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Parent-child interactions in children with asthma and anxiety

Gemma Sicouri [a], Louise Sharpe [a], Jennifer L. Hudson [b], Joanne Dudeney [a], Adam Jaffe [c, d], Hiran Selvadurai [e, f], Caroline Hunt [a, *]

[a] School of Psychology, The University of Sydney, NSW, Australia
[b] Department of Psychology, Macquarie University, NSW, Australia
[c] Discipline of Paediatrics, School of Women's and Children's Health, Medicine, University of New South Wales, NSW, Australia
[d] Department of Paediatric Respiratory Medicine, Sydney Children's Hospital, Randwick, NSW, Australia
[e] The Children's Hospital at Westmead Clinical School, Discipline of Paediatrics and Child Health, Faculty of Medicine, University of Sydney, NSW, Australia
[f] Department of Respiratory Medicine, The Children's Hospital at Westmead, Westmead, NSW, Australia

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ABSTRACT

Anxiety disorders are highly prevalent in children with asthma yet very little is known about the parenting factors that may underlie this relationship. The aim of the current study was to examine observed parenting behaviours – involvement and negativity - associated with asthma and anxiety in children using the tangram task and the Five Minute Speech Sample (FMSS). Eighty-nine parent-child dyads were included across four groups of children (8–13 years old): asthma and anxiety, anxiety only, asthma only and healthy controls. Overall, results from both tasks showed that parenting behaviours of children with and without asthma did not differ significantly. Results from a subcomponent of the FMSS indicated that parents of children with asthma were more overprotective, or self-sacrificing, or non-objective than parents of children without asthma, and this difference was greater in the non-anxious groups. The results suggest that some parenting strategies developed for parents of children with anxiety may be useful for parents of children with asthma and anxiety (e.g. strategies targeting involvement), however, others may not be necessary (e.g. those targeting negativity).

Asthma is the most common chronic illness of childhood, with a prevalence of 9.5% (Akinbami et al., 2012). It is a serious respiratory disease, characterized by a reversible inflammatory condition of airways, with symptoms including coughing, wheezing and difficulty breathing. Children with asthma have been shown to be at increased risk of internalizing disorders, such as anxiety and depression (Lu et al., 2012; Pinquart & Shen, 2011). A recent meta-analysis found that approximately 1 in 5 children have been found to have an anxiety disorder (Dudeney, Sharpe, Jaffe, Jones, & Hunt, 2017; Katon et al., 2007), which is three times as high as the prevalence of anxiety disorders in healthy children (Lawrence et al., 2015). Compared to children with asthma and no anxiety, children with comorbid asthma and anxiety experience increased asthma symptom burden (Richardson et al., 2006), reduced physical and emotional functioning (McCauley, Katon, Russo, Richardson, & Lozano, 2007), greater use of health services (Fernandes et al., 2010) and have a greater risk of being a smoker as an adolescent (Bush et al., 2007).

Yet, despite the evidence of the high comorbidity and serious consequences of childhood asthma and anxiety, very little is known about the parenting factors that might underlie the association. This is particularly relevant for treatment because research shows that children with asthma and anxiety do not respond as well to cognitive behavioural interventions developed for healthy children with anxiety (Papneja & Manassis, 2006), and tend not to include parents in treatment (Marriage & Henderson, 2012). As such, it is crucial that research determines whether parenting behaviours are associated with anxiety disorders in children with asthma, and whether these behaviours are the same or different in healthy children with anxiety. If different, anxiety-focused interventions which include parents may be targeting the wrong parenting processes if delivered to children with asthma.

Theories of childhood anxiety posit that parenting characterized by overinvolvement (overprotection/control) and negativity (rejection/criticism) are associated with anxious symptomatology in children (Chorpita & Barlow, 1998; Craske, 1999; Dadds & Roth,

* Corresponding author. School of Psychology, M02F Mallet Street Campus, The University of Sydney, NSW 2006, Australia.
E-mail address: caroline.hunt@sydney.edu.au (C. Hunt).

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2001; Manassis & Bradley, 1994; Rapee, 1997, 2012). An overinvolved parenting style is hypothesized to reinforce the child's vulnerability to anxiety by increasing the child's perception of threat by reducing the child's perceived control over their environment and supporting the child's avoidance of threat. Parental negativity is hypothesized to adversely affect the child's self-esteem and integrity, as well as undermine the child's emotional regulation (Gottman, Katz, & Hooven, 1997), which may put children at increased risk for developing anxiety problems. Empirical research has provided broad support for the association between parental overinvolvement and childhood anxiety disorders, although results have been somewhat less consistent regarding the relationship between parental negativity and childhood anxiety (Bogels & Brechman-Toussaint, 2006; McLeod, Wood, & Weisz, 2007, 2011).

It is possible that similar parenting styles are associated with anxiety in children with asthma. Whilst family and parenting factors have been highlighted as important for influencing childhood asthma outcomes (Kaugars, Klinnert, & Bender, 2004; Minuchin et al., 1975; Mrazek, Klinnert, Mrazek, & Macey, 1991, 1996; Wood et al., 2006; 2007), to date there has been limited empirical research investigating specific parenting styles associated with childhood asthma and anxiety. What parenting styles might be expected for parents of children with asthma? Similar to other chronic illnesses, asthma requires intensive medical management, and, as a result, places considerable demands on parents or caregivers involved in caring for their child (Frankel & Wamboldt, 1998; Kaugars et al., 2004; Morawska, Stelzer, & Burgess, 2008). Parents may respond by being protective of their child, in an attempt to maintain the health of their child and regulate their own exposure to stress. Such parental protection or involvement could be seen as an understandable and natural response to managing a child with a chronic illness. However, excessive overprotective parenting may not be helpful, and what begins as well intentioned parental helping may inadvertently be transformed as there is a tension between conflicting responsibilities: the responsibility to ensure the child remains healthy and adheres to medical treatment versus the responsibility to facilitate the child's independence and self-management (Anderson & Coyne, 1991, 1993; Coyne, Wortman, & Lehman, 1988; Holmbeck et al., 2002). Parents of children with asthma may also have to manage a number of potentially difficult interactions with the child several times a day (Calam et al., 2003) primarily around adherence to the child's medication regime, and parents' may develop a more involved or negative/critical parenting style in response to these interactions. In addition, parents (primarily mothers) of children with asthma experience higher levels of anxious symptoms compared to parents of children without asthma (Easter, Sharpe, & Hunt, 2015), which may exacerbate an overinvolved and negative parenting style, as has been proposed in the child anxiety literature (Ginsburg & Schlossberg, 2002; Ginsburg, Grover, Cord, & lalongo, 2006; Hudson & Rapee, 2002; Rapee, 2001; Whaley, Pinto, & Sigman, 1999).

Early empirical research supports the notion that parents of children with asthma are more overinvolved and negative compared to parents of children without asthma (Block, Harvey, & Jennings, 1966; Byrne & Murrell, 1977; Hermanns et al., 1989; Schobinger et al., 1992, 1993). However, the majority of this research relied on retrospective or self-report measures of parenting which may be limited by providing information on perceived rather than actual childhood practices. Three studies that used a direct observation measure – the Five Minute Speech Task - found that parents of children with asthma (aged 6–13 years old) were more negative and critical compared to mothers of children without asthma (Hermanns et al., 1989; Schobinger et al., 1992, 1993), and that increased frequency of asthma attacks and asthma severity were associated with mothers' critical attitudes but not with fathers' (Hermanns et al., 1989). However, this research did not differentiate between the parenting styles of parents of children with asthma and parents of children with comorbid asthma and anxiety. Therefore, the parenting styles associated with anxiety in children with asthma remains unclear.

Psychological disorders, including anxiety, are highly prevalent in children with chronic illnesses other than asthma (for example, diabetes, epilepsy, spina bifida) (Pinquart & Shen, 2011). Relatedly, a handful of studies have sought to demonstrate that parenting is associated with child psychological outcomes in the context of childhood chronic illness, rather than asthma specifically (Anderson & Coyne, 1991, 1993; Holmbeck et al., 2002; Ong, Nolan, Irvine, & Kovacs, 2011). This research is consistent with the argument that parenting styles are a factor associated with anxiety for children with asthma. For example, Holmbeck et al. (2002) tested a meditational model of associations between parental overprotectiveness, behavioural autonomy and psychosocial adjustment in families with 8 and 9-year-old children with spina bifida compared a healthy control group. They found that parents of children with spina bifida were significantly more overprotective than parents of children without spina bifida, and that parental overprotectiveness (measured by a self-report questionnaire) was associated with less behavioural autonomy in children, which in turn was associated with more internalizing problems (depression), in these children. Whether these results generalise to children with asthma, or children with other chronic illnesses, remains to be investigated.

The aim of the current study was to investigate the association between parenting styles as they relate to child asthma and anxiety status. This study examined parental overinvolvement and negativity using two direct observation measures, namely the tangram task and a Five Minute Speech Sample (FMSS). Four groups were compared: children with asthma and a comorbid anxiety disorder ("asthma and anxiety"), children with anxiety disorders only ("anxiety only"), children with asthma only ("asthma only") and healthy control children (i.e. with no asthma or an anxiety disorder). Children between the ages of 8 and 13 years old were included as the parenting behaviours of interest were considered more likely to be present during this developmental period and the direct observation measures were designed and validated for this age group (Hudson & Rapee, 2001; Gar & Hudson, 2008). It was hypothesized that parents of children with asthma would display greater overinvolvement and negativity compared to parents of children without asthma, and this difference would be greater for the non-anxious groups compared to the anxious groups (i.e. there would be an interaction effect). Consistent with previous research, it was also hypothesed was that parents of children with anxiety would display greater levels of parental overinvolvement and negativity compared to children without anxiety, regardless of the child's asthma status.

1. Method

1.1. Participants

Participants were children and one their parents ("dyads"). Children were included in the study if they were aged between 8 and 13 years old. Inclusion criteria for children in the asthma groups was a diagnosis of asthma from a respiratory physician, no comorbid respiratory conditions, and the asthma was monitored by optimal and stable respiratory medications. Inclusion criteria for participants in the anxiety groups was a diagnosis of an anxiety disorder. Inclusion criteria for the control group included never being diagnosed with asthma nor any other chronic health