The postpartum period has been conceptualized in a variety of cultures as a time of vulnerability to stress for women. The new demands, structural constraints, and other characteristics of the postpartum period bring about dramatic changes, adjustments, and therefore, difficulties that can lead to postpartum stress [1]. After giving birth, mothers face multiple demands of adjusting to changes in the body, learning about their new infant(s), and providing and arranging care for themselves and their new infant(s), all of which requires them to seek social support, especially from significant others. For women going through this transition, it may be a uniquely stressful life experience, with adverse effects on their health [2]. As the author’s previous research has indicated, the effects of postpartum stress and social support on postpartum women’s health are significant [2]. In fact, three factors—“concerns about negative body changes”, “concerns about maternal role attainment”, and “concerns about lack of social support”—have been the critical attributes for postpartum stressors. The results suggest that it is important to identify specific postpartum stressors for primiparas and multiparas when providing supportive interventions. Specifically tailored nursing interventions based on differences in parity may help reduce postpartum stress and help prevent the development of more severe mental health problems among postpartum women.

Key Words: mental health status, multiparas, postpartum stress, primiparas, social support

which can be a source of physical discomfort. Postpartum women may experience pain and discomfort due to episiotomy, breast engorgement, and nipple soreness [4–6]. Affonso et al [7] identified fatigue, sleep disturbances, general body discomforts, and eating disturbances as stressors for postpartum women. Postpartum women not only have to begin recovering from childbirth but also have to provide ongoing care to a needy infant. The literature on this topic has suggested that mothers’ postpartum concerns include the infant’s appearance, feeding, crying, sleeping, physical care, handling and dressing, safety, and elimination [5,6,8–10].

When women face concerns over maternal tasks, their feelings of not fulfilling their obligation satisfactorily can induce postpartum stress. Postpartum women have to simultaneously begin recovering from childbirth, provide ongoing care to a needy infant, and deal with the burden of many competing concerns. The results of a study by Bennett [8], for example, showed that laundry, cleaning, personal hygiene, cooking, financial problems, restricted social life, giving up work, and a lack of spare time for interests caused the most concern in the early puerperium. While the stress induced by these changes may be heightened by a lack of social support, an individual’s social network and the support it provides can be a coping resource against stress [11,12]. Research findings have indicated that adaptive maternal behavior was influenced favorably by the mother’s perception of the amount of positive support she received [12–16]. A core network of family and friends is frequently cited as an important source of postpartum support and plays a statistically significant role for mothers in predicting postpartum adjustment [14,16,17]. Moran et al [18] conducted a study related to postpartum women’s desire for more information on self-care and infant care and found that all women who reported high levels of support from family and friends asked for significantly less information than those with fair or poor support.

Not only has social support been postulated to play an important role in stressful transition periods, it has also been found to play a statistically significant role in predicting postpartum women’s health status [14,17]. Support is likely to increase a mother’s sense of self- and infant-care capability and success in relating to the infant, which will influence her ability to execute personal, maternal, and household tasks successfully. Crnic et al [15] conducted a longitudinal study, which indicated that mothers with more support reported significantly greater satisfaction both in their lives and with their parenting, as well as more positive specific child rearing attitudes. These results are consistent with findings on the relationship of social support with health status during the stressful perinatal period [17]. Thus, women with greater support resources appear to have a better health status [17,19].

The issues related to postpartum women’s health status have received a great deal of scholarly attention. The exploration of stressful events during the postpartum period has typically focused on primiparous women. Although it is important to identify specific postpartum stressors for primiparas and multiparas when providing supportive nursing interventions, the unique challenges faced by multiparous women with increased parity have been neglected. In fact, postpartum stress is a newly developed concept and its measure has been developed by Hung [3]. Several nursing studies explored postpartum women’s concerns but few systematically investigated postpartum stress related to women’s parity. Therefore, the purpose of this study was to differentiate among postpartum stressors based on parity and to compare women’s postpartum stress, social support, and health status in relation to parity differences.

**METHODS**

**Study design**

This study focused on one aspect of a larger project. A non-experimental quantitative study with a cross-sectional design was conducted to differentiate postpartum stressors and compare women’s postpartum stress, social support, and health status in relation to parity differences.

**Sample**

Eight hundred and seventy-seven postpartum women were recruited from 22 hospitals and clinics in southern Taiwan that had birth rates of 30 or more per month. However, at the time of the telephone interview, 16 women could not be involved due to diverse reasons such as their inconvenience, lack of interest, and investigators’ lack of access to correct forwarding telephone numbers and addresses. The criteria for inclusion in the sample were women who: (a) had had...
a single, healthy, and full-term baby, without complications; (b) had no major postnatal complications and no underlying medical problems; (c) were married Taiwanese residents; and (d) could speak Mandarin Chinese.

**Instruments**

Three instruments were used for the study: the Hung Postpartum Stress Scale (Hung PSS); the Social Support Scale (SSS); and the 12-item Chinese Health Questionnaire (CHQ).

**The Hung PSS**

The 61-item Hung PSS is a valid and reliable tool for assessing women’s postpartum stress during the 42-day puerperium [3]. An exploratory factor analysis indicated that concerns about negative body changes, maternal role attainment, and lack of social support are three components of postpartum stress. The generalizability of the Hung PSS has been shown to have high coefficients of congruence among postpartum women across type of delivery, level of education, and income status. The internal consistency reliabilities for its three dimensions across a full sample and within pertinent sub-samples has also shown that the Hung PSS is a reliable tool for measuring postpartum stress, with the alpha for coefficients ranging from 0.84 to 0.92 [3].

On a 5-point scale rating from 1 (not at all) to 5 (always), the women in the study rated each item on how much stress was perceived during the postpartum period. The score for postpartum stress was derived by summing all ratings, resulting in potential scores from 61 to 305. Higher values indicated higher stress. The Cronbach’s α for the Hung PSS in this study was 0.94.

**The SSS**

The SSS is a 10-item, 5-point Likert-type scale and includes the Family APGAR (adaptation, partnership, growth, affection, and resolve) [20] and Friend APGAR [21]. Items were scored using a 1 (never) to 5 (always) scale, from which a summative score was derived. The total score represented the frequency with which social support was accepted from either family or friends. High scores indicated high social support during the postpartum period. The correlations with the Pless-Satterwhite Family Function Index and Psychotherapist Estimate were 0.80 and 0.64, respectively [21], and Cronbach’s α was 0.86 [21]. Cronbach’s α for the SSS in this sample was 0.90.

**The 12-item CHQ**

The postpartum women’s mental health status was measured with the 12-item CHQ [22,23]. This culture-specific questionnaire is designed to reflect Chinese sociocultural preferences in the expression of distress, including anxiety, depression, sleep disturbance and somatic symptoms, somatic concerns, and interpersonal difficulties [22,24]. Respondents rated how frequently each symptom for these minor psychiatric morbidities was experienced during the previous weeks on a 4-point scale rating from 1 (not at all) to 4 (most of the time). One and 2 ratings were recoded as 0, and 3 and 4 ratings were recoded as 1. All ratings were summed, forming a summary score rating from 0 to 12 [23]. The scores used as a cut-off point for the “case”/“non-case” judgment for minor psychiatric morbidity in community samples were 3/2 and the sensitivity and specificity were 91.9% and 66.7%, respectively [22]. Cronbach’s α for the CHQ in this study was 0.70.

**Procedure**

After approval from the institutional review board of each participating institution and from the research ethics committee at the researcher’s institution, each potential participant was visited during her postpartum hospitalization if the selection criteria were met. The study and consent forms were explained to them using standardized scripts. Once a signed consent form was obtained, a demographic questionnaire was completed by each woman. Moreover, an entire pre-interview questionnaire was filed in a plastic folder and given to the participants. Each woman was randomly assigned to participate in a telephonic interview during one of the 6 weeks of her postpartum period and was contacted over telephone at the place where she was staying for her postpartum period. The interviewer read each question while the woman followed her version to complete the Hung PSS, the SSS, and the 12-item CHQ.

**Data analysis**

Data were analyzed using percentage, frequency, \( \chi^2 \), and independent two-sample \( t \) test using SPSS (Statistical Package for the Social Sciences) version 9.0 (SPSS Inc., Chicago, IL, USA).
RESULTS

Characteristics of the primiparas and multiparas
A total of 435 primiparas and 426 multiparas completed the study. The average age was 28.1 years (standard deviation [SD] = 4.1) for the primiparas and 30.6 years (SD = 4.4) for the multiparas; 238 (44.7%) and 168 (39.4%) of the women, respectively, had a junior college diploma or above; 231 (53.1%) and 192 (45.1%), respectively, were employed full-time. Most had a total monthly household income of 50,000 New Taiwan Dollars or above. The mean length of marriage was 19.8 months (SD = 20.9) for the primiparas and 62.0 months (SD = 34.8) for the multiparas. Regarding the most recent pregnancy, 130 (29.9%) and 105 (24.6%) of the women, respectively, had a planned pregnancy. Among the respondents, 183 (42.1%) of the primiparas and 196 (46.0%) of the multiparas had a vaginal delivery, and most of the women expressed satisfaction with their childbirth experience. The baby’s average birth weight was 3,175.9 g (SD = 384.0) and 3,210.1 g (SD = 376.0), respectively, and 216 (49.7%) and 227 (53.3%) of the babies were boys. There was no infant gender preference for 320 (73.6%) and 196 (46.0%) of the women, respectively. Most of the women (56.1% and 56.8%) fed their babies by a combination of formula and breast feedings. The women’s demographic characteristics showed no significant differences between primiparas and multiparas, with the exception of the women’s age, education level, current employment status, length of marriage, the planning status for this pregnancy, this childbirth experience, and preferred sex of this baby, which differed significantly (Table 1).

Ranking of postpartum stress
The mean scores reached up to 2.0 or above for 35 items in the case of the primiparas, and 28 items in the case of the multiparas. This indicates that the postpartum women perceived these items to be “seldom” to “frequently” stressful; 25 items among the items for both groups were consistent postpartum stressors. Five items were consistently the most highly ranked postpartum stressors among the women regardless of their parity, but the order of their rankings differed. In a descending order, the ranking for the primiparas was “the baby getting sick suddenly”, “the unpredictability of the baby’s schedule”, “the flabby flesh of my belly”, “interrupted sleep”, and “not sleeping enough”; for the multiparas, it was “the flabby flesh of my belly”, “interrupted sleep”, “not sleeping enough”, “the unpredictability of the baby’s schedule”, and “the baby getting sick suddenly” (Table 2).

Ranking of postpartum women’s social support
The mean scores for the items indicating social support, family support, and friends’ support all reached 3.0 or above, showing that the use of social support, family support, and friend support by the postpartum women was between “sometimes” and “frequently”. The item “I am satisfied with the way my family and I share time together” received the highest social support score from both the primiparas and the multiparas.

Postpartum women’s mental health status
The CHQ score ranged from 0 to 9 for the primiparas and from 0 to 12 for the multiparas. Three hundred and three of the primiparas and 271 of the multiparas were in the non-minor psychiatric morbidity category, whereas 132 of the primiparas and 155 of the multiparas were in the minor psychiatric morbidity category (CHQ scores ≥ 3).

Mean scores of postpartum stress and social support, and percentage of women’s mental health status for primiparas and multiparas
The mean scores for postpartum stress and its three dimensions—concerns about negative body changes, concerns about maternal role attainment, and concerns about lack of social support—and the mean scores for social support and its two dimensions—family support and friend support—are listed in Table 3 for both the primiparas and the multiparas. Of the 435 primiparas and 426 multiparas, 132 (30.3%) and 155 (36.4%), respectively, had CHQ scores in the “case” category in terms of having minor psychiatric morbidity.

Differences in the mean scores of the women’s postpartum stress, concerns about negative body changes, concerns about maternal role attainment, concerns about lack of social support, social support, family support, and friend support between the primiparas and the multiparas were determined by an independent samples t test. The results showed that women’s mean scores for postpartum stress, concerns about
negative body changes, and concerns about maternal role attainment, social support, family support, and friend support were higher, respectively, for the primiparas than for the multiparas. However, the multiparas had greater concerns regarding lack of social support than the primiparas (Table 3). The postpartum women with a CHQ score ≥ 3 were categorized as having minor psychiatric disorders but they did not differ significantly by parity ($\chi^2=3.53$, df=1, $p=0.06$).
DISCUSSION

The study demonstrates that compared with the multiparas, the mean scores for the primiparas were higher for postpartum stress, concerns about negative body changes, concerns about maternal role attainment, as well as for measures of social support, family support, and friend support. However, the multiparas had higher scores than the primiparas regarding concerns about lack of social support. The mental health status of the two groups did not differ significantly by parity.

The primiparas reported greater concerns than did the multiparas over negative body changes. Fitness is a major focus in today’s society, and most women are disappointed with their postpartum bodies [25–27]. Russell [28] found that worries about personal appearance, distress over the changes in their bodies, and complaints of physical tiredness and fatigue were the foremost issues expressed by new mothers. Strang and Sullivan’s [29] study indicated that women felt more negative about their postpartum bodies than about their pre-pregnant bodies. That study, moreover, reported that primiparas felt more negative about their postpartum bodies than did multiparas. Flagler [30] found that postpartum women’s negative physical feelings resulted in decreased maternal capability.

Maternal role attainment always requires knowledge, skill, and motivation. A lack of knowledge, ability, or motivation could produce a deficit in mothering capability and become stressful for women [30]. At 1-month postpartum, a mother’s priority is the capability to care for her baby [4,31]. A mother needs information about the normal growth and development of infants and knowledge regarding her child’s unique patterns of crying, sleeping, feeding, and other behaviors. Compared with the multiparas in this study, who were experienced in these matters, the inexperienced primiparas reported greater concerns about maternal attainment.

The primiparas reported not only higher postpartum stress but also higher social support than the multiparas. This finding is congruent with the findings of other research [16,32]. Although the primiparas

| Table 2. The top five postpartum stressors for primiparas and multiparas |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | Primiparas      | Multiparas      | t or χ²  | df  | p  |
| Interrupted sleep| 2.90 ± 1.24     | 2.97 ± 1.20     | 2.25    | 859 | 0.03* |
| Unpredictability of the baby’s schedule | 3.06 ± 1.11 | 2.76 ± 1.15 | 2.00   | 825.99 | 0.05* |
| Baby getting sick suddenly | 3.07 ± 1.09 | 2.73 ± 1.06 | -7.71 | 859 | 0.00† |
| Flabby flesh of my belly | 3.06 ± 1.25 | 2.98 ± 1.19 | -7.71 | 859 | 0.00† |
| Not sleeping enough | 2.84 ± 1.18 | 2.80 ± 1.19 | -7.71 | 859 | 0.00† |

| Table 3. Mean scores of postpartum stress and social support, and percentage of health status between primiparas and multiparas |
|-----------------|-----------------|-----------------|-----------------|-----------------|
|                  | Primiparas      | Multiparas      | t or χ²  | df  | p  |
| Postpartum stress | 125.92 ± 30.21  | 121.26 ± 30.60  | 2.25    | 859 | 0.03* |
| Negative body changes | 29.49 ± 8.46   | 28.35 ± 8.33   | 2.00   | 825.99 | 0.05* |
| Maternal role attainment | 65.98 ± 17.50 | 57.48 ± 16.19 | 7.40  | 859 | 0.00† |
| Lack of social support | 30.45 ± 8.60  | 35.44 ± 10.30  | -7.71 | 859 | 0.00† |
| Social support | 35.26 ± 7.32    | 33.21 ± 6.93    | 4.22   | 859 | 0.00† |
| Family support | 17.61 ± 4.32    | 16.45 ± 4.18    | 4.00   | 859 | 0.00† |
| Friend support | 17.65 ± 4.13    | 16.76 ± 4.16    | 3.16   | 859 | 0.00† |
| Health status | 303 (69.6%)     | 271 (63.6%)     | 3.53   | 1  | 0.06 |
| Non-case | 132 (30.4%)     | 155 (36.3%)     | 3.53   | 1  | 0.06 |

*p < 0.05; †p < 0.01.
were naïve about childbearing and parenting and were concerned about negative body changes and maternal role attainment, they received more attention and help from their families and friends than did the multiparas [7]. Social support has been found to be important to postpartum women in helping them adapt to a new role, helping them be more responsive to their babies, and facilitating their intimate relationships. Hung et al’s study documented that the supporting role of family is significantly associated with a low occurrence of stress during the postpartum period [32]. The woman’s partner, in particular, is a key source of validation and assistance during the early weeks of motherhood [5–7,33,34].

Family and friends provide instrumental and emotional support in daily life, as well as assistance during the postpartum period or times of need. The results of the present study indicate that the multiparas had higher concerns than the primiparas about lack of social support. Compared with primiparas, multiparas appear to have special needs due to more complex family dynamics and being overwhelmed by insufficient time to meet the new baby’s needs amidst the care of family and household; thus, they frequently deprive themselves of time to meet their own needs. In short, multiparous women need relatively greater assistance with time management to achieve a sense of stability in their multifarious activities.

Of the 435 primiparas and 426 multiparas, 30.3% and 36.4%, respectively, had CHQ scores in the “minor psychiatric disorders” category. The proportion of minor psychiatric disorders between them did not differ significantly by parity. Compared with a community survey of non-postpartum women, the prevalence rate of minor psychiatric morbidity was 27–39% for the women aged 15 and older, and 52% for the women whose average age was 51 [23,35]. Thus, the postpartum women in this study did not have a greater proportion of minor psychiatric morbidity than other general community samples.

The primiparous women and multiparous women experienced unique postpartum stressors. The primiparas had higher levels of postpartum stress in general, and greater concerns specifically about maternal role attainment and negative body changes than did the multiparas. However, the multiparas had higher levels of concern about lack of social support, and they perceived less social support from their families and friends. Thus, identifying the postpartum stressors that are specific to primiparas and multiparas is necessary in order to provide stressor-specific supportive nursing interventions. Specifically tailored nursing interventions based on differences in parity may lead to the reduction in postpartum stress and prevention of more severe health problems among postpartum women.

In this study, there was a homogeneous sample of low-risk postpartum women, who had a single, healthy, and full-term baby without complications, had no major postnatal complications or underlying medical problems, and were married Taiwanese residents. The results can only be generalized to low-risk Taiwanese postpartum women. Future research should also include those high-risk women who have twins or multiple babies, have ill babies, or babies with complications during the perinatal period, and who have major postnatal complications or underlying medical problems themselves, or are single mothers.

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REFERENCES

初產婦與經產婦之心理社會影響

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本研究目的在區辨不同產次婦女之產後壓力以及比較初產婦與經產婦之產後壓力、社會支持和心理健康狀況。採用橫斷式的非實驗之量性研究設計，在南台灣的醫院和產科診所招募 435 名初產婦和 426 名經產婦以洪氏產後壓力量表、社會支持量表和中國人健康量表，比較兩組婦女的產後壓力、社會支持和心理健康狀況。研究結果顯示初產婦在產後壓力、擔憂身體負向改變、擔憂母育角色的獲得，以及社會支持、家人支持和朋友支持方面的平均得分皆高於經產婦。然而經產婦在擔憂缺乏社會支持的得分上比初產婦來得高。另外，兩組婦女的心理健康狀況不因為產次的不同而有顯著差異。由本研究發現，婦女會因為產次不同而感受到獨特的產後壓力源。因此在提供支持性的護理措施之前，確認初產婦和經產婦的特殊性產後壓力源是相當重要的。根據不同的產次，明確的執行適當的護理措施不但可以減低婦女的產後壓力而且也可以預防婦女產後心理健康問題的產生。

關鍵詞：心理健康狀況，經產婦，產後壓力，初產婦，社會支持

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