

# Research roundup: November 2018

*In this section, a range of brief synopses of recently published articles that may be of interest to health visitors is presented. The aim of this roundup is to provide an overview, rather than a detailed summary, of the research papers selected. Should you wish to look at any of the papers in more detail, a full reference is provided.*

## Relationships between parental sleep quality, fatigue, cognitions about infant sleep and parental depression

It is thought that around 20–30% of young children have sleep disturbances (Sadeh et al, 2010). There is an inconsistency, however, between what constitutes or is perceived as a sleep disturbance or problem among parents and professionals.

Many parents view frequent night waking with crying beyond the age of 6 months as a problem (Mindell et al, 2006a). In this study, secondary data analysis was employed. The initial data were collated from Canadian parents ( $n=455$ ), with healthy infants aged 6–8 months who had been exposed to a behavioural sleep intervention. Examining both baseline and follow-up data from 18 months or 24 weeks post intervention (exposure to group teaching or printed material), parents reported on sleep quality, fatigue, depression and cognitions about infant sleep. Outcomes most notably included reduced night waking and improvements in parental perceptions of infant sleep problems (Hall et al, 2006). Previous research highlights that where infant sleeping issues are evident, parents report psychological distress (including depression), increased sleep fatigue and poorer sleep quality with Giallo et al (2013) identifying the prevalence of maternal fatigue at 12 months post birth predicted depression scores at 18 months post birth. However, where there is known maternal and paternal depression infant sleep disturbances and behavioural sleep issues are also deemed to be higher.

This paper explores the complex relationships between parental depression, fatigue, sleep quality and cognitions about infant sleep pre and post intervention. Through statistical analysis, Pearson's correlation coefficient (a method of measuring the relationship or association between variables) and step-wise regression (a way to build understanding of relationships by adding or removing predictor variables), the data highlighted that a number of variables were associated with both mothers' and fathers' depression. For mothers' depression, factors included maternal doubt about managing infant sleep, and anger around infant sleep as well as sleep quality. The same associations were also found in terms of fathers' depression.

Parental fatigue was also seen as having a significant impact. This is supported by an earlier study where high levels of parental fatigue were associated with lower parenting competence, greater stress, more irritability in parent-child interactions, and poorer sleep quality (Cooklin et al, 2012). Setting infant sleep limits and managing sleep issues were associated with decreased depression scores in mothers; however, for fathers, setting sleep limits scores were associated with increased depression scores. There is no doubt that mothers' and fathers' cognitions about infant sleep demonstrated complex relationships with depression scores and are not straightforward or easy to make sense of. What is more conceivable is the need in any intervention to explore the many parental doubts about managing infant sleep and to listen and assess

the difficulties and details around setting any sleep limits. When infant behavioural sleep interventions are successful, the evidence points to improved infant night waking as well as reductions in maternal and paternal depression scores. JHV

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Hall W, Moynihan M, Bhagat R, Wooldridge J. Relationships between parental sleep quality, fatigue, cognitions about infant sleep, and parental depression pre and post-intervention for infant behavioral sleep problems. *BMC Pregnancy Childbirth*. 2017;17(1):104

## Bedtime fading for sleep disturbances in preschool children

Sleep problems in preschool children are a common reason for tired and frustrated parents to seek support from health visiting teams. Studies show that 4–18% of preschoolers aged 18 months to 4 years take longer than 1 hour to fall asleep (Hiscock and Wake, 2002). Problematic night-time waking is also prevalent (Mindell et al, 2006b), with the resulting insufficient and fragmented sleep for both children and parents having a negative impact on daytime activities. Parents often try a number of different strategies with some resorting to medication.

This Australian study examines the efficacy on a behavioural intervention known as 'bedtime fading', which can be implemented by parents at home with minimal instructions. Bedtime

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## Sleep location and parent-perceived sleep outcomes in older infants

Co-sleeping during the first 6 months has become more prevalent in the past decade and, while there are safety concerns regarding sudden infant death syndrome (SIDS), there are many benefits for establishing breastfeeding and bonding between the parent and child (Colson et al, 2013; Unicef, 2017; Lullaby Trust, 2018). However, after 6 months there has been much debate about whether continued co-sleeping or sleeping in a separate room to the child increases the amount of sleep for the parent(s) and child.

A mobile sleep app, designed and produced by Johnson's Baby, was used to collate data from 6587 parents in the US and 3968 from the UK, Australia, Brazil and Canada. The participant numbers were high due to the ability of a big multinational company like Johnson's Baby to fund the research. While the paper states there are no conflicts of interest and has clearly stated all the funding sources, caution should be used as funding bias could influence the results, especially as Johnson's Baby has a large product base of sleep product for infants and children (Lexchin, 2012).

Of the US participants, only 37.2% of children aged 6 months and above slept in a separate room from their parents. Comparatively, 48.4% of the international sample slept in a different room to their child from 6 months onwards. This study also interpreted results from parents who room shared as well as co-slept. The majority of respondents in all categories were the mothers of the children and there were more boys than girls across both categories.

The authors concluded that infants who slept in a separate room both internationally and in the US from 6 months old had earlier bedtimes, fewer night wakenings, more consolidated sleep, fell asleep faster and more sleep overall in the 24-hour period when compared to room sharing or

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fading involves delaying the child's bedtime to a time at which rapid sleep onset is probable, while maintaining a regular wake-up time and age-appropriate naps (Piazza and Fisher, 1991). Parents find the time that their child usually goes to sleep by keeping a sleep diary and then treat this time as their child's usual bedtime for at least 2 days. If the child successfully goes to sleep, parents then bring bedtime 15–30 minutes earlier for 2 days and repeat until the desired bedtime is reached.

Bedtime fading is said to reduce the time it takes the child to go sleep and night time awakenings because of higher sleep efficiency after restricted sleep; i.e. the child is more tired. The researchers asked the participants (mothers of 21 preschool children with identified sleep difficulties) to complete a sleep diary for 2 weeks, after which the mothers were invited to two small group (2–4 parents) sessions offering basic sleep education, including information on normal sleep patterns and rhythms and bedtime fading instruction. The sleep diaries were maintained during the week in which the education took place and for 2 weeks afterwards.

Immediate improvements were observed in average time taken to go to sleep, night-time awakenings and

bedtime tantrums. Participants were then followed up 2 years after the intervention and the effects remained. Parents rated bedtime fading highly in terms of usefulness and satisfaction, and reported they could successfully re-implement the treatment when needed.

This study's generalisability was limited by its small homogenous sample: all participants were Caucasian mothers with a good standard of spoken and written English. Another major limitation is that there was no control group so it is difficult to ascertain how much of the change was due to the act of keeping a sleep diary, which may have affected how parents viewed their child's sleep. However, there is a paucity of evidence evaluating bedtime fading for typically developing preschool children and this study is a welcome addition to the evidence base. **JHV**

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Cooney MR, Short MA, Gradisar M. An open trial of bedtime fading for sleep disturbances in preschool children: a parent group education approach. *Sleep Medicine*. 2018;46:98-106

co-sleeping. Room sharing families also reported earlier bedtimes, more consolidated sleep and earlier sleep onset when compared to co-sleeping past 6 months.

Parents who slept in a separate room also reported having a more consistent bedtime routine, were less likely to feed their baby back to sleep, less likely to play or stimulate their baby when awake and furthermore have their infant fall to sleep independently, in comparison to room or bed sharing. While night waking was less frequent in both the separate room and shared room categories, the duration of time awake between all three groups remained the same.

Parental perception also varied between the categories, with parents who slept in a separate room to their infant reporting the least amount of problems or concerns. Co-sleeping parents reported the most amounts of perceived problems in relation to their infant falling asleep and bedtime difficulties. Once the infant is 6 months old, the risks of SIDS decreases enough that the infant can be put in a separate room to sleep and this study highlights the benefits of separate

room sleeping past 6 months (Lullaby Trust, 2018). Support and information should be given to parents to make their own informed decisions in relation to sleep routines and place of sleep especially where there are perceived parental concerns or where the child is waking frequently still. **JHV**

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