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Services and Programs for Managing Infant/Child Sleeplessness

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Introduction

Sleep is an infant's main activity during early development; a child entering school has typically spent more time sleeping than engaging in any other activity. As this is such a primary aspect of early development, it is important to focus on any abnormalities with this activity and their consequences for the child, especially since sleep disorders in young children appear to be so prevalent. About 25 to 50% of six-to-12-month-olds have difficulty settling to sleep or wake in the night, and these figures do not decline dramatically as the child grows: by the age of three, 25% to 30% have sleep problems, with similar percentages reported for the three-to-five-year-old age group.[1] Rates are considerably higher for children with "special needs" (e.g., those with pediatric, psychiatric or neurological disorders or intellectual impairment).[2]

The term "sleep disorders" encompasses a number of diverse conditions; more than 80 different sleep disorders are listed in the International Classification of Sleep Disorders.[3] Although many types of sleep disorders can occur in the zero-to-five age group, sleeplessness appears to be the most common and intractable problem that clinicians and parents are faced with, and this is also

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the type of childhood sleep problem to which most of the research literature is devoted. Therefore, this paper will focus on services and programs for sleeplessness. France and Blampied[4] provide useful models of the various processes involved in the development of infant sleeplessness.

Subject

Increasingly, with advances in medicine, the efficacy of any intervention is not judged solely on the basis of the impact that it has upon the condition being treated. Other variables, such as acceptability, compliance and effects on other areas of functioning/daily life, have become salient aspects affecting treatment choices, and so it is with treatments for sleeplessness. It is important to establish positive associations between an intervention and a child's social or emotional development, not only for children's welfare but also to convince parents, professionals and service/research funders that treatment for such common problems is desirable, despite possibly being costly (in terms of emotion, time or money), especially if it is likely to be of long-term benefit and perhaps reduce the likelihood of some other difficulties developing.

Problems

There are a variety of ways in which successful interventions for sleeplessness might be expected to affect a child's social and emotional development. Firstly, by reversing the direct effects of sleep loss that have been shown in other contexts to have a serious and widespread effect on children's cognitive function, educational performance and behaviour.[5,6]

Secondly, of course a child's sleep problem rarely only affects the child him/herself, but more often the whole family, who have the stress of living with the child's sleep problem while their own sleep is also compromised. Mothers of children with sleep problems are reported as having poorer well-being, and indeed family functioning can be so compromised that associations with marital problems and even possibly child physical abuse have been noted.[7,8]

Thirdly, some of the interventions involve teaching the parents techniques and skills that they could apply when dealing with their child in other contexts, so any subsequent improvements in the child may arise because there has been a change in more general parenting skills.

Prospective longitudinal studies on large cohorts of children are needed to determine the causal relationship between sleep disorders and pathological child development. It is also difficult to

unravel the mechanism of action in any successful intervention's positive impact upon the child and family functioning, partly because reported studies have mainly relied upon subjective parent reports (of both the child's sleep and any associated social and emotional factors) and also because reports of these variables have typically been made by the same person (the mother), allowing for systematic bias.

Research Context

Because sleep disorders is such a broad term and sleep medicine cuts across many medical and associated specialties, the nature of appropriate treatment varies widely.[9] For problems of sleeplessness in young children, pharmacological interventions (sedation, usually in the form of sedative antihistamines or chloral hydrate; melatonin is a relatively novel approach, but its usage and efficacy remain questionable)[10] have been the most frequently used treatment.[11] Behavioural therapy (i.e. teaching the parents various strategies they can use to help their child learn appropriate sleep behaviour and un-learn inappropriate behaviour) is now more favoured. Reviews suggest that both forms of intervention show short-term efficacy but that the effects of behavioural approaches are more durable.[12-14]

Behavioural techniques have been used preventively, with results suggesting that more consolidated sleep can be "taught" to occur,[15-18] although studies with long-term follow-up are required to establish true preventive efficacy.

It is important to establish the impact of interventions, not least because the techniques themselves are not without criticism; behavioural techniques that involve ignoring have been conjectured to be potentially harmful to the child,[19] although no empirical support has been found for this view.[20-22] Similarly, sedation raises concerns such as side effects, tolerance and re-bound sleeplessness upon discontinuation.[11] Parental resistance to usage can be an issue common to both types of approach.

Key Research Questions

When analyzing the efficacy of interventions for sleep disorders in young children, researchers have explored effects on the child's sleep primarily using parent reports (diary records or questionnaires) as the main outcome, although there have been limited studies using objective measurements, and more are needed. The child's functioning (typically, in pre-school children, assessing behaviour) and family functioning have both primarily been assessed through the use

of questionnaires completed by mothers. Again, objective, independent measures are needed, as are long-term follow-up data.

With the efficacy of behavioural interventions being accepted, attention has more recently turned to aspects of delivering such treatment (e.g. the amount and nature of therapist time needed, the use of written information).[23,24]

Recent Research Results

Successful behavioural therapy with children's sleeplessness has repeatedly been associated with reductions in child problem behaviour[8,22,25] and improvements in parental mental health or marital satisfaction.[8,26-28] Even used preventively, significant effects on parenting stress and sense of efficacy have been documented.[18] More positive interactions with the child have been reported by parents[8] and independently observed in some specific settings (e.g. during feeding).[29] However, a minority of studies have failed to find any associated changes[30] or have documented positive changes in both control and treatment groups,[31] suggesting that further work is needed to fully understand the complex relationship between child sleep problems, their treatment and the functioning of family members. It may be that there are as yet undiscovered protective or pre-disposing factors that affect outcome or treatment response.

Conclusions

Several studies have found links between successful behavioural treatment (and to a lesser extent, prevention) of the child's sleep problem and improvements in child and family functioning in ways likely to have a considerable impact upon the child's social and emotional interactions. Other types of sleep disorders (e.g. florid parasomnias, sleep terrors, excessive daytime sleepiness) have not been the subject of the current paper but are also likely to affect child development (e.g. limiting the child's activities due to embarrassment, inducing anxiety, reducing opportunity for experiences, etc.). Goodlin-Jones and Anders[32] highlight the need for research to investigate whether there are "critical times" that may particularly predispose to longer-term pathology for an individual child.

For the sake of completeness, it is worth acknowledging that children's sleep practices are culturally based and that cultural expectations will affect perceptions of what is acceptable or abnormal sleep behaviour.

Implications

Management of young children's sleeplessness is an important clinical area, both because it is so prevalent and because it can usually be relatively quickly and easily resolved with apparently widespread positive benefits. The empirical evidence supports the use of behavioural strategies (both in the short and longer term) as the treatment of first choice for dealing with childhood sleeplessness. To ensure that children receive appropriate treatment as soon as possible (or preventively), more sleep-related education for professionals (and parents) is needed so that sleep disorders are recognized, assessed and diagnosed. Current professional sleep education is globally poor.[33-36]

It should be recognized that behavioural interventions can be demanding of both parents' emotional resources and therapists' time, and results from research projects may not necessarily be extrapolated to a general clinic situation. As such, greater understanding of the "active" part of any intervention and means of simplifying its delivery and implementation should be considered a high priority.

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