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Original article

Contraceptive use and associated factors among postpartum women from 0 to 6 months in Trang Bom District, Dong Nai Province, Vietnam

Truc Thi Thanh Nguyen[a*], Phuc Huu Tam Nguyen[b]

[a]*Faculty of Public Health, University of Medicine and Pharmacy at Ho Chi Minh City, Ho Chi Minh City, Vietnam;*
[b]*VietHealth Center, Gold City Apartment, Dong Xoai District, Binh Phuoc Province, Vietnam.*

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Abstract: ***Introduction****:* Well-timed contraception after delivery using effective methods protects women from unintended pregnancies and improves the quality of life of both women and their children. However, little attention has been paid on the issue in Vietnam. Therefore, this study aimed to determine the percentage of postpartum women from 0 to 6 months using contraceptive methods and associated factors in Trang Bom District, Dong Nai Province, Vietnam. ***Methods:*** A cross-sectional study was adopted. A systematic random sampling method was used to select 355 postpartum women. Women were interviewed about socio-demographic characteristics, reproductive history, and contraceptive use after giving birth. ***Results:*** Of the 355 women, 63.1% used at least one modern or traditional contraceptive method; 58.9% current use, 4.2% previous use, and 36.9% never use. The most selected methods were withdrawal (41.1%), male condom (28.2%), and calendar method (24.4%). Multivariable analysis showed that women who had their menstruation returned, long postpartum duration, high education level, many years of marriage, and previous caesarean section were more likely to use contraception after birth. ***Conclusion:*** The family planning program in Vietnam should focus more on postpartum women. Postpartum contraception should be consulted at all obstetric health centers before and right after delivery. Emphasis should be placed on the initial times to adopt contraception soon and not waiting until the first menses. Women should be encouraged to use modern contraceptive methods instead of traditional ones.

Keywords: contraceptive use; family planning; postpartum women; Trang Bom.

1. INTRODUCTION

Women often face many obstetric complications and depression after birth. According to a systematic review on the data of 115 countries, from 2003 to 2009, sepsis, hemorrhage, and hypertensive disorders were accounted for more than 50% of maternal deaths all over the world [1]. After giving birth, one in eight women reports symptoms of depression and more than half of pregnant women with depression were not treated [2]. Postpartum women have the highest unmet need for birth control programs. They often do not get access to contraceptive methods so that they need to have longer birth intervals and to decline unintended pregnancy [3].

World Health Organization (WHO) recommends that birth spacing should be at least 2 years after delivery to reduce the risk of adverse events on perinatal, infant, and maternal outcomes [4]. In general, women resume pregnancy risk from 4-6 weeks after delivery because they may have sexual intercourse early [5]. Therefore, postpartum family planning is a principal component of health care programs during the first year after a live birth to prevent closely spaced and unintended pregnancies [3]. Whether pregnancies are

*Address correspondence to Truc Thi Thanh Nguyen at the Faculty of Public Health, University of Medicine and Pharmacy at Ho Chi Minh city, Ho Chi Minh city, Vietnam; E-mail: trucnguyen168@ump.edu.vn

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intended or not, every woman should be provided contraception as needed during the postpartum period to enhance her health and her family's [6].

Results from Demographic and Health Surveys indicated that 95% of postpartum women during the first year wanted to avoid getting pregnant in the next two years; however, 70% of them did not use contraception [7]. Reasons for not using contraceptives after birth included amenorrhea (45%) [8] and lack of awareness of contraceptive methods (57%) [9]. Moreover, more than 90% of pregnant women had an intention to adopt contraceptive methods after delivery; however, this figure reduced significantly some months later [10, 11].

According to WHO, when establishing a postpartum family planning program, crucial considerations are clinical safety, appropriate methods of contraception, appropriate timing after birth, and breastfeeding status of mothers [3]. Postpartum women adopt various types of contraception including condoms, injectables, pills, implants, intrauterine devices (IUD), withdrawal, and calendar methods. In common, modern methods were selected much more than traditional ones [5, 9, 12, 13]. Literatures showed that postpartum family planning decision was affected by many elements such as age [9], education level [5, 12, 14], knowledge of contraceptive methods [13, 15], menstruation return [8, 13], postpartum duration [16], caesarean section [17], abortion [18], and breastfeeding [12].

In Vietnam, the family planning program was the first public health policy since 1963. This program succeeded in declining population growth rate in Vietnam. However, the family planning program has concentrated generally on the group of women aged from 15 to 49 years old [19]. Therefore, data about contraceptive use among postpartum women was limited. The percentage of women aged from 15 to 49 years old using contraception was 76.5%, in which, modern contraceptive methods occupied 66.5% in 2018. The popular methods were IUD (46%), oral pills (20.4%), male condoms (17.0%), withdrawal, and calendar method (12.9%) [20]. The failure contraception rate was 7.4% in 2017, although the prevalence of contraception in Vietnam was relatively high. On average, 9.1% of women had unintended pregnancy among whom 24.4% had more than once in 2017 [19].

Little literature was found about contraceptive use among postpartum women worldwide, except in rural Africa and Asia. Similarly, little attention has been paid on the issue in Vietnam. Our study area was Trang Bom District, an industrial district in Dong Nai Province in the South of Vietnam. In some recent years, the population was increasing gradually because of the development of four industrial zones, which attracted many migrants from the North of Vietnam [21]. Migrants always face poor health care assessment, unstable work, and poor living arrangements [22]. Therefore, this study aimed to determine the percentage of postpartum women from 0 to 6 months using contraceptive methods and associated factors in Trang Bom District, Dong Nai Province, Vietnam.

2. MATERIALS AND METHOD

2.1. Study design and sample size

This is a cross-sectional study and sample size was calculated by a formula to estimate a proportion [23]. Where Z was 1.96 as the level of confidence of 95%; d equaled to 0.05 as precision; and P was estimated to be 0.36 according to the study of Tong Kim Long in 2011 [24]. As a result, the study's sample size was 355 women.

2.2. Data collection

At first, a list of postpartum women from 0 to 6 months at the time of the survey was asked from Trang Bom District Health Center in May 2019. Women with residence either permanently or temporarily were included in the list. There were 17 communes in Trang Bom District. To represent the whole Trang Bom District, the list of women was managed according to 17 communes with a total of 1.191 postpartum women who gave birth from 1st November 2018 to 1st May 2019. Then, 355 women were selected from the list by the systematic random sampling method.

We applied three steps of the systematic random sampling method. First, we calculated the selection interval (k) = 1.191/ 355 = 3.35. We chose k = 3. Second, a starting value (r) was randomly determined in the selection interval, and r = 2. Third, the list of 1.191 postpartum women was numbered from 1 to 1.191 according to 17 communes. The first chosen woman was the one with number 2 (r = 2), the next was the woman with number 5 (r+k).

The data was collected by interviewing the participants. Women were asked 18 questions about socio-demographic characteristics, reproductive history, and contraceptive use after giving birth. Based on the research question and objectives, we defined variables and the study questionnaire. The designed questionnaire was adjusted according to the responses from participants in the pilot study. Simple and legible words were used to make women feel comfortable in response to our questionnaire. A pilot on 15 postpartum women from 0 to 6 months was conducted in Hung Thinh Commune, Trang Bom District. Some unsuitable words were edited after the pilot and some reasons for not using contraception were added in the final questionnaire.

2.3. Statistical analysis

The data were analyzed using Stata version 14. Frequencies and percentages were used to describe data. Bivariable analysis (Chi-square test) and multivariable analysis (Generalized Linear Model – GLM) was adopted with a significant p-value ≤ 0.05. The prevalence ratio (PR) and 95% confidence interval (95% CI) were given. Regarding the multivariable model, Menard (1995) and Myers (1990) suggested that a VIF value greater than 10 and a tolerance value less than 0.1 indicated a serious multicollinearity problem [25]. As can be seen from Table 1, there was no problem with multicollinearity.

The perception of having enough living children meant women did not wish to have more children. Clearly, the group of women would adopt contraceptive methods to prevent unwanted pregnancy. Meanwhile, the sexes of living children are also linked with women's decision of giving birth in the

future if the current sexes of living children were not as expected. In Vietnam, couples want to get the ideal family consisting of one boy and one girl, or if only one child, it must be a boy. It explains why the pressure of having a son declines when couples already had at least a son [26].

We used a stepwise method to choose factors for the final model. Based on both suggestions from the literature and the statistical significance in the bivariable analysis, we finally chose menstruation return, postpartum duration, education level, years of marriage, caesarean section, exclusive breastfeeding, sex of living children, perception of having enough living children, and abortion in the multivariable analysis.

Table 1. Tolerance and VIF for independent variables

Variables	VIF	Tolerance
Years of marriage	1.44	0.69
Sex of living children	1.42	0.70
Perception of having enough living children	1.39	0.72
Menstruation return	1.29	0.77
Postpartum duration	1.26	0.79
Exclusive breastfeeding	1.13	0.88
Education level	1.07	0.93
Abortion	1.06	0.94
Caesarean section	1.02	0.97

2.4. Ethical considerations

We explained the purpose and the process of the study to all women before the interview. Women participated in their voluntary and written informed consent were admitted. No participant was unable to read and sign the informed consent. Participants could leave at any time of the interview or refuse to answer any questions without any negative consequences. After the interview, they could contact us to consult about using contraceptive methods when needed provided the principal investigator's mobile phone numbers. The study protocol was approved by the Ethics Council of the University of Medicine and Pharmacy at Ho Chi Minh City (Protocol number 269/ University of Medicine and Pharmacy, on 4th May 2019). The data collection was accepted by the local committee.

3. RESULTS

3.1. Socio-demographic characteristics and reproductive history of postpartum women

As shown in Table 2, most sample women were at a young age (84% under 34 years old), no religion and Christian (76.1%), high school education level and under (83.9%), workers and housewives (76.1%), lived in middle-income families (92.4%). Most women got first marriage (78.3%) and gave birth to the first child (81.1%) at a young age (from 20 to 29). More than 50% of women have enough living children. More than half of women had their menstruation return and the mean duration of amenorrhea was 2.7 ± 1.3 months. The proportion of previous caesarean section was 30.7% and exclusive breastfeeding was 27.9%.

Table 2. Socio-demographic characteristics and reproductive history of postpartum women (n=355)

	N	%		N	%
Age groups			**Age of first marriage**		
17 - 24	96	27.1	15 - 19	66	18.6
25 - 29	112	31.5	20 - 24	183	51.5
30 - 34	90	25.4	25 - 29	95	26.8
35 - 44	57	16.0	30 - 43	11	3.1
Religion			**Age of first birth**		
None	160	45.1	17 - 19	40	11.3
Christian	110	31.0	20 - 24	168	47.3
Buddhist	83	23.4	25 - 29	120	33.8
Others	2	0.5	30 - 44	27	7.6
Family wealth			**Years of marriage**		
Poor	22	6.2	Under 5 years	177	49.9
Middle	328	92.4	5 – 9 years	109	30.7
Rich	5	1.4	10 years and above	69	19.4
Education level			**Sex of living children**		
Primary school and below*	37	10.4	Boy and girl	133	37.5
Middle school	137	38.6	Only boy	112	31.5
High school	124	34.9	Only girl	110	31.0
College and above	57	16.1			
Occupation			**Postpartum duration**		
Worker	194	54.7	1 month	25	7.0
Housewife	76	21.4	2 months	39	11.0
Freeland job	37	10.4	3 months	62	17.5
Officer	34	9.6	4 months	79	22.3
Farmer	14	3.9	5 months	59	16.6
			6 months	91	25.6
Caesarean section (yes)	109	30.7	**Exclusive breastfeeding** (yes)	99	27.9
Perception of having enough living children (yes)	187	52.7	**Menstruation return** (yes)	162	54.4
Abortion (yes)	15	4.2	+ Mean duration of amenorrhea: 2.7 ± 1.3 months		

***** *"below" does not mean illiteracy*

3.2. Contraceptive use of postpartum women

This study examined both previous and current use of contraception within 6 months after birth. There were 63.1% of women using at least one modern or traditional contraceptive method; 58.9% current use, 4.2% previous use, and 36.9% never use. In terms of the current use, the most common methods were withdrawal (41.1%), male condom (28.2%), and calendar method (24.4%). For the previous use of contraception methods, male condoms, withdrawal, and IUD were most selected with 40%, 33.3%, and 26.7% respectively. The mean time of first contraceptive use after birth was 3.0 ± 1.2 months. The reasons for not using contraceptives were amenorrhea (29%), preference to have more children (23.7%), and consideration contraception as unnecessary (16.8%) (Table 3).

Table 3. Contraceptive use of postpartum women (n=355)

	N	%
Postpartum contraceptive use (yes) + Mean time of first contraceptive use: 3.0 ± 1.2 months	**224**	**63.1**
Current contraceptive use (yes)	**209**	**58.9**
Withdrawal (yes)	86	41.1
Male condom (yes)	59	28.2
Calendar method (yes)	51	24.4
Oral pills (yes)	33	15.8
IUD (yes)	20	9.6
Lactation Amenorrhea (LAM) (yes)	19	9.1
Sterilization (yes)	6	2.9
Emergency pill (yes)	3	1.4
Injection (yes)	2	1.0
Previous contraceptive use (n=146) (yes)	**15**	**4.2**
Male condom (yes)	6	40.0
Withdrawal (yes)	5	33.3
IUD (yes)	4	26.7
Calendar method (yes)	2	13.3
LAM (yes)	1	6.7
Reasons for not using contraceptives after birth (n=131)		
Amenorrhea	38	29.0
Preference to have more children	31	23.7
Consideration contraception as unnecessary	22	16.8
Afraid of side effects	7	5.3
Unknown contraceptive providers	2	1.5
Current having diseases or feeling tired	2	1.5
Difficult to have a child	1	0.8

3.3. Multivariable analysis on factors influencing contraceptive use

As can be seen from Table 4, significant associations with contraceptive use included menstruation return, postpartum duration, education level, years of marriage, and caesarean section (p-value < 0.05). Specifically, the percentage of contraceptive use among women with menstruation return was 1.26 times, which was higher than women without menstruation return (PR=1.26, 95% CI: 1.06 – 1.49, p-value = 0.009). Our results indicated that the longer postpartum duration, the higher proportion of contraception they used (PR=1.18, 95% CI: 1.11 – 1.25, p-value < 0.001).

The study findings also showed that women with higher education level would more likely choose contraceptive use (PR=1.11, 95% CI: 1.02 – 1.20, p-value = 0.011). Women with longer years of marriage would more likely use contraception (PR=1.14, 95% CI: 1.02 – 1.27, p-value = 0.016). Similarly, women who underwent caesarean section would more likely choose contraceptive use (PR=1.19, 95% CI: 1.02 – 1.38, p-value = 0.029). Meanwhile, exclusive breastfeeding, sex of living children, perception of having enough living children, and abortion did not have significant associations with contraceptive use (p-value > 0.05).

Table 4. Multivariable analysis of contraceptive use and associated factors (n=355)

	Contraceptive use		PR (95% CI)	p-value
	Yes N (%)	No N (%)		
Menstruation return (yes)	128 (79.0)	34 (21.0)	1.26 (1.06 – 1.49)	**0.009**
Postpartum duration				
1 month	2 (8.0)	23 (92.0)	1	
2 months	14 (35.9)	25 (64.1)	1.18 (1.11 – 1.25)	
3 months	38 (61.3)	24 (38.7)	1.39 (1.23 – 1.56)	
4 months	53 (67.1)	26 (32.9)	1.63 (1.36 – 1.95)	**<0.001**
5 months	43 (72.9)	16 (27.1)	1.91 (1.51 – 2.44)	
6 months	74 (81.3)	17 (18.7)	2.26 (1.68 – 3.04)	
Education level				
Primary school and under	20 (54.1)	17 (45.9)	1	
Middle school	77 (56.2)	60 (43.8)	1.11 (1.02 – 1.20)	**0.011**
High school	83 (67.0)	41 (33.0)	1.23 (1.05 – 1.43)	
College and above	44 (77.2)	13 (22.8)	1.36 (1.07 – 1.72)	
Years of marriage				
Under 5 years	101 (57.1)	76 (42.9)	1	
5 – 9 years	69 (63.3)	40 (36.7)	1.14 (1.02 – 1.27)	**0.016**
10 years and above	54 (78.3)	15 (21.7)	1.30 (1.05 – 1.62)	
Caesarean section (yes)	77 (70.6)	32 (29.4)	1.19 (1.02 – 1.38)	**0.029**
Exclusive breastfeeding (yes)	54 (54.6)	45 (45.4)	0.98 (0.82 – 1.17)	0.819
Sex of living children				
Boy and girl	95 (71.4)	38 (28.6)	1	
Only boy	66 (58.9)	46 (41.1)	0.92 (0.76 – 1.11)	0.365
Only girl	63 (57.3)	47 (42.7)	0.94 (0.76 – 1.17)	0.586
Perception of having enough living children (yes)	134 (71.7)	53 (28.3)	1.13 (0.95 – 1.36)	0.175
Abortion (yes)	14 (93.3)	1 (6.7)	1.13 (0.91 – 1.42)	0.268

4. DISCUSSION

In Vietnam, both public and private health centers from the central to local administrations are allowed to provide various family planning services for free, with partly or fully paid-off charges. The local population workers distribute oral pills and male condoms for free or at low cost to the community. Women can even buy oral pills and condoms at any retail pharmacy store. That would enhance the accessibility of women [19]. However, a weakness of the government family planning program is that it did not target specific groups of women such as postpartum women or teenagers [19]. Meanwhile, data from a systematic review suggested that family planning research institutes, programs, and policies must target postpartum women. By targeting this group of women alone, postpartum family planning utilization could rise considerably in middle- and low-income countries [6]. However, there is no specific indicator to monitor the contraceptive use among postpartum women in the national annual population change and family planning survey in Vietnam [20].

This study found that the percentage of current contraceptive use among postpartum women from 0 to 6 months in Trang Bom District, Dong Nai Province was relatively high (63.1%). Our result was higher than the figures from other studies such as Duong (43%) [9] and Rose (50%) [27], which were both conducted in rural areas and examined six months postpartum. It may be due to more than haft of women having menstruation return, getting married for over five years, and were at 4 – 6 months postpartum, which were denoted to increase the use of contraceptives compared to the remaining groups (Table 4). Besides, most women selected in our study were from 25 to 34 years old. According to the national population report of Vietnam in 2018, among married women aged from 15 to 49, the percentage of contraception use at aged 25 – 34 was approximately from 70% to 80%, only lower than the age group of 35 – 44 [20]. Moreover, more than half of the women had enough living children, which means that they did not wish to have more children. Therefore, it is understandable that this group of women wanted to use birth control methods to expand their birth spacing or stop giving birth.

Our results indicated a high proportion of contraceptive use. One reason is that we studied mothers with a longer postpartum period (6 months), while other studies were conducted among shorter postpartum period (1 – 4 months) [9, 16]. However, our finding was higher than that from studies with longer postpartum duration (12 months) such as Gebi (15%) [5], Dona (31.7%) [8]. Interestingly, some studies with a longer postpartum duration (12 months) showed a higher proportion of women using contraceptive methods, as was the study of Rose (86.3%) [27] compared to our result. The percentage of contraception varied widely, maybe because of the differences in locations, time, and respondents. However, within a study, contraceptive use was increasing when the examined postpartum duration rose [9, 27]. This result is consistent with our results.

Regarding different types of contraceptive methods, among currently married women aged from 15 to 49 years old, modern contraceptive methods are always preferable since 2002 in Vietnam. The figure was steady at 66.5% in 2018

despite region, urban or rural area of living, and level of education of women. The most selected modern methods were IUD, oral pills, and male condoms; meanwhile, the common traditional method chosen was the calendar method [20]. Among postpartum women, WHO has a guideline on which methods can be used at what point in time following birth and given the mother's breastfeeding status during the first year postpartum and beyond [3]. Studies in other countries showed that postpartum women used modern methods more than traditional ones, in which injectables and implants were widely adopted because their medication contains only progesterone, which is suitable for both breastfeeding and non-breastfeeding women [5, 12, 13]. The same trend is repeated in Vietnam, the modern birth control methods were more likely to uptake, in which IUD and condom were the most selected [9, 16, 24]. Only IUD was encouraged by the government at the beginning of the family planning program in Vietnam since 1980. Therefore, up to now, it is still the most common contraceptive method while other modern methods are received less attention [19].

In contrast, we found that postpartum women in Trang Bom District used traditional methods more than modern ones. When considering the current use of contraception, the most chosen methods were withdrawal, male condom, and calendar method. A previous study indicated that the reasons for using traditional methods of married women aged from 15 to 49 years old were their satisfaction with the traditional method, unwillingness of their husband to use modern methods, lack of confidence in modern methods because of the difficulty in application, and the side effects [28]. Women education at secondary school and below would increase the chance of using traditional contraceptives [28, 29]. Besides, the reason that contraception was contradictory to religion was also mentioned [28, 30]. To a certain extent, Christian couples do not welcome modern contraception [30]. Our study lacks evidence to explain the women's preference of traditional methods; however, it may be concluded from these earlier results that 83.9% of sample women had high school education level and under, and 31% of women were Christian might be contributed to the choice of traditional methods. Although the traditional methods are always ready to use without any medication and side effects, it would increase the proportion of unintended pregnancy. Therefore, there is a local need for providing solutions to encourage women to change from traditional methods to modern ones to reduce the proportion of contraceptives discontinuous use, failure, and abortion [19].

Noted that postpartum women often start to use contraception when they see the menstrual bleeding, because of an awareness that, at this time, they can get pregnant again. Accordingly, the meantime of the first menses was often lower than the meantime of the first contraceptive use after birth [8, 13]. This result is consistent with our results. However, waiting for menstruation return to use birth control methods is not suggested, since ovulation occurs earlier than menstrual bleeding [31]. In case of women resuming sexual intercourse between the time of the first menses after birth and the ovulation without using any contraception, by chance, they might get pregnant which is very close to the newborns.

Our findings showed that 36.9% of postpartum women did not uptake any birth control methods. The most common reason for not using contraceptives was amenorrhea. Others include a preference for having more children and an awareness that using contraceptives is unnecessary. Meanwhile, among married women aged from 15 to 49 years old, the reasons for not using contraceptive methods were preference for more children (42.7%) and being pregnant (13.2%) in the 2018 national report [20]. The duration of amenorrhea is decided by the breastfeeding practice of the mother. The mean duration of amenorrhea in this study was quite earlier compared to that from other studies [12]. One reason for that may be the low proportion of exclusive breastfeeding (27.9%). Vietnam had a low rate of exclusive breastfeeding under 6 months with only 24%, while this figure for all over the world was 44% [32]. There are many barriers to breastfeeding practices in Vietnam such as insufficient breastfeeding promotion activities, limited knowledge, attitudes, and skills of health professionals, preference of feeding a newborn with formula milk and water, breast problems including cracked nipples, breast engorgement, mastitis, insufficient child suckling or attachment problems, insufficient lactation, and postpartum fatigue [33].

According to WHO, exclusive breastfeeding helps women to expand the period of amenorrhea until 6 months postpartum. It is a natural family planning method called Lactational Amenorrhea Method (LAM) [3]. A study conducted by Long recommended that pregnant women should be consulted to apply contraceptive methods after delivery, especially strengthening the LAM to raise the breastfeeding rate [24]. However, this suggestion should be given with caution. LAM is not a very reliable method for contraception [34]. The effectiveness of LAM completely depends on how women breastfeed their children, so the onset of first menses is not the same between breastfeeding women. Women may accidentally get pregnant. If a mother chooses LAM, she should change from LAM to another modern contraceptive method by the time the infant reaches 6 months of age, or even sooner if LAM criteria are not met. She should be provided information at the right time to choose another modern contraceptive method [3].

This study found that the prevalence of using contraceptive methods was nearly double among women with a previous caesarean section. Caesarean section is the most popular surgical procedure performed worldwide for various indications. Caesarean section rates have been increasing worldwide [17]. According to WHO, caesarean section accounted for 21% of all childbirths. This number is predicted to continue rising over the coming decade, with approximately 29% of all by 2030 [35]. In Vietnam, Cesarean section rate was 28% in 2019, higher than the average of the world [32]. Our study also found a high proportion of cesarean sections among postpartum women with 30.7%. Women with previous caesarean section were at higher risk of hysterectomy, uterine rupture, infection, manual removal of the placenta, and intensive care unit admission. In addition, their infants were at a high chance of intensive care unit admission and preterm delivery [36].

Caesarean section is a principal and life-saving surgery. However, many unnecessary health problems could occur among infants and women [35]. Therefore, using contraception is important for postpartum women, especially for those who had a primary caesarean section to avoid close

pregnancy and reduce the serious complications for women and their infants. Better counseling and specific guidelines must be developed for this subset of women because of possible complications that they may face in future pregnancies [17].

Finally, education level is a key determinant of family planning and health. Many studies agreed that the education level of women could affect the postpartum contraception prevalence [5, 12, 14, 27]. In Asian countries, a systematic review indicated that the most barrier to modern methods was associated with the low education level of women [37]. The women's current knowledge of family planning had an association with postpartum contraception use [9, 13, 15, 17]. In Turkey, education programs on contraception showed an improvement in raising the proportion of women using effective methods. It was suggested that both women and their spouses must be educated in family planning [28].

Therefore, improving women's education level and knowledge on family planning are needed to enhance the awareness of the necessity of contraceptive use, especially during the postpartum period. An educational program in which targets specific groups, such as adolescent females, married, post-abortion, pregnant, and postpartum women is essential. This program should be integrated with existing health activities to access all women in need.

Limitations of the study

This study has three limitations. First, cross-sectional studies cannot establish a cause-and-effect relationship. However, we have identified many associated factors with contraceptive use among postpartum women. Second, we only explored the use of contraception at the time of the survey and thus it was less likely to reflect the whole picture of women's practice on family planning during the postpartum period. Third, investigator blinding was unlikely to be obtained in this study.

Conclusion

The percentage of contraceptive use during the postpartum period in Trang Bom District was relatively high. However, women tended to wait for their first menses to uptake contraception and traditional methods were more selected. Women who had their menstruation returned, longer postpartum duration, high education level, many years of marriage, and previous caesarean section were more likely to use contraception after birth.

We suggest that the family planning program in Vietnam should focus more on postpartum women. Postpartum contraception must be consulted at all obstetric health centers before and right after delivery. The consultation should emphasize the detail of birth control methods and the initial times to adopt contraception. These methods must be applied early and should not be waiting until the first menses. Modern contraceptive methods must be focused on. In case women intend to exclusively breastfeed their infants and use LAM, health professionals should remind them to follow WHO guidelines strictly.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

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ORCID ID

Truc Thi Thanh Nguyen https://orcid.org/0000-0002-7932-693X
Phuc Huu Tam Nguyen https://orcid.org/0000-0003-3949-7969

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