Parenting Stress and Depression in Asthmatic Mothers: Relationships to Infant Development

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Declarations

Statement of Originality

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to this copy of my thesis, when deposited in the University Library, being made available for loan and photocopying subject to the provision of the Copyright Act 1968.

Statement of Authorship

I hereby certify that the work embodied in this thesis contains a manuscript of which I am a joint author.

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Structured Abstract

Scope

Maternal psychological distress and asthma have been demonstrated as significant pathways through which infant development may be affected. Previous research has demonstrated that asthma in pregnancy is associated with significantly higher rates of prematurity, low infant birth weight, congenital malformations and pre-eclampsia (Murphy et al., 2011; 2013). Not only this, children of mothers with asthma may be more likely to live with Autism Spectrum Disorders (ASD) (Croen, Grether, Yoshida, Odouli, & Van de Water, 2005) and to develop asthma themselves (Murphy & Gibson, 2011). Likewise, maternal psychological distress in pregnancy and in the postnatal period has also been associated with the poorer cognitive and social-emotional development of infants (e.g. Bergman, Sarkar, O'Connor, Modi, & Glover, 2007; Wadhwa, 2005). This thesis will begin with a critical review of the asthma and maternal psychological distress literature, including how and why this relates to infant development. Following this, an original research article will be presented, a summary of which is outlined below.

Purpose

The longer-term effects of maternal asthma on infant development are not well known. This study aimed to elucidate the mental health status of asthmatic mothers. Additionally, the study aimed to better understand how mental health in asthmatic mothers is linked to infant cognitive, language, motor, social and emotional development in the first six months of life.

Methodology

Mother-infant dyads were recruited as part of the Breathing for Life: Infant Development Trial. Thirty-one asthmatic mothers and their infant were recruited at six weeks after birth, when parenting stress and postnatal depression were measured using the Parenting Stress Index (Short Form) and the Edinburgh Postnatal Depression Scale (Cox, Holden, & Sagovsky, 1987). At six months, mother-infant dyads were tested again, using the Bayley Scales of Infant Development-III and measured on their cognitive, language, motor, social and emotional development.

Results

A series of multiple linear regressions revealed that more symptoms of postnatal depression (PND) at six weeks postpartum significantly predicted poorer expressive language and adaptive behaviour skills of infants at 6 months. Additionally, higher levels of parenting stress at six weeks significantly predicted poorer social emotional skills at six months. One-sample t-tests also showed that asthmatic mothers also had significantly more symptoms of PND, but significantly lower levels of parenting stress, compared to norms.

Conclusions

These results shed interesting light on the particular mental health status of asthmatic mothers, and how this may impact on subsequent infant developmental prospects. They suggest that for asthmatic mothers, both parenting stress and postnatal depression may be contributing to poorer infant outcomes in the first six months of life across a range of domains; particularly, social-emotional, adaptive behaviour and expressive language development. These findings highlight the importance of early assessment and treatment of women at high risk of psychopathology, such as mothers with asthma, given the negative effects this may have on the development of their children. Future studies are encouraged to

further explore the mechanisms through which asthma and maternal psychological distress affect infant development.

Keywords: asthma, infant development, maternal depression, parenting stress