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Abstract

Background: The healthcare system of the Islamic Republic of Iran provides special maternal health care services for mothers, regardless of their nationality.

Aim: This study, supported by the United Nations Population Fund, was conducted to review available data associated with health indicators of Afghan mothers living in Islamic Republic of Iran.

Methods: This descriptive study used data from the electronic registration system of the Maternal Health Office of the Ministry of Health and Medical Education on characteristics, morbidity and mortality among Afghan mothers in the Islamic Republic of Iran from 2017 to 2019. The data were analysed using SPSS version 23.0. Based on the results, we propose

interventions to improve health services for vulnerable Afghan mothers.

Results: There were 168 488 deliveries over the 3 years of the study (2017–2019). Deliveries by Afghan women increased from 3.4% in 2017 to 5.2% in 2019, and more than 70% of these Afghan women were vulnerable. Ten percent of deliveries among Afghan mothers were performed by traditional birth attendants. The rate of caesarean section among Afghan mothers was 30%. Maternal mortality ratio among the Afghan mothers was 43 per 100 000 for the 3 years.

Conclusion: Afghan mothers in the Islamic Republic of Iran use primary health care services provided for mothers in the country. However, healthcare delivery to these mothers is inadequate, although considered better than the care provided to Afghan mothers living in Afghanistan. We recommend targeted interventions to improve the health status of Afghan women living in the Islamic Republic of Iran.

Keywords: mother, migrants, health indicator, mortality, morbidity, births, Afghanistan, Iran

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Introduction

According to a WHO report (1) Afghanistan is among the countries with a high (500–999) maternal mortality ratio (MMR). This rate declined dramatically, by 56%, from 2000 to 2017. Obstetric haemorrhage, gestational hypertension, sepsis and active-phase arrest were reported as the most common causes of maternal death. Regional security problems, low access to

maternal health services, gender inequality, cultural barriers, inadequate numbers of female health staff, unequipped medical centres, adolescent pregnancy and a high illiteracy rate are factors that may threaten maternal health in Afghanistan (1).

In the last decade, as per a 2021 report by the Office of the United Nations High Commissioner for Refugees (UNHCR), the Islamic Republic of Iran hosted between 3 million and 4 million Afghan migrants, estimated to be 3.5–4.5% of the country's population. Approximately 780 000 of these migrants had residency permission; 2.1–2.25 million were undocumented; and 586 000 were passport holders. Fewer than 50% of the migrant population was female and about one-third of them were of reproductive age (2-4). Immigration due to food insecurity, resettlement, socioeconomic problems, discrimination, and cultural diversity may also worsen their condition and reduce the quality of their lives to below average (3,5,6).

The maternal health programme of the Islamic Republic of Iran is on track with the UN Sustainable Development Goals (SDGs), according to a WHO report published in 2019 (3). Its healthcare system provides special maternity health services for women during pregnancy and up to 42 days postpartum, regardless of the mother's nationality. The vision of the maternal health programme emphasizes well-qualified care provision for both Iranian and non-Iranian mothers.

Programming to improve the health status of pregnant immigrant women and to adopt appropriate interventions requires adequate knowledge of their health situation, health status problems, their level of access to health services, and the quantity and quality of supportive services, among other factors. In this regard, this study was conducted to review the available data associated with health indicators of Afghan mothers who lived in the Islamic Republic of Iran from 2017 to 2019. The results should help understand the situation of these women and stimulate actions to improve prenatal and postnatal outcomes for them.

Methods

In 2020, a descriptive study was conducted in the Maternal, Fetal and Neonatal Research Center affiliated with the Tehran University of Medical Sciences. Detailed data on Afghan mothers' demographic characteristics, morbidity and mortality from 2017 to 2019 were extracted from the electronic registration system of the Ministry of Health and Medical Education's Maternal Health Office (www.iman.health.gov.ir). In 2011, the ministry designed and launched this electronic system, named the Iranian Maternal and Newborn Network (IMANN), to register childbirth and neonatal data throughout the country.

The collected data were analysed using the SPSS version 23.0. Data related to the cause of maternal death, access to prenatal, intrapartum and postnatal healthcare morbidities among Afghan mothers were also extracted and used (7). Based on the results, interventions to improve health services for vulnerable mothers were proposed.

Ethical considerations

This study was conducted based on an agreement between the Ministry of Health and Medical Education-Maternal Health Office of the Islamic Republic of Iran and the United Nations Population Fund (see work plan GPS ID: 2020-157281).

Results

Statistics and data related to Afghan mothers

According to data extracted from the electronic health system, the number of deliveries across 3 years (2017–2019) was 168 488. The percentage of deliveries by Afghan women compared to the total deliveries increased from 3.4% in 2017 to 5.2% in 2019 (see Table 1).

The birth rates of Afghan immigrant and Iranian populations (2017–2019) are shown in Figure 1 .

From 2017 to 2019, the number of Afghan births (168 488) was equal to 4.2% of all births in Islamic Republic of Iran (4 015 347). Data related to the 3-year period indicate that these births were scattered across the country: 149 151 in urban areas (88.5%); and 19 303 births in suburbs and rural areas (11.5%). It is notable that immigrant mothers, particularly those without residency permission, lived in different provinces of the country.

The majority of the Afgan mothers (above 70%) was from the vulnerable group with low levels of literacy and a lack of access to social welfare; of all Afghan mothers who gave birth during this period, about 74% were illiterate or had low levels of education and approximately 80% were uninsured. Documented migrants could be insured through universal public health insurance by paying the premium fees, and UNHCR covered all costs for those considered as vulnerable. Vulnerable groups are those with special diseases (e.g. haemophilia, thalassemia, renal transplant, multiple sclerosis) and their family members. About 15% of mothers were aged below 18 or over 35 years and around 17% of them were grand multiparous. Preterm births accounted for 7.9% of all pregnancies (see Table 1).

Based on data extracted from the electronic health records, of the 63 universities of medical sciences in Islamic Republic of Iran, 16 reported 67% of Afghan births in–2018 and 2019. About 90.1% of all deliveries in 2019 and 89.5% in 2018 were performed by trained staff (specialists, midwives or general physicians). The percentage of deliveries performed by traditional birth attendants (TBA) was 10% among Afghan mothers (see Table 2).

Data related to the history of underlying diseases showed that hypertensive disorders were the most prevalent underlying disease (11%) among Afghan mothers (see Table 3).

Prenatal risk factors (addiction, anaemia, cardiac diseases, chorioamnionitis, chronic hypertension, diabetes, eclampsia, gestational diabetes, hepatitis, pre-eclampsia, pyelonephritis and thyroid dysfunction) can adversely affect maternal and neonatal outcomes. In the Islamic Republic of Iran, these risk factors were documented by the maternal health programme. The data on Afghan mothers with at least 1 prenatal risk factor between 2017 and 2019 were extracted from the electronic medical records (5.0%, 7.5% and 9.0%, respectively). The results suggest that risk detection improved each year (Table 4).

Islamic Republic of Iran is among the countries with the highest number of caesarean sections. The rate of caesarean section among Afghan migrant mothers (about 30%) was lower than the mean rate for Iranians mothers by about 50% (see Figure 2).

The rates of return to the operating room (other than for caesarean section), transfers to the intensive care unit, and severe labour/delivery-associated complications (like blood transfusions and third- or fourth-degree lacerations) were monitored in all maternity centres. In 2017, the rates of return to the operating room and reports of complications associated with labour/delivery were higher among Iranian mothers while there was no difference between Iranian and Afghan groups in the rate of transfer to the intensive care unit. When data were compared in 2019, transfer to the intensive care unit and maternal complication rates were slightly more frequent among Afghan subjects than Iranians (see Table 5).

Data indicate that the rate of immediate severe morbidity (e.g. massive haemorrhage, sepsis, uterine rupture) among Afghan mothers was about 2 times (3.78%) that of Iranian mothers (1.76%), usually due to higher parity, delay in noticing danger signs or delay in seeking medical care. For every Afghan maternal death, 94 immediate serious complications were reported.

In terms of maternal mortality, 24 Afghan mothers died in 2017, 24 in 2018 and 25 in 2019. The 3-year MMR for Afghan mothers in Islamic Republic of Iran was about 43 per 100 000 live births. The Iran National Maternal Mortality Surveillance System (NMMSS) showed that, in 2018–2019, only 22.5% of maternal mortality cases among Afghan migrants had residency permission (see Table 6).

Based on NMMSS, 43% of maternal deaths occurred in rural areas and suburbs (see Table 6). Of all Afghan maternal deaths during the 3-year period, 22% occured during pregnancy and 78% occurred postpartum. Moreover, 79.5%, 5.5% and 15.1% of all maternal deaths occurred in hospital, on the way to the hospital or at home, respectively.

Comparing the total number of Afghan deliveries, maternal death among 35 years or older was about 2.5 times higher than among 18 to 35 years. Based on the International Classification of Diseases (ICD-MM), the top 3 causes of maternal mortality are: in group 7, non-obstetrical causes (30%); group 3, bleeding (22%); and group 2, hypertensive disorders (11%). The various causes of maternal mortality among Afghan mothers in Group 7 are listed in Table 7 .

Discussion

Maternal morbidity and mortality, particularly in developing countries, remain a global challenge (8). MMR as a maternal health impact indicator is affected by diversities in communities, countries and regions. Migrant populations are 1 of the most vulnerable groups for maternal mortality and near-miss morbidities (9,10).

This study explored the health status of Afghan immigrant mothers in the Islamic Republic of Iran based on data extracted from existing electronic health registration systems. Mothers' characteristics, mortality and morbidity rates, and their distributions in the country, were assessed. We attempted to show the health status of the target population, identify predisposing risk factors to maternal mortality and morbidity.

According to the results, the birth rate among Afghan mothers increased from 3.4% in 2017 to 5.2% in 2019. These births were scattered across the country: 88.5% in the cities and 11.5% in the rural areas. It seems that resettlement of immigrants in the big cities of the host country provides an opportunity to access the Iranian health system, but a lack of knowledge about the availability of services at the health care centres may have deprived pregnant women of antenatal health services (10).

Based on the UNHCR report, about 2 million Afghan migrants in Islamic Republic of Iran were undocumented (11). Lack of documentation for these migrants may result in difficulties in seeking medical care, especially in hospitals. Primary health care in Islamic Republic of Iran is free for every mother, regardless of their nationality or residency permission. However, in-patient health care provision is not free in the public sector and the costs, especially for undocumented migrants, could be a major barrier to access. Without insurance, tariffs for non-Iranian mothers with or without residency permission are the same or higher than for Iranian mothers.

Beyond financial constraints, some undocumented women are reluctant to use free services in primary health care centres because of the fear of deportation. This fear is even more pronounced for childbirth. Although health centres and hospitals are obliged to issue delivery notes and birth certificates, even to undocumented persons in Islamic Republic of Iran, in practice these mothers may face problems in obtaining such certificates if their residency documents are invalid.

According to the study results, the majority of the study population was illiterate and not medically insured. Adolescent and geriatric pregnancies occurred in about 15% of mothers and multipara pregnancies (more than 4) were observed in 17% of mothers. Correlation between low levels of education, early first pregnancy and multiparity had been reported among Afghan migrants in Pakistan (12). Other studies confirm that illiteracy and low levels of education, adolescent and geriatric pregnancy, and grand multiparity are significant risk factors that can adversely affect the maternal health status of migrant populations (13-16).

According to the study results, the rate of Afghan mothers' home births or births in the presence of TBA in Islamic Republic of Iran was 10% over the 3 years. Bartlett et al had reported that 60% of all Afghan mothers in Pakistan had a delivery attended by untrained staff and that 52% delivered at home (12). These results highlight the role of skilled birth attendants in improving maternal health and reducing mortality rates (16).

Our data indicate that immediate severe morbidities, such as massive haemorrhage, pre-eclampsia, sepsis and uterine rupture, were about two times (3.78%) higher among Afghan mothers than their Iranian counterparts (1.76%). Mothers' lack of awareness about their complications and obstetric danger signs, delay in seeking maternity care, late referral to hospital, and late treatment may be responsible for this severe morbidity (17).

We observed the same types of complications among Afghan mothers and the Iranian population. Another study from Islamic Republic of Iran had reported that immediate severe morbidities, including haemorrhage, pre-eclampsia, eclampsia and sepsis, were the most common threats to mothers' lives (18). A study from Pakistan showed that obstetric haemorrhage, pregnancy-induced hypertension, puerperal sepsis, obstetric embolism and uterine rupture were the most frequent cause of near-miss morbidity among Afghan migrant mothers (12).

In 2015, WHO reported that caesarean section rates higher than 10% are often associated with higher maternal and newborn mortality rates. Our study shows that access to caesarean section by Afgan immigrant mothers (about 30%) was higher than the optimal rate. This may be due to Iran's high rate of caesarean section (about 50%) (19,20). In contrast to our findings, however, an investigation from Islamic Republic of Iran demonstrated that there was no significant difference in the rate of caesarean delivery (87.0% vs 73.0%; p=0.10) between 54 Iranian and 22 Afghan mothers (21). Since we used the national data for this study, we believe that our findings are more accurate.

Concerning maternal mortality, the results show that 8–10% of all maternal deaths in Islamic Republic of Iran during these 3 years were of Afghan mothers. The 3-year MMR for Afghan mothers in Islamic Republic of Iran was about 43 per 100 000 live births; this was much lower than the rate in their homeland, and almost 2.7 times the MMR in their host country.

These results are similar to the results of a 2014 meta-analysis, which showed that MMR among migrant mothers in Western Europe was twice that of the host population (22). The review also reported that maternal mortality among the migrant population was 1.5–3 times more than the rate for their host populations, which may be due to inability to access or late access to the healthcare system, lack of health insurance, poverty, delivery at home or delivery by unskilled birth attendants; and legal barriers such as undocumented migration (23,24).

A study in Pakistan demonstrated that Afghan migrants had a higher risk of maternal death than their host population (12). Another study showed that the rate of postpartum maternal death among foreign women in France was twice that of French women (25). Geriatric pregnancies, settlement in rural areas and lack of residency permission are notable characteristics that could increase the risk of mortality. The majority of maternal deaths (78%) occurred during the postnatal period.

An investigation of Afghan women's views of maternity care indicated that immigrant women in Australia were more likely to be "very satisfied" with intrapartum care than with postpartum care (70% vs 57%). Participants said that factors such as "doctors or midwives were too busy and less sensitive" and "waiting long times to be answered" could influence their satisfaction with postnatal maternity care (26).

Recommendations based on the study

WHO recommends a 3-step effort that includes assessing the structures, analysing the situation and implementing useful interventions to improve maternal health (27).

Considering that all health services for migrant mothers are provided in the context of the health system of the Islamic Republic of Iran, all programmes related to promoting the health of this population need to be integrated into the health and medical networks of the country. Plans to integrate programmes should consider priorities like high birth parity, delivery by untrained attendants, geriatric pregnancy, living in rural areas and pregnancy/delivery-related complications.

Afghan mothers under the Islamic Republic of Iran's primary health care system are using services provided for mothers by the host country; and their health status, although better than that of Afghan mothers living in their homeland, is different from Iranian mothers. We therefore recommend the following interventions to improve their health status:

1. Classifying migrant mothers as a high-risk group, especially those without residency permission and/or those living in areas with a high rate of homebirth/TBA childbirth;
2. Providing mandatory education about danger signs during the different stages of pregnancy and childbirth, with special attention to determining how and when to seek care;
3. Sensitizing mothers and care providers about their underlying and gestational complications;
4. Overcoming cultural barriers and providing better support by employing trained and qualified Afghan women (Afghan midwives and nurses educated in the Islamic Republic of Iran) for maternal health care provision;
5. Requesting UNHCR to add pregnant women to the list of vulnerable groups so they can access free health insurance and support.

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Competing interests: None declared.

Amélioration de l'état de santé des mères afghanes vivant en République islamique d'Iran

Résumé

Contexte : Le système de santé de la République islamique d'Iran fournit des services de soins de santé spéciaux destinés aux mères, quelle que soit leur nationalité.

Objectifs : La présente étude a été réalisée avec le soutien du Fonds des Nations Unies pour la population dans le but d'examiner les données disponibles associées aux indicateurs de santé des mères afghanes vivant en République islamique d'Iran.

Méthodes : La présente étude descriptive a utilisé les données issues du système d'inscription électronique du Bureau de la santé maternelle du ministère de la Santé et de l'Éducation médicale concernant les caractéristiques, la morbidité et la mortalité des mères afghanes en République islamique d'Iran entre 2017 et 2019. Les données ont été analysées à l'aide du logiciel SPSS version 23.0. À partir des résultats obtenus, nous proposons des interventions visant à améliorer les services de santé pour les mères afghanes vulnérables.

Résultats : Il y a eu 168 488 accouchements au cours des trois années de l'étude (2017-2019). Les accouchements de femmes afghanes ont augmenté, passant de 3,4 % en 2017 à 5,2 % en 2019, et plus de 70 % d'entre elles étaient vulnérables. Parmi les mères afghanes, 10 % des accouchements ont été pratiqués par des accoucheuses traditionnelles. Le taux de césariennes était de 30 %. Le taux de mortalité maternelle était de 43 pour 100 000 sur les trois années.

Conclusion : Les mères afghanes en République islamique d'Iran ont recours aux services de soins de santé primaires qui leur sont fournis dans le pays. Cependant, ces soins sont insuffisants, bien que meilleurs que ceux fournis aux mères afghanes vivant en Afghanistan. Nous recommandons des interventions ciblées pour améliorer l'état de santé des femmes

afghanes vivant en République islamique d'Iran.

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