Original Article

Knowledge of Contraceptive Methods Among Married Women of Islamabad: A Cross-Sectional Study

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Abstract

Objective: To assess frequency of adequate contraceptive knowledge among married women and identify socio-demographic factors associated with adequate knowledge.

Methodology: A cross-sectional study was conducted from January to July 2024 at the Department of Obstetrics and Gynecology, Federal General Hospital, Islamabad. Using simple random sampling, 324 married pregnant women aged 18–40 years with gestational age <20 weeks were enrolled. Data were collected via a pre-tested, structured questionnaire comprising two sections: (1) socio-demographic and obstetric variables (age, duration of marriage, parity, gestational age, residence, education of woman and husband, and socio-economic status using modified Kuppuswamy scale); (2) a validated 10-item contraceptive knowledge assessment tool covering condoms, oral pills, emergency contraception, injectables, IUCDs, side effects, failure rates, myths (tampons as contraception, breastfeeding as protection), and husband role in decision-making. Each correct answer scored 1 point (total 0–10); score >7 defined adequate knowledge. Data were analyzed using SPSS version 22; chi-square test was applied ($p < 0.05$ significant).

Results: The mean age of participants was 30.21 ± 6.09 years, mean duration of marriage 4.5 ± 2.77 years, and mean parity 2.67 ± 1.61. Overall, 172 (53.1%) women had adequate contraceptive knowledge while 152 (46.9%) had inadequate knowledge. Adequate knowledge was significantly higher among women aged >30 years ($p < 0.001$), married for ≥5 years ($p < 0.001$), with graduation or higher education ($p < 0.001$), whose husbands were graduates or above ($p < 0.001$), and belonging to upper socio-economic status ($p < 0.001$). Marked misconceptions persisted: only 34.6% knew condoms do not provide 100% protection and 32.1% correctly identified that tampons are not a contraceptive method.

Conclusions: Only 53.1% of married pregnant women had adequate contraceptive knowledge, which was significantly associated with older age, longer marriage duration, higher education of both spouses, and upper socio-economic status. Despite antenatal care attendance, major misconceptions persist.

Keywords: Contraception; Family Planning; Health Knowledge; Antenatal Care

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Introduction

Family planning is recognized internationally as one of the most effective public health interventions in improving the outcomes of maternal and child health.[1] Family planning gives individuals and couples the ability to attain their ideal number of offspring by controlling the intervals of childbirth by voluntary contraceptive practice.[2] Family planning remains important not only for health gains but has also played a significant role in the reduced rates of maternal deaths, unplanned pregnancies, unsafe abortions, and social and economic developments at the family and national levels.[3] Knowledge and awareness about family planning methods are critical for making well-informed reproductive choices and the successful application of

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contraceptive practices.[4] Adequate knowledge about contraception means knowing different methods of contraception, the mechanisms for such methods, proper application rates, rates of effectiveness, possibly associated side effects, and available sources for the methods.[5] Several studies have found that women who have adequate knowledge about different contraception methods have higher rates of using such methods and thereby diminish the unmet need for reproductive planning.[2,6] The availability of contraceptive knowledge among married women is geographically and culturally uneven. In one study based on rural Jaipur, nearly 88.8% of women were aware of at least one contraceptive.[7] However, it has been found that not all women aware of contraceptive methods may have good knowledge about them. Emerging from rural Vellore, Tamil Nadu, it is found that only 9% of married women had good knowledge about contraceptive methods.[8]

Similarly, results from Karachi, Pakistan, found that 85.8% of participants had low levels of knowledge about emergency contraceptive pills.[9] There is a vast difference found in the knowledge and practicing levels as well. From Zimbabwe, it is found that even when 95% of young women had heard of contraceptive methods, only 27% of them had ever used any contraceptive.[10] Studies published in South Asia have shown that close to half of women have inadequate knowledge about contraception, specifically in relation to modern forms.[11]

In Pakistan, this is compounded by social constraints, unavailability of high-quality family planning services, sociocultural factors, and communication between family planning service providers and clients.[12, 13] A significant lack of knowledge about and availability of contraceptives has also been identified in Pakistani research to have predominantly increased odds of unmet needs for family planning.[3] In addition, married women in Pakistan, and even more so in rural regions, have limited exposure to media information on family planning, hence leading to nonuse of family planning contraceptives.[14] There are certain sociodemographic variables that have been found to influence the knowledge of married women on the use of contraceptives. Education has been found to be one of the most influential variables, and it is positively related to good knowledge about family planning methods.[3, 7, 15]

The use of modern contraceptives is found to be significantly lower among young married women aged 15-24 years (79%) compared to married women aged 25-49 years (45.8%).[6] The use of modern contraceptives is found to be substantially affected by socioeconomic status, which explains that the variable of wealth quintile accounted for 87.8% of the socioeconomic inequality in the use of modern contraceptives among young married women from India.[6] Mass media has also emerged as a strong influence on knowledge of contraception, and the contribution of mass media to socioeconomic inequality in the use of contraception has been established at a rate of 35.8% for young females and 43.2% for non-young females.[6] Other factors are residence (urban females tend to have higher knowledge levels than rural females), religious and cultural beliefs, form of family structure, number of living children, employment status, and husband's role in family planning.[5, 8, 16, 17] Although there is an increasing number of studies published in the literature regarding contraceptive knowledge and factors underlying such knowledge, there is a considerable research gap in terms of comprehending factors affecting the levels of knowledge of contraceptives methods and socio-demographic factors in Islamabad among married women. It is imperative to baseline evidence in local context so appropriate interventions can be developed for local population for use of contraceptives and opt methods and eventually the improvement of maternal and child health. It was in consideration of these issues that the current research was undertaken.

Methodology

This cross-sectional study was carried out in the Department of Obstetrics-Gynecology at Federal General Hospital, Islamabad, from January to July 2024. The Institutional Review Board of FGH approved the protocol Letter No. F.4-162/ADMN-EC-FGH; 18 December 2023, and written informed consent was obtained from all participants. Sample random sampling strategy was employed; eligible women attending routine antenatal visits during regular clinic hours were invited to join the study. Inclusion criteria were married women aged 18-40 years, residents of Islamabad, with a gestational age < 20 weeks, attending antenatal care. Exclusion criteria comprised married women with gestational age > 20 weeks or known pregnancy complications (miscarriage, eclampsia, severe anemia, congenital anomalies, cognitive impairment). The sample size was estimated using the formula $n = Z^2p(1-p)/d^2$, where Z = 1.96 for 95% confidence level, p = 0.308 as the estimated proportion based on a supporting study reporting 30.8% prevalence, and d = 0.05 as the margin of error (18). Based on this calculation, a minimum

sample size of 324 participants was derived for the study.

Data were collected using a structured questionnaire comprising two sections: a pre-tested sociodemographic questionnaire and a ten-item contraceptive knowledge assessment instrument. The sociodemographic section captured information on age, gestational age, parity, duration of marriage, residence, education level of participant and husband, and socioeconomic status. The knowledge assessment section assesses married women awareness regarding various contraceptive methods including condoms, oral contraceptives, emergency pills, injectable contraceptives, intrauterine devices, and husband involvement in family planning decisions. Participants scoring ≥7 out of 10 were classified as having adequate knowledge. Trained research assistants administered face-to-face interviews in a private room after obtaining written informed consent. Daily supervision and random quality checks were conducted by the principal investigator to ensure data completeness, consistency, and accuracy throughout the data collection period.

Data were entered into SPSS v22. Descriptive statistics (means ± SD, frequencies, percentages) characterized the sample. Inferential were associations between adequate knowledge and sociodemographic characteristics were examined with chi-square tests; a two-tailed $p < 0.05$ indicated statistical significance.

Results

The study includes n=324 married women, with a mean age of 30.21 ± 6.09 years, indicating that they are relatively young. The mean gestational age is 12.2 ± 5.31 weeks, suggesting that most married women are in their early to mid-pregnancy stages. The average parity is 2.67 ± 1.61, indicating that participants have had around 2 to 3 children. Additionally, the mean duration of marriage is 4.5 ± 2.77 years. (Table I).

Table I: Descriptive Characteristics of Study Participants. (n=324)

Variables	Characteristic	Mean	SD
Age (years)	≤30 years	30.21	6.09
	>30 years		
Gestational Age (weeks)	≤12 weeks	12.2	5.31
	>12 weeks		
Parity	<2	2.67	1.61
	≥2		
Duration of Marriage (years)	<5 years	4.50	2.77
	≥5 years		

Table II summarizes the association between socio-demographic characteristics and adequate contraceptive knowledge. Adequate knowledge was significantly higher among women aged >30 years, those married for ≥5 years, women with graduation or higher education, women whose husbands had higher education, and those belonging to upper socio-economic status (all $p < 0.001$). No significant association was observed with gestational age, parity, or residence.

Table II: Associations between Characteristics and Adequate Contraceptive Knowledge.

Characteristic	Adequate knowledge		Total	χ^2	df	P-value
	Yes	No				
Age (years)						
≤30 years	72	148	220	55.98	1	0.00
>30 years	81	23	104			
Gestational Age (weeks)						
≤12 weeks	121	63	184	0.17	1	0.67
>12 weeks	96	44	140			
Parity						
<2	79	33	112	5.06	1	0.24
≥2	121	91	212			
Duration of Marriage (years)						
<5 years	56	103	159	47.48	1	0.00
≥5 years	122	43	165			
Residence						
Urban	117	130	247	3.12	1	0.07
Rural	46	31	77			
Education Level						
No Education	31	54	85	31.42	4	0.00
Primary	23	79	102			
Secondary	18	40	58			
Intermediate	11	28	39			
Graduation or above	29	12	41			
Education Level of Husband						
No Education	16	23	39	32.44	4	0.00
Primary	13	42	55			
Secondary	67	48	115			
Intermediate	57	36	93			
Graduation or above	18	4	22			
Socio-Economic Status						
Lower	63	58	121	34.63	2	0.00
Middle	32	133	165			
Upper	17	22	39			

Among married women (n=324) revealed a significant knowledge gap, with 152 (46.90%) respondents having inadequate knowledge and 172 (53.10%) having adequate knowledge. Table III presents item-wise contraceptive knowledge. High awareness was observed regarding oral contraceptive side effects (88.0%) and availability of emergency contraception (77.2%). In contrast, substantial misconceptions persisted, particularly regarding condom effectiveness

(34.6%), tampon use as contraception (32.1%), and the belief that pregnancy cannot occur during breastfeeding (40.7%) ($p < 0.001$ for all). Knowledge regarding hysterectomy as a contraceptive method and husband's involvement in decision-making was comparatively low and not statistically significant.

Table III: Contraceptive Methods Knowledge among married women. (n=324).

Question	Adequate	Inadequate	χ^2	p-value
1. Use of condom has 100% success rate for contraception.	112	212	23.1	0.00
2. Tampons are used by females much like male condoms	104	220	31.3	0.00
3. Oral contraceptive drugs should not be used in fever	242	82	12.5	0.00
4. Oral contraceptive drugs may cause weight gain.	285	39	53.3	0.00
5. Emergency oral contraceptive pills are also available	250	74	19.1	0.00
6. Intravenous injectable has same drugs as in oral pill.	261	63	6.51	0.01
7. IUD can be placed by female herself	269	55	4.29	0.04
8. Hysterectomy is not a preferred method of contraception.	222	102	1.14	0.29
9. Pregnancies can never occur during breast feeding period	132	192	11.3	0.00
10. Husband should ideally be part of the contraception method decision	123	201	0.06	0.81

Discussion

The present study revealed that 53.1% of married pregnant women possessed adequate contraceptive knowledge, while 46.9% had inadequate knowledge. This prevalence, though marginally above half, remains unacceptably low for a population actively engaged with antenatal care services a critical window for family planning education. The persistence of such a substantial knowledge gap highlights ongoing deficiencies in the quality and reach of reproductive health counselling in routine maternal care settings.

Socio-demographic factors were strongly associated with contraceptive knowledge. Women aged >30 years, married for ≥5 years, with graduation-level or higher education (both themselves and their husbands), and belonging to upper socio-economic strata demonstrated significantly higher odds of adequate knowledge (all $p < 0.001$). These findings align closely with patterns observed across South Asia, where higher education and wealth consistently emerge as the strongest predictors of contraceptive awareness and reduced unmet need.[3, 6] Conversely, younger age, recent marriage, lower educational attainment, and poorer wealth quintile concentrated inadequate knowledge reinforcing the socio-economic stratification of reproductive health information documented in both India and Pakistan.[3, 6] Notably, parity and gestational age showed no association with knowledge level. This is concerning, as multiparous women and those in later trimesters have had multiple healthcare contacts opportunities that appear to be underutilized for contraceptive education. Item-level responses exposed critical misconceptions. While 88.0% correctly identified weight gain as a side effect of oral pills and 77.2% were aware of emergency contraceptive availability, only 34.6% understood that condoms do not provide 100% protection, and just 32.1% recognized that tampons are not contraceptives. This distorted knowledge profile high awareness of side effects but poor grasp of efficacy mirrors findings from Karachi, Pakistan, where fear of side effects and religious/moral concerns were major barriers despite some awareness of emergency methods.[9]

Similarly, the paradoxical preference for methods perceived as "side-effect free" (traditional methods) has driven a sharp rise in their use in Uttar Pradesh, India, even as modern method availability increased.[19] Our prevalence of adequate knowledge (53.1%) is substantially lower than the 88.8% awareness of at least one method reported among rural married women in Jaipur, Rajasthan.[7] Considerably higher than the very low knowledge of specific methods such as implants (38.6%) observed in Karachi.[20] It is, however, consistent with studies showing that awareness alone does not guarantee correct or comprehensive knowledge, particularly in rural or semi-urban settings.[5, 8] This study focuses on pregnant women in antenatal clinics a captive, motivated group reveals alarming gaps: nearly

half lacked adequate contraceptive knowledge. This signals a glaring health system failure, demanding mandatory, couple-centered counseling in prenatal care.

Limitations: The single-center, hospital-based, cross-sectional design limits generalizability, invites bias, and bars causality. Urban overrepresentation, small sample, social desirability in interviews, and exclusion of non-Urdu/English speakers further compromise validity. Multicenter, longitudinal studies are urgently needed.

Conclusion

Despite more than half of pregnant married women having adequate contraceptive knowledge, significant gaps and misconceptions persist, disproportionately affecting younger, recently married, less educated, and economically disadvantaged women. These inequities mirror those documented across India and Pakistan [3, 6] and reflect systemic failures in information delivery and counselling quality. To achieve meaningful reductions in unintended pregnancy and unmet need, antenatal care must be transformed into a robust platform for comprehensive, equitable, and couple-inclusive family planning education, backed by targeted outreach to socio-economically vulnerable groups.

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