

# Effects of the Education and Family Support Program on Women with Maternity Blues

นิพนธ์ฉบับ

Original Article

วารภรณ์ ปฏิสันท์<sup>1</sup>, วรณทนา ศุภสิมานนท์<sup>1\*</sup> และ สุพิศ ศิริอรุณรัตน์<sup>2</sup>

<sup>1</sup> สาขาพยาบาลมารดา-ทารก และการผดุงครรภ์

<sup>2</sup> นิสิตหลักสูตรพยาบาลศาสตรมหาบัณฑิต

<sup>1-2</sup> คณะพยาบาลศาสตร์ มหาวิทยาลัยบูรพา จ. ชลบุรี 20131

\* ติดต่อผู้พิมพ์: suppasee@gmail.com

วารสารไทยเภสัชศาสตร์และวิทยาการสุขภาพ 2560;12(2):68-74.

Waraporn Patisang<sup>1</sup>, Wantana Suppseemanont<sup>1\*</sup> and Supit Siriarunrat<sup>2</sup>

<sup>1</sup> Maternal-Newborn Nursing and Midwifery Division

<sup>2</sup> Master of Nursing Science candidate

<sup>1-2</sup> Faculty of Nursing, Burapha University, Chonburi 20131, Thailand

\* Corresponding author: suppasee@gmail.com

Thai Pharmaceutical and Health Science Journal 2017;12(2):68-74.

## บทคัดย่อ

**วัตถุประสงค์:** เพื่อประเมินผลของโปรแกรมการให้ความรู้และการสนับสนุนของครอบครัวต่ออารมณ์เศร้าในมารดาหลังคลอด **วิธีการการศึกษา:** เป็นการวิจัยกึ่งทดลองแบบสองกลุ่มวัดก่อนและหลังการทดลอง กลุ่มตัวอย่างเป็นมารดามีอารมณ์เศร้าหลังคลอดที่พักฟื้นหลังคลอดที่หอผู้ป่วยสูตินรีเวชกรรม โรงพยาบาลสมเด็จพระนางเจ้าสิริกิติ์ จังหวัดชลบุรี เลือกกลุ่มตัวอย่างแบบสะดวกจำนวน 60 ราย โดย 30 รายแรกเป็นกลุ่มควบคุมและ 30 รายหลังเป็นกลุ่มทดลอง กลุ่มควบคุมได้รับการพยาบาลตามปกติ กลุ่มทดลองได้รับการพยาบาลตามปกติและโปรแกรมบริการดังกล่าว เครื่องมือรวบรวมข้อมูลเป็นแบบสอบถามเกี่ยวกับข้อมูลส่วนบุคคลและอารมณ์เศร้าหลังคลอดของ Kennerley แบบสอบถามอารมณ์เศร้ามีค่าสัมประสิทธิ์แอลฟาของครอนบาคเท่ากับ 0.85 วิเคราะห์ข้อมูลด้วยการแจกแจงความถี่พร้อมร้อยละ ค่าพิสัย และค่าเฉลี่ยพร้อมส่วนเบี่ยงเบนมาตรฐาน ทดสอบความแตกต่างระหว่างกลุ่มโดยใช้ *t*-test สำหรับคะแนนอารมณ์เศร้า และ chi-square test สำหรับการมีอารมณ์เศร้า ทดสอบความแตกต่างก่อนและหลังทดลองภายในกลุ่มด้วย paired *t*-test **ผลการศึกษา:** กลุ่มทดลองมีค่าเฉลี่ยอารมณ์เศร้าหลังคลอดที่หลังทดลองน้อยกว่าก่อนทดลอง ( $t_{29} = -5.87, P < 0.001$ ) ที่หลังทดลองกลุ่มทดลองมีค่าเฉลี่ยของความแตกต่างของคะแนนอารมณ์เศร้าก่อนและหลังทดลองมากกว่ากลุ่มควบคุม ( $t_{58} = -2.57, P < 0.01$ ) โดยกลุ่มทดลองมีคะแนนเฉลี่ยอารมณ์เศร้าหลังคลอดลดลง 15.23 คะแนน (SD = 14.22) ในขณะที่กลุ่มควบคุมลดลง 6.50 คะแนน (SD = 11.97) และหลังทดลองกลุ่มทดลองมีสัดส่วนของผู้มีอารมณ์เศร้าหลังคลอด (30.0%) น้อยกว่ากลุ่มควบคุม (56.7%) อย่างมีนัยสำคัญทางสถิติ ( $\chi^2 = -4.34, df = 1, P = 0.02$ ) **สรุป:** โปรแกรมการให้ความรู้และการสนับสนุนของครอบครัวช่วยลดอารมณ์เศร้าในมารดาหลังคลอดได้พยาบาลที่ดูแลมารดาควรคัดกรองหาอารมณ์เศร้าในมารดาทั้งในระยะตั้งครรภ์และระยะหลังคลอด

**คำสำคัญ:** โปรแกรมการให้ความรู้และการสนับสนุนของครอบครัว, อารมณ์เศร้าหลังคลอด, มารดาหลังคลอด

## Abstract

**Objective:** To assess the effects of the education and family support program on postpartum women with blues. **Methods:** In this quasi-experimental study, the pre-test and post-test of maternity blues in the experimental and control groups were performed. Participants selected by convenience sampling were 60 postpartum women with blues who stayed on the obstetrics-gynecology ward of Queen Sirikit Hospital, Chonburi Province. The first 30 cases were allocated to a control group and the rest to an experimental group. In addition to the routine nursing care provided for both groups, participants in the experimental group also received the program service. The participants' demographic information and Kennerley's Blues scores were collected using the questionnaires. The Blues questionnaire had a Cronbach's alpha coefficient of 0.85. Data were analyzed and presented as frequencies with percentages, ranges, and means with standard deviations. The mean blues scores between groups were tested by a *t*-test, and having the blues symptom by a chi-square test. The within-group changes of mean blues scores were tested by a paired *t*-test. **Results:** In the experimental group, the post-test maternity blues mean score was significantly lower than the pre-test score ( $t_{29} = -5.87, P < 0.001$ ). After the experiment, the decrease in the mean difference of post-test and pre-test blues scores of the experimental group ( $15.23 \pm 14.22$ ) was significantly more than the decrease of  $6.50 \pm 11.97$  in the control ( $t_{58} = -2.57, P < 0.01$ ). The experimental group had a lower proportion of women with postpartum blues than the control (30.0% vs. 56.7%;  $\chi^2 = -4.34, df = 1, P = 0.02$ ). **Conclusion:** The education and family support program could decrease blues in postpartum mothers. Nurses responsible for caring mothers should screen for blues in women during pregnancy and postpartum.

**Keywords:** Education and family support program, maternity blues, postpartum women

## Introduction

Postpartum, maternity, or baby blues usually occurs within 24 - 72 hours after delivery.<sup>1</sup> Blues is normally attributable to physiological and psychological changes during postpartum. It can return to normal within a week. This problem has been usually unrecognized. Thus, postpartum mothers are not routinely screened for maternity blues. As a consequence, they do not receive attention and appropriate care. Their blues

symptoms might aggravate to postpartum depression or psychosis that could seriously endanger their own and their family's health which needs to be cured urgently.<sup>2</sup> A previous study reported that there were maternity blues cases up to two-thirds of all postpartum women.<sup>3</sup> One-fifth of postpartum depression cases persisted within one year after giving birth.<sup>1</sup>

Postpartum blues adversely affect health of mothers, their family, and their child. Effects on mothers include insomnia, irritability, anger, and lack of interest in themselves and their environment. Regarding effects on family, women with maternity blues are not interested in keeping relationship with others such as spouse. As a result, their marital relation could be broken.<sup>4,5</sup> In terms of negative effects on the offspring, these women have less interaction and poor attachment with their child which could further contribute to their child's delayed physical, psychological, and social developments.<sup>6,7</sup>

Incidences of maternity blues vary depending on regions and postpartum stages. Regarding regions, in developed countries such as USA, UK, Australia, Germany, and Hong Kong, incidences of postpartum blues are as high as 40 – 65%.<sup>8</sup> While in developing countries, such as Iran and Nigeria, rates of postpartum blues are 22.3 - 31.3%.<sup>9</sup> Differences in blues incidence in various regions might depend on differences in cultures, societies, daily living patterns, and awareness of, recognition on, and screening for maternity blues. Regarding postpartum stages, incidences of postpartum blues right after giving birth, and at day 2, day 3 - 4, and day 5 - 6 are 80%, 62%, 25%, and 13%, respectively.<sup>8,9</sup> Although, there has been is no study of maternity blues incidence in Thailand, researchers reported that in the first 48 hours after delivery, 38.2% of postpartum women had mental health problems such as stress, anxiety, or mood change.<sup>10</sup> In addition, a study at Queen Sirikit Hospital in the year 2010 reported that 32.5% of women had depression during the period of 4 – 6 weeks post-delivery.<sup>11</sup>

In Thailand, program for alleviating maternity blues has never been developed and its effectiveness has never been investigated. With a concern about the need to help these women, we thus initiated and evaluated the educational family support program to relieve maternity blues in postpartum women at Queen Sirikit Hospital, Chonburi. Research hypotheses included 1) experimental group had the maternity blues post-test mean score less than pre-test mean score, 2) experimental group had the maternity blues post-test mean score less than that of control group, and 3) experimental group had the proportion of post-test maternity blues less than that of control group.

Providing postpartum women and their family the self-care knowledge and promoting social support to these women could help alleviate women's mood disorders. Postpartum mothers receiving postpartum self-care education program

had less blues<sup>12</sup> and depression.<sup>13</sup> Giving family members the education of taking care of postpartum mothers resulted in enhancing health of the mother.<sup>14,15</sup> Moreover, mothers with support from family had less blues<sup>16</sup> and depression.<sup>2</sup> As a result, the framework of this present study was based on blues education concept of Beck and Drischoll<sup>12</sup> and social support concept of Schaefer, Coyne, and Lazarus's.<sup>17</sup> The intervention program in this study provided three kinds of education. First, the women were taught to recognize their physiological and psychological changes during postpartum. Second, they were also advised to take care of their nutrition, rest, physical activity, exercise, and emotion. Third, family members or significant others were also instructed to provide postpartum women with tangible, informational, and emotional support. Education was provided at the hospital and home via telephone call by the researcher. Family support was also provided both at the hospital and home. Family tangible support included providing financial support and helping with household chores, so postpartum mothers could have healthy diet and have enough rest. Family informational support meant that family members gave advice regarding nutrition, rest, physical activity, exercise, and emotion in order to restore women's health. Family emotional support was referred to various positive affects including loving, understanding, paying attention, and strengthening emotion.

## Materials and Methods

This research was a quasi-experimental study since we had test and control groups with no randomization. We tested the association between maternity blues score as dependent variable with the intervention which was the educational family support program against the usual care among postpartum women.

### Participants and study group allocation

Participants of this study were postpartum women with blues admitted to the postpartum recovery unit of the obstetrics-gynecology ward, Queen Sirikit Hospital, Chonburi from February to April 2017. They were screened for blues within 24 - 48 hours postpartum using Kennerley's Blues Questionnaire with a total score of 7 points or more indicating the symptoms.<sup>18</sup> Inclusion criteria consisted of 1) having at least 18 years of age, 2) having vaginal delivery, 3) giving birth to a healthy newborn, and 4) being able to communicate

in Thai. The number of participants, or sample size, was based on the central limit theorem indicating that each group should have at least 30 cases to achieve a theoretically normal data distribution.<sup>19</sup> Thus, experimental and control groups each had 30 cases of postpartum women. These participants were selected by convenience sampling. The first 30 cases were allocated to control group; the latter 30 cases to experimental group.

### Research instruments

Instruments of this research were comprised of the intervention and measurement tools. In terms of the intervention, the experimental group was given the education and family support program. It was a set of activities given to the postpartum mother and her family significant other. Activities associated with education were provided both at hospital and home (via phone). The educational contents were related to 1) cause of maternity blues and its effects, and 2) care for postpartum women with blues regarding nutrition, rest, physical activity, exercise, and emotion. This program was examined and approved for its validity by a five-expert panel including two nurses specialized in mental health and psychiatric nursing, and three nurses specialized in obstetric nursing. The detail of the experimental procedure was provided in the following Experimental Procedures section.

For the measurement tool, data were collected by self-reported questionnaires asking for demographic information and maternity blues symptoms. Demographic information questionnaire was developed by the researchers. It took about 5 minutes to complete. Maternity blues was measured by Kennerley's Blues Questionnaire<sup>18</sup> which was back-translated into Thai by Phuangprasonka<sup>20</sup> and slightly modified by the researchers. This scale contained 2 parts of 28 items asking mothers about current feelings related to seven groups of symptoms or feelings such as primary blues, reservation, hypersensitivity, depression, despondency, retardation, and decreased self-confidence. Part 1 asked the mothers whether they had such feelings (yes/no answer) with a total score of 28. The existence of postpartum blues was identified with a score of 7 or more. On each of the 28 items, if the mother answered yes, they were asked to rate the intensity of such symptoms or feelings using a 5-point Likert-type rating scale ranging from 1-less than usual to 5-much more than usual. With a possible total of 140, higher score indicates a higher level of blues symptoms. Part 2 had an acceptable internal

consistency reliability with a Cronbach's alpha value of 0.85. This blues questionnaire took about 10 minutes to complete.

### Human Subject Protections

This research project was approved by the Institutional Review Board of Burapha University (IRB No. 02-09-2559; approval date: October 11, 2016) and Queen Sirikit Hospital (IRB No. COA-NMD-REC007/60; approval date: February 10, 2017). Participant mothers were informed about purpose, benefit, and detail of the research by written and verbal explanation. Their participation in this study was voluntary and they had the right to withdraw from the study at any time. Choices of their volunteer would not affect any service they received. For those voluntarily participated in the study, they were asked to sign the consent form. If any participant mothers had obvious symptoms of severe blues, either before, during, or after the study, the researchers would inform those mothers and their relatives and refer the mothers to responsible physicians especially psychiatrists. Anonymity and confidentiality of the participants were assured and no personal information was disclosed to any other persons. All data were stored in a secure place and only utilized for the purpose of the study. The results were reported as group, not individual participant data.

### Experimental procedures

The experimental procedures were conducted after the research proposal was approved by the Ethical Approval Committee of Burapha University and Queen Sirikit Hospital. Postpartum mothers eligible for the study were asked to complete demographic questionnaire and Kennerley's Blues Questionnaire for the pre-test blues symptoms. Those in control group were given routine care such as general postpartum self-care education and perineum wound checkup appointment at one week after baby delivery. On the day of wound checkup appointment (day 7 post-delivery), they were asked to report the post-test blues questionnaire using Kennerley's Blues Questionnaire.

The experimental group received both routine care and the education and family support program. Before discharge from the hospital, the researchers educated the participant and her family significant other for 50 minutes. The education consisted of providing information and booklet with the content relating to postpartum change, postpartum blues and its effects, and maternal and family roles in caring of postpartum

women with blues. During the education session, the researcher (S. Siriarunrat) encouraged mothers and their family to release their feelings, so that the researcher could reflect on the issue. The researcher also encouraged them to discuss about their concerns and ask questions, if any. The researcher made an appointment with the family for a 10-minute home follow-up via telephone. If necessary, the researcher encouraged the family to help the participant mothers in daily-life activities. After hospital discharge, at day 4 postpartum, the researcher telephoned the family to ask about the mother's condition and how the family helped the mother. Furthermore, the researcher encouraged the family to disclose their concerns, if any, so that the researcher could reflect on the issue and give them advice. On the day of wound checkup appointment (day 7 post-delivery), participants in the experimental group completed the post-test blues questionnaire.

### Data analysis

The results were presented by descriptive statistics including frequency with percentage, range, and mean with

standard deviation. Differences in interval or ratio scale variables were compared by *t*-test or Mann-Whitney U test, while differences in categorical variables were tested by chi-square test or Fisher's exact test, as appropriate. In each group, change of blues symptom scores within group was tested by paired *t*-test or Wilcoxon signed rank test, as appropriate. Differences in blues symptom levels between groups at post-test was tested by ANCOVA to adjust for pre-test score. Statistical significance for all tests was set at a type-I error of 5% or  $P < 0.05$ . Two-sided significance test was used for comparing differences of demographic data between the two groups, while one-sided test was used for comparing blues symptoms as guided by previous research on this topic.<sup>12,16</sup> All statistical analyses were performed using an open-source PSPP statistical software program available at <https://www.gnu.org/software/pspp/>.

## Results

Participant postpartum mothers in the experimental and control groups were not significantly different in any aspects of their demographic status (Table 1).

**Table 1** Demographic data of participants (N = 60).

Demographics	Experimental group (n = 30)		Control group (n = 30)		Test statistics	P-value (2-sided)
	Number	%	Number	%		
<b>Participants</b>						
Age (years), (range)	18 – 39		20 – 36		-0.47 <sup>†</sup>	0.64
mean ± SD	27.87 ± 4.66		28.40 ± 4.07			
Education (years), (range)	6 - 16		6 - 16		1.59 <sup>†</sup>	0.12
mean ± SD	13.47 ± 2.61		12.30 ± 3.06			
Family monthly income (Baht), (range)	9,000 – 60,000		15,000 – 80,000		-1.06 <sup>†</sup>	0.29
mean ± SD	27,833.33 ± 12,903.04		31,700.00 ± 15,288.38			
Marital status					1.09 <sup>#</sup>	0.30
- Married	15	50.00	11	36.67		
- Co-habitat	15	50.00	19	63.33		
Family type					0.27 <sup>#</sup>	0.60
- Nuclear	12	40.00	14	46.67		
- Extended	18	60.00	16	53.33		
<b>Significant others</b>						
Family role					1.49 <sup>#</sup>	0.22
- Husband	21	70.00	25	83.33		
- Mother or mother in law	9	30.00	5	16.67		
Age (years), (range)	24 – 70		22 – 58		1.68 <sup>†</sup>	0.10
mean ± SD	39.43 ± 13.12		34.50 ± 9.29			
Education (years), (range)	4 – 16		6 – 16		-4.27 <sup>‡</sup>	< 0.001
mean ± SD	9.20 ± 3.95		13.60 ± 2.49			
Having partner					*	0.24
- Yes	27	90.00	30	100.00		
- No	3	10.00	0	0.00		
Financial status					5.94 <sup>#</sup>	0.05
- Having savings	10	33.33	6	20.00		
- Having no saving, with no debt	6	20.00	15	50.00		
- Having debt	14	46.67	9	30.00		

<sup>†</sup> independent *t*-test; <sup>‡</sup> Mann-Whitney U test; <sup>#</sup> chi-square test; <sup>\*</sup> Fisher's exact test (test value not reported).

Mothers in experimental group had an average age (27.87 years) that was slightly lower than that in control group (28.40 years). Compared with control group, experimental group had a slightly higher average number of years of education (12.30 and 13.47 years, respectively), a lower average family monthly income (31,700.00 and 27,833.33, respectively), a lower proportion of the postpartum woman living with their husband (63.33% and 50.00%, respectively), and a lower proportion of those living with extended family (60.00% and 53.33%, respectively). Regarding the women's family members or significant others, their family role, age, marital status and economic status between the two groups were not significantly different. Nevertheless, family significant others of the mothers in experimental group had significantly fewer years of education than those in control group ( $P$ -value < 0.001) (Table 1).

### Changes of blues symptom scores within groups

Blues mean scores at pre- and post-test within each group as measured by Kennerly's Blues Questionnaire Part 2 were tested by paired  $t$ -test. It was found that the mean score at post-test was lower than that at pre-test significantly both in experimental group ( $P$ -value < 0.001) and control group ( $P$ -value < 0.01) as depicted in Table 2.

**Table 2** Comparisons of pre-test and post-test blues mean scores within group by paired  $t$ -test (N = 60).

Group	Mean	SD <sub>d</sub>	M <sub>d</sub>	SD <sub>d</sub>	t	df	P-value (1-sided)	95% CI	
								LL	UL
<b>Experimental group (n = 30)</b>									
Pre-test	39.23	13.25	-15.23	14.22	-5.87	29	< 0.001	-20.55	-9.92
Post-test	24.00	10.44							
<b>Control group (n = 30)</b>									
Pre-test	41.87	12.45	-6.50	11.97	-2.97	29	< 0.01	-10.97	-2.03
Post-test	35.37	17.80							

Note: M<sub>d</sub> = mean of difference scores between pre-test and post-test within group, SD<sub>d</sub> = standard deviation of difference scores, df = degree of freedom, CI = confidence interval, LL = lower limit, UL = upper limit.

### Differences in blues symptom levels between groups

Mean scores of blues symptoms and proportions of mother with definite blues symptoms between the two groups were compared. In terms of blues mean scores (Kennerly's Blues Questionnaire Part 2), it was found that pre-test blues mean score of experimental group was not significantly different from that of control group ( $t_{58} = 0.79$ ,  $P$ -value = 0.43). With such non-significant result, independent  $t$ -test and ANCOVA adjusting for pre-test blues mean scores were

performed. To gain more statistical power, ANCOVA was preferred to independent  $t$ -test. This is because ANCOVA took pre-test blues mean scores of the two groups into account even though these baseline values were not significantly different. Unfortunately the assumptions of ANCOVA were not met. As a result, independent  $t$ -test was performed. However, to take the pre-test blues mean scores into account, mean difference of post-test and pre-test blues scores between the two groups was tested for statistical significance. It was found that at post-test the mean blues score of experimental group decreased by 15.23 points (SD = 14.22) from pre-test, which was higher than the decrease in control group (6.50 points, SD = 11.97) with statistical significance ( $t_{58} = -2.57$ ,  $P$ -value < 0.01) (Table 3).

**Table 3** The Comparison of post-test/pre-test blues difference mean scores between the two groups by independent  $t$ -test (N = 60).

Group	M <sub>d</sub>	SD <sub>d</sub>	Mean difference	t	df	P-value (1-sided)	95% CI	
							LL	UL
Experimental group (n = 30)	-15.23	14.22	-8.73	-2.57	58	< 0.01	-15.53	-1.94
Control group (n = 30)	-6.50	11.97						

Note: M<sub>d</sub> = mean of difference scores between pre-test and post-test within group, SD<sub>d</sub> = standard deviation of difference scores, df = degree of freedom, CI = confidence interval, LL = lower limit, UL = upper limit.

Based on the total score of Kennerly's Blues Questionnaire Part 1, all participants had maternity blues at pre-test as it was one of the study inclusion criteria. However, after experiment, proportion of mothers with blues in experimental group (56.70%) was higher than that in control group (30.0%) with statistical significance ( $\chi^2 = -4.34$ , df = 1,  $P$ -value = 0.02) (Table 4).

**Table 4** Comparisons of proportion of mothers with blues after experiment between the two groups by chi-square test (N = 60).

	Experimental group (n = 30)		Control group (n = 30)		$\chi^2$	df	P-value (1-sided)
	N	%	N	%			
<b>Before experiment</b>							
- Mothers with blues	30	100.00	30	100.00			
<b>After experiment</b>							
- Mothers with blues	9	30.00	17	56.70	-4.34	1	0.02
- Mothers without blues	21	70.00	13	43.30			

Note: M<sub>d</sub> = mean of difference scores between pre-test and post-test within group, SD<sub>d</sub> = standard deviation of difference scores, df = degree of freedom, CI = confidence interval, LL = lower limit, UL = upper limit.

## Discussions and Conclusion

In this experimental study, we tested the effects of the education and family support program to alleviate the postpartum blues symptoms compared with the usual care. Experimental group having lower blues mean score and proportion of women with blues than control group could be explained by various rationales. First, informing mothers and their family about the mother mental health condition, even though it was normal, could have helped raise their awareness. Information regarding cause and effect of maternal blues could also contribute to such benefit. Second, educating both the mothers and their family about caring for this maternal blues condition provided them guidance for taking care of women's health.<sup>14-16</sup> Third, allowing the mothers to ventilate their feelings and reflecting their feelings by the researchers helped them gain an insight on their condition.

Fourth, tangible information and emotional support from family could help promote high self-esteem among mothers which could lead to an ability to cope with any negative situations or feelings. Fifth, phone follow-up on day 4 post-delivery by the researcher allowed the family to reveal and relieve their frustration. In addition, families could share their new problems and ask for an advice to dealing with them. Encouragement by the researcher to the families helped them maintain their appropriate roles.<sup>15,21</sup> This program showed its effectiveness even though families in experimental group had significantly fewer years of education than those in control group.

This study had some limitations. With a convenience sampling and no random group allocation, the study was quasi-experimental in design. Certain level of bias could be introduced even though it was not systemically proved. A randomization in future research could help alleviate this bias and gain more credibility. Since some participants remained having blues symptoms at the end of the study, a longer study follow-up period could help test an intermediate, if not long-term, effect of the program. This study only tested the effectiveness of the program quantitatively. To understand more about those nine mothers in experimental group who were unable to restore their mental health within one week, qualitative study on what impede them to succeed is in need.

In conclusion, education and family support program could relieve blues in postpartum mothers. To care for mental health of mothers systematically, women should be screened for

blues since pregnancy to postpartum. Early detection would offer an effective intervention. The program should be appropriately modified and applied to individual mothers to help them relieve their blues and prevent the progression to depression. In addition, it should be considerably applicable since the program was seemingly effective regardless of the educational level of the women's family members.

## References

1. Mokhtaryan T, Ghodrati F, Akbarzadeh M. Letter to editors: The relationship between the level of religious attitudes and postpartum blues among pregnant women. *J Health Sci Surveillance Sys* 2016;4(2):103-104.
2. McCaskill D. Postpartum depression: Recognition, risks, and effects on the family. Alberta Home Visitation Network Association. 2012. (Accessed on Jul. 1, 2017, at [https://www.ahvna.org/tiny\\_uploads/forms/Postpartum%20Depression%20%20Recognition%20Risks%20and%20Effects%20on%20the%20Family.pdf](https://www.ahvna.org/tiny_uploads/forms/Postpartum%20Depression%20%20Recognition%20Risks%20and%20Effects%20on%20the%20Family.pdf))
3. Kariman N, Harimi S, Shiadeh MN, Shams J, Nasiri N. The relation between maternity blues and postpartum anxiety among Iranian pregnant women. *Biosci Biotechnol Res Asia* 2016;13(1):429-434.
4. Prechon K. Postpartum depression: Prevention and care. *Thai Red Cross Nurs J* 2016;9(2):24-35. (in Thai)
5. Letoumeau N, Stewart M, Dennis CL, Hegadoren K, Duffett-Leger L, Watson B. Effect of home-based peer support on maternal-infant interactions among woman with postpartum depression: a randomized controlled trial. *Int J Ment Health Nurs* 2011;20(5):345-357.
6. Tampusuwan C. Effects of a maternal care program on mothers of newborns admitted to an NICU on anxiety and maternal newborn attachment. Master's degree thesis. Bangkok. Mahidol University, 2012. (in Thai)
7. Lonstein JS. Regulation of anxiety during the postpartum period. *Front Neuroendocrinol* 2007;28(2-3):115-141.
8. Reck C, Stehle E, Reinig K, Mundt C. Maternity blues as a predictor of DSM-IV: Depression and anxiety disorders in the first three months postpartum. *J Affect Disord* 2009;113(2):77-87.
9. Gonidakis F, Rabavilas AD, Varsou E, Kreatsas G, Christodoulou GN. Maternity blues in Athens, Greece: A study during the first 3 days after delivery. *J Affect Disord* 2008;99(1-3):107-115.
10. Kongsuriyanavin W, Kunrattanaporn B, Techatraisak K. Factors affecting postpartum women's mental health. *Thai J Nurs Council* 2010;25(1):88-98. (in Thai)
11. Somhom K. Postpartum depression at Somdej Phranangchaosirikit Hospital, Chonburi. Master's degree thesis. Chonburi. Faculty of Nursing, Burapha University, 2010. (in Thai)
12. Beck CT, Driscoll JW. Postpartum mood and anxiety disorders: A clinician guide. Boston, MA. Jones and Bartlett, 2006.

13. Ho SM, Heh SS, Jevitt CM, Huang LH, Fu YY, Wang LL. Effectiveness of a discharge education program in reducing the severity of postnatal depression. *Patient Educ Couns* 2009;77(1):68-71. (doi:10.1016/j.pec.2009.01.009)
14. Seeharutpratoom J. The effect of family development task promotion program on family developmental task performance in early childbearing of adolescent family. Master's degree thesis. Chonburi. Faculty of Nursing, Burapha University, 2007. (in Thai)
15. Hattakitpanichakul K, Phahuwatanakorn P, Serisathien Y. Effects of teaching program with husband participation on maternal role adaptation in postpartum adolescent mothers. *Thai J Nurs Council* 2012;27(4):84-95. (in Thai)
16. Leenatham K. The effect of health education program and social support on stress on puerperium. Master's degree thesis. Bangkok. Srinakharinwirot University, 2013. (in Thai)
17. Schaefer C, Coyne JC, Lazarus RS. The health-related functions of social support. *J Behav Med* 1981;4(4):381-406.
18. Kennerly H, Gath D. Maternity blues I: Detection and measurement by questionnaire. *Br J Psychiat* 1989;155(3):356-362.
19. Norman GR, Streiner DL. Biostatistics: The bare essentials, 2<sup>nd</sup> ed. Hamilton, Canada. B.C. Decker, 2000.
20. Phuangprasonka R. Maternity blues and management strategies of Thai postpartum women. Ph.D. dissertation. Chonburi. Faculty of Nursing, Burapha University, 2016. (in Thai)
21. Thaithae S. Effects of empowerment program on the ability of self-care and care of infant of HIV-infected mothers during postpartum period. *J Public Health Nurs* 2011;25(3):49-63.

Editorial note  
*Manuscript received in original form on January 12, 2017;  
 accepted in final form on May 13, 2017*