Factsheet

Weighted Blankets for Sleep Difficulties in Children with Neurodevelopmental Conditions

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Weighted Blankets for Sleep Difficulties in Children with Neurodevelopmental Conditions

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Aims

Sleep difficulties such as having problems getting to sleep or waking in the night are common in children with neurodevelopmental conditions[1]. Weighted blankets are sometimes suggested as an intervention to help improve sleep. However, information available online about weighted blankets can be mixed and confusing. The aim of this factsheet is to briefly summarise current scientific research about whether weighted blankets improve sleep in children with neurodevelopmental conditions. This factsheet is not intended to replace the advice of expert clinicians, but we hope that this summary of evidence will help parents and carers who are considering whether a weighted blanket might be appropriate for their child.

What are Weighted Blankets?

There are no rules about how heavy a blanket must be to describe it as 'weighted'. This means that weighted blankets are available in a wide range of sizes, weights, and materials. However, some professionals recommend that they should be around 10% of a child's body weight[2]. It has been suggested that using weighted blankets at night may improve sleep by providing consistent sensory input, helping children to relax and settle to sleep. Some people believe that this could be particularly helpful for children with neurodevelopmental conditions, many of whom have differences in sensory processing.

Safety

It is important to note that safety concerns have been raised about the use of weighted blankets. The Royal College of Occupational Therapists recommend that they should not be used in individuals with respiratory problems, cardiac problems, uncontrolled epilepsy, serious hypotonia, skin problems, or circulatory problems[2]. Additionally, they recommend that children should be able to remove the blanket independently, that children should be supervised whilst using the blanket, and that the blanket should not be used for periods of longer than 20 minutes. This means that the Royal College of Occupational Therapists suggest children should not be sleeping with a weighted blanket for the entirety of a night. They also recommend that occupational therapists prescribing a weighted blanket should provide people with information to make informed decisions about the use of the weighted blanket, carry out a risk assessment, and create a personalised plan for how the blanket will be used safely to achieve goals[3].

Do Weighted Blankets Improve Sleep in Children with Neurodevelopmental Conditions?

Although weighted blankets are suggested to improve sleep, very little research has considered how often weighted blankets are used and whether they actually improve sleep in children with neurodevelopmental conditions. We conducted a systematic review of the published scientific literature in 2023 to identify the eight studies that we describe here. These are summarised in Figure 1 on the next page.

The best way to test whether an intervention is effective is called a randomised controlled trial (RCT)[4]. In a RCT participants are randomly placed in two groups, one group receiving the intervention, and one acting as a comparison group. Only one RCT has investigated whether weighted blankets improve sleep in children with neurodevelopmental conditions[4]. In this study, 67 autistic children were separated into two groups. One group was supported to sleep with a weighted blanket for two weeks and then switched to a non-weighted blanket. The second group started with a non-weighted blanket for two weeks and then switched to a weighted blanket. Children's sleep was monitored throughout the study using actigraphy and parent-completed sleep diaries. Actigraphs are accelerometers which measure movement and can be worn around the wrist like a watch to assess an individual's sleep and wake patterns. The researchers found that when children used the weighted blanket, they did not sleep for longer, fall asleep more quickly or wake less often than when they used the non-weighted blanket. Despite the lack of difference in sleep measured by sleep diaries or actiwatches, the study also showed that more parents rated the weighted blankets as improving sleep compared to the non-weighted blankets.

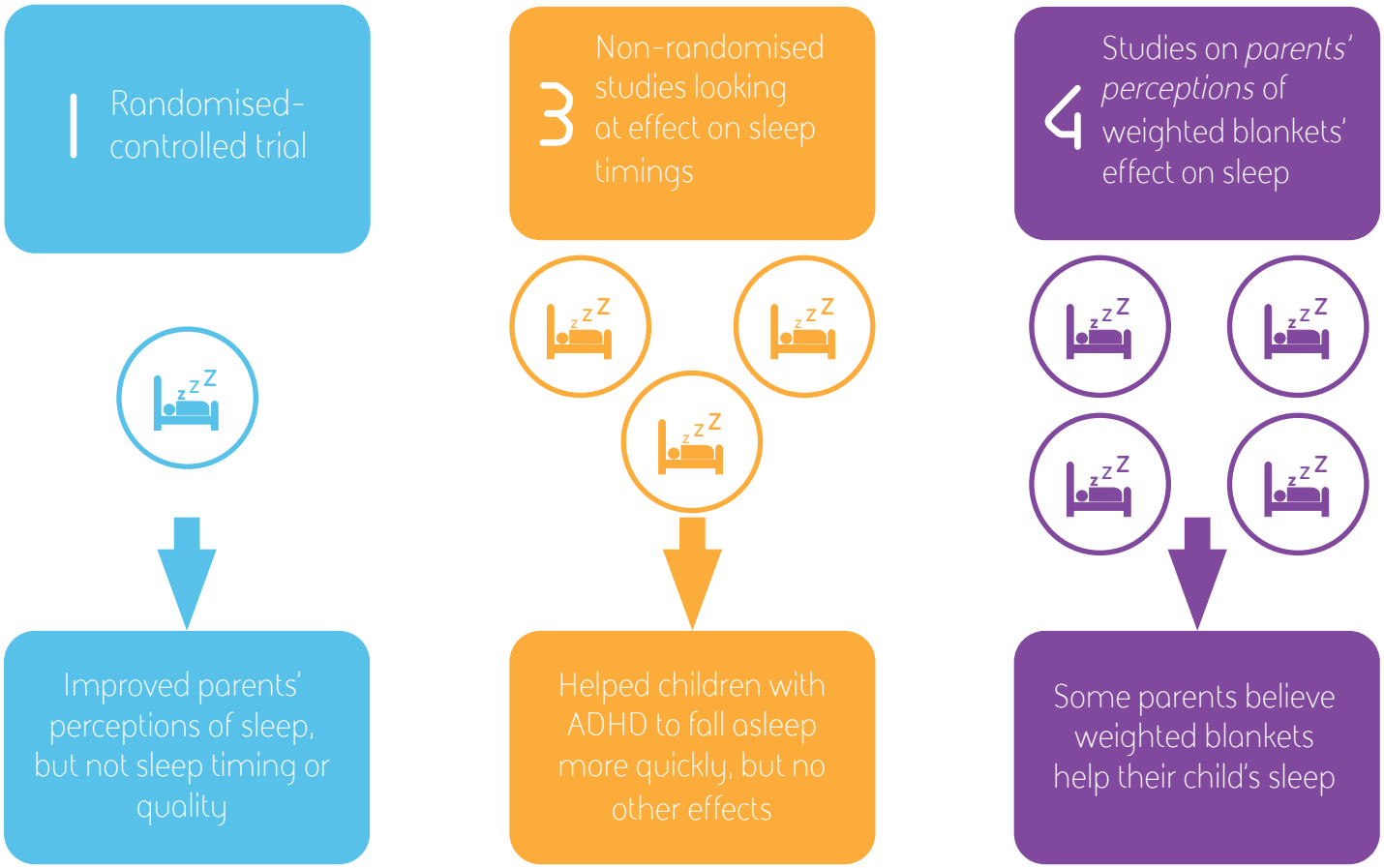
Two small studies, each with two autistic children, measured whether weighted blankets improved sleep according to parent-completed sleep diaries[6,7]. One of these studies also measured sleep using a motion tracker attached to the child's pillow or bedsheet[7]. The sleep of these four children was measured for between seven and ten days before using the weighted blanket, then for two weeks whilst using weighted blankets, and finally for seven to eight days after removing the weighted blankets. The studies found that the weighted blankets appeared to have no, or minimal, effect on the children's sleep or their morning mood. There was some indication in one participant that the weighted blanket was associated with reduced night wakings and time to fall asleep.

There has only been one study investigating the effect of weighted blankets on sleep in children with

attention-deficit hyperactivity disorder (ADHD). In this study, the researchers measured the sleep of 21 children for seven days using actigraphy[8]. They then used the weighted blankets for fourteen days whilst continuing to measure sleep. Finally, they measured sleep for a further seven days where the children returned to not using the weighted blanket. They found that children fell asleep more quickly whilst using the weighted blanket, but that it had no effect on night waking or total sleep time. However, the children in this study had relatively mild difficulties with settling to sleep before using the weighted blankets. Therefore, the study may not tell us about whether weighted blankets help children with ADHD who have more severe difficulties falling asleep.

No other research has measured the effect of weighted blankets on sleep in children with neurodevelopmental conditions directly. However, four studies have explored parents' perceptions about whether weighted blankets are effective. The first was a survey of parents of children with CHARGE syndrome, a rare, genetic, neurodevelopmental condition associated with hearing and sight impairment. Researchers found that fifteen out of thirty parents of children with CHARGE syndrome reported using weighted blankets and on average believed that they were "slightly effective" at improving their child's sleep[9]. The second study involved interviews with fifty parents of children with Angelman syndrome, a rare neurogenetic syndrome associated with intellectual disability[10]. They found that three parents used weighted blankets, and all three felt that they were helpful for their child's sleep. A third study surveyed 244 parents of autistic children with sleep problems[11]. Of the 103 parents who had used weighted blankets with their child, 67% rated them as effective. Last, another study surveyed 48 parents of children who were autistic and/or had ADHD about their perceptions of weighted blankets' effectiveness. They found that 69% of parents thought that weighed blankets helped their child prepare for sleep or fall asleep and 75% thought they helped them to sleep through the night[12].

Figure 1. A summary of the scientific literature on the effectiveness of weighted blankets in improving poor sleep



Summary

In summary, there is currently limited research into the effectiveness of weighted blankets to improve sleep in children with neurodevelopmental conditions. Most of this research suggests that weighted blankets have little effect on sleep timing (the time it takes to fall asleep, the total sleep time, the number and length of wakings), though one study does indicate some improvements to the time taken to get to sleep in children with ADHD and another suggests some small improvements in time taken to get to sleep and night waking in one autistic child . Alongside this, some research does suggest that parents perceive positive effects of weighted blankets.

Better understanding of the value of weighted blankets would require more high-quality research such as RCTs that include direct measurement of child sleep (using actigraphy) and parent perceptions of child sleep and mood (using diaries and questionnaires). It is also important that parents and carers are mindful of their child's safety when deciding whether to use weighted blankets. Based on existing research and safety guidance, there is some evidence that children may benefit from the use of weighted blankets to fall asleep. Given the concerns about safety and the lack of evidence that weighted blankets improve night waking or total sleep time, these should then be removed overnight. If you want more information about whether weighted blankets may be appropriate for your child, we recommend discussing this with a health professional such as an occupational therapist or doctor.

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About the authors

Dr Caroline Richards, Associate Professor in Neurodevelopmental Disorders, is a Clinical Psychologist and researcher at the University of Birmingham. Her research focuses on reducing negative clinical outcomes for children. Caroline is leading a programme of sleep research in the Cerebra Network for Neurodevelopmental Disorders. This research will help us to understand why sleep problems occur in children with rare genetic syndromes and help families to find solutions to these sleep difficulties.

Dr Georgie Agar is a Lecturer in the School of Psychology at Aston University. Georgie's main research interests are sleep difficulties in people with intellectual disability, and the impact these have on their caregivers. Georgie's PhD work was funded by Cerebra, investigating poor sleep in children with rare genetic syndromes, with a particular focus on Smith-Magenis syndrome and Angelman syndrome. Georgie's current research programme focuses on making sleep assessments accurate and accessible for all children with additional needs.

Daniel Sutherland is a Cerebra-funded PhD student at the University of Warwick. He is researching interventions to support family relationships and wellbeing in families of people with a developmental disability.

About the reviewer

Dr Andrew Surtees is an Associate Professor in Psychology at the University of Birmingham and a Clinical Psychologist with Birmingham Women's and Children's NHS Foundation Trust. His research focusses on the relationship between everyday difficulties, such as sleep and anxiety, and social understanding. He is interested in how we can improve the lives of children with neurodevelopmental conditions by improving their sleep and mental health. In his clinical practice, he specialises in autism assessment for children and young people with mental health conditions.

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