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The effect of telephone-based cognitive-behavioural therapy on parenting stress: A randomised controlled trial

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ABSTRACT

Objective
Stress related to parenting has detrimental effects on the well-being of children, parents and the family system as a whole. There are limited studies about the efficacy of cognitive-behavioural therapy delivered by telephone in reducing parenting stress. The present study investigates the effect of telephone-based cognitive-behavioural therapy on parenting stress at six weeks and six months postpartum.
Methods: This is a multi-site randomised controlled trial. A total of 397 Chinese mothers at risk of postnatal depression were randomly assigned to receive either telephone-based cognitive-behavioural therapy or routine postpartum care. Parental stress was assessed by the Parenting Stress Index Short Form at six weeks and six months postpartum.
Results: The findings revealed that mothers who had received telephone-based cognitive-behavioural therapy showed significantly lower levels of parenting stress than women only receiving routine postpartum care at six weeks (mean difference = 9.42, 95% confidence interval 5.85–12.99, $p < 0.001$, Cohen's $d = 0.52$) and six months postpartum (mean difference = 3.58, 95% confidence interval 0.07–7.09, $p = 0.046$, Cohen's $d = 0.20$).
Conclusion: Telephone-based cognitive-behavioural therapy is a promising treatment modality for supporting parenting and reducing stress during the transition period. Integration of telephone-based cognitive-behavioural therapy into routine postpartum care might facilitate positive adaptation in particular for mothers at risk of postnatal depression.

1. Introduction

Transition to new motherhood is a developmental life event which requires major adjustments [1]. The demanding responsibility of taking care of a newborn child and profound changes in roles and relationships can lead to heightened parenting stress, which has detrimental effects on the well-being of children, parents and the family's functioning [2]. Parenting stress is defined as psychological and physical burdens incurred by parenting responsibilities [3]. In a survey of 75 first-time parents in Italy, both parents were found to report high levels of stress during the first month after delivery [4]. In a prospective study of 94 pregnant women in Canada, it was found that women experienced a substantial degree of parenting stress at three and six months postpartum [5]. High levels of such stress have been shown to affect the parent–child relationship negatively [6], which can lead to insecure attachment in children and affect their psychosocial development [7]. High parenting stress is also associated with negative parental behaviour and maternal depression [8], which have been linked to increased incidence of maltreatment and child abuse [2,9].

Various interventions have been developed to facilitate effective parenting and reduce parental stress, but the results are inconclusive, with wide variation in theoretical underpinning and the mode of delivery [10–14]. Recent research has reported promising results with the use of cognitive-behavioural therapy (CBT) to treat parenting stress [15,16]. Wong and Poon [16] conducted a randomised controlled trial of the efficacy of a culturally attuned CBT among 58 Chinese parents of children with developmental disabilities, and found that the CBT group showed a significant reduction in parenting stress allied to an improvement in general well-being. In a Cochrane review of 36 studies dealing with the impact of group-based parent training programmes on parental psychosocial health, Barlow et al. [15] found that such programmes, underpinned by cognitive, behavioural or CBT support, produced a statistically significant improvement in parental stress four weeks after the birth (standardised mean difference (SMD) −0.29, 95% confidence interval (CI) −0.42 to −0.15), which continued to be statistically significant at six months (SMD −0.22, 95% CI −0.42 to −0.01) [15]. Recently, Cuijpers et al. [25] conducted a meta-analysis

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of nine studies into the psychological treatment of maternal depression and parental functioning, and found that psychotherapies involving cognitive-behavioural, interpersonal, counselling or psycho-dynamic therapy had moderate impacts on maternal depression as well as parenting distress (pooled effect size g = 0.40, 95% CI −0.23–1.04). The evidence suggests that parenting interventions based on CBT, which focus on modifying dysfunctional thoughts and foster problem-solving skills, have the potential to promote positive parenting and reduce parental stress.

The early weeks of motherhood are a time of heightened stress, when women are faced with the realities of childcare demands that challenge their parenting abilities [1]. The CBT emphasizing cognitive coping skills, such as reframing and irrational thought replacement [26], may facilitate alterations to views of the new parenthood as a threatening and uncontrollable event, and the focus on effective parenting skills and solving problems concerning practical issues of childcare, has the potential for reducing parenting stress. The delivery of CBT via telephone may be an ideal treatment modality to facilitate positive adjustment to the parenting role, in particular for Chinese mothers when they are confined to their homes for the first month after delivery by the cultural practice of 'doing the month' [17]. Telephone-based CBT (T-CBT) has demonstrated its effectiveness as a treatment modality for the promotion of perinatal health [18,19]. In a pilot study of telephone-based depression management among 22 adolescent mothers in the United States, Logsdon et al. [18] found that their depression symptoms decreased over time from four-six weeks to six months postpartum. The intervention involved 11 telephone calls to assist the mothers with their decision-making and to reduce barriers to treatment. Another study in the United States found that 'telecare' therapy which focused on cognitive restructuring and problem-solving skills was effective in improving depressive symptoms among 20 women suffering from postnatal depression [19]. The evidence suggests the potential benefits of delivering CBT over the telephone to postpartum women. However, no studies have evaluated the effect of T-CBT on parenting stress during the transition to motherhood. Given the negative long-term implications of such stress on parents and child development, the aim of this randomised controlled trial was to evaluate the effect of T-CBT compared to routine postpartum care on parenting stress, at six weeks and six months postpartum.

2. Method

2.1. Design and participants

Data for this study were collected as part of a larger randomised controlled trial to evaluate the impact of T-CBT on postnatal depression [20]. Recruitment was conducted at the postnatal units of three regional hospitals in Hong Kong from July 2012 to March 2014. The inclusion criteria covered: married postpartum women who were 18 or older, primipara, giving birth to a single full-term healthy baby (gestation age of 37–41 weeks; 5-min APGAR score greater than 7, body weight greater than 2.5 kg), no complications after delivery, at risk of postnatal depression (scoring above 9 on Edinburgh Postnatal Depression Scale, EPDS), able to speak and read Chinese, and Hong Kong residents. Participants were excluded if they had regular follow-ups with a psychiatrist or were having anti-depressant or anti-psychotic medications. The sample inclusion criteria were to minimise potential confounding effect of factors, such as single mothers or those with preterm babies on the study outcomes.

2.2. Procedures

This study was approved by the Institutional Review Board of the University of Hong Kong/Hospital Authority Hong Kong West Cluster and the ethics review boards of the three study hospitals. Mothers who met the study criteria were recruited on the second or third postpartum day at the postnatal units and written informed consent was obtained from all participants after the purposes and procedures of the study had been clearly explained. Mothers at risk of postnatal depression were randomly assigned to T-CBT or control groups. The assignment was prepared in advance by the first author using a restricted randomisation scheme with a random number table, with the results put in sequentially numbered, opaque and sealed envelopes. A research assistant opened the envelopes containing the group allocations after the mothers had given their consent. Participants completed the assessment of parenting stress, which were mailed to them and returned in pre-addressed stamped envelopes, at the six-week and six-month postpartum, by a research assistant who was blinded to participants' assigned groups. Monetary incentives were given as a token of appreciation for study participants.

2.3. Intervention

In addition to routine postpartum care, participants in the T-CBT group received five 30-min CBT sessions weekly by telephone, from postpartum week 1 to week 5. The contents of the sessions focused on teaching how to identify and change dysfunctional thoughts that might affect their emotions during the postpartum period, to facilitate effective problem-solving and decision-making in dealing with practical issues of infant care and common neonatal problems, and to improve communication and negotiation skills to manage interpersonal difficulties. Details of the intervention have been previously presented [20]. The intervention was delivered by an experienced midwife who had received two days' training in T-CBT plus a booster session. A standardised protocol was developed to guide the implementation and establish consistency, which was reviewed by an expert panel that included midwifery academics, an obstetrician, a psychiatrist and a clinical psychologist with experience of CBT. To maintain the treatment's integrity, all telephone interventions were audio-taped, with participants' consent, and a 10% sample of the tape records was reviewed by the research team.

2.4. Routine postpartum care

Both intervention and control groups received the routine postpartum care. Hospital stays in Hong Kong are usually of 48 or 72 hours duration after a vaginal birth or Caesarean section, respectively. Mothers with obstetric complications are offered a six-week postpartum follow-up at a public hospital and mothers without complications may have follow-up at a maternal and child health centre (MCHC). All mothers can seek child health services at the MCHC.

2.5. Outcome measure

2.5.1. Parenting Stress Index Short Form (PSI-SF)

The PSI-SF is a 36-item self-report measure of parenting stress [21]. It consists of three subscales: Parental Distress (PD), Parent–Child Dysfunctional Interaction (PCDI), and Difficult Child (DC). The PD subscale measures levels of distress resulting from personal factors, such as depression or conflict with a partner, and from life restrictions due to the demands of child-rearing. The PCDI subscale measures parents' dissatisfaction with interactions with their children and the degree to which parents find their children unacceptable. The DC subscale measures parents' perceptions of their children's self-regulatory abilities. Each subscale consists of 12 items rated on a five-point scale. The total stress score summarises the three subscale scores and ranges from 36 to 180, with higher scores indicate higher stress in the parenting role. A total stress raw score above 90 (≥90th percentile) indicates clinically significant levels of stress [21]. The PSI has been used in mothers of very young infants (mean age = 5.27 months, SD = 2.68) [11]. The Chinese version of PSI has been well validated with good psychometric properties [22,23].