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ORIGINAL ARTICLE

Knowledge, Attitude and Practice of Oral Contraceptive Pill Use in Multi-center Study

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ABSTRACT

Background: *Oral contraceptive pills (OCPs) are the most widely used modern contraceptive method in Bangladesh, yet gaps in knowledge, attitudes, and practice may affect effective use. Aim of the study: To assess knowledge, attitudes, and practices regarding OCP use in a multi-center study and to identify socio-demographic determinants of correct use and discontinuation.* ***Methods & Materials:*** *A multi-center based cross-sectional study was conducted among 200 women aged ≥15 years in Dhaka city of Bangladesh. Data were collected using a structured questionnaire covering socio-demographics, reproductive history, and OCP-related KAP. Descriptive statistics and chi-square tests were applied using SPSS v26.* ***Results****: Among participants, 46% had good knowledge, 64% demonstrated positive attitudes, and 44% reported good practice. Current OCP use was 63%, with 47% adhering regularly. Main reasons for irregularity or discontinuation included side effects (39.5%) and forgetfulness (25.6%). Knowledge gaps existed regarding missed pill management (43%) and emergency contraception (30%). Health workers were the primary information source for 38%.* ***Conclusion****: Despite high awareness, knowledge and consistent use of OCPs remain suboptimal. Tailored counseling, follow-up, and multi-center interventions are necessary to enhance effective OCP use and reduce unmet family planning needs in Bangladesh.*

Keywords: *Oral contraceptive pill, Knowledge, Attitude, Practice, Family planning, Bangladesh*

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INTRODUCTION

Oral contraceptive pills (OCPs) are user-controlled hormonal contraceptives which are available as combined estrogen–progestin or progestin-only formulations that prevent pregnancy primarily by suppressing ovulation and altering cervical mucus and the endometrium. They are widely recommended in international family-planning guidance and remain a cornerstone of the modern contraceptive method mix [1]. Globally, the pill is one of the most widely used methods, with an estimated 151 million women reporting it as their current contraceptive [2]. However, its contribution to the method mix varies significantly by region. In Bangladesh, the pill is the single most dominant modern method. Bangladesh has achieved a contraceptive prevalence rate exceeding 60%, largely driven by short-acting methods, particularly OCPs, reflecting decades of multi-center study distribution programs and door-to-door service models [3]. This notably high prevalence, driven by the widespread availability of oral contraceptive pills (OCPs) across both public and private healthcare sectors, combined with decades of programmatic emphasis on family planning, positions Bangladesh as a particularly important context for studying patterns of OCP use.

Despite this relatively high uptake, a significant unmet need for family planning continues to exist among Bangladeshi women, highlighting persistent gaps between general contraceptive awareness, access, and the consistent, effective practice of these methods in everyday life [3,4]. At the population level, high pill uptake in some settings reflects availability through public and private channels, historical program emphasis on short-acting methods, and women's preference for reversible, familiar methods [1,5]. However, discontinuation and incorrect use often due to side-effects, incomplete counseling, myths and irregular pill-taking reduce effectiveness and increase unintended pregnancy risk [5,6]. Typical-use failure rates of combined oral contraceptives are substantially higher than perfect-use rates, largely due to inconsistent adherence, highlighting the behavioral component of contraceptive effectiveness [7]. Misperceptions about safety and fertility effects are common drivers of non-use and short breaks in many South Asian communities, negative beliefs about long-term health effects also shape intention and method choice [6]. Traditional investigations into this issue have largely relied on descriptive, cross-sectional Knowledge, Attitude, and Practice (KAP) surveys [8-11]. While these studies provide valuable

baseline data on prevalence and self-reported reasons for discontinuation, they are inherently limited by retrospective recall bias and offer a static snapshot rather than a dynamic understanding of behavior [1,12]. Crucially, they lack the capacity to prospectively identify sub-groups of women at the highest risk of non-adherence or to integrate programmatic factors like counseling quality and supply-chain reliability into a predictive framework. Addressing this methodological gap is programmatically essential, as interventions such as improved counseling and myth-busting are most effective and efficient when targeted to high-risk populations. Therefore, this study aimed to assess the knowledge, attitude, and practice of oral contraceptive pill use at the multi-center study level in Bangladesh and to identify key socio-demographic and programmatic determinants of correct use and discontinuation in order to inform targeted interventions.

METHODS & MATERIALS

This multi-center based cross-sectional study was conducted Department of Obstetrics and Gynaecology, Bangladesh Medical University and Universal Medical College Hospital, Dhaka, Bangladesh, between January 2023 and December 2024. A total of 200 women aged 15 years and above were recruited using purposive sampling. Women with severe illness, unwilling to participate, or beyond the first trimester of pregnancy were excluded.

Inclusion Criteria

- Women aged 15 years and above.
- Willing to provide informed consent.

Exclusion Criteria

- Women with severe medical conditions precluding participation.
- Unwilling or unable to provide consent.

Data Collection

Data were collected using a pretested, structured questionnaire administered through face-to-face interviews by trained female data collectors. The questionnaire captured detailed information on socio-demographic characteristics, including age, marital status, religion, family type, educational level, occupation, and monthly family income. Information on reproductive and contraceptive history was also obtained, covering parity, age at first pregnancy, history of abortion, spacing between children, previous contraceptive use, and exposure to health education programs. Knowledge about oral contraceptive pills (OCP) was assessed through questions on general awareness, correct timing and method of use, management of missed pills, possible side effects, effectiveness, emergency contraception, and understanding of hormonal versus non-hormonal contraceptive methods. Attitudes toward OCP were evaluated by exploring perceptions regarding safety for long-term use, effects on fertility, encouragement of use, husband's approval, social acceptability, cost, and the influence of cultural or religious beliefs. Practice patterns and experiences were documented, including current use of OCP, regularity of intake, previous discontinuation, consultation with health workers, source of OCP, involvement of spouse in decision-making, frequency of follow-up with health workers, side effects experienced, and reasons for irregular or discontinued use.

Outcome Measures

The primary outcomes were knowledge, attitude, and practice regarding OCP use. Knowledge was assessed based on correct responses to questions about OCP use, side effects, and effectiveness. Attitude was measured by participants' perceptions regarding safety, acceptability, and encouragement of OCP use. Practice was evaluated through self-reported current use, regularity, consultation, and follow-up patterns. Side effects and reasons for discontinuation were also recorded.

Data Analysis

Data were entered and analyzed using SPSS software (version 26). Categorical variables were summarized as frequencies and percentages. Overall KAP scores were calculated and categorized as good/poor knowledge, positive/negative attitude, and good/poor practice based on pre-defined cut-off scores. Associations between socio-demographic variables and KAP levels were explored using chi-square tests.

RESULT

The socio-demographic characteristics of the participants provided that most were aged 26–35 years (42.00%), followed by 18–25 years (30.00%), 36–45 years (18.00%), <18 years (6.00%), and >45 years (4.00%). Most were married (91.00%) and identified as Muslim (80.00%). Nuclear families were more frequent (56.00%). Educational status demonstrates (19.00%) were illiterate, (28.00%) had primary education, (35.00%) secondary, and (18.00%) higher secondary or above. The majority of the participants were housewives (66.00%), while (43.00%) reported a monthly family income of 10,000–20,000 BDT (*Table I*).

Table – I: Socio-Demographic Characteristics of Participants (*n* = 200)

Characteristics	Frequency (n)	Percentage (%)
Age Group (years)		
<18	12	6.00
18–25	60	30.00
26–35	84	42.00
36–45	36	18.00
>45	8	4.00
Marital Status		
Married	182	91.00
Unmarried	18	9.00
Religion		
Islam	160	80.00
Hindu	36	18.00
Others	4	2.00
Family Type		
Nuclear	112	56.00
Joint	88	44.00
Educational Status		

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Illiterate	38	19.00
Primary	56	28.00
Secondary	70	35.00
Higher Secondary+	36	18.00
Occupation		
Housewife	132	66.00
Service Holder	34	17.00
Business	20	10.00
Others	14	7.00
Monthly Family Income		
<10,000 BDT	58	29.00
10,000–20,000 BDT	86	43.00
>20,000 BDT	56	28.00

Reproductive and contraceptive history indicated that (48.00%) had 2–3 children, (32.00%) had 0–1 child, and (20.00%) had ≥4. Age at first pregnancy was <20 years in (24.00%), 20–25 years in (56.00%), and >25 years in (20.00%), while abortion was reported by (14.00%), birth spacing ≥2 years in (70.00%), and (74.00%) had used contraceptives. Exposure to health education programs prior to exposure (44.00%) (*Table II*).

Table – II: Reproductive and Contraceptive History (*n* = 200)

Characteristics	Frequency (n)	Percentage (%)
Parity		
0–1	64	32.00
2–3	96	48.00
≥4	40	20.00
Age at First Pregnancy		
<20 years	48	24.00
20–25 years	112	56.00
>25 years	40	20.00
History of Abortion		
Yes	28	14.00
No	172	86.00
Spacing Between Children		
<2 years	60	30.00
≥2 years	140	70.00
History of Contraceptive Use		
Yes	148	74.00
No	52	26.00
Exposure to Health Education Programs		
Yes	88	44.00
No	112	56.00

Regarding OCP knowledge, (89.00%) had heard of it, (62.00%) knew the correct timing, (43.00%) were aware of missed pill management, and side effects by (52.00%), emergency contraception awareness was (30.00%) and (59.00%) knew it could be used for child spacing (*Table III*).

Table – III: Knowledge Regarding OCP (*n* = 200)

Knowledge Variables	Frequency (n)	Percentage (%)
Heard about OCP	178	89.00
Know correct time of intake	124	62.00
Know about missed pill management	86	43.00
Aware of effectiveness of OCP	138	69.00
Know possible side effects	104	52.00
Know OCP does not prevent STI	72	36.00
Aware of emergency contraception	60	30.00
Know difference between hormonal & non-hormonal methods	90	45.00
Know OCP can be used for spacing children	118	59.00

Attitudes toward OCP showed (59.00%) considered OCP safe, (71.00%) encouraged its use, (78.00%) reported husband's approval necessary, (60.00%) considered it affordable, and (65.00%) socially acceptable (*Table IV*).

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Table – IV: Attitude Toward OCP (*n* = 200)

Attitude Variables	Frequency (n)	Percentage (%)
OCP is safe for long-term use	118	59.00
OCP causes infertility	66	33.00
OCP use should be encouraged	142	71.00
Husband's approval necessary for use	156	78.00
Fear of side effects	94	47.00
Cost of OCP is affordable	120	60.00
Socially acceptable in the community	130	65.00
Cultural/religious beliefs affect use	80	40.00

Practice patterns revealed that (63.00%) were current users, (47.00%) were regular, and (27.00%) had discontinued use. Consultation with health workers was reported by (44.00%) individuals, while sources of OCP included pharmacies (39.00%) and health centers (24.00%), and spouse involvement was reported by (67.00%) individuals (*Table V*).

Table – V: Practice Pattern of OCP Use (*n* = 200)

Practice Variables	Frequency (n)	Percentage (%)
Currently using OCP	126	63.00
Regular intake	94	47.00
Irregular intake	32	16.00
Discontinued use previously	54	27.00
Consulted health worker before use	88	44.00
Source of OCP: Pharmacy	78	39.00
Source of OCP: Health center	48	24.00
Spouse involved in decision	134	67.00
Frequency of follow-up with health worker		
Monthly	36	18.00
Quarterly	78	39.00
No follow-up	86	43.00

Side effects experienced included irregular bleeding (28.57%) and nausea/ vomiting (22.22%), along with other minor complaints (*Table VI*).

Table – VI: Side Effects Experienced by OCP Users (*n* = 126)

Side Effect	Frequency (n)	Percentage (%)
Nausea/Vomiting	28	22.22
Irregular bleeding/spotting	36	28.57
Weight gain	20	15.87
Breast tenderness	14	11.11
Mood changes	12	9.52
Headache	10	7.94
Others (dizziness/fatigue)	6	4.76

Reasons for irregular or discontinued use were predominantly side effects (39.53%) and forgetfulness (25.58%) *Table VII*.

Table – VII: Reasons for Irregular or Discontinued Use (*n* = 86)

Reasons	Frequency (n)	Percentage (%)
Side effects	34	39.53
Forgetfulness	22	25.58
Desire for pregnancy	18	20.93
Husband's disapproval	12	13.95

Participants reported that the source of information was mainly from health care providers (38.00%), and family/friends (26.00%) *Table VIII*.

Table – VIII: Sources of Information About OCP (*n* = 200)

Source of Information	Frequency (n)	Percentage (%)
Health care provider	76	38.00
Family/Friends	52	26.00
Media	42	21.00
Health worker	30	15.00

Overall KAP assessment showed good knowledge (46.00%), positive attitude (64.00%), and good practice (44.00%) *Table IX*.

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Table – IX: Overall Knowledge, Attitude, and Practice (KAP) Score (*n* = 200)

KAP Level	Frequency (n)	Percentage (%)
Good Knowledge	92	46.00
Positive Attitude	128	64.00
Good Practice	88	44.00
Poor Knowledge	108	54.00
Negative Attitude	72	36.00
Poor Practice	112	56.00

DISCUSSION

Oral contraceptive pill use at the multi-center study level remains a critical public health concern, as variations in knowledge, attitude, and practice significantly influence effective utilization and reproductive health outcomes [13]. This multi-center study evaluated the knowledge, attitude, and practice (KAP) regarding oral contraceptive pill (OCP) use among women across multi-center study sites and revealed substantial awareness but notable gaps in correct knowledge and consistent practice. The majority of participants were aged 26–35 years (42.00%), married (91.00%), Muslim (80.00%), and predominantly housewives (66.00%), with 43% belonging to the 10,000–20,000 BDT income group. This age distribution corresponds with the peak reproductive age group and is comparable to findings from the Bangladesh Demographic and Health Survey (BDHS 2017–18), which reported the highest contraceptive use among women aged 25-29 years [14]. Similar socio-demographic patterns were observed in multi-center studies conducted in India and Nigeria, where married, homemaker women constituted the primary OCP user group [15,16]. The predominance of nuclear families (56.00%) in our study may facilitate autonomous contraceptive decisions compared to joint family settings, as suggested in prior South Asian literature [17]. Nearly half of respondents (48.00%) had parity of 2–3 children, and 56.00% reported first pregnancy between 20–25 years, consistent with previous findings [18]. A high proportion (74.00%) had previous contraceptive use, reflecting widespread exposure to family planning services in Bangladesh. However, only 44.00% reported exposure to formal health education programs, indicating a service-delivery gap. Similar discrepancies between contraceptive use and structured education exposure were reported in rural Bangladesh and parts of Nepal [19,20]. Although 89% had heard of OCPs, only 62.00% knew the correct time of intake and 43.00% were aware of missed-pill management. Moreover, only 36.00% knew that OCP does not protect against sexually transmitted infections (STIs), and 30.00% were aware of emergency contraception. This gap between general awareness and comprehensive knowledge is consistent with findings from studies in Pakistan and Ethiopia, where high awareness did not translate into correct technical understanding [21,22]. In our study, 46% demonstrated good overall knowledge. In a previous study of Bangladesh, 75% had good knowledge in urban area and 25% had good knowledge in rural area, in contrast, 84% had poor knowledge in rural areas and 16% in urban areas. These findings suggest that while OCP information is widely disseminated, depth and accuracy remain inadequate [23]. A majority (71.00%) supported encouraging OCP use, and 59.00% considered it safe for long-term use, reflecting an overall positive attitude. However, misconceptions persist—33.00% believed OCP causes infertility and 47.00% feared side effects. Husband's approval was considered necessary by 78.00%, highlighting the sociocultural dimension of contraceptive decision-making [24]. Current OCP use was reported by 63% of respondents, but only 47.00% practiced regular intake. Although this reflects relatively high adoption, irregular intake (16.00%) and discontinuation (27.00%) remain concerns. These findings are consistent with BDHS data, which show pills as one of the most commonly used modern contraceptive methods in Bangladesh, yet discontinuation rates remain substantial [14]. Consultation with health workers before use was reported by only 44.00%, and 39.00% obtained OCPs from pharmacies, suggesting a significant proportion of self-initiated use [5]. Among users, irregular bleeding (28.57%) and nausea/vomiting (22.22%) were the most common side effects, consistent with established OCP side-effect profiles described in multi-center studies in Ethiopia [25]. Side effects were also the leading reason (39.53%) for irregular or discontinued use, followed by forgetfulness (25.58%). The role of forgetfulness highlights adherence challenges similar to those reported in previous studies, where missed pills significantly contributed to reduced effectiveness [26]. Health care providers (38.00%) were the primary information source, followed by family/friends (26.00%) and media (21.00%). This pattern aligns with BDHS findings, where formal health services remain the principal source of family planning information. However, the notable role of informal sources indicates the need for strengthened, evidence-based counseling in multi-center studies [14]. Relatively positive attitudes (64%), good practice was observed in only 44.00% of participants. This discordance between knowledge, attitude, and practice mirrors findings from other low- and middle-income countries, where sociocultural barriers, side effects, and inconsistent counseling hinder optimal contraceptive behavior [27].

LIMITATIONS

The study's cross-sectional design limits causal inferences between socio-demographic factors and OCP use patterns. Self-reported practices may be influenced by recall and social desirability biases. The purposive sampling from selected districts may restrict generalizability to the broader Bangladeshi population. Additionally, the study did not assess long-term continuation rates or integrate qualitative insights into cultural and gender-related decision-making dynamics that could further explain barriers to consistent OCP use.

CONCLUSION

This multi-center study highlights that while awareness of oral contraceptive pills (OCPs) is relatively high among women in selected urban and rural areas of Bangladesh, substantial gaps persist in correct knowledge, attitudes, and practice. Less than half of the participants demonstrated good knowledge and adherence, and irregular intake or discontinuation was primarily driven by side effects, forgetfulness, and socio-cultural factors. Positive attitudes toward OCP use were observed in two-thirds of participants, indicating receptiveness to family planning messages. Targeted interventions, including counseling, myth-busting, and enhanced follow-up through health workers, are essential to improve consistent and effective OCP use and to address unmet family planning needs in multi-center studies.

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CONFLICT OF INTEREST
None declared

ETHICAL APPROVAL
The study was approved by the Institutional Ethics Committee

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