Sleep and snoring in infancy:

Prevalence and effects on cognitive development, maternal mental health and family functioning

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TABLE OF CONTENTS

Abstract

Background and aims

This thesis was designed to deepen the understanding of the role of snoring and sleep in infants on cognitive development, maternal mental health and family functioning. Firstly it aimed to determine the prevalence of snoring in a community sample of infants aged 0-3-months-old and to examine the factors associated with snoring in this young age group. Secondly, it aimed to assess the impact of snoring and sleep duration in infants on developmental outcome at 6-months-old and 12-months-old. Thirdly, it aimed to examine whether snoring in infants places the mother at an increased risk of postnatal depression (PND), by disrupting her sleep. Finally, it aimed to assess the role of sleep disruption and snoring in infants on family functioning.

Methods

Initially, parents of 457 infants (45% male) aged 1-13.9-weeks-old completed the Edinburgh Postnatal Depression Scale (EPDS) and infant and parent sleep questionnaires. From this initial study, 117 full term infants (49% male; 88 controls; 10 infrequent snorers (snoring 1 to 2 nights a week); 19 habitual snorers (snoring 3 or more nights a week in the absence of a cold) were assessed at 6-months-old using the Bayley Scales of Infant and Toddler Development Edition III. In addition to infant sleep, parent sleep, parent mental health, family functioning and maternal IQ were assessed. 113 infants (48% male; 78 controls; 5 infrequent snorers and 14 habitual snorers) were followed-up with the same measures at 12-months-old. A subset of infants at 6-months-old (n = 59) and 12-months-old (n = 41) wore actigraphs and only parents of these infants completed a 7-day sleep diary.

Results

Overall, 9 % of infants aged 0-3-months-old were reported to snore 3 or more nights in the absence of a cold. Habitual snorers at 6-months-old scored significantly lower in cognitive ability compared to controls and infrequent snorers at both 6 and 12-months-old. Children reported to snore since birth and also reported to snore habitually had significantly lower scores in cognitive ability compared with control children at both 6 and 12-months-old. At 6-months-old and 12-months-old mothers of habitual snorers compared to controls had higher PND scores, more concern about their child‟s breathing during sleep and less sleep duration. At 12-months-old but not 6-months-old, infant sleep effected family functioning through maternal sleep and PND. There were no significant differences between snoring and non-snoring groups for family functioning scores.

Conclusions

This thesis confirmed that snoring early in life has detrimental consequences on an infant‟s cognitive development during a critical period of maximal brain growth and development. This indicates that early intervention is necessary. Larger studies replicating these results using objective measures of breathing during sleep are warranted. This thesis also demonstrated that sleep in infants influences maternal sleep, maternal PND and family functioning. Therefore, identifying ways to manage factors that are related to PND such as infant sleep problems are important because this could potentially reduce the impact on parents, children and family.

Declaration

NAME: Alicia M. Piteo PROGRAM: PhD

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List of Tables

List of Figures