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ORIGINAL ARTICLE

# Frequency and Factors of Unmet Need for Family Planning in a Rural Setting of Pakistan: A Cross-Sectional Study

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## ABSTRACT

**Objective:** To determine the frequency of unmet need for family planning and its risk factors among married women of reproductive age.

**Methods:** This descriptive cross-sectional study was conducted in a rural community of Mustafabad, Pakistan, from August 2023 to August 2024, enrolling married women aged 18-49. The unmet need for family planning was defined as the proportion of married women who want to delay or avoid pregnancy but are not using contraception. The study assessed various factors, including age, religion, education, occupation, number of children, knowledge of family planning methods, challenges in accessing services, and barriers to contraceptive use.

**Results:** Out of 209 married women, unmet need for family planning was reported by 128 (61.2%) women. Younger women aged 18–25 and 26–35 had significantly higher odds compared to those over 35 (aOR 9.04; 95% CI: 2.77–29.55; p-value <0.001 and aOR 3.42; 95% CI: 1.30–8.86; p-value 0.011, respectively). Employed women had 77% lower odds of unmet need (aOR 0.23; 95% CI: 0.07–0.68; p-value 0.008). Women who reported easy availability of family planning services had 79% lower odds of unmet need (aOR 0.21; 95% CI: 0.06–0.67; p-value 0.017), while women facing difficulty in accessing services had 30 times higher odds of unmet need (aOR 30.28; 95% CI: 11.77–77.92; p-value <0.001).

**Conclusion:** The study highlights that approximately three-fifths of women have an unmet need for family planning, particularly among younger age groups, unemployed women, poor availability and those facing difficulties accessing services.

**Keywords:** Contraception, Family Planning Services, Rural Population, Unmet Need.

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## INTRODUCTION

Across the development world, there are major family planning challenges that appear to be more serious in rural regions where hardly any healthcare facilities are reached by the common people and access to modern contraception is a problem.[1] There is no denying that such is true of Pakistan which is the fifth largest country by population and where, scanty family planning services – representing unmet need – remain a major cause for concern, especially among those in rural areas where around 63 percent of the total population resides.[2]

In all fairness, the reasons why family planning services are not being supplied in rural areas only constitute the tip of the iceberg when looking for explanations of why such is the structural trend of reproductive health. Such an overall health profile alteration has also been a longstanding concern other than maternal healthcare so there is a need to encourage the use of reliable family planning methods.[3]

The Pakistani context also looks extremely gloomy in that, as demonstrated by various sources and evidence in the literature, there are many women and girls who cannot access contraceptive methods due to social and person-oriented norms banning such requests. Such can also be attributed to a rights violation on the right to access reproductive health information and services as many women are also not allowed to seek family planning services.[4] Unfortunately, the above gap is wider in rural areas where the total fertility rate (TFR) is very high. In rural areas such as Sindh, the TFR is at about 3.9 while in urban areas, it is 2.9.[5]

The size of the effective demand for contraception is particularly worrying in rural Pakistan; some sources indicate that almost 25% of married women of reproductive age require certain types of contraception but have no access to it.[5] Also, this huge percentage of the population faces complications and restrictions in securing health care, economic, and reproductive

health services, which makes their health a thing of major concern.[6] Poor infrastructure in the rural areas of Pakistan also hinders the efforts to address the gaps in family planning services.[7]

The socio-economic status of a given population has a direct effect on family planning in rural areas. In rural regions where people live below the poverty line and there are low literacy levels, only a few women can afford or even access family planning due to abject poverty and general decapitation to social access, information, and validated knowledge about contraceptive methods.[8] This situation has been made even worse by the coronavirus disease of 2019 (COVID-19) pandemic, which has affected the provision of medical care and commodities.[9]

Identifying the factors contributing to the unmet need for family planning in rural areas in Pakistan is necessary to create action plans. In such a context, the present research endeavours to inquire into the unmet need for family planning in rural Pakistan. Moreover, in this rural setting, the proposed research seeks to understand what hinders and facilitates the provision of family planning services. All these must be considered and addressed to close this gap between the unmet needs of family planning and service delivery in the rural areas of Pakistan.

## METHODS

This descriptive cross-sectional study was conducted, from August 2023 to August 2024, in a rural community of Mustafabad, Pakistan. Ethical approval was obtained from the Institutional Ethics Committee of Aziz Fatimah Medical and Dental College (Reference No. IEC 247/23). All participants were informed about the purpose and voluntary nature of the study, and confidentiality was maintained throughout.

By using OpenEPI sample size calculator taking prevalence of unmet need for family planning 16.2%,[10] level of confidence 95%, 5% margin of error. The estimated sample size was 209.

Eligible participants were married women aged 18 to 49 years who were permanent residents and who provided informed consent. Exclusion criteria included current pregnancy, known infertility, previous sterilization (tubal ligation or hysterectomy), cognitive impairment hindering comprehension of the study, and unwillingness to participate.

The unmet need for family planning was defined in accordance with WHO guidelines as the proportion of married women who wished to postpone their next pregnancy for at least two years (spacing) or did not want more children (limiting), but were not using any method of contraception. Data collection was conducted through door-to-door interviews using a structured, self-developed questionnaire, which was reviewed for content validity by experts in reproductive and public health. A pilot study involving 20 participants was carried out to ensure clarity and cultural relevance, and modifications were made accordingly. The internal consistency of the questionnaire was assessed using Cronbach's alpha, yielding a value of 0.78, indicating acceptable reliability.

The questionnaire consisted of two sections: the first focused on socio-demographic characteristics, including age, religion, education, occupation, and number of children. The second section addressed factors such as knowledge of family planning methods, challenges in accessing services, and barriers to contraceptive use.

"Sufficient knowledge" of family planning was defined as correctly identifying at least two or more modern contraceptive methods along with basic understanding of their usage and effectiveness. Women who failed to meet these criteria or held misconceptions were classified as having "insufficient knowledge."

Data were entered and analyzed using Statistical Package for Social Sciences (SPSS) version 20.0. Categorical variables, including age group, religion, employment status, literacy, family size, awareness, contraceptive use, and barriers to family planning were reported as frequencies and percentages. Inferential analysis was conducted using the Chi-square/Fisher exact test to assess relationship between socio-demographic and perception variables with unmet need for family planning. A p-value of ≤0.05 was considered statistically significant. Additionally, binary logistic regression was performed on significant variables identified in contingency tables. Univariable and multivariable logistic regression analyses were carried out to determine independent risk factors for unmet need of family planning, and results were reported as crude and adjusted odds ratios (ORs) with 95% confidence intervals (CIs).

## RESULTS

A total of 209 married women participated in the study. The majority of respondents 83 (39.7%) were aged >35 years, followed by those aged 26–35 years 70 (33.6%) and 18–25 years 56 (26.7%). Most participants were muslim 199 (95.2%), and 177 (84.7%) were unemployed. In terms of education, 78 (37.3%) were illiterate, while 131 (62.7%) were literate.

Regarding family size, 130 (62.2%) of women reported having three or more children. While a large proportion 176 (84.2%) reported awareness of family planning, only 23 (11.0%) demonstrated sufficient knowledge, defined as the ability to identify at least two modern methods and describe their use. The main sources of information were friends or family 79 (37.8%), healthcare providers 57 (27.3%), and media 25 (12.0%). Additionally, 179 (85.6%) of respondents stated that family planning services were not easily available, while 142 (67.9%) faced difficulty accessing them.

The overall frequency of unmet need for family planning in the study population was 128 (61.2%). Unmet need for family planning was significantly higher among women aged 18-25 years (p-value < 0.001), muslim (p-value 0.006), and unemployed (p-value <0.001). Additionally, women who had no sufficient knowledge of different family planning methods (p-value <0.001) and those who faced challenges such as poor availability (p-value <0.001) and difficulty in accessing services (p-value <0.001) also had a higher unmet need (Table 1).

Table 2 presents the binary logistic regression analysis for predicting unmet need for family planning. At the univariate level, all variables presented in Table 2 showed significant crude odds ratio. Multivariable analysis showed that women aged 18-25 years and 26-35 years had significantly higher odds of unmet need compared to those older than 35 years (aOR 9.04; 95% CI: 2.77-29.55; p-value <0.001 and aOR 3.42; 95% CI: 1.30–8.86; p-value 0.011, respectively). Employed women had 77% lower odds of unmet need (aOR 0.23; 95% CI: 0.07-0.68; p-value 0.008). Women who reported easy availability of family planning services had 79% lower odds of unmet need (aOR 0.21; 95% CI: 0.06-0.67; p-value 0.017), while difficulty in accessing

**Table 1: Comparison of unmet need for family planning with predictor variables (n = 209)**

| | Total | Unmet Need for Family Planning | | p-value |
|---|---|---|---|---|
| | | Yes (n= 128) | No (n= 81) | |
| **Age (years)** | | | | |
| 18 – 25 | 56 | 44 (78.6) | 12 (21.4) | <0.001^* |
| 26 – 35 | 70 | 50 (71.4) | 20 (28.6) | |
| >35 | 83 | 34 (41.0) | 49 (59.0) | |
| **Religion** | | | | |
| Muslim | 199 | 126 (63.3) | 73 (36.7) | 0.006~* |
| Non-muslim | 10 | 2 (20.0) | 8 (80.0) | |
| **Education** | | | | |
| Illiterate | 78 | 45 (57.7) | 33 (42.3) | 0.416^ |
| literate | 131 | 83 (63.4) | 48 (36.6) | |
| **Occupation** | | | | |
| Employed | 32 | 9 (28.1) | 23 (71.9) | <0.001^* |
| Unemployed[a] | 177 | 119 (67.2) | 58 (32.8) | |
| **Sufficient Knowledge of Diferent Family Planning Methods**[b] | | | | |
| Yes | 23 | 8 (34.8) | 15 (65.2) | 0.006^* |
| No | 186 | 120 (64.5) | 66 (35.5) | |
| **Number of Children** | | | | |
| 2 or less | 79 | 54 (68.4) | 25 (31.6) | 0.109^ |
| 3 or more | 130 | 74 (56.9) | 56 (43.1) | |
| **Easy Availability of Family Planning Services** | | | | |
| Yes | 30 | 9 (30.0) | 21 (70.0) | <0.001^* |
| No | 179 | 119 (66.5) | 60 (33.5) | |
| **Difficulty in Accessing Family Planning Services** | | | | |
| Yes | 142 | 117 (82.4) | 25 (17.6) | <0.001^* |
| No | 67 | 11 (16.4) | 56 (83.6) | |

***** p-value ≤ 0.05 (^Chi-Square/~Fisher Exact test)

[a]Unemployed also included students and housewives,[b]Sufficient knowledge of family planning was defined as correctly identifying at least two or more modern contraceptive methods along with basic understanding of their usage and efectiveness

services increased the odds of unmet need by 30 times (aOR 30.28; 95% CI: 11.77–77.92; p-value <0.001).

The most frequently reported reason for non-use of contraception was husband's unwillingness 67 (52.3%), followed by fear of side effects 19 (14.8%), familial disapproval 18 (14.1%), and lack of awareness 12 (9.4%). The most common barriers included distance to the health facility 44 (34.4%), unavailability of preferred methods 28 (21.9%), and cost of services 28 (21.9%) (Table 3).

## DISCUSSION

Our study revealed that approximately three-fifth portion of the population expressed an unmet need family planning, highlighting challenges in accessibility and knowledge. About eighty nine percent had claimed that they did not have sufficient knowledge about family planning which could be viewed as a major setback to increase family planning mission in Pakistan when the majority had not even had efficient knowledge about it, then how could they practice it. Similar results were observed in a study conducted by Sarfraz *et al.* where the majority of the participants of kabarole, Uganda had insufficient knowledge about family planning methods contributing to unmet need for family planning.[11] In contrast, research done by Ngene showed that participants had sufficient knowledge about family planning including long-term contraceptive methods including improved access to family planning centers as compared to Pakistan.[12] The difference may be due to the difference in socio-demographics of both populations which further lead to accessibility issues and burden of not using contraception.

In our sample population, a large portion of participants reported facing issues with accessing family planning services. This is similar to a study by Amaje *et al*. which found that a large proportion of their sample also had access to these services.[13] This difference shows that in Pakistan, women's accessibility to family planning services is very low which leads to an unmet need for family planning.

This study showed that more than half of the participants had an unmet need for family planning and the major reason behind this was husband disapproval, followed by fear of side-effects. A study by Tadesse *et al*. also found a high prevalence of unmet needs in a

**Table 2: Binary logistic regression analysis for predicting unmet need for family planning among married women of reproductive age (n = 209)**

| Variables | Univariable analysis | | Multivariable analysis | |
|---|---|---|---|---|
| | cOR (95% CI) | p-value | aOR (95% CI) | p-value |
| **Age (years)** | | | | |
| 18 – 25 | 5.28 (2.43 to 11.45) | <0.001* | 9.04 (2.77 to 29.55) | <0.001* |
| 26 – 35 | 3.60 (1.82 to 7.10) | <0.001* | 3.42 (1.30 to 8.86) | 0.011* |
| >35 | 1 | | 1 | |
| **Religion** | | | | |
| Muslim | 6.90 (1.42 to 33.38) | 0.016* | 1.04 (0.13 to 8.10) | 0.901 |
| Non-muslim | 1 | | 1 | |
| **Occupation** | | | | |
| Employed | 0.19 (0.08 to 0.43) | <0.001* | 0.23 (0.07 to 0.68) | 0.008* |
| Unemployed[a] | 1 | | 1 | |
| **Sufficient Knowledge of Different Family Planning Methods[b]** | | | | |
| Yes | 0.29 (0.11 to 0.72) | 0.008* | 0.31 (0.08 to 1.18) | 0.128 |
| No | 1 | | 1 | |
| **Easy Availability of Family Planning Services** | | | | |
| Yes | 0.21 (0.09 to 0.50) | <0.001* | 0.21 (0.06 to 0.67) | 0.017* |
| No | 1 | | 1 | |
| **Difficulty in Accessing Family Planning Services** | | | | |
| Yes | 23.82 (10.95 to 51.83) | <0.001* | 30.28 (11.77 to 77.92) | <0.001* |
| No | 1 | | 1 | |

*p-value ≤ 0.05, cOR: Crude odds ratio, aOR: Adjusted odds ratio, CI: confidence interval

[a]Unemployed also included students and housewives, [b]Sufficient knowledge of family planning was defined as correctly identifying at least two or more modern contraceptive methods along with basic understanding of their usage and effectiveness

rural setting, similar to our findings.[14] On the other hand, a study by Anindita reported a lower range of unmet needs, but it shared similarities with our study in terms of husband support, as over half of the participants reported unsupportive husbands.[15] The husband's education and understanding of contraception play a key role in family planning. One of the main reasons for not using contraceptive methods is the fear of side effects or health concerns. In our study, a small portion of women reported this fear. Similarly, another study found that fear of side effects was a key reason for not using contraceptives, following the husband's influence.[16]

A study conducted in Ethiopia by G/Meskel *et al*. showed that more than double the sample population fear having side effects than ours. A comprehensive knowledge about the use of contraception can help reduce the fear of side effects and better cooperation with family planning services.[17] Family/friends were the major source of information of family planning in our study participants followed by healthcare providers. Similar results were seen with a study conducted by Borg *et al*. where healthcare providers and family/friends were major information sources.[18] Similar results were mentioned with a study conducted by Alenezi and Haridi which showed that family/friends were the major source of information for family planning followed by health care providers.[19] Media plays an important role in providing education also. According to our study results, twelve percent of the population learn about family planning through media. A research by Sserwanja *et al*. showed that about half a percentage of participants had media exposure which led to more utilization of contraceptives in contrast to the results of our study.[20] A study by Anik *et al*. showed that less or no media exposure is associated with unmet need for family planning.[21]

This study provides valuable insight into the unmet need for family planning in a rural setting, highlighting key factors such as limited knowledge, access issues, and husband disapproval. A major strength of the study is its focus on a hard-to-reach rural population, using face-to-face interviews to gather in-depth data. However, limitations include its cross-sectional design, which restricts causal inference, and reliance on self-reported data, which may be influenced by recall or social desirability bias. Future studies should explore interventions to improve male involvement and awareness, and consider longitudinal designs to better understand changes over time in family planning practices.

## CONCLUSION

The study emphasizes that approximately three-fifths of women had family planning needs within a rural Pakistani population, primarily influenced by younger age, unemployment of women, poor availability, and difficulty in accessing family planning services. Despite general awareness, only a small proportion of women had sufficient knowledge about modern contraceptive methods. The findings underscore the importance of improving access to services, increasing community awareness, and encouraging male involvement to reduce unmet need and enhance reproductive health outcomes in rural populations.

**Table 3: Challenges in accessing family planning services and barriers to contraceptive use (n = 128)**

| | n (%) |
|---|---|
| **Kind of Issues Faced** | |
| Distance to the Health Facility | 44 (34.5) |
| Unavailability of Preferred Method | 28 (21.9) |
| Cost of the Services | 28 (21.9) |
| Cultural/Religious Restrictions | 18 (14.1) |
| Inadequate Information | 16 (12.5) |
| Spousal/Family Opposition | 12 (9.4) |
| **Main Reasons for Not Using Family Planning Methods** | |
| Unaware of Need | 12 (9.4) |
| Fear of Side Reactions | 19 (14.8) |
| Familial Disapproval | 18 (14.1) |
| Lack of Motivation | 6 (4.7) |
| Postponed Until Another Time | 11 (8.6) |
| Wrong Ideas about Contraindications | 2 (1.6) |
| Husband Not Willing | 67 (52.3) |

-All data presented as frequency (percentage)

**ETHICAL APPROVAL:** This study was approved by the Institutional Ethical Committee, Aziz Fatima Medical & Dental College Faisalabad. (Registration no. IEC/247-23, dated: 14.06.2023).

**AUTHOR'S CONTRIBUTIONS:** FT: Conceptualization of project, Statistical analysis, SS: Conceptualization of project, Literature search, revision, AM: Data collection, questionnaire design, writing of manuscript. MU: Data collection, Literature search, final drafting. AN: Data collection, manuscript writing. MSHI: Conceptualization of project, proof reading. All authors approved the final version of the manuscript to be published

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