺⁴), while in the Netherlands it was a little higher (40 w, range 38⁺³ - 41⁺⁴).

Table 29. Average week of gestation at birth, per country.

NL	40, range 38 ⁺³ - 41 ⁺⁴
UK	39 ⁺⁴ , range 34 ⁺⁶ - 41 ⁺⁴
GR	39 ⁺¹ , range 36 ⁺² - 41 ⁺¹

Place of birth

In the United Kingdom and Greece all women gave birth in the hospital, whereas in The Netherlands this percentage was 61.5% (n= 8).

Table 30. Place of birth, per country

	NL	UK	GR	
Home birth	1 (7.69%)	0 (0%)	0 (0%)	1 (1.39%)
Hospital birth	8 (61.54%)	20 (100%)	33 (100%)	61 (84.72%)
Alongside birth centre	4 (30.77%)	0 (0%)	0 (0%)	4 (5.56%)
Missing				6 (8.33%)

Method of birth

In Greece, the number of vaginal births and caesarean sections were almost the same (54.5% and 42.4% respectively). In United Kingdom and the Netherlands, the percentage of vaginal births were 50% and 53.8% respectively. In the Netherlands, the highest percentage of instrumental deliveries (23%) was also reported.

Table 31. Method of birth, per country

	NL	UK	GR	TOTAL
Vaginal	7 (53.85%)	10 (50%)	18 (54.55%)	35 (48.61%)
Caesarean	3 (23.08%)	8 (40%)	14 (42.42%)	25 (34.72%)
Instrumental	3 (23.08%)	2 (10%)	1 (3.03%)	6 (8.33%)
Missing				6 (8.33%)

Out of the women that had given birth normally, 53.8% (n= 7) in the Netherlands, 42.4% (n= 14) in Greece and 40% (n= 8) in United Kingdom, suffered some kind of damage to the perineum [Table 32]. Among the damages, in Greece the most frequent was the episiotomy (12 cases), in United Kingdom the second-degree tear (5 cases) and in the Netherlands the cases were equal among first degree tear and episiotomy (3 cases for each type).

Table 32. Rate and type of perineum damage of women who had given birth normally

	NL	UK	GR	TOTAL
None damage	3 (30%)	4 (33.33%)	5 (26.32%)	12 (29.27%)
Damage	7 (53.85%)	8 (40.00%)	14 (42.42%)	29 (70.73%)
First degree tear	3 (23.08%)	2 (10%)	1 (3.03%)	6 (20.69%)
Second degree tear	0 (0%)	5 (25%)	0 (0%)	5 (17.24%)
Episiotomy	3 (23.08%)	1 (5%)	12 (36.36%)	16 (55.17%)
Labial tear only	1 (7.69%)	0 (0%)	1 (3.03%)	2 (6.90%)
Missing				0 (0.00%)

Analgesia during labour

All women (n=20) who had given birth in United Kingdom received analgesia during labour, while in Greece and the Netherlands, 45.4% (n=15) and 53.8% (n=7) respectively did [Table 33]. Out of these women, one woman received analgesia during vaginal labour from the Netherlands (14.2%), 10 women (50%) from United Kingdom and 4 women (35.7%) from Greece. For the instrumental labour the rates were 42.8% (NL; n=3), 10% (UK; n=2) and 6.6% (GR; n=1) respectively [Table 34].

Table 33. Analgesia during labour, per country

	NL	UK	GR	TOTAL
No	6 (46.15%)	0 (0%)	18 (54.55%)	24 (33.34%)
Yes	7 (53.85%)	20 (100%)	15 (45.45%)	42 (58.33%)
Missing				6 (8.33%)

Table 34. Analgesia in correlation to mode of birth, per country

	NL	UK	GR	TOTAL
Vaginal	1 (14.29%)	10 (50%)	4 (26.67%)	15 (35.71%)
Caesarean	3 (42.86%)	8 (40%)	10 (66.67%)	21 (50.00%)
Instrumental	3 (42.86%)	2 (10%)	1 (6.67%)	6 (14.29%)
Missing				0 (0.00%)

Gender

In Greece the number between boys and girls was almost the same (16 girls vs. 17 boys) whereas in the United Kingdom more female babies were born (9 boys vs. 11 girls). In the Netherlands the number males were higher than females (5 girls and 8 boys).

Table 35. Infant gender, per country

	NL	UK	GR	TOTAL
Female	5 (38.46%)	11 (55%)	16 (48.48%)	32 (44.44%)
Male	8 (61.54%)	9 (45%)	17 (51.52%)	34 (47.22%)
Missing				6 (8.33%)

APGAR score

In all three countries, the majority of babies that were born had APGAR score above 7 in the 1st minute [Table 36] and 5th minute after birth [Table 37].

Table 36. APGAR less than 7 in 1st minute, per country

	NL	UK	GR	TOTAL
No	13 (100%)	16 (80%)	31 (93.94%)	60 (83.33%)
Yes	0 (0%)	4 (20%)	2 (6.06%)	6 (8.33%)
Missing				6 (8.33%)

Table 37. APGAR less than 7 in 5th minute, per country

	NL	UK	GR	TOTAL
No	13 (100%)	18 (90%)	33 (100%)	64 (88.89%)
Yes	0 (0%)	2 (10%)	0 (0%)	2 (2.78%)
Missing				6 (8.33%)

Birth weight

The neonatal birth weight in the Netherlands and United Kingdom was almost the same (3442g and 3400g respectively), whereas in Greece, the average birth weight was around 200g lower (3200g).

Table 38. Average neonatal birth weight (in grams), per country.

NL	3442, range 2786- 4234
UK	3400, range 2260- 4710
GR	3200, range 2200- 4323

Premature deliveries

Two premature deliveries (<37th week of gestation) were recorded in Greece (6.06%) and 2 (10%) in the United Kingdom. In the Netherlands, there were no premature deliveries recorded.

Table 39. Infants who were born before 37th week, per country

	NL	UK	GR	TOTAL
No	13 (100%)	18 (90%)	31 (93.94%)	62 (86.11%)
Yes	0 (0%)	2 (10%)	2 (6.06%)	4 (5.56%)
Missing				6 (8.33%)

SCBU/ NICU admissions

From the neonates born, there were 8 cases (24.2%) in Greece that had to be hospitalized in SCBU/ NICU, while in the Netherlands and United Kingdom the cases were only 2 for each country (15.3% and 10% respectively) [Table 40]. Out of them, 1 neonate (10%) in United Kingdom and 2 neonates (6.06%) in Greece were born premature or Small for Gestational Age (SGA) [Table 41].

Table 40. SCBU/ NICU admissions, per country

	NL	UK	GR	TOTAL
No	11 (84.62%)	18 (90%)	25 (75.76%)	54 (75.00%)
Yes	2 (15.38%)	2 (10%)	8 (24.24%)	12 (16.67%)
Missing				6 (8.33%)

Table 41. Infants who were born premature and SGA in correlation to SCBU/ NICU admissions, per country

	NL	UK	GR	TOTAL
No	2 (100%)	1 (90%)	6 (93.94%)	9 (75.00%)
Yes	0 (0%)	1 (10%)	2 (6.06%)	3 (25.00%)
Missing				0 (0.00%)

The average length of stay in SCBU/ NICU was longer in UK (9 days, range 1 – 17), followed by Greece (8 days, range 1-17). The shortest time was recorded in the Netherlands (4.5 days, range 1 – 8).

Table 42. Average length of stay in SCBU/ NICU (in days), per country.

NL	4.5, range 1- 8
UK	9, range 1- 17
GR	8, range 1- 17

3.1.4. Postpartum data

Discharge from hospital

The majority of women in Greece (72.7%, n=24) were discharged from hospital (during?) the 4th day after birth. In the Netherlands, they were mostly being discharged at the day of birth (41.6%, n= 5) and in United Kingdom at the 2nd day after birth (35%, n=7). In all three countries, the cases that were discharged at the 5th day or more were few (GR: 18.8%, n=6; NL: 8.3%, n=1; UK: 25%, n=5).

Table 43. Maternal discharge from hospital after birth, per country

	NL	UK	GR	TOTAL
Day of birth	5 (41.67%)	3 (15%)	0 (0%)	8 (11.11%)
Day 1 after birth	3 (25%)	4 (20%)	0 (0%)	7 (9.72%)
Day 2 after birth	1 (8.33%)	7 (35%)	0 (0%)	8 (11.11%)
Day 3 after birth	2 (16.67%)	1 (5%)	3 (9.09%)	6 (8.33%)
Day 4 after birth	0 (0%)	0 (0%)	24 (72.73%)	24 (33.33%)
Day ≥5 after birth	1 (8.33%)	5 (25%)	6 (18.18%)	12 (16.67%)
Missing				7 (9.72%)

Breastfeeding

Regarding the breastfeeding initiation after birth, only in Greece there were 9 cases (27.7%) reported where there was not initiation, while the majority of the neonates born (72.7%), started breastfeeding right after birth. In the Netherlands and United Kingdom, breastfeeding initiation was 100%.

Table 44. Breastfeeding initiation after birth, per country

	NL	UK	GR	TOTAL
No	0 (0%)	0 (0%)	9 (27.27%)	9 (12.50%)
Yes	13 (100%)	20 (100%)	24 (72.73%)	57 (79.17%)
Missing				6 (8.33%)

At discharge from hospital, all the neonates in the Netherlands (100%, n= 10), 93% of neonates in Greece (n= 31) and 95% (n= 19) of the neonates in United Kingdom were breastfeeding [Table 45]. Out of them, 51.5% (n= 17) in Greece, 90% (n= 9) in the Netherlands and 60% (n= 12) in United Kingdom were breastfeeding exclusively [Table 46].

Table 45. Breastfeeding at discharge from hospital, per country

	NL	UK	GR	TOTAL
No	0 (0%)	1 (5%)	2 (6.06%)	3 (4.17%)
Yes	10 (100%)	19 (95%)	31 (93.94%)	60 (83.33%)
Missing				9 (12.50%)

Table 46. Exclusive breastfeeding on discharge from hospital, per country

	NL	UK	GR	TOTAL
No	1 (10%)	8 (40%)	16 (48.48%)	24 (33.33%)
Yes	9 (90%)	12 (60%)	17 (51.52%)	38 (52.78%)
Missing				10 (13.89%)

At 6 weeks postpartum, 96.9% (n= 32) of the neonates born in Greece were still breastfeeding. In the Netherlands and United Kingdom there are a lot of missing data for this variable, although 100% (n= 9) of the cases reported in United Kingdom and 66.6% (n= 2) of the cases reported in the Netherlands were still breastfeeding 6 weeks after birth.

Table 47. Breastfeeding at 6 weeks postpartum, per country

	NL	UK	GR	TOTAL
No	1 (33.33%)	0 (0%)	1 (3.03%)	2 (2.78%)
Yes	2 (66.67%)	9 (100%)	32 (96.97%)	43 (59.72%)
Missing				27 (37.50%)

Out of the infants breastfed 6 weeks after birth, exclusive breastfeeding was performed at 42.4% (n= 14) of the cases in Greece, 75% (n= 3) of the cases in the Netherlands and 66.6% (n= 6) of the cases on United Kingdom [Table 48]. Breastfeeding greater than the half of feeds 6 weeks after birth was reported in 72.7% (n= 24) of the cases in Greece, and 100% (n= 8) of the cases in the Netherlands and United Kingdom [Table 49].

Table 48. Exclusive breastfeeding at 6 weeks postpartum, per country

	NL	UK	GR	TOTAL
No	1 (25%)	3 (33.33%)	18 (54.55%)	22 (51.16%)
Yes	3 (75%)	6 (66.67%)	14 (42.42%)	23 (53.79%)
Missing				0 (0.00%)

Table 49. Greater than 50% of feeds breastmilk at 6 weeks, per country

	NL	UK	GR	TOTAL
No	0 (0%)	0 (0%)	9 (27.27%)	9 (20.93%)
Yes	2 (100%)	8 (100%)	24 (72.73%)	34 (79.07%)
Missing				0 (0.00%)

3.1.5. Contact with the multidisciplinary team of experts

Previous contact with healthcare professionals

Regarding the previous contact with a healthcare professional during the current pregnancy, rates are different between countries. In Greece, the majority of the women included in sample had a previous contact with a HCP in the same country, but in a different region (65.6%, n=21) and only one woman had contact with a HCP in another country (3.1%, n=1), whereas on United Kingdom almost all women (95.2%, n=20) did not had previous contact with a HCP during the current pregnancy. For the Netherlands, there were no data available for this variable.

Table 50. Previous contact with healthcare professional during current pregnancy, per country

	NL	UK	GR	TOTAL
Yes - same country, different region	0 (NaN%)	1 (4.76%)	21 (65.62%)	22 (30.56%)
Yes - another country	0 (NaN%)	0 (0%)	1 (3.12%)	1 (1.39%)
No	0 (NaN%)	20 (95.24%)	10 (31.25%)	30 (41.67%)
Missing				19 (26.39%)

Antenatal appointments

The number of antenatal appointments with health and social care providers (HCPs) differs between the three countries. In Greece, women visited the midwife on an average of 2 times during pregnancy, while in United Kingdom and the Netherlands, the average was 9 times and 12 times respectively. Regarding the other professions of the multidisciplinary team, the average number was lower, as shown in Table 51.

Table 51. Number of antenatal appointments with health and social care providers, per country

	NL	UK	GR
With a midwife, median (range)	12 (6,18)	9 (6,12)	2 (2,5)
With a physician, median (range)	1 (0,1)	3 (0,8)	1 (1,4)
With a GP, median (range)	1 (0,4)	4 (0,6)	1 (0,1)
With a social worker, median (range)	0 (0,0)	0 (0,4)	1 (1,3)

Postnatal appointments

Regarding the postnatal appointments with the multidisciplinary team, the average number of appointments with the midwives is the same between the Netherlands and United Kingdom (4 times). In Greece, women met the team 2 times during postpartum period. The average number of appointments with the other members of the multidisciplinary team postnatally are lower, as shown in Table 52.

Table 52. Number of postnatal appointments with health and social care providers, per country

	NL	UK	GR
With a midwife, median (range)	4 (2,9)	4 (3,8)	2 (1,3)
With a physician, median (range)	0 (0,2)	2 (0,21)	0 (0,1)
With a social worker, median (range)	0 (0,1)	0 (0,2)	1 (0,3)

3.2. Pilot assessment results

Health and social care providers

Design & Sample

The participants were health and social care providers (mainly midwives) who were involved in the ORAMMA multidisciplinary team.

Greece

Eight individual phone interviews were conducted to 5 midwives, 2 social workers and one obstetrician.

The Netherlands

There were 5 participants; 2 midwives, who were individually interviewed by phone and 3 midwives who participated in a focus group.

United Kingdom

There were 12 midwives interviewed.

Data collection

Data were collected through a semi-structured interview guide created by the ORAMMA team, based on expert opinion and literature review [Appendix 2]. The interview guide's topics were slightly modified, according to the needs of each country.

Results

For the assessment of the proposed model, the perspectives of health and social care providers who were involved in the ORAMMA multidisciplinary teams in the 3 countries were analysed according to the following dimensions:

1. Overall experience with the ORAMMA approach

Participants from all three countries thought that the ORAMMA project was a very good initiative which included a lot of challenges. The fact that this was a vulnerable group from a different cultural background, has led to a specialized approach which had to include empathy, understanding and respect at all times. Most of them pointed out the importance of providing care according to the specific needs of this target group. They also emphasized the added value of the MPS service to MAR mothers' care

In Greece, the basic barrier to maintain a continuous monitoring throughout perinatal period, was the difficulty to approach the target group during the postnatal period, since MAR women are not used to visit the doctor after giving birth, unless there was a problem.

2. Experience with Maternity Peer Supporter service

The presence of an MPS was vital as stated by the majority of participants; without them they would not be able to provide appropriate services. Where MPSs had attended with women, some midwives felt they improved communication and understanding of the woman's needs.

The gender approach was also pointed out by many midwives; the fact that the MPSs were females was positive, since MAR women do not feel comfortable around or are happy to collaborate with

male interpreters. One of the midwives believes that if it was not for the female MPSs, the women would never have used the ORAMMA project's services.

From the United Kingdom's participants, one midwife recounted that a woman was more confident in asking questions in the context of a trusting relationship that had been developed between the woman and the supporter, whereas another midwife felt that a woman shared much more when the supporter wasn't present as she seemed not to trust the peer supporter.

Among the barriers mentioned from the participants, one of the Greek midwives stated that the use of MPS sometimes caused problems, because in Greece, the duties and responsibilities of health care professionals are not clearly defined, and this can lead to misunderstanding and unexpected expectations regarding the tasks of an MPS. This opinion was also expressed by a participant from the Netherlands, who believes that there were challenges in the MPS knowing her task and the reconciliation between MPS and midwife. Many participants from the Netherlands also pointed out that there were cases where it cost a lot of effort to reach the MPS.

3. Experience with the ORAMMA training

All participants were positive about their experiences of the training. They felt that the training was relevant to their practice and that their learning would influence their care of recently arrived MAR women in the future. Many participants pointed out that the training helped them to understand the circumstances under which this group of women live, so to be able to provide appropriate care and advice.

In Greece, participants claimed that the training was adequate for the health and social care providers to understand the needs of the target population, and especially for those who have never worked with such populations before. Although, some of them expressed that for experienced staff, a more detailed training might have helped.

In United Kingdom, midwives who were trained according to the ORAMMA approach, particularly appreciated the cultural competency and trauma-aware care components. All but one of the midwives felt that the training had influenced their capability to provide adequate perinatal care to recently arrived MAR women. All the midwives felt that their knowledge of the legal and procedural aspects related to asylum claims and migration status had improved, however this was an area that several identified they would like the training to focus on in more depth.

In the Netherlands, midwives believe that training provided them with good advice, and they learned things that they could use in their daily practice. They also believe that the training helped them to understand better the MAR women's behavior and how they could make them feel more comfortable while providing care.

4. Recommendations for future improvement of the ORAMMA project

In Greece, participants stressed out the need for continuous care; the need to find ways to track and motivate MAR women to visit the midwives systematically during the perinatal period and especially after birth. The barriers faced when it comes to the hospitals in Greece should also be dealt with (i.e. bureaucracy issues). A great amount of the hospital staff was also not very friendly with the refugees, which makes the health professional's training on cultural competence even more important.

In the Netherlands, participants suggested the training to include more thematics, for example about communication issues. They also suggested for the training to be available for more HCPs,

since not every midwife has access to this kind of trainings, neither proper protocols exist. So, access to these trainings and good quality protocols would improve the care of MAR women during perinatal period.

In United Kingdom, the midwives agreed that they would benefit from further training and resources related to the needs of recently arrived pregnant MAR women. This included the need for more knowledge about the asylum process and what asylum seekers and other migrant women are legally entitled to in the UK in relation to financial support, accommodation and health services. They also identified the need for more information about which additional services and sources of support for practical needs are available for MAR women and how they, as midwives, could signpost women to these services.

Maternity Peer Supporters

Design & Sample

The participants were women from the MAR communities who were involved in the ORAMMA multidisciplinary team, as Maternity Peer Supporters (MPSs).

Greece

From the 6 MPSs involved in the project, 4 accepted to be interviewed face- to- face by a researcher of the ORAMMA team. The interviews were in Greek and lasted approximately 30 minutes. Written consent was provided, including permission for audio recording.

The Netherlands

Ten individual interviews were taken by a researcher of the ORAMMA team. The interviews were in Dutch and lasted between 22 and 49 minutes.

United Kingdom

A total of 14 Maternity Peer supporters participated in two focus groups, one held at the midway point of the project, and one held at the end.

Data collection

Data were collected through a semi-structured interview guide created by the ORAMMA team, based on expert- opinion and literature review [Appendix 2]. The interview guide's topics were slightly modified, according to the needs of each country.

Results

For the assessment of the proposed model, the perspectives of MPSs who were involved in the ORAMMA project in the 3 countries were analyzed according to the following dimensions:

1. Motivation to take part as an MPS in the ORAMMA project

Several of the MPSs in all 3 countries, identified that they were motivated to take part in the ORAMMA project because of their own personal experiences of being a recently arrived migrant in the hosting country in the past.

Some women also expressed an underlying sense of altruism which impacted on their decision to volunteer for the project. They find it important to help others where possible and felt sympathy and responsibility to these women. Besides, helping others made them feel better themselves as well.

Other women were keen to take part as they felt it was an opportunity to build their confidence, skills and experience, and to become more employable.

2. The role of the MPS during the pilot implementation

In all 3 countries, the MPSs described that they developed a relationship with the women they supported over the course of their pregnancy, and some described this relationship as a friendship, or kinship. They pointed out that they provided support based on the needs of the individual woman that was flexible and within their capability and capacity.

They described that they helped women overcome language barriers during the appointments with the multidisciplinary team, by facilitating the communication between women and midwives. They also help women to negotiate an unknown system in a new setting.

In Greece, MPSs described their role mainly as mediators. MPSs were accompanied women to all the perinatal appointments, where they facilitated the communication between the hospital's staff and the women. One MPS also mentioned that she used to have contact with the women via phone, since visiting the camp was very difficult. Most of the MPSs found very positive the fact that were 'matched' with a team of women, that was the same all the time. This made the facilitation of the conversation and interpretation easier, since they used to know each other, and women tended to feel more comfortable to express their concerns and feelings. Furthermore, one MPS believes that this also empowered women because, as she mentioned, women used to support each other in the team, about maternity related issues.

In the Netherlands, showing the pregnant MAR around in pregnancy, health and healthcare was considered the main task by most MPSs. To this end they provided information on subjects such as health in general, healthy food and eating patterns, pregnancy and labour, the Dutch healthcare system and taking care of a newborn child. However, they were reticent to give medical advices. Questions beyond their knowledge were submitted to the midwife or other HCPs, either by the pregnant MAR woman or the MPS herself. Many MPSs joined appointments with the midwife to translate, check whether the given information was understood and interpreted correctly, and to further clarify afterwards when necessary. Others only spoke to the midwife over the phone. Besides, several MPSs accompanied the pregnant woman to appointments with other HCPs such as physiotherapist and general practitioner. One MPS put a young family in touch with a circumcision clinic. Some were present during delivery as well.

In United Kingdom, some of the MPSs attended maternity care appointments with the women where they described their role in advocating for and empowering women in encounters with health professionals. Some MPS also felt they had the opportunity to build the women's confidence and help them to settle into a new community. The also described their role in promoting health and wellbeing of the women and their infants, by supporting care of the newborn and supporting women's infant feeding choices.

In both the Netherlands and United Kingdom, the MPSs provided practical support as well. They addressed women's individual practical needs, including accessing support to provide baby clothes and equipment and housing issues. They helped, for example, packing the bag for delivery in hospital and arranging maternity care for the first week after birth. Besides, they assisted with paperwork, contacting authorities and acquiring a social network. The MPSs also described their role in addressing the women's emotional needs, by discussing about women's fears and worries about pregnancy and safety.

3. Benefits of being an MPS

The MPS described their sense of personal satisfaction in having taken part in the ORAMMA project and supported recently arrived pregnant MAR women and that this has boosted their self-esteem. Gratitude expressed by the pregnant MAR increased their feeling of doing good even more and encouraged them to continue the guidance.

They also appreciated the opportunity to have a new experience and challenge and to learn. One MPS with medical professional background mentioned that being an MPS gave her the opportunity to recall her medical knowledge and stay in touch with the field of her studies. They also identified that they had had an opportunity to meet new people and learn about other cultures.

4. Barriers & facilitators of being an MPS

a. Facilitators

Speaking the same language was considered very important by most of the MPSs in all 3 countries. Clear communication is necessary to discuss complex and delicate subjects. Not understanding each other hinders the building of a relationship and gaining trust. Also, some MPSs found that being from different cultural backgrounds than the women they supported was challenging.

b. Barriers

Geographical distance between where they lived and where the woman they were supporting lived, was considered as a barrier by many MPSs in all 3 countries. Travel distance caused difficulties in making contact with the woman to initiate support and made it more time-consuming and expensive to meet each other during the perinatal period.

Since being an MPS was a volunteering job, many MPSs mentioned having struggles planning appointments with the pregnant women in their busy schedules. In some cases, they were not able to join midwife visits because of their job, study or family. Moreover, several MPSs would have wanted to invest more time in guiding a woman if they could.

Some MPSs also encountered unrealistic expectations from the MAR women about their role as an MPS, since the latest usually did not know their role and how much to expect of them. Another main issue recounted by many MPSs in Greece and United Kingdom was that some healthcare professionals did not understand their role as they were unaware of the project, disregarded them or expected too much from them.

Finally, some MPS found it challenging to deal with emotional issues and the hardship women recounted to them.

Migrant, asylum seeking and refugee mothers

Design & Sample

Participants were MAR women who were participating in the ORAMMA project.

Greece

Thirteen individual interviews were conducted by a female midwifery researcher in December 2018 and January 2019 at the camps where women live. All the interviews were carried out with the help of a female mediator, not related to the MPSs, so that women's answers to be objective. Questions were made in Greek. The answers were given in Arabic (11) or Farsi (2) and translated in Greek by the mediator. All interviews lasted between 30-40 minutes. Informed consent was obtained for all women, including permission for audio recording.

The Netherlands

Twelve individual interviews were conducted by a female researcher in June and July 2018 at the homes of the MAR women. Most interviews were carried out with the help of an interpreter (9), two interviews were held in Dutch and one in English. All interviews lasted between 40-70 minutes. The participants were informed about this part of the ORAMMA project by the MPSs. The interviews with the MAR women were planned in collaboration with the MPSs who were contacted by the researcher by phone or email. The MPSs were asked to arrange an interpreter for the participants with limited Dutch or English language skills, preferably not themselves. All the contacted MAR women were willing to participate in an interview and written consent was provided, including permission for audio recording.

United Kingdom

A total of four women participated in a focus group facilitated by a member of the research team and an interpreter, and three women participated in an individual face-to-face interview with a member of the research team and an interpreter at the end of the project and shared their experiences of having support from an MPS and their experiences of maternity care as part of ORAMMA project.

Data collection

Data were collected through a semi-structured interview guide created by the ORAMMA team, based on expert- opinion and literature review [Appendix 2]. The interview guide's topics were slightly modified, according to the needs of each country.

Results

For the assessment of the proposed model, the perspectives of pregnant women who were offered care according to the ORAMMA Approach in the 3 countries were analyzed according to the following dimensions:

1. Overall experience with the care according to the ORAMMA approach

In general, women who were provided with care according to the ORAMMA approach, were all satisfied. They pointed out the friendly environment and that the HCPs who provided care tried to make them feel comfortable.

In Greece, women also valued that all the maternity services were offered at the same place, the same day, since moving from the camp to the town center was not easy for them, while some other

considered as negative that they had too many appointments with the HCPs throughout pregnancy, something completely different from what they were used to in their countries.

In United Kingdom, some women felt that care was better than their home country and highlighted that the cost of care stopped some people attending. Others felt they had more care in their home country if they were able to pay.

2. Experience with the midwifery- led continuity care model

During the research, all women were positive about their experience of care from a midwife, valuing their friendly attitude and the provision of continuity of care. They also highlighted the quality of care they received and pointed out that having taking care from the same HCPs, increased their security. Women tended to build a very strong relationship with the midwives and felt that they had confidence to share things like talking to very close person.

Regarding the provision of care throughout perinatal period, women also valued a midwife who explained things, since this made them feel safe and that they are actively enrolled in the decision-making process.

Another aspect that women considered as very important was the gender dimension. They mention that the fact that having midwives -who were all females- taking care of them, made them feel comfortable and relieved. They pointed out that they could speak more easily to a female about maternity- related issues, rather than to a male HCP.

A main issue that women also valued was the respect to their privacy and their culture that midwives showed to them during the provision of perinatal care.

On the other hand, women sometimes encountered problems understanding telephone interpreters who were used to facilitate appointments with the midwife. Some women also encountered midwives who were unfriendly and lacked compassion while they were in hospital.

3. Experience with Maternity Peer Supporter service

Women felt that being matched with an MPS was beneficial and appreciated the MPSs were available for them during the appointments. All women described their contact with the MPS as good and supportive. They also pointed out the gender dimension, since they found very important that MPSs were women, thus they felt more comfortable to talk about maternity related issues in front of them.

Regarding the contact with the MPSs, often women reported that used to telephone to them, in case of questions or problems, which they really appreciated. In addition, the women reported that the MPSs responded quickly to questions and was always involved in their situation. As to the beginning of the contact with the MPSs, many women would prefer to be matched with the MPSs earlier in their pregnancy, so they could be able to benefit from their informative, practical and social help to the greatest extend.

Some women identified areas of disappointment with the MPSs which included the lack of their availability and when they gave advice in inappropriate ways.

a. Improving access to care and communication

The women reported that the MPS was a source of information in a new place. They found very important that MPSs were talking not only the same language with them, but also the language token to the host country, so they could help them overcome the communication barriers. Women

also appreciated that MPSs were familiar with the healthcare and social services in the host country and could accompany them to their appointments and assist them more than interpretation.

Regarding the communication with the HCPs, women pointed out that MPSs had a lot of knowledge on maternity related issues and were able to understand the medical terminology so they could facilitate the conversation with the midwives and other health and social care providers. Thus, women felt secure and confident about the care that was provided to them.

b. Informational and practical support

Women mentioned that the MPSs provide information about pregnancy, parenting and other related issues. Besides that, the MPSs share their own experiences and give advice, which is very much appreciated by the pregnant women, who see them as a close contact.

The MPS also supported women with breastfeeding and promoted bonding between women and their infants during the perinatal period. Women also appreciated practical support from the MPS which included assistance with housing, sorting out bills and benefits and getting equipment and clothing for the baby.

c. Emotional support

Besides the educative and practical help, the social and emotional support is an aspect that is very much appreciated by the pregnant women. Most of them mentioned that their social network in the host country is limited, with no or only a few family members living around. This, in combination with the language barrier, made them feel lonely and insecure about their pregnancy. The fact that the women could count on the MPSs for help in case of pregnancy related problems, for emotional support and questions any time made them feel calmer and more confident with their pregnancy.

Emotional support was valued during stressful family situations and this support also encouraged the women to build relationships with others. Women also referred that MPSs also helped them overcome their fears regarding pregnancy, labor and motherhood, by reassuring them.

d. Sharing the same language

Most women believed that the MPSs' help is more effective when they share a common language. The women felt that shared culture was valuable.

Although, most women considered the country of origin as not important, as long as good communication was possible. They think that the support from an MPS with a different migrant background, who speaks the same language, is as valuable as from an MPS with the same cultural background.

Moreover, women also mentioned that except the same language and the common cultural background, the attitude of the MPS was more important to them.

e. Empowerment for health seeking behavior- assessing to maternity services

The MPSs helped women increase their confidence, regarding health-related issues and assess to maternity healthcare services.

4. Added value in maternity care

During the implementation of the project, there were women that felt so empowered and built their confidence so much, that could act as "propagating keys", by providing advice on maternity related issues, access to healthcare services and spreading health messages to their social circle.

4. DISCUSSION

In total 72 pregnant women were included in the ORAMMA pilot implementation study. They were mainly refugees (34.7%, n=25) between 17 to 40 years old (average age GR: 26, NL: 27, UK: 29), mostly originated from Syria (GR: 63.6%, n= 21; NL: 44.4%, n=8; UK: 14.2%, n= 3). Almost all of them had a partner (GR: 84.8%, n=28; NL: 100%, n=14; UK: 95.2%, n=20) and living with this partner (GR: 100%, n=28; NL: 100%, n=14; UK: 85%, n= 17) at their majority in a refugee camp (29.17%, n=21) or to a self-paid rented apartment (23.6%, n= 17). The age of the partners was 19 to 53 years old. The partners in Greece were the older among the 3 countries (average age 35 y.o. vs NL: 31, UK: 33).

Fifty-one of the participants in the study (70.8% of total population) have never smoked or they are living in a smoking environment (GR: 54.5%, n=18; NL: 85.7%, n=12; UK: 100%, n=21), while most cases of passive smokers were noticed in Greece, where 11 out of 33 women were living in a smoking environment (33.3%). Furthermore, only one case of alcohol consumption was recorded in UK. In general, the cases of no-prescription drug or herbal remedies users were few (GR: 4.4%, n=3; NL: 1.4%, n=1; UK: 0%; n=0).

For 30 women participating in the ORAMMA study (41.6% of total population) the contact with the multidisciplinary team of the ORAMMA project was **their first contact with an HCP during the current pregnancy**. This was the case for the majority of the study population in United Kingdom (95.4%, n=20), whereas, in Greece, the majority had a previous contact with an HCP in a different region (65.6%, n=21). That is why in camps and first reception areas, health and social care services are provided to all MARs. Women, whom the contact with the ORAMMA team was their first contact with an HCP, account for 31.2% (n=10) of Greece's sample. For the Netherlands, there were no data available for this variable.

The Oramma pilot implementation took place in 3 countries. Among the main differences in these countries study population characteristics were: the average time of stay in hosting country, the migration status of MAR mothers and the type of accommodation. Specifically, the time of stay in Greece was the shortest, ranging between 1 month to 3 years and 1 month, with the average time of stay to be 9 months. On the other hands, the longest time of stay was recorded in the Netherlands, where an average time of 2 years and 2 months was recorded, ranging between 6 months to 4 years and 5 months. In United Kingdom, there is an intermediate situation, with an average time of stay equal to 10 months, with a range between 4 months, to 3 years and 7 months. Women in Greece are mainly asylum seekers (57.5%, n= 19) and refugees (36.3%, n= 12). In the Netherlands and UK, the majority are spousal migrants (61.5%, n= 8 and 42.8%, n= 9 respectively), while the rates of asylum seekers and refugees are lower (38.4%, n= 5 and 38.1%, n= 8 respectively). Also, the type of accommodation differs a lot, since in Greece, more than half of the sample lives in a migrant/refugee camp (63.4%, n= 21), while in the Netherlands and United Kingdom none of them do. In these countries, women live in apartments. More specifically, in United Kingdom the majority of these houses are paid by the state (38.1%, n= 8) on the contrary, in the Netherlands the majority of these houses are self-paid (64.2%, n= 9).

Regarding the prenatal data, the majority of women in the Netherlands and United Kingdom was pregnant for the first time (33.3%, n= 6 and 42.9%, n= 9 respectively), while in Greece, the majority was in their third pregnancy (24.2%, n= 8). Also, in Greece, 7 out of 33 women (21.2%) got pregnant more than 4 times, while in the other two countries there was only one case recorded for each country. It is worth noting that in Greece there was one case where the woman got pregnant 10 times.

The week of gestation at booking appointment ranged between 5 weeks to 35⁺³ weeks, with the average GA for each country being 7⁺⁶ weeks (range 5 – 17⁺³ weeks) for the Netherlands, 8⁺⁵ weeks (range 6⁺³ - 24⁺⁴ weeks) for the United Kingdom and 22⁺³ weeks (range 11-35⁺³ weeks) for Greece.

During the ORAMMA pilot implementation, 25 women had complications in their current pregnancy (34.7% of total population), with rates remaining low among all 3 countries (GR: 33.3%, n=11; NL: 16.6%, n=3; UK: 52.3%, n=11). The most frequent reported complication was gestational diabetes (6 cases), followed by antepartum bleeding (4 cases) and urinary and/or vaginal infections (3 cases). Regarding the gestational diabetes, out of the 43 pregnant women (59.7% of total population) who had undertaken glucose tolerance test, 8 (18.6% of total population) were diagnosed with the disease. Anaemia was also found to 16 pregnant women (22.2% of total population) at the booking appointment. Mental health disorders had been reported by 15 women (20.8% of total population). 2 women in United Kingdom reported history of female genital mutilation (9.5%).

During intrapartum period, 61 women (84.7% of total population) gave birth in a hospital (GR: 100%, n=33; NL: 61.5%, n=8; UK: 100%, n=20). In the Netherlands, there was one case (7.6%) reported that had home birth and 4 cases (30.7%) that gave birth in an alongside birth centre. The gestational age at birth ranged between 34⁺⁶ to 41⁺⁴ weeks, but the average GA was quite similar among the three countries (GR: 39⁺¹ w, range 36⁺² - 41⁺¹; NL: 40 w, range 38⁺³ - 41⁺⁴; UK: 39⁺⁴ w, range 34⁺⁶ - 41⁺⁴). Out of the 72 women included in the study, 35 (48.6% of total population) gave birth vaginally, and 25 (34.7% of total population) gave birth with caesarean section. There were 6 cases of instrumental birth reported (8.3% of total population). The highest rate of vaginal birth was recorded in the Netherlands (53.8%) and the highest rate of caesarean sections was recorded in Greece (42.4%).

From the neonates born during the pilot implementation, 4 (5.5% of total population) were born premature. Twelve neonates (16.6%) had to be admitted to SCBU/ NICU, while 3 (25%) had been born premature or SGA. The length of stay in SCBU/ NICU was different among the countries; the longest length of stay was reported in United Kingdom (9 days, range 1-17 days), followed by Greece (8 days, range 1- 17 days) and the Netherlands (4.5 days, range 1-8 days).

Regarding the postpartum data, initiation of breastfeeding after birth happened for 57 women (79.1% of total population). At discharge from hospital, 60 women (83.3% of total study population) were breastfeeding and 52.7% (n=38) were performing exclusive breastfeeding. Breastfeeding rate fell during the sixth week postpartum to 59.7% (n=43) and the exclusive breastfeeding rate fell to 31.9% (n=23). Although, Among the women who breastfed, 47.2% (n=34) reported more than 50% of breastmilk feeds per day.

Great heterogeneity was noted among the countries, regarding the day of maternal hospital discharge after birth, which may be related to the healthcare system the pilot implementation took place. Specifically, in Greece, the majority of the sample (72.7%, n=24) was discharged during? the 4th day after birth, which is a common practice among the maternity wards in the country.

It is generally known that ethnic minority groups underuse both perinatal programmes and midwifery care. The ORAMMA project, can therefore be considered a success, as it was effective in providing access care to the usually hard-to-reach maternity health care services. This success can be attributed specifically to the **involvement of the MPSs**, who spoke the same language with the MAR mothers and had the same cultural background.

The programme was evaluated as highly acceptable and satisfactory by the participants; the MAR mothers, the MPSs and the HCPs. The **cultural appropriate and individualized care** provided by the

members of the ORAMMA multidisciplinary team, as well as the support provided by MPSs, was identified as a success factor for the implementation of the ORAMMA approach by all 3 groups. The midwifery- led continuity model was appreciated by MAR mothers because it offered quality, stability and cultural appropriateness of services. As evidenced by the participants' confessions in all 3 groups, the confidential atmosphere created by both the midwives and the MPSs, enabled the information of the MAR mothers about healthy lifestyles and the discussion of their feelings during and after pregnancy.

The average number of total appointments during antenatal and postnatal period, as well as the low dropout rate (18.1%, n= 16), indicates that, apparently, the HCPs were able to overcome the lack of interest and trust that has formerly been identified as a barrier by MAR women, and also achieved the **provision of continuity of care** throughout the perinatal period. An issue that is usually found to be a problem among the target population.

A significant factor also evidenced by the confessions of the participants across all 3 groups as the key for the successful implementation of the ORAMMA approach, was the **gender dimension**; both midwives and MPSs were women, which made the MAR mothers feel more comfortable to discuss about maternity related issues.

The role of the MPS was described as a mediator, who not only helped MAR women to overcome language barriers during the appointments, but also helped them negotiate an unknown system in a new setting. Their contribution, as peer supporters, was also recognized, primarily by MAR women, who felt benefitted and empowered by using this service, but also by HCPs, who valued vital the presence of an MPS during the appointments, in order for them to provide appropriate services and understand MAR women's needs. MPSs also believed they developed a fellow relationship with the MAR women they supported, which extends to emotional and practical support, except of just bridging the language gap between MAR women and HCPs. MPSs also identified some barriers in implementing their role, including; (1) the distance between places they and the woman that they supported lived, (2) the volunteering aspect of being a MPS, that prevented them from dedicating time to women, as they had to work elsewhere and finally (3) the unrealistic expectations from both MAR mothers and HCPs they had to deal with.

Collaboration between HCPs and MPSs was pointed out as necessary to create optimal care. By discussing problems and sharing information about the MAR mother they provided care and support. However, our study also revealed that introducing MPSs into midwifery care, may be complicated by unfavourable opinions regarding the specification of the MPS's task.

5. CONCLUSIONS

The ORAMMA project included different and varied healthcare systems, as well as different profile of MAR women. Our study showed very interesting results regarding baseline variations in perinatal health of MAR women in 3 different EU countries and tested the feasibility of implementing an integrated perinatal care model in these 3 different settings.

These achievements can be seen as a welcome first step in improving health among MAR mothers, not just because of their relatively unfavourable risk factor profile, but also because of the cultural and language barriers that may encounter with the health and social care services. The involvement of maternity peer supporters with a similar ethnic background may be vital in overcoming cultural and language barriers and creating a confidential atmosphere. Besides, by introducing MAR women to standard maternal and infant care services, such programmes could also serve as an instrument for tracing high-risk women and for referring them to specialized services. Thus, a culturally sensitive integrated perinatal programme may be well-received and potentially effective in creating change.

The ORAMMA approach could, however, benefit from some improvements:

- To ensure the sustainability of the project, ways to recruit more maternity peer supporters must be explored. One suggestion would be to empower the MAR women who have been helped by an MPS and benefitted from it, to go on and become MPSs themselves. Although, to achieve that, there is a need to establish the role of the maternity peer supporter outside the sphere of voluntary work.
- Introducing protocols in which high-risk MAR women can also be referred to programmes tailored to specific risk factors like smoking, serious depression and domestic violence could improve the services provided by the project. MPSs may serve as an essential intermediary in this respect, because of their frequent contacts and confidential relationship with the participants.
- Another improvement is related to the reluctance of partners to participate in pregnancy programmes, for instance because they generally do not see pregnancy, birth and infant care as being in their sphere of responsibility. Ways to mentor them must be explored.
- Group classes implemented inside the MAR communities during postpartum period, to address topics like infant care, feeding and contraceptives, could be a valuable addition to the currently programme and also ensure the continuity of care.

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Appendix 1

Data collection form

Part 1: Participant demographics

Maternal		
101	Mother's Age at booking	_____ Years
102	Marital Status	1. Single 2. Married / civil partnership 3. Co-habiting 4. Divorced 5. Widowed 6. Other _____
103	Educational level	1. No formal education 2. Primary school 3. Secondary/high school 4. Undergraduate university education 5. Postgraduate university education 6. Other _____
104	Can read / write in own language	Yes / No
105	Can read / write local language	Yes / No
106	Occupation of woman in country of origin	_____
107	Current occupation of woman	_____
108	Employment status	1. Unemployed / housewife 2. Employed part time 3. Employed full time 4. Student 5. Sick 6. Retired 7. Voluntary 8. Not currently entitled to work 9. Other - please specify _____
109*	Race / Ethnicity	_____
110	Faith / religion	_____
111	Country of birth	_____
112	Length of time in current country	_____ years _____ months

113*	Migration status	1. Refugee 2. Asylum seeker 3. Failed asylum seeker 4. Economic migrant 5. Spousal migrant 6. Education visa 7. Undocumented migrant 8. Other _____
114	First language	_____
115	Other languages spoken	_____
116	Interpreter required	Yes / No
Partner		
117	Is baby's father a blood relative	Yes / No / Unknown
118	Does the woman have a partner?	1. yes 2. No (please go to part 2)
119	Currently living with partner	1. Yes 2. No, living in separate accommodation 3. No, living in separate country
120	Age of partner	_____ Years
121	Educational level of partner	_____
122	Occupation of partner in country of origin	_____
123	Current occupation of partner	_____
124	Employment status	1. Unemployed 2. Employed part time 3. Employed full time 4. Student 5. Sick 6. Retired 7. Voluntary 8. Not currently entitled to work 9. Other - please specify _____
125	Race / Ethnicity of	

	partner	_____
126	Faith / religion	_____
127	Country of birth of partner	_____
128	Length of time in current country of partner	_____ years _____ months
129*	Migration status of partner	1. Non-migrant - born in country of residence 2. 2nd generation (or higher) migrant – born in country of residence 3. Refugee 4. Asylum seeker 5. Failed asylum seeker 6. Economic migrant 7. Spousal migrant 8. Education visa 9. Undocumented migrant 10. Other _____

Social history	
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Questions	Choices/Answers
201* Housing	1. Detention centre 2. Migrant / refugee camp 3. Rented on own / with family – paid for by state 4. Rented shared accommodation (non-family) – paid for by state 5. Rented – paid for by them self 6. Living with family / friends 7. Housed by an individual who is not a family member / friend 8. Other - please state _____
202 Social security payments in receipt of:	Please state _____ _____
203 Smoking status	1. Never smoked – not living in a smoking environment 2. Never smoked – living in a smoking environment 3. Smoked prior to pregnancy Quit date: Day Month Year 4. Smoker Number smoked/day _____
204* Alcohol intake prior to pregnancy	1. Never drink 2. _____ units/week
205 Current alcohol intake	1. Never drink

		2.	units/week
206a	Non-Prescription drugs - herbal remedies	1. No	
		2. Yes.	
		Please state	_____

206b	Non-Prescription drugs - street drugs (eg cannabis, heroin, glue, marijuana, amphetamines etc)	1. No	
		2. Yes.	
		Please state	_____

207	Are they/have they received treatment for addiction	1. No	
		2. Yes.	
		Please state	_____

Medical history			
208	Past medical history	1. No	
		2. Yes.	
		Please state	_____

209	Past mental health history	1. No	
		2. Yes.	
		Please state	_____

210	Current medication at first antenatal appointment	1. None	
		2. Yes.	
		Please state	_____

Obstetric history				
211	Number of pregnancies (including this one)			
212	Number of previous deliveries (over 24 weeks)			
213	Number of previous deliveries in country of residence			
214	Expected due date according to ultrasound scan	Day	Month	Year
215	Any complications in previous pregnancies/births (please indicate all appropriate answers)	1.No previous births 2. No complications 3. Loss of pregnancy prior to 20 weeks 4. Cholestasis 5. Pre-eclampsia/eclampsia/HELLP 6.Gestational diabetes 7. Placenta accreta/praevia 8. Caesarean section 9. Bleeding requiring blood transfusion during antenatal, intrapartum or postnatal period 10. Pre-term birth (<37 weeks) 11. Small for gestational age / birthweight <2.5kg infant 12. Thromboembolism 13. Other - please state _____		
216	Have you had any contact during this pregnancy with professionals in another place?	1. Yes, in this country but a different region 2. Yes, in a different country 3. No		
Antenatal data				
301	Gestation at booking (in weeks and days)		weeks	days
302	Height (in cm)		cm	
303	Weight at first ANC appointment (in kg)		kg	
304	Last recorded weight in pregnancy (in kg)		kg	
305	Gestation of last recorded weight		weeks	days
306	Folic acid taken prior to 12 weeks	1. Yes 2. No		
307	Total midwife antenatal appointments			
308	Total GP appointments			
309	Total physician antenatal appointments (eg obstetrician, gynaecologist, endocrinologist, cardiologist etc)			

310 Total social care appointments

311	HB at booking		grams/litre (g/l)
312	HB at 28 weeks gestation		grams/litre (g/l)
313	Were iron tablets prescribed during pregnancy?	1. Yes 2. No	
314	Was a glucose tolerance test undertaken?	1. Yes 2. No	
315	If yes to qu 314 - glucose tolerance test result	Fasting 2 hours	. mmol/l . mmol/l
Intrapartum data			
316	Place of birth (tick all appropriate)	Homebirth Hospital birth Free-standing birth centre Alongside birth centre Paediatricians/ neonatologist available at unit Obstetricians available at unit	
317	Mode of birth	Vaginal Caesarean Instrumental	
318	Analgesia in labour	1. None 2. Paracetamol/co-codamol 3. Entonox 4. Opiate (eg morphine, pethidine, diamorphine) 5. Epidural/spinal 6. General anaesthetic 7. Other _____	
319	Damage to perineum	1. None 2. 1° tear 3. 2° tear 4. 3° tear 5. 4° tear 6. Episiotomy 7. Labial tear 8. Vaginal tear 9. Other _____	
320	Tear requiring suturing	Yes / No	
321	EBL in ml		ml
322	Blood transfusion given	Yes / No	

323	If yes to qu 322. How many units of blood given?	units
324	Smoker at birth	Yes / No
325	Gestation at birth Eg 40 weeks +3 days	weeks days
326	Birthweight (in gram)	grams
327	Gender of baby	Female Male Unknown
328	Infant status	Live birth Still birth
329	APGAR score	1. score at 1 minute 2. score at 5 minutes
330	Special care baby unit (SCBU) or neonatal intensive care unit (NICU) admission	Yes / No
331	If yes to Qu 330 - reason for admission to SCBU/ NICU	Please state _____ _____
332	Length of stay in SCBU/ NICU	days
333	If given birth in hospital - Day of discharge of woman	1. Same day as birth 2. Day 1 3. Day 2 4. Day 3 5. Day 4 6. Other _____
334	Breastfeeding initiation after birth	Yes / No
335	Any breastfeeding at discharge if given birth in hospital	Yes / No
336	Exclusive breastfeeding on discharge from hospital	Yes / No
337	Phototherapy for Jaundice	Yes / No

Postnatal data

338 Total number of midwife visits once discharged/ after homebirth

339 Total number of physician visits

340 Total number of social care visits

341 Readmission - maternal Yes / No

If yes, for what? _____

342 Readmission - infant Yes / No

If yes, for what? _____

Current pregnancy complications

- 343** Any complications in current pregnancy / birth (please indicate all appropriate answers)
1. No complications
 2. Loss of pregnancy prior to 20 weeks
 3. Cholestasis
 4. Pre-eclampsia/eclampsia/HELLP
 5. Gestational diabetes
 6. Placenta accreta/praevia
 7. Bleeding requiring blood transfusion during antenatal, intrapartum or postnatal period
 8. Thromboembolism
 9. Other - please state _____

6 week follow-up

344 Any breastfeeding at 6 weeks Yes / No

345 Exclusive breastfeeding at 6 weeks Yes / No

346 Greater than 50% of feeds breastmilk at 6 weeks Yes / No

Appendix 2

Interview guide for Health and Social Care Providers

1. What are your experiences of the ORAMMA project?
2. What did you think about the ORAMMA training package?
 - a. *Were there any parts that were particularly useful?*
 - b. *Were there any parts that weren't particularly useful?*
 - c. *Is there anything else you wish had been covered in the training?*
3. What were your experiences of working alongside maternity peer supporters?
 - a. *What were the benefits of working alongside a maternity peer supporter?*
 - b. *What were the challenges of working alongside a maternity peer supporter?*
4. What are your experiences of caring for migrant / refugee women?
 - a. *Are there any further resources you would like to see available to help you care for these women?*
5. Do you have any further comments you would like to make about the ORAMMA project?

Interview guide for Maternity Peer Supporters

1. What were your reasons for becoming a maternity peer supporter?
2. Prior to meeting any clients what were your expectations of being a maternity peer supporter?
3. What did you think about your training to become a maternity peer supporter?
 - a. *Were there any parts that were particularly useful?*
 - b. *Were there any parts that weren't particularly useful?*
 - c. *Is there anything else you wish had been covered in the training?*
4. What was your experience of being a maternity peer supporter?
 - a. *During the antenatal period?*
 - b. *During the birth?*
 - c. *After you had had your baby?*
5. Could you tell me about any parts you particularly liked about being a maternity peer supporter?
 - a. *Why did you like those parts?*
6. Could you tell me about any aspects you found challenging about being a maternity peer supporter?
 - a. *Why did you not like those parts?*
7. Do you think your support as a maternity peer supporter started at about the right time for the woman?
8. Was your role as a maternity peer supporter ever misunderstood by the woman?
9. Were the women you supported the same ethnicity as you?
 - a. *What were the benefits of being a maternity peer supporter to women of the same ethnicity?*
 - b. *What were the disadvantages of being a maternity peer supporter to women of the same ethnicity?*
 - c. *What were the benefits of being a maternity peer supporter to women of a different ethnicity?*

- d. *What were the disadvantages of being a maternity peer supporter to women of a different ethnicity?*
- 10. Were your expectations of being a maternity peer supporter met?
- 11. Did your role as a maternity peer supporter expose you to difficult experiences that affected you emotionally?
- 12. If you needed support as a maternity peer supporter, was support available?
- 13. Who did you get support from in your role as a maternity peer supporter?
- 14. What were your experiences of working alongside other healthcare professionals?
 - a. *Was your role as a maternity peer supporter ever misunderstood by other professionals?*
- 15. Did you encounter any barriers with signposting women to other services?
- 16. How did members of your community react to your role?
- 17. Do you have any further comments you would like to make about being a maternity peer supporters or about the ORAMMA project?

Interview Guide for migrant, asylum seeking and refugee mothers

- 1. How satisfied were you with your care overall?
- 2. What was your experience of having a maternity peer supporter involved in your care?
 - a. *During the antenatal period?*
 - b. *During the birth?*
 - c. *After you had had your baby?*
- 3. Could you tell me about any parts you particularly liked about having a maternity peer supporter?
 - a. *Why did you like those parts/ how were they beneficial?*
- 4. Could you tell me about any aspects you didn't like about having a maternity peer supporter?
 - a. *Why did you not like those parts?*
- 5. Did support from the maternity peer supporter start at about the right time?
- 6. Did the maternity peer supporter increase your knowledge around pregnancy, childbirth and looking after your child?
 - a. *If yes, can you give some examples of this?*
- 7. Did the maternity peer supporter increase your confidence around pregnancy, childbirth and looking after your child?
 - a. *If yes, can you give some examples of this?*
- 8. Was the maternity peer supporter the same ethnicity as you?
 - a. *What are your thoughts about this?*
- 9. Overall do you think there was a benefit in having a maternity peer supporter?
- 10. What was your experience of the care you received by midwives?
 - a. *During the antenatal period?*
 - b. *During the birth?*
 - c. *After you had had your baby?*

- d. Can you tell us two things you liked about the care by your midwife?*
 - e. Can you tell us two things that could have been improved in the care you received by your midwife?*
11. What if anything do you think could be improved in the services you were offered during pregnancy, birth or after having our baby?
 12. Prior to this current baby had you previously accessed maternity services in this country?
 13. What were your experiences of accessing maternity services?
 14. If you got pregnant again would you know how to access maternity services?
 15. Did you require any social support e.g. housing, assistance with asylum applications?
 - a. Where or who did you get support from?*
 - b. Did you get the support you required?*
 16. Do you have any further comments you would like to make about your maternity care or the ORAMMA project?