

## EFFECT OF GROUP TEACHING PROJECTS ON WOMEN'S STRESS DURING POSTPARTUM HOSPITALIZATION

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In view of the trend toward early hospital discharge and an acute nursing shortage in Taiwan, the effectiveness of postpartum teaching in meeting a mother's immediate need for task performance should be evaluated. The purpose of this study was to identify and document the effectiveness of group teaching programs conducted as a collaborative effort by nursing teachers and student nurses during the practicum period. A quasi-experimental study was conducted with data collected from 230 women (control group was 119 women; experimental group was 111 women, including three subgroups: subgroup 1 received "maternal care" classes; subgroup 2 received "infant feeding" classes; and subgroup 3 received "newborn care" classes) at one medical center in southern Taiwan. The Postpartum Stress Inventory and a Social Support Scale were used to obtain postpartum stress and social support ratings for both groups. The t-test was used to compare the differences between groups of mean scores for postpartum stress and social support. Findings show that the mother-related stress of the experimental subgroup 1 was significantly less than in the control group, and the friend support in experimental subgroup 3 was significantly greater than in the control. Therefore, group teaching related to maternal care was found to be effective in lowering stress and classes related to newborn care resulted in increased friend support for the mother. More evidence concerning the effectiveness of such teaching in economic terms and in terms of human welfare is urgently needed.

**Key words:** Group Teaching, Stress, Postpartum Period

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The postpartum period is a stressful situation during which a woman needs to face changes in body image, unconscious internal conflicts, and the struggle for emotional restoration for the maternal role<sup>(1,2)</sup>. As tension from these sources peaks, a feeling of helplessness can take hold and make it impossible for the postpartum woman to function effectively in her new role as mother.

Nursing intervention is critical in helping mothers adjust to their new and stressful environment and in promoting their ability to nurture and care for their newborn infants. Since knowledge is essential for refining paren-

ting skills, postpartum teaching is a means to meet this need and, in addition, prepares women for a return to independence. Therefore, in view of the trend toward early hospital discharge and an acute nursing shortage in Taiwan, the effectiveness of postpartum teaching in meeting a mother's immediate need for task performance should be evaluated.

The value of patient teaching is supported by a body of literature<sup>(3-6)</sup>. Hall<sup>(7)</sup> investigated the effect of teaching on primiparas' perceptions of their newborns. Fifteen women in the experimental group who received structured, informative teaching concerning infant behavior showed a significantly positive change in perception. Golas and Parks<sup>(8)</sup> also found that mothers receiving a teaching intervention based on the Brazelton Neonatal Behavioral Assessment Scale had more knowledge about infant behavior than either the contrast or control mothers. In another study conducted by Thordarson and Costanzo<sup>(9)</sup>, it was found

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that mothers who attended the prenatal preparation program had a lesser incidence of prematurity, longer gestation periods, and heavier babies.

However, no consistent differences have been evident in educational outcomes between group and individual approaches<sup>(10,11)</sup>. In consideration of the time available and feasibility, group teaching is the best approach to facilitate adaptation to motherhood. The use of groups in postpartum teaching can offer mothers the opportunity to share and compare experiences with other women. Moreover, Social support facilitates coping with crises and adaptation to change<sup>(12-14)</sup>. Social support gained via the group could lessen the impact of the crisis of adjusting to having baby and any positive changes resulting from this would have a profound effect on the overall outcome of the mother-child relationship.

The postpartum mothers' concerns in the literature were relatively wide-ranging. A wide variety of topics are therefore considered appropriate within the context of postpartum teaching. Since the content of postpartum teaching is extensive, but the available time limited, several common areas of maternal concern emerged from a series of studies<sup>(1,15-20)</sup>. Although, there is no consensus as to which topics are most important during the immediate puerperium, two areas were emphasized: concerns related to the baby and concerns related to the mother herself<sup>(15,16)</sup>. The study conducted by Davis *et al.*<sup>(16)</sup> indicated that both maternal and infant teaching topics are of most concern to mothers for all age and parity groups during the early postpartum period. Therefore these two factors were used in an examination of maternal concerns which formed the basis of the questions related to the postnatal teaching programs at the hospital.

The combination of a short hospital stay and staff shortages poses a dilemma for nurses to conduct an effective postpartum teaching. A method of providing adequate nursing intervention for women needs to be sought out. Little research has been reported in this area. Thus a quasi-experimental study was undertaken and the information obtained is to be used by nurses to plan health promotion programs for postpartum women.

The questions addressed in this study were: what are the postpartum stressors perceived by

women during hospitalization? What are the top postpartum concerns for hospitalized women? Hypotheses were developed based on using two groups of postpartum women, one receiving group teaching (experimental group, which included three subgroups: subgroup ① received "maternal care" classes; subgroup ② received "infant feeding" classes; and subgroup ③ received "newborn care" classes) and the other receiving no group teaching (control group):

- I. The postpartum stress of the control group will be significantly greater than the postpartum stress of the experimental group.
- II. The social support of the experimental group will be significantly greater than the social support of the control group.

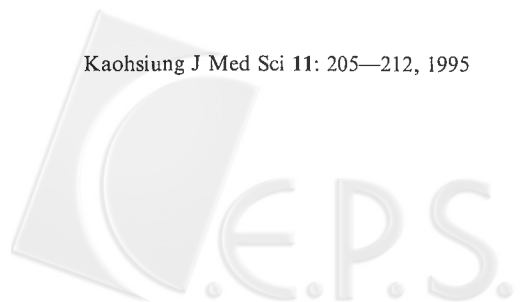
## METHODS

### Program

A comprehensive postpartum teaching program was devised for women following labor or delivery. The program addressed the areas of postnatal regimens, uterine involution, contraception, bathing, cord care, diapering, clothing, crying, feeding, burping, vomiting, elimination, handling, and carrying—all of which correlated with the two major concerns from the literature review and the Postpartum Stress Inventory. To decrease variability in routines and treatment of sample participants, only one hospital was used. A variety of teaching materials were used to improve understanding and to promote maternal skills. These included models, illustrations, and demonstrations to emphasize the important points of the major content areas. Special efforts were also made to include the family in the teaching sessions, and all teaching was done by a team of student nurses.

### Sample

The sample consisted of 230 mothers who met study criteria: i.e. they were married; had no chronic disease; had had an uncomplicated pregnancy and a full term delivery; and had not had complications of labor, delivery, or the postpartum period. In all, 119 women were in the control group and 111 women in the experimental group. For the experimental group, 35 women participated in class ①, 47



attended class ②, and 29 were in class ③. Characteristic differences of subjects between the control group and the three experimental groups are summarized in Table 1. All of these differences were not significant at the .05 level.

### Procedure

This study took place at a medical center in southern Taiwan. In the postpartum ward of the hospital, the junior student nurses in the baccalaureate program implemented a standard teaching project with specific goals and content revolving around maternal care (class 1), infant feeding (class 2), and newborn care (class 3). During the practicum period, sixteen teams, each comprising six or seven student nurses, were in charge of teaching two of the three classes, each lasting one day, as their group project. The content and goals were examined by four teachers specializing in maternal nursing one week before formal class presentation. Classes were open to every postpartum woman and each class topic lasted for 50 minutes. However, for the experimental group, only the women meeting the sample criteria were invited to fill in questionnaires after the class. Data were collected only after the first class. Even if a woman attended more classes, she was not asked to fill in any more questionnaires. For the control group, in order to avoid inadvertent transfer of information, every qualified postpartum woman was invited to fill in a questionnaire one week before the beginning of the experimental group's classes.

### Instruments

The Postpartum Stress Inventory is a 32-item, 4-point Likert scale and was utilized to elicit women's perceptions of postpartum stress. This inventory was devised by the authors according to a literature review, the authors' clinical experience, and two pretests involving 20 women each to measure women's perceptions of postpartum stress in the areas of maternal care, infant feeding, and newborn care. The split half reliability was .83 and Cronbach's alpha was .94. Values from 1 to 4 were assigned to each scale item with "never" having a value of 1 and "always" being valued at 4. Higher values coincide with higher stress perceptions. The range of scores on the Postpartum Stress Inventory was from a minimum of

32 to a maximum of 128. The other questionnaire is the Social Support Scale which is a 10-item, 5-point Likert scale and includes the Family APGAR and the Friend APGAR. Items were scored using a 1 (not at all) to 5 (always) scale and the range of possible total scores was 10 to 50. The total score represents the frequency with which social support was accepted from either the family or friend. The family APGAR was developed by Gabriel Smilkstein<sup>(21)</sup>, and in 1982 Hwei-Tzeng Hwang<sup>(22)</sup> developed the Friend APGAR, which is a modified version of the Family APGAR.

### RESULTS

A principal components analysis followed by varimax rotation was performed on the responses of the total sample to the Postpartum Stress Inventory and Social Support Scale. Mother and newborn care were the two postpartum stress factors (see Table 2) and friend and family support the two factors for social support for the hospitalized women (see Table 3). Based on the principal components analysis, the two-factor solution explained 45.5% of the total variance in postpartum stress and 79.0% in social support. As for the postpartum women's concerns, there were only 4 items whose mean scores reached to 2.0 or above with a maximum mean score of 2.10. This indicates that women during postpartum hospitalization perceived these 4 items as being of light to moderate concern. These top four postpartum concerns were "observation of jaundice", "baby's crying", "care of the jaundiced baby", and "involution of the uterus". The mean scores of the items on social support all reach to 3.50 or above. That means the use of social support by postpartum women was between "sometimes" and "frequently".

The hypotheses concerning the effect of group teaching projects were not supported partially using a t-test comparing the differences between groups of mean scores for postpartum stress and social support,  $t=0.8$  ( $df=216$ ,  $p>.05$ ) and  $t=-1.36$  ( $df=227$ ,  $p>.05$ ). However, there was a significant difference in mean scores for postpartum stress related to mother care for class 1 and social support from friends for class 3, compared with the control group,  $t=-2.36$  ( $df=148$ ,  $p<.05$ ) and  $t=2.17$  ( $df=146$ ,  $p<.05$ ), (see Table 4).



Table 1. Characteristic Differences of Subjects between Control and Experimental Groups

Groups	Control		Experimental		Test
	None N=119 Mean±S.D. (or) %	Maternal Care N=35 Mean±S.D. (or) %	Infant Feeding N=47 Mean±S.D. (or) %	Newborn Care N=29 Mean±S.D. (or) %	
Characteristics					
Age (year)	28.86±4.43	30.06±3.42	28.50±3.81	28.52±3.47	t = .39 x <sup>2</sup> = 3.73
Education					
Junior high or below	5.93	8.57	6.38	6.90	
Senior high	54.24	42.86	46.81	34.48	
Junior college	23.73	22.86	14.89	34.48	
University or above	16.10	25.71	31.91	24.14	
Number of Children					
1	54.62	54.29	61.70	48.28	x <sup>2</sup> = .79
2	36.13	37.14	27.66	44.83	
3 or above	9.24	8.57	10.64	6.90	
Number of Sons					
0	41.18	37.14	38.30	24.14	x <sup>2</sup> = 2.90
1	48.74	48.57	46.81	62.07	
2 or above	10.08	14.29	14.89	13.79	
Number of Daughters					
0	35.29	31.43	46.81	44.83	x <sup>2</sup> = .91
1	48.74	62.86	40.43	41.38	
2 or above	15.97	5.71	12.77	13.79	
Sex of This Child					
Boy	47.90	40.00	59.57	65.52	x <sup>2</sup> = 2.90
Girl	52.10	60.00	40.43	34.48	
Type of Delivery					
Vaginal	58.74	54.29	44.68	58.62	x <sup>2</sup> = .91
C-section	51.26	45.71	55.32	41.38	
Status of This Pregnancy					
Planned	38.66	40.00	27.66	55.17	x <sup>2</sup> = 3.88
Unplanned:					
no contraceptives used	21.85	22.86	21.28	24.14	
used contraceptives	39.50	37.14	51.06	20.69	

\* p &lt; .05

Table 2. Item Loadings for the Two Factors on Postpartum Stressors during Hospitalization

	Factor Loading
<b>Factor I. Mother Care</b>	
1. Involution of uterus	.70
2. Method of uterine massage	.69
3. Time of uterine massage	.68
4. Time of postnatal exercise	.68
5. Normal lochea or not	.65
6. Time of lochea's end	.64
7. Negative influence of postnatal exercise on wound healing	.64
8. Techniques of postnatal exercise	.63
9. Healing of wounds	.62
10. Feeding amount	.58
11. Breast engorgement	.58
12. Time of increased feeding	.57
13. Advancement of lactation	.54
14. Advantages and disadvantages among the contraceptives	.53
15. Method of perineal irrigation	.44
16. Choice of a contraceptive	.41
17. Time of contraception	.33
<b>Factor II. Newborn Care</b>	
1. Bathing techniques	.81
2. Dressing techniques	.78
3. Time of cord detachment	.76
4. Cord care	.74
5. Characteristics of stool	.72
6. Holding techniques	.69
7. Baby's crying	.66
8. Diaper rash	.66
9. Feeding method	.58
10. Care of the jaundiced baby	.57
11. Observation of jaundice	.57
12. Enough feeding or not	.56
13. Baby's regurgitation	.46
14. Time to change from breast feeding to formula in the future	.45
15. Advantages and disadvantages of formula and breast feeding	.37

## DISCUSSION

Analysis of overall questionnaire responses shows that infant care and care for the mother herself are two primary concerns to postpartum women. The top eight items of postpartum concern were all, except the third item, related to baby care. The dynamics of maternal role attainment can be divided into two components: emotional factors and physical care-taking<sup>(23-25)</sup>. Puerperium is a meaningful period to establish a mother-child affectional bond. It indicates that the mother, in order

to adopt the maternal role, begins to develop a sensitive awareness of her infant's needs.

In light of the findings about the effect of group teaching projects on women's stress and support, the women who participated in maternal care classes with topics on postnatal regimens, uterine involution, and contraception, had less postpartum stress than the women in the control group. However, the women who took the infant feeding and newborn care classes did not show significantly less stress than the women in the control group. According to Rubin's concept of "puerperium change"<sup>(26)</sup>, postpartum women's behaviors and



Table 3. Item Loadings for the Two Factors on Social Support

Factor I. Friend Support	Factor Loading
1. I am satisfied with the way my friends discuss items of common interest and share problem solving with me.	.91
2. I find that my friends accept my wishes to take on new activities or make changes in my life-style.	.88
3. I am satisfied with the way my friends express affection and respond to my feelings, such as anger, sorrow, and love.	.86
4. I am satisfied with the help that I receive from my friends when something is troubling me.	.86
5. I am satisfied with the amount of time my friends and I spend together.	.81
Factor II. The Family Support	
1. I find that my family accepts my wishes to take on new activities or make changes in my life-style.	.85
2. I am satisfied with the way my family discusses items of common interest and shares problem solving with me.	.84
3. I am satisfied with the way my family expresses affection and responds to my feelings, such as anger, sorrow, and love.	.84
4. I am satisfied with the amount of time my family and I spend together.	.80
5. I am satisfied with the help that I receive from my family when something is troubling me.	.78

Table 4. T-Test Results of Postpartum Stress Inventory and Social Support Scores Between Experimental and Control Groups

Groups	Control		Experimental	
	None	Maternal Care	Infant Feeding	Newborn Care
Factors	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Postpartum Stress				
(1) Mother care	1.68 ± .52 (n=115)	1.46 ± .36* (n=35)	1.78 ± .51 (n=45)	1.71 ± .54 (n=28)
(2) Newborn care	1.73 ± .57 (n=115)	1.70 ± .52 (n=35)	1.84 ± .59 (n=47)	1.66 ± .41 (n=28)
Social Support				
(1) Friend support	3.69 ± .89 (n=119)	3.82 ± .98 (n=35)	3.78 ± .87 (n=45)	4.08 ± .73* (n=29)
(2) Family support	3.89 ± .85 (n=118)	3.92 ± .95 (n=118)	3.93 ± .67 (n=47)	4.17 ± .74 (n=29)

\*p &lt; .05

attitudes change systematically in two stages during hospital care. The first phase, characterized by dependency, was labeled "Taking-in". This occurs from delivery to the third post-

partum day. The second phase, "Taking-hold", was seen as striving toward independence and generally lasts from the fourth to the tenth postpartum day. In the present study, the average





postpartum day was the 4th day after delivery. The woman, during the taking-hold phase, is actively seeking help with self-care activities by taking the group classes. She has to cope successfully with her needs, and then she begins to take hold of the tasks of mothering. The present study indicates that the woman has received a statistically significant increase in friend support from the newborn care class. However, the newborn care classes had no apparent effect on postpartum stress because the mother, shifting from the taking-in to taking-hold phase, is anxious and still lacks confidence in caring for her baby.

The time of the study was set at the beginning of lactation for the mothers. Furthermore, three fourths of the mothers adopted either formula or combined both breast and formula feeding. At the hospital, the only contact the mother was allowed with her newborn baby was in the nursery 24 hours after delivery, during feeding, with a maximum feeding frequency of three times per day in one hour sessions, only as scheduled. Therefore, it was difficult to find any statistically significant difference in the relation of the infant feeding class to postpartum stress or social support between the control and experimental groups.

Although nursing perceives patient teaching as an essential nursing function, the system for delivery of patient education has limitations and there is no evidence that effective patient teaching has been achieved. This project determine the effectiveness of group teaching and to help student nurses successfully integrate patient teaching into their practice. As a result, a framework of an effective postpartum teaching program has been established. In addition it was seen that group teaching has two benefits: a lowering of stress for women taking maternal care classes and an increase in perceived social support from newborn care classes. However, the effect of group teaching projects on women's stress may have limited by certain factors. It was not possible to assign subjects randomly to groups in this study. Subjects were self-selected since they themselves made the decision to attend classes. Furthermore, the use of a pre-test for both groups in addition to the post-testing of the subjects would have strengthened the study. More evidence concerning the effectiveness of such teaching in economic terms and in terms

of human welfare is urgently needed.

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## 團體衛教對產後住院婦女壓力之影響

洪志秀 曾英芬 鄭綉絨

目前台灣正面臨著護理人員短缺和產婦早期出院的現象，因此產後衛教之效益有待加以評估。本研究的目的是由護理系師生於實習期間共同執行並確認和證實團體衛教之成效。以準實驗法在南台灣的一所醫學中心共同收集230位產後婦女的資料（其中包括控制組119位婦女；實驗組111位，實驗組又分成三小組：第一組產婦接受「產婦照顧」課程，第二組產婦接受「新生兒餵奶」課程，第三組產婦接受「新生兒照顧」課程）。由作者發展出的「產後壓力量表」與由「家庭關懷指數」修改而成

的「社會支持量表」用來施測並收集二組婦女的產後壓力及社會支持程度，並以 T-test 比較二組婦女的產後壓力與社會支持的平均分數。結果顯示實驗組第一組在「產婦本身壓力」方面比控制組來得低，而實驗第三組在「朋友方面的支持」比控制組來得高。因此，產後團體衛教的「產婦照顧」課程在產後婦女壓力的減低與「新生兒照顧」課程在增進朋友支持方面都呈現出其效益。未來此方面的衛教在經濟效益與個案福祉之證實有待更進一步之研究調查。

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