RESEARCH
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THE EFFECTIVENESS OF A FAMILY PARTICIPATION AND LEARNING ROLE MODEL PROGRAM ON THE USE OF CONTRACEPTIVE IMPLANTS IN TEENAGE MOTHERS

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Abstract
Background: Recurrent pregnancy in teenage mothers is a significant issue that has physical, mental, economic, and social consequences. It affects mothers, causing various complications during pregnancy, childbirth, and postpartum. It can lead to preterm birth and low birth weight. It is most often caused by ineffective contraception.
Objectives: 1) Comparison of the mean knowledge scores on contraceptive implant of postpartum teenage mothers before and after entering the family participation with learning role model program, and between the experimental and the control group. 2) Comparison of intentions to use contraceptive implant and the use of contraceptive implant of postpartum teenage mothers between the experimental and control groups.
Materials and Methods: This quasi-experimental study with two groups and pretest-posttest design. The study sample consisted of 82 teenage mothers after delivery aged 15-19year who deliveried at Chaophraya Abhaiphubejhr Hospital. The participants were selected purposively according to the specified criteria and randomly assigned to two groups: the experimental group (n=41) and the control group (n=41). The study was conducted from April to August 2023. The instruments used in this study were, family participation and learning role model program, a personal information questionnaire, a contraceptive implant knowledge questionnaire (with a reliability of .80), and a record of intention and use of contraceptive implants. The data were analyzed using descriptive statistics, independent t-tests, paired t-tests, and chi-square tests.
Results: The mean scores on contraceptive implant knowledge of teenage mothers in the experimental group after entering the program were significantly higher than those before the program (p=.001) and higher than those of the control group (p=.001). The experimental group had significantly more intention to use than the control group (p<.05) and use contraceptive implants more than the control group (p<.05).
Conclusions: The family participation and learning role model program was effective in helping teenage mothers decide to use contraceptive implants before discharge. Therefore, this program should be implemented to promote the use of contraceptive implants in teenage mothers to prevent repeat pregnancies.
Keyword: Family participation, Learning role models, Contraceptive implant, Teenage mothers.

INTRODUCTION

Teenage pregnancy is a vital problem in all countries around the world, which affects the body, mind, economy, and society. Obstetric effects increase the chance of complications both during pregnancy and after birth. It also affects children. Having a premature baby Underweight has an increased death rate [1]. In addition, it was found that the chance of repeat pregnancy among teenage mothers has increased. From statistics 2020-2022, the percentage of repeat pregnancy in Thailand was 14.42, 13.96, and 14.29 percent [2]. And the repeat pregnancy rate of Chao Phraya Abhaibhubejhr Hospital was 10.55, 16.33, and 13.64 percent[3], although the trend of repeat pregnancies at Chao Phraya Abhaibhubejhr Hospital has decreased. But it is still higher than the specified threshold of 13 percent [2]. Repeated pregnancies in teenage mothers are caused by crucial causes: having sex without birth control and not using continuous birth control, lacking of awareness of the chances of repeat pregnancy, not receiving effective birth control services [4,5]. Birth control implants are a highly effective method of birth control. There is continuity and consistency in birth control. Prevent forgetting to use and reduce teenage pregnancy rates. The Thai Ministry of Public Health has a policy to promote the use of birth control implants among teenage mothers. Women under 20 years of age can receive free birth control implants with all health rights [6]. From the statistics of birth control implants in teenage mothers after giving birth at Chao Phraya Abhaibhubejhr Hospital in 2020-2022, the rates were 2.56, 10.88, and 59.09 percent, respectively[3]. It can be seen that there is an increasing trend. However, it is still lower than the target value set by the Department of Health, which is 80

percent [3]. Therefore, promoting the use of birth control implants among teenage mothers is the leading mission.

Postpartum teenage mothers do not use birth control implants due to many factors, including knowledge about birth control implants. It was found that teenagers who have a high level of knowledge and understanding about birth control implants will have an effect on the use of birth control implants [7]. Negative feelings about the use of birth control implant: teenagers who have negative feelings about the implant are less likely to accept the implant and have feelings of fear about pain during the birth control implants [8]. Receiving support from family is one major factor for using birth control implants. If the teenage mother believes and teenagers will follow suit and accept the use of birth control implants[9]. As the study found, Teenagers who have family support are more likely to decide to use the birth control implant than those who do not have family support[10]. The postpartum department has nursing activities that promote the use of birth control implants but does not yet cover this problem. If there were nursing activities that could help solve these causes, it would likely cause more teenage mothers to use birth control implants.

The Theory of Planned Behavior [11] states that a person's behavioral intention arises from the person having a positive attitude toward the behavior. A person's norm regarding behavior or there is conformity to the reference group. Perception of one's ability to control behavior, that is, behavior will occur from a person having a good attitude. They have beliefs about people who are meaningful to them, such as their husbands, mothers, friends, or family, expecting them to do that behavior. Having a sense of self-efficacy for one's own behavior, resulting in the behavior of intention to use the birth control implants. It was found that the intention to implant the birth control implants after giving birth is related to attitudes toward birth control implants. And conformity to the reference group and perception of one's own ability to control behavior[12,13]. From the importance mentioned above, the researcher is therefore interested in studying the effectiveness of the family participation program combined with the exchange of learning from the model on the use of contraceptive implants in postpartum teenage mothers. To encourage teenage mothers to decide to use the birth control implant. This will preventing further pregnancies.

RESEARCH OBJECTIVES

1. Comparison of the mean knowledge scores on contraceptive implant of postpartum teenage mothers before and after receiving the family participation with learning role model program, and between the experimental and the control group.
2. Comparison of intentions to use contraceptive implant and the use of contraceptive implant of postpartum teenage mothers between the experimental and control groups.

RESEARCH HYPOTHESIS

1. Postpartum teenage mothers in the experimental group had a higher mean scores of knowledge on contraceptive implants after entering the family participation and learning role models program than before entering the program and higher than teenage mothers in the control group.
2. Postpartum teenage mothers in the experimental group had intentions of using the birth control implants, and the use of birth control implants more than that of teenage mothers in the control group.

METHOD OF STUDY

Experimental Group

1. The researcher met the teenage mothers of the experimental group 24 hours after deliveried and proceeded with the birth control procedures.
2. The sample answered a knowledge questionnaire about the use of contraceptive implant before entering the program and ask about the intention to use contraceptive implant. (pretest).
3. Experiment according to family participation and learning role models program: The first teaching, 24 hours after deliveried, takes approximately 25 minutes, allowing the family to participate.
   - Provide knowledge about repeat pregnancies, birth control, use of contraceptive implant after deliveried, benefits, and side effects of using the contraceptive implant. (Take 15 minutes.)
   - Watch a video about the contraceptive implant with the models. It takes 10 minutes.
   - Join the LINE group to exchange ideas and learn from the models.

The second teaching was 48 hours after deliveried and took approximately 15 minutes.

   - Review knowledge about birth control and contraceptive implant.
   - Ask about problems and obstacles in using contraceptive implant, and find ways to solve it.
   - Enhance positive energy and ability to use contraceptive implant, and involving families in support choosing contraceptive implant.
   - At the end of the teaching, teenage mothers in the experimental group answered a questionnaire on their knowledge about the use of contraceptive implant and recorded contraceptive implant intentions. (posttest)

4. Giving contraceptive implant QR code to postpartum teenage mothers to review the use of contraceptive implant.
5. Recording the mother's use of contraceptive implant. If a postpartum teenage mother decides to use contraceptive implant, the doctor will prescribe contraceptive implant for them before discharge. Those who have not chosen to use contraceptive implant will be called for a follow-up.
6. Analyze the obtained data.

Control Group

1. The researcher meets the control group individually 24 hours after deliveried, which takes approximately 20 minutes and proceeds with the steps to protect the rights of the sample group.
2. The sample answered a questionnaire about their knowledge about the use of. And inquire about intentions using contraceptive implants. (pretest)
3. Providing conventional nursing care and knowledge Advice on contraceptive implant for teenage mothers and their families.
4. After 48 hours after birth, respond to a questionnaire about contraceptive implant knowledge among teenage mothers, including a form to record contraceptive implant intentions of teenage mothers. (posttest).
5. Recording the mother's use of contraceptive implants. If a teenage mother decides to use the birth control implant, the doctor will prescribe contraceptive implant for teenage mothers before discharge. Those who have not chosen to use contraceptive implant will be called for a follow-up.

6. Analyze the obtained data.

Data analysis: General data were analyzed by using descriptive statistics. Paired t-test statistics were used to compare knowledge scores on contraceptive implants before and after receiving the program of the experimental group. Independent t-test statistics were used to compare differences in knowledge scores on contraceptive implants between the experimental and control groups. Chi-square test statistics were used to compare differences in intentions to use contraceptive implants and the use of birth control implants.

STUDY RESULTS

The average age of teenage mothers in the experimental and control groups was 17.65 and 17.24 years. Most of them were in a double marriage status, had completed middle school (92.7% and 90.3%), were not employed (73.2% and 78.0%), had monthly incomes of less than 10,000 baht (70.7% and 63.4%), and were in their first pregnancy (61.0% and 63.4%). They used birth control (68.3% and 73.2%) and did not intend to become pregnant (70.7% and 65.9%), respectively. The personal information of the experimental and control groups was not statistically different (P >.05).

Table. 1 Comparison of the mean knowledge scores on contraceptive implant of postpartum teenage mothers in the experimental group before and after entering the program.

Knowledge score	n	M	SD	Paired t- test	df	p-value
Before entering the program	41	11.02	2.19	8.022	40	0.001*
After entering the program	41	13.78	1.31			

Table. 1 shows that after entering the program, the postpartum teenage mothers in the experimental group had significantly higher mean knowledge scores on contraceptive implant than before entering the program. (p=0.001).

Table. 2 Comparison of the mean scores on knowledge of contraceptive implants of postpartum teenage mothers between the experimental group and the control group.

Knowledge score	n	M	SD	t	df	p-value
Before entering the program						
experimental group	41	11.02	2.19	.209	80	.467
control group	41	11.01	2.03			
After entering the program						
experimental group	41	13.78	1.31	3.607	58	0.001*
control group	41	12.78	1.19			

Table. 2, shows that before entering the program, postpartum teenage mothers in the experimental group and the control group did not different in their mean scores on knowledge of contraceptive implants. After entering the program, it was found that postpartum teenage mothers in the experimental group had significantly higher mean knowledge score on contraceptive implants than the control group. (p=0.001).

Table. 3 Comparison of intentions to use the contraceptive implant between the experimental group and the control group.

Intention to use implants	experimental group (n=41)		control group (n=41)		x^2	df	p-value
	Numbers	Percent	Numbers	Percent			
Before entering the program							
Intend to use implants	21	51.2	24	58.5	.443	1	0.329
Not intending to use implants	20	48.8	17	41.5			
After entering the program							
Intend to use implants	34	82.9	25	61.0	4.895	1	0.024*
Not intending to use implants	7	17.1	16	39.0			

* Fisher's exact Chi-Square test

Table. 3 shows that before entering the program, Postpartum teenage mothers in the experimental and control groups had no different intentions to use the contraceptive implant. After entering the program, it was found that postpartum teenage mothers in the experimental group had significantly more intentions to use the contraceptive implant than teenage mothers in the control group. (p<0.05).

Table. 4 Comparison of the use of contraceptive implants between the experimental and the control groups.

Using contraceptive implants	experimental (n=41)		control group (n=41)		x^2	df	p-value
	Numbers	Percent	Numbers	Percent			
Use contraceptive implants	34	82.9	25	61.0	4.895	1	0.024*
Not use contraceptive implants	7	17.1	16	39.0			

***** Fisher's exact Chi-Square test

Table. 4 shows that after entering the program, postpartum teenage mothers in the experimental group used contraceptive implant significantly more than postpartum teenage mothers in the control group. ($p<0.05$).

DISCUSS THE RESULTS

1. Postpartum teenage mothers in the experimental group had mean score of knowledge on contraceptive implants after entering the program, higher than before entering the program and higher than those in the control group. Hypotheses 1 correspond to the studies of Sriarporn P. et al [14], Jantarasuk C. et al [15]. This is because teenage mothers received information about birth control, how to use contraceptive implant, benefits and drawbacks of using contraceptive implants. These give teenage mothers knowledge and understanding about contraceptive implants. They also exchange of learning from models of the same age, who have used contraceptive implant before. This makes postpartum teenage mothers interested in listening to information and knowledge attentively. As a result, teenage mothers in the experimental group had a higher mean knowledge scores after entering the program than those in the control group.
2. Postpartum teenage mothers in the experimental group, after entering the program, have the intention to use contraceptive implants and have the use of contraceptive implants was significantly higher than that of postpartum teenage mothers in the control group, consistent with hypothesis number 2, consistent with the studies of Mala A. et al [16] and Sriarporn P. et al. [14] who studied the provision of knowledge information by bringing her husband or lover, participating can create an intention to engage in behavior to prevent repeat pregnancy. Also, Somroop A. et al. [9] who studied, found that receiving support from family, especially the husband and her mother, Teenage mothers will follow suit and decide to use the contraceptive implant. It has shown that family participation and learning role model program increased postpartum teenage mothers' intention to use contraceptive implants. This is because a person's behavioral intention arises from the person having a positive attitude toward the behavior. This positive attitude comes from the fact that postpartum teenage mothers have knowledge and understanding about contraceptive implants. And support from family includes husbands, mothers, and fathers, which greatly influence teenage mothers. If such a person has knowledge and understanding of the use contraceptive implants, will encourage teenage mothers to use contraceptive implants. Teenage mothers are more amenable and willing to accept the use of contraceptive implants. As a result, teenage mothers will have a more positive attitude towards using contraceptive implants, including perception of ability to control behavior. They have faith that they can do it. Consistent with the Theory of Planned Behavior concept, a person's behavioral intention arises from the person having a positive attitude towards the behavior. There is conformity to the reference group. And the perception of one's ability to control behavior. Believing that they can use the contraceptive implant will lead to the behavior of using contraceptive implants.

The Benefits and Uses are as Follows

1. Implement the family participation and learning role model program. Guidelines for promoting the use contraceptive implants among teenage mothers and preventing repeat pregnancies
2. Taking the family partipation and learning role model program to expand in community hospitals in the network and other related agencies for preventing teenage pregnancies and repeat pregnancies.

CONCLUSION

The family participation and learning role model program enables teenage mothers decide to use the contraceptive implant. We should take this program to promote the use contraceptive implants among teenage mothers in the antenatal care unit. Also, taking expanded to use in community hospitals in the network to prevent repeated pregnancies.

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