Original Article

Understanding Contraceptive Behavior: Insights from Women Reporting to Gynaecology Department at a Tertiary Care Hospital Lahore, Pakistan

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Abstract

Background: Family planning is a crucial element of reproductive health and population control. Pakistan, with a population of 220 Million, still faces significant challenges in the management of its reproductive health indicators. The modern contraceptive prevalence rate is estimated to be between 29.5% and 34.6%, which is relatively low.

Objectives: To explore views and strategies associated with using different family planning practices methods and analyse knowledge, attitude and practices towards specific contraceptive methods among the general population of Lahore, Pakistan.

Methods: A Cross sectional survey was conducted to obtain comprehensive perspectives from females visiting the gynecology department at Central park Teaching Hospital, Lahore from January 2024 to June 2024. The sample size was 384 calculated via OpenEPI with 97 % confidence level. All the participants were married, divorced or widowed females of reproductive age. Data was conducted through surveys using a questionnaire and the analysis was done using SPSS version 26.

Results: Out of the 384 participants, 90.1% had a good knowledge of contraception and 84.6% were using contraceptive methods. Significant association is found among awareness, marital status. education level and sexual activity ($p< 0.05$). The most effective methods are claimed to be condoms (28.9%) and IUDs (25.3%).

Conclusion: A high level of awareness and use of contraceptive methods exists however, cultural, social, religious and informational barriers persist, highlighting the need for more focussed educational efforts.

Keywords: Family Planning, Contraception, Reproductive health, Health education, Gynaecology

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Introduction

Family planning is a crucial element of reproductive health and population control. Pakistan, with a population of 220 Million, still faces significant challenges in the management of its reproductive health indicators. The modern contraceptive preva-lence rate is estimated to be between 29.5% and 34.6%, which is relatively low.[1,2]

There are many methods commonly practiced for family planning and control contraception, including Barrier Methods (condoms)[3], hormonal methods (Birth Control Pills, Patches, Injection, Implant, Hormonal Intrauterine Devices, Emergency Contraception Pills)[4], Intrauterine Devices (Copper IUD)[5], Sterilization (Tubal Ligation, Vasectomy)[6] and Fertility Awareness-Based Methods (Calendar Method, Basal Body Temperature Method, Cervical Mucus Method, Symptothermal Method).[7] The choice of contraceptive method varies based on individual preferences and circumstances.

Many factors contribute to the unsatisfactory and underutilization of contraception techniques in Pakistan. Among other factors, such as cultural norms and societal pressure, some communities also believe that family planning is contrary to religious teachings. Economic barriers and geographical constraints, like rural areas often experiencing a shortage of healthcare facilities, further restrict contraceptive usage.[8] Moreover, the misconceptions about adverse effects and improper sex education also prove to be hindrances in family planning.[8-11]

Studies have proven that a woman's autonomy in decisions of her reproductive health plays a significant role in choosing the appropriate contraceptive methods.[12] On the other hand, in average Pakistani

households, such important decisions are usually made by their male spouses or elders of the family ignoring a woman's personal choices.[13]

The use of effective contraception techniques is of utmost significance in supporting the female reproductive health, facilitation of family planning practices and reduction of the rate of unplanned pregnancies. Despite the availability of multiple contraceptive techniques and family planning initiatives by the government, Pakistan still experiences a high rate of fertility and a significant unmet need for contraception. According to recent studies, millions of women in Pakistan want to avoid unwanted pregnancies. Still, they are unable to use any methods of contraception, which highlights a critical gap between awareness and actual utilization.[2]

For the development of effective public health strategies, a thorough understanding of the specific factors that influence contraceptive behavior is essential. Despite multiple surveys providing national-level General statistics, there is still a lack of detailed hospital-based studies exploring female perspectives on contraception in clinical settings. Our study aims to understand the patterns of contra-ceptive behaviors among women who report to the gynecology department of a tertiary care hospital in Lahore, Pakistan, and also explore the informational and socio-cultural factors that shape contraceptive choices and practices. This study is expected to contribute to evidence-based policy-making and assist community-centered interventions that promote contraceptive and reproductive autonomy and choices. The objective of this study was to explore views and strategies associated with different family planning practices as well as to analyze knowledge, attitudes, and practices towards specific contraceptive methods among the general population of Lahore, Pakistan.

Methods

This cross-sectional study was conducted at the Gynaecologist Department of Central Park Teaching Hospital, Lahore, from January 2024 to June 2024. The sample size was 384, calculated using Open EPI with a 97% confidence level. The sample included women of reproductive age, i.e., 16-55 years, who were married, divorced, or widowed and were selected using non-probability convenience samp-ling. The ethical approval was obtained from the Institutional Review Board of Central Park Medical College, Lahore, under the Serial Number CPMC/IRB-No/1432. Informed written consent was obtained from all participants, and data were collected using a structured questionnaire. The questionnaire was developed using existing literature on contraceptive behavior and family planning practices. Its validity was ensured by consulting two consultants in the Gynaecology department at Central Park Teaching Hospital, Lahore, and one expert in public health from the Community Medicine department at Central Park Medical College, Lahore. These experts reviewed the items for clarity, relevance, and comprehensiveness. The questionnaire was pretested on a small sample of 20 females attending the same hospital to ensure its validity and clarity. Necessary modifications were made using feedback before the final collection of data. The first part of the questionnaire included socio-demographic information, such as age, education level, and marital status. The second part included reproductive habits like sexual activity and frequency. The third part assessed the knowledge, attitudes, and practices of the participants related to contraception. In addition to the quantitative analysis, qualitative insights were explored through open-ended questions within our questionnaire to gather information on socio-cultural influences, including religious beliefs, family pressure, misconceptions, and personal attitudes toward family planning practices. The responses to these qualitative questions were thematically analyzed to understand the complex socio-cultural dynamics shaping contraceptive behaviors.

This study employed a non-probability convenience sampling method, which may limit the generalizability of the findings. As participants were selected from a single tertiary care hospital in Lahore, the results may not be fully representative of the broader population.

All collected data were anonymized and stored securely on password-protected systems. Access to qualitative responses was limited to the research team, ensuring confidentiality and compliance with ethical guidelines. The data collected using questionnaires was organized using Microsoft Excel and analyzed using SPSS version 26. Descriptive statistics were used for the frequency distribution. Chi-square tests were applied to determine significant associa-

tions between contraceptive awareness and variables of our study. A p-value of less than 0.05 was considered statistically significant. Multivariate analysis was considered; however, given the primary focus on associations between categorical variables, the chi-square test was deemed most appropriate for this exploratory study.

Results

In this study, 384 female participants completed the questionnaire. As indicated in Table 1, the age range of the study participants was from 16 to 55 years old. The majority, 42.7%, fell within the 26- to 35-year age group, 31.5% within the 16- to 25-year age group, 20.3% within the 36- to 45-year age group, and those between 45 and 55 years were 21 (5.5%). The majority of the females, 90.4%, were married, while only 10 (2.6%) were single. The majority of female participants, 39.3%, have a Bachelor's degree, while only 17.4% have less than a high school education. Only 50 (13%) females are highly educated.

Table 1: *Socio demographic characteristics of female Participants, Pakistan (n = 384)*

Variables	Number	Percentages
Age (Years)		
16 – 25	121	31.5
26 – 35	164	42.7
36 – 45	78	20.3
46 – 55	21	5.5
Marital Status		
Single	10	2.6
Married	347	90.4
Divorces / Separated	20	5.2
Widowed	7	1.8
Education Status		
High School or Less	67	17.4
College/ Associate Degree	116	30.2
Bachelor's Degree	151	39.3
Master's Degree / Higher	50	13.0

As shown in Table 2, the majority of the study participants, 316 (82.3%), were sexually active, while only 68 (17.7%) were inactive. Furthermore, 218 (56.8%) reported engaging in sexual activity weekly, while only 25% participated every month.

Table 2: *Reproductive characteristics of female participants, Pakistan (n = 384)*

Variables	Number	Percentages
Sexual Activity		
Yes	316	82.3
No	68	17.7
Frequency of Sexual Activity		
Daily	70	18.2
Weekly	218	56.8
Monthly	96	25.0

Table 3: *Knowledge, Attitude and Practice of Contraceptive Methods, Pakistan (n = 384)*

Variables	Number	Percentages
Awareness of Contraceptive Method		
Yes	346	90.1
No	38	9.9
Source of Information		
School/ Education	48	12.5
Healthcare Provider	161	41.9
Internet	64	16.7
Friends / Family	62	16.1
Media	38	9.9
Others	11	2.9
Ever Used Contraception		
Yes	325	84.6
No	59	15.4
Most effective Contraceptive Method		
Condoms	111	28.9
Birth Control Pills	87	22.7
Intrauterine device (IUD)	97	25.3
Implant	20	5.2
Diaphragm	5	1.3
Emergency contraception (morning-after pill)	8	2.1
Sterilization (tubal ligation/vasectomy)	19	4.9
Natural methods (e.g., calendar, withdrawal)	23	6.0
Others	14	3.6
Currently using Contraception		
Yes	294	76.6
No	90	23.4
Belief in contraception for family planning		
Yes	204	53.1
No	103	26.8
I don't Know	77	20.1
Participation in Contraceptive Education		
Yes	166	43.2
No	218	56.8
Interest Contraception Education Session		
Yes	246	64.1
No	138	35.9

As indicated in Table 3, 346 individuals (90.1%) had heard of contraceptive methods, while a smaller number, 38 (9.9%), had not. Among the respondents who had heard of contraceptive methods, 84.6% reported using a contraceptive method. Regarding

their source of information about contraceptive methods, 38 (9.9%) respondents reported obtaining information from media, 161 (41.6%) from the health facilities, 48 (12.5%) from formal education, 64 (16.7%) from the internet, 11 (2.9%) from other source, and 62 (16.1%) heard from friends or relatives. Among the respondents currently using contraceptive methods, 166(43.2%) reported having participated in contraceptive education. Almost 53.1% of females believe that contraceptive methods help in family planning, but 20.1% don't know about it. Moreover, 111 participants (28.9%) believe that condoms are the most effective contraceptive method, while only 5.2% think that implants are more effective.

Table 4 shows the association between awareness of different contraceptive methods and sociodemographic factors. A significant association was found between awareness and variables such as marital status, education level, and sexual activity ($p < 0.05$). From the result, we can observe that sexually active females have more knowledge about contraceptive methods as compared to those who are not active.

Table 4: *Association between Contraceptive Methods awareness and sociodemographic status of females, Pakistan (n = 384)*

Variables	Awareness		Chi-square	P-value
	Yes	No		
Age				
16-25	112	9		
26 – 35	150	14	4.249	0.236
36 – 45	66	12		
46 - 55	18	3		
Status				
Single	10	0		
Married	317	30	15.994	0.001*
Divorced/Separated	13	7		
Widowed	6	1		
Education				
High school/Less	60	7		
College Degree	99	17	8.600	0.035*
Bachelor's Degree	144	7		
Master's Degree	43	7		
Sexual Activity				
Yes	293	23	13.710	<0.001*
No	53	15		

* p-value < 0.05 is statistically significant.

Figure 1 shows a significant association between the level of knowledge and awareness about different contraceptive methods (p-value < 0.001). Furthermore, almost 32.3% of females have moderate knowledge about contraceptive methods, while 3.1% have low knowledge about them.

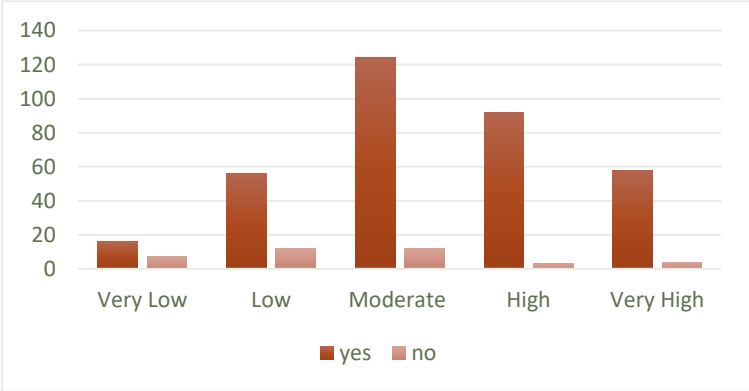

Figure 1: *Level of knowledge according to the awareness about different contraceptive methods, Pakistan (n = 384)*

Figure 2 illustrates various factors influencing individuals' decisions to avoid contraceptives. The most prevalent reason is the desire for pregnancy, cited by 23.7% of respondents, followed closely by cultural and societal reasons at 22.7%. Fear of side effects and religious or moral reasons account for 9.9% and 10.2%, respectively. Lack of access and misconceptions or lack of information about contraceptives impact 9.9% and 7.8% of individuals. The partner's resistance affects 8.9%, while fear of sterilization, lack of compliance, and cost are cited by 4.7%, 4.4%, and 3.6%, respectively. This data underscores the diverse and complex factors influencing contraceptive use, indicating the need for comprehensive and tailored approaches to address these barriers.

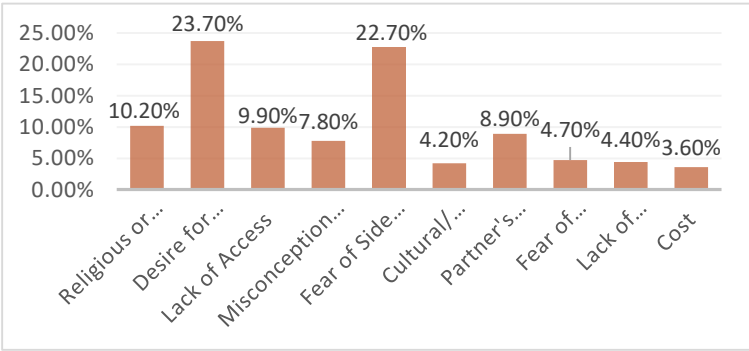

Figure 2: *Reasons of not using Contraceptive Methods*

The pie chart titled "Frequency of Contraceptive Methods Used in the Past" displays the distribution of different contraceptive methods previously used by individuals. The most commonly used method is condoms, accounting for 33% of usage. Birth control pills follow at 22%, indicating their significant role in

contraception. IUDs are used by 18% of individuals, showing a preference for longer-term solutions. Implants and diaphragms have lower usage rates at 7% and 6%, respectively. 5% use emergency contraception, 4% get sterilised, and 3% still practice natural methods. The category "other" accounts for 2% that includes various less popular common methods. Our data shows a diverse range of contraceptive methods used, with a marked preference for birth control pills and condoms while other methods are utilised to a lesser extent. (Figure-3).

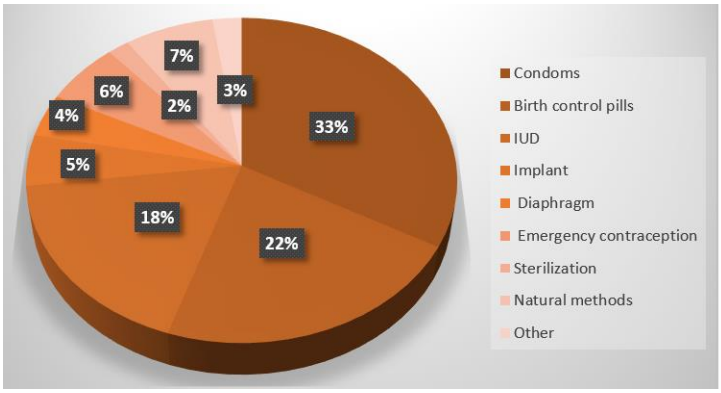

Figure 3: *Frequency of Contraceptive methods used in the Past*

This study has found a high awareness and usage of contraceptive methods among our participants. IUDs and Condoms are reported to us as the most preferred methods. The contraceptive awareness is also strongly associated with marital status, educational background and sexual activity. Many factors like the desire for pregnancy, cultural norms, partner resistance and fear of side effects on health are reported to be major barriers in the path to family planning.

Discussion:

This study was conducted at a tertiary care hospital in Lahore, Pakistan and it revealed that 90.1 % of females were aware of contraceptive methods and 84.6% were using them. Our results have reported a higher proportion than the Pakistan Demographic and Health Survey 2017-18 national average reports which indicated the prevalence rate of contraceptives as 34.6% among the reproductive age females.[2]. The higher awareness and usage in our research can be attributed to our urban setting and access of females to healthcare facilities which ultimately highlights the disparity in rural vs urban regions in contraception knowledge and practices in Pakistan.

In comparison to our study, another research showed that 87.6% of women in urban slums of Karachi had really good knowledge of contraception. However, only a small proportion of women used contemporary methods because of hurdles like religious beliefs, cultural norms, and anxiety of side effects.[10] This highlights the fact that knowledge and practices of people continue to diversify even in the urban settings and the sociocultural factors indeed have a great impact on the use of contraceptives.

According to recent research work, Bangladesh has shown a higher prevalence of the use of modern contraceptives with 72.16% women using them. This prevalence is frequently ascribed to the vast educational campaigns and community based family planning initiatives. Pakistan's lower prevalence rates point to the need for more effective interventions to encourage the use of contraceptives. Moreover, according to our study, 53.1 % of the participants considered contraceptives as an aid to family planning while 20.1% were unsure about their effectiveness. This indicates that a sizable proportion of women in their reproductive age have been misinformed or are not fully educated about the advantages of contraception. Similar results were reported by a study on the use of Emergency contraceptive Pills (ECPs) conducted in Karachi City of Pakistan which showed that their use is often hindered by misconceptions and a lack of awareness and knowledge.[11] This similarity highlights the significance and dire need for more targeted initiatives to address the knowledge gaps of the general population. We have also found significant correlations between contraceptive awareness and variables like marital status, educational background and sexual activity. These results are consistent with previous research work showing that women's empowerment in the matters of decision making and education has a positive impact on the use of contraceptives.[15]

In summary, our study shows that women visiting a tertiary care hospital in Lahore, Pakistan have a much higher awareness of contraception. Still, it has also explored many obstacles that stem from informational and sociocultural factors. To address these challenges and encourage Pakistani women to make independent and informed contraceptive decisions, we need comprehensive strategies combining policy reforms, education and community involvement.

Based on the findings of our study, several policy recommendations are suggested. Community-based awareness programs should be strengthened to overcome sociological and cultural barriers as well as misconceptions among the general population. Healthcare providers must receive better training to deliver culturally sensitive contraceptive counselling, particularly to young couples. It is also important to involve close family members, especially husbands and mothers-in-law, in family education initiatives. Accessibility and availability of contraceptives at local public health facilities should be improved to ensure ease of use. Family planning messages need to be integrated into mass media campaigns to normalize discussions and reduce taboos surrounding contraceptive use. Furthermore, contraceptive education should be introduced into school curricula to build awareness from an early age and promote long-term reproductive health.

Conclusion:

Our study highlights a good level of awareness and utilisation of contraception among females attending the gynaecology departments at a tertiary care hospital in Lahore, Pakistan. It has also shown that a significant association exists between the use of contraception and factors like marital status, educational background and sexual activity. Despite all of this, a notable gap still remains in comprehensive and engagement of contraceptive and family planning education. Addressing this gap through more culturally sensitive educational interventions and better access to reliable reproductive healthcare services is essential to promote reproductive autonomy and contraceptive choices and meet family planning needs in Pakistan.

Ethical Permission: The Institutional Ethical & Review Board, Central Park Medical College, Lahore approved this study vide letter No. CPMC/ IRB/-No/ 1432.

Conflict of Interest / Disclosure: Nil.

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Authors' contribution:

K: Conception & design, acquisition of data, analysis & interpretation, drafting of article
FA: Conception & design, acquisition of data
LG, SH: Acquisition of data, analysis & interpretation
SUK: Analysis & interpretation
SK: Final approval of the version to be published

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