The Effects of Promoting Self-Efficacy Program on the Oral Contraceptive Used Behavior among Adolescent Mothers

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Objective: To study the effects of a promoting self-efficacy program on the oral contraceptive used behavior among adolescent mothers.

Material and Method: This is a quasi-experimental study which based on a pretest-posttest design with group comparison. The participants were primiparous adolescent mothers aged 15-19 years who attended at antenatal care clinic, delivered and came for postpartum check-up at 6 weeks after delivery at Thammasat University Hospital from December 2013 to March 2014.

Results: Sixty adolescent mothers were selected through inclusion criteria and divided equally to study and control group. Study group participated in the effects of the promoting self-efficacy program combined with standard nursing care. Control group received only standard nursing care from the same nursing staff. Demographic data of both groups had no statistical difference. Mean scores on oral contraceptive self-efficacy (OCSE) and oral contraceptive used behavior (OCUB) of study group were higher than control group with a statistical significance (p < 0.001) at 12 weeks postpartum.

Conclusion: Adolescent mothers had a high risk of unintended pregnancy due to inconsistent oral contraceptive usage. Promoting self-efficacy program regarding oral contraceptive behavior should be integrated to standard nursing care practice. This program could encourage adolescent mothers to engage correct and continuous oral contraceptive usage.

Keywords: Adolescent mother, Promoting self-efficacy, Oral contraceptive used behavior

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At present, the prevalence of adolescent pregnancies is a significant health problem for mothers and infants. Adolescent parturient are at greater risk for complications in mothers and infants than adult pregnancies. Each year, an adolescent pregnancy rate is approximately 11% which is higher than the target set by the World Health Organization at 10%(1). In Thailand, a survey conducted between 2006-2010 found the rate of adolescent pregnancy to be increasing at percentages of 13.03, 13.37, 12.01, 13.55 and 13.76, respectively⁽²⁾. Notably, the problem of repeated adolescent pregnancies has been encountered at 11 percent⁽³⁾. From Thammasat University Hospital birth record during past three years (2011-2013), the percentages of first adolescent mothers were found to be 10.1, 12.0 and 11.7 percent, respectively. However,

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the prevalence of repeat adolescent pregnancies was still high in the same period at the percentage of 10.0, 11.1 and 12.2, respectively.

Adolescent pregnancy is a health state putting both mothers and infants at risk due to poor physical condition, depression and social readiness with complications such as pregnancy-induced hypertension, anemia and premature births^(4,5). The problem of adolescent pregnancy is partially caused by ineffective birth control and a dearth of birth control knowledge and skills exacerbated by inconsistent birth control⁽⁶⁾.

At present, adolescents pregnancy prevention remained insufficient and hard to resolve problems. In Thailand, the top three popular birth control methods are oral contraceptives pills, contraceptive injections and condoms at percentage of 44.3, 21.8 and 0.7, respectively⁽⁷⁾. According to the literature review, inconsistency, deficient knowledge and in corrected oral contraceptive pills usages are the major problems of high repeated adolescent pregnancies rate^(8,9).

Education on the correct use of oral contraceptives alone is insufficient to ensure that

postpartum adolescent mothers have correct oral contraceptive usage behavior. Knowledge alone cannot bring about health behavior modification⁽¹⁰⁾. The factor that links knowledge and action is self-efficacy⁽¹¹⁾. According to Bandura⁽¹¹⁾, in order for an individual to behave a certain way or cope with a situation in order to accomplish personal goals, the person needs to first have perceived self-efficacy. According to Thai study, self-efficacy is a variable that influences health behavior. It is a predictor of behavior modification as well as a factor that promotes healthy behaviors in adolescent mother groups⁽¹²⁻¹⁴⁾.

On the subject of birth control, a study on predictive factors found perceived self-efficacy to have positive correlations with birth control behaviors⁽¹⁵⁾ further finding the perceived self-efficacy concept to have been adapted in activities promoting condom use in female adolescents⁽¹⁶⁾. However, no studies were found on the adaption of perceived self-efficacy in promoting of the oral contraceptive used behavior whereas correct use and consistency are required for effective birth control.

Adapted Bandura's self-efficacy theory was a conceptual framework in promoting oral contraceptive used behavior in adolescent mothers in order to assure that postpartum adolescent mothers have perceived self-efficacy with confidence in their ability to correctly use oral contraceptives.

Objective

To study the effects of a promoting a self-efficacy program on oral contraceptive self-efficacy (OCSE) and oral contraceptive use behavior (OCUB) among adolescent mothers at 12 weeks postpartum period.

Material and Method

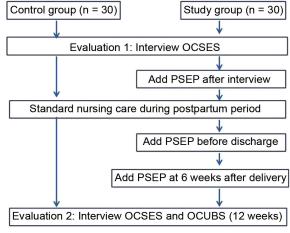
This is a quasi-experimental study aimed at exploring the effects of promoting self-efficacy program on the oral contraceptive use behavior in primiparous adolescent mothers. The study is based on a pretest-posttest design with group comparison. The study was approved by the Human Subjects Review Committee, Thammasat University, Thailand.

The subjects comprised of primiparous adolescent mothers aged 15-19 years who attended antenatal care, gave birth and came for postpartum check-up at 6 weeks after delivery at Thammasat University Hospital from December 2013 to March 2014. Sixty adolescent mothers were selected through inclusion criteria and were divided equally

into two groups with 30 participants each: the study group and control group. The study group participated in the effects of the promoting self-efficacy program combined with standard nursing care from nursing staff. The control group received only standard nursing care from the same nursing staff. First 30 subjects were assigned to the control group according to inclusion criteria daily during official working hours at the antenatal clinic. In order to prevent encounters and exchanges of data between the control group and the study group, the data collection of the control group was completed before the next recruited process. Another 30 subjects were recruited and assigned to the study group.

Control group consisted of adolescent pregnant women who met inclusion criteria, well understood and signed informed consent after thorough research explanation. Demographic data were collected by well structural interviewer. Perceived self-efficacy in the oral contraceptive self-efficacy scale from all 30 members of the control group were evaluated (evaluation 1) as shown in Fig. 1. All participants were reevaluated for perceived self-efficacy in the oral contraceptive self-efficacy scale (OCSES) and oral contraceptive used behavior scale (OCUBS) at 12 weeks postpartum (evaluation 2). Upon the conclusion of the research, the control group received the promoting self-efficacy program.

Study group received the same standard nursing care as control group as mentioned in the previous paragraph. The additional promoting self-efficacy program (PSEP) was applied in study group (1st application) during her antenatal care. PSEP



PSEP: promoting self-efficacy program

Fig. 1 Promoting self-efficacy program's study flow chart.

consisted of motivational lessons according to the information in the lesson plans. The content was concerned with adolescent pregnancy, the impacts of adolescent pregnancy and preventing subsequent pregnancies by taking oral contraceptives. This program was conducted by well structural nursing staff via computer media. The attended participant had opportunities for asking questions until they gained greater understanding in order to build confidence in taking oral contraceptives.

PSEP was applied again (2nd application) during postpartum period at approximately 48-72 hours before hospital discharge. The lessons content composed of the oral contraceptives in aspect of mechanisms, correct taking methods, forgotten oral contraceptives practice and sources of assistance. Knowledge gained was review to ensure that the study group understood the correct methods for taking oral contraceptives. The participants had opportunities to answer the common questions from nursing staff. The participants were further encouraged, praised and received the handbook, "All Mothers Need to Know about Oral contraceptives" for the mothers to review at home.

PSEP was applied again (3rd application) in the study group at 6 weeks postpartum during her postpartum checkup visit. Correct method of taking oral contraceptives and what to do in situation of forgotten taking contraceptives were reevaluated. The participants were contacted by the nursing staff via telephone in one week later. Weekly contact via telephone was later applied at approximately 5-10 minutes per call over a period of 4 weeks. The subjects were also praised by the nursing staff in order to promote self-confidence in taking oral contraceptives. Total spending time was approximately 30 minutes.

Finally, at 12 weeks postpartum, the study group was evaluated at the same manner as the control group (evaluation 2). All the study and control group were notified the completion of the study program and thanked for their cooperation and participation.

Data analysis

The data were analyzed with SPSS version 15. The significant level was set at 0.05. Descriptive statistic was used to describe the sample demographic characteristics. Chi-square, Fisher's exact test and independent t-test were used to determine the difference of sample. Independent t-test and multivariate analysis of variance were used to compare the differences mean score of oral contraceptive self-efficacy and oral contraceptive used behavior.

Results

Mode of the adolescent mothers in the study and control groups was 18 years of age at 53.4 and 56.7 percent, respectively. The majority of the adolescent mothers in both the study and control groups had junior high school educational attainments at 40.0 percent for both groups. The study and control groups were housewives at 56.7 and 60.0 percent, respectively. Both of the sample groups had mean incomes around 350 USD/month. All of the subjects reported income sufficiency at 100.0 percent. The family types of both study and control groups were similar with extended families at 56.7 and 50.0 percent, respectively. Remained demographic data were presented in Table 1. There were no statistical differences between two groups (p>0.5).

Mean pre-test scores for oral contraceptive self-efficacy of control and study groups were equal to 28.97 and 30.27, respectively. When statistical testing was performed the mean oral contraceptive self-efficacy were no different between the two groups (p>0.05).

At 12 weeks postpartum, OCSE and OCUB of study group was higher than control group with statistical difference (p<0.001) as shown in Table 2.

Multivariate analysis of variance (one-way MANOVA) was used to comparison of the differences in mean scores of OCSE and OCUB between the study and control groups at 12 weeks postpartum. Study group had higher scores of OCSE and OCUB than control group who received standard nursing care with statistical difference (p<0.001) as shown in Table 3.

Discussion

According to the findings at 12 weeks postpartum, the mean oral contraceptive self-efficacy scores in the study group were higher than the same scores in the control group, which might be explained in that perceived self-efficacy involves personal beliefs about a person's competence in performing an activity in order to achieve desired success. Bandura's self-efficacy theory (1997)⁽¹¹⁾ states that people can create or increase perceived self-efficacy when an issue occurs as a result of learning information obtained from various sources. In the present study, the activities were conducted with emphasis on promoting perceived self-efficacy from all four sources of support. The details of the activities can be discussed as follows:

1) Verbal persuasion, which involved verbal communication with the instructor who motivated the participants by instruction according to the lesson plans

Table 1. Demographic data of participants

	Study group $(n = 30)$	Control group $(n = 30)$	Test	<i>p</i> -value	
Age (years)	17.19±3.17	17.66±0.96	1.397**	0.900	
Education			0.559**	1.000	
Primary	1 (3.3)	2 (6.7)			
Secondary	19 (63.3)	18 (60.0)			
Undergraduate	10 (33.3)	10 (33.3)			
Occupation			0.468**	1.000	
Housewife	17 (56.7)	18 (60.0)			
Daily hire	11 (36.6)	11 (36.7)			
Merchant	2 (6.7)	1 (3.3)			
Income (baht/month)	6,733.33±1,964.04	6,381.67±2,013.17	0.685***	0.496	
Income sufficiency	30 (100)	30 (100)			
Family type			0.268*	0.605	
Single	13 (43.3)	15 (50.0)			
Extended	17 (56.7)	15 (50.0)			
Family planning			0.082*	0.774	
Yes	9 (30.0)	8 (26.7)			
No	21 (70.0)	22 (73.3)			
Family planning experience			3.213**	0.715	
Yes	24 (80.0)	27 (90.0)			
Coitus interruptus	2 (8.4)	2 (7.4)			
Safe period	1 (4.2)	1 (3.7)			
Condom	4 (16.6)	3 (11.1)			
Emergency	5 (20.8)	3 (11.1)			
COC	12 (50.0)	18 (66.7)			
No	6 (20.0)	3 (10.0)			
Lack of knowledge	30 (100)	30 (100)			

COC = combined oral contraceptive pills

Test: Statistical value, Emergency: Postcoital oral contraceptive pills

Table 2. Comparison between oral contraceptive self-efficacy and oral contraceptive used behavior at 12 weeks postpartum by independent t-test

	Study group (n = 30)	Control group (n = 30)	t-test	<i>p</i> -value
OCSE*	44.43±3.298	32.40±3.212	14.317	< 0.001
OCUB*	37.83±1.234	26.43±5.283	11.509	< 0.001

OCSE = oral contraceptive self efficacy; OCUB = oral contraceptive used behavior

Table 3. Comparison of mean scores different between oral contraceptive self-efficacy and oral contraceptive used behavior at 12 weeks postpartum by one-way MANOVA

Sources	Dependent variables	SS	df	MS	F	<i>p</i> -value
Group	OCSE	2,172.017	1	2,172.017	204.985	< 0.001
	OCUB	1,949.400	1	1,949.400	132.467	< 0.001

 $OCSE = oral \ contraceptive \ self \ efficacy; \ OCUB = oral \ contraceptive \ used \ behavior; \ SS = sum \ of \ squares; \ df = degree \ of \ freedom; \ MS = mean \ square; \ F = F-test$

^{*} Chi-square test, ** Fisher's exact test, *** Independent t-test

^{*} Mean ± standard deviation

with content on adolescent pregnancy, the impacts of adolescent pregnancy and preventing subsequent pregnancies by taking oral contraceptives. According to the findings, the contraceptive knowledge was interested and met the needs of adolescent mothers. It promoted good knowledge(17) to ensure that adolescent mothers in study group had knowledge and understanding to enhance their existing knowledge through these lessons. Group teaching style that involved learning through interactions between the instructor and client groups of two persons and more was used in the present study. The subjects also learned from client to client interactions. The advantage of teaching in groups is that it allows for idea exchanges and behavior modification among the group members. Verbal persuasion from someone who is accepted in providing knowledge and instruction about situations confronted by the group and recommended practiced for coping with the aforementioned situations involves telling the group members they can succeed. The group members will assess by cognitive processes that the practice is not beyond their ability. Then they will know they are able to develop perceived selfefficacy.

Model or vicarious experience through an actual model arranged by the author. The adolescent mothers in study group were given an opportunity to view the 21 and 28 tablet contraceptives commonly sold in pharmacies. The group instructor demonstrated the correct method for taking the oral contraceptives to reduce problems with trial and error and to avoid misunderstandings about practice. Watching an observable model and having direct interactions taught the adolescent mothers in the present study group by the process of intentional observation, memory, action and persuasion⁽¹¹⁾. As a result, the adolescent mothers in study group gained perceived self-efficacy. During the lessons, the instructor had the adolescent mothers learn by watching a model via computer media in line with the lesson plan on oral contraceptives. The content was composed of the contraceptive mechanisms, correct taking methods and advantages of contraceptive method. Forgotten birth control pill procedure and on call help person were also included in the class talking. The lessons were accompanied by attractive, colorful images and easily comprehended statements leading to practice.

In addition, the handbook, "All Mothers Need to Know about Oral contraceptives" was distributed to the adolescent mothers in the study group to take home and reviews to enhance understanding and recall with

ability to practice correct birth control pill adherence. Because the teaching media was a handbook and documents served as triggers to sustainable learning. Taking the handbooks home to read enabled the adolescent mothers in the study group to learn and enhance recall. At the same time, if the subjects read and reviewed the content in the handbooks many times, they would relearn the lessons, which would help, improve their memories. As a result, the adolescent mothers in study group were confident with perceived self-efficacy in taking oral contraceptives by the right methods.

3) Enactive mastery experience: activities for practicing oral contraceptive adherence skills were arranged together with creating role-playing situations. Correct methods and forgotten procedure of taking oral contraceptives were the major lesson. Adolescent mothers in study group were trained for more practicing skill to enhance self-efficacy. If the client had experienced repeated successes, perceived self-efficacy was increased.

4) Physiological and affective states: mannerisms and responses adolescents were observed in order to assess physical and emotional status. Private setting of classroom was essential for minimizing disturbances from outside environment. Self-efficacy was affected by emotional status. Anxiety, stress and fear had negative result in self-efficacy.

Verbal persuasion, physiological and affective states, enactive mastery experience and model or vicarious experience were essential to development of the perceived self-efficacy. The study of Tongphuak in 2004⁽¹⁴⁾ found the more levels of perceived self-efficacy, the better role adjustments of motherhood. The result of the present study was similar to Tongphuak work.

The adolescent mothers in the study group showed better oral contraceptive usage behavior than those in the control group. The aforementioned findings can be explained in that the postpartum adolescent mothers in study group who received promoting self-efficacy program were in the group where self-efficacy was promoted. Perceived self-efficacy determines the expression of behaviors influencing the decisions of persons in terms of perceived self-efficacy. Bandura mentioned that persons will then cope and proceed with behaviors toward successful achievement of set goals⁽¹¹⁾. Perceived self-efficacy is a predicting factor of behavior modification in persons together with the continuity of the behavior⁽¹⁴⁾. If individuals perceive that they are capable of performing certain behaviors,

the perception will lead to behavior modification through the development of self-efficacy from all 4 support sources. Adolescent mothers in study group were perceived self-efficacy and better expression of abilities for correct oral contraceptive usage behavior. Mungkamanee work in 2004⁽¹³⁾ paid attention to effect of self-efficacy promotion of self-care program and one follow-up phone call with evaluation at 6 weeks postpartum. Health promoting behaviors of the primiparous adolescent mothers were higher than previous status after receiving the self-efficacy promotion from self-care program.

Conclusion

Adolescent mothers are at a high risk of unintended pregnancy due to inconsistent use of oral contraceptives should integrate this program of promoting self-efficacy regarding oral contraceptive behavior with routine nursing care in order to encourage adolescent mothers to engage in the use of oral contraceptives correctly and to use contraception continually.

What is already known on this topic?

Adolescent pregnancy is a health state putting both mothers and infants at risk due to poor physical, emotional and social readiness with complications such as pregnancy-induced hypertension, anemia and premature births⁽⁴⁾. Oral contraceptives pills were the most popular method for adolescent pregnancy prevention. Inconsistency, deficient knowledge and in- correct oral contraceptive pill usage are the major problems of high repeated adolescent pregnancy rates^(8,9).

Education on the correct use of oral contraceptives alone is insufficient to ensure that postpartum adolescent mothers have correct oral contraceptive usage behavior. Knowledge alone cannot bring about health behavior modification⁽¹⁰⁾. The factor that links knowledge and action is self-efficacy⁽¹¹⁾. Self-efficacy is a variable that influences health behavior.

What this study add?

Studies should be conducted on the effects of promoting self-efficacy programs on contraceptive use in adolescent mothers by other birth control.

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Potential conflicts of interest

None.

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ผลของโปรแกรมส่งเสริมสมรรถนะแห่งตนต่อพฤติกรรมการรับประทานยาเม็ดคุมกำเนิดในมารดาวัยรุ่น

รัญญารัตน์ จิวสิทธิประไพ, มยุรี นิรัตธราดร, คมสันติ์ สุวรรณฤกษ์

วัตถุประสงค์: เพื่อศึกษาผลของโปรแกรมส่งเสริมสมรรถนะแห่งตนต่อพฤติกรรมการรับประทานยาเม็ดคุมกำเนิดชนิดฮอร์โมนรวม ในมารดาวัยรุ่น

วัสดุและวิธีการ: การศึกษาครั้งนี้เป็นการศึกษากึ่งทดลอง เพื่อศึกษาผลของโปรแกรมส่งเสริมสมรรถนะแห่งตนต่อพฤติกรรมการ รับประทานยาเม็ดคุมกำเนิดชนิดฮอร์โมนรวมในมารดาวัยรุ่นครรภ์แรก เป็นการศึกษาแบบวัดก่อนและหลังโดยมีกลุ่มเปรียบเทียบ กลุ่มตัวอย่างเป็นมารดาวัยรุ่นครรภ์แรกอายุ 15 ถึง 19 ปี ที่มารับบริการฝากครรภ์ คลอดบุตร และมารับบริการตรวจภายหลังคลอด บุตร 6 สัปดาห์ ที่โรงพยาบาลธรรมศาสตร์เฉลิมพระเกียรติ ตั้งแต่เดือนธันวาคม พ.ศ. 2556 ถึง มีนาคม พ.ศ. 2557

ผลการศึกษา: กลุ่มตัวอย่างจำนวน 60 ราย คัดเลือกกลุ่มตัวอย่างตามเกณฑ์การคัดเลือกที่กำหนดแบ่งเป็นกลุ่มศึกษา 30 ราย และ กลุ่มควบคุม 30 ราย โดยกลุ่มศึกษาจะได้รับโปรแกรมส่งเสริมสมรรถนะแห่งตนร่วมกับการพยาบาลตามมาตรฐานและกลุ่มควบคุม เป็นกลุ่มที่ได้รับการพยาบาลตามมาตรฐาน เก็บรวบรวมข้อมูลโดยใช้แบบบันทึกข้อมูลส่วนบุคคล แบบประเมินการรับรู้สมรรถนะ แห่งตนในการรับประทานยาเม็ดคุมกำเนิด แบบประเมินพฤติกรรมการรับประทานยาเม็ดคุมกำเนิด ข้อมูลทั่วไปของกลุ่มศึกษาและ กลุ่มควบคุมพบว่าทั้งสองกลุ่มแตกต่างกันอย่างไม่มีนัยสำคัญทางสถิติ ผลการศึกษาพบว่ามารดาวัยรุ่นกลุ่มศึกษามีคะแนนเฉลี่ย การรับรู้สมรรถนะแห่งตน และพฤติกรรมการรับประทานยาเม็ดคุมกำเนิดชนิดฮอร์โมนรวมในระยะ 12 สัปดาห์ หลังคลอดสูงกว่า กลุ่มควบคุมอย่างมีนัยสำคัญทางสถิติ

สรุป: มารดาวัยรุ่นถือว่าเป็นกลุ่มเสี่ยงต่อการตั้งครรภ์ซ้ำที่เกิดจากความไม่ตั้งใจ เนื่องมาจากความไม่สม่ำเสมอในการรับประทาน ยาเม็ดคุมกำเนิด ควรมีการนำโปรแกรมส่งเสริมสมรรถนะแห่งตนต่อพฤติกรรมการรับประทานยาเม็ดคุมกำเนิดนี้ไปใช้ร่วมกับ การพยาบาลตามปกติ เพื่อส่งเสริมให้มารดาวัยรุ่นมีพฤติกรรมการรับประทานยาเม็ดคุมกำเนิดได้อย่างถูกต้องและมีพฤติกรรม การคุมกำเนิดอย่างต่อเนื่อง