SSM - Health Systems 5 (2025) 100128

Contents lists available at ScienceDirect

SSM - Health Systems

journal homepage: www.sciencedirect.com/journal/ssm-health-systems

Assessing antenatal care access among Afghan women migrants, refugees, and asylum-seekers in France: A mixed methods study

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ARTICLE INFO

Keywords:
Migrants
Refugees and asylum-seekers
Healthcare
Antenatal care
Afghan women
France

ABSTRACT

Despite the growing number of Afghan women migrants, refugees and asylum-seekers (AWMRA) in France, little is known about their access to maternal healthcare services. This study examines AWMRA's access to and experience of antenatal care (ANC) services in France. A convergent parallel mixed-methods design was employed, combining a quantitative online survey with qualitative in-depth semi-structured interviews and focus groups among AWMRA (18–49 years) who were pregnant or gave birth in France within the last 24 months. Data collection was conducted through snowball sampling supported by a participatory community network, involving 21 Afghan associations and over 100 community members. Framework analysis was applied to qualitative data, while quantitative data were analyzed using descriptive and inferential statistics. The two data components were analyzed separately and then merged for integration. The findings suggested that limited information on pregnancy-related healthcare services left many women navigating the health system on their own. Nearly one-third of participants reported incomplete ANC visits, with adverse outcomes reported by 15 %. From the system's perspective, long waiting times were identified as a barrier to completing ANC. Additionally, the lack of culturally sensitive care, confusing administrative procedures, discrimination, and inadequate interpreter services exacerbated these challenges. Despite these obstacles, some healthcare workers' efforts to ensure clear communication highlighted the potential for improving ANC completion. Improving access to linguistically and culturally tailored information, expanding interpreter services, and fostering culturally competent care are critical steps to support equitable ANC access for this population.

1. Introduction

For over five decades, Afghanistan has experienced continuous conflict and instability, leading to multiple waves of migration, making Afghans one of the largest refugee populations globally (Rajan, 2023). Historically, most Afghan refugees sought asylum in neighboring countries, with only a limited number reaching Europe (Rajan, 2023). However, this trend changed significantly after 2015, when Europe adopted more open refugee policies, coinciding with rising insecurities in Afghanistan (UNHCR, 2015). In recent years, the migration of Afghans has intensified, particularly following the collapse of the Afghan government in 2021. This event led to large-scale evacuations, with thousands of Afghan families resettling in Europe (Rajan, 2023). France, which already hosts one of the largest communities of Afghan asylum-seekers, received approximately 4000 Afghan refugees, 22 % of whom were women (Le focus Afghanistan Août, 2023).

Among women refugee populations, an estimated 6–14 % of them are pregnant, with Afghan women experiencing higher rates of pregnancy following migration (Sturrock et al., 2020; Farr and Merriam, 2019). Afghan women migrants, refugees and asylum-seekers (AWMRA) often face adverse pregnancy and maternal health outcomes in host countries due to multiple challenges, including low health literacy and limited prior access to healthcare in Afghanistan (Humphris and Bradby, 2017). They also have low levels of general literacy, with over 70 % of women being illiterate, a situation that has worsened in recent years due to prolonged conflict and repeated closures of girls' schools under the

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https://doi.org/10.1016/j.ssmhs.2025.100128
Received 1 April 2025; Received in revised form 27 July 2025; Accepted 21 August 2025
Available online 22 August 2025

Taliban regime (World Bank Open Data, 2024; Ahmad and Haqmal, 2023). This significantly undermines their self-esteem, limits their ability to learn, and poses additional challenges to their integration into the new society compared to other refugee groups from regions with greater access to education and gender equality (Bungay and Vella-Burrows, 2013; Oshodi, 2022).

Additionally, unlike other migrants, the majority of Afghan migrant families have been compelled to leave their country due to conflict and political instability, classifying them primarily as forced migrants or asylum seekers (Forced displacement - European Commission, 2025). Often they are not prepared, logistically and psychologically for their departure (Schapendonk et al., 2021). This distinction significantly influences their migration experience and subsequent integration to new sociocultural environments (Schapendonk et al., 2021). Some of them also endure complex and prolonged migration journeys involving transport in unsafe conditions, malnutrition, accidental injuries, and periods in detention centers or refugee camps, all of which significantly impact their health and well-being (Matsangos et al., 2022).

Limited research exists on AWMRA's access to healthcare services, mainly during pregnancy, but available data indicate that they face difficulties navigating the healthcare system, accessing information, and overcoming language barriers, hindering their access to essential healthcare services (Åkerman et al., 2019; Riggs et al., 2020; Sharma et al., 2024; Worabo et al., 2024). A research in Australia revealed that Afghan women refugees experienced a lack of social connectedness, feelings of isolation, and low health literacy, all of which negatively impacted their ability to access maternal health related information and care services (Riggs et al., 2020; Cheng et al., 2015).

In Europe, including France, refugee women often experience inadequate, delayed, or no access to antenatal care, and report higher rates of miscarriage, stillbirth, and perinatal mortality (Sturrock et al., 2020). Within the refugee communities, asylum-seekers reported even poorer maternal-self-rated health (Liu et al., 2019). However, there is limited nationality-based disaggregated data to fully understand the healthcare access and specific needs of different refugee groups, including AWMRA.

In France, despite the growing number of AWRA, there is a lack of studies examining their access to healthcare services during pregnancy. Therefore, this study aims to explore AWMRA's access to and experience of antenatal care (ANC) services in France.

2. Methods

All methods and results adhered to Consolidated criteria for Reporting Qualitative research (CORE-Q) checklist for qualitative and the Checklist for Reporting Results of Internet E-Surveys (CHERRIES) for quantitative (Eysenbach, 2004; Consolidated criteria for reporting qualitative research COREQ, 2024). The two components of data were collected and analyzed separately and then integrated following Mixed Methods Appraisal Tool (MMAT) (Annex A) (Hong et al., 2018). The Ethical Research Committee (CER) of University Federal- Toulouse Midi-Pyrenees approved the research protocol. Data collection and data protection procedures were carried out in accordance with the MR-004 reference methodology and the regulations of the French Data Protection Authority (CNIL).

2.1. Study design

A convergent parallel mixed-methods research design was employed, incorporating community-based participatory research (CBPR) approaches (Fetters et al., 2013). The method included a quantitative cross-sectional survey as well as qualitative semi-structured in-depth interviews and focus group discussions. This mixed-methods design was chosen due to its suitability to provide a comprehensive and complete understanding of AWMRA's access to ANC services (Hong et al., 2018). The CBPR approach was chosen as it focus on social and structural inequities and involving the voice of the community (Macaulay et al., 1999). Considering the difficulty to reach migrants, and the case of AWMRA where their husbands and in-laws frequently hinder their participation in research, establishing a large Participatory Community Network (PCN) was essential to bridge between the research team, and AWMRA and their families (Aglipay et al., 2015; Bekteshi et al., 2024).

2.2. Participatory community network

A voluntary PCN of over 100 Afghan community members, including 21 Afghan associations, was established exclusively for this research through coordination by the first author between September 2022 and September 2023. The network included AWMRA, community leaders, influential members (e.g., artists and journalists), social and healthcare workers, and interpreters, primarily based in Paris, Lyon, Strasbourg, and Toulouse. It was formed using snowball sampling, individual and group meetings (online and in-person), site visits, and participation in Afghan cultural events and informal women's gatherings. The PCN contributed to design, development and translation of data collection tools, distribution of the survey link, and identification of participants for qualitative interviews.

2.3. Conceptual framework

The research was guided by the conceptual framework of Levesque et al., which examines access as the result of the interaction between five dimensions of service accessibility (Approachability, Acceptability, Availability and Accommodation, Affordability, and Appropriateness) and five abilities of individuals (Ability to perceive, Ability to seek, Ability to reach, Ability to pay, and Ability to engage) (Annex B) (Levesque et al., 2013).

2.4. Setting and recruitment

The study focused on Paris, Lyon, Strasbourg, and Toulouse, while the quantitative online survey included participants beyond these cities. These locations were selected due to their high concentrations of refugees and asylum-seekers and the proximity of the research team, based in Toulouse (FINE, 2019).

2.5. Inclusion and exclusion criteria

The study enrolled Afghan women aged 18–49 years old who were pregnant or had given birth within the last 24 months in France. Participants were excluded from the study if they were under 18 years of age, had given birth more than 24 months prior to the survey, had a child under two years old but had not given birth in France, or did not provide informed consent or later withdrew it. These eligibility criteria were applied consistently across both the quantitative and qualitative components.

2.6. Data collection, management and analysis

Quantitative and qualitative data were collected in parallel between October 2023 and February 2024, following ethical guidelines (The Research Ethics Committee - CER and University of Toulouse, 2024). The two data components were analyzed separately and then triangulated by integrating their results to enhance the validity and depth of the analysis. Triangulation approach included methodological triangulation, through the parallel collection of survey and interview data, and investigator triangulation, involving multiple researchers in the qualitative coding and interpretation process, providing internal (culturally informed) and external viewpoints.

Quantitative

The quantitative questionnaire measured AWMRA's access to ANC services, including factors influencing access from both health system and patient perspectives (Levesque et al., 2013). It covered three main

areas: 1) Socio-demographic characteristics, including age, city of residence, country of birth, literacy level, education, languages spoken, proficiency in French, employment status, husband's employment and education status, cell phone ownership, current legal status (approved asylum request, pending asylum request, residence permit, or unknown), and health literacy (ability to read hospital documents: always/sometimes/never) (Technology C, 2022); 2) Pregnancy-related information, including number of pregnancies, current pregnancy status, knowledge of where to obtain contraception, willingness to have another child, and main sources of pregnancy-related information; and 3) Access to and use of ANC services, including number of ANC visits, understanding of information provided (always/sometimes/never), availability of interpreters (always/sometimes/never), travel and waiting times, perceived discrimination (ever experienced different treatment by healthcare providers due to language, culture, or refugee status: yes/no), satisfaction with services (satisfied, neither satisfied nor unsatisfied, unsatisfied), comfort with male healthcare providers and interpreters (always/sometimes/never), appointment scheduling, and out-of-pocket expenses (ever borrowed money for pregnancy-related costs: yes/no).

The open survey was designed in REDCap and translated into Dari (Afghan Persian dialect), Pashto and French (REDCap, 2025). The anonymous survey took 8–15 min and included sequential and conditional questions, with the option to review and modify answers. The questionnaire tested prior data collection. Women with lower literacy were encouraged to seek help from family, friends, or the research team. Participants accessed the survey via a link or QR code, accompanied by an information sheet outlining the objectives, steps, and support contacts.

Upon opening the survey and selecting their preferred language, participants were presented with the information sheet and a consent form in that language. At the end of the form, they were asked to indicate their informed consent. Those who selected "yes" were granted access to the survey, while those who selected "no" were automatically exited from the survey and labelled as incomplete.

Questions related to eligibility, such as current pregnancy status and date of last childbirth, were placed at the beginning of the survey, immediately following the consent form. These questions were mandatory, and participants could not complete the survey without responding. If a participant did not meet the eligibility criteria, the survey was automatically closed with a message indicating ineligibility. However, the age question was categorized into intervals (<18, 18–22, 23–27, 28–32, 33–37, 38–42 and >42 years), and was not mandatory. This labeling was informed by input from the PCN and observations during team-building sessions, where many participants expressed hesitancy in disclosing their exact age, often due to discrepancies between their actual age and the age recorded in official documents. To respect their comfort, avoid excluding eligible individuals, and reduce reporting errors, age was collected in categories and labeled as not mandatory. Participants under 18 and those with missing age data were excluded from the analysis, except in cases where completion of high school allowed a reasonable inference that they were over 18.

Participation in the survey was voluntary and no incentives were provided. The survey link with instructions were shared via WhatsApp and email, and follow-up reminders, with PCN, to disseminate it to AWMRA in their networks. Some members also made phone calls to AWMRA or their families to foster trust and increase participation. To expand participation, information sheets with the QR code were printed as posters and brochures and distributed to associations, health and social centers, Afghan restaurants, and Afghan supermarkets in all target cities. Data collection concluded when all PCN members had shared the questionnaire with all eligible women they knew, approximately one month had passed since the distribution of the last brochures and posters, and no new questionnaires had been added to REDCap for several consecutive weeks. The survey was anonymous to protect participants' privacy. At the end of the survey, participants were invited to express interest in follow-up qualitative interviews or focus groups by voluntarily contacting the research team through the provided contact details.

Data were transferred to R (version 4.4.1) for cleaning and analysis. Descriptive and inferential statistics were performed. For the descriptive analysis, data from all included participants were reported using frequencies and percentages. For the inferential analysis, only participants who had completed their pregnancy and responded to the question on the number of ANC visits were included, as this was the dependent variable. Associations between ANC completion and potential influencing variables, including participant characteristics and access-related factors, were assessed using Fisher's exact test, as many variables included expected cell counts of less than five. Participants who reported seven or more ANC visits were classified as having "complete ANC," while those with fewer than seven visits were classified as having "incomplete ANC."

2.6.1. Qualitative

The qualitative questions focused on exploring women's experiences, including the barriers and facilitators they faced in accessing ANC services. A semi-structured interview guide was developed with the following components: 1) introduction, information sheet, and consent form; 2) general background questions to build rapport; and 3) ANC-related questions structured around key dimensions of access (Levesque et al., 2013). To assess approachability and ability to reach, participants were asked questions such as, "What were your needs during pregnancy?" and "What do you know about ANC services in France?" For acceptability and ability to seek, questions included, for instance: "What language did the ANC provider speak?", "Did you notice anything unusual during consultations?", and "Do you have a gender preference for the provider?" Regarding availability and ability to reach, participants were asked questions about waiting time, such as "How long did you wait to see the doctor?" and their journey to the facility. To gauge appropriateness and ability to engage, the focus was on interactions with providers and family involvement. Questions like "How was the consultation process?" and "What role did your husband or family play in your care?" were asked. Under affordability and ability to pay, participants were prompted with, "How did you finance your healthcare during pregnancy?" Each question was followed by additional probing to enrich the interview and gather deeper insights (see appendix E).

For qualitative data, the first author, a female PhD student with previous experience in qualitative research, fluent and proficient in Dari and Pashto languages respectively, traveled to each target city to conduct interviews and focus group discussions (FGDs). Efforts were made to include participants from all target cities, pregnancy status (currently pregnant or given birth in the last 2 years), number of pregnancies (primiparous / multiparous), spoken language (Persian/Pashto) education (illiterate/ highly educated), migration route (aerial evacuation / irregular overland migration) and to also reach women with lower social activity, those who primarily stayed at home and had limited access to public spaces, such as social centers, restaurants, and cafes.

Recruitment was guided by snowball sampling. Participants, particularly those with lower levels of education and limited social engagement, were identified by the PCN. Additionally, recruitment included women who voluntarily contacted the research team after participating in the quantitative survey.

The qualitative study guide was pretested for timing and clarity. Participants received both written and oral information about the study, the voluntary nature of participation, and their right to withdraw at any time without any impact on their asylum process or healthcare. Eligibility was verified and written informed consent was then obtained. Interviews were recorded using a digital voice recorder after obtaining participants' consent. No incentives were provided, and rapport was established prior to data collection. Interviews continued until data saturation was reached, meaning no new themes emerged from additional interviews.

Qualitative data were transcribed and translated to English by a professional translator and transcriber, and subsequently verified by the researcher for completeness. Dual independent coding for 25 % of the data was applied, followed by the framework data analysis using the NVIVO software. The data analysis was guided by the conceptual framework of Levesque et al. (2013)

3. Results

3.1. Participants characteristics

3.1.1. Quantitative

Of the 124 respondents, 89 met the inclusion criteria and completed the survey, with 76 % doing so independently and 24 % receiving assistance from family, friends, researchers, or professional interpreters. Participants had diverse backgrounds (see Table 1), with most born in Afghanistan (95 %), married (98 %), Tajik (59 %), and Persian-speaking (88 %). The majority lived in Île-de-France, were aged 28–32, and showed high literacy (98 %), though only 14 % had paid work in the past year compared to 66 % of husbands. Migration was mostly for family reunification (53 %), and French language proficiency was low—31 % reported no knowledge of French.

Some arrived in France already pregnant (15 %), and 27 % lived in asylum seeker reception centers during pregnancy. Adverse outcomes (e.g., miscarriage or stillbirth) were reported by 15 %. Most recent pregnancies were planned (90 %), and knowledge of contraception was high (91 %), though 34 % did not know where to access contraceptives, and 51 % had not discussed them with a healthcare worker in the past year, see Table 2 for full details.

3.1.2. Qualitative

Nineteen women who already participated in the quantitative survey, also agreed to participate in qualitative interviews and FGDs. Some of them completed the quantitative survey with the support of the researcher, while others had self-reported their prior participation in the quantitative survey. Due to the anonymity of the survey, it was not possible to link participants in the qualitative component to their corresponding data in the quantitative dataset, and it was not within the scope of the study. The interviews lasted between 35 and 130 min. Data saturation was reached after one FGD with eight women and 11 in-depth interviews. No participants declined to participate. Interviews were held in the participants' preferred language and place, including Afghan association's setups, cafes and their homes. Only one interview occurred in the presence of the participant's husband, due to space constraints and his preference to stay. No participants declined to participate in the interviews, likely due to the PCN's role in identifying and connecting the researcher only with individuals willing to participate, and the recruitment strategy whereby only interested participants were contacted voluntarily for the qualitative phase.

The participants were all married, aged 24–35 (except one, aged 45), with education ranging from no formal schooling to doctoral studies. They had lived in France for 4 months to 12 years. French language proficiency ranged from none to excellent. Most arrived via family reunification. Two came on student visas and then applied for asylum, one through aerial evacuation and three traveled irregularly overland. Three had lived under the Dublin regulations.

3.2. Access and utilization of ANC services

Most participants (84 %) accessed ANC in the first trimester, and 68 % generally understood the information provided, with comprehension improving when care was delivered in their preferred language (83 %). However, interpreter access was limited, and long waiting times were common (78 %). Experiences of discrimination (55 %) and discomfort with male providers or interpreters were reported, while most depended on others to arrange appointments and over half

Table 1
Sociodemographic information (N = 89).

Variable	Frequency (%)
Region/city	
Île de France (Paris)	40 (45 %)
Grand Est (Strasbourg)	16 (19 %)
Auvergne Rhône Alpes (Lyon)	7 (8 %)
Occitanie (Toulouse)	6 (7 %)
Others	20 (22 %)
Age	
18–22 years old	1 (1.2 %)
23–27 years old	29 (35 %)
28–32 years old	39 (46 %)
33–37 years old	14 (17 %)
38–42 years old	1 (1.2 %)
Missing	5
Ability to read and write in maternal language	
Yes	86 (98 %)
No	2 (2.3 %)
Missing	1
Highest level of education achieved	
University and above	33 (38 %)
Professional training (formation professional)	10 (11 %)
High school graduate	31 (36 %)
Not completed high school	13 (15 %)
Missing	2
Level of French proficiency	
Not speaking or understand French at all	27 (31 %)
Basic level (A0-A1)	31 (35 %)
Intermediate level (A2-B1)	22 (25 %)
Advanced (B2-C1)	8 (9.1 %)
Missing	1
Duration of stay in France	
Less than one year	16 (20 %)
Between 1 and 3 years	40 (49 %)
Between 4 and 6 years	8 (9.9 %)
More than six years	17 (21 %)
Missing	8
Current legal status	
Asylum request approved	41 (49 %)
Residence permit (e.g. family reunification)	27 (32 %)
Asylum application awaiting approval/ Dublin	10 (12 %)
I don't know/don't want to respond	6 (7 %)
Missing	5
Reason for moving to France	
Employment/education	3 (3.5 %)
Family reunification	46 (53 %)
Conflict or social restrictions	37 (43 %)
Missing	3
Having paid work in the last 12 months	
Yes	12 (14 %)
No	72 (82 %)
I don't want to respond	4 (4.5 %)
Missing	1
Having a cell phone	
Yes	81 (94 %)
No	5 (5.8 %)
Missing	3
Usage of social media platforms (e.g., Facebook, WhatsApp, TikTok, Instagram)	
Yes	85 (97 %)
No	3 (3.4 %)
Missing	1
Language spoken at home	
Persian	75 (88 %)
Pashto	8 (9.4 %)
French	2 (2.4 %)
Missing	4
Marital Status	
Married	86 (98 %)
Single	1 (1.1 %)
Widow	1 (1.1 %)
Missing	1
Husband's level of education	
University and above	30 (35 %)
Professional trainings (diploma)	9 (11 %)
High school graduate	29 (34 %)
Not completed school	17 (20 %)

(continued on next page)

Table 1 (*continued*)

Variable	Frequency (%)
Region/city	
Missing	4
Husband having paid work in the last 12 months?	
Yes	57 (66 %)
No	24 (28 %)
I don't know	6 (6.9 %)
Missing	2
Ethnicity	
Tajik	50 (59 %)
Hazara	18 (21 %)
Pashtun	13 (15 %)
I don't know/ I don't want to respond	4 (4.7 %)
Missing	4
Number of children	
Zero	15 (17 %)
One	32 (37 %)
Two	18 (21 %)
Three or more	21 (25 %)
Missing	3
Experience of physical violence from a family member in the past 12 months	
Yes	3 (3.4 %)
No	80 (91 %)
Not willing to respond	5 (5.7 %)
Missing	1
Decision-making regarding healthcare (e.g. to visit a healthcare worker)	
Myself	32 (37 %)
My husband and I together	42 (49 %)
My husband	12 (14 %)
Missing	3
Needing assistance to read hospital documents	
Always	47 (53 %)
Sometimes	27 (31 %)
Never	14 (16 %)
Missing	1

borrowed money for pregnancy-related costs. Despite these challenges, 75 % were satisfied with the care received. For full details, see Table 3.

3.2.1. *Approachability and ability to perceive*

3.2.1.1. Low knowledge of ANC and limited access to information. A low health literacy level was witnessed among respondents, where over half (53 %) regularly needed assistance to read and understand the hospital documents (Technology C, 2022). During the interviews, women reported delaying their ANC visits because they were unsure of when to start. For some women who had been refugees in other countries, their previous health care experiences also significantly influenced their current healthcare-seeking behaviors.

> *"I stayed at home for the first three months, thinking it was like Iran, where you visit a doctor in the seventh month of pregnancy… until one of my husband's colleagues told me that from the moment you realize that you are pregnant, you should go to the doctor…". (Interview 5_Paris)*

Some women experienced unintended pregnancies due to their limited knowledge about birth control methods, often becoming pregnant during migration and arriving in France already pregnant.

Access to information about the healthcare system was highly limited, with many women relying on family, friends, and social media sources. Many newly arrived women who came through family reunification procedures were also disappointed to find that their husbands, despite years in the country, had limited knowledge of the healthcare system, particularly pregnancy-related services.

Most interviewees shared a common experience of receiving little to no guidance about healthcare services. Some women described attending French Office for Immigration and Integration's (OFII) civic courses where health system related information was shared. However, most lacked access to translators and did not receive written materials, limiting their understanding and recall.

Table 2
Pregnancy related information (N = 89).

Variable	Frequency (%)
Pregnancy status	
Experienced pregnancy during last 24 months	60 (67 %)
Currently pregnant	29 (33 %)
Stage of pregnancy (N = 29)	
First trimester	5 (17 %)
Second trimester	13 (45 %)
Third trimester	10 (34 %)
I don't know	1 (3.4 %)
Pregnancy status upon arrival in France	
Pregnant	13 (15 %)
Not-pregnant	76 (85 %)
Residence in an asylum seeker reception center during pregnancy	
Yes	24 (27 %)
No	65 (73 %)
Experience of miscarriage or stillbirth since arrival in France	
Yes	13 (15 %)
No	74 (85 %)
Missing	2
Number of pregnancies	
One time	35 (41 %)
Two times	24 (28 %)
Three or more times	26 (31 %)
Plan to have another child	
Yes	50 (56 %)
No	17 (19 %)
I don't know	22 (25 %)
Whether recent pregnancy was planned	
Yes	79 (90 %)
No/ Not sure	9 (10 %)
Missing	1
Knowledge of at least one modern contraception method (IUD, pills, condoms…)	
Yes	81 (91 %)
No	8 (9 %)
Knowing of a place to get a birth control method	
Yes	57 (66 %)
No/Not sure	30 (34 %)
Missing	2
Having discussed birth control methods with a health care professional, last 12 months	
Yes	44 (49 %)
No	45 (51 %)
Main sources of information on pregnancy-related issues during this pregnancy	
asking other pregnant women	35 (39 %)
Family/friends	41 (45 %)
Religious leaders	5 (5.6 %)
Healthcare workers	60 (67 %)
Media/social media	41 (46 %)
Other	8 (9 %)

Those who had more than one pregnancy in France reported gaining information about healthcare centers and administrative procedures from their previous pregnancy, often obtained incidentally, through informal exchanges with other refugees encountered by chance in the community.

> *"The first time another Afghan woman introduced me to the maternal and child protection center (PMI). So, I went to the PMI next to her house, and then they [PMI] referred me to the one near my own house" (Interview 10_Paris)*

The first pregnancy was often described as the most challenging, as they faced numerous barriers and missed many administrative steps. Meanwhile, women with multiple children expressed that ANC add no new information for them, which is aligned with the quantitative findings where a drop in ANC intake is witnessed among women with three or more children (Table 4).

The situation is particularly challenging for asylum-seekers who arrived pregnant or become pregnant upon arrival, as their documents are still in process and they don't have a social network.

For those refugees evacuated to France after 2021, particularly

Table 3
Access and utilization of ANC services by the respondents (N = 89).

Variable	Frequency (%)
First antenatal care received	
First trimester	69 (84 %)
Second trimester	5 (6.1 %)
I don't know/ can't remember	8 (9.8 %)
Missing	7
Understanding of information provided by healthcare provider during ANC visits	
Always	56 (68 %)
Sometimes	22 (27 %)
Never	4 (4.9 %)
Missing	7
Understanding of information if provided in preferred language (mother tongue)	
Yes	69 (83 %)
No/not sure	14 (17 %)
Missing	7
Availability of an interpreter	
Always	15 (18 %)
Sometimes	10 (12 %)
Never	57 (70 %)
Missing	7
Travel time to health center for ANC	
Less than one hour	56 (68 %)
Between 1 and 2 h	23 (28 %)
More than 2 h	3 (3.7 %)
Missing	8
Having a long waiting time before ANC visits	
Always	20 (25 %)
Sometimes	43 (53 %)
Never	18 (22 %)
Missing	8
Enough time taken by healthcare provider to explain things during ANC	
Always	57 (73 %)
Sometimes	19 (24 %)
Never	2 (2.6 %)
Missing	11
Ever received a different treatment by the healthcare provider compared to other people (because of language, culture or refugee status)	
Yes	45 (55 %)
No	37 (45 %)
Missing	7
Feeling comfortable talking about pregnancy to a male healthcare professional	
Always	24 (27 %)
Sometimes	40 (45 %)
Never	25 (28 %)
Making doctor's appointments	
Myself	34 (40 %)
Others take appointment for me (Family, friends' doctor, social assistance)	51 (60.2 %)
Missing	4
Feeling comfortable talking about pregnancy face-to-face with a male interpreter	
Always	20 (23 %)
Sometimes	33 (38 %)
Never	34 (39 %)
Missing	2
Feeling comfortable talking about pregnancy to a male interpreter over the phone	
Always	23 (26 %)
Sometimes	39 (44 %)
Never	26 (30 %)
Missing	1
Ever borrowed money for pregnancy-related expenses	
Yes	51 (57 %)
No	38 (43 %)
Satisfaction with overall care received during pregnancy in France	
Satisfied	66 (75 %)
Neither satisfied nor unsatisfied	13 (15 %)
Unsatisfied	9 (10 %)
Missing	1

Data from participants who had completed their pregnancy and responded to the ANC visit status question (n = 58) were exclusively analyzed to assess ANC completion. Among those, 66 % reported attending the recommended seven or more ANC visits, while 34 % had incomplete ANC attendance (see Table 4).

Table 4
Factors influencing ANC use among the respondents who completed their pregnancy (N = 58).

Variable	Complete ANC N = 39 (66 %)	Incomplete ANC N = 19 (34 %)	Total N = 58 (100 %)	P-value (fisher exact-test)
Level of education				0.57
High school or less	16 (62 %)	10 (38 %)	26 (100 %)	
Professional training, university or above	22 (71 %)	9 (29 %)	31 (100 %)	
Missing	1 (100 %)	0 (0 %)	1 (100 %)	
Having paid work during the last 12 months				0.46
Yes	7 (78 %)	2 (22 %)	9 (100 %)	
No	28 (62 %)	17 (38 %)	45 (100 %)	
Missing	4 (100 %)	0 (0 %)	4 (100 %)	
Number of pregnancies				0.12
1 Time	16 (84 %)	3 (16 %)	19 (100 %)	
2 Times	10 (56 %)	8 (44 %)	18 (100 %)	
Three or more times	11 (58 %)	8 (42 %)	19 (100 %)	
Missing	2 (100 %)	0 (0 %)	3 (100 %)	
Enough time taken by healthcare provider to explain things				**0.00**
Always	33 (87 %)	5 (13 %)	38 (100 %)	
Sometimes/Never	5 (33 %)	10 (67 %)	15 (100 %)	
Missing	1 (20 %)	4 (80 %)	5 (100 %)	
Making doctor's appointment				0.09
Myself	19 (79 %)	5 (21 %)	24 (100 %)	
Others (family, friends, social workers, doctor)	18 (56 %)	14 (44 %)	32 (100 %)	
Missing	2 (100 %)	0 (0 %)	2 (100 %)	
Long waiting time				**0.01**
Always	6 (50 %)	6 (50 %)	12 (100 %)	
Sometimes	21 (70 %)	9 (30 %)	30 (100 %)	
Never	12 (100 %)	0 (0 %)	12 (100 %)	
Missing	0 (0 %)	4 (100 %)	(100 %)	

The qualitative findings provided additional complementary insights aligned with the quantitative findings, elaborated across five paired dimensions of healthcare access (Levesque et al., 2013).

families of those who worked with the French organizations in Afghanistan, there has generally been a warm reception. These families had reported better access to information and improved availability of interpreters and already had a network of friends in France.

3.2.1.2. Trust and misconceptions related to healthcare. During the interviews, most women expressed trust in the healthcare system, appreciated the quality of care, and reported often following healthcare workers' (HCW) recommendations. However, some women chose not to use medications prescribed by their doctors (even vitamins), fearing they might be harmful. Others consulted a second healthcare worker to confirm the prescription, often due to concerns about miscommunication linked to language barriers.

Lacking a reliable social network in France, many women relied on phone communication with family and friends in Afghanistan. Their daily lives remained deeply influenced by Afghan cultural norms and family expectations, including avoiding certain foods during pregnancy, like eggs and cow meat, based on relatives' advice. A woman expressed her belief that ultrasound tests are harmful to the baby, reflecting a misconception heard from her families in Afghanistan.

The husband played a crucial role in making decisions based on these misconceptions. For instance, one woman suffering from a severe toothache and headache avoided seeing a doctor during her pregnancy because her husband feared that the doctor might prescribe medications that could harm the baby. Although the woman knew some medications were safe for pregnant women, she was unable to verify this or seek care.

3.2.2. Acceptability and ability to seek

3.2.2.1. Language barriers. Language was a key barrier, with only 9 % reporting advanced French proficiency. Still, 68 % always understood ANC information, rising to 83 % when it was delivered in their maternal language (see Table 3).

Qualitative findings also highlighted language as a major barrier to accessing healthcare and making appointments. Some women struggled to understand information during ANC consultations or couldn't express their questions, causing stress and anxiety. Consequently, many relied on experienced family members, and the internet for pregnancy-related information.

> *I always ask others about is delivery process. Some say positive and some say negative. I don't know where I can get the information. There is no one to tell me. (Interview 4_Paris)*

The language barrier also limits the ability of women to seek support from a social worker or socialize outside their households. For some, this led to a total isolation, impacting their mental health. The facilities to learn the language reported limited and slow for refugee, even for those who are keen to learn.

> *"I don't have the energy. I was fine before coming here. Lately, I started hating everything, even my husband. I want to talk to someone and relieve myself, but there's no one around me" (Interview 9_Toulouse)*

3.2.2.2. Gender of healthcare worker. Only 27 % of women reported being comfortable discussing pregnancy-related issues with a male HCW. When interacting with male interpreters, either face-to-face or over the phone, comfort was even less pronounced: 23 % and 26 %, respectively.

The qualitative findings showed a consistent trend, nearly all participants, regardless of education level, preferred female HCWs and felt uncomfortable and shy during examinations conducted by a male HCW. This discomfort persisted even when husbands were supportive. Several women admitted to cancelling ANC appointments upon discovering they were scheduled with a male doctor.

> *I was eagerly waiting for an ultrasound, I realized that my doctor was a man, so I felt very uncomfortable. I canceled my appointment. (Interview 2_Lyon)*

Finding a female doctor was a source of stress for some women, leading to delayed ANC appointments. Women also find it difficult to discuss pregnancy-related matters with male translators, but were not always given the option to have a choice.

3.2.2.3. Dependency on husband and psychosocial challenges. Although 86 % of respondents reported making healthcare decisions either independently or jointly with their spouses, more than half (60 %) relied on others, mainly their husbands, to schedule appointments.

Couples undergoing family reunification often faced years of separation due to lengthy administrative procedures. During the interview women reported intervals of 5, 8 and 15 years of waiting time. This prolonged distance also strained intimacy and trust, impacting their relationships. In one case, a woman suspected her husband of withholding government financial aid meant for her. Some of these women were also reluctant to migrate, having accepted relocation primarily due to their husbands' decisions and the desire to build a family.

> *We married on 2005, and after that my husband traveled to Europe, I rejoined him in 2023. In between we just met once in 2020 in Pakistan, that's all. (Interview 6_Strasbourg)*

Women arriving through family reunification, depend heavily on their husbands for navigating the healthcare system, communication, and managing finances. These women lacked social and financial support, often due to not being enrolled in asylum procedures. Additionally, these women expressed stresses and a sense of having already lost many years to build their family.

Some women believed that men deliberately sought to have children shortly after their wives arrived, as a means of control in this liberal community, keeping them focused on childcare and limiting their opportunities for education and integration. Often this reinforced women's dependency on their husbands. However, many participants also expressed a genuine personal desire to have children, viewing it as a way to escape loneliness.

Experiences of physical violence from family members were reported by 3.4 %, indicating low, but considering the design of the survey, where some received help from their families to fill the questionnaire, this data might not show the real situation. In qualitative results, no women directly reported experiencing domestic violence, but nearly all knew someone facing violence or restrictions on education and services.

Some other women expressed concerns about men viewing pregnancy solely as a women's issue, avoiding accompanying their wives during ANC visits, and neglecting their wives' emotional needs. Some women shared a concern that their husbands managed all arrangements, including receiving messages about doctor consultations, even for purposes like psychological care, limiting their ability to make independent decision. For example, one woman reported that her husband viewed psychiatric visits as unnecessary and discouraged her from attending them.

Women who worked outside the home reported being fully responsible for both childcare and household chores. They expressed frustration with this cultural norm, noting that Afghan husbands are less motivated to contribute to household tasks. Those who experienced health issues, such as nausea and hormonal changes, during the first trimester—when their pregnancy was not yet visible—were rarely prioritized for metro seats or in queues, adding to their struggles. Language barriers further limited their ability to advocate for themselves in these situations.

Almost all interviewed women spoke of the emotional hardship of being far from their families.

These feelings were intensified in cases of complications, miscarriage, or pregnancy termination. One woman, who terminated her pregnancy due to fetal genetic abnormalities, described profound grief and an eight-month struggle with depression.

Some expressed little interest in using psychological services, even when recommended by gynecologists. This reluctance stems from their complex migrant experiences, a belief that French psychologists may not understand their circumstances. Language barriers, which already hinder ANC visits, further discourage seeking additional support, as consulting another non-native-speaking doctor adds to their challenges. They also reported challenges adapting to unfamiliar technologies, such as using Google Maps to navigate a location.

Some women also reported that their attire affects how hospital staff treat them, with traditional clothing or hijabs often provoking verbal or nonverbal reactions. Many struggled between community expectations to adopt western attire and family or husband preferences to maintain traditional dress, seen as a marker of dignity even abroad.

3.2.3. Availability, accommodation, and ability to reach

3.2.3.1. Unavailability of professional interpreters and translation challenges. Interpreters were rarely available, with 70 % of women reporting they never had access to one. Sufficient time taken by

healthcare providers to explain things were significantly associated with ANC completion at 95 % confidence interval (P = 0.00).

Qualitative findings confirm that the absence of professional interpreters during ANC visits was a major barrier, leaving many consultations unproductive. Some health centers, like PMIs, provided interpreters, but women with even basic language proficiency were often excluded. In these cases, sometimes doctors use alternative methods, such as google translate or drawing in the paper to help the patient understand the message. Some other doctors when they see that the patient is not in that language level to understand, they avoid doing any additional explanation. This led to frustration, with women leaving consultations confused and with unanswered questions.

"I always feel the need for a translator. Such facilities have not been available, [so] I manage it on my own" (Interview 1_Toulouse)

Communication via google translate was more challenging for women to deliver her emotions, and for doctors to deliver the information, especially in difficult situations.

"She asked my husband what language we speak, then she wrote in Google Translate, Unfortunately, you lost your child. Tell your wife to be strong." (Interview 6_Strasbourg)

In the absence of professional interpreters, most women relied on family members for translation, either in person or via phone. However, translating gynecological terms or female anatomy was challenging for them. Many men struggled with health-related vocabulary, as their French proficiency was often limited to their work-environment terminologies.

Women who speak English, or whose husbands do, tried to find an English-speaking HCW, but this is reported often challenging. Those who do find may still struggle to fully benefit from consultations, especially when neither the doctor nor the woman speaks English fluently. Some women travel longer distances to consult Afghan or Iranian doctors who speak their language. According to participants, hospital settings were more challenging for Afghan refugees compared to Arabic-speaking refugees, as hospitals often had Arabic-speaking staff but rarely Persian- or Pashto-speaking personnel.

Many Afghan women expressed concern about the accents of Iranian translators. Despite sharing a common language, differences in accent and terminology often made communication difficult.

Some women also perceived some male official translators as unprofessional and not conveying all the doctor's words. A similar concern arises when husbands act as translators, where translators' judgments may skew the importance of certain points, which may be deemed less significant by a male point of view but are crucial to a woman's experience. In some cases, husbands make decisions on behalf of women rather than translating the message to women and allowing her to decide on the procedures.

3.2.3.2. Long waiting times. Approximately 78 % of participants reported frequently experiencing long waiting times before ANC visits. Waiting time was associated significantly with ANC completion at the 95 % confidence level (p = 0.01).

Similarly, in qualitative interviews women reported long and exhausting waiting times for doctor visits, which felt burdensome during pregnancy. These situations were reported to be more challenging for women who had younger children at home, and whose husband had restricted employment.

My husband always says "should I bring bread or go always with you [to the doctor's visits]." (Interview 9_Toulouse)

For those arriving pregnant, delays extended beyond healthcare to include waiting for prefecture appointments, temporary housing, and social worker, compounding their challenges.

When I went to the hospital, they made me wait in a chair for four hours. I didn't have any document. I was in severe pain. (Interview 2_Lyon)

3.2.4. Affordability and ability to pay

During interviews, many women expressed appreciation for social support schemes, including health insurance and financial assistance. However, they also reported administrative challenges in accessing these services. Most women found the French administrative system confusing and slow, resulting in failure to access the support they were entitled to.

Given that health insurance does not exist in Afghanistan, the concept is unfamiliar to many refugees. One interviewee reported paying out of pocket for pregnancy-related services simply because they were unaware that these services are covered by health insurance. In total, 57 % borrowed money for pregnancy-related expenses.

We had gone to several private doctors because I was bleeding. Later, they sent the bill to our address. (Interview 4_Paris)

The daily life expenses were also high for most of the refugees, especially those with a large family. This situation was exacerbated for undocumented immigrants who were not receiving the full support of the government.

I couldn't eat what the doctor said, and I couldn't eat what I wanted, I ate bread and yogurt all month (Interview 5_Paris)

Only 14 % of women reported having worked in the past 12 months. For these women, who dependent to their husband, the situation is complicated when their husband loses their job. Additionally, the legal situation of some refugees was not well communicated with them. Some were waiting for government aid that they might never receive.

For accommodation women often relied on government support. For women who arrived pregnant or became pregnant shortly after arrival, living conditions were often harsh and unstable. In the absence of immediate accommodation or personal connections, some were forced to stay in hotels or even sleep in parks. Even after finding refugee's temporary shelters, challenges persisted due to overcrowding and lack of privacy. One woman described sharing an accommodation with 15–20 families, limited to two toilets, two bathrooms, and one kitchen. Women arriving through family reunification had housing but often not well equipped and comfortable for a pregnant woman.

Many other women relied on informal support from other migrants, particularly earlier Afghan arrivals, for guidance, financial aid, translation, housing, food, or accompaniment to healthcare facilities. However, this support was inconsistent and not systematically available by any community organization. Afghan associations offered limited assistance, especially for women's health needs.

Despite all the challenges, including financial hardship some were sending money to their families to Afghanistan. Their struggles were often overlooked by their families.

3.2.5. Appropriateness and ability to engage

Around 55 % of women reported receiving different treatment due to language, culture, or refugee status. Despite these challenges, 75 % were satisfied with their overall pregnancy care. Satisfaction was high for services not requiring direct communication with HCW, such as blood tests or blood pressure measurements. However, counseling on emotional changes, breastfeeding, and danger signs was less frequently provided by HCW or maybe not well understood by women (Annex D).

During interviews, women also expressed satisfaction with the behavior of healthcare workers, highlighting their efforts to help patients understand medical advice and their kindness and compassion. Satisfaction was notably higher among women who could speak the language.

However, challenges arose when women faced language barriers, wore hijabs or traditional clothes, or refused male care providers. In

such cases, women reported being treated disrespectfully or experiencing discrimination. Some refugees who spoke English attempted to use it to resolve issues, but speaking English was not always welcomed by healthcare providers.

> *"A doctor expelled us from his office without an examination and said we shouldn't speak English because my husband spoke English. I was crying. He was shouting, saying that if you don't know the language, don't come." (Interview 10, Lyon)*

Some pregnant women also reported stressful interactions with healthcare workers, feeling that certain doctors overreacted to pregnancy issues, causing fear rather than providing reassurance.

> *They [doctors] used expressions like the child would suffer if I didn't follow what they said. I had no one else, and doctor was giving me a lot of stresses. (FGD- participant 4_Paris)*

Some hospital staff were described as prejudiced against refugees, neglecting patients who couldn't advocate for themselves or complain. These staff members appeared to believe that the minimal care provided was more than what the refugee patients deserved. This situation was further explained by women who had given birth to more than one child in France, often received better treatment in later pregnancies after learning the language and their rights. Asylum-seekers without refugee status faced even greater challenges, often staying silent to avoid jeopardizing their cases.

The behavior of staff at PMI centers was reported to be more welcoming and understanding compared to hospital staff. Women also reported negative experiences with ambulance staff during hospital transfers for delivery. Some women who required medical interventions during delivery reported receiving substandard care, citing instances where the procedures were not performed professionally or competently.

4. Discussion

In this study, we explored Afghan women migrants, refugees, and asylum-seekers' access to ANC service, focusing on barriers and facilitators they encountered. AWMRA were likely to delay their ANC initiation, miss administrative steps, or fail to complete the required number of visits. We found no evidence that women undervalued ANC for a first child, though some multiparous women perceived that ANC offered little benefit for subsequent pregnancies. Effective patient–doctor communication was associated with higher rates of ANC completion, while delayed attendance or incomplete ANC visits were linked to a range of structural and institutional barriers. No differences were observed in facilitators and barriers between targeted cities or regions, which might be due to the small sample size of the research.

Fifteen percent of Afghan women arrived in France while pregnant, exceeding the 6–14 % reported for migrants in the literature (Sturrock et al., 2020; Mazuera-Arias et al., 2020). Notably, 32 % of participants did not completed their ANC visits, and 15 % experienced adverse outcomes, such as miscarriage or stillbirth. These findings contradict studies suggesting an overuse of ANC services in France, particularly among higher socioeconomic groups (Merrer et al., 2021). However, they align with research on migrant communities, which consistently highlights a high risk of inadequate ANC among migrants in France (Eslier et al., 2020). These disparities underscore significant inequities in access to and utilization of ANC services.

We found quality doctor-patient engagement as a key factor facilitating ANC uptake. In absence of professional interpreters, some healthcare workers dedicated sufficient time and effort to explain procedures, using methods such as drawings or online translation tools, which significantly contributed to higher ANC completion rates. Other studies also highlighted the critical role of effective, empathetic, and culturally sensitive communication in improving maternal health service utilization, particularly among migrant populations (Haskard-Zolnierek et al., 2021; Small et al., 2002). Clear and respectful communication has been shown to increase patient trust, satisfaction, and adherence to care plans (Haskard-Zolnierek et al., 2021).

Conversely, long waiting times were found to be significantly associated with lower ANC completion rates. Long waiting times before receiving care is a well-documented barrier, disproportionately affecting vulnerable populations such as migrants and individuals with caregiving or employment responsibilities, particularly in high-income countries (Harris, 2012; Allegri et al., 2025). For Afghan women, one possible explanation may be their high level of dependency on their husbands. Majority of women reported relying on their husbands for scheduling appointments, locating health facilities, and communicating with HCW. In these situations, women's ANC uptake may be influenced by the husband's employment status, which may not allow for long waiting times or frequent medical visits.

Over half of women reported experiencing discrimination, often due to language barriers, wearing a hijab, or refusing male HCWs. This situation is exacerbated by the fact that most refugees arriving in France are unaware of their rights, limiting their ability to advocate for themselves (Vignier et al., 2018). These findings align with studies identifying discrimination as a barrier to healthcare among migrants in France and other European countries (Arcilla et al., 2025). Similarly, Somali refugees in Norway reported differential treatment based on language, skin color, or religion, though at a lower rate than in our study (Bains et al., 2021).

The healthcare system, on the other hand, characterized by limited flexibility for individuals from different cultural backgrounds which by itself operate as a barrier. Majority of women did not receive interpreter services, nor were they offered the option to choose the gender of their interpreter or HCW. As a result, many women either did not benefit from the consultations or canceled their appointments when the provider was male. Research further confirms that the absence of culturally and linguistically appropriate ANC services often results in unmet expectations and mistrust (Ramadan et al., 2023). Despite longstanding recognition and the development of culture- and migrant-sensitive health service frameworks, these barriers persist, with limited progress in effectively addressing them (Allegri et al., 2025), particularly in European countries (Savas et al., 2024). On the other hand, women who accessed specific health centers, such as Maternal and Child Protection centers (PMI) centers, reported higher satisfaction with services and more positive experiences with healthcare workers. These centers are known for providing accessible, culturally sensitive maternal and child healthcare, particularly for individuals with low-socioeconomic status, such as refugees (Free antenatal and postnatal care: seventy years of the protection maternelle et infantile PMI, 2016). However, many participants reported not being informed about the availability of these centers upon arrival, instead discovering them by chance, often through informal exchanges with other refugees, highlighting a significant gap in information dissemination. Other researches also emphasizes the importance of dedicated, inclusive structures for migrants (Sauvegrain et al., 2017).

Interpersonal violence is reported as a significant barrier to ANC completion among Afghan women (128). Over half of women, living in Afghanistan, report experiencing interpersonal violence (257). However, little is known about such experiences among Afghan migrant women. In our survey, reports of physical violence were low, possibly due to family members assisting in responses. Yet, all qualitative participants knew someone who had experienced violence, suggesting the issue may be underreported and warrants further study. Few women in our study held paid jobs, and those who did often felt overwhelmed by work and domestic duties, as husbands rarely shared childcare or household tasks. This imbalance may limit women's employment and empowerment opportunities (Kandil and Périvier, 2021). Studies show that empowered women and those opposing gender-based violence are more involved in household decision-making, including healthcare choices, improving ANC access (159,160). These findings underscore

the need to address gender power imbalances and promote women's autonomy to improve maternal health among Afghan women.

In addition, women who arrived through family reunification, representing the majority of participants, reported higher levels of dependency on their husbands, strained relationships due to prolonged separation, and increased social isolation. This complex familial situation also merits further research. Some women who required medical interventions during delivery reported receiving substandard care, citing instances where procedures were performed unprofessionally or incompetently. These concerns may be related to the involvement of less experienced or inadequately trained healthcare providers. Further research is needed to explore this issue and its potential impact on health outcomes in this population. About 90 % of survey participants were Persian speakers, suggesting selection bias or higher literacy levels compared to Pashto speakers, who should be a focus of future studies. Finally, logistical constraints prevented us from reaching Afghan communities in oversees departments of France, mainly French Guiana, a population that future research should include.

A key strength of this study was the PCN, which enabled broad questionnaire distribution and access to the most isolated women for qualitative interviews. Interviews in local languages, with all documents translated, ensured inclusivity and minimized language barriers. Focusing on women who were pregnant or had given birth within the past 24 months also reduced recall bias and enhanced accuracy. Nevertheless, some limitations should be acknowledged. The length of the questionnaire led some participants to skip questions. For some women, the concept of ANC was entirely new, making online survey questions difficult to understand. Limited resources, cultural norms and the dispersed distribution of AWMRA across various cities hindered our ability to reach women with lower literacy levels, those without access to digital technology, or those requiring their husband's permission to participate in the survey. The statistical analysis identified only two variables associated with ANC completion. The small sample size and the conservative nature of the Fisher test may have also limited the detection of other potential associations. Given the research methodology, these findings have limited generalizability and should therefore be interpreted with caution. Finally, we acknowledge the first author's positionality in the research process, particularly in the qualitative component, which may introduce interpretive bias into the study.

5. Conclusion and recommendations

This study revealed that AWMRA face significant challenges in accessing information about ANC and completing recommended ANC visits. Language barriers, complex administrative procedures, low health literacy, and limited culturally and linguistically proper resources hindered their ability to effectively engage with healthcare systems. Based on our findings, we propose the following recommendations:

1. Implementation of community outreach programs for migrants' refugees and asylum-seekers, ensuring that women are fully informed about available services, their benefits, and where to access them.
2. Expansion of educational sessions on the benefits of ANC in community-based settings that are easily accessible to women.
3. Introducing innovative approaches that incorporate social and cultural aspects to adapt clinical care and health services to the growing diversity.
4. Delivering culturally competent training sessions for healthcare workers to enhance the quality of patient-caregiver interactions.
5. Streamlining administrative procedures and enhancing interpretation services to better support non-French-speaking migrants.
6. Evaluation of the effectiveness and impact of proactive pregnancy screening and tailored support strategies for migrants, refugees, and asylum-seekers is needed, using more rigorous methodologies (e.g., case-control or cohort studies), particularly during first pregnancies.
7. Conducting large-scale studies involving diverse asylum-seeking, refugee, and migrant populations to validate these initial results.

CRediT authorship contribution statement

Saha Naseri: Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Valéry Ridde:** Writing – review & editing, Validation, Supervision, Methodology, Conceptualization. **Marie-Anne Durand:** Writing – review & editing, Validation, Supervision, Project administration, Methodology, Conceptualization. **Sara Naseri:** Writing – review & editing, Validation, Methodology. **Léna Bonin:** Writing – review & editing, Validation, Methodology.

Author contributions

All authors listed in this manuscript meet the ICMJE authorship criteria. The project was initiated by SN under the supervision of MAD and VR. SN established the participatory community network and conducted both quantitative and qualitative data collection. Sr-N contributed to qualitative analysis and dual coding, while LB contributed to quantitative analysis and statistical testing. SN integrated both components of data, with MAD, VR, Sr-N, and LB reviewing and confirming the triangulation. The synthesized data were critically reviewed, discussed, and validated by all authors. SN drafted the initial manuscript, which was subsequently reviewed and refined by all authors. All authors have reviewed and approved the final manuscript for publication.

Funding

This study is part of a PhD project supported by the University of Toulouse 3 Paul Sabatier. No funding was received from any other organization.

Declaration of Competing Interest

Marie-Anne Durand has contributed to the development of Option Grid patient decision aids. EBSCO Information Services sells subscription access to Option Grid patient decision aids. She receives consulting income from EBSCO Health, and royalties. No other competing interests declared.

Acknowledgments

We are profoundly thankful to the pregnant women, and new mothers who participated in the survey despite the challenges of pregnancy and the demands of daily life. We extend our deepest gratitude to the members of the Participatory Community Network (PCN) for their invaluable contributions to this research. Their dedication, insights, and active engagement, mainly in distributing the survey link, and identifying participants for qualitative interviews, significantly enriched our study.

We extend special appreciation to **Muhammad Tahir Paiman** and **Arezo Hussaini** for their generous support in designing the data collection tools, **Sarah Hermann** for establishing connections with refugee women and accompanying us to their homes, and **Habib Kabir, Dr. Abdul Ghani Ibrahimi, and Dr. Humayoon Gardiwal** for their invaluable assistance in translating data collection tools into Pashto. We are also grateful to **Niamh Redmond** for her support in designing the online survey.

We sincerely thank all participating associations for their collaboration, with special appreciation to **Poya Association** for hosting the focus group discussions and providing nursery care for mothers with young children, ensuring their ability to participate in the study. This research would not have been possible without the collective efforts and generosity of these individuals and organizations. We are truly grateful for their contributions

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