

Effect of WhatsApp's counseling on improvement usage of family planning methods among postpartum women

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Abstract:

Background: By removing barriers like stigma and fear that young people frequently feel, social media platforms like Facebook, Instagram, WhatsApp, Snapchat, and Twitter help democratize access to vital information about sexual and reproductive health and family planning. **Aim:** Assess effect of WhatsApp's counseling on improvement usage of family planning methods among postpartum women. **Methods:** Quasi experimental research design was used in this study. It was conducted at postpartum department, Women Health Hospital, Assiut University. **Sample:** A simple random sample of a total 200 women involved in the study. Two tools were used; structured interview questionnaire and likert scale. **Results:** There was highly statistical significance difference between study and control groups regarding usage of postpartum family planning methods p-value 0.001. **Conclusion:** WhatsApp counseling is a useful tool for encouraging postpartum women to use postpartum contraceptives, which reduces the likelihood of unintended pregnancies. **Recommendations:** Because WhatsApp is an effective platform for disseminating health promotion messages to individuals or groups, some health facilities must be encouraged to include WhatsApp counseling into their policies to encourage the admission of postpartum women to the postpartum contraceptive performance.

Keywords: Counseling, Family planning, Postpartum, Usage & WhatsApp.

Introduction

Family planning is the deliberate effort made by a couple to limit or space out the number of children they have using contraceptive methods. The two types of contraceptive methods are modern and traditional. Modern contraceptives include the intrauterine device (IUD), implants, injectables, tablets, and emergency contraception. (EPHI, 2021).

Family planning helps couples determine the number of children they require, as well as the spacing and timing of their deliveries (WHO, 2019). This is accomplished through the use of contraceptive methods and involuntary infertility therapy. 42 million of the 80 million unwanted pregnancies recorded each year result in abortions. According to the Guttmacher Institute (2019), terminating an unintended and unwanted pregnancy is the main reason for abortion. There are fewer cases of maternal and newborn mortality and other negative outcomes due to the increased usage of family planning around the world. (Dougherty et al., 2018).

Postpartum family planning (PPFP) is crucial to preventing improper timing and closely spaced pregnancies after childbirth, according to the Royal College of Obstetricians and Gynaecologists (2015). Closely spaced pregnancies increase the risks of maternal morbidity and poor infant outcomes, such as preterm birth, low birth weight, and small-for-

gestational-age (SGA) (WHO, 2018). With the aim of increasing contraceptive use and decreasing fertility, the Egyptian government has been working on a national population control programme with a number of international donor organizations for more than 20 years; the country's recent rapid population growth is seen as a major roadblock to the government's development objectives. Egypt is ranked as one of the countries with the highest levels of sex inequality, and its fertility rate is 3.5 births per female over a 20-year period. Women's empowerment is a strategy used to promote contraception use and lower the rate of births. (Samari, 2018).

Family planning (FP) methods have drawn the attention of Egyptian policymakers since the early 1960s (Mohamed et al., 2022). Over the past three decades, modern contraceptives have also gained acceptance among women of reproductive age in less developed nations. One of them is Egypt (El Weshahi et al., 2021). Given the significance of a nurse's role as a family planning counselor in reducing population growth rates by increasing the use of modern, effective contraceptives by both couples who share responsibility for fertility, as well as the effects this has on mothers', children's, and society's health (Al-Shawakh et al., 2020).

Women's exposure to the media (such as watching TV, listening to the radio, and reading newspapers) can promote the use of maternal healthcare services. Mass media refers to any form of communication—written, spoken, or broadcast—that is aimed at the general public. A crucial weapon for societal integration is the mass media (Viswanath et al., 2021).

The FP program concentrated on informing women about the program through mass media advertisements and FP messaging while also teaching them on the benefits of modest family standards and the use of contraception. Information on a range of topics is easier for various societal sectors to access thanks to mass media communications. Media exposure helps women make better decisions about using FP on their own (Ghosh et al., 2021).

Innovative methods to change behavior in favor of better health are not just restricted to face-to-face contacts; the model can also include mobile health services. Smartphones offer a wide range of applications, including WhatsApp, Instagram, email, short message service (SMS), and others, depending on the user's demands. Although SMS and MMS have been supplanted by WhatsApp media, which is well-liked and makes communication easier, health services can still utilise SMS as a cost-effective medication reminder for patients (Dewi et al., 2019). The term "mobile health" (or "mHealth") refers to the use of wireless and mobile communication technology to enhance the delivery, results, and research of healthcare (Mobile Health, 2021).

By removing obstacles like stigma and fear that are frequently faced by young people, mobile health (mHealth) can democratise access to vital information about sexual and reproductive health and family planning. Traditional barriers to awareness related to geography, economy, and literacy can be overcome with the aid of digital technology. Evidence suggests that mobile technology can enhance end users' and carers' knowledge and awareness when used responsibly (Green et al., 2019).

More and more, innovative technology outside of mHealth are being used to deliver social and health services. Mobile apps for service delivery are proliferating, especially those for maternal and child health. In a same way, policymakers are giving digital technologies top priority for strategic advancements in health care (Ye J.2020).

Patient-centered care, which is regarded as the main approach of empowerment, and mHealth interventions are strongly connected (Ledford., et al., 2017; Alhomod & Alzahrani, 2019). According to a study by Oxford University, using a mobile phone gives women in low- and middle-income countries (LMICs) better access to information about sexual

and reproductive health, enabling them to make autonomous decisions about their sexual lives. Additionally, it boosts one's own efficacy (Digital Health, 2021). To empower women, a person-centered approach to sexual and reproductive health is essential, especially when it comes to family planning (Diamond-Smith, et al., 2018).

One of the most cost-effective interventions in the world, particularly for LMICs when it is used to change behaviour and improve use of modern contraceptives, has been the use of mHealth to promote knowledge and usage of modern contraceptives (Aung et al, 2020). To encourage the use of family planning in LMICs, a variety of single or combination mobile phone interventions, including text messages, voice messages, videos, and applications, have been used as an alternative to or addition to in-person family planning services (Hill et al, 2020).

Significant of study:

Contraceptives reduce the likelihood of unwanted pregnancies, abortions, and the mortality and disability rates associated with pregnancy and delivery problems (WHO, 2019). Women's awareness of the role that contraception plays in family life is crucial to their health (Dixit, 2019).

A person's motivation to utilize contraceptives can increase with the right information, which could ultimately lead to a higher uptake of postpartum contraceptives. Social media sites like Facebook, Instagram, WhatsApp, Snapchat, and Twitter can be used to communicate effectively and continuously, removing obstacles related to face-to-face methods. Patients view social media as a resource for learning about their diseases, communicating with others quickly and effectively, and exchanging medical information with other patients going through related problems (Omar et al., 2020). Therefore, the researcher is doing this study to determine how using WhatsApp has improved women's use of postpartum family planning methods in Assiut city.

Aim of the study:

This study aimed to:

Assess the effect of WhatsApp's counseling on improvement usage of family planning methods among postpartum women.

Research hypothesis:

H0: No improvement in usage of family planning methods among postpartum women after implementation of WhatsApp's counseling.

H1: There was an improvement in usage of family planning methods among postpartum women after implementation of WhatsApp's counseling.

Subjects & Methods:

Subjects and methods of this study are displayed into four designs technical, operational, administrative, and statistical design.

Technical Design

Which involved research design, setting, study sample, and tools of data collection.

Research Design:

A quasi-experimental design was used in this study.

Setting:

This study was conducted at Women Health Hospital, Assiut University, where service all areas of Upper Egypt. It is a six-story skyscraper with five floors for government admittance and one for private service.

Sample:

A simple random sample of 200 postpartum women was involved in this study. The sample was calculated using OpenEpi, Version 3, with a population of 8000, hypothesized % = 15% +/-5, tolerated margin of error= 0.05, level of confidence = 1.96, and Alpha = 0.05 (Dean et al, 2013). All the included women were assigned randomly into two groups, the control group (100 women who received routine hospital care) and the study group (100 women who received Whats-App's counseling).

Tools of the study:

There are **two tools** had been used for data collection, structured interview questionnaire and a likeret scale to assess women's attitudes.

Tool (I) Structured interview questionnaire which was constructed by the researchers using literature reviews and included the following **four parts; Part one;** which included socio-demographic data of postpartum women such as name, age, occupation, address, telephone number, certificate obtained and duration of marriage. **Part two;** which included obstetric history as gravidity, parity, abortion, and living births, and mode of delivery last baby. **Part three;** which included Family planning history as type of previous contraceptive method, duration of use, complications while using, and cause of termination. **Part four;** Follow up data which included resumed of menses, time of resumed the menstruation, time of initiated using FP method, type of methods used, and if get pregnant while using the method.

Tool (II); A likert scale was used to assess attitude toward using family planning methods, it consisted of 35 items ranged from strongly agree (1) to strongly disagree (5), the total attitude score ranged from 35 to 175. Attitude level considered positive if $\geq 70\%$ (123) and negative if $< 70\%$ (123).

Tools Validity

Tools were reviewed by a panel of 3 experts in the field of maternity and newborn health nursing and

obstetrics and gynecological medicine for clarity and comprehensive.

Tools Reliability

The internal consistencies of both tools was calculated by using Cronbach's Alpha; and were found 0.716 for tool (I) and 0.913 for tool (2).

Ethical and legal considerations

The nursing faculty's scientific research ethical committee gave its approval before the study could begin. The manager of the Assiut University women's hospital granted official authorization. After explaining the study's goal to subjects, they gave their consent to participate in the study. The purpose and nature of the study, which didn't include any kind of harm or discomfort, were explained to the expectant mothers before to the data collection. Additionally, they received guarantees that the information would be kept private and used just for research. The researcher informed the Participants that their participation in the study was optional and that they could leave at any time.

Operational design

It was displayed in two phases, pilot study and field work.

Pilot study

Pilot study was included 10% (20 postpartum women) to evaluate the clarity and efficiency of the tool used in the study.

Field work

Data collection of this study was taken ten months started from the beginning of March 2022, and completed by the end of January 2023. Data collection took approximately 4 months, and follow-up took 6 months.

This was achieved in three phases, pre intervention, intervention and post intervention.

Pre intervention phase:

The main technique for collecting data involved conducting an individual, face-to-face interview with each lady. An exploratory visit to the postpartum ward was made before the study was conducted in order to determine the best time to gather data for each unit. Additionally, personal contact was made with healthcare providers to clarify the study's goals and ensure their best possible cooperation.

Women who met the study criteria were included in the study after explaining the purpose of the study and obtaining oral consent.

Five days a week were used to gather the data; there were three rooms for each group in the postpartum ward's six rooms, and each case took 20 minutes to complete. The structured questionnaire included information for socio-demographic data, reproductive history (such as pregnancy, parity, abortions, number of live births), and history of using contraceptives. The whole history was obtained in this manner. Each

query was directed at the case, and the answers were noted.

Intervention phase:

For control group:

The woman received routine hospital instructional about family planning methods using. The researcher informed the woman that she received what's up messages for follow up.

For study group:

The researcher asked the woman to give her a telephone number that have what's up to contact with her and introduce to her family planning instruction through family planning what's up group which was be designed by researcher. Each woman involved to study group was added to family planning what's up group. Instructional data and photos about family planning methods was applied on the group and if there were any special instructions related to each woman, the researcher sent it to the woman on her personal what's up, and not on the group. The woman was allowed to ask any question through what's up and the researcher sent the response to her question.

Follow up phase:

Every woman was followed up for using postpartum FP method for 6 months after labor, time and type of

method used, occurrence of unplanned pregnancy, also attitude scale was be filled by the studied women.

Administrative design

The Assiut University nursing faculty's ethical council approved the study, and the director of the Woman Health Hospital also gave his official approval. Each participating woman gave their informed consent, and confidentiality was guaranteed. The women have the option to leave the study at any time.

Statistical design

Statistical Package for Social Sciences (SPSS) version 26 was used to organize, categorize, code, tabulate, and analyze the data that had been collected. Data were presented as tables and charts with numbers, percentages, means, and standard deviation. A P-value of 0.05 was used to determine statistical significance. The t-test was used to compare means. Pearson correlation and the chi-square test were also utilized.

Results

Table (1): Distribution of the studied women according to their personal data in the study and the control groups (N=200)

Personal data	Study group (N=100)		Control group (N=100)		P-value
	N	%	N	%	
Age group/years					0.676
• Less than 20 years	9	9.0	11	11.0	
• 20-30 years	66	66.0	60	60.0	
• More than 30 years	25	25.0	29	29.0	
Age mean±SD	26.60±5.59		26.91±5.82		
Patients' residence:					0.114
• Rural area	64	64.0	53	53.0	
• Urban area	36	36.0	47	47.0	
Educational level					0.117
• Illiterate	18	18.0	20	20.0	
• Basic education	34	34.0	49	49.0	
• Secondary	38	38.0	27	27.0	
• University	10	10.0	4	4.0	
Employment:					0.106
• Employed	31	31.0	42	42.0	
• No work	69	69.0	58	58.0	
Duration of marriage					0.778
• Less than 2 years	9	9.0	10	10.0	
• 2-5 years	49	49.0	44	44.0	
• More than 5years	42	42.0	46	46.0	
Duration of marriage mean±SD	6.43±5.35		6.94±5.37		

Chi-square test

(*) Statistical significant difference (p-value <0.05)

(**) Highly statistical significant difference (p-value <0.01)

No statistical significant difference (p-value >0.05)

Table (2): Distribution of the studied women according to their obstetric profile in the study and the control groups (N=200)

Obstetric history	Study group (N=100)		Control group (N=100)		P-value
	N	%	N	%	
Number of gravidity					0.631
• Primigravida	28	28.0	25	25.0	
• Multigravida	72	72.0	75	75.0	
Number of Parity:					0.133
• Primipara	38	38.0	28	28.0	
• Multipara	62	62.0	72	72.0	
History of pervious abortion:					0.088
• Yes	27	27.0	17	17.0	
• No	73	73.0	83	83.0	
Number of living children:					0.560
• Less than 3 children	64	64.0	60	60.0	
• 3 or more children	36	36.0	40	40.0	
Mode of delivery of the last baby					0.189
• Normal	33	33.0	42	42.0	
• C.S	67	67.0	58	58.0	

Chi-square test

(**) *Highly statistical significant difference (p-value <0.01)*

(*) *Statistical significant difference (p-value <0.05)*

No statistical significant difference (p-value >0.05)

Table (3): Distribution of the studied women according to their family planning history in the study and the control groups (N=200)

Family planning history	Study group (N=100)		Control group (N=100)		P-value
	N	%	N	%	
Using of any FP method					0.252
• Yes	46	46.0	38	38.0	
• No	54	54.0	62	62.0	
If yes, Type of FP method used:					0.622
• Oral contraceptive Pills (COCs or POP)	2	4.3	1	2.6	
• Injectable	22	47.8	19	50.0	
• Implanon	10	21.8	6	15.8	
• IUD	5	10.9	2	5.3	
• More than one method	7	15.2	10	26.3	
If yes, duration of use /years:					0.367
• < one year	15	32.6	9	23.7	
• One year or more	31	67.4	29	76.3	
If yes, complications occurred during used:					0.854
• No complication	25	54.4	22	57.9	
• Menstrual irregularity	15	32.6	13	34.2	
• Heavy menstruation	3	6.5	1	2.6	
• Infection	3	6.5	2	5.3	

Chi-square test

(**) *Highly statistical significant difference (p-value <0.01)*

(*) *Statistical significant difference (p-value <0.05)*

No statistical significant difference (p-value >0.05)

Table (4): Distribution of the studied women according to their follow up data in the study and the control groups (N=200)

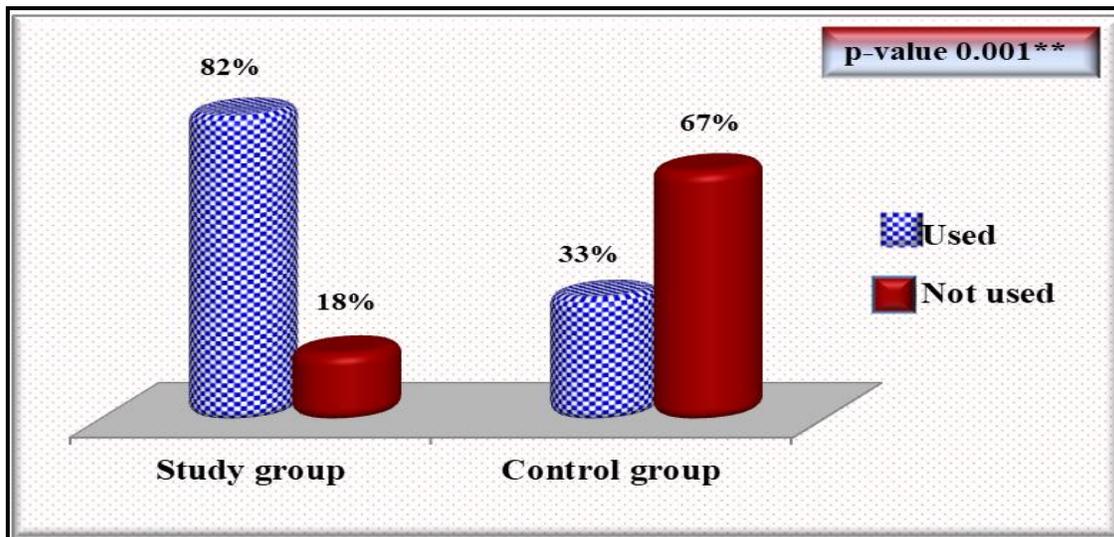
Follow up data	Study group (N=100)		Control group (N=100)		P-value
	N	%	N	%	
Resume of menstruation with in 6th month postpartum					0.149
• Yes	15	15.0	23	23.0	
• No	85	85.0	77	77.0	
If yes, time of resume menses /day:					0.259
• Less than 4 months	5	33.3	4	17.4	
• 4-6 months	10	66.7	19	82.6	
Positive pregnancy for amenorrhea women					0.104
• Yes	0	0.0	2	2.6	
• No	85	100.0	75	97.4	
Time of using FP methods post partum /weeks:					0.001**
• Not used	18	18.0	67	67.0	
• < 8 weeks	67	67.0	19	19.0	
• 8wk or more	15	15.0	14	14.0	
Type of FP method used:					0.001**
• Not used	18	18.0	67	67.0	
• Oral contraceptive Pills (COCs or POP)	28	28.0	19	19.0	
• Injectable	6	6.0	4	4.0	
• Implanon	31	31.0	5	5.0	
• IUD	15	15.0	0	0.0	
• Natural or barrier	2	2.0	5	5.0	
Get pregnant within 6th moth postpartum:					0.248
• Yes without using family planning	2	2.0	5	5.0	
• Yes, with using family planning	0	0.0	0	0.0	
• No	98	98.0	95	95.0	

Chi-square test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)



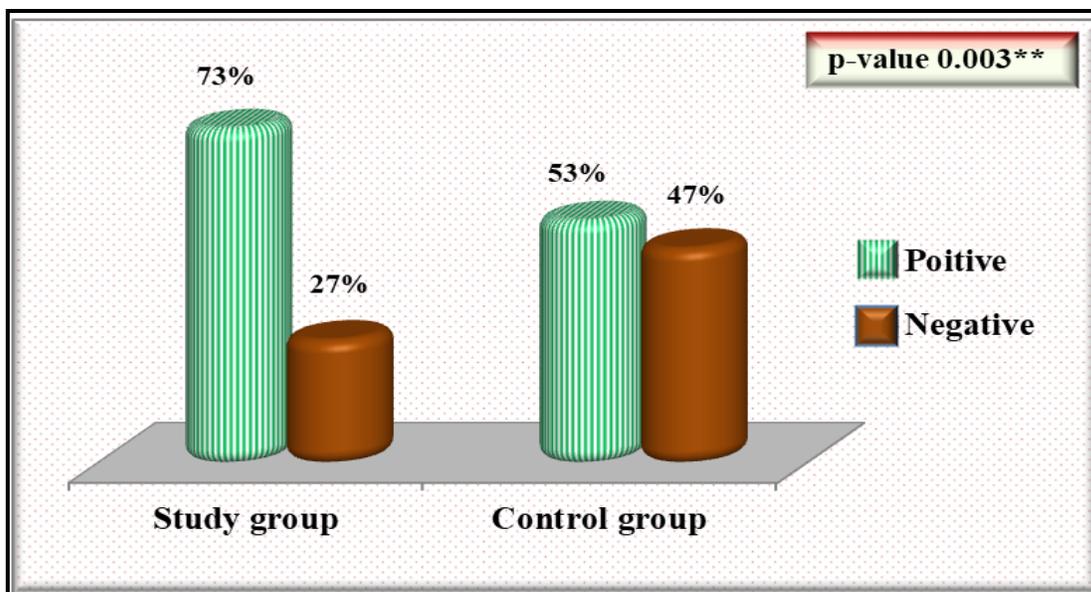
Chi-square test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)

Figure (1): Distribution of the studied women according to current using FP method in the study and the control groups (N=200)



Chi-square test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)

Figure (2): Distribution of the studied women according to total attitude level regarding using FP methods in the study and the control groups (N=200)

Table (5): Relationship between using FP methods and personal data of the studied women in the study and the control groups (N=200)

Personal data	Using FP methods					PV2
	Study group (N=100)		PV1	Control group (N=100)		
	Used N (%)	Not used N (%)		Used N (%)	Not used N (%)	
Age group/years						
• Less than 20 years	6(7.3)	3(16.7)	0.235	6(18.2)	5(7.5)	0.231
• 20-30 years	57(69.5)	9(50.0)		17(51.5)	43(64.2)	
• More than 30 years	19(23.2)	6(33.3)		10(30.3)	19(28.4)	
Patients' residence:						
• Rural area	53(64.6)	11(61.1)	0.778	17(51.5)	36(53.7)	0.835
• Urban area	29(35.4)	7(38.9)		16(48.5)	31(46.3)	
Educational level						
• Illiterate	12(14.6)	6(33.3)	0.002**	1(3.0)	19(28.4)	0.026*
• Basic education	23(28.1)	11(61.1)		22(66.7)	27(40.1)	
• Secondary	37(45.1)	1(5.6)		8(24.2)	19(28.4)	
• University	10(12.2)	0(0.0)		2(6.1)	2(3.0)	
Employment:						
• Employed	29(35.4)	2(11.1)	0.044*	20(60.6)	22(32.8)	0.008**
• No work	53(64.6)	16(88.9)		13(39.4)	45(67.2)	
Duration of marriage						
• Less than 2 years	9(11.0)	0(0.0)	0.220	2(6.1)	8(11.9)	0.045*
• 2-5 years	41(50.0)	8(44.4)		10(30.3)	34(50.8)	
• More than 5 years	32(39.0)	10(55.6)		21(63.6)	25(37.3)	

Pearson correlation test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)

Table (6): Relationship between total attitude score level regarding using FP methods and personal data of the studied women in the study and the control groups (N=200)

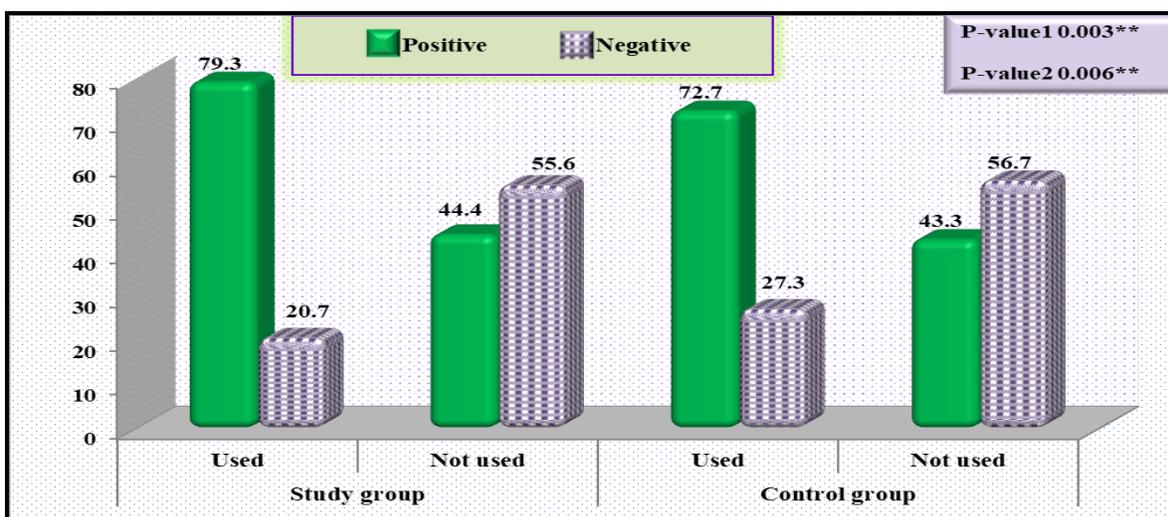
Personal data	Total attitude level					PV2
	Study group (N=100)		PV1	Control group (N=100)		
	Positive	Negative		Positive	Negative	
	N (%)	N (%)	N (%)	N (%)		
Age group/years						
• Less than 20 years	2(2.7)	7(25.9)	0.001**	5(9.4)	6(12.8)	0.424
• 20-30 years	52(71.2)	14(51.9)		35(66.1)	25(53.2)	
• More than 30 years	19(26.0)	6(22.2)		13(24.5)	16(34.0)	
Patients' residence:						
• Rural area	46(63.0)	18(66.7)	0.735	25(47.2)	28(59.6)	0.215
• Urban area	27(37.0)	9(33.3)		28(52.8)	19(40.4)	
Educational level						
• Illiterate	14(19.2)	4(14.9)	0.245	7(13.2)	13(27.7)	0.017*
• Basic education	20(27.4)	14(51.8)		29(54.7)	20(42.5)	
• Secondary	31(42.4)	7(25.9)		16(30.2)	11(23.4)	
• University	8(11.0)	2(7.4)		1(1.9)	3(6.4)	
Employment:						
• Employed	24(32.9)	7(25.9)	0.505	31(58.5)	11(23.4)	0.001**
• No work	49(67.1)	20(74.1)		22(41.5)	36(76.6)	
Duration of marriage						
• Less than 2 years	3(4.1)	6(22.2)	0.018*	5(9.4)	5(10.7)	0.795
• 2-5 years	37(50.7)	12(44.4)		25(47.2)	19(40.4)	
• More than 5 years	33(45.2)	9(33.4)		23(43.4)	23(48.9)	

Pearson correlation test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)



Pearson correlation test

(**) Highly statistical significant difference (p-value <0.01)

(*) Statistical significant difference (p-value <0.05)

No statistical significant difference (p-value >0.05)

Figure (3): Relationship between using FP methods and total attitude level of the studied women in the study and the control groups (N=200)

Table (1): Illustrates the personal data of the studied women in the study and control group, and reported that 66% in study and 60% in control group had an age group from 20-30 years with a mean±SD of 26.60±5.59 and 26.91±5.82 respectively. About 64% in the study and 53% in control groups lived in rural areas. Regarding level of education, 38% and 27% in the study and control group had a secondary education. About 69% of the studied women in study group and 58% in control group were unemployed. About 49% of them in the study and 44% in control group had years of marriage of 2-5 years, with no statistical difference between study and control group for all personal items p-value >0.05.

Table (2): Clarifies obstetric history of the studied women in the study and control group, and found that 72% in study and 75% in control group were multigravida. About 62% in the study and 72% in control group were multipara. As regard abortion history, 27% and 17% in the study and control group had previous history of abortion. About 67% of them in study group and 58% in control group delivered by CS, with no statistical difference between study and control group for all items p-value >0.05.

Table (3): Reveals family planning history of the studied women in the study and control group, and found that 46% in study and 38% in control group previous used FP methods. From used ones, about 47.8% in the study and 50% in control group used injectable methods and about 67.4% and 76.3% in the study and control group respectively used FP methods for one year or more. Also 32.6% and 34.2% in the study and control group had menstrual irregularities as a complication, with no statistical difference between study and control group for all items p-value >0.05.

Table (4): Shows the studied women follow up data in the study and control group, and reported that 67.0% of the studied women in the study group and 19% in the control group used FP methods within 8 weeks postpartum, with highly statistical difference between study and control group p value <0.01. Regarding type of FP method used, 28% and 19% of them in the study and control group used oral pills with highly statistical difference between study and control group p value <0.01. Also found that there were no statistical difference between study and control group regarding resume of menstruation with in 6th month postpartum and get pregnant within 6th month postpartum p-value >0.05.

Table (5): Shows relationship between using FP methods and personal data of the studied women in the study and control group, and reported that in the study group there was highly statistical difference between using FP methods and educational level p-value <0.01, there was statistical difference between

using FP methods and employment p-value <0.05, and there was no statistical difference between using FP methods and age, residence and duration of marriage p-value >0.05. In control group, there was highly statistical difference between using FP methods and employment p-value <0.01, there was statistical difference between using FP methods and educational level and duration of marriage p-value <0.05, and there was no statistical difference between using FP methods and age and residence p-value >0.05.

Table (6): Illustrates relationship between total attitude and personal data of the studied women in the study and control group, and reported that in the study group there was highly statistical difference between total attitude and age p-value <0.01, there was statistical difference between total attitude and duration of marriage p-value <0.05, and there was no statistical difference between total attitude and residence, educational level and employment p-value >0.05. In control group, there was highly statistical difference between total attitude and employment p-value <0.01, there was statistical difference between total attitude and educational level p-value <0.05, and there was no statistical difference between total attitude and age, residence and duration of marriage p-value >0.05.

Figure (1): Demonstrates that in the study group 82% of the studied women used FP method and 12% not used any method. In control group 33% used FP methods and 67% not used FP method, with highly statistical difference between study and control group p value <0.01.

Figure (2): Represents that in the study group 73% of the studied women had a positive attitude and 27% had a negative attitude. In control group 53% had a positive attitude and 47% had a negative attitude, with highly statistical difference between study and control group p value <0.01.

Figure (3): Clarifies relationship between using FP methods and total attitude level of the studied women in the study and control group, and showed that there was highly statistical difference between total attitude and age p-value <0.01 in the study and control group.

Discussion:

Since it has been linked to unintended pregnancy and closely spaced births, it is obvious that postpartum contraceptive use provides numerous socioeconomic and healthy outcomes for the society as well as the country as a whole by reducing maternal mortality, miscarriage or abortion, and newborn and child morbidity and mortality (WHO, 2019). Increased understanding of postpartum family planning may result from the distribution of health information via WhatsApp's media. Furthermore, having knowledge

would increase awareness, which would eventually influence how women behaved. This study sought to determine the impact of WhatsApp counseling on increasing women's use of postpartum family planning methods (**Ardiyanti et al., 2020**).

According to the current study, adding WhatsApp counseling to postpartum family planning counseling had a statistically significant effect on enhancing women's use of postpartum family planning.

This is in line with research by **Zinke-Allmann, et al. (2022)** who examined how Kenyan women used social networks (like WhatsApp and Facebook) to access family planning information at different points in the FP use cycle. Their findings showed that social networks are increasingly becoming a common form of communication and offer flexible ways to access FP information. Also agree with **Chukwu et al., 2021**, who conducted an innovative study on how young people in Sierra Leone used mobile phones for family planning and discovered that maternal health, post-abortion care, and family planning information had all been delivered via mobile. For example, a Kenyan SMS campaign enhanced knowledge by 14 percentage points among recipients.

There were significant statistical differences between the study group and the control group with regard to the timing of utilizing FP methods postpartum and the type of FP method utilized. This is in line with **Smith, et al. 2015**, who looked into the outcomes of a mobile phone-based intervention's influence on post-abortion contraception in Cambodia and discovered that women who received an interactive voice response intervention were more likely to use post-abortion contraception .

The use of a mobile-based integrated counseling algorithm can enhance the community-based family planning service delivery, according to **Agarwal et al. (2016)**, who evaluated the mobile employment assistance for community health workers: Family Planning Counseling in Pocket in Tanzania. This demonstrates the value of WhatsApp counseling and associated techniques in enhancing the use of postpartum FP techniques.

This finding conflicts with that of, who examined the effects of follow-up contacts or visits after the start of a contraceptive method on method adherence and appropriate use. They reported that neither of the two studies that examined the effect of a follow-up telephone call compared to no follow-up telephone call found any significant differences between groups in measures of contraceptive use. According to the researcher, these discrepancies in results may be caused by the low completion rates of phone contacts. In addition, (**Dona et al., 2018**) who studied the factors associated with timely postpartum contraceptive use in women of childbearing age in

southern Ethiopia, they noticed that regarding factors associated with timely initiation of postpartum contraceptive use, about one-third of the total study participants had done so. According to the researcher's perspective, these variations in results may be caused by the fact that these studies were based just on the information provided to women about reproductive health during the postpartum period.

A free SMS-based service providing FP information requested by consumers and made widely available in Kenya did not show an effect on contraceptive use, according to **Johnson et al.'s (2017)** study, which examined the impact of a family planning health service on awareness and usage of contraceptives in a randomized controlled trial in Kenya. However, participants did improve their scores on contraceptive knowledge tests .

According to the researcher, these discrepancies may arise because SMS messaging by itself is ineffective at altering behaviour and calls for a more customised and interactive SMS strategy to engage participants at the level required to motivate and support contraceptive use. Additional study is necessary to fully understand the processes through which SMS interventions affect contraceptive use and other health outcomes because they likely vary depending on the intervention's content, mode of delivery, and participant setting.

Implanon use was the most common type of postpartum FP method in the study group, which is consistent with research by **Harrington et al. 2019**, who examined postpartum contraception use by women and couples in Kenya following a Health SMS intervention and found that contraceptive implant use was surprisingly high in both groups. At six months after giving birth, 25% of participants were using implants; this high implant use may be connected to counseling over the implant's safety during lactation. Alternatively, throughout the study period, extended periods of use might have appealed to women.

There were no statistically significant variations in the study and control groups' obstetric histories in terms of gravidity, parity, abortion, or the number of live births. This research supports **Shaaban et al.'s** findings from **2020**, who conducted a randomized controlled experiment to investigate the effect of a mobile phone-assisted postpartum family planning service on the use of long-acting reversible contraception and found no statistically significant difference between participant groups in terms of obstetrical data. The women in both groups shared the same sociodemographic traits and obstetrical information, with no statistically significant differences. This was advantageous for the current

investigation since it assured the generalizability of the study outcomes and prevented the impact of confounding variables.

In referral to personal characteristics of the participated women, age group from 20-30 years with a mean±SD of 26.60±5.59. This finding agree with (Shaaban et al., 2020) who reported that the mean age of them arranged 27 years old.

Regarding the study's residential location, postpartum contraceptive use was more common in urban (town) areas than rural areas. According to Mehare et al., 2020, who studied the factors influencing postpartum contraceptive use in Ethiopia, postpartum contraceptive use was marginally higher in urban areas. These findings suggest that sociocultural and socioeconomic differences between urban and rural areas may be the cause of the higher PFP utilization in urban areas. The other explanation might be that urban and rural areas have different levels of access to digital and non-digital media. The involvement of active and supportive partners in metropolitan areas may be another crucial factor for this variance.

Regarding educational status, more than one-third of the women in the study had a secondary education, with no discernible differences between the women in the two groups. This result is in line with that of Shaaban et al. (2013), who investigated the incidence of unexpected births while nursing and the outcomes of using emergency contraceptive pills as a backup to LAM. They discovered that nearly half of the sampled women had only a secondary education.

Limitations of the study:

Some restrictions were unavoidable due to the incredibly busy service and brief hospital stay, not all ladies gave birth when they were ready. While some wives consent, their husbands do not. Some women were rejected because they foresaw difficulties in further communication (lack of a contact phone number) or because they flatly refused to provide us their contact information.

Conclusion

Based on the results of the current study, it can be concluded that integrating Whatsapp counseling into postpartum family planning counseling and services is a successful strategy for encouraging postpartum women to use postpartum contraceptives, which will reduce the likelihood of unintended pregnancies.

Recommendations

Based on the study findings, it was recommended that:

- There is a necessity to create and increase awareness about postpartum contraceptive methods.
- Adding WhatsApp's counseling as a policy of

different health facilities to improve the use of postpartum women to the postpartum contraceptive methods.

- Extension of this study is required for regimented a larger number of postpartum women to have more clear answer about the role of postpartum contraceptive methods to reduce unplanned pregnancy.

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