

Postnatal Family Support and Childcare Stress to First-time Mothers in Hong Kong

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Abstract

Family support and stress to first-time mothers were frequently reported in the literature but specific information on Hong Kong Chinese is still scant. A non-experimental prospective study was conducted to identify specific stressors as well as significant types and sources of support that were related to postnatal depression during the first six weeks. Among the 192 first-time mothers, support from spouses and their own mothers were protective against depression and stress. Spousal support is particularly important in predicting the increased risk of postnatal depression and childcare stress. Support from in-law surprisingly increased the risk of postnatal depression. Both emotional and instrumental supports were negatively correlated with stress and postnatal depression. Missed previous activities or work, felt trapped or confined, overwhelmed by the demands of infant care, could not quiet baby's cries, and had trouble establishing regular baby's sleep pattern were top five childcare related stressors. Intervention should be developed to enhance spousal support with the emphasis on emotional and instrumental support in order to prevent postnatal depression and reduce childcare stress.

Keywords: postnatal family support, childcare stress and postnatal depression, first-time mothers

Family support to the first-time mothers after childbirth is very important for moderating stress and easing their transition to parenthood. Inadequate support and high level of stress during postnatal period were frequently reported as predicting factors of postnatal depression (Beck, 2001; Dennis, Janssen, & Singer, 2004; Eberhard-Gran, Eskild, Tambs, Samuelsen, & Opjordsmoen, 2002; Felice, Saliba, Grech, & Cox, 2004; Heh,

Coombes, & Bartlett, 2004). Social support protects psychological health either by directly promoting the sense of well-being or by mediating stress to enhance individuals' coping during high stress period. First time mothers face many different challenges during and after pregnancy. Very often the physical and physiological changes cause intense stress that may debilitate the new mothers' adjustment to their maternal roles. To identify effective social

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support factors and specific childcare stress of the first time mothers is thus vital in ensuring successful transition to parenthood.

Support and Stress during Postnatal Period

Stress is experienced when a situation or environment that the person appraises as threatening the well-being or exceeding the resources to cope (Lazarus & Folkman, 1984). Such stress would then trigger a series of physiological responses. It affects neuroendocrine or immune system functioning, or indirectly influence health related behaviours due to the changes of emotional status (Bartolomucci et al., 2005; Steiner, Dunn, & Born, 2003) and leads to negative health consequences (Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002). People under high stress may perceive insufficient resources to cope and thus feeling helpless and losing self-esteem. Social support alters the appraisal and response to stress by providing solutions, redefining the potential harm and the perceived importance of the problem. It also increases the perceived coping ability, tranquilizes the neuroendocrine system or facilitates healthy behaviours (Cohen & Wills, 1985).

Bringing in a new member to the family requires re-structuring and reorganization of the family system (Gjerdingen & Center, 2003; Knauth, 2000). This leads to new social and financial roles and thus complicated the physical, physiological and psychological changes during pregnancy and postnatal period. All these changes demand extra resources of the new mothers and their families. Among various postnatal stressors, physical symptoms, changes in living patterns, body image, monetary problems, family and emotional stressors topped the list among Pacific Islanders (Affonso et al., 1993). Interrupted sleep, unpredictability of baby's schedule, baby getting sick suddenly, the women's body image and insufficient sleep were likewise reported in Taiwan (Hung, 2005). Similar childcare stress was consistently

reported as significant predictor of postnatal depression (Honey, Bennett, & Morgan, 2003; Leung, Martinson, & Arthur, 2005b). Specific information on the types of childcare stress was thus invaluable to help first-time mothers in smoothing the transition.

Social support is regarded as complex structural, cultural, and interpersonal system with adaptive and adjustive properties that may induce or reduce stress. Husbands were repeatedly reported as the most important among different sources of support, however, many new mothers could not actually get sufficient support from their spouses for various reasons. Some of the husbands might not know how to support, particularly for those first-time fathers who were ill-prepared for the transition (Condon, Boyce, & Corkindale, 2004). Some husbands even experienced depression together with the new mothers as they were adjusting to the new roles (Dudley, Roy, Kelk, & Bernard, 2001; Kaitz & Katzir, 2004; Morse, Buist, & Durkin, 2000). Insufficient spousal support was often reported among postnatally depressed women (Logsdon, Birkimerr, & Usui, 2000).

Besides spouses, significant others such as maternal mothers and mothers-in-law also have a key role to play in this period, and this is true particularly among Chinese (Chan, Levy, Chung, & Lee, 2002; Hung, 2005; Hung & Chung, 2001; Leung et al., 2005b). A postnatal ritual, "doing the month", provides maternal mothers and mothers-in-law a legitimate role to care for the new mothers in the immediate postnatal period. Such ritual is not always desirable as it induces stress while providing support in some cases especially when the care provider is the mother-in-law (Chan, et al., 2002; Leung, Arthur, & Martinson, 2005a)

Impact of support may be negative when it does not match with the needs or expectation of recipients (Chan, et al., 2002; Leung, et al., 2005a). It is thus imperative to identify not just the source of support but also the

most significant types of support that the new mothers need. Emotional support had been reported to play significant role in smoothing the new mothers' transition to parenthood (Simpson, Rholes, Campbell, Tran, & Wilson, 2003). It was in the form of the marital relationship on consensus, cohesiveness and affectional expressions. Other types of support were also found to be important in postnatal studies. Peer support through telephone was reported to be effective in reducing the depressive symptoms in a randomized controlled trial conducted among 42 Canadian (Dennis, 2003). Informational support provided at 6th postnatal week by nurses with the aids of information booklet was effective among 70 postnatal women in Taiwan (Heh & Fu, 2003).

This study adopted the social support framework from House (1981) which included (a) emotional support, (e.g., empathy, caring, love, and trust); (b) comparison support, (e.g., information from other people for improving self-evaluation); (c) informational support, (e.g., information to help deal with problems); and (d) material support, (e.g., behaviors that help the person in need).

Aim of the present study was to supplement the literature on childcare stress experienced and the support needed for first-time Chinese mothers in Hong Kong. Research questions of this study were: 1). What were the major childcare related stressors of the first-time mothers? 2). What were the significant sources of family support and types of support that were related to and predictive of postnatal depression and childcare stress among the first-time mothers?

Method

A non-experimental prospective design was used in this study. Self-reported questionnaires with validated tools were used to measure childcare stress, family support, types of support and postnatal distress at the 3rd trimester during pregnancy and then the 6th week after delivery.

Sample

Subjects were recruited at the third trimester in the antenatal clinics from five public hospitals in Hong Kong. A sample of 192 pregnant women who fulfilled the following eligible criteria was included. They were 1) married and at least 18 years of age; 2) at least 36 weeks gestation; 4) in Hong Kong for postnatal care, 5). primiparous and able to read Chinese. Majority of them were between 26 to 35 years old (66.7%), 74.9% vaginal deliveries, and 55.4% versus 41.9% were full-time workers and housewives. Eighty-seven percent had completed secondary education and most of them had monthly household income between HK\$10, 000 – 29,999 (i.e. about US\$1,282 – 3.846). Although many of them had someone to provide help during the first postnatal month (78.2%), only 16.1% had domestic helpers at home, and 13.6% and 28% lived with parents and parents-in-law, respectively.

Measurement

Instruments used in this study included the Edinburgh Postnatal Depression Scale (EPDS), Perceived Stress Scale (PSS), Childcare Stress Scale (CSI), Postpartum Support Questionnaire (PSQ) and Postpartum Social Support Questionnaire (PSSQ).

Demographic data sheet was designed to collect the data on socio-economic background of the participants. Variables used for data analysis in this report included age, employment status, education level, monthly household income, housing environment, whether they had domestic helper, lived with in-law or parents, and had extra help for the first postnatal month.

The EPDS (Cox, Holden, & Sagovsky, 1987) was used to assess depressive symptoms at both antenatal and postnatal periods. It is a 10-item scale widely used for research and

screening at clinical practice. Satisfactory psychometric properties were reported by Cox et al. with split-half reliability of .88 and standardized alpha-coefficients of .87. The Chinese version adopted in this study was translated and validated by Lee and Colleagues (Lee et al., 1997).

The PSS (Cohen, Kamarch, & Mermelstein, 1983) was used to assess global stress level perceived in antenatal and postnatal periods. It is a 14-item scale to measure the degree to which respondents consider their lives unpredictable, uncontrollable, and overloaded. Satisfactory Cronbach's alphas coefficients of .82 to .86 have been reported on Western samples (Cohen et al., 1983; Cohen & Williamson, 1988) and Chinese samples (Chen, Chou, Tseng, & Wang, 1999; Leung et al., 2005b).

The CSI (Cutrona, 1984) was used to measure stress related to childcare. It is a 21-item checklist in which participants were allowed to provide additional stressors to the established 19 items. Cronbach's alpha was .60 in a sample of 71 postnatal Pacific Islander (Merchant, Affonso, & Mayberry, 1995) and .90 in a sample of 385 Chinese (Leung et al., 2005b). Significant correlation between CSI and PSS in this study demonstrated convergent validity ($r = .66, p < .001$).

The PSQ (Logsdon & McBride, 1989) was used to measure types of social support expected antenatally and actually received postnatally. This 34-item scale is designed to identify the importance and helpfulness of four types of support which include emotional, comparison, informational, and material support. Several studies have reported satisfactory psychometric properties with Cronbach's alphas of .58 to .96 (Davis, Logsdon, & Birkimer, 1996; Leung et al., 2005b). Dissatisfaction of support was identified as the differences of the actual support from the desired support level.

The PSSQ (Hopkins, Campbell, & Marcus, 1987) was used to measure the extent of the desired and actual level of social support provided to postnatal women by family members. It is a 50-item scale originally designed to measure support from various groups in the support network, however, only the subscales measuring family support from husband, parents, parents-in-law were adopted in this study. Participants were asked to identify which of the parents or in-laws provided most help, all except a few indicated mothers or mothers-in-law. Dissatisfaction of support was identified as the differences of the actual support from the desired support level. Similar to the above scales, satisfactory psychometric properties were reported with Cronbach's alphas of .77 to .91 (Hopkins et al., 1987; Leung et al., 2005b). PSQ and PSSQ were significantly correlated in this study ($r = .47, p < .001$).

Procedure

Ethics approval was obtained from the five hospitals involved and the University. Informed consent was sought after explaining the purpose, risk and benefits of the study, and their rights and responsibilities. Information of expected date of confinement, contact numbers and addresses were kept on a separate sheet for contact after their deliveries and only accessible by the Principal Investigator. Those agreed to participate were asked to complete a demographic data sheet and a set of baseline questionnaire while they were waiting for doctors. This set of questionnaire included the EPDS, PSS, PSQ and PSSQ with the later two assess the expected level of support. At 3 weeks after the expected date of confinement, each participant was contacted by phone to confirm the date of delivery and the address. The same set of questionnaire, except the demographic data sheet, was sent by post to the participants at their 4th to 6th week after delivery for completion at 6th postnatal week and returned with stamped envelopes.

Data Analysis

Major childcare related stressors were identified by the descriptive statistics of CSI. Item analysis was performed to rank relative stress level by item means. Relationship of support factors with PND and stress factors were examined by partial correlations with controlled for the demographics, including age, employment status, income level and education level. Significant types and sources of support that predicted the risk of postnatal depression and childcare stress were identified by logistic regression. Depressed group were identified with the conventional cut-off score of 13 or

above on EPDS. Median Split was used for childcare stress in the logistic regression.

Results

Childcare Stress

The top five childcare related stressors (Table 1) among the first-time mothers in this study were found to be “miss previous activities or work”, “feel trapped or confined”, overwhelmed by the demands of infant care”, “can’t quiet baby’s cries”, and “having trouble establishing regular nap times and bedtime for baby”.

Table 1

Ranking of Childcare Related Stressors Based on Mean of Childcare Stress Inventory

Childcare Stress	Mean (SD)
1. Miss previous activities	2.3 (1.16)
2. Feel trapped or confined	2.21 (1.09)
3. Overwhelmed by demands of infant care	2.19 (1.02)
4. Can't quiet baby's cries	2.15 (1.28)
5. Having trouble establishing regular nap times and bedtime for baby	2.13 (1.31)
6. Strain in relationship with husband	2.11 (1.28)
7. Don't know what baby needs when he or she cries	2.01 (1.15)
8. Conflict over childcare with family or friends	1.97 (1.27)
9. Not receiving enough support or attention from husband	1.97 (1.47)
10. Labor and delivery didn't go as you had hoped	1.84 (1.33)
11. Having trouble establishing regular feeding time	1.74 (1.16)
12. Problem feeding baby	1.71 (1.38)
13. Can't relax with baby	1.67 (1.13)
14. Concern that it is taking longer than you expected to learn to love the baby	1.61 (1.08)
15. Can't give enough time to husband	1.47 (1.11)
16. Husband doesn't help with work as much as you would like	1.44 (1.13)
17. House is more disorganized than usual	1.38 (1.04)
18. Baby has health problem	1.08 (1.31)
19. Baby rarely or never seems content	.99 (.86)

Social Support with PND and Stress Factors

Among the family support, both spousal and parental supports were significantly and negatively correlated with PND and stress factors after controlled for demographics as stated in the data analysis section (Table 2). Correlation among family support factors

was significant between spousal support and in-law support ($r = .29, p < .001$) but none with maternal parental support. Both spousal support and maternal parental support were significantly correlated with postnatal depression, postnatal global stress level as well as childcare stress as shown in Table 2.

Table 2

Partial Correlations[#] of Family Support and Four Types of Support with Postnatal Depression, Perceived Stress, and Childcare Stress.

	PND ^a	PSS ^b	CSI ^c
Postnatal Depression (PND ^a)	--	--	--
Perceived Stress (PSS ^b)	.71**	--	--
Childcare Stress (CSI ^c)	.68**	.70**	--
Spousal Support	-.26**	-.24**	-.29**
Maternal Parental Support	-.25**	-.23**	-.25**
In-law Support	NS	NS	NS
Emotional Support	-.13*	-.14*	-.15*
Instrumental Support	-.16*	-.14*	-.17*
Comparison Support	-.16*	NS	NS
Informational Support	NS	NS	NS

[#]Controlled for age, employment status, income level and education level;

PND^a=Measured by Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987);

PSS^b=Measured by Perceived Stress Scale (Cohen, Kamarch, & Mermelstein, 1983);

CSI^c=Measured by Childcare Stress Inventory (Cutrona, 1984);

* $p < .05$; ** $p < .01$; NS = not significant.

However, correlation with the support from in-law was not significant. Among the four types of support, only informational support was not significant, the other three were all negatively correlated with PND but with weak correlations. Only emotional and Instrumental supports were negatively and significantly correlated with stress factors, both global and childcare stress.

childcare stress (Table 3), spousal support was found to be significantly protective against postnatal depression ($OR=.95, p=.04$) and childcare stress ($OR=.93, p=.002$). Similarly dissatisfaction with spousal support increased the risk of childcare stress ($OR=1.08, p=.004$) while the dissatisfaction with the support from maternal mothers increased the risk of postnatal depression ($OR=1.06, p=.03$). Contrary to expectation, the support from in-law increased the risk of postnatal depression ($OR = 1.05, p=.02$).

For prediction of postnatal depression and

Table 3

Prediction of Postnatal Depression and Childcare Stress
by Family Support Risk Factors from Logistic Regression

Predictors	Postnatal Depression ^a			Childcare Stress ^b		
	Odds Ratio	95%Confidence Interval	<i>p</i> value	Odds Ratio	95%Confidence Interval	<i>p</i> value
Spousal support	.95	.90 – .99	.04	.93	.89 – .97	.002
In-law support	1.05	1.01 – 1.09	.02	1.00	.967– 1.04	.88
Mother support	.96	.92 – 1.002	.06	.98	.94 – 1.01	.16
Dissatisfaction of spousal support	1.04	.93 – 1.04	.49	1.08	.88 – .98	.004
Dissatisfaction of in-law support	1.02	.93 – 1.04	.56	1.00	.97 – 1.04	.88
Dissatisfaction of mother support	1.06	.90 – .99	.03	1.04	.92 – 1.01	.12
Dissatisfaction of emotional support	1.03	.97 – 1.09	.30	1.02	.93 – 1.03	.40
Dissatisfaction of instrumental support	1.02	.97 – 1.08	.43	1.02	.94 – 1.03	.49
Dissatisfaction of informational support	1.03	.98 – 1.09	.20	1.00	.96 – 1.04	.94
Dissatisfaction of comparison support	.99	.90 – 1.10	.88	.98	.90 – 1.06	.55

Postnatal Depression ^a =Measured by Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987);
Childcare Stress ^b =Measured by Childcare Stress Inventory (Cutrona, 1984).

Discussion

Second to missing previous activities, the sense of confinement topped the stressor list in this study which was followed by problems meeting the demand of infant care and managing babies' cries and sleep patterns. Similar to the report in Arizmendi and Affonso (1987), changes of living patterns was stressful to new mothers. Unpredictability of the baby's schedule was also identified as one of the top stressors as reported in Hung (2005). Sense of confinement might be particularly strong as most of the participants practiced the traditional postnatal ritual which mandated new mothers to stay seclusion for one whole month immediately after delivery. Stress experienced while practicing the ritual was reported in Leung et al. (2005a).

Infant related problems (Dudley et al., 2001) such as difficult to be settled (Fisher, Feekery, & Rowe-Murray, 2002), infant temperament (Da Costa, Larouche, Dritsa, & Brender, 2000), persistent crying (Hiscock & Jordan, 2004), and sleep problems (Hiscock & Wake, 2000) had been frequently reported to be related to postnatal depression. Similar to studies on Western population, many new mothers felt highly stressful when having difficulty in regulating infants sleep patterns and in calming babies' cries.

However, the infant health problems mentioned in Taiwan sample (Hung, 2005) ranked only the second last in this study. This may be due to high quality of postnatal teaching and infant care as well as easy accessibility of health care services in Hong Kong. Concern about body image which was identified in both Arizmendi & Affonso (1987) and Hung (2005) was not included in CSI. Although participants were allowed to add other stressors they encountered, body image was not mentioned by any participant. Although this is unexpected, the new mothers may be benefited from postnatal exercises that commonly taught in postnatal classes. They

may also easily identify other means to manage body image as there are many weight reduction products and exercise programs available in the city.

Stress in relations to infant care could be reduced by learning more about the common behaviors and needs of newborns. The maternal mothers could be mobilized to coach new mothers to recognize the meaning of infants' cries and to develop strategies in establishing infant sleep patterns.

Support from spouse was found to be protective against depression and stress among the first-time mothers in this study and is consistent with those reported in the literature (Blaney et al., 2004; Fisher et al., 2002; Morse et al., 2000). Although both mothers and mothers-in-law were the common care providers during the postnatal period for Chinese, only support from mothers was found to be protective while support from in-laws on the contrary even increased the risk of postnatal depression. These findings further support previous suggestions in the literature that support from in-law might not be as effective in reducing stress (Lee et al., 1998; Chan et al., 2002; Leung et al., 2005b).

Among the four types of support, informational support was comparatively less important in reducing stress and the likelihood of depression. On the other hand, new mothers with higher level of emotional and instrumental support were negatively associated with postnatal depression and childcare stress. Although information is vital, health care providers should put more emphasis on giving emotional support to first-time postnatal women. Family members, particularly husbands and maternal mothers, should be encouraged to provide more emotional support and actual help in household chores and childcare.

While strategies had been developed in the past to develop support groups and other means

to provide peer support or to design pamphlets for giving information, it is now time to think of innovative programmes to elicit emotional and instrumental support from husbands and maternal mothers. Many postnatal interventions were consistently reported to be effective in preventing of postnatal depression (Dennis & Creedy, 2004; Prendergast & Austin, 2001), and some of them took individual approach (Chabrol, Teissedre, Saint-Jean, Teisseyre, Roge, & Mullet, 2002) conducted and some took interpersonal approach (Grote, Bledsoe, Swartz, & Frank, 2004) and conducted in group format (Craig, Judd, & Hodgins, 2005; Zlotnick, Johnson, Miller, Pearstein, & Howard, 2001). Some other studies focused on enhancing marital relationship in the transition to parenthood (Glade, Bean, & Vira, 2005). In recent few years, more upstream work was done to extend the prevention to antenatal period (Munoz et al., 2007) and innovatively to test out brief intervention (Austin et al., 2008). Similar short preventive intervention should be tested among Hong Kong Chinese postpartum women.

Although findings were comparable with other studies, emotional and instrumental support, particularly those from the husbands and maternal mothers were highlighted in this study.

摘要

香港初任母親的產後家庭支援及照顧嬰兒的壓力

初為人母的壓力及對其應有的家庭支援在文獻中經常被提及，然而，關於香港人的相關具體資訊仍是較為缺乏。因此，我們進行了一項非實驗性的前瞻性研究，研究婦女在產後首六個星期的產後抑鬱情緒、壓力來源及支持她們的可行方法。在192個接受訪問的初任母親中，調查結果顯示丈夫及自己母親的支持是對抗抑鬱及壓力的良方，其中丈夫的支持最能有效預防產後抑鬱及減低照顧嬰孩的壓力。相反，來自丈夫及母親的支持會增加產婦患上產後抑鬱症的危機。情感支持和實務幫助則與抑

鬱及壓力都有負相關。照顧嬰兒壓力來源的首五位分別是：懷念以前的生活模式及工作、感到被困或被幽禁、因照顧初生嬰兒而耗盡精力、未能平息嬰兒的哭嚎及未能建立嬰兒規律的睡眠時間。研究建議應引入援助以加強初任母親的丈夫在情感上及實務上的支持，以預防妻子患上產後抑鬱及減低其照顧嬰孩的壓力。

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