International Journal of Reproduction, Contraception, Obstetrics and Gynecology
*Barkat AM et al. Int J Reprod Contracept Obstet Gynecol. 2026 Jan;15(1):22-32*
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20254255

**Original Research Article**

# Family planning knowledge and practices in displacement: exploring barriers among Somali refugee women in Ali Addeh camp

**Ahmed M. Barkat[1]*, Adesina Oladokun[2], Mache T. Adhana[3]**

[1]Pan African University Life and Earth Sciences Institute (Including Health and Agriculture), Ibadan, Nigeria
[2]Department of Obstetrics and Gynecology, College of Medicine, University of Ibadan / University College Hospital, Ibadan, Nigeria
[3]School of Public Health, Mekelle University, Mekelle, Tigray, Ethiopia

**Received:** 25 October 2025
**Accepted:** 15 November 2025

***Correspondence:**
Dr. Ahmed M. Barkat,
E-mail: ahmed.epi282@gmail.com



## ABSTRACT

**Background:** The use of modern contraceptives is a key strategy for improving maternal health and enabling informed reproductive choices. This study aimed to assess modern contraceptive use, knowledge, and attitudes among Somali refugee women in Ali Addeh camp, and to explore the factors influencing uptake.
**Methods:** A cross-sectional study was conducted at Ali Addeh camp including 360 Somali refugee women aged 18-49. Data were collected through structured questionnaires and statistical analysis were performed to examine key patterns and influencing factors.
**Results:** Although 83.06% of women had heard of at least one modern method, 89.44% were classified as having low knowledge. Poor contraceptive attitudes were scored by 80.83% of respondents, with 56.39% believing contraceptive use is inherently wrong, and 85.83% viewing it as solely the woman's responsibility. While 96.67% expressed a desire for five or more children, 85% also preferred birth spacing of 2-3 years. Only 31.11% had discussed contraception with their husbands, and just 8.06% scored high spousal engagement. Regression analysis revealed that partner support, education level and income level was significantly associated with favorable contraceptive attitudes ($p<0.01$). Structural barriers were prevalent, with 94.44% scoring poorly on access.
**Conclusion:** Contraceptive use in Ali Addeh camp is limited by knowledge gaps, social norms, and access issues, highlighting the need for culturally tailored strategies that involve men.

**Keywords:** Somali refugees, Reproductive health, Family planning, Ali Addeh camp, Djibouti

## INTRODUCTION

Political unrest and environmental disasters have forced millions of people to leave their homes in the past 25 years.[1] In response, many countries have established refugee camps and settlements, a large proportion of which are located in low- and middle-income countries (LMICs) where infrastructure and resources are often insufficient to meet the needs of displaced populations.[2] Refugees in such settings are faced with numerous economic, sociocultural, and environmental challenges as they adapt to new settings with poor support systems.[1] In such communities, family planning has emerged as a fundamental need owing to its direct relevance in household welfare, maternal health, and child destiny.[3]

Reproductive health is intrinsic to general welfare, and access to modern contraceptives is the solution to enabling women to space childbearing and plan it, preventing maternal and infant death, and improving family well-being.[3] Although significant advances have occurred in international family planning during recent decades, access to modern contraceptives remains unacceptably low in the majority of low-income and humanitarian settings, including among refugees.[4,5] In the sub-Saharan region of Africa, the proportion of women who have their family

planning requirement met with modern means (sustainable development goal indicator 3.7.1) remains among the lowest globally, at a pitiful 56%.[6]

Globally, the number of people who use contraceptives has increased tremendously, which is a welcome shift in reproductive health behaviours. Between 2000 and 2020, the number of women using modern contraceptive methods increased from 663 million to 851 million, and another 70 million women are projected to become users of modern contraception by 2030.[6,7] These gains are not uniform, though, with Somali refugees having some of the lowest rates of uptake in the world.

Somalia also has one of the world's highest fertility rates at 6.6 children per woman and a modern contraceptive prevalence of only 1%.[8,9] Maternal mortality is 692 per 100,000 live births, infant mortality is 73 per 1,000, and under-five mortality is 115 per 1,000.[10] In Ali Addeh refugee camp in Djibouti, home to a high population of Somali refugees, use of contraception is very low 5.6% for any method and 5.1% for modern methods with an unmet need of 8.8%.[11] Similarly, other Somali refugee camps in Djibouti, Uganda and Kenya report equally low utilization (5.1- 24%).[4,11,12] These figures show that Somali women in Ali Addeh camp have a serious reproductive health disadvantage compared to international and regional levels.

Equally concerning is the absence of solid, context-specific evidence about reproductive health practices of Somali women, awareness of methods of contraception, and decision-making patterns, particularly about male partner participation and effects of structural barriers in the camp's health system. Although reproductive health has been identified as a humanitarian concern, no such evaluation has taken place across the board for these aspects, leaving a gap in the needed evidence to know about this population's lived experience and unmet reproductive needs.

Guided by this gap in evidence, this study attempts to answer four research questions: What are the socio-demographic and reproductive profiles of Somali refugee women in Ali Addeh camp? How much exposure, attitude, and knowledge do they have to the modern contraceptive interventions? What is the effect of male partner involvement on their attitudes and use of modern contraceptive interventions? What are their barriers and facilitators to contraceptive decision-making?

The ultimate objective is to build a context-specific model of contraceptive dynamics among this refugee population through quantitative analysis, developing empirical data to inform responsive and culturally sensitive interventions.

This data will assist policymakers, humanitarian agencies, and reproductive health planners in developing more effective and equitable family planning programs for displaced Somali women.

## METHODS

### *Study design*

A cross-sectional study was conducted in the Ali Addeh refugee camp from June to August 2024. Quantitative data were collected using a structured questionnaire that was designed to collect information on sociodemographic variables, reproductive history, knowledge of contraceptive methods, access, and involvement of male partners. Integration of findings was achieved at the interpretational level in order to allow triangulation and strengthen analytical validity.

### *Study area*

This study was conducted in the Ali Addeh Refugee Camp (Figure 1), located in the Ali Sabieh province of south-eastern Djibouti, 120 kilometers from the capital, Djibouti Ville. Ali Addeh is an old and large refugee camp in Djibouti that was created in 1991; it is administered by the government of Djibouti and the United Nations High Commissioner for Refugees (UNHCR).[13] As of 2023, the camp housed approximately 15,000 refugees, most of whom were of Somali origin, who fled civil war and humanitarian crises in Somalia. The camp has eight residential sections which have each been provided with basic infrastructure consisting of water points as well as community health facilities supported by humanitarians such as UNHCR, the International Rescue Committee, and the Djibouti Red Crescent Society. This background offers a critical point of reference for examining how ethnic Somali women navigate reproductive health and contraceptive use within an expanded humanitarian context.

### *Survey sample size calculation and recruitment method*

The sample size for the quantitative survey was determined using a single population proportion formula, assuming a 50% prevalence of favourable attitudes or adequate knowledge of contraceptive use. A 95% confidence level and 5% margin of error were used. To accommodate non-response and missing data, a 10% contingency was added, resulting in a final sample size of 360 participants. Participants were selected through a chain-referral (snowball) sampling strategy within each of the eight residential sections of the Ali Addeh refugee camp.

### *Survey data collection procedures*

From June to August 2024, survey information was collected using a structured, interviewer-administered questionnaire that was designed to quantify sociodemographic characteristics, family history, contraceptive knowledge and attitudes, access to the service, and male involvement. The tool was developed in English, translated into Somali, and pilot-tested among 20 residents of the eighth section of the Ali Addeh refugee

camp that was not part of the final survey sample. Pretest feedback was utilized to refine question clarity, ordering, and cultural sensitivity.

Face-to-face individual interviews were conducted to gather data. It was comfortable and convenient for the majority of the participants to be interviewed at their homes. Where it was not possible in the home environment due to a lack of appropriate privacy, particularly in hectic or sensitive household environments, participants were given the choice to hold the interview at the nearest health facility at a suitable time. All the interviews were conducted by trained Somali-language enumerator who were familiar with the cultural and linguistic dynamics of the setting.

Participants were selected through a chain-referral (snowball) sampling strategy within each of the seven residential sections of the Ali Addeh refugee camp. Data collection began with a randomly approached eligible woman in each zone, who completed the survey and was then asked to refer another woman from her area who met the inclusion criteria and would be willing to participate. This process continued until the required number of participants per section was reached. Only one respondent per household was included, and efforts were made to maintain diversity in age, parity, and marital status. Data were gathered on paper questionnaires and then entered into a secure computer database by the research team for analysis.

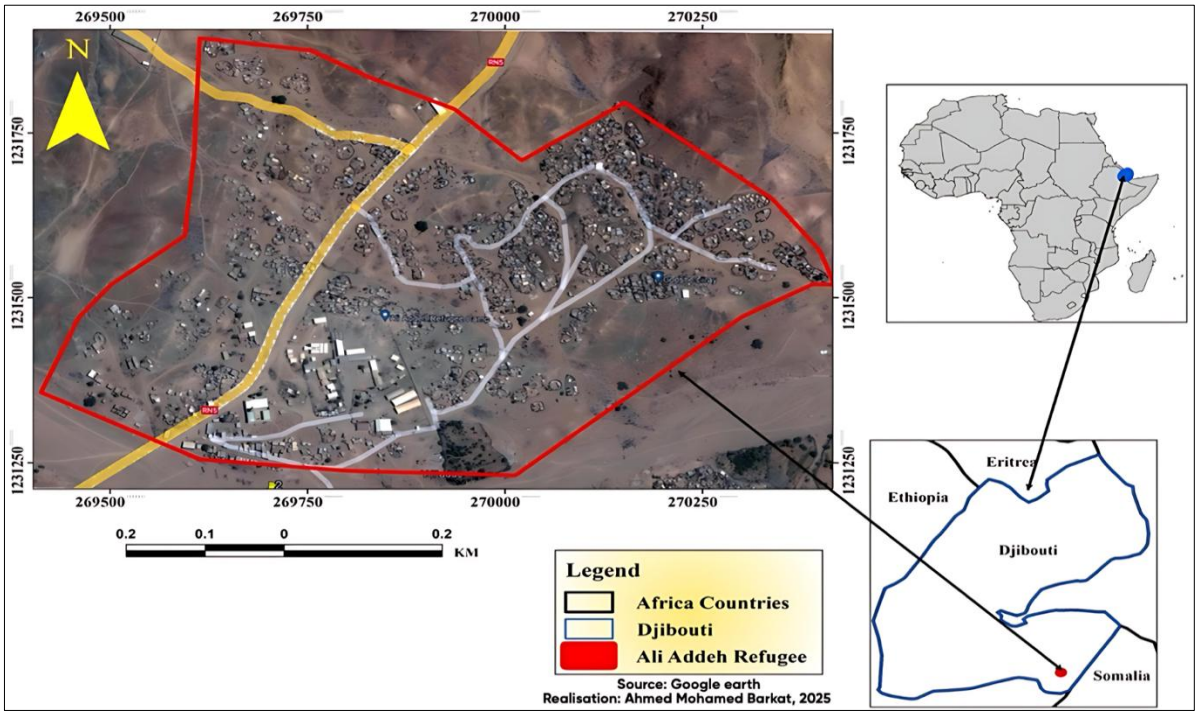


**Figure 1: Map of the study area.**

### *Ethical considerations*

Ethical approval for the study was obtained from University of Ibadan/University College Hospital Ethical Committee (Approval No: UI/EC/24/0304) and Ali Addeh Refugee Camp head. All participants were informed of the reason for the study, their rights, and that their participation was voluntary prior to participating. Verbal consent was also obtained. Participants were assured confidentiality of their responses and freedom to withdraw at any time without penalty.

### *Data management and analysis*

Data were recorded in Microsoft Excel and processed with STATA 18. Descriptive statistics were utilized to portray the sociodemographic features of the respondents, indicators of reproductive health, knowledge of contraceptive, patterns of use, and attitudes. To measure participation in family planning, four composite scores were developed: knowledge (0-6), attitude (0-5), husband involvement (0-7), and access (0-5). Each composite scores were developed by summing binary indicators using relevant survey questions, with favourable responses coded as 1 and unfavourable or missing responses coded as 0. These scores were then categorized into levels (e.g., low, moderate, high) to allow for meaningful interpretation and comparison. Bivariate analysis was conducted to examine association between primary variables using the chi-square test for categorical and Pearson correlation analysis for continuous variables. Multivariate ordered logistic regression was subsequently executed to find predictors of positive attitudes to the use of contraceptives. Independent variables were level of knowledge, level of access, involvement of husband, education, income, age group, pregnancy spacing, and

marital status. The attitude score was the ordinal dependent variable. A p value of less than 0.05 was employed to find statistical significance.

## RESULTS

### *Demographic and social characteristics of respondents*

The study included 360 Somali women of childbearing age who lived in the Ali Addeh refugee camp. Most of the people who took part (65.83%) had no formal education. Only 5.28% had finished secondary school or higher (Table 1). A large majority (90.28%) were married, and almost all (98.06%) said they were unemployed, which shows that they were very dependent on their jobs. Most of the households made less than 15,000 Djiboutian Francs (DJF) a month, which is about 85 USD. The age range was skewed towards older women, with 49.17% of them being 35 years old or older. Most people who answered (89.72%) had lived in the camp for more than ten years, which means that camp residency was usually long-term.

**Table 1: Socio-demographic characteristics of the participants.**

| Variables | Frequency (N) | Percentage (%) |
|---|---|---|
| **Education** | | |
| No formal education | 237 | 65.83 |
| Primary education | 85 | 23.61 |
| Secondary education | 19 | 5.28 |
| College and above | 19 | 5.28 |
| **Marital status** | | |
| Married | 325 | 90.28 |
| Single | 23 | 6.39 |
| Divorced | 10 | 2.78 |
| Widowed | 2 | 0.56 |
| **Occupation** | | |
| Unemployed | 353 | 98.06 |
| Employed | 4 | 1.11 |
| Student | 2 | 0.56 |
| Homemaker | 1 | 0.28 |
| **Income (local currency)** | | |
| <9,999 | 150 | 41.67 |
| 10,000–14,999 | 160 | 44.44 |
| 15,000–19,999 | 21 | 5.83 |
| 20,000–24,999 | 10 | 2.78 |
| ≥25,000 | 19 | 5.28 |
| **Age (years)** | | |
| 15–24 | 67 | 18.61 |
| 25–34 | 116 | 32.22 |
| 35 and above | 177 | 49.17 |
| **Duration in refugee camp (years)** | | |
| 0–4 | 8 | 2.22 |
| 5–9 | 29 | 8.06 |
| 10+ | 323 | 89.72 |

### *Reproductive health characteristics of participants*

The majority of participants were in a union of marriage for substantial years, of which 38.89% were married for 16–20 years, 24.44% for 21–25 years, and 20.28% for 26 years or more of union (Table 2). High fertility was strongly prevalent, with 68.15% of women having five or more births and 59.72% having five or more offspring. Birth spacing was of short to moderate average: 33.89% with less than 18 months spacing, and 54.72% with spacing ranging from 18 to 35 months.

**Table 2: Reproductive health characteristics of participants.**

| Variables | Frequency (N) | Percentage (%) |
|---|---|---|
| **Duration of marriage (years in union)** | | |
| Single | 23 | 6.39 |
| 11–15 | 36 | 10.00 |
| 16–20 | 140 | 38.89 |
| 21–25 | 88 | 24.44 |
| 26 and above | 73 | 20.28 |
| **Gravidity (n=336)** | | |
| 1–2 (low) | 46 | 13.69 |
| 3–4 (medium) | 61 | 18.15 |
| 5+ (high) | 229 | 68.15 |
| **Parity** | | |
| 0–2 (low) | 78 | 21.67 |
| 3–4 (medium) | 67 | 18.61 |
| 5+ (high) | 215 | 59.72 |
| **Birth spacing** | | |
| One child only | 38 | 10.56 |
| Short (<18 months) | 122 | 33.89 |
| Moderate (18–35 months) | 197 | 54.72 |
| Long (36+ months) | 3 | 0.83 |
| **Desired number of children (women)** | | |
| 0–2 (low) | 6 | 1.67 |
| 3–4 (moderate) | 6 | 1.67 |
| 5+ (high) | 348 | 96.67 |
| **Desired number of children (men)** | | |
| 0–2 (low) | 27 | 7.50 |
| 3–4 (moderate) | 7 | 1.94 |
| 5+ (high) | 326 | 90.56 |
| **Desired future birth spacing (years)** | | |
| 0 | 4 | 1.11 |
| Less than 2 | 29 | 8.06 |
| 2–3 | 306 | 85.00 |
| 4+ | 21 | 5.83 |

There were still desires for fertility; 96.67% of women and 90.56% of their partners desired five or more children. However, most women (85%) indicated a desire for 2–3 years of spacing before future pregnancies, reflecting some alignment with health recommendations.

***Knowledge and access to modern contraceptives among Somali refugee women in Ali Addeh***

High level of awareness about modern contraceptive practices was observed among the study participants, as over four-fifths (83.06%) had heard about at least one practice (Table 3). The health workers were the most frequent and most acceptable source of information, cited by 76.67% of the respondents, followed by relatives (1.94%) and friends (5%). At the method-specific knowledge level, the highest level of awareness was for oral contraceptive pills (68.33%), followed by injectables (42.5%), implants (24.17%), intrauterine devices (IUDs) (10%), and condoms (6.94%). Despite high self-reported awareness, the levels of knowledge were low; 89.44% of the respondents fell in the "low knowledge" category based on composite scores. Availability of contraceptives was also low, with 94.44% falling under the poor access category. Just 0.56% had "good" access scores.

In their use, 52.78% of the participants had ever used modern contraceptives, and 50.83% were using at least one during the study period. Most common modern contraceptive use was injectables (42.5%) and pills (41.39%). Implants, condoms, and IUDs were comparatively less used by less than 8% of the participants. Government hospitals (76.88%) and health centres (18.82%) were utilized most to procure most of the contraceptives, followed by private clinics and pharmacies. Travel time to health facilities was also a strongly significant factor: although almost half (48.61%) were within 30 minutes' traveling distance from a clinic, 19.44% provided travel times of more than an hour, reflecting that spatial accessibility remains a challenge in uniform use of contraceptives.

***Perceptions, attitudes, and male partner involvement in contraceptive use among Somali women in Ali Addeh refugee camp, Djibouti (2025)***

Findings showed predominantly negative attitudes toward the utilization of contraceptives by the respondents (Table 4). More than three-quarters (75.28%) agreed that family planning products were unaffordable, and more than half (56.39%) believed that it was not right to use contraceptives. Moreover, the vast majority (85.83%) viewed contraception as women's responsibility, and merely 31.11% believed that it is for men as well. While 70% of the respondents stated that the use of contraceptives was acceptable in their camp, attitudinal ratings revealed a strong resistance: 80.83% were rated as "poor," 18.06% had a moderate attitude, and only 1.11% showed a positive attitude.

Partner male involvement was low in all dimensions that were measured. Contraceptive discussion with their partners was only reported by 31.11% of the women. In so far as decision-making roles were concerned, 49.7% of the respondents had made the decision on their own, while 25.3% mentioned joint decision-making with their spouse. Few mentioned activities of males in any capacity in the use of contraception: only 15.83% mentioned that their husbands supported their use, and fewer than 10% had partners who participated in choosing a method, choosing a facility, or attending for family planning. Overall, 91.94% of participants were in the "low male involvement" category, with merely 8.06% noting high spousal involvement.

***Determinants of attitudes toward contraceptive use among Somali refugee women in Ali Addeh camp, Djibouti (2025)***

Chi-square analysis identified a statistically significant association between husband involvement and attitude level towards contraceptives ($\chi^2$=37.47, p<0.001) (Table 5). Access level was likewise significantly associated with attitude level ($\chi^2$=37.5, p<0.001). Level of attitude was also associated with marital status ($\chi^2$=16.42, p=0.012). There was a high association between access level and distance to the health facility ($\chi^2$=9.48, p=0.048). There were no statistically significant associations for knowledge level and attitude level, knowledge and education, access and income, attitude and interval between pregnancies, or husband involvement and occupation.

Pearson correlation test identified that knowledge score was significantly positively correlated with access score (r=0.263, p<0.001), husband involvement score (r=0.121, p=0.022), and spacing between pregnancies (r=0.136, p=0.001). Husband involvement was also showing positive correlations with access (r=0.255, p<0.001), attitude (r=0.206, p<0.001), and spacing (r=0.165, p=0.002). Statistically significant relationship was also observed between spacing and access score (r=0.332, p<0.001). No relationship was found between attitude and knowledge (r=-0.073, p=0.165) or between attitude and spacing (r=-0.0897, p=0.0827).

Table 6 presents the results of an ordered logistic regression of factors associated with favorable attitudes toward contraceptive use among 360 Somali refugee women in Ali Addeh camp. The results revealed that more husband involvement was significantly associated with more favorable attitudes toward contraceptives (OR=4.32, 95% CI: 1.34–13.87, p=0.014). Age was another deciding factor; women aged 35 years and above were more likely to hold positive attitudes compared to those aged 15–24 (OR=3.40, 95% CI: 1.06–10.92, p=0.040).

Education level was positively related; secondary education participants were more likely to hold positive attitudes than participants with no education (OR=3.67, 95% CI: 1.22–11.01, p=0.021). Income was also significant, with high-income group participants having a higher likelihood of positive attitudes (OR=2.47, p=0.024), whereas the middle-income group had decreased likelihood of positive attitudes in comparison with the low-income group (OR=0.33, p=0.004).

**Table 3: Knowledge and access to modern contraceptives among Somali women in Ali Addeh refugee camp, Djibouti (2025).**

| Variables | Frequency (N) | Percentage (%) |
|---|---|---|
| **Heard of modern contraceptives** | | |
| No | 61 | 16.94 |
| Yes | 299 | 83.06 |
| **Source of information** | | |
| Health worker | 276 | 76.67 |
| Friend | 18 | 5.00 |
| Family | 7 | 1.94 |
| **Methods knows** | | |
| Pills | 246 | 68.33 |
| Condoms | 25 | 6.94 |
| Injections | 36 | 10.00 |
| Implants | 87 | 24.17 |
| IUD | 36 | 10.0 |
| **Ever used contraceptives** | | |
| No | 170 | 47.22 |
| Yes | 190 | 52.78 |
| **Contraceptive method used before** | | |
| IUD | 12 | 3.33 |
| Injectable | 168 | 46.67 |
| Pills | 151 | 41.94 |
| Implants | 35 | 9.72 |
| Condoms | 16 | 4.44 |
| **Currently using contraceptives** | | |
| No | 177 | 49.17 |
| Yes | 183 | 50.83 |
| **Method** | | |
| Pills | 149 | 41.39 |
| Condoms | 11 | 3.06 |
| Injectables | 153 | 42.50 |
| Implants | 27 | 7.50 |
| IUD | 7 | 1.94 |
| **Source of contraceptives among users** | | |
| Government hospital | 143 | 76.88 |
| Health center | 35 | 18.82 |
| Pharmacies | 1 | 0.54 |
| Private clinics | 7 | 3.76 |
| **Distance to health facility** | | |
| Short (<30 min) | 175 | 48.61 |
| Moderate (30–59 min) | 115 | 31.94 |
| Long (60+ min) | 70 | 19.44 |
| **Knowledge level on contraceptive methods** | | |
| Low (score 0-2) | 322 | 89.44 |
| Moderate (score 3- 4) | 38 | 10.56 |
| **Levels of access to contraceptives** | | |
| Poor (score 0-1) | 340 | 94.44 |
| Moderate (score 2-3) | 18 | 5.0 |
| Good (score 4-5) | 2 | 0.56 |

**Table 4: Perceptions, attitudes, and male partner involvement in contraceptive use among Somali women in Ali Addeh refugee camp, Djibouti (2025).**

| Statement | Agree (N, %) | Disagree (N, %) |
|---|---|---|
| **Perceptions and attitudes toward contraceptives among respondents** | | |
| Commodities are inaccessible | 271 (75.28) | 89 (24.72) |
| Couple counselling improves male involvement in contraceptive use | 182 (50.56) | 178 (49.44) |
| Contraceptives are for females only | 309 (85.83) | 51 (14.17) |
| Contraceptives are acceptable in your camp | 252 (70.00) | 108 (30.00) |
| Contraceptives benefit males too | 112 (31.11) | 248 (68.89) |
| It is wrong to use contraceptives | 203 (56.39) | 157 (43.61) |
| **Levels of attitude toward contraceptives** | | |
| Level (score) | **N** | **%** |
| Poor (score 0-1) | 291 | 80.83 |
| Moderate (score 2-3) | 65 | 18.06 |
| Favourable (score 4-5) | 4 | 1.11 |
| **Male partner involvement in family planning and contraceptive use** | **No (N, %)** | **Yes (N, %)** |
| Discussed contraceptive use with partner | 248 (68.89) | 112 (31.11) |
| Husband supports respondent's use of contraceptives | 303 (84.17) | 57 (15.83) |
| Husband has ever paid for family planning or related services | 337 (93.61) | 23 (6.39) |
| Husband involved in choosing family planning method | 330 (91.67) | 30 (8.33) |
| Husband uses any contraceptive method | 346 (96.11) | 14 (3.89) |
| Husband involved in choosing facility for family planning services | 334 (92.78) | 26 (7.22) |
| Husband accompanied respondent to a family planning clinic | 341 (94.72) | 19 (5.28) |
| **Contraceptive decision-making authority** | Woman alone | 179 (49.7) |
| | Husband alone | 31 (8.6) |
| | Joint decision | 91 (25.3) |
| | Family/others | 32 (8.9) |
| | No one | 27 (7.5) |
| **Husband involvement level** | | |
| Level (score) | **N** | **%** |
| Low involvement (score 0-3) | 331 | 91.94 |
| High involvement (score 4-7) | 29 | 8.06 |

**Table 5: Associations between composite scores and participant characteristics among Somali refugee women in Ali Addeh camp, Djibouti (2025).**

| Composite score outcome | Independent variable | $\chi^2$-value | P value |
|---|---|---|---|
| **Chi-square tests between composite scores and background characteristics** | | | |
| Knowledge level | Attitude level | 1.89 | 0.387 |
| Husband involvement level | Attitude level | 37.47 | 0.000* |
| Access level | Attitude level | 37.5 | 0.000* |
| Knowledge level | Education level | 4.64 | 0.200 |
| Attitude level | Marital status | 16.42 | 0.012* |
| Access level | Income | 7.72 | 0.461 |
| Access level | Distance to clinic | 9.48 | 0.048* |
| Husband involvement level | Occupation | 0.63 | 0.891 |
| Attitude level | Spacing between pregnancies | 5.34 | 0.500 |

| **Pearson correlation coefficients between composite scores and spacing between pregnancies** | | | | | | |
|---|---|---|---|---|---|---|
| **Variables** | | **Knowledge score** | **Attitude score** | **Access score** | **Husband involvement score** | **Pregnancies Spacing** |
| Knowledge score | r | 1.000 | | | | |
| | P value | - | | | | |
| Attitude score | r | –0.073 | 1.000 | | | |
| | P value | 0.1650 | - | | | |
| Access score | R | 0.263* | -0.1130 | 1.000 | | |

Continued.

| Composite score outcome | Independent variable | | | $\chi^2$-value | P value |
|---|---|---|---|---|---|
| | P value | <0.001 | 0.032 | - | |
| Husband involvement score | R | 0.121* | 0.206* | 0.255* | 1.000 | |
| | P value | 0.022 | <0.001 | <0.001 | |
| Pregnancies spacing | r | 0.136* | -0.0897 | 0.332* | 0.165* | 1.000 |
| | P value | 0.0010 | 0.0827 | <0.001 | 0.002 | - |

* Statistically significant results (p<0.05)

**Table 6: Multivariable ordered logistic regression analysis of predictors of attitudes toward contraceptive use among women in Ali Addeh refugee camp, Djibouti (2025).**

| Predictor | | Odds ratio | Std. err. | z | P value | 95% CI |
|---|---|---|---|---|---|---|
| **Knowledge level** | Low (score 0-2) | Ref | - | - | - | - |
| | Moderate (score 3-4) | 2.09 | 0.94 | 1.64 | 0.101 | [0.87, 5.05] |
| | Poor (score 0-1) | Ref | - | - | - | - |
| **Access level** | Moderate (score 2-3) | 3.23 | 2.30 | 1.65 | 0.100 | [0.80, 13.06] |
| | Good (score 4-5) | 10.18 | 15.89 | 1.49 | 0.137 | [0.48, 216.89] |
| **Husband involvement** | Low involvement (score 0-3) | Ref | - | - | - | - |
| | High involvement (score 4-7) | 4.32 | 2.57 | 2.46 | 0.014* | [1.34, 13.87] |
| **Spacing between pregnancies** | One child only | Ref | - | - | - | - |
| | Short (<18 months) | 1.24 | 1.02 | 0.26 | 0.795 | [0.25, 6.24] |
| | Moderate (18–35 months) | 0.85 | 0.70 | -0.19 | 0.847 | [0.17, 4.28] |
| | Long (36+ months) | 0.47 | 0.72 | -0.49 | 0.624 | [0.02, 9.55] |
| **Age group (years)** | 15–24 | Ref | - | - | - | - |
| | 25–34 | 1.56 | 0.91 | 0.76 | 0.447 | [0.50, 4.87] |
| | 35+ | 3.40 | 2.02 | 2.06 | 0.040* | [1.06, 10.92] |
| **Education level** | No formal education | Ref | - | - | - | - |
| | Primary education | 1.19 | 0.43 | 0.49 | 0.625 | [0.59, 2.42] |
| | Secondary education | 3.67 | 2.06 | 2.32 | 0.021* | [1.22, 11.01] |
| **Income level** | Low | Ref | - | - | - | - |
| | Middle | 0.33 | 0.13 | -2.89 | 0.004** | [0.16, 0.70] |
| | High | 2.47 | 0.99 | 2.26 | 0.024* | [1.13, 5.42] |
| **Marital status** | Married | Ref | - | - | - | - |
| | Unmarried/other | 1.29 | 0.88 | 0.37 | 0.709 | [0.34, 4.90] |

Dependent variable: attitude level toward contraceptives (1=poor, 2=moderate, 3=favorable), independent variables: knowledge level, access level, husband involvement level, between pregnancy, age, level of education, income, marital status, distance to health facilities; * p<0.05 is considered statistically significant, ref=reference, OR (odds ratio): A value >1 means increased odds of a more favorable attitude

## DISCUSSION

This study investigated determinants and patterns of contraceptive used among Somali refugee women in Ali Addeh camp, Djibouti. Faced with high self-reported knowledge of modern contraceptive methods, the findings presented a formidable paradox: low levels of correct knowledge, widespread attitudinal resistance, unfavourable male partner support, and substantial access barriers. These results reflect both the deeply entrenched sociocultural realities of Somali life and the structural constraints of long-term displacement, and they contribute to an emerging literature studying reproductive health in contexts of protracted refugee crisis.

In this study, 65.8% of women had no formal education, with only 5.28% having completed secondary school or higher. This is significantly higher than the 40% reported among Somali refugee women in a Kampala-based study, in which 60% had some formal education or higher.[14] The major finding was a clear discrepancy between awareness and actual knowledge about contraception. While 83.06% of participants recognized one or more modern methods, nearly 90% fell into the low-knowledge category based on composite scores. This mirrors findings among Somali refugee and migrant women elsewhere, where familiarity with family planning methods often coexists with misconceptions and limited understanding of purpose, safety, and effectiveness.[12,15] Such gaps suggest that awareness alone is insufficient to translate into informed contraceptive choices, underscoring the need for targeted, context-specific education strategies. Fertility patterns reflected persistently high norms, with 68.2% of participants having five or more births and 33.9% reporting birth intervals shorter than 18 months. These results are consistent with studies among Somali women

in Kampala, where the majority desired five or more children and reported mean fertility intentions near nine children.[14] While 85% of women expressed a preference for 2–3 years of spacing indicating partial alignment with health recommendations this coexistence of high fertility ideals with moderate spacing desires reflects a transitional stage where cultural norms remain strong but some health-oriented behaviours are emerging. Addressing this gap between knowledge, attitudes, and practice will require interventions that not only provide accurate contraceptive information but also navigate socio-cultural values influencing fertility and spacing preferences.

The study found that 50.83% participants were actively using at least one method during the study period which is an increase usage rate compare to the 5.6% previously reported in 2011.[11] This significant increase is probably a result of increased family planning service accessibility and heightened awareness-raising efforts during the previous ten years. It is an encouraging change in reproductive health behaviour and a step towards fulfilling previously unmet family planning requirements. These results are, nonetheless, more consistent with regional trends noted across other refugee contexts. For instance, the modern contraceptive prevalence rate (mCPR) noted here is higher than the 28.2% noted among refugees in Adjumani, Uganda, and even higher than rates noted across refugee camps within Kenya (24%) and Rwanda (32–40%).[16-18]

The access to modern contraceptives was notably low, with 94.44% of participants falling under the "poor access" category and only 0.56% achieving "good" access scores. This pattern is consistent with evidence from other humanitarian contexts, where systemic supply chain weaknesses, limited-service provision, and logistical barriers frequently impede access. For example, in Eritrean refugee camps in Tigray, Ethiopia, Gebrecherkos et al reported that the availability of modern contraceptives was a significant predictor of unmet need, with inadequate supply contributing to high levels of unintended pregnancy.[19] Similarly, in the Wassa IDP camp in Nigeria, Awawu et al found that 74.8% of women reported no contraceptive services in the camp, underscoring the persistent gap between global reproductive health standards and on-the-ground realities in displacement settings.[20] These parallels suggest that the structural challenges observed in Ali Addeh camp are not isolated but rather emblematic of broader humanitarian health system limitations.

Most women were afraid of being disapproved of or assaulted for using contraception without the knowledge of their husband similar to Somali refugees in Kenya and Ethiopia, where male approval and discussion are essential for contraceptive use.[21,22] The majority of the respondent held negative attitudes toward contraceptive use, with 56.39% believing it was not right to use. Despite 70% of them stating it was acceptable in the camp, 80.83% had poor attitude scores. Similar patterns of affordability concerns and gendered responsibility have been documented among Somali refugees in Kakuma, Kenya and South Sudanese refugees in Uganda.[21,23]

Low male partner involvement in Ali Addeh camp reflects patterns observed among other Somali and refugee populations, where spousal support is a consistent determinant of favorable contraceptive attitudes and uptake. Although 31.11% of women reported ever discussing contraception with their husbands, only 8.06% had high spousal participation, and regression analysis confirmed that husband support was significantly associated with positive attitudes toward contraceptive use. Similar findings have been documented in Nairobi, where Somali women whose partners approved of contraception were more than twice as likely to use modern methods.[17] Among South Sudanese refugees in Uganda, male engagement through joint decision-making and service attendance was a key facilitator of contraceptive use, while in rural Ethiopia, couple communication substantially increased contraceptive adoption.[23,24]

In Kakuma refugee camp, Kenya, limited male involvement rooted in gendered decision-making norms was shown to constrain women's contraceptive choices.[21] Research among refugee adolescents in Uganda also found that male partner attitudes directly shaped uptake, and targeted male engagement strategies in refugee settlements have been shown to improve reproductive health service utilization.[4,25] These findings collectively reinforce the need for male-inclusive family planning interventions in humanitarian contexts.

### *Limitations*

In spite of its merits, this study is also prone to a number of limitations. Indeed, the cross-sectional nature of this study restricts the possibility of establishing causal links among variables. Secondly, the use of self-reported data could result in recall bias, especially concerning contraceptive use and fertility intentions in the past. Thirdly, the research was carried out in one refugee camp alone, and this could restrict the generalizability of the results to other refugee camps.

## CONCLUSION

This study advances knowledge of the complex factors affecting Somali refugee women's use of contraception in Djibouti's Ali Addeh camp. Despite high awareness of new methods of contraception, there is critically low functional knowledge, access, and positive attitudes. Partner support, education level and income level were significantly associated with favourable contraceptive attitudes and spacing behaviour, underlining the necessity for using gender-transformative approaches. These findings emphasize the necessity of integrating culturally responsive, community-based approaches into refugee reproductive health programming. Strengthening health

system responsiveness, promoting male engagement, and social norms are essential to progressing informed contraceptive choice and improving maternal health among displaced women.

*Funding: The study was funded by the African Union Commission through the Pan African University Life and Earth Sciences Institute, including Health and Agriculture (PAULESI)*
*Conflict of interest: None declared*
*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Logie CH, Okumu M, MacKenzie F, Kibuuka-Musoke D, Hakiza R, Katisi B, et al. Social-ecological factors associated with trajectories of adolescent sexual and reproductive health stigma: longitudinal cohort findings with urban refugee youth in Kampala. Sex Health. 2024;21(5):SH24098.
2. Aksoy C, Ginn TD. Attitudes and policies toward refugees: evidence from low- and middle-income countries. Policy Res Work Pap. 2022;9985.
3. Bellizzi S, Pichierri G, Menchini L, Barry J, Sotgiu G, Bassat Q. The impact of underuse of modern methods of contraception among adolescents with unintended pregnancies in 12 low- and middle-income countries. J Glob Health. 2019;9(2):020429.
4. Bakesiima R, Cleeve A, Larsson E, Tumwine JK, Ndeezi G, Danielsson KG, et al. Modern contraceptive use among female refugee adolescents in northern Uganda: prevalence and associated factors. Reprod Health. 2020;17(1):67.
5. Million S, Gebru Z, Hassen S, Tesfaye S. Unmet need for modern contraceptive methods among displaced married women in their reproductive years in Bishan Guracha Town, West Arsi Zone, Oromia Region, Ethiopia. Int J Reprod Med. 2024;2024:6662117.
6. World Health Organization. Acceleration towards the Sustainable Development Goal targets for maternal health and child mortality: 154th session, provisional agenda item 12. 2023. Available at: https://apps.who.int/gb/ebwha/pdf_files/EB154/B154_12-en.pdf?utm_source=chatgpt.com. Accessed on 12 October 2025.
7. Mona, Suri S. India's family planning mission puts burden of sterilisation on women at the cost of their health. Observer Research Foundation. 2022. Available at: https://www.orfonline.org/research/burden-of-sterilisation-on-women-at-the-cost-of-their-health. Accessed on 12 October 2025.
8. Susuman AS, Chialepeh WN, Bado A, Lailulo Y. High infant mortality rate, high total fertility rate and very low female literacy in selected African countries. Scand J Public Health. 2016;44(1):2-5.
9. Population Reference Bureau. 2016 World Population Data Sheet with a special focus on human needs and sustainable resources. Washington (DC): Population Reference Bureau. 2016. Available at: https://www.prb.org/wp-content/uploads/2016/08/ prb-wpds2016-web-2016.pdfnlm.nih. Accessed on 12 October 2025.
10. Ojuolape N. Trusting the process: family planning and contraceptive uptake in Somalia. UNFPA Somalia. 2023. Available at: https://somalia.unfpa.org/en/news/trusting-process-family-planning-and-contraceptive-uptake-somaliablogs.cranfield. Accessed on 12 October 2025.
11. UNHCR. Baseline study: documenting knowledge, attitudes and behaviours of Somali refugees and the status of family planning services in UNHCR's Ali Addeh Site, Djibouti. Geneva: UNHCR. 2011. Available at: https://www.unhcr.org/sites/default/files/legacy-pdf/4e8c0b589.pdfnlm.nih. Accessed on 12 October 2025.
12. Gele A, Musse FK, Shrestha M, Qureshi S. Barriers and facilitators to contraceptive use among Somali immigrant women in Oslo: a qualitative study. PLoS One. 2020;15(3):e0229916.
13. Hammond L. History, overview, trends and issues in major Somali refugee displacements in the near region (Djibouti, Ethiopia, Kenya, Uganda and Yemen). Bildhaan. 2013;13:55-79.
14. Abdulahi M, Kakaire O, Namusoke F. Determinants of modern contraceptive use among married Somali women living in Kampala; a cross sectional survey. Reprod Health. 2020;17(1):72.
15. Zhang Y, McCoy EE, Scego R, Phillips W, Godfrey EA. A qualitative exploration of Somali refugee women's experiences with family planning in the U.S. J Immigr Minor Health. 2020;22(1):66-73.
16. Adeoti L, Onyekachi N, Olatinsu O, Fatoba J, Bello M. Static reservoir modeling using well log and 3-D seismic data in a KN Field, Offshore Niger Delta, Nigeria. Int J Geosci. 2014;5(1):93-106.
17. Gitonga E, Gage AJ. Modern contraceptive prevalence and its predictors among non-refugee and refugee Somali women in Nairobi City, Kenya; a comparative view. Front Glob Womens Health. 2024;5:1328612.
18. Nyirimanzi JD, Butare B, Iryanyawera MC, Mugisha M, Mutamba D, Kayumba P. The utilisation of modern contraceptives in refugee camps. Rwanda Public Health Bull. 2020;2(4):15-18.
19. Gebrecherkos K, Gebremariam B, Gebeyehu A, Siyum H, Kahsay G, Abay M. Unmet need for modern contraception and associated factors among reproductive age group women in Eritrean refugee camps, Tigray, North Ethiopia: a cross-sectional study. BMC Res Notes. 2018;11(1):851.
20. Awawu SG, Ekele OG, Shamsiya I, Olayinka SR, Amos N. Access to contraceptive services in crisis environment: a case study of women in Wassa internally displaced persons camp in the Federal Capital Territory, Abuja. Int J Adv Multidiscip Res Stud. 2024;4(6):420-3.
21. Kiura AW. Constrained agency on contraceptive use among Somali refugee women in the Kakuma Refugee Camp in Kenya. Gend Technol Dev. 2014;18(1):147-61.

22. Tadesse K, Seifu W. Why refugee women didn't use modern contraceptives? Lesson from women in Shedder Refugee Camp, Ethiopian Somali Regional State, Eastern Ethiopia. Gynecol Obstet (Sunnyvale). 2017;7(1):1000432.
23. Achola R, Atuyambe L, Nabiwemba E, Nyashanu M, Garimoi Orach C. Barriers to contraceptive use in humanitarian settings: experiences of South Sudanese refugee women living in Adjumani District, Uganda; an exploratory qualitative study. PLoS One. 2024;19(3):e0278731.
24. Tilahun T, Coene G, Temmerman M, Degomme O. Spousal discordance on fertility preference and its effect on contraceptive practice among married couples in Jimma Zone, Ethiopia. Reprod Health. 2014;11(1):27.
25. Auma I, Nabaweesi D, Orech S, Alege JB, Komakech A. Determinants of male involvement in antenatal care at Palabek Refugee Settlement, Lamwo district, Northern Uganda. BMC Pregnancy Childbirth. 2023;23(1):325.

**Cite this article as:** Barkat AM, Oladokun A, Adhana MT. Family planning knowledge and practices in displacement: exploring barriers among Somali refugee women in Ali Addeh camp. Int J Reprod Contracept Obstet Gynecol 2026;15:22-32.