CASE REPORT

Novel sleep management method in a toddler displaying fear and trauma: the Boss of My Sleep Book

Sarah Blunden

CQ University, Appleton
Institute, Adelaide, South
Australia, Australia

Correspondence to
Dr Sarah Blunden,
s.blunden@cqu.edu.au

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SUMMARY

Sleep problems in toddlers occur in ~40% of children and increase the likelihood of postnatal depression. Most sleep training in toddlers requires contact with a trained professional, and requires a parent to ignore their child's cries, causing distress to many children and parents, increasing attrition and leaving families untreated and at risk. This case study reports success in significantly ameliorating sleep reluctance and bedtime fears in a sleep disturbed toddler with a history of trauma. It uses a novel use of bedtime behaviour management with some positive reinforcement techniques, called the Boss of My Sleep book: a non-cry, online (thus readily and cheaply available without a trained professional) sleep intervention. The system was successful immediately and was sustained after 6 months. The Boss of My Sleep book shows promise as a sleep intervention in toddlers, particularly for those parents who do not want to use cry intensive methods.

BACKGROUND

Sleep management issues are the most common presenting symptom to primary healthcare professionals in many westernised countries.¹ Behavioural Sleep Insomnia of Childhood, as classified by the International Classification of Sleep Disorders, are present in up to 40% of toddlers and young children.² Specifically, Sleep Onset Association Type is one of the most common and is usually present when a child is unable (or unwilling) to sleep alone in their rooms.² Constant night-time attention by parents at sleep onset and overnight can result in significant stress for the family, sleep deprivation for the parents, with much literature showing significant and consequential effects of this on the family unit, and mothers in particular.^{3 4}

Interventions for paediatric bedtime resistance are typically behavioural in nature, the most common being a version of extinction (ie, planned parental ignoring either completely or periodically). Although it is effective, parental acceptability of extinction is often low^{5 6} due to the difficulty parents have with ignoring their child's cries. Yet parents are overwhelmingly offered sleep management techniques that include an element of extinction.⁷ Two studies have shown that this technique is subsequently rejected by up to 70% of parents.^{8 9}

Alternative and successful non-cry-intensive methods are available^{10–12} but need to be more accessible for preschool children. One such non-cry-intensive method, or 'responsive' method,

has been previously described in typically developing children.¹¹ This technique uses a sleep training method that allows parents to attend to their child whenever the child needs and/or requests their attention (fulfilling a 'need') but gradually reducing what the child can 'do without' (a 'want'). More specifically, on attending, the parent assesses and fulfils the child's needs. For example, initially, this may be a cuddle or a drink but gradually can be reduced to a pat rather than a cuddle or the child being instructed to access their own drink rather than being supplied with one. Since the parent always responds verbally, the child comes to expect a response and learns to be patient in waiting for the response. A calmer sleepy child will settle more easily than one who is ignored and stressed.

Primary healthcare professionals are not often well trained in sleep management techniques¹³ and reportedly feel unconfident with treatment options, so the availability of a sleep management resource that could be recommended to parents of sleep disturbed children without the need for specialist services would be helpful. Online resources have been effective in infants¹⁴ but are needed in the preschool age group. This case study describes a method of ameliorating Behavioural Insomnia of Childhood, Sleep Association Type, in a toddler with long-standing sleep disturbance due to fear, trauma and neglect. The novel aspect of this case study is the use of a responsive non-extinction-based method without the distress of cry intensive methods, which in this child would be particularly unhelpful. Furthermore, the sleep management tool is available online, can be used/offered by a primary healthcare professional or even a parent and does not require a sleep specialist, as it contains a parent instruction manual for optimal at home sleep management. The method could be a welcome addition to sleep management options at the primary healthcare level.

CASE PRESENTATION

Participant information

The child was a boy aged 3 years living in a westernised English-speaking country with his foster mother and his non-biological foster sister since he was 20 months of age. His foster mother was 43 years of age, English-speaking, had tertiary qualifications and worked as a Childcare Educator. The child attended kindergarten 2 days/week as is standard practice in that country for his age and in addition, a childcare centre 3 days/week while his foster mother worked.

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He had been twice withdrawn from his birth mother in his first 20 months of life by the relevant state authority for child protection due to neglect and abuse. The authorities believed the child to be at significant risk of harm. Information about the nature of the abuse are not available, but reports from his foster mother at the time suggest he displayed typical signs of trauma (hypervigilance, fear of being alone and severe separation anxiety), behavioural regulation problems and angry outbursts. She reports he was slightly delayed in reaching developmental milestones in speech and social skills and he was being assisted with language by a speech pathologist. His behaviour was reported as ‘challenging’, he had never had guidance to follow rules and had behavioural problems during the day and at night. Separating from his foster mother was especially difficult at night due to his hypervigilance and he had never been able to sleep alone since living with her.

INVESTIGATIONS

Sleep

Information about the child’s sleep was given twice.

First, for the purposes of the Child Protection Agencies, the child’s foster mother had kept detailed records of his sleep and behaviour, from the time, he was first placed with her at 20 months and this continued for 18 months until January 2015 when he reached the age of 3 years 3 months. At that point, detailed sleep records were no longer recorded. Characteristics of the child’s sleep were extracted in January 2015 from these records on request by the author and included a protracted sleep onset latency, with multiple overnight wakings and the need for parental presence for sleep initiation and maintenance (see table 1). The foster mother reports that the child had never slept in a cot/bassinet in his biological mother’s home but rather slept wherever he collapsed from exhaustion, for example, on the floor, or couch. The child’s foster mother had not initially sought assistance to improve his sleep patterns from any health-care professional as dealing with the child’s trauma was her main priority. The foster mother had never been successful in transitioning the child into his own bed.

Second, the child’s foster mother recorded the child’s sleep after the sleep intervention process had been undertaken using a standard sleep diary in August 2015. Variables assessed in the diary included time to bed, time taken to fall asleep, number and duration of night wakings, where the child slept, wake times and sleep duration. Given the large difference in

recommended sleep duration guidelines for toddlers,¹⁵ the sleep diary included a parental estimate of refreshment in the morning used as an indicator of whether the child felt rested and presumably had sufficient sleep.

TREATMENT

The foster mother attended a sleep information session at her local community centre when the child was 3 years of age. At the time, he was still cosleeping, and so she sought help to try and teach him to sleep alone and thus improve his sleep patterns. Any previous attempts to encourage the child to sleep alone had resulted in multiple exits from the bedroom and considerable stress. At the information session, one of the resources presented was an online sleep management resource for children the Boss of My Sleep book, which did not need attendance at a specialty clinic. The child’s foster mother subsequently downloaded the pdf version from the host website dedicated to toddler sleep (<http://www.snoozeforkids.com.au>) in August 2015.

The Boss of My Sleep Book

The Boss of My Sleep book was developed by psychologists at the private Paediatric Sleep Clinic, in 2009. The book tries to improve bedtime behaviour in children aged 3–8 years, with the aim of allowing toddlers to be confident enough to sleep alone. Bedtime behaviour problems may include bedtime resistance, continued exits from the bedroom, difficulty in initiating sleep without parental presence and cosleeping. Based on psychological behaviour change theory and positive reinforcement, the Boss of My Sleep book allows a child to choose their bedtime routine (for which they are subsequently rewarded with a sticker—positive reinforcement). This immediate first reward boosts the child’s intrinsic motivation ‘to achieve’ and encourages the child to work hard for the second sticker. The second sticker is awarded for ‘waiting’ quietly in bed. Specifically, the parent informs the child that they will leave quickly, for example, to go the bathroom, in a ‘repeated quick exit and return procedure’ initially as quickly as 30 s. The parent will repeat this behaviour several times each time responding if the child calls, instructing them to wait before re-entering the room. The child comes to expect their parents’ return and their goal of waiting is easily achieved, given they do not have the time to stress before their parent’s quick return. If the child does not wait quietly, the parent will not return (response cost) but may call back and instruct them to wait quietly and then the parent WILL return. Given that the child has seen the parent do the ‘repeated quick exit and return procedure’ several times, and knows the parent will return after they respond, the child can learn to wait quietly. The parent can then gauge when to delay their ‘call back response’ allowing the child to wait longer and longer. A calmer sleepy child, who expects their parent to return, will settle more easily than one who is ignored and stressed. The second sticker therefore rewards the child’s waiting behaviour and acknowledges that this can be a difficult task for a toddler. Two stickers each night receive a daily prize and eight prizes earn the title of Boss of My Sleep with a certificate awarded from the clinic. Initially, the Boss of My Sleep book was a word document printed in clinic during individual face-to-face sessions and the sleep therapy system it entails was guided by the clinical psychologist at the clinic. In 2012, the Boss of My Sleep book was adapted into an illustrated downloadable e-book about bedtime routines in native animals, who undertake their bedtime routines and sleep alone, and it includes a 7-day reward chart. To maximise the potential for the Boss of My Sleep book to be effective without

Table 1 Comparison of mean descriptive sleep variables preintervention and postintervention

Variable	Mean (range) pre 7-day sleep diary	Mean (range) post 2-day sleep diary
Bedtime (24-hour clock)	19:40 (19:10–20:45)	19:10 (19:10–19:11)
Wake time (24-hour clock)	05:05 (04:15–06:15)	06:20 (06:20–06:30)
Time in bed (hours/min)	9 hours 20 (8:05–11:18)	11 hours 05 (11:05–11:18)
Sleep onset latency (min)	35 (10–95)	10 (10–10)
Number of night waking	5.2 (2–10)	0
Duration of night wakings (min)	5.5 min	0 min
Sleep location/environment	Parent patting to sleep in his bed	His bed alone
Refreshment score (1–5, 1=least refreshed)	1	5

direct therapeutic and personal intervention, a parent manual is included. The manual explains the concepts of using rewards to maximise behaviour change through positive reinforcement rather than ignoring or punishment (eg, closing the door) and how it encourage children to choose the desired behaviour, thus achieving compliance. Frequently asked questions and trouble-shooting are included in the book and on the dedicated website where it is housed (<http://www.snoozeforkids.com.au>).

OUTCOME AND FOLLOW-UP

An AB design (precomparison/postcomparison) was used to evaluate the effectiveness of the bedtime sleep behaviour management with positive reinforcement intervention. As can be seen by [table 1](#), all of the child's sleep variables improved postintervention.

Compared with preintervention, sleep onset latency and number and duration of night wakings were decreased and as a result, sleep duration increased by over 90 min/night. Furthermore, reports from the child foster mother suggest that these results were sustained when contacted again in April 2016 (8 months later). Although she did not complete a sleep diary at that point, she reported the child was still sleeping alone and was able to reinitiate sleep alone when he woke overnight.

DISCUSSION

Several reviews have noted the success of extinction-based methods (controlled crying, cry-it-out) in ameliorating behavioural sleep problems in toddlers.^{3 16–18} However, they also report the primary drawback of extinction is the potential for postextinction response bursts (excessive crying), leading to the likelihood of parents relenting and attending to the child. The reviews above do cite other non-extinction-based methods such as positive bedtime routines with and without positive reinforcement or response cost as alternative therapies, but suggest that there are insufficient studies of their efficacy. Kuhn and Elliott¹⁷ do suggest that these alternative methods may be the most promising alternative to extinction-based procedures and are prime targets for future study studies. But the use of positive reinforcement without extinction or response cost (punishment) has not been published in this age group as far as the author can ascertain, although non-ignoring methods have been published in younger children before.^{11 12}

What is important to understand is that bedtime resistance and dependent sleep onset associations are learnt behaviours and as such can be 'unlearned' and therefore behaviour management techniques are effective. So what is missing in the sleep management literature is the application of these positive reinforcement techniques coupled with behaviour change mechanisms to sleep behaviour in this age group, who are developmentally able to make positive decisions and execute them.¹⁹ One study of four studies in boys aged 3 years has reported on non-punitive techniques such as the 'bedtime pass' which allows a child to exit the bedroom without initial ignoring or response cost. Findings show success in decreasing exists from the bedroom which were reported by parents to be more acceptable than traditional extinction, even though they still involve elements of crying.¹⁹ Finally, one case study has demonstrated the effectiveness of positive reinforcement in changing behaviour in a classroom setting and showed a radical decrease in negative classroom behaviours through positive reinforcement and rewards.²⁰ The authors suggest that positive behaviour management systems that acknowledge and reward desired behaviours are effective and more efficacious than punishing or ignoring behaviours. The above examples suggest that elements of the current case study

such as positive reinforcement, responsiveness and lack of punitive practices can be successful in changing behaviour in young children. Combining successful behaviour change practices with an online applicability and giving an alternative choice to parents in their home and health professionals would seem to be a positive advance in the treatment of sleep problems on preschoolers.

Patient's perspective

The child's mother independently posted positive feedback onto the website about the Boss of My Sleep book. Subsequently, the author contacted her to ask permission to anonymously use the case to demonstrate the effectiveness of this online version of sleep management. Consent was subsequently gained in accordance with ethical requirements of the Australian Psychological Society. The child's foster mother wrote:

I downloaded 'boss of my sleep' book & it is amazing, I got results instantly. He has only tried to come in my bed once. We are all getting very good quality sleep & he asks for the book every night. (Parent quote, with permission)

And again after 8 months in April 2016:

He is still doing well. We have had quite a few rough days, but bedtime is still not an issue. I think because I stuck to the book, he knew that was the routine & he felt safe & secure going to sleep.

Learning points

Sleep problems in a sleep disturbed and fearful toddler can be improved:

- ▶ Based on valid and standard psychological theory of behaviour change.
- ▶ Without cry intensive nor punitive methods that are often rejected.
- ▶ Without the need for a sleep specialist consultation.
- ▶ In a cheap, accessible fashion for all English-speaking parents regardless of their location.
- ▶ With a parent manual to assist in parental management at home.
- ▶ Even when the toddler had significant fears and a history of trauma, suggesting a potentially broader use in the future.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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