

Sexual and Reproductive Health Access Among Afghan Refugee Women Using Telehealth in Pakistan

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Abstract

Background: Cultural, religious, and gender-based norms critically constrain Afghan refugee women's access to sexual and reproductive health (SRH) services in Pakistan. This study assessed awareness, utilization, and barriers to SRH services and evaluated the Sehat Kahani telemedicine platform's role in improving access.

Methodology: A cross-sectional study was conducted from January to March 2025 at 10 Sehat Kahani e-health clinics in Balochistan and Khyber Pakhtunkhwa. Using purposive sampling, 464 Afghan refugee women aged 18–49 were recruited. Data from structured questionnaires were analyzed in SPSS 26 using descriptive and chi-square statistics (significance $p < 0.05$).

Results: While 76% of participants were aware of SRH services, only 61% had utilized them in the past year. Contraceptives (54%) and pregnancy testing (37%) were most used. Key barriers were limited service hours (35%) and distance (28%). Utilization was significantly associated with age, marital status, income, and household size (all $p < 0.01$). Education showed no link to awareness ($p = 0.56$) but a strong association with utilization ($p < 0.001$).

Conclusion: A significant gap remains between SRH awareness and utilization, driven by structural barriers. Digital health platforms like Sehat Kahani offer a promising avenue to improve access. Strengthening policy support for such culturally sensitive telemedicine interventions is crucial to bridging this gap for refugee populations.

Keywords: SRH; refugees; telemedicine; e-Health clinic; Pakistan; Afghan women

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Introduction

Ensuring access to sexual and reproductive health (SRH) services is a fundamental human right under target 3.7 of the Sustainable Development Goals (1). Equitable SRH care is essential for improving public health outcomes, promoting gender equity, and enhancing well-being, especially among marginalized and displaced populations. For decades, Pakistan has offered sanctuary and humanitarian aid to asylum seekers and refugees from nations such as Myanmar, Yemen, Somalia, and Syria. As of March 2025, Pakistan accommodates roughly 1.57 million registered refugees and asylum seekers under the UNHCR's mission, predominantly consisting of around 1.35 million Afghan citizens possessing Proof of Registration (PoR) cards. Within this demographic, 47% are women, while women and children together make up 72% of the overall refugee and asylum-seeking population (2).

There is a large disparity between the desire to avoid conception and the usage of efficient contraceptive techniques in developing nations, where there are almost 1.6 billion women of reproductive age. With 671 million women already utilizing contemporary contraception, 214 million women have their demand for contraceptives unfulfilled out of 885 million. The 155 million women who do not use any kind of contraception and the 59 million who depend on older, less effective methods are prime examples of this unfulfilled demand. Although the gap is widest, in Southern Asia and sub-Saharan Africa, 39% of women want to prevent getting pregnant but 57% do not have access to contemporary methods of birth control (3).

Women and girls in refugee and displaced communities have increased vulnerabilities due to their gender and status of displacement. Displacement frequently exacerbates existing gender-based inequalities, resulting in women facing reduced social status and limited access to



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educational opportunities, so restricting their autonomy and hindering their socioeconomic advancement (4).

Forcibly displaced individuals in low- and middle-income countries (LMICs) frequently face a multifaceted set of challenges, including transportation costs, high living expenses resulting in overcrowded housing, economic difficulties, and language barriers that obstruct access to vital services such as employment, education, and access to healthcare (5-6). These structural constraints may hinder the availability, accessibility, and utilization of (SRH) services. The inadequate provision of sexual and reproductive health care is directly associated with elevated occurrences of gender-based violence, greater susceptibility to HIV and other sexually transmitted illnesses, unintended pregnancies, and dependence on unsafe abortion methods. The convergence of these disadvantages affects all individuals, but disproportionately heightens the vulnerability of those from low socioeconomic backgrounds, particularly refugee and displaced women, to negative consequences in both host and displaced environments (7, 1).

Sehat Kahani provides a scalable, contextually relevant digital health solution to enhance healthcare accessibility for marginalised communities. It provides medical care to remote and underserved populations via its smartphone application and nationwide network of provider-assisted e-health clinics. The initiative promotes women's health and aligns with Sustainable Development Goal 3 (Good Health and Well-being), advocating for fair, high-quality healthcare for all, irrespective of gender or socioeconomic position. The platform's technology-driven, community-oriented strategy signifies a pivotal advancement towards universal health coverage in Pakistan (8-9).

This research intends to fill a knowledge vacuum on the subject of (SRH) services for Afghan refugee women in Pakistan, to address these contextual problems. Evidence of broad SRH barriers among local people does exist; however, there is a lack of studies on the ways in which cultural restrictions, mobility constraints, and variables associated with displacement influence the perception and utilization of SRH services among Afghan refugees. Therefore, the study examines awareness, utilization, and barriers to SRH access and explores Sehat Kahani's telemedicine platform as a potential solution for improving equitable SRH care among refugee women.

Methodology

The current study used an observational cross-sectional approach to look at how refugee women in Pakistan perceive the availability of sexual and reproductive health (SRH) services, how often they use contraception, and how the Sehat Kahani platform helps with SRH. An examination of the Sehat Kahani e-health database's utilization statistics revealed that refugee groups had a substantially higher consumption of SRH services, highlighting the necessity to evaluate important e-health clinics that cater to these populations.

Considering large patient loads from refugees, clinics in Balochistan and Khyber Pakhtunkhwa (KPK) were chosen and

purposive sampling was used. For additional assessment, four Balochistan clinics (*Afnan, Al-Makkah, Gwadar, and Khuzdar*) and six KPK clinics (*Khair-Un-Nas, Yasir Medical Centre, Shahid General Hospital, Al-Shiffa Zaha Bacha, Kohat, and Loharbanda*) were made part of data collection sites. The participants were selected from these nurse-assisted e-health centers, where patients were able to consult with specialists and general physicians across Pakistan through Sehat Kahani's telemedicine infrastructure. The session was started by nurses who subsequently left the conversation to protect the privacy of their patients.

Data was collected from January 17, 2025, to March 17, 2025. The UNHCR report from March 2025 was used to estimate the sample size. It showed that among the migratory population, 21.4% of females aged 18–59 lived in Pakistan. We used OpenEpi V.3.01 to determine that a minimum sample size of 404 was needed, with an adjustment to 485 to account for an expected 20% non-response rate. We used a 95% confidence interval and a 4% margin of error. The study targeted women of reproductive age (18–49 years) who accessed SRH services through Sehat Kahani's nurse-assisted clinics. Women with acute medical conditions requiring emergency care or those unwilling to disclose their refugee status were excluded from participation.

A validated structured questionnaire, adapted from (8), was used for data collection. Ethical approval for the study was obtained from the Ethics Committee/Institutional Review Board (IRB) of Sehat Kahani C/O Community Innovation Hub prior to data collection. Data were analyzed using SPSS version 26. Descriptive analysis was performed to calculate frequencies and percentages, while the Chi-square test was applied to examine associations between categorical variables, with a significance level set at $p < 0.05$.

Results

The sociodemographic characteristics of participants are presented in Table 1. The majority were females (98%) and married (88%), with most aged between 25–39 years. Around two-thirds (65%) had no formal education, 80% were unemployed, and 43% earned less than PKR 10,000 per month. Larger households (more than six members) comprised one-third of respondents, and 63% had resided in Pakistan for over two years. Conflict or war was the primary reason for migration (42%), followed by economic (19%) and family reasons (16%), reflecting socioeconomic hardship and prolonged displacement.

Table 1: Demographic characteristics of the participants

Variable	Subgroup	n	%
Age	18-24	49	11%
	25-29	111	24%
	30-34	145	31%
	35-39	105	23%
	40 and above	54	12%
Marital Status	Single	23	5%
	Married	406	88%
	Divorced	16	3%
	Widowed	19	4%

Variable	Subgroup	n	%
Education Level	No Formal Education	302	65%
	Primary	140	30%
	Secondary	15	3%
	Higher	7	2%
Employment Status	Unemployed	371	80%
	Employed	48	10%
	Self-employed	40	9%
	Student	5	1%
Income Level	Less than PKR 10,000	195	43%
	PKR 10,000-20,000	120	26%
	PKR 20,001-30,000	99	22%
	More than PKR 30,000	44	10%
Household Size	1-2	44	9%
	3-4	143	31%
	5-6	122	26%
	More than 6	155	33%
Length of Stay in Pakistan	Less than 6 months	36	8%
	6 months - 1 year	86	19%
	1-2 years	49	11%
	More than 2 years	293	63%
Primary Reason for Migration	Conflict/War	194	42%
	Economic Reasons	90	19%
	Family Reasons	76	16%
	Other	104	22%

As shown in Table 2, 76% of participants were aware of SRH services, primarily through health workers (73%) and family/friends (27%). Awareness was highest for contraceptives (72%) and pregnancy testing (56%), whereas antenatal care (38%), postnatal care (19%), and STI testing (15%) were less recognized. Mental health support related to SRH was known to 65% of participants. Despite moderate awareness, only 61% reported utilizing SRH services in the past year.

Table 2: Awareness of SRH Services

Variable	Subgroup	n	%
Heard about SRH Services	Yes	354	76%
	No	110	24%
Sources of Information about SRH Services (Multiple responses possible, N=354)	Health workers	257	73%
	Community leaders	63	18%
	Friends/Family	94	27%
	Media (Radio/TV/Newspaper)	9	3%
	Social media	6	2%
	Others	7	2%
SRH Services Awareness (Multiple responses possible, N=354)	Contraceptives	255	72%
	Pregnancy testing	197	56%
	Antenatal care	133	38%
	Postnatal care	67	19%
	STI testing and treatment	52	15%
	HIV testing and counseling	38	11%
	Safe abortion services	46	13%
	Others	8	2%
Awareness of Mental Health Support (Related to SRH issues, N=464)	Yes	302	65%
	No	162	35%
Used SRH Services in Past 12 Months (N=464)	Yes	284	61%
	No	180	39%

Among service users (Table 3), the most frequently accessed services were contraceptives (54%), pregnancy testing (37%), and antenatal care (28%). Most accessed these services once or 2-3 times a year, primarily through Sehat Kahani clinics (80%), followed by government facilities (21%) and NGOs (17%).

Table 3: SRH Services Usage

Variable	Subgroup	n	%
Used SRH Services in Past 12 Months	Yes	284	61%
	No	180	39%
Which SRH Services Have You Used? (Multiple responses possible, N=284)	Contraceptives	154	54%
	Pregnancy testing	105	37%
	Antenatal care	79	28%
	Postnatal care	30	11%
	STI testing and treatment	30	11%
	HIV testing and counseling	3	1%
	Safe abortion services	6	2%
How Many Times Have You Accessed SRH Services? (In the past 12 months, N=284)	Others	24	8%
	Never	16	6%
	Once	108	38%
	2-3 times	90	32%
	4-5 times	29	10%
Where Did You Access These Services? (Multiple responses possible, N=284)	More than 5 times	41	14%
	Government health facilities	61	21%
	Private clinic/hospital	32	11%
	NGO/charity organization	49	17%
	Sehat Kahani Clinic	227	80%
Other	5	2%	

Key barriers to SRH access, detailed in Supplementary Table 1, included limited service hours (35%), long distances (28%), lack of transport (16%), and high costs (13%). Despite these challenges, 92% of women felt the importance of access to SRH services, and 83% reported strong community support. Nearly half (49%) experienced unplanned pregnancies, and 62% stated cultural beliefs influenced their healthcare access.

A sub-analysis was conducted to assess the relationship between demographic factors and SRH awareness and utilization. Age was significantly associated with both SRH awareness ($p = 0.01$) and utilization ($p < 0.001$). While gender was not significantly linked to awareness ($p = 0.20$), it showed a significant association with utilization ($p = 0.01$). Marital status demonstrated strong associations with both awareness ($p = 0.001$) and utilization ($p < 0.001$). Education level was not significantly related to awareness ($p = 0.56$), but it was strongly associated with utilization ($p < 0.001$). Employment status and income were significantly associated with both awareness ($p = 0.01$; $p = 0.001$) and utilization ($p < 0.001$; $p = 0.008$), respectively. Household size also showed significant associations with awareness ($p = 0.004$) and utilization ($p = 0.005$). Although length of stay in Pakistan was not significantly associated with awareness ($p = 0.14$), it was strongly associated with utilization ($p < 0.001$) (Supplementary Figure 1-8 Barriers in accessing SRH services).

Discussion

This cross-sectional, survey-based study of 464 Afghan refugee women in Pakistan assessed utilization, barriers, and satisfaction related to SRH services. The findings highlight an urgent need for culturally sensitive and inclusive approaches to address SRH needs in this population. Significant associations were found between key demographic factors age, marital status, employment, income, and household size, and SRH awareness and utilization, underscoring the influence of social determinants on healthcare access. Notably, education level, while not significantly associated with awareness, showed a statistically significant relationship with utilization, emphasizing its role in enabling access. Numerous studies have consistently reported a similar trend among refugees, other disadvantaged cohorts, and even general population (10-13). Although education can provide context for healthier practices and instill confidence in seeking SRH services, a recent meta-analysis found inconsistent evidence supporting the mechanisms linking education and SRH outcomes, while acknowledging its impact as smaller in magnitude (12).

Length of stay in Pakistan significantly affected SRH utilization but not awareness, possibly due to increased familiarity and trust in healthcare systems over time. Limited outreach and reliance on informal networks may explain persistently low awareness (14). These findings emphasize the need for sustained information campaigns and interventions addressing both social and structural barriers.

Employment status, income distribution, and household size were all significantly associated with SRH utilization and awareness, likely reflecting the interplay of economic and social determinants of health. Employment and higher income levels may provide the financial resources needed to access healthcare services and foster environments where health education is prioritized (15-16). Similarly, household size can influence awareness and utilization through shared knowledge and collective decision-making, as larger households may facilitate information exchange or encounter more varied health needs (17).

The systemic barriers to accessing SRH services, as identified in this study, included inconvenient service hours (35%), long distances to service locations (28%), lack of transportation (16%), and high service costs (13%). These barriers underscore structural inadequacies within healthcare systems, particularly for marginalized populations such as Afghan refugees. Inconvenient service hours and long travel distances may reflect limited availability of healthcare facilities and insufficient alignment of services with the needs of working or caregiving individuals (18). High costs and lack of transportation highlight the economic and infrastructural challenges that affect refugees, who often face financial instability and restricted mobility. These findings are in fact aligned with several recent studies (19-23). Addressing these systemic barriers requires coordinated efforts to expand service

accessibility, reduce financial burdens, and improve infrastructure to ensure equitable healthcare delivery.

Although 76% of participants were aware of SRH services, only 61% utilized them, revealing a persistent gap between awareness and practice. Cultural stigma and fear of judgment likely deter service uptake (24-25). Community-based education, storytelling, and engagement of local leaders have proven effective in reducing stigma and fostering open dialogue (26). By directly engaging community leaders and leveraging culturally sensitive approaches, these efforts could effectively bridge the divide between awareness and utilization. These efforts can be adapted to any refugee setting, as the recent study demonstrate that despite the diversity in participants' countries of origin, their experiences with SRH services were strikingly similar, underscoring shared barriers and needs across refugee populations (27).

Overall, the findings highlight the need for policy-level interventions that integrate digital health platforms like Sehat Kahani into national SRH frameworks, enhance culturally sensitive outreach, and strengthen collaboration between public and humanitarian sectors to ensure equitable, stigma-free reproductive healthcare for refugee women.

Limitations:

This study has several limitations. The patient sample was exclusively drawn from Sehat Kahani clinics, which may not represent the broader Afghan refugee population in Pakistan. Additionally, as the Sehat Kahani team facilitated the surveys, there is a potential for response bias. These factors could limit the generalizability of the findings when compared with other telemedicine platforms research. Further studies are needed to expand the respondent pool, incorporating participants from diverse and independent sources, to provide a more comprehensive evaluation of SRH needs and barriers. This would enable the development of more targeted and effective strategies to address these challenges.

Conclusion

This study highlights significant gaps in the awareness, utilization, and accessibility of SRH services among Afghan refugees in Pakistan. While a majority of participants were aware of SRH services, actual utilization was notably lower, emphasizing barriers such as inconvenient service hours, long travel distances, financial constraints, and cultural stigma. Demographic factors, including age, marital status, income, and household size, were strongly associated with both awareness and utilization, underscoring the role of socioeconomic determinants in shaping access to care. As this was a cross-sectional study, causality cannot be inferred from the observed associations, and the findings should be interpreted within this limitation. The findings call for targeted interventions to address systemic and cultural barriers, improve service accessibility, and foster greater community engagement. Efforts to extend service hours, reduce costs, and enhance transportation infrastructure,

combined with culturally sensitive educational campaigns, are essential to bridging the gap between awareness and utilization. These strategies could significantly improve SRH outcomes for Afghan refugees and serve as a model for other displaced populations facing similar challenges.

Recommendations

These findings correspond with Pakistan's national strategy for digital health integration and underscore the potential of telehealth platforms like Sehat Kahani for strengthening public health resilience. Integrating this concept into current public health frameworks could significantly enhance SRH service availability in neglected and humanitarian settings. This study enhances the existing SRH literature by illustrating the effectiveness of digital health interventions for refugee populations. Future implementation research must assess the scalability, cost-effectiveness, and long-term sustainability of these techniques within national sexual and reproductive health initiatives to enhance equitable access and health outcomes.

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Authors' Contribution:

RH: Conceptualization & Critical Review

MM & RH: Study design, literature review & drafted the article

SSK, RH, MK & MM: Write-up, data sampling, data analysis & interpretation

SSK & RH: Approved the final version

All authors critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

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