

Awareness and Attitudes of Child Bearing post-partum Women regarding Billing Ovulation Family Planning Method

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Abstract:

Background: The Billings approach is a fertility awareness-based approach that relies on vulvar feelings and discharge appearance to identify patterns of fertility and infertility. **Aim:** Assess level of awareness and attitudes of child bearing women regarding billing ovulation methods as a family planning method. **Methods:** Descriptive cross sectional research design was used in this study. It was conducted at postpartum department, Women Health Hospital, Assiut University. **Sample:** A convenience sample of a total 360 women involved in the study. Two tools were used; structured interview questionnaire and likert scale. **Results:** 76.1%, 16.1% and 7.8% of the studied women had a poor, average and good knowledge level about billing ovulation method respectively. About 62.5% and 37.5% of them had positive and negative attitude regarding using BOM. **Conclusion:** Most of postpartum mothers had little awareness and a favorable attitude toward utilizing BOM. **Recommendations:** Campaigns should be run in communities to raise awareness of billing ovulation method and expand knowledge of it among both literate and illiterate postpartum in order to decrease the size of extended families.

Keywords: Attitudes, Awareness, Billing Ovulation Methods & Child Bearing Women.

Introduction

Since the early 1960s, Egypt has used family planning as a short-term tactic to slow the rate of population expansion. Reduced population growth and replacement level fertility, with a total fertility rate of 2.1 children per woman, are the stated objectives of Egypt's national population policy (Mohamed et al., 2022). Married individuals often choose for natural family planning. The understanding and application of natural family planning approaches are impacted by inadequate awareness of the procedures. In order to fulfill the couple's aim of having or avoiding conception, natural family planning (NFP) is a type of family planning that is based on fertility awareness and its implementation. The basis of fertility awareness is the observation of the physical indicators of the fertile and infertile stages of the female menstrual cycle. The sexual behavior of a couple changes based on whether they want to achieve or avoid pregnancy after they are aware of when they are fertile and infertile (Minerva et al., 2020).

The Billings ovulation method (BOM) is a form of natural birth control that's also referred to as ovulation method, or cervical mucus method. It is a method in which women use their vaginal mucus to determine their fertility. It does not rely on the presence of ovulation, rather it identifies patterns of potential fertility and obvious infertility within the cycle. Its effectiveness may reach to 98.5% if used correctly.

This form of contraception is a type of fertility awareness method (FAM) birth control in which women learn to detect their own reproductive cycles so that they can choose whether to avoid sexual contact (to prevent pregnancy) or have sexual contact (to try to conceive). The BOM is a medical paradigm for natural procreation instruction based on scientific monitoring of cervical mucus changes (Attar et al., 2019).

Aside from its usefulness, BOM is notable for its ease of learning - the WHO survey included illiterate people. In addition, neither the short nor long term costs are prohibitively high. It does not require drugs or technologies because simply monitoring and understanding mucus signs is sufficient. The ovulation method, unlike other more traditional procedures of this sort, does not involve calendar calculations or basal temperature observations. However, some people are hesitant to adopt BOM because it requires more incentive and collaboration from the pair than other approaches (Padilha & Deretti, 2021).

Ovulation detection and monitoring has long been undertaken by women seeking or avoiding pregnancy. The reproductive window starts around 3-5 days (sperm lifespan) before ovulation and lasts about 1-2 days (oocyte lifespan) after ovulation. Rather than just recognizing or detecting ovulation, identifying this window is critical for encouraging or discouraging contraceptive use (Su et al., 2020).

The woman learns acquainted with her body and its various functions. Women's interest in and accurate use of cervical mucus changes to identify ovulation time. Inadequate understanding regarding any contraceptive method can be a barrier to acceptance and use (Santos et al., 2019). Before depending on this natural birth strategy to prevent pregnancy, the nurse must offer women with accurate understanding and instruction. The Billings method's effectiveness is heavily reliant on adequate instruction, understanding, precise cervical mucus observation, daily charting, mutual incentive, and collaboration between the couple. (Dawn & Lauren, 2022).

Nurses are the most important human resource element in healthcare organizations, and they are the backbone of the public health system. Their performance has a direct effect on the quality of health care, so the country relies heavily on nurses for service delivery; their performance is critical for the successful provision of health care productivity. Furthermore, nurses play an important role in promoting women's reproductive health (Uwajeneza et al., 2023).

Significance of the study:

The quantity and quality of knowledge affects attitudes toward and acceptance of NFP approaches. According to studies, there is a critical need for understanding about the various ways of natural family planning since it influences attitudes, acceptance, and adoption of NFP approaches. Because studies show that knowledge is low, negative opinions toward NFP approaches are to be predicted (Minerva et al., 2020). According to a WHO survey, which indicated a BOM efficacy of around 98.5% - a natural family planning approach such as BOM can be as effective as the most common artificial methods if followed appropriately (Padilha & Deretti, 2021). The BOM is a simple and efficient approach for avoiding or achieving pregnancy. It is safe, healthful, and affordable because no medications are used. Because the BOM is immediately reversible; a couple can change their FP goals at any time. According to research, couples that transition to a natural way of FP enhance their relationships, feel more valued by their partner, and have greater control over their fertility. The BOM can be utilized all the way to the couple's sixth reproductive year (Sineliso & Nwoye, 2022). As a result, the researcher was interested in determining childbearing women's awareness and attitudes on BOM as a natural FP approach.

Aim of the study:

This study aimed to:

Assess awareness and attitudes of child bearing postpartum women regarding billing ovulation methods as a family planning method.

Research Questions:

1. What are the levels of knowledge of child bearing women BOM?
2. What are the attitudes of child bearing women BOM?

Subjects & Methods:

The current study's subject and techniques were discussed under four designs (technical, operational, administrative, and statistical design).

Technical design:

Research design:

Descriptive cross sectional was conducted for this study.

Setting

The study was carried out at the postpartum ward, Women's Health Hospital, Assiut University, and consisted of five rooms, each with ten beds. There were 50 beds in total. This hospital serves the people of Upper Egypt.

Subjects:

Sample Type: A convenience sample was used.

Sample size: The study comprised 360 available childbearing women attending the postpartum ward of a women's health facility. The sample was calculated using the formula below.

$$n = \frac{p(1-p)}{(SE \div t) + [p(1-p) \div N]}$$

n= sample size

N=Population (5800)

T=the standard score corresponding to the level of significance=1,96%

SE=error rate=0, 05

P=Property Availability Ratio and Neutral=0, 05

n=360

Inclusion criteria:

Postpartum women after 4 weeks, attending Women's Health Hospitals, Assiut University.

Exclusion criteria:

Women with postpartum complication, complication to the newborn, and women refuse to participate in the study

Tools of data collection:

Data collection was obtained by using the following:

Tool (1) A structured interviewing questionnaire:

Based on a literature analysis and consulting expertise in this field, the researcher created and used this tool, which was structured to include the following components:

Part (1): This included

- a- **Personal data** as: Name, age, level of education, occupation, residence, and years of marriage.

b- **Menstrual history:** as age of menarche, menstrual duration, interval, menstrual rhythm, and amount of menstrual blood flow.

c- **Obstetric history as:** Numbers of gravidity, numbers of parity, history of abortion, mode of last delivery, gender of last baby and number of living children.

Part (2): Included: knowledge assessment sheet about BOM as a family planning method which involved: -

General knowledge about family planning method as definition, classification, non-contraceptive benefits, concept of family planning method, and reasons for using specific contraceptive method (Tilahun & Dinkinesh, 2021).

Knowledge of natural family planning methods, including definitions, types, mechanisms of action, benefits, and drawbacks. **Knowledge about BOM** in terms of definition, effectiveness, method of action, benefits, drawbacks, and source of knowledge (Serrano-Rivera et al., 2019) & (Webb et al., 2020)

Knowledge scoring system:

There were 16 knowledge items. Each question was graded as (2) if the answer was correct and complete, (1) if the answer was correct but incomplete, and (0) if the answer was incorrect or didn't know. The overall score ranged from 0 to 32. While the total knowledge score level was computed as follows: knowledge was judged good if the percent score was >70%, average if the percent score was 70-50%, and poor if the percent score was less than 50% (Ali et al., 2020).

Tool (2): Attitudes of women towards using BOM, It includes 8 elements such as birth control method is successful, BOM is too easy to apply, my husband and I may abstain from sex throughout the fertile period, my culture approves natural FP methods, my spouse supports BOM methods., A woman should receive fertility-awareness education, BOM can help some infertile couples to conceive, and BOM not interfere with my sex-life (Fuluso & Marvellous, 2017).

Scoring system of the attitude:

The total attitude score was generated from 8 questions. Each question was scored as strongly agree (3), agree (2), or disagree (1). Each item's score was added up and turned into a percent score. The overall score varied from 1 to 24. It was classified as negative if it was less than 60% and positive if it was greater than 60%. (Fuluso & Marvellous, 2017).

Tools Validity:

The study's tools were examined by three panel experts from the Obstetrics and Gynecological Nursing department, Faculty of Nursing at Assiut University to ensure that the tools accurately

measured what they were designed to assess. The tools were modified in accordance with the panel's judgment on sentence clarity, appropriateness of content, and item sequencing.

Tools Reliability:

The researcher used tool reliability to verify the internal consistency of the tools. Cranach's alpha test was used to determine reliability. It was measured using a reliability item removed from the scale and analyzed in the SPSS program. It was reported 0.786 for structured interviewing questionnaire and 0.740 for attitudes scale tool.

Operational design:

The design involved description of the preparatory phase, pilot study and field work.

Pilot study:

The questionnaire was pre-tested on 10% of cases involving 36 postpartum mothers to determine the validity and reliability of the study tools. Subjects from the pilot research were included in the study because there were no major changes to the study materials.

Field work:

The study's data collecting spanned roughly 6 months, commencing in early November 2022 and ending at the end of April 2023. It entailed the following steps:

Preparatory phase:

The researcher studied the associated literature of the current study, both local and international, utilizing text books, papers, and significant publications. The instruments were developed based on this literature and a standard scale, and they were validated by obstetric and gynecological experts.

Procedures:

- The authorized person granted official authority to conduct the study.
- The researcher met with each postpartum mother (who goes to the postpartum ward after labor) individually.
- After explaining the nature and goal of the study to the woman, oral permission for voluntary participation was acquired.
- The researcher met with each woman personally and collected data on socio-demographic characteristics such as age, education level, occupation, and so on. Women's menstrual histories were obtained, including monthly duration, interval, and menstrual rhythm.
- The woman's obstetrics also obtained, such as gravidity, parity, abortion, and manner of last birth.
- The researcher questioned the women about their knowledge of the BOM, natural FP technique, and general FP method. The inquiries were presented as open-ended inquiries.

- The researcher questioned the women about their attitudes and recorded their responses.
- The questionnaire's completion by the researcher took roughly 25 to 30 minutes.
- The educated women opted to write their own responses, whereas the researcher wrote the responses for the uneducated women. This will hold true for all inquiries.
- The women were questioned by the researcher regarding their plans to utilize BOM soon.
- As a guide, the researcher offered the women a leaflet with information on BOM.

Administrative design:

The director of Assuit University's Woman Health Hospital granted permission.

Assuit University's obstetrics and gynecological woman health hospital granted official clearance for the study, and the school's faculty of nursing's ethical council gave its seal of approval.

- Before include each woman in the study sample and after clearly and simply explaining the purpose of

the study, an informed oral consent was obtained from each woman.

- The nature of the investigation and its anticipated results were communicated in a straightforward and clear manner.
- They ensured the secrecy and anonymity of all data collected.
- All of the pregnant women who were studied had the option to discontinue the research at any point.

Statistical analysis:

Statistical Package for Social Sciences (SPSS) version 26 was used to organize, categorize, code, tabulate, and analyze the data that had been obtained. To determine whether there is a relationship between two qualitative variables, data were presented in tables and figures utilizing numbers, percentages, means, and standard deviation along with the Pearson test. At a P-value of 0.05, statistical significance was deemed to exist.

Results:

Table (1): Frequency and distribution of the studied women according to their socio-demographic data (N=360)

Socio-demographic data	N	%
Age/years		
< 25 year	119	33.1
25-35 year	204	56.6
>35 year	37	10.3
Age(mean ±SD)	27.90±5.14	
Residence:		
Urban area	133	36.9
Rural area	227	63.1
Educational level		
Illiterate& read and write	67	18.6
Basic education	72	20.0
Secondary	147	40.8
University or higher	74	20.6
Occupation		
Housewives	344	95.6
Working	16	4.4
Years of marriage		
< 2 year	15	4.2
2-5 years	149	41.3
>5-10 years	141	39.2
> 10 years	55	15.3
Years of marriage (mean ±SD)	6.62±3.43	

Table (2): Frequency and distribution of the studied women according to their menstrual history (N=360)

Menstrual history data	N	%
Age of menarche (years):		
10-13 year	187	51.9
> 13 year	173	48.1
Age of menarche (mean \pmSD)	13.16\pm1.52	
Menstrual rhythm:		
Regular	349	96.9
Irregular	11	3.1
Duration of menstrual blood flow (days)		
< 3 days	7	1.9
3-5 days	300	83.4
> 5 days	53	14.7
Duration (mean \pmSD)	4.59\pm1.07	
Amount of menstrual blood flows		
Scanty (change <4 pads)	1	0.3
Moderate (4-9 pads)	350	97.2
Heavy (>9 pads)	9	2.5
Interval:		
< 25 days	8	2.2
25-30 days	346	96.1
> 30 days	6	1.7
Interval (mean \pmSD)	28.29\pm1.39	

Table (3): Frequency and distribution of the studied women according to their obstetric history (N=360)

Obstetric history	N	%
Number of gravidity		
Pgda	90	25.0
multigraviada	270	75.0
Number of Parity		
Prime	103	28.6
<3	81	22.5
\geq 3	176	48.9
History of abortion		
Yes	38	10.5
No	322	89.5
Number of living children		
Not present	7	1.9
Male	47	13.1
Female	71	19.7
Mixed male& female	235	65.3
Mode of last delivery:		
NVD	52	14.4
Caesarean section	308	85.6
Gender of last baby		
Male	179	49.7
Female	181	50.3

Table (4): Frequency and distribution of the studied women according to their mean and SD of total overall knowledge score regards FP (general, natural, and BOM) (N=360)

Items	Mean \pm SD
knowledge level about general FP	5.02 \pm 1.58
Knowledge about natural FP methods	2.51 \pm 2.43
Knowledge about BOM	1.87 \pm 2.68
Total knowledge score	9.39\pm5.42

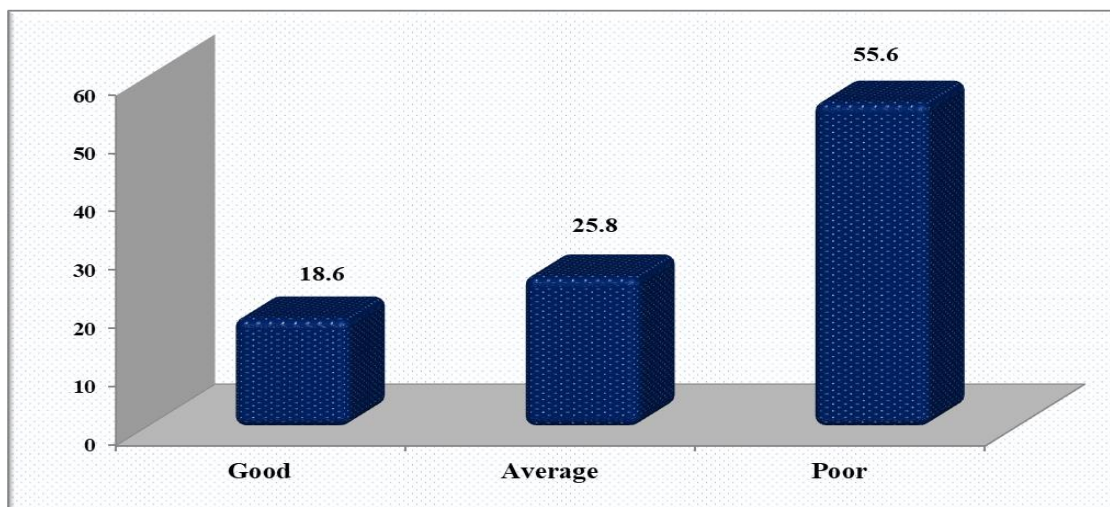


Figure (1): The studied women total knowledge level about general FP (N=360)

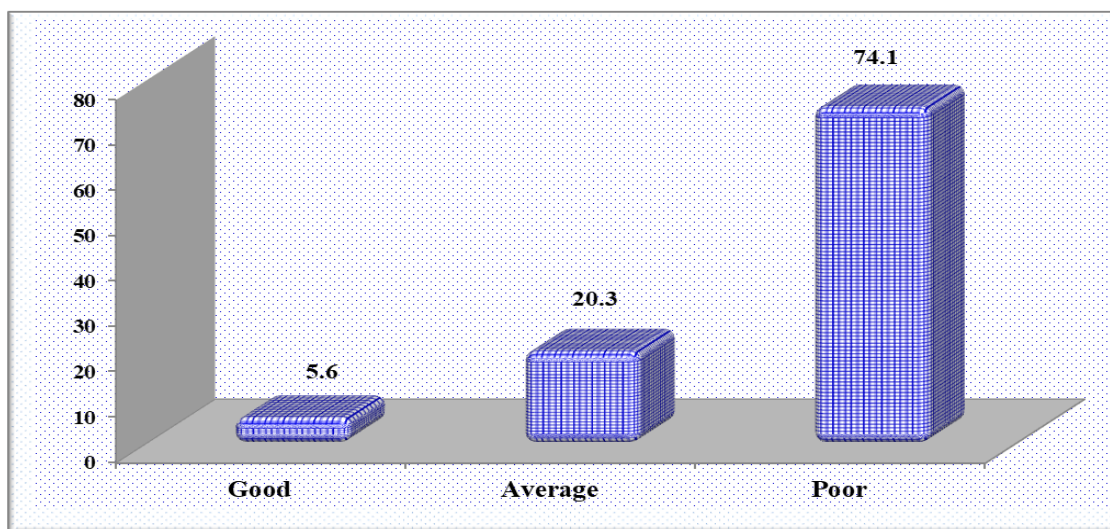


Figure (2): The studied women total knowledge level about natural FP methods (N=360)

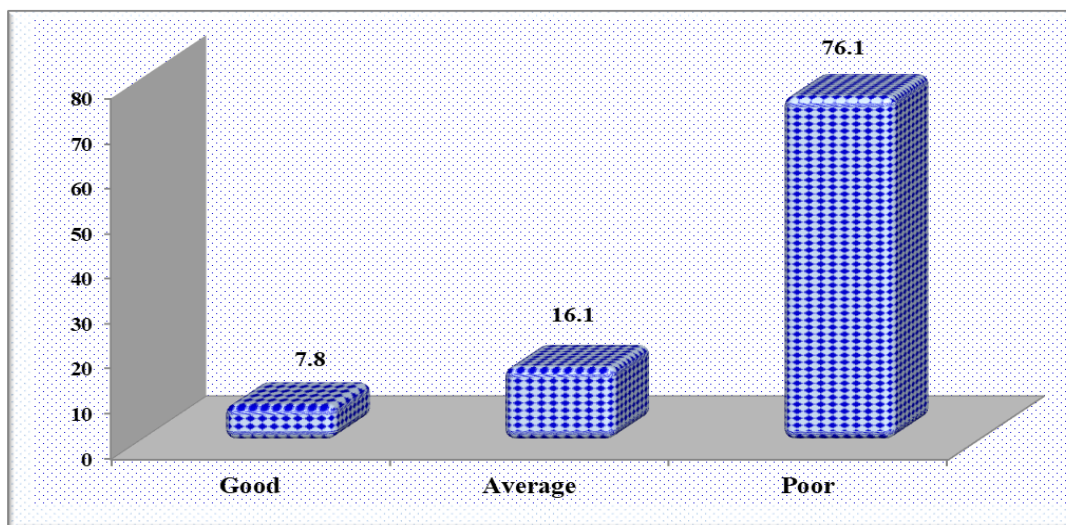


Figure (3): The studied women total knowledge level about billing ovulation methods (BOM) (N=360)

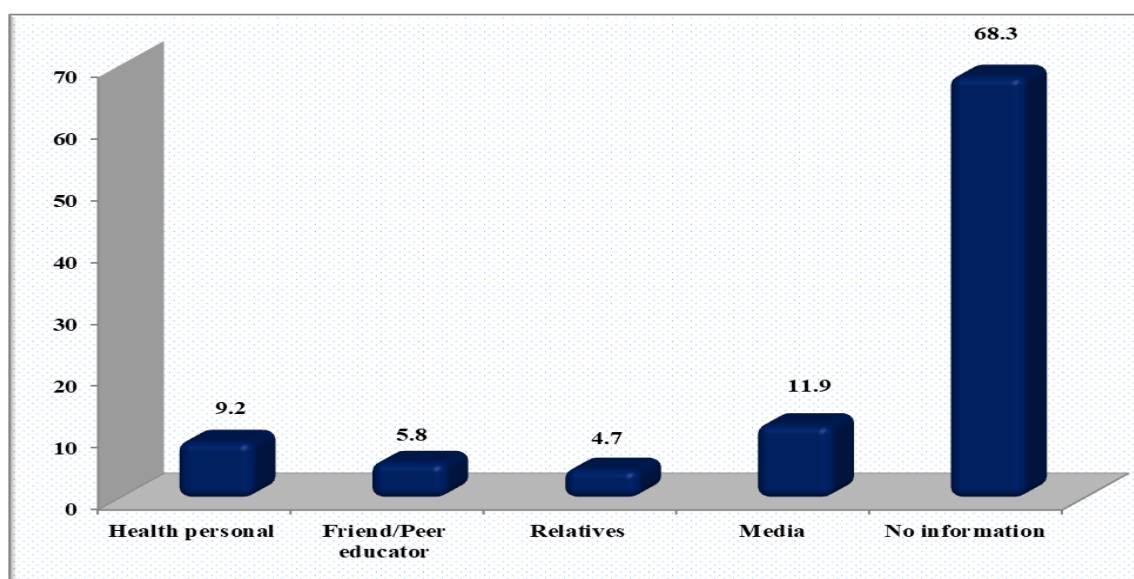


Figure (4): The studied women main source of overall knowledge about FP (general, natural, and BOM) (N=360)

Table (5): frequency and distribution of the studied women according to their attitude regarding BOM (N=360)

Items	N	%
Billing ovulation methods is effective		
Strongly agree	45	12.5
Agree	308	85.6
Disagree	7	1.9
Is too easy to use		
Strongly agree	106	29.5
Agree	242	67.2
Disagree	12	3.3
My husband and I can abstain from sex during the fertile period.		
Strongly agree	256	71.1
Agree	102	28.3
Disagree	2	0.6
My culture approves natural FP methods		
Strongly agree	105	29.2
Agree	251	69.7
Disagree	4	1.1
My husband supports BOM methods		
Strongly agree	252	70.0
Agree	107	29.7
Disagree	1	0.3
'A woman should receive fertility-awareness education to increase her awareness of the fertile time in the menstrual cycle		
Strongly agree	22	6.1
Agree	249	69.2
Disagree	89	24.7
BOM can help some infertile couples to conceive		
Strongly agree	76	21.1
Agree	251	69.7
Disagree	33	9.2
BOM will interfere with my sex-life		
Strongly agree	75	20.8
Agree	276	76.7
Disagree	9	2.5

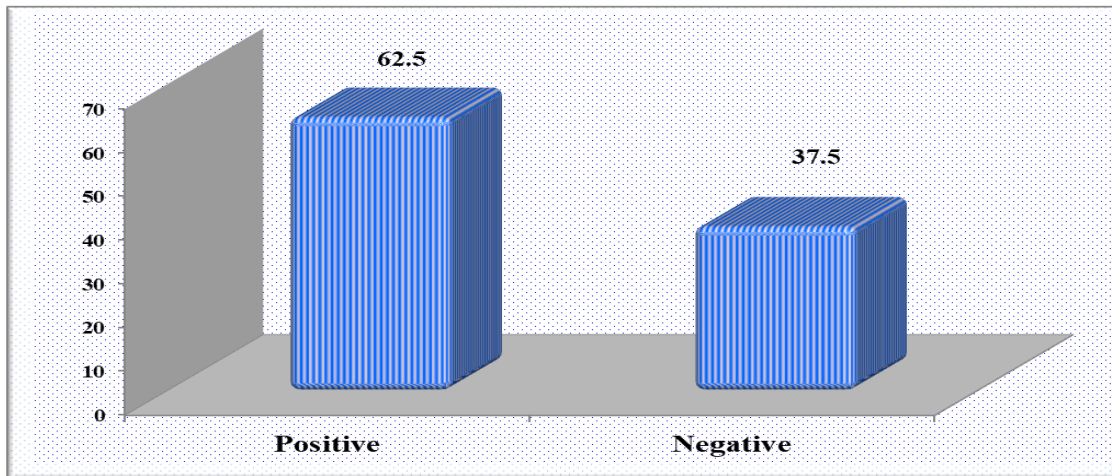


Figure (5): The studied women total attitude level regarding using BOM (N=360)

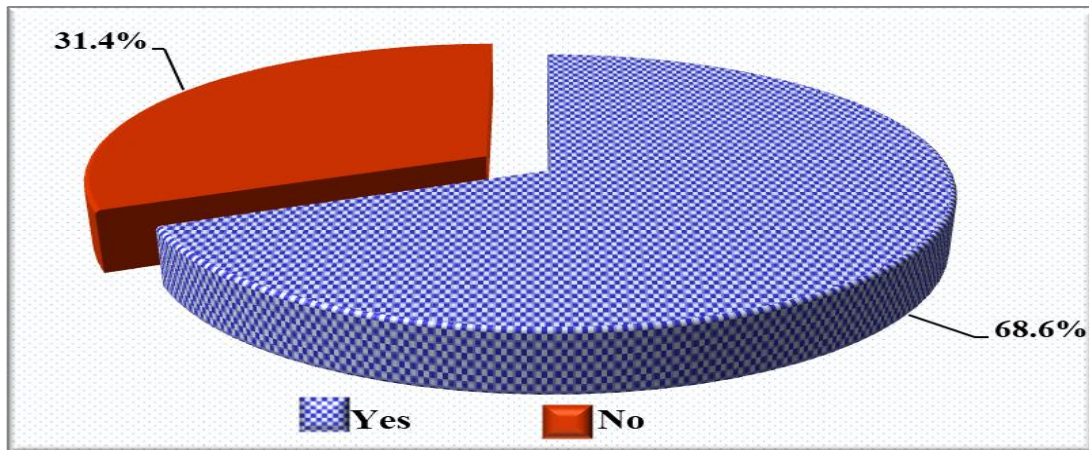


Figure (6): The studied women intention to use BOM in the future (N=360)

Table (6): relations between the studied women’s total knowledge level about BOM and socio-demographic data (N=360):

Socio-demographic data	Total knowledge BOM						P-value
	Good (28)		Average (58)		Poor (274)		
	N	%	N	%	N	%	
Age/years							0.405
< 25 year	5	17.9	20	34.5	94	34.3	
25-35 year	19	67.9	34	58.6	151	55.1	
>35 year	4	14.2	4	6.9	29	10.6	
Living area							0.574
Urban area	10	35.7	18	31.0	105	38.3	
Rural area	18	64.3	40	69.0	169	61.7	
Educational level							0.001**
Illiterate or read & write	7	25.0	3	5.2	57	20.8	
Basic education	0	0.0	2	3.4	70	25.5	
Secondary	2	7.1	21	36.2	124	45.3	
University or higher	19	67.9	32	55.2	23	8.4	
Occupation							0.001**
No working	26	92.9	49	84.5	269	98.2	
Working	2	7.1	9	15.5	5	1.8	
Years of marriage							0.924
< 1 year	1	3.6	4	6.9	10	3.6	
1-5 years	11	39.3	25	43.1	113	41.2	
5-10 years	12	42.9	22	37.9	107	39.1	
> 10 years	4	14.2	7	12.1	44	16.1	

(*) highly statistical significant P-value <0.01

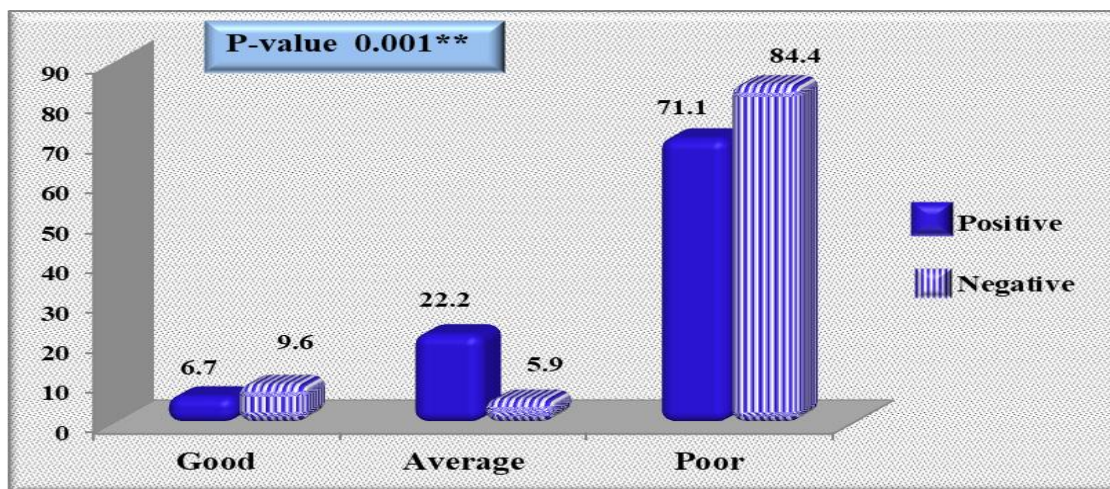
(^) statistical significant P-value <0.05

Table (7): Relations between the studied women’s total attitude level regarding BOM and socio-demographic data (N=360):

Socio-demographic data	Total attitude level regarding BOM				P-value
	Positive (225)		Negative (135)		
	N	%	N	%	
Age/years					
< 25 year	78	34.7	41	30.4	0.595
25-35 year	126	56.0	78	57.8	
>35 year	21	9.3	16	11.9	
Living area					
Urban area	81	36.0	52	38.5	0.632
Rural area	144	64.0	80	61.5	
Educational level					
Illiterate& read and write	25	11.1	42	31.2	0.001**
Basic education	32	14.2	40	29.6	
Secondary	107	47.6	40	29.6	
University or higher	61	27.1	13	9.6	
Occupation					
No working	214	95.1	130	96.3	0.597
Working	11	4.9	5	3.7	
Years of marriage					
< 1 year	9	4.0	6	4.4	0.421
1-5 years	97	43.1	52	38.5	
5-10 years	90	40.0	51	37.8	
> 10 years	29	12.9	26	19.3	

(**) highly statistical significant P-value <0.01

(*) statistical significant P-value <0.05



(**) highly statistical significant P-value <0.01

(*) statistical significant P-value <0.05

Figure (7): relations between the studied women’s knowledge level and total attitude level regarding BOM (N=360):

Table (1): Illustrates the studied women’s socio-demographic data, and reported that 56.6% of them had an age group from 25-35 year with a mean ±SD of 27.90±5.14, about 63.1% and 40.8% of them were from rural areas and had a secondary level of education respectively. Regarding occupation and years of marriage, 95.6% and 41.3% of them were housewives and had (2-5) years of experience respectively.

Table (2): Shows distribution of the studied women according to their menstrual history, and found that 51.9% of them had the first menses at age from (10-13) years with mean ±SD of 13.16±1.52, 96.9% of the studied women had a regular menstruation, and 83.4% of them their menstrual duration ranged from (3-5) days with mean ±SD of 4.59±1.07. About 97.2% and 96.1% of the studied women had a moderate menstrual blood flows, and menstrual interval from (25-30 days) respectively.

Table (3): Reports the studied women's obstetric history, and showed that 75.0%, 48.9% and 10.5% of them were multigravida, had parity ≥ 3 , and previous abortion respectively. Concerning number of living children, 65.3% of them had mixed male & female. As regard mode of last delivery clarifies that, 85.6% of the studied women had a cesarean section and 14.4% of them were delivered normally. Regarding gender of last baby, 50.3% of the studied women had female baby.

Table (4): Illustrates that mean and SD of total overall knowledge score regards FP methods was 9.39 ± 5.42

Table (5): Demonstrates the studied women's attitude regarding BOM, and found that 71.1%, 70.0% and 29.5% of them strongly agreed with "My husband and I can abstain from sex during the fertile period", "My husband supports BOM methods" and "Is too easy to use" respectively.

Table (6): Illustrates relations between the studied women's total knowledge level about BOM and socio-demographic data, and revealed that there were a highly statistical significant relations between the studied women's total knowledge level and educational level and occupation at p-value < 0.01 . And there were no statistical significant relations between the studied women's total knowledge level and age, living area, and years of marriage at p-value > 0.05 .

Table (7): Illustrates relations between the studied women's total attitude level regarding BOM and socio-demographic data, and illustrated that there was a highly statistical significant relations between the studied women's total attitude level and educational level at p-value < 0.01 . And there were no statistical significant relations between the studied women's total attitude level and age, living area, occupation and years of marriage at p-value > 0.05 .

Figure (1): Demonstrates that 55.6%, 25.8% and 18.6% of the studied women had a poor, average and good knowledge level about general FP respectively.

Figure (2): Demonstrates that 74.1%, 20.3% and 5.6% of the studied women had a poor, average and good knowledge level about natural FP respectively.

Figure (3): Demonstrates that 76.1%, 16.1% and 7.8% of the studied women had a poor, average and good knowledge level about BOM respectively.

Figure (4): Demonstrates that 68.3% of the studied women had no information; about 11.9% and 9.2% of them gained their information from mass media and health personal respectively.

Figure (5): Shows that 62.5% of the studied women had positive attitude and 37.5% of them had a negative attitude regarding using BOM.

Figure (6): Demonstrates that 68.6% of the studied women intended to use BOM in the future, while 31.4% not interest to use it.

Figure (7): Shows that there was highly statistical significant relation between the studied women's knowledge level and total attitude level regarding BOM at p-value < 0.01 .

Discussion:

In order to decrease maternal mortality, prevent unplanned births, and control population explosion, family planning continues to be a crucial public health intervention, particularly in poor nations (AboRahma et al., 2022). The degree and caliber of knowledge affect attitudes toward and acceptance of NFP techniques. Studies show that understanding the various natural family planning methods is essential because it affects people's attitudes toward, acceptance of, and use of NFP techniques. Lack of awareness is a significant barrier to the adoption and use of BOM in a culture that devalues natural remedies and promotes medicalization. Despite the fact that the Ministry of Health mandates that medical staff provide patients with information on all feasible methods of conception and contraception (Padilha & Deretti, 2021). So this study aimed to assess awareness and attitudes of child bearing women regarding BOM as a family planning method.

According to the current study, less than three fifths, more than one quarter, and less than one fifth of the investigated women, respectively, had poor, average, and good knowledge levels on general family planning. On the same line, (Menachery et al., 2017), applied their study in India to evaluate the knowledge and attitude of the studied female students on the standard days method of family planning, correlation between knowledge and attitude, and association between knowledge and attitude with the chosen demographic variables, and found that slightly more than two thirds of the studied female students were aware by method of family planning and less than one third of the students had a positive attitude toward it. This similarity supports the importance of raising awareness of method of family planning among childbearing women.

On the other hand, (George & Kumar, 2019), who conducted their research in Mangaluru, Karnataka to examine urban women's knowledge, attitudes, and contraceptive practices discovered that more than three fifths, more than one fifth, and less than one sixth of the women under study had good, average, and poor knowledge of family planning techniques. The difference may be related to the culture and study environment.

According to a present study, fewer than three-quarters of the women who were tested had inadequate awareness of natural family planning methods, slightly more than one fifth had average knowledge, and just 5.6% had strong knowledge. The same opinion reported by, (**Victoria & Ogochukwu, 2019**), who conducted a study in Enugu, Southeast Nigeria, to gauge men's and women's attitudes on FABMs of FP and found that more than three fifths and fewer than two fifths of the investigated women had inadequate and good understanding, respectively. This demonstrates the necessity of raising and publishing awareness regarding natural FP methods among childbearing women.

On the other side, (**Fuluso & Marvellous, 2017**), conducted a study to evaluate the knowledge, attitude, acceptance, and utilization of natural family planning methods among non-academic staff at a private university in Ogun State, Nigeria, and found that one fifth, more than three fifths, and more than one sixth had high, moderate, and low levels of knowledge about these methods. Dissimilarity may occur related to different study sample, setting, and culture.

The current study found that more than three-quarters of the women evaluated had poor awareness of BOM procedures, more than one sixth had moderate knowledge, and less than one tenth had strong knowledge. Near to previous findings (**Menachery et al., 2017**), discovered that the majority of the investigated females and only 5.6% of them had both good and poor understanding of the ovulation day method. Additionally, (**Padilha & Deretti, 2021**), used their study to determine the efficacy and ignorance of BOM and discovered that fewer than three quarters of pregnant women had inadequate knowledge of BOM. This confirms the lack of knowledge about BOM and the need of resolving this issue by utilizing various methods to increase BOM awareness.

The mean and standard deviation of the overall knowledge score about FP approaches were 9.39 ± 5.42 , respectively. The similar result was reported by (**Menachery et al., 2017**), who discovered that the mean and SD of the total overall knowledge score regarding FP approaches were 8.03 ± 3.76 . These findings report the obvious weakness of the overall knowledge score about FP that needed to be improved.

According to the current research, more than three fifths of the women who participated in the study had a positive attitude on using BOM, and less than two fifths of them had a negative view. In line with earlier research, (**George & Kumar, 2019**), clarified that less than three quarters of the studied women had positive attitude and (**Bagilkar et al., 2021**), who carried out their study to assess the knowledge,

attitude and practice regarding natural FP among reproductive age women, and discovered that more than two-thirds of the studied women had a positive attitude about natural FP approaches. This agreement supports using natural FP approaches based on science to give them enough information to help.

On the other side, (**Atlam et al., 2022**), who conducted a study in Egypt to evaluate family planning (FP) knowledge, attitudes, and practices among women in the reproductive age group, and found that the vast majority of the women under study had a favorable attitude about adopting FP techniques. Using a different sample and a different perspective on general family planning approaches may explain the difference.

According to actual research, there was a very statistically significant association between the tested women's knowledge level and their overall attitude toward BOM. This was supported by (**Bagilkar et al., 2021**), (**Atlam et al., 2022**), (**Menachery et al., 2017**), (**Fuluso & Marvellous, 2017**), who discovered a significant highly statistically significant relationship between the studied women's knowledge level and overall attitude level regarding family planning method at were in agreement with this. This similarity ensured the vital role of women's knowledge on guided their attitude to be correct and positive.

The current study demonstrates that there was a highly statistically significant association between the examined women's overall knowledge level and educational attainment and occupation, which is relevant to the relationship between women's knowledge level and socio-demographic variables. Additionally, there was no statistically significant relation between the study women's total knowledge level and their age, place of residence, or number of years of marriage. In a similar vein, (**Victoria & Ogochukwu, 2019**), discovered no statistically significant link between the total knowledge level of the examined women and age, and a significant relation between knowledge level and educational degree.

And (**Atlam et al., 2022**), reported no statistically significant link between the total knowledge level of the examined women and age, and a significant relationship between knowledge level and occupation. Additionally, (**Akoku et al., 2022**), who conducted their research to examine the relationship between fertility awareness knowledge and contraceptive use among sexually active female university students (FUS) in Cameroon, and found no statistically significant association between the age of the study participants and their overall knowledge level. This commonality made sure that while aging had no

effect on the degree of information, education level did have an impact on it.

Regarding the relations between sociodemographic data and the total attitude level of the examined women toward BOM, the actual study shows that there was a highly statistically significant relationship between educational level and total attitude level. Furthermore, there was no statistically significant relation between the study women's overall attitude level and age, place of residence, occupation, or number of years of marriage. The same results were found by (Menachery et al., 2017), who showed that there was no statistically significant association between the study women's total attitude level and age, domicile, or home address. Additionally, it was discovered by (Atlam et al., 2022), found that there was no statistically significant correlation between the study women's overall attitude level and age, place of residence, or employment.

In terms of the analyzed women's obstetric history, the research actually reveals that three-quarters of them were multigravida, less than half of them had parity ≥ 3 , and slightly more than one tenth of them had previously had an abortion. Less than two thirds of the offspring who are still alive are mixed male and female. A little over half of the women in the study had female babies, according to the gender of their most recent child. The current study makes it clear that the majority of the analyzed women underwent a cesarean section and that only about one-sixth of them gave birth normally with regard to the method of last delivery.

Congruent with previous finding, (Omni et al., 2023), who conducted their research to evaluate breastfeeding mothers' knowledge, attitudes, and use of contraception at tertiary care institutions and discovered that less than one-third of the women under investigation were primipara. Additionally (Devaru et al., 2020), who applied their study to identify knowledge, attitude and practice of family planning method usage among urban women, and revealed that more than a quarter of the investigated women were primigravida in their study to determine knowledge, attitude, and practice of family planning technique utilization among metropolitan women.

Omni et al., (2023) , reported a different viewpoint. According to, slightly less than two thirds of the women in the study had a typical vaginal delivery, and slightly less than one third had a cesarean section. This difference may be back to changing in setting and culture.

According to the study's sociodemographic findings, more than half of the participants were between the ages of 25 and 35, with a mean age-standard deviation of 27.90 and 5.14. Additionally, more than three fifths of the participants were from rural areas,

and more than two fifths had a secondary education. The majority of them were housewives, and more than two-fifths of them had been married for between two and five years, according to their occupation and marital status.

Similar finding were reported by (George & Kumar, 2019), who It showed that less than half of the participants in the study were between the ages of 26 and 35 and had only completed high school. Most of them were housewives. Additionally, it was noted by (Atlam et al., 2022), that more than half of the women in the study were in rural areas and had only had a secondary education.

Conclusion

Most postpartum mothers had poor awareness about and a favorable attitude toward utilizing BOM.

Recommendations

According to the study's conclusions, it was advised that:

- Decrease the number of large families, community campaigns should be launched to raise awareness of BOM and its importance among both literate and uneducated people.
- Provide the health care practitioners with BOM training and refresher courses, and educational forums should be established for staff members of various institutions where they can receive accurate and helpful information regarding BOM.
- Increase understanding and awareness among the general public, different posters and handbills, including pamphlets, can be made available in family planning clinics and even handed out to staff members in institutions.

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