

Effect of Social Media Platforms Education for Postpartum Women on Contraceptive Awareness and Utilization

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Abstract

Background: Since contraceptive methods are now widely available in the nation, it is critical to use the new methods of educational resources that improve women's attitudes, knowledge, and ability to make decisions about contraceptive methods utilization. **Aim:** Assess the Effect of Social Media Platforms Education for Postpartum Women on Contraceptive Awareness and Utilization. **Methods:** A quasi-experimental design pre-posttest was used to conduct the study. A non-probability purposive sample was used of 100 women during the post-partum period. Data was collected by using a self-administered close-ended questionnaire which consisted of demographic factors of study sample, obstetric history, contraceptive history, contraceptive knowledge assessment, and attitude toward utilization of contraception. (Pre - Post assessment). **Setting:** postpartum wards at Menoufia University Hospitals, Menoufia governorate, Egypt. **Result:** There was a statistically significant improvement in the total knowledge and attitude toward the utilization of Contraception after the Social Media Platforms education for Postpartum women on Contraceptive awareness and utilization ($p = 0.00$ and 0.001 respectively). There was a significant relationship between post-test attitude scores, and some obstetrical variables, such as the number of abortions and, the number of deliveries of the study sample ($P = 0.001$ and 0.002 respectively). There was also a significant relationship between the post-test and some items of obstetrical variables and women's decision-for utilizing the contraceptive method as the number of live births and, number of pregnancies among the study sample ($P = 0.001$ and 0.000 respectively). **Conclusion:** Social media platforms' education for postpartum women has a positive effect on improving women's knowledge and enhancing their decisions to use contraceptives. **Recommendation:** Integrating social media platforms' education for postpartum teaching as an innovative technology method of guidance in routine maternity care.

Keywords: Awareness, Contraceptive, Social Media Platforms, Postpartum, and Utilization

Introduction

As stated by the **Royal College of Obstetricians and Gynecologists (RCOG, 2015)**, Postpartum family planning, or PFP, is crucial for preventing unplanned and closely spaced pregnancies after giving birth. Closely spaced pregnancies increase the risk of several negative outcomes for pregnant women, including small-for-gestational-age (SGA) babies, low birth weight, and preterm delivery. **World Health Organization (WHO, 2018)**. For more than 20 years, the Egyptian government has been working with several foreign donor organizations on a nationwide population control program aimed at lowering fertility and boosting contraceptive use. However, the government's development objectives are thought to be seriously hampered by the nation's recent rapid population

expansion. Egypt is among the countries with the highest levels of sex inequality, with a fertility rate of 3.5 births per female over 20 years. Women's empowerment aims to lower the birth rate and promote contraception. (Samari, 2017).

Family planning is recognized by the World Health Organization as one of the primary treatments to enhance health and preserve the valuable mothers' and kids' lives everywhere in addition to its personal health advantages both social and financial advantages for communities and families require no justification. While efficient family planning is crucial for women's entire reproductive lives using contraceptives after giving birth time is essential since it presents the greatest risk for mother and child's safety (WHO, 2018).

Egyptian officials have been interested in family planning (FP) strategies since the early 1960s (Mohamed et al., 2022). Over the past three decades, women in underdeveloped nations who are of reproductive age have also come to prefer modern forms of contraception. Egypt is one such example (El Weshahi et al., 2021). Given the implications for the health of mothers, children, and society as a whole, as well as the significance of a nurse's function as a family planning counselor in lowering population growth rates by encouraging the use of contemporary, efficient contraception by both couples who share responsibility for reproduction (Al-Shawakh et al., 2020).

Along with educating women about the program through mass media advertisements and FP messaging, the family planning (FP) program aimed to teach them the benefits of using contraceptives and maintaining modest family standards. Different socioeconomic groups can now more easily get information on a wide range of topics because of mass media communications. Media-exposed women are better equipped to decide whether or not to use FP on their own. (Ghosh et al., 2021).

Women may seek out maternity healthcare facilities as a result of the media exposure they receive from reading newspapers, watching TV, and listening to the radio. The term "mass media" refers to any written, spoken, or broadcast communication meant for the wider public. One crucial instrument for societal integration is the mass media (Viswanath et al., 2007).

In addition to in-person encounters, mobile health services could be a part of the idea of creative approaches to change behavior for better health. Smartphones come with a wide range of apps, including Instagram, WhatsApp, email, short message service (SMS), and more, depending on the user's demands. According to Dewi et al. (2019), Even while WhatsApp media has supplanted SMS and MMS, health professionals can still utilize SMS to remind patients to take their medications at a reasonable cost. WhatsApp is widely used and makes communication easier.

The use of wireless and mobile communication technology to enhance healthcare delivery, results, and research is

referred to as "mobile health" or "mHealth". By removing obstacles like bias and anxiety that young people frequently face, mobile health, or mHealth, has the potential to democratize access to vital information on family planning and sexual and reproductive health. Digital technology can help overcome traditional barriers to understanding about geography, economy, and literacy (Ouedraogo, I. 2021).

Using mHealth to improve the use of modern contraceptives and raise awareness regarding them has been shown to be one of the most cost-effective methods available worldwide, particularly for low- and middle-income countries (LMICs) (Aung et al., 2020). To encourage the use of family planning, a variety of single or combination mobile phone interventions, including voice messages, SMS, videos, and applications, have been used either in place of or in addition to in-person family planning services (Hill et al., 2020).

Significance of the Study:

Contraceptives reduce the risk of unwanted pregnancies, abortions, and the rates of pregnancy-related deaths and disabilities, according to the WHO (2018). Women need to understand the role that contraception plays in family life for their own health (Dixit & Bandhani, 2019). People may be more willing to use contraceptives if they are given the right information, which could lead to a higher uptake of postpartum contraceptives. Social media sites like Facebook, Instagram, WhatsApp, Snapchat, and Twitter can be used to communicate continuously and effectively by removing the obstacles that come with face-to-face interactions. Patients view social media as a tool for learning about their ailments, communicating with others quickly and effectively, and sharing medical records with other patients going through similar struggles (Alduraywish, et al., 2020). It is increasingly clear that social media platforms, such as mobile phone applications and communication technology, are at the forefront of healthcare innovation. This has been demonstrated to have a significant impact on women's health outcomes, particularly in rural areas where access to care is limited and where they are most at risk for maternal mortality and other pregnancy-related morbidities. Thus, the

purpose of this study is to ascertain how postpartum women's education on social media platforms affects their awareness and use of contraceptives (Chaudhary et al, 2023)

Aim of the Study

This study aimed to assess the effect of social media platforms education for postpartum women on contraceptive awareness and utilization.

Research Hypotheses

H0: No enhancement in awareness and utilization of contraceptive methods among postpartum women after following the adoption of Social Media Platforms Education.

H1: There was an enhancement in awareness and utilization of contraceptive methods among postpartum women after following the adoption of Social Media Platforms Education.

Operational Definition:

Social media Platform education:

The original intent of social media was to create an "online community for us all" and facilitate social connections. In current study instructions given to postpartum mothers about contraceptives methods used social media (either What's App, Viber, or Facebook), and Instagram, TikTok) the women had internet connectivity on their phone (WIFI at home or mobile data). mobile phone direct calls, WhatsApp application messages, interactive materials photos, videos and answering questions as well as the vision calls for participating in online discussions.

Subject and Methods

Research Design

A quasi-experimental research design (pretest-posttest non-equivalent control group design) was adopted to assess the effect of social media platforms education for postpartum women on contraceptive methods awareness and utilization. A quasi-experimental research design resembles experimental research but does not meet the criteria of true experimental research (Miller, Smith, & Pugatch, 2020).

Sample

Sample Type:

A non-probability purposive sample was used.

Sample size:

The sample size was estimated by using G*power with a paired sample t-testing, with a p-value of 0.05, a power of 0.95 and a medium-low effect size of 0.15, the needed sample size will be 90 women. To ensure representative sample will increase the sample up to 100 women.

Sampling Technique:

Study Subjects:

One hundred mothers with were recruited from the previously mentioned setting to share in this study according to the following:

Inclusion and Exclusion Criteria:

The following criteria were used to recruit participants for the current study: postpartum women, full term. Possess a smartphone with internet access, be able to read and write, and utilize social media (either Facebook, Viber, or What's App). had access to the internet via their phone (either mobile data or Wi-Fi at home). Did not get prior training on the use of contraceptives. Women had been diagnosed with learning disabilities like dementia or eyesight impairment, they were excluded from the current study.

Sample Size Calculation:

The sample size was estimated by using G*power with a paired sample t-testing, with a p-value of 0.05, a power of 0.95 and a medium-low effect size of 0.15, the needed sample size will be 92 women. To ensure representative sample will increase the sample to 100 women

Study Setting

This study was conducted at post-partum wards at Menoufia University Hospitals, Menoufia governorate, Egypt. The Obstetric and Gynecological Inpatient Wards consist of three wards with 20-30 beds in each. University Hospitals supply free services for women during pregnancy, labor, and postpartum periods.

Data Collection Tools

Data collection tools were developed after an extensive review of literature (Chaudhary et al., 2023 & Gemperle et al., 2022).

Tool: Self-Administered Close-Ended Questionnaire

It consists of five parts **Part One**: It covered data related to demographic characteristics such as telephone Mobil number, age, educational level, employment, and residence. **Part two**: obstetric history: which includes number of pregnancies, number of children, and number of deliveries, and contraceptive methods history. **Part three**: his part consists of 14 closed-ended questions regarding definition, types, duration, complication, management, and contraindications of contraceptive. The answer “True, False or Don’t Know. The correct answer will be recorded as 2. The incorrect answer will be recorded as 0. An answer with “Don’t Know” will be recorded as 1. The maximum score was 28 and the minimum score was 0. The total score was quantified as: 0-13 poor (low level) knowledge; 14-19 Unsatisfactory) knowledge; and 20-28 satisfactory knowledge level.

Part four: the questionnaire consists of 16 Likert scale statements to assess the attitude of participants toward the decision for utilization. The responses to the attitude questions are 5-Point-Likert scale that ranges from 1 to 5 with a total score that ranges from 16 to 80. And **Part five**: consists of 4 closed-ended questions to assess women's decisions regarding utilization of contraceptive methods.

The third, fourth, and fifth parts of the questionnaire (knowledge, attitude, and decision of utilization) were assessed twice for each woman. The first time (pre-assessment) was done before the educational session. The second time (post-assessment as Follow-Up Card) was done after the educational session.

Tools Validity

The postpartum mothers were given the questionnaires after they had been translated into Arabic. Before being used, the content validity of the created tools was examined by a group of five maternity nursing specialists to make sure the questions were consistently expressed and had the intended meaning.

Reliability of the Tools:

Cronbach alpha coefficients for internal consistency of the knowledge of participants about contraceptive methods was (0.895), (0.877) for Likert scale statements to assess the attitude of participants toward a decision for utilization, decision regarding using of contraceptives use it

was (0.924). the questionnaires were found to be highly reliable.

Pilot study

A pilot study was conducted on 10% of the total study sample to evaluate the objectivity and applicability of the study tools and the feasibility of the research process as well as to estimate the time needed to answer them. The mothers in the pilot study were included in the study sample.

Ethical considerations:

The study was authorized by the director of Menoufia University Hospitals and approved by the Research Ethics Committee of the Faculty of Nursing at Menoufia University. Following an explanation of the study's purpose and methodology, each mother who participated in the study provided signed consent. Every mother received assurances of the privacy of the information gathered. Furthermore, the option to leave the research was permitted.

Statistical analysis

Data analysis was carried out by using SPSS statistical software package version 22. Data will be presented using descriptive statistics in the form of frequencies and percentages. Interval and ratio variables were presented in the form of means and standard deviations. Paired t-test was used to compare the interval and ratio data before and after the session. For non-parametric data, the Wilcoxon Signed Ranks Test was used to compare the ordinal data before and after the session.

Level of significance

For all statistical tests done, the threshold of significance was fixed at the 5% level (P-value). A P-value > 0.05 indicates a non-significant result and the P-value <0.05 indicates a significant result and the P-value is the degree of significance.

Procedure:

The current investigation was carried out between June 2023 to October 2023. Three days a week, from 9 a.m. to 1 p.m., the researchers were present at the aforementioned location until the determined sample size of women was reached. Recruitment of participants, implementation, follow-up, and evaluation were the three phases of the study.

Participant recruitment:

The data collection tools were created following a thorough literature review, and the educational media's content (videos, attractive pictures, and application groups for social media (Facebook, Instagram, or WhatsApp) and Viber) was created to engage the study sample. Postpartum mothers were questioned, given an introduction, and explained the purpose of the study. The researchers obtained the participant's written agreement to participate in the study after confirming their eligibility. A structured interview questionnaire was used to gather information about demographic traits. Postpartum mothers were evaluated on their awareness and use of contraceptive methods in the postpartum ward, as well as awareness and Utilization of methods (pretest).

Implementation Phase:

The researchers added the post-partum women to the designed Social Media Platform education group either What's App, Viber, or Facebook and Instagram) as they preferred any applications can be used by women and pushed information about family planning education on women's knowledge, attitude and decision and seeking to utilize for Contraceptive Method. The outlines of the session included: the definition of contraceptives, types, advantages, and disadvantages for each type of contraceptive, how to use and how it works in each type of contraceptive, and important points regarding attitude and decision for utilization of family planning then sent videos, PowerPoint and text messages through instant messaging software applications such as Viber, What's App, and Facebook-messenger to the content of this information was displayed by using interactive visualized and animated instructions. During the postpartum weeks, women may see, hear, and communicate with researchers and with one another thanks to the mobile communication health education features. Following the consultation. As needed, the mothers were contacted by phone or, if they preferred, via social media to discuss the strategy. The session lasted 20 to 30 minutes, and there were roughly 10 sessions overall for everyone who participated in various social media platform groups.

Follow-Up and Evaluation Phase:

Using the same instruments as the pre-test, postpartum women were interviewed at the end of the sixth week of postpartum follow-up in outpatient clinics to assess the impact of social

media platforms' education on postpartum women's awareness and use of contraceptives.

Results

Table 1 shows that, the distribution of the study sample based on their demographic characteristics and Obstetric variables. The mean age of the study participant was 30.58 ± 6.23 years old. Around 52% had secondary education, and more than one-third of the participants had more than three pregnancies and deliveries. Less than half of the participants had no abortions before.

Table 2 shows the history of the use of contraceptives among the study sample. Almost 31% of the study did not use contraceptives. More than one-third (45%) of studies use traditional contraceptive methods including withdrawal, infertility period, and breastfeeding as contraceptive methods. Around one-fourth (30%) of the study participants reported that they did not use contraceptives every time they did not intend to get pregnant. Sixty-eight of the study participants reported that the current method of contraceptive changes from time to time. More than half of the sample 73% reported unplanned pregnancy due to lack of contraceptive use.

Figure 1 shows a comparison between pretest vs. post-test scores in association with Contraceptive Knowledge Assessment based on the three categories (poor, unsatisfactory, and unsatisfactory). There was a significant difference between the knowledge level in the pre and post-test.

Table 3 shows the pretest-posttest mean scores of the contraceptive knowledge assessment, which indicates an improvement in the posttest scores compared to the pretest scores. Further, there are statistically significant differences between all items in the pretest and post-test scores as well as a comparison between Pretest vs. Posttest Attitude mean scores toward Utilization of Contraception, which indicates an improvement in the post-test scores compared to the pretest scores. Further, there is a statistically significant difference between all items in the pretest and post-test scores.

Table 4 shows the comparison between pretest vs. posttest scores of the utilizing the Contraceptive Method. In the pretest among the study participants, 30% plan to visit a health center for family planning services and this

increased to 403% post-test. 37% of participants would like to use contraceptives to prevent unplanned pregnancy pretest and 55% in posttest. Only 27 % of the participants acknowledged that they plan for any unplanned pregnancy use in the future in the pretest and 60% in the posttest with a significant relationship.

Table (5) illustrates that, there was a highly significant difference between pre-post: seeking utilization of the different types of contraceptive methods before and after the sessions of education and among the used family planning methods the statistical differences were found in IUD more than in posttest. Controversy LAM was the higher percentage use pretest than posttest (10)/ (3) respectively as well as male condoms.

Table 6 shows the relationship between selected obstetrical variables and women's attitudes toward different types of contraceptive methods before and after the sessions of education. There was a significant relationship between "No of delivery" and attitude toward of

contraceptive method in the pretest. While, there was a significant relationship between the number of deliveries, the number of abortions, and attitude toward contraceptive methods in posttest (0.001, 0.002) respectively.

Table 7 shows the relationship between selected obstetrical variables and women's Decision-for utilizing the Contraceptive Method use before and after the session. The first item "Are you planning to visit a health center for family planning services?" had a significant relationship with the number of live births during posttest (0.001). The second item "Do you have a specific contraceptive method would you like to use to prevent recent pregnancy There is no a significant relationship with all obstetrical variables in pre and post assessments. The third item "Do you have a specific contraceptive method would you like to use to prevent recent pregnancy?" is a significant relationship with the number of pregnancies during post-assessments (0.00).

Table 1: Distribution of The Study Sample Related to Demographic Characteristics and Obstetric History of The Study Sample

Item	N	%	
Age	<20years	18	18
	20 -25 years	25	25
	26 - 35 years	29	29
	36 years and more	28	28
Mean \pm SD Yrs.	30.58 \pm 6.23		
Educational level	Primary	29	29%
	Secondary	52	52%
	University	19	19%
Place of residence	Urban Area	64	64%
	Rural Area	36	36%
No live birth	1.00	9	9%
	2.00	20	20%
	3.00	52	52%
	\geq 4.00	19	19%
No of pregnancies	1.00	11	11 %
	2.00	22	22%
	3.00	47	47%
	\geq 4.00	20	20 %
No of deliveries	1.00	9	9%
	2.00	22	22%
	3.00	51	51%
	\geq 4.00	18	18%
No of abortions	0.00	44	44%
	1.00	22	22%
	2.00	24	24%
	3.00	6	6 %
	\geq 4.00	4	4%

Table (2): Distribution Of The Study Sample Related Contraceptive History

Item	Yes		No	
	no.	%	no.	%
Did you use contraceptives to prevent unplanned pregnancy?	31	31	69	69
Did you practice any traditional contraceptive methods including withdrawal, infertility period, and breastfeeding if you were not using any contraceptives?	55	55	45	45
Did you use contraceptives every time you do not intend to get pregnant?	30	30	70	6708
My method of contraceptive changes from time to time.	32	32	68	68
Have you ever had any unplanned pregnancies due to a lack of contraceptive use?	27	27	73	73

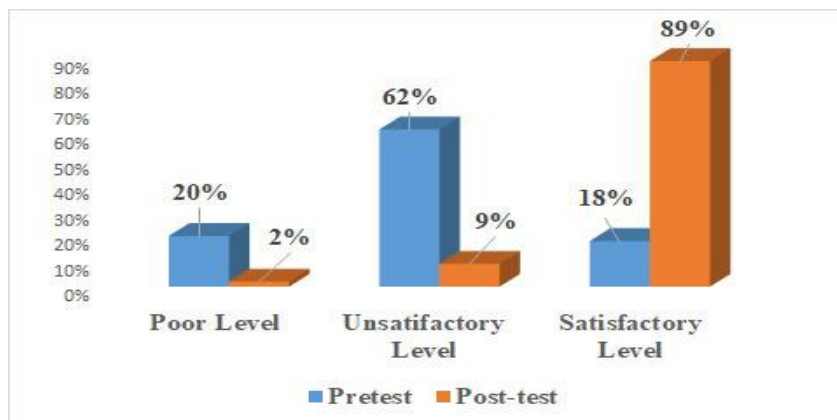


Figure 1: A significant difference between pre and post-knowledge (p=0.000)

Table (3): Comparison between Pre-Post results of Total Mean Knowledge of Contraceptive and Attitude toward Utilization of Contraception

Item	Pretest (N=100)		Post-test (N= 100)		Paired t-test	p-value
	Mean	± SD	Mean	± SD		
Total mean knowledge of Contraceptive Score	11.18	± 1.05	24.04	± 1.07	-13.05	00.00*
Attitude toward Utilization of Contraception Mean Score	56.14	± 8.04	66.24	±6.56	-11.342	0.001*

Table (4): Effect of Social Media Platforms Education on women's Utilizing the Contraceptive Method during pre and post-test

Item	Pretest						Posttest						Test	P
	Yes		No		I am not Sure		Yes		No		I am not Sure			
	N	%	N	%	N	%	N	%	N	%	N	%		
Are you planning to visit a health center for family planning services?	30	30	33	33.0	37	37	40	40	27	27	33	33	134.42	0.001
Would you like to use contraceptives to prevent unplanned pregnancy?	37	37	30	30	33	33	55	55	25	25	30	30	111.61	0.030
Do you have a specific contraceptive method you would like to use to prevent further pregnancy?	27	27	37	37	36	36	60	60	22	22	18	18	68.22	0.001

Table (5): Comparative Between Pre-Post: Seeking Utilizing the Contraceptive Method N=100

Socio-demographic Characteristics	Pre N=100	Post N=100	X ²	P- Value
	NO. (%)	NO. (%)		
Initiation of Contraceptive:				
- Yes	35(35)	82(82)	47.32	0.001
- No	65(65)	18(18)		
Initiation Time /Weeks: (Mean ±SD)	5.00±1.1	6.00±0.3	t. test 62.7	0.001
Methods Selected:				
- LAM	10(10%)	3(3%)	37.9	0.001
- IUD	35(35%)	42(42%)	35.2	<0.001
- Hormonal			29.59	0.001
▪ Pills				
▪ Progestin-only	10(10%)	6(6%)		
▪ Combined	12(12%)	19(19%)		
▪ Injections	14(14%)	15 (15%)		
▪ Implant	5(5%)	7(7%)		
▪ Patches	7(7%)	6(6%)		
Others				
- Male Condoms	5(71.4)	2(2%)	13.3	0.021
- Withdrawal	2(28.6)	0(0.0)		

Lactation amenorrhea method (LAM) - Intra Uterine Device (IUD)

Table (6): Relationship between selected vs. obstetrical variables and women's attitudes toward Contraceptive methods before and after the Social Media Platforms Education on women. N=100

Obstetrical variables		Attitude toward family planning					
		Pre			Post		
		Mean	F	Sig.	Mean	F	Sig.
No live birth	1.00	55.12	1.32	0.215	64.31	1.12	0.17
	2.00	59.87			60.88		
	3.00	64.09			68.25		
	≥4.00	56.22			63.58		
No of pregnancies	1.00	55.00	1.21	0.164	67.00	1.23	0.01
	2.00	60.22			60.35		
	3.00	66.00			66.45		
	≥4.00	58.58			63.78		
No of deliveries	1.00	51.22	1.12	.011	60.1	1.64	0.001
	2.00	52.00			63.24		
	3.00	61.51			66.45		
	≥4.00	65.21			67.55		
No of abortions	1.00	24.35	2.45	.185	60.1	1.14	0.002
	2.00	49.55			62.1		
	3.00	42.22			54.22		
	≥4.00	28.22			45.27		

Table (7): Relationship between selected vs. obstetrical variables and women's decision to utilize the contraceptive method used before and after the Social Media Platforms Education on women. (N=100)

Obstetrical variables		Decision-for Utilizing the Contraceptive Method			
		Pre		Post	
		Test	P	Test	P
Are you planning to visit a health center for family planning services OR (MCHC)?	No live birth	0.52	0.42	1.12	0.001
	No of pregnancies	1.02	0.15	1.17	0.142
	No of deliveries	0.60	0.21	0.71	0.452
	No of abortions	0.62	0.42	0.421	0.442
Would you like to use contraceptives to prevent unplanned pregnancy?	No live birth	0.15	0.41	0.11	0.254
	No of pregnancies	0.23	0.40	0.35	0.217
	No of deliveries	0.38	0.68	0.14	0.868
	No of abortions	1.81	0.14	1.00	0.452
Do you have a specific contraceptive method that would you like to use to prevent recent pregnancy?	No live birth	0.71	0.49	0.76	0.632
	No of pregnancies	1.10	0.22	2.10	0.000
	No of deliveries	0.51	0.60	0.85	0.432
	No of abortions	2.90	0.06	0.981	0.321

Discussion

Postnatal care plays a major role in improving the mother's and the newborn's health and well-being. Several platforms, such as text messaging, voice calls, interactive messaging, and smartphone apps, can be used to deliver mobile interventions. Mobile devices can be used for individual or combined interventions, such as voice messaging and phone counseling or interactive text message support. For current contraceptive users, interventions could focus on increasing adherence, decreasing discontinuation, or promoting switching instead of discontinuing if a person has negative side effects (Smith et al., 2015).

This study was conducted to assess the Effect of Social Media Platforms Education for Postpartum Women on Contraceptive Awareness and Utilization. The study findings can be successfully used to accept the proposed hypothesis. As regards the socio-demographic characteristics and Obstetric variables. The mean age of the study participant was 30.58±6.23years old. Around half of the Participants had secondary education. Less than half of the participants had no abortions before.

The earlier findings were consistent with Ibrahim et al. (2023), who stated that over two-thirds of the control group and research group were in the 20–30 age range, with respective means ± SDs of 26.60±5.59 and 26.91±5.82. Over half of the control groups and less than two-

thirds of the research participants resided in rural areas. In terms of educational attainment, approximately half of the study group and about a quarter of the control group, respectively, had completed secondary school. Regarding past abortions, around a quarter of the research and control groups had prior abortions. As evidenced by the similar findings of both research, abortions are common because people are unaware of how to manage unplanned pregnancies.

Based on the study sample's history of using contraceptives, the current study discovered that roughly one-third of the study participants did not use them. More than one-third of research uses traditional means of contraception, such as breastfeeding, infertility, and withdrawal. However, around one-fourth of the survey participants stated that they did not always utilize contraception when they had no intention of becoming pregnant. According to over three-quarters of the study participants, the current technique of contraception varies periodically. Over two-thirds of research participants reported becoming pregnant unintentionally as a result of not using contraception.

These findings contrasted with those of Ibrahim et al., (2023), who examined the family planning usage history of the women in the study and control groups. They found that approximately half of the study group and half of the control group used injectable methods and that for a year or longer, roughly two-thirds and more than three-quarters of the study and control

groups, respectively, used FP methods. Additionally, the results showed a highly significant difference (p value <0.01) between the study and control groups. The reason for the disparity in the results is that participants in the current study either used natural contraception or no contraception at all, which led to an unexpected increase in pregnancy.

The results of the present study show that the posttest scores were better than the pretest scores in terms of the pretest-posttest mean scores of the contraceptive knowledge evaluation. Additionally, the comparison of the pretest and posttest attitude mean scores toward the use of contraception shows statistically significant differences between all items in the pretest and posttest scores, indicating that the posttest scores were better than the pretest scores. Additionally, the differences between the pretest and posttest scores for every item are statistically significant.

These results were in line with those of Farag et al., (2022), who discovered that compared to women who got instruction through conventional methods, a greater proportion of women who used mobile communication had a good level of understanding. El-salam et al., (2020) found that most women and their family members were also pleased with the online consultant service. The study found that interactive information is more easily remembered and retained than reading material.

Regarding the comparison between pretest vs. posttest scores of the utilizing the Contraceptive Method. In the pretest among the study participants, nearly a third of the study participants planned to visit a health center for family planning services and this increased at the posttest to nearly half of them. More than a third of them would like to use contraceptives to prevent unplanned pregnancy pretest and more than half of them in posttest. Only more than a quarter of the participants acknowledged that they planned for any unplanned pregnancy use in the future in the pretest and two-thirds of them in the posttest with a significant relationship.

These findings concurred with those of **Jadhav et al., (2020)**, who found that, predictably, women who carry mobile phones were generally wealthier, slightly more urban, and more educated across all research nations. In Haiti, Tanzania, and Uganda, women who owned mobile phones

appear to utilize contemporary contraceptives at higher rates than women in other countries. In a similar direction, **Ibrahim et al., (2023)** showed that a majority of the women in the study group employed the FP approach, while a minority did not. There was a highly significant statistical difference between the study and control groups (p -value <0.01), with about one-third of the control group using FP methods and over two-thirds not using them.

The current findings illustrated that there was a highly significant difference between pre-post: seeking utilization of the different types of contraceptive methods before and after the sessions of education and among the used family planning methods the statistical differences were found in IUD more than in posttest. Controversy LAM was the higher percentage use pretest than posttest (10)/ (3) respectively as well as male condoms.

These results corroborated those of Id et al., (2020), who observed that the percentage of women who visit family planning clinics and begin using contraception, including Long-Acting Reversible Contraception (LARC) methods, and the percentage who continue to use it for the first six months after giving birth both increase when mobile phone reminders are used as part of the postpartum service.

Accordingly, a study by **Farag et al., (2021)** found that information derived from mobile communication could be utilized to assist women in meeting their contraceptive needs, remind them to start using a method on time, offer a straightforward method for answering any questions they may have while using a method, and promote the continuation of a method. Additionally, **Shaaban et al. (2020)** found that women in Kenya's peri-urban public facilities were more likely to use family planning and seek postpartum care while using a short messaging service (SMS). According to the researcher, simple, low-cost SMS treatments that are adapted to particular stages of the postpartum continuum can help women learn more about warning signs, seek care for them, and begin postpartum family planning.

The results of this study demonstrated the association between a few chosen obstetrical factors and women's attitudes regarding various forms of birth control methods both before and

after the educational sessions. "No delivery" and attitude toward the contraceptive method in the pretest were significantly correlated. The number of pregnancies, the number of deliveries, the number of abortions, and the attitude toward the method of contraception, on the other hand, were significantly correlated in the posttest (0.01, 0.001, 0.002), respectively.

These findings were consistent with those of **D'Souza et al., (2022)**, who said that 24 systematic reviews of primarily moderate or high quality were discovered. Globally, women across a wide range of cultures and environments share striking similarities in the factors influencing their use of contraception. Relationship status and the anticipated likelihood and appeal of pregnancy have an impact on the use of contraception. Due to the similarity, there are more births, which raises the demand for contraception as people fear becoming pregnant against their will.

The current study's findings showed a correlation between a few selected obstetrical characteristics and the woman's choice to use the technique of contraception before and after the session. The initial question is "Are you planning to visit a health center for family planning services?" showed a noteworthy correlation (0.001) with the number of live births during the posttest.

The second question is: "Do you have a specific contraceptive method you would like to use to prevent recent pregnancy?" In both pre- and post-assessments, there was no significant correlation with all obstetrical factors. The final question is "Do you have a specific contraceptive method you like to use to prevent recent pregnancy?" a substantial correlation (0.00) between the frequency of pregnancies during post-assessments

According to **Ibrahim et al., (2023)**, approximately three-quarters of the women in the study had a positive attitude, whereas over a quarter of the control group had a negative attitude. More than half of the control group had a positive attitude, whereas fewer than half had a negative attitude, with the study and control groups differing in a highly statistically significant way (p-value <0.01). Additionally, it explains the connection between the use of FP approaches and the overall attitude level of the women in the study and control groups. It also

demonstrates that there was a significant statistical difference between the study and control groups' total attitude and age (p-value <0.01).

The study's findings showed that there was a variance in the association between obstetrical factors and women's pre-session contraceptive methods decisions. For instance, item one, which asked participants if they intended to visit a health facility for family planning services, did not significantly correlate with their decision-making in either the pre-test or post-test assessments. Furthermore, none of the obstetric factors were related to one another. Before and after the assessment, the second item evaluated the women's choice to use a certain method of contraception to avoid getting pregnant recently. However, the third item, which examined how women decided whether to have any sort of plan in case of an unwanted pregnancy owing to a lack of contraception, showed a high link with the obstetric variable.

Mekonnen et al., (2021) institutional-based cross-sectional study on knowledge and postpartum contraceptive use is consistent with the current study's findings of obstetrical factors related to family planning. Approximately more than two-thirds of the 403 participants in the study were well-versed in the use of postpartum contraceptives. Good knowledge was significantly correlated with family planning counseling during prenatal treatment (AOR=3.80; 95% CI=1.52–9.51).

Conclusion

The current study's results concluded that social platform nursing education has been a successful strategy for enhancing postpartum "knowledge and decision for utilization" of contraceptive techniques. The tested hypotheses were accepted since the majority of women were satisfied with their instruction using these techniques because they were inclusive, timely, and included interactive scientific information. Most individuals significantly improved their level of knowledge in every variable evaluated in the post-test.

Recommendations

Findings motivate the following recommendations:

- Family planning use is increased among postpartum mothers through the use of social media platforms for health education.
- Integrating innovative methods of Counseling into routine maternity care especially for rural areas in Egypt.
- Emphasize the importance of developing and providing health education programs about family planning during the postpartum period.

Further studies

The study's conclusions point to the necessity of additional research with a longer follow-up period to ascertain the impact of higher knowledge scores and length of contraceptive method use.

Limitation of the study:

- A minority of women reported difficulty in internet connection for a long time.
- Difficult to communicate with some women for continuing follow-up.

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References

- Alduraywish, S. A., Altamimi, L. A., Aldhuwayhi, R. A., AlZamil, L. R., Alzghayer, L. Y., Alsaleh, F. S., Aldakheel, F. M., & Tharkar, S. (2020). Sources of health information and their impacts on medical knowledge perception among the Saudi Arabian population: Cross-sectional study. *Journal of Medical Internet Research*, 22(3). <https://doi.org/10.2196/14414>.
- Al-Shawakh M., Mostafa, N., & Saleh, L. (2020): Assessment of the knowledge and practice of nurses about family planning counseling in health care centers – Lattakia. *Universal Journal of Public Health*, 8(4), 148–154. <https://doi.org/10.13189/ujph.2020.080406> Ghosh et al., 2021
- Aung, B., Mitchell, J. W., & Braun, K. L. (2020). Effectiveness of m health

interventions for improving contraceptive use in low- and middle-income countries: A systematic review. *Global Health: Science and Practice*, 8(4), 813–826. <https://doi.org/10.9745/ghsp-d-20-00069>

Chaudhary K, Nepal J, Shrestha K, Karmacharya M, Khadka D, Shrestha A, et al. (2023). Effect of a social media-based health education program on postnatal care (PNC) knowledge among pregnant women using smartphones in Dhulikhel hospital: A randomized controlled trial. *PLoS ONE* 18(1): e0280622. <https://doi.org/10.1371/journal.pone.0280622>

D'Souza, P., Bailey, J. V., Stephenson, J., & Oliver, S. (2022). Factors influencing contraception choice and use globally: a synthesis of systematic reviews. *The European Journal of Contraception & Reproductive Health Care*, 27(5), 364-372.

Dewi, D. D., Kusumawati, W. W., & Ismarwati, I. I. (2019). Effect of health promotion and WHATSAPP reminder to self-efficacy of adherence consume Fe tablets pregnant women. *Journal of Health Technology Assessment in Midwifery*, 2(1). <https://doi.org/10.31101/jhtam.682>

Dixit R & Bandhani A, (2019): Contraceptive knowledge, practices among women in Garhwal region. *Int J Community Med Public Health*; 6(2):793–796. doi:10.18203/2394-6040.ijcmph2019020

El Weshahi, H. M., Galal, A. F., & Sultan, E. A. (2021). Providers' perspectives of socio-cultural and health service challenges related to postpartum family planning in Alexandria, Egypt. *Journal of the Egyptian Public Health Association*, 96(1). <https://doi.org/10.1186/s42506-020-00066-7>

El-salam, A. A. A., Seif, E., & Ashour, S. (2020). Effectiveness of Video Assisted Teaching Program on Postpartum Minor Discomforts of Primipara Mothers. *American Journal of Nursing Research*, 8(2), 142–150. <https://doi.org/10.12691/ajnr-8-2-2>

Farag, F. A., Goda, A. A., Mohamed, H. S., Omran, M. N., & Din, A. N. (2022). Mobile communication on post-partum

- minor health alignments' recovery and family planning seeking care among primiparous. *International Journal of Health Sciences*, 12739–12756. <https://doi.org/10.53730/ijhs.v6ns2.13625>
- Gemperle, M., Grylka-Baeschlin, S., Klamroth-Marganska, V., Ballmer, T., Gantschnig, B. E., & Pehlke-Milde, J. (2022). Midwives' perception of advantages of health care at a distance during the COVID-19 pandemic in Switzerland. *Midwifery*, 105(November 2021), 103201. <https://doi.org/10.1016/j.midw.2021.103201>
- Ghosh, R., Mozumdar, A., Chattopadhyay, A., & Acharya, R. (2021). Mass media exposure and use of reversible modern contraceptives among married women in India: An analysis of the NFHS 2015–16 data. *PLOS ONE*, 16(7). <https://doi.org/10.1371/journal.pone.0254400>
- Hill, J., McGinn, J., Cairns, J., Free, C., & Smith, C. (2020). A mobile phone-based support intervention to increase use of postabortion family planning in Cambodia: Cost-effectiveness evaluation. *JMIR mHealth and uHealth*, 8(2). <https://doi.org/10.2196/16276>
- Ibrahim, W. H., Hassan, M. M., & Badia, T. S. (2023). Effect of WhatsApp's counseling on improvement usage of family planning methods among postpartum women. *Assiut Scientific Nursing Journal*, 11(37), 228–240.
- Id, R. M. J., Kimenju, G., Subbiah, S., Styles, A., Pearson, N., & Rajasekharan, S. (2020). A Short Message Service (SMS) increases postpartum care-seeking behavior and uptake of family planning of mothers in peri-urban public facilities in Kenya. 1–13. <https://doi.org/10.1371/journal.pone.0239213>
- in implementation research. *Psychiatry research*, 283, 112452. <https://doi.org/10.1016/j.psychres.2019.0>
- Jadhav, A., & Weis, J. (2020). Mobile phone ownership, text messages, and contraceptive use: Is there a digital revolution in family planning?. *Contraception*, 101(2), 97–105.
- Mekonnen, B. D., Gelagay, A. A., & Lakew, A. M. (2021). Knowledge and Associated Factors of Postpartum Contraceptive Use among Women in the Extended Postpartum Period in Gondar City, Northwest Ethiopia. *Open access journal of contraception*, 12, 7–15. <https://doi.org/10.2147/OAJC.S290337>
- Miller, C. J., Smith, S. N., & Pugatch, M. (2020). Experimental and quasi-experimental designs
- Mohamed, N. A., Abdel-Razik, M. S., & Salem, M. R. (2022). Adjustment of Family Planning Service Statistics reports to support decision-making at the Central and governorate level, in Egypt. *Journal of the Egyptian Public Health Association*, 97(1). <https://doi.org/10.1186/s42506-021-00098-7>
- Ouedraogo, I. (2021). Improving health literacy in rural communities in Africa using mobile technologies for an Inclusive Health Service. 2021 *Eighth International Conference on eDemocracy & eGovernment (ICEDEG)*, 221–222. <https://doi.org/10.1109/icedeg52154.2021.9530741>
- Royal College of Obstetricians and Gynecologists, (2015): Best practice in postpartum family planning. Best Practice Paper No. 1;2015. <https://www.rcog.org.uk/globalassets/documents/guidelines/best-practice-papers/bestpractice-paper-1--postpartum-family-planning.pdf>.
- Samari, G. (2017). Women's empowerment and short- and long-acting contraceptive method use in Egypt. *Culture, Health & Sexuality*, 20(4), 458–473. <https://doi.org/10.1080/13691058.2017.1356938>
- Shaaban, O. M., Saber, T., Youness, E., Farouk, M., & Ahmed, M. (2020). Effect of a mobile phone-assisted postpartum family planning service on the use of long-acting reversible contraception: a randomized controlled trial. *The European Journal of Contraception & Reproductive Health*

Care, 0(0), 1–5. <https://doi.org/10.1080/13625187.2020.1764528>

Smith, C., Gold, J., Ngo, T. D., Sumpter, C., & Free, C. (2015). Mobile phone-based interventions for improving contraception use. *Cochrane Database of Systematic Reviews*, (6).

Viswanath, K., Ramanadhan, S., & Kontos, E. Z. (2007). Mass media. *Macrosocial Determinants of Population Health*, 275–294. https://doi.org/10.1007/978-0-387-70812-6_13

World Health Organization (2018). Family planning/Contraception key fact sheet. Geneva; 2018. Updated 8 February 2018. Available from: <http://www.who.int/newsroom/fact-sheets/detail/family-planning-contraception> (Accessed on April 15,21019).