

Knowledge and Use of Contraception and STI Prevention Methods Among Women of Reproductive Age in Punjab, Pakistan

Saima Buzdar¹, Hina Jawaid², Aisha Tahir², Muhammad Maaz Arif³, Iqra Hafeez², Tehzeeb Zulfiqar⁴

Abstract

Background: This study evaluates contraceptive knowledge and usage patterns among married women in Punjab, specifically analyzing barrier method utilization and Sexually Transmitted Infection (STI) prevention to guide public health policy.

Methodology: A cross-sectional study was conducted over six months (October 2022–March 2023) across diverse health facilities in Punjab, Pakistan. A sample of 396 women was recruited via convenience sampling from urban and rural primary and secondary care centers in both public and private sectors. Ethical approval was granted by the University of Health Sciences, Lahore.

Results: The majority of participants were aged 31–45 years (49.5%) and had completed high school (75.5%). Although over 50% possessed awareness of contraceptives—primarily condoms and oral pills—actual uptake of modern methods remained low. Condoms were the most frequently used modern method, yet a prevailing preference for traditional methods was observed. Overall satisfaction was moderate (30.3%). Key barriers to adoption included the desire for pregnancy, spousal opposition, and fear of side effects.

Conclusion: The study reveals suboptimal adoption of modern contraceptives despite adequate awareness, with a continued reliance on traditional methods. Moderate satisfaction suggests critical gaps in service delivery. Strategies addressing accessibility, affordability, and spousal dynamics are required to enhance reproductive health outcomes.

Keywords: Contraceptive usage; Barrier contraception; Women of reproductive age; Family planning; Sexually Transmitted Infections (STIs).

How to cite this article: Buzdar S, Jawaid H, Tahir A, Arif MM, Hafeez I, Zulfiqar T. Knowledge and Use of Contraception and STI Prevention Methods Among Women of Reproductive Age in Punjab, Pakistan. Pak J Public Health 2025 Dec. 24;15(4):123-8.

DOI: <https://doi.org/10.32413/pjph.v15i4.1580>

Copyright © 2025 The Author(s). Published by Health Services Academy. This is an Open Access article under the CC BY-NC 4.0 license.

Introduction

Pakistan, with a population of nearly 242 million and a growth rate of 1.95% in 2022, is the fifth most populous country in the world (1, 2). The high population growth rate poses significant challenges to the country's socioeconomic development (3). Addressing this issue requires a deep understanding of fertility rates and contraceptive use, which are crucial determinants of population growth.

Women of reproductive age, particularly those between 15 and 49 years, play a central role in shaping population growth through their fertility patterns. Pakistan's Total Fertility Rate (TFR) currently stands at 3.6 births per woman (4), one of the highest in South Asia, despite a slight decline in recent years. High fertility rates, coupled with limited access to and use of contraceptive methods, continue to drive population growth. This demographic trend not only amplifies demands on healthcare, education, and employment sectors but also strains the country's efforts toward sustainable development. Consequently, improving reproductive health services and promoting family planning are vital for balancing population dynamics and fostering socioeconomic progress. Fertility rate, particularly the Total Fertility Rate (TFR), plays a central role in population dynamics. TFR is defined as the average number of children a woman would have over her lifetime under current age-specific fertility rates (5). In Pakistan, the TFR remains high, contributing to the rapid population growth that strains resources and impedes development efforts (6).

Pakistan has a Total Fertility Rate (TFR) of 3.6 births per woman as of 2022, representing a notable reduction from previous decades, yet it remains one of the highest in South Asia. This high



¹ CCMHBI (Centennial Center for Mental Health and Brain Injury) Alberta, Canada

² University of Health Sciences Lahore, Pakistan

³ Contech International Health Consultants, Lahore, Pakistan

⁴ Australian National University, Canberra, Australia

Correspondence:

Hina Jawaid
hina.jawaid@hsa.edu.pk

Submitted: 06-12-2024

Revised: 20-07-2025,
12-08-2025, 27-12-2025

Accepted: 06-12-2025

Published: 24-12-2025

fertility rate is driven largely by the reproductive behavior of women aged 15-49, who constitute the reproductive age group (7). Many of these women face limited access to education and health services, particularly in rural areas, where socioeconomic factors like lower educational attainment and restricted economic opportunities influence fertility preferences (8). Contraceptive use remains relatively low, with unmet needs for family planning further contributing to higher birth rates (9). Addressing these issues through improved access to education, economic opportunities, and comprehensive family planning services could be pivotal in moderating population growth and supporting sustainable development.

Contraceptive use is a key factor in reducing fertility rates and controlling population growth. However, in Pakistan, only about 25% of married women currently use modern contraceptive methods, showing limited improvement over recent years. This rate remains low compared to regional averages, largely due to socio-cultural factors, healthcare access challenges, and gaps in service quality and availability (10, 11). Various factors influence contraceptive use, including education, cultural and religious beliefs, access to healthcare services, and socioeconomic status (10).

In Pakistan, there are several barriers to the effective use of contraceptives, including cultural and religious taboos, lack of awareness, and limited access to family planning services (12). These challenges are compounded by provider biases and the availability of different contraceptive methods. Similarly, awareness and knowledge about sexually transmitted infections (STIs) is lacking, mainly due to the number of misconceptions around STI transmission and lack of sexual health education and services (13).

Despite existing research on contraceptive use in Pakistan, there is a notable dearth of evidence specifically focusing on the knowledge and use of various types of contraceptives among married women in Punjab (14). In addition, knowledge regarding barrier methods to protect from STIs was also assessed. Most studies provide insights at a national level, yet fail to explore regional nuances, particularly in Punjab, which has distinct cultural and socioeconomic dynamics (15). Understanding these local factors is crucial for tailoring effective family planning interventions. Such interventions will in turn lead to informed choices for patients based on clear communication between patient and doctor. This study aims to fill this gap by examining the contraceptive knowledge and usage patterns among married women in Punjab, along with which methods to use to prevent spread of STI, contributing valuable insights for policymakers and health service providers

Methodology

This study utilized a descriptive cross-sectional design. Ethical approval was obtained from the Ethics Review Committee (ERC)

at the University of Health Sciences Lahore (UHS/REG-22/ERC/HJ). The study was conducted over six months, from October 2022 to March 2023. The sample size was 385. This was calculated based on Pakistan population 227951465. Number of females between 15-49 years are 72 million (approx. 30%), 46 million (approx. 65%) use contraception (www.openepi.com). Broad geographical area and diverse population, including both urban and rural, to minimise bias due to convenient sampling. This study was conducted across various government and private health facilities in Punjab. The health facilities included Gujranwala District Head Quarter Hospital, Medical and Gynecology & Obstetrics Out-Patient Clinic, Gujranwala Basic Health Unit (BHU), Fatima Memorial Medical & Dental Hospital Gynecology & Obstetrics Unit Lahore, Al Shifa Clinic & Maternity Home Sameeja Abad Multan, Fatima Jinnah Women Hospital Multan, and Al-Shifa Maternity Home Fazilpur with a purposive sampling technique. A pilot study was initially conducted to evaluate the applicability of the research tool, leading to subsequent modifications in the questionnaire.

Married females of reproductive age (15-49 years) were selected by simple convenience sampling for this study. Women of reproductive age who had undergone hysterectomy, had gynecological malignancy, or had a contraindication to any form of contraceptive method were excluded from the study.

Participants who came to the previously mentioned health care facility were verbally informed about the study, and verbal or written consent was obtained. Participants were assured of the confidentiality of their responses and their right to withdraw from the study at any point during the study period. The data collection tool was a questionnaire comprising thirteen questions in both English and Urdu, focusing on sociodemographic information, knowledge and attitudes about contraceptive methods, knowledge about sexually transmitted infections (STIs), and sources of awareness about contraceptive methods.

Data were entered into SPSS (Statistical Package for the Social Sciences) version 25 for analysis. Descriptive statistics, including frequencies and percentages, were calculated for all variables.

Results

Three hundred and ninety-six married women of reproductive age (15-49 years) from Punjab, Pakistan, participated in this study. Approximately half of participants (49.5%) were between the ages of 31 and 45 years, followed by women aged 18-30 years (43.4%). Approximately a quarter (21.5%) of women reported no education, a quarter (25%) reported primary education, and around one-third of participants (37.6%) had a college or university qualification. Only one-third of participants were in paid employment (30.3%), and approximately two-thirds resided in urban and semi-urban areas (61.4%) (Table 1).

Table 1: Demographic Characteristics

	n	%
Age:		
18-30 years	172	43.4%
31-45 years	196	49.5%
>45 years	28	7.0%
Education:		
Uneducated	85	21.5%
Primary	61	15.4%
High School	101	25.5%
College/University	149	37.6%
Occupation:		
Employed	120	30.3%
Unemployed	276	69.7%
Area of Residence:		
Rural	153	38.6%
Urban	173	43.7%
Semi-Urban	70	17.7%

More than 50% of the study population was aware of various contraceptive methods, including condoms, oral contraceptive pills (OCPs), injectables, IUCDs, and tubal ligation. However, the usage of modern methods like pills and injectables was low, with condoms being the most used method (39.1%). Modern methods of contraception were less popular, with many participants showing a preference for traditional methods such as withdrawal and breastfeeding (Table 2).

Common reasons for choosing contraception included effectiveness, ease of use, and affordability. The most common reason for not using contraception was the desire for pregnancy, followed by opposition from husbands or partners and fear of side effects (Table 3).

Table 2: Awareness, usage and preference of Contraceptive Methods

Awareness of Contraceptive Methods			Usage of Contraceptive Methods in the Past			Preferred Contraceptive Methods		
Contraceptive Methods	n	%	Contraceptive Methods	n	%	Contraceptive Methods	n	%
Condoms	309	78.0%	Condoms	155	39.1%	None	57	14.4%
Oral Contraceptive Pills	275	69.4%	None	113	28.5%	Condoms	47	11.9%
Injectables	220	55.6%	Oral Contraceptive Pills	63	15.9%	Withdrawal	42	10.6%
IUCD	212	53.5%	Injectable	53	13.4%	Tubal Ligation	40	10.1%
Tubal Ligation	201	50.8%	Withdrawal	47	11.9%	Breastfeeding	38	9.6%
Withdrawal	180	45.5%	IUCD	36	9.1%	Implants	37	9.3%
Breastfeeding	138	34.8%	Breastfeeding	31	7.8%	Oral Contraceptive Pills	34	8.6%
Implants	121	30.6%	Tubal Ligation	20	5.1%	Vasectomy	30	7.6%
Emergency Pills	120	30.3%	Implants	18	4.5%	IUCD	29	7.3%
Vasectomy	91	23.0%	Safe Period/Rhythm	9	2.3%	Safe Period/Rhythm	28	7.1%
Safe Period/Rhythm	89	22.5%	Diaphragm	2	0.5%	Injectable	26	6.6%
Vaginal Cream/Foam	25	6.3%	Vaginal Cream/Foam	2	0.5%	Diaphragm	26	6.6%
None	23	5.8%	Vasectomy	1	0.3%	Vaginal Cream/Foam	19	4.8%
Diaphragm	21	5.3%						

Table 3: Reasons for Using and Not Using Contraceptive Methods

Reasons for Use	n	%
Effective	96	24.2%
Easy to Use	84	21.2%
Inexpensive	84	21.2%
Fewer Side Effects	76	19.2%
Never Chose Any Method	69	17.4%
Recommended by Relatives/Friends	49	12.4%
Acceptable (Culturally/Religiously)	47	11.9%
Protects Against Infection	47	11.9%
Recommended by Healthcare Worker	42	10.6%
Reason for Non-Use		
Desire for Pregnancy	85	21.5%
Other Reasons	48	12.1%
Unacceptable by Husband/Partner	38	9.6%
Fear of Side Effects	33	8.3%
Not Engaged in Sexual Activity	15	3.8%
Against Culture/Religion	14	3.5%

The data on satisfaction with current or previous contraception indicates that the majority of respondents had a generally positive experience. The highest proportion, 30.3% (120 individuals), reported being satisfied with their contraception, while 12.9% (51 individuals) were very satisfied. Additionally,

25.3% (100 individuals) expressed being satisfied to some extent, suggesting a moderate level of contentment. Interestingly, another 25.3% (100 individuals) indicated they had never used any form of contraception, highlighting a significant portion of the population without contraceptive experience. Only a small minority, 6.3% (25 individuals), reported being not satisfied at all. Overall, the data suggests that most users were either satisfied or partially satisfied with their contraception, with relatively few expressing dissatisfaction (Table 4).

Table 4: Satisfaction with Current or Previous Contraception

Satisfaction Level	n	%
Satisfied	120	30.3%
Never Used	100	25.3%
Satisfied to Some Extent	100	25.3%
Very Satisfied	51	12.9%
Not Satisfied at All	25	6.3%

Relatives and friends were the most common sources of information about contraceptives, followed by physicians and media. The most commonly known barrier method is the male condom (47.7%), followed by female condoms (10.4%), cervical caps (6.8%), and lesser awareness of sponges (1.5%) and

diaphragms (1.5%). Additionally, 14.4% of respondents are aware of all the listed barrier methods (Table 5).

Table 5: Sources of Information on Contraceptive Methods

Source of Information	n	%	Knowledge about Barrier Methods of Contraception	n	%
Relatives/Friends	101	25.5%	Male condom	189	47.7
Physician	65	16.4%	Female condom	41	10.4
Television Advertisement	59	14.9%	Sponge	6	1.5
Lady Health Visitor	50	12.6%	Diaphragm	6	1.5
Radio Advertisement	47	11.9%	Cervical cap	27	6.8
Pharmacist	35	8.8%	All of the above	57	14.4

Table 6 highlights the perceived advantages of barrier methods. The most commonly identified advantage is that they are "all of the above" (25.8%), which likely includes being easy to use, affordable, and widely available. Other significant advantages include being easy to use (19.2%), affordable (16.7%), and easily available (17.9%), with a smaller percentage recognizing their ability to prevent the spread of STDs when used properly (8.1%). Table 6 also enlists different types of condoms and their perceived effectiveness in preventing STDs. The most recognized condom type for preventing STDs is the male latex condom (13.1%), followed by polyurethane (10.1%) and natural/lambskin condoms (8.6%). Additionally, 12.1% of respondents believe that all of the listed condoms are effective in preventing STDs, while 8.3% recognize tiny pores as a factor.

Table 6: Advantages of Barrier Methods

Advantages of Barrier Methods	n	%	Type of Condom for Preventing STDs	n	%
Easily available	71	17.9	Male latex condom	52	13.1
Affordable	66	16.7	Polyurethane condom	40	10.1
Easy to use	76	19.2	Natural/lambskin condom	34	8.6
Prevent spread of STDs when used properly	32	8.1	Tiny pores	33	8.3
All of the above	102	25.8	All of the above	48	12.1

Discussion

This study highlighted a significant gap between awareness and actual usage of contraceptive methods. Despite high awareness levels, 78% for condoms and 69.4% for oral contraceptive pills (OCPs), the usage rates were much lower, with only 39.1% and 15.9%, respectively, reporting past use. This pattern aligns with other research that shows awareness does not always translate into usage due to various barriers (16, 17). The low usage of methods like IUCDs and injectables is consistent with studies

from other regions, where cultural beliefs and concerns about side effects significantly impact contraceptive practices (18, 19).

The discrepancy between awareness and usage suggests that addressing barriers to contraceptive use is crucial. Common barriers include cultural norms, misinformation, and perceived side effects (20, 21). Educational programs should aim to not only raise awareness but also address these specific barriers. Community-based interventions and counseling can help mitigate cultural resistance and alleviate concerns about side effects, thereby improving contraceptive uptake (22, 23).

The study also found that preferred contraceptive methods included condoms, withdrawal, and tubal ligation, chosen primarily for their effectiveness, ease of use, and low cost. However, satisfaction with current or previous methods varied significantly, with some participants either never using contraception or being only somewhat satisfied (24). This variability suggests the need for personalized contraceptive counseling to match individual preferences with suitable options, enhancing overall satisfaction and effectiveness (25, 26). The study revealed that only a small percentage knew about condom as a method of STI prevention. These findings are similar to a systematic review to assess knowledge and awareness of STDs in Pakistani population, which identified significant knowledge gaps. This highlights need of STI prevention through promoting safe sex practices through use of condoms, increasing awareness about STI transmission and improving access to healthcare facilities (27).

The study's limitation was its cross-sectional methodology, which only collected data at a single point in time. This prevents proving causality or tracking changes in knowledge or behavior over a longer period of time. The study used purposive and convenience sampling, which can result in selection bias. This limits the findings' applicability to a larger group of reproductive-aged women in Punjab or Pakistan. Future studies may remove these biases via increasing recruitment from diverse settings (urban/rural areas, different districts of Punjab, public and private health facilities) to minimize selection bias.

Implications

The study's findings highlight a number of critical consequences. There is a significant disparity between awareness and actual use of current contraceptive techniques, highlighting the need for focused interventions that address barriers beyond information, such as fear of adverse effects, myths, and a lack of support. Traditional approaches are still widely used, demonstrating the impact of cultural and social conventions, which must be addressed through culturally sensitive counseling. The majority of participants were urban or semi-urban, which may underestimate contraceptive issues in rural areas with inadequate availability. Participants' low levels of education and employment highlight the need for broader actions to empower women and improve reproductive autonomy. A sizable number of women reported not using any

contraceptive method, indicating a significant unmet demand for family planning. Additionally, long-acting reversible contraceptives (LARCs) were underutilized, suggesting a need for better provider training and public awareness of their benefits.

Conclusion

The findings suggest that while there is significant awareness of contraceptive methods, the usage of modern contraception remains low, with a preference for traditional methods such as withdrawal and breastfeeding. Despite awareness, satisfaction levels with contraceptive methods were moderate, indicating potential areas for improvement in method effectiveness, accessibility, and education. Factors influencing contraceptive choices include effectiveness, ease of use, affordability, and fewer side effects, while barriers such as a desire for pregnancy, partner opposition, and fear of side effects hinder broader use. Information sources primarily rely on social circles like relatives and friends, highlighting the need for better healthcare provider engagement and targeted public awareness campaigns. Based on this study findings we recommend focusing on promoting awareness among both males and females in the reproductive age group. One of the ways to achieve this is to strengthen the existing primary care system in the country. Patient education and empowerment through qualified and trained primary care physicians will have significant impact on the usage of appropriate methods of contraception by users.

Acknowledgement

We would like to mention Dr Rifat Azeem and Dr Basharat Ali for helping us in this research.

Ethical Approval:

This study was approved by the Ethical Review Committee of University of Health Sciences, Lahore, Pakistan.
Ref. No. UHS/REG-22/ERC/HJ Dated: 31-08-2022

Data Availability: Data supporting the findings are available upon reasonable request.

Financial support and sponsorship: None

Conflict of interest: The authors declare that they have no conflict of interest.

Authors' Contribution:

SB, HJ, AT, IH: Concept and design of the study, data collection, interpretation of results, drafting of the manuscript.

MMA, TZ: Data analysis and revision.

References

1. Table - 1 Area, Population by Sex, Sex Ratio, Population Density, Urban Proportion, Household Size and Annual Growth Rate (Pdf). National.pdf. Pakistan Bureau of Statistics. 19 May 2021. Archived (PDF) from the original on 27 September 2021. Retrieved 17 October 2021.
2. "STATISTICAL YEARBOOK 2020" (PDF). Statistical Yearbook 2020.pdf. AJ&K Bureau of Statistics Planning & Development Department. 5 January 2021. Archived (PDF) from the original on 17 October 2021. Retrieved 17 October 2021.
3. Naz et al. Pattern and trends of the total and age-specific fertility rates during 1990–2018 in Pakistan, *BMC Women's Health*. 2023.
4. Chao F, Wazir MA, Ombao H. Levels and trends estimate of sex ratio at birth for seven provinces of Pakistan from 1980 to 2020 with scenario-based probabilistic projections of missing female birth to 2050: A Bayesian modeling approach. *IJPS*. 2022 Dec 14;8(2):51–70. <http://dx.doi.org/10.36922/ijps.v8i2.332>
5. UN, United Nations, Department of Economic and Social Affairs PD. *World Population Prospects: The 2019 Revision | Multimedia Library - United Nations Department of Economic and Social Affairs*, vol. 9; 2019. p. 1–13.
6. Abbas Murtaza Maken. *Pakistan's population boom: shaping a future powerhouse*. PIDE in Press. 2024.
7. Odu OO, Jadunola KTI, Parakoyi DB. Reproductive behaviour and determinants of fertility among men in a semi-urban Nigerian community. *Journal of Community Medicine and Primary Health Care*. 2005 Dec 9;17(1):13–9.
8. Demographic and socio-economic characteristics impact on fertility in pakistan. *FWU Journal [Internet]*. 2022 Jun 25 [cited 2025 Jul 20]; Available from: <http://dx.doi.org/10.51709/19951272/Summer2022/10>
9. Imran M, Yasmeen R. Barriers to family planning in Pakistan. *J Ayub Med Coll Abbottabad*. 2020;32(4):588–91. <https://pubmed.ncbi.nlm.nih.gov/33225672/>
10. Deitch J, Stark L. Adolescent demand for contraception and family planning services in low- and middle-income countries: A systematic review. *Glob Public Health*. 2019;14(9):1316–34.
11. Abdullah M, Bilal F, Khan R, Ahmed A, Khawaja AA, Sultan F, et al. Raising the contraceptive prevalence rate to 50% by 2025 in Pakistan: an analysis of number of users and service delivery channels. *Health Res Policy Syst*. 2023 Jan 12;21(1):4. <https://pubmed.ncbi.nlm.nih.gov/36635736/>
12. Adama-Hondogla M, Adajgba D, Abdulai MA, et al. Barriers to family planning service provision and uptake in Sub-Saharan Africa. *Afr J Reprod Health*. 2015;19(2):14–23.
13. Khan AH, Niazi K, Abbas A, Gillani SN. Knowledge and awareness of sexually transmitted diseases among men and women of Pakistan. *Journal of Positive School Psychology*. Published online May 15, 2023:1773-1790.
14. Abdullah M, Ahmed S, Malick AA, Ihsan MT, Shah M, Yaseen A, et al. Knowledge, practices, and barriers to access of emergency contraceptive pills in married women and men: a multicenter clinic-based cross-sectional study from Karachi, Pakistan. *BMC Public Health*. 2024 Oct 19;24(1):2886.
15. National Institute of Population Studies (NIPS) [Pakistan] & ICF. *Pakistan Demographic and Health Survey 2017–18*. Islamabad, Pakistan, and Rockville, Maryland, USA: NIPS and ICF. 2019. Retrieved from <https://dhsprogram.com/pubs/pdf/FR354/FR354.pdf>
16. Ali S, Khan M, & Hussain T. Barriers to contraceptive use in rural Pakistan: A review of the literature. *Journal of Family Planning and Reproductive Health Care*, 2019;45(4),329-337.
17. Khan A, Sheikh M., & Malik S. Cultural and personal barriers to contraceptive use in South Asia. *Reproductive Health Matters*, 2020; 28(1), 12-23.

18. Naseem H, Qazi F, & Ahmed I. Understanding contraceptive use among women in low-income communities: A qualitative study. *International Journal of Women's Health*, 2021; 13, 789-800.
19. Rizvi N, Ali R, & Khan A. Factors influencing the use of modern contraceptives in urban Pakistan. *Journal of Population Research*, 2022; 39(2), 145-159.
20. Saleem A, Nawaz S, & Ahmad S. Contraceptive choice and satisfaction among women in Lahore. *Asian Journal of Public Health*, 2023; 15(2), 110-120.
21. Agha S, & Do M. The impact of family planning programs on contraceptive use in Pakistan: Evidence from a longitudinal study. *Population Studies*, 2022; 76(3), 345-359.
22. Bibi A, & Choudhry M. Addressing the cultural barriers to contraceptive use in rural Pakistan. *Global Health Action*, 2021; 14(1), 202-215.
23. Iqbal M, & Ahmed Z. Counseling and contraceptive uptake in South Asian communities. *Journal of Reproductive Medicine*, 2022; 67(4), 289-298.
24. Khalid S, & Ali R. Satisfaction with contraceptive methods and its impact on usage: A study from Punjab. *Healthcare Journal*, 2023; 11(2), 153-162.
25. Khan M, & Baloch Q. Personalizing contraceptive counseling to improve user satisfaction in Pakistan. *Journal of Public Health Policy*, 2021; 42(3), 321-334.
26. Rizvi N, & Hussain T. Enhancing contraceptive choice and satisfaction through tailored interventions. *Asian Journal of Health*, 2022; 19(1), 77-89.
27. Yousaf Z, Jabeen K, Ahsan U, Bint Ali S, Bilal MA, Raza Ali. Knowledge and Awareness of Sexually Transmitted Diseases in Men and Women of Pakistan – A Systemic Review . *Journal of Health and Rehabilitation Research*, 2024; 4(1), 740-747