COMMUNITY SLEEP CLINICS RUN BY HEALTH VISITORS

- AN EVALUATION OF OUTCOME

by

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ABSTRACT

Sleep problems in babies and young children are extremely prevalent, yet until recently little attention has been paid to them by health professionals. Sleep problems have often been accepted as part of a developmental process, however research has shown that they are often not transitory, and if not treated effectively in the early years, may have long term consequences for later life.

Health visitors are in an ideal position to offer treatment at a primary care level, as they are in regular contact with the families of young children. Existing research has shown that the employment of a behavioural approach is the treatment of choice for childhood sleep problems.

The aims of this study were three-fold. Firstly to evaluate the efficacy of a sleep clinic run by health visitors employing behavioural techniques in the treatment of pre-school children with sleep problems. Secondly to assess what aspects of the treatment process result in the outcomes achieved; and finally to make a formal attempt to explore the influence of an improved sleeping pattern on general behaviour.

Findings, using a series of n=1 studies that allowed within subject comparisons suggest that field health visitors who have received in-service training on the use of behavioural approaches are able to offer an effective service to the families of children with sleep problems. Parents identified both the behavioural and non-specific aspects of treatment as being equally helpful, but it remains unclear what actually did help. An improvement in general behaviour was noted for all children, although this was not found to be associated with changes in sleep pattern.

Due to the small number of participants, caution must be taken in generalising from the findings. The study is critically evaluated and suggestions for future research together with implications for clinical practice are discussed.

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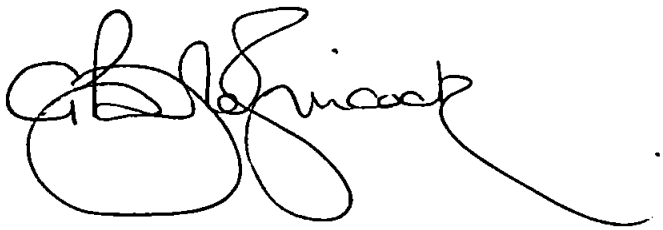
AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Clinical Psychology has the author been registered for any other University award.

The contents of this bound volume are identical to the volume submitted for examination in temporary binding except for the amendments requested at the examination.

This study was conducted while the author was a Trainee Clinical Psychologist in the South West Region based in Frenchay Healthcare Trust. The research was conducted in collaboration with Southmead Health Services NHS Trust, Bristol.

Signed 

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1. INTRODUCTION

1.1 BACKGROUND INFORMATION

Sleep problems in toddlers and pre-school children have been overlooked until recent years; they have been regarded as part of a developmental process which has not warranted a great deal of attention from health professionals. As a consequence much of the advice given to parents by health professionals has been anecdotal (Kerr & Jowett, 1994) and many opportunities have been missed to treat childhood sleep problems although treatments have been readily available (Stores, 1996). In more recent years, sleep problems are being taken more seriously by professionals as their negative impact upon both the child and the family unit is becoming more apparent.

1.1.1 Physiology of Sleep

The twenty-four hour cycle of wakefulness and sleep seen in humans, the circadian rhythm, is controlled by sleep centres in the brain. It is said to play an essential part in the physical maturation of infants and children, as during periods of sleep, there is increased secretion of growth hormone promoting physical growth and development. Sufficient sleep is therefore essential to development.

There are two sleep states seen in adults, rapid eye movement (REM) and non-rapid eye movement (N-REM). REM sleep is characterised by rapid movement of the eyes and increased physiological activity. It is the period in which most movement occurs and the most common time for dreaming and nightmares to

occur. It is a phase of light sleep, unlike N-REM which consists of four stages of sleep, from drowsiness to very deep sleep. Muscles become very relaxed in N-REM sleep and breathing becomes more regular and slow.

1.1.2 Development of Sleep patterns

The sleep pattern of infants and children differ from that of an adult. Sleep patterns are said to begin to develop before birth and both REM and N-REM sleep are present by eight months gestation, although they occupy different proportions of the child's sleeping time.

REM develops first, and full-term new born babies spend about 50% of their sleeping time in this phase of sleep (Horne, 1992). As they age, the proportion of time in REM reduces and time in N-REM increases; along with an overall change in timetable of sleep, the infant sleeps for longer periods and more of this sleep is taken at night. One explanation for this development is associated with the nature of REM sleep. During REM the infant is easily wakened, thus at a very young age the infant has short periods of sleep broken by these periods of wakefulness. As the infant matures, and the proportion of time in REM decreases and N-REM increases, the child wakes less easily, resulting in longer uninterrupted periods of sleep (Anders, 1979; Blampied & France, 1993). On average a new-born sleeps about 16 hours a day in short periods, and by four months the infant will sleep for approximately 14 to 15 hours in three or four longer episodes of sleep.

Blampied & France (1993) suggest that all infants are vulnerable to developing sleep disturbance based on the development of the sleep stages. Anders (1979)

suggested that sleep problems occur because an infant is unable to return to sleep i.e. reinitiate sleep rather than having a problem with the maintenance of sleep.

By approximately three months of age an infant is beginning to develop a sleep pattern more similar to the adult pattern, with the four stages of N-REM sleep and REM sleep occurring in cycles. During the REM sleep phase the infant may become aroused and even wake; waking during the night without disturbing a parent is very common (Anders et al, 1992; Minde et al, 1993; Paret 1983).

1.1.3 Sleep disorders

The International Classification of Sleep Disorders (ICSD 1990) identifies four categories of sleep disorders. Firstly, the dysomnias which are disorders of initiating and maintaining sleep and of excessive sleepiness. Secondly the parasomnias which are disorders associated with undesirable physical phenomena that occur predominantly during sleep; they are often referred to as disorders of arousal. Thirdly, sleep disorders associated with medical or psychiatric disorders; and finally, a category of proposed sleep disorders which are yet to be accepted as definitive sleep disorders. ICSD identifies over eighty sleep disordered conditions.

Dysomnias are very common in children, particularly those under school age, and it is with these that this study is concerned. Parasomnias are also common, though less persistent. The most common types of parasomnias are night terrors and sleepwalking. Most children do experience isolated incidences of these behaviours at some stage, and only a very few have chronic difficulties.

1.2 DYSOMNIAS IN CHILDREN

1.2.1 Categories of Sleep Problems

The dysomnias are concerned with disorders in initiating and maintaining sleep (sleeplessness), and less commonly with excessive sleepiness. Sleeplessness is traditionally divided into two categories: waking problems and settling problems (Mindell 1993).

1.2.1.1 Settling problems

Settling problems mainly consist of a reluctance or inability to settle to sleep at the required time traditionally identified by parents or carers; they are problems associated with the initiation of sleep. They are unlike adult problems of insomnia, in that the child has no apparent desire to want to sleep, the desire is that of their parents.

1.2.1.2 Waking problems

Waking problems are concerned with repeated awakenings from sleep during the night which require parental attention in order that the child will re-settle; they are concerned with the maintenance of sleep. Waking problems are also described in terms of settling problems as it is the inability to re-settle or re-initiate sleep rather than the waking that causes the difficulties for parents (Douglas & Richman, 1985; Galbraith et al, 1993).

All children wake regularly during the night (Anders, 1992), however for the majority of these awakenings the child is able to resettle unaided, hence in these

circumstances no problem would be identified. Until recently the majority of studies have concentrated on waking problems - it may be more useful to be looking at the initiation of sleep and its relationship to both settling and waking difficulties. This study was primarily concerned with the treatment of dysomnia in pre-school children.

After accounting for sleep disorders related to medical problems in children, they are still highly prevalent (Hewitt, Powell & Tait, 1989). In the past, many health professionals have chosen to explain childhood sleep problems in terms of a developmental stage in the child's life, not demanding of any professional intervention. Whilst this approach normalises the problems and thus reassures parents, it does not address the great difficulties a sleepless child poses for parents. However 'normal' a problem is, it surely deserves attention if there is the possibility of an effective intervention to promote quality of life. More recently this view has been recognised and research has shown treatments to be effective and worthwhile.

Research has shown that sleep problems are not always transitory and may become more problematic with age. Richman et al (1982 - cited in Richman 1986) found that in a sample of eight year olds with waking problems, 40% had been poor sleepers since three years of age. Early treatment is often advocated in an effort to prevent the long term persistence of the sleep problem and its wide ranging effects upon the family as a whole. Treatments will be discussed at a later stage.

1.2.2 Defining a sleep problem

There is an ongoing concern regarding the definition and diagnosis of sleep disorders in children. This may be considered from two viewpoints. Firstly, from a parent's perspective; in other words when does a child's sleep pattern actually become a problem, and for whom is it a problem - the child or the parent? As with the majority of childhood behaviour problems, sleep problems are most likely to be identified by parents. Individual differences amongst parents mean that the same night-time behaviour may be seen as a problem in one family, but not in another. So from this viewpoint the definition of a sleep problem is very much the subjective view of individual parents. In a study of one year olds who woke more than five times a week, the parents of ten per cent of the children did not perceive there to be a sleep problem (Scott & Richards, 1990b). In addition different factors within a family environment may increase the likelihood of a sleep problem being identified, for example, stress, unhappy marriage, unemployment, depression, parent's own sleep patterns; in such cases, parents' description of the child's sleep behaviour may be a reflection of other difficulties present.

Secondly, sleep disorders have been described quite inconsistently in the literature, both in terms of description and criteria. Individual differences in the way studies define what constitutes a sleep problem mean that caution should be taken in comparing the outcomes of studies. There are varying definitions of what constitutes a sleep problem; Moore & Ucko (1957) defined night waking if a child woke between midnight and five in the morning once a week; Lozoff et al (1985) defined sleep problems as bedtime struggles or awakenings on more than three nights per week if they included distress; Van Tassel (1985) defined night-time as 10p.m. until 6a.m. Criteria developed by Richman et al (1985) has been widely

used in the literature. Moderate to severe sleep problems are seen as those in which:

- the child must be aged between one and five years
- the problem must have been present for at least six months
- the problem must occur at least four times per week
- if it was a settling problem it had to last for at least an hour
- if it was a night waking problem, this had to occur at least three times per night or for more than twenty minutes or the child had to go into the parent's bed.

It is clear that defining criteria is essential in order to carry out research, however, the perception of a parent may be that their child has a sleep problem worthy of treatment, but which does not fulfil the criteria set. If a parent seeks treatment for a child's problems from someone other than their routine health care network, it is clear that there is a need to be met regardless of persistence, severity and frequency of a particular problem. On assessment it may be that the sleep problem is not objectively so severe in terms of population norms, however it is possible that with investigation, another need would be identified and require attention. Parental perception of a childhood behaviour problem is a very strong indicator of a need which deserves to be addressed.

The issues raised in this discussion will be explored in greater depth at a later point.

1.2.3 Prevalence

The majority of prevalence studies have gathered data on sleep problems using maternal reports and questionnaires. Despite inconsistencies in the definitions of

settling and waking problems, prevalence figures are fairly consistent. In a survey of nine month olds, 22 per cent were reported to have settling problems and 42 per cent had waking problems (Hewitt 1987). Studies have reported that 15 to 20 per cent of one to two year olds have settling problems (Scott & Richards, 1990a), whilst 20 to 30 per cent have waking problems (Jenkins et al, 1980; Richman, 1981; Scott & Richards, 1990a; Van Tassel, 1985). By three years of age, both waking and settling problems are found in 15-29 per cent of the population (Edwards & Christophersen, 1994; Jenkins et al, 1980; Richman et al, 1975; Zuckerman et al, 1987). The research also shows that approximately a half of those with waking problems also have settling problems.

Lozoff et al (1985) found that 30 per cent of a group ranging from six to 48 months had some form of sleep problem. Merle Johnson (1991) reported that 42 per cent of a sample of 12 to 35 month olds had settling problems whilst 35 per cent had waking problems. These figures are slightly higher than others quoted. A possible explanation for this is that most studies have taken samples from clinics, and since many parents do not seek help for sleep problems, they would not be included in figures quoted. However, Merle Johnson's data were gathered using a telephone survey, thus sampling a more diverse pool of parents and children in the general population; the figures support the suggestion that most studies underestimate the prevalence of problematic sleep behaviours (Minde et al, 1993).

There is strong evidence to suggest that if left untreated, sleep problems may persist well into childhood, having far reaching effects on the life of the child, and family unit.

1.2.4 Proposed aetiologies for sleep problems

1.2.4.1 Common observations in sleep problems

Behavioural analysis of children with settling and night waking difficulties and their parents have highlighted common observations of problems related to the child's difficulties (Seymour et al, 1983). Observations of settling the child at bedtime, were that:

- children had no regular bedtime routine supervised by a parent;
- children were difficult to manage as bedtime approached;
- children appeared to have control over when they went to bed;
- parents tended to remain with their child until he or she had actually fallen asleep;
- or they returned to the child repeatedly in response to the child calling out or crying;
- or the child was allowed to fall asleep somewhere other than their bed, e.g. the lounge or in the parent's bed.

For difficulties related to the child waking during the night:

- if the child awoke during the night, the parent would attend the child and remain until the child had fallen asleep again;
- the child was given a drink such as a bottle of milk;
- or the child was taken into the parental bed.

It is unlikely that there is any one particular reason to explain the presence of a sleep problem; the causes and maintaining factors are likely to be multi-factorial and complex in the relationship between the child, its parents and its environment. This renders the cause and effect relationship difficult to determine. In addition the

factors that are contributing to the maintenance of the problem are likely to be different from its original causes.

1.2.4.2 A behavioural model

Blampied & France (1993) provide a behavioural model of infant sleep disturbance. From a developmental point of view it is argued that infants are easily aroused from sleep and therefore vulnerable to repeated awakenings. They suggest that "parental failure to establish appropriate stimulus control and sleep related behaviours and parent-mediated contingencies of reinforcement for sleep incompatible behaviours may shape and maintain infant sleep disturbance".

This explanation provides a firm basis from which to examine specific ways in which parents have responded to their child in unwittingly unhelpful ways. Anders et al (1992) looked at the way very young infants were settled to sleep by parents. Infants who were put into their cribs awake at bedtime were more likely to settle themselves if they woke during the night than those who were put to bed already asleep. This provides evidence that a child needs to learn to settle itself.

A number of factors have been found to be associated with the development of sleep disorders in infants and young children:

1.2.4.3 Developmental and medical factors

Sleep problems appear to be associated with chronic conditions and illnesses in which there is pain and discomfort. Also where a child has special needs such as visual and auditory impairment, physical disabilities, and learning disabilities (Quine

& Wade, 1991). Premature babies appear to present with more sleep problems (Walker, 1989), and it has been suggested that rather than being a developmental issue, it is possible that parents of such babies are less able to set limits for their children, and also that they may have experienced more severe separation anxiety than parents of full term infants. Detrimental perinatal factors have also been implicated (Blurton-Jones et al, 1978; Chavin & Tinson, 1980).

Due to the special needs associated with developmental and medical problems, the majority of studies discussed have excluded children with medical and developmental problems and have concerned themselves with sleep problems which do not appear to have an organic basis.

1.2.4.4 Temperament

A difficult temperament has been identified as an aetiological factor (Schaefer, 1990). A child's temperament begins to show in the first few days of life; the association between difficult temperament and sleep problems indicates that family dynamics, learning or parental personality are not always implicated as causal factors. It can be reassuring to parents to know that they are not to blame for the problems, and this in turn can lessen any anger and guilt felt. A recent study by Sadeh et al (1994) has also suggested that negative maternal perceptions of child temperament are associated with sleep disturbance in infants. Factors such as sensitivity to changes in the immediate environment, such as light, temperature and physical comfort have also been implicated (Carey, 1974). A parent's temperament will also play an important part in identifying how problematic sleep behaviours are perceived to be.

1.2.4.5 Separation anxiety

Psychodynamic theory places heavy emphasis upon attachment theory; attributing sleeping difficulties in babies and young children to problems of separation anxiety and attachment between a mother and a child, and to dynamics within the family unit as a whole (Daws, 1993).

1.2.4.6 Environmental and social factors

There is a significant relationship between sleep and environmental stress as experienced by the parent and child (Kataria et al, 1987). Marital difficulties, financial concerns, poor housing and overcrowding (Richman, 1981), maternal depression, negative attitudes towards motherhood and the child itself, and lack of support have all been implicated as factors contributing to the onset of sleep problems.

The direction of the causal relationship in terms of many of these factors, such as maternal depression (Scott & Richards, 1990a) are very difficult to determine, and indeed are likely to be dynamic in nature. It is clear that there is a complex interaction of factors which may contribute to the risk of sleep difficulties developing in infants and young children.

1.2.5 Persistence and effects of sleep problems on children and their families

It has already been highlighted that sleep problems in pre-school children are not necessarily transitory. In a longitudinal study which followed children with sleep problems after a period of three years, 84% continued to have significant sleep

problems (Zuckerman et al, 1987). It is not clear whether they had received any treatment in the three years. General behavioural difficulties were also found in 30% of these children, as opposed to 19% in those without sleep difficulties. Behavioural problems included high activity levels, excessive crying, tiredness, temper tantrums and difficult peer relations. Interestingly the sleep disturbances appeared to have no effect upon the children's ability to learn (Kataria et al, 1987). Other studies have associated the presence of general behaviour problems (Richman, 1981; Zuckerman et al, 1987). with sleep problems although the author is not aware of any study to date which formally examines this relationship.

Persistent sleep problems in pre-school children might be expected to interfere in the child's development, however adverse long term effects in terms of educational and intellectual development have not been demonstrated (Pollock, 1992). Yet some effects have been shown in terms of social development.

Sleep problems have a significant effect upon the parents and family, although as already discussed, there is difficulty in establishing the causality of some of these effects, such as stress and maternal depression. Other common effects include greater irritability, loss of control, increased use of physical punishment to the child, lowered feelings of affection and more negative attitudes towards the child (Quine, 1992). An increased risk of child abuse has also been established (Crawford et al, 1989; Jones & Verduyn, 1993), this is reason enough to pay careful attention when parents ask for help with their child's sleep problems.

Studies offering treatment for the problems have found that improvements in sleep pattern have been joined by improvement not only in child behaviour, but in parent and child interaction. These findings lend themselves to evidence that if untreated,

the eventual impact on the child may be to become alienated from the positive affections of its parents and family and so suffer the consequences.

1.3 TREATMENT APPROACHES

Four main approaches to treatment have been investigated in the literature:

1.3.1 Medication

A parent's first contact with a professional regarding their child's sleep problems tends to have been with either a health visitor or their local general practitioner. Prescribed and unprescribed medication have been widely used, although use appears to be declining slowly. Chavin & Tinson (1980) found that 71% of children referred to them for sleep problems had been given medication. Ounsted and Hendrick (1977) found that 25 % of children in their study had received medication by the age of 18 months. This is supported by the findings of Hewitt et al (1996).

The majority of parents feel that medication is of little help in the long term, although there are short term advantages. Medication may help their child to sleep better for short periods, however side effects have been reported. Side effects include changes in daytime behaviours - increased irritability, reduced mental alertness and sleepiness during the day. In addition there has been little research into the long term effects of prolonged used of medication in such young individuals. Once medication is stopped, sleep problems return almost immediately (Edwards and Christophersen, 1994). There have been few medical trials to study the effectiveness of medication. One such trial (Richman, 1985) illustrated that the clinical efficacy of medication (trimeprazine tartrate - Vallergan

Forte) was limited, although small statistical improvements were found. However, in a similar study by Simonoff & Stores (1987 - cited in Edwards and Christophersen, 1994) it was found that the drug treatment group had 'statistically' fewer awakenings and less time awake, than those on a placebo. It is, however clinical significance and not statistical significance that is important for such treatment outcomes. It would have been interesting to have compared the two groups in the Simonoff & Stores study after a follow-up period in which both medication and placebo had been withdrawn.

It is natural for all children to wake several times during the night and re-settle themselves. The treatment use of medication is directed at reducing the number of times a child wakes to make them sleep for longer periods. This ultimately creates an abnormal sleep cycle whereby the natural awakenings are subdued. Instead, treatment needs to be focused upon teaching these young children to re-initiate sleep for themselves, but dependency upon medication could result in the delayed learning of such skills (Edwards & Christophersen, 1994).

It is interesting that empirical support for medication is so poor, in view of the efficacy of medication in the treatment of adult sleep problems. Perhaps the methodologies used so far have not lent themselves to positive support for medication (Edwards & Christophersen, 1994); however, it may also be that different biochemical processes are at work in children which result in the ineffectiveness of this treatment. Due to the limited amount of research in support of the use of medication as a cure for childhood sleep problems, and the possible side effects indicated, it is suggested that this approach should be used with caution. Although it is not a long term cure for sleep disturbance, the literature

indicates that medication is effective as a short term temporary aid in reducing night-time wakefulness.

1.3.2 Psychodynamic approach

Early psychodynamic interpretations of sleep problems in children suggest that disturbances of sleep are the first reliable signs of emotional conflicts in children, preceding all other overt indicators of conflict in the behaviour of the child (Sperling, 1977 - cited in Lozoff et al, 1985). This interpretation appears rather harsh and implies serious long term damage for the child. Selective deprivation in REM sleep in adults has not been found to result in emotional disturbance. More recently, psychodynamic theories have been less damning, although continuing to place great importance upon the emotional significance of sleep. Daws (1993) suggests that underlying family dynamics are important when babies do not sleep well, including the way in which parents approach the sleep problem based upon their own early experiences of being mothered. In addition, Daws highlights the importance of the part played by attachment theory; maternal issues around separation and attachment are said to be at the root of sleep management, and these issues are thought to be most effectively addressed using psychodynamic psychotherapy.

The efficacy of this approach has not yet been scientifically established, but Daws has compared her approach with the behavioural approach of Richman. Although improvement rates appear to be similar, Daws asserts that through psychotherapy, the mother gains a greater understanding of the psychological processes involved in her interactions with her child, and that this will then have a positive long term effect on the family as a whole. This may be true, but it is unlikely that this type of

approach can offer a quick solution to a sleep problem, as psychotherapy is a much longer term process than say, behaviour therapy. It may be, however, that this is a valuable approach to take if the sleep problems are overtly seen as part of a child's greater behavioural problems, or part of a difficult family situation, where maternal separation and attachment issues are likely to be a concern. For example, Walters (1992) found that 19% of parents referred to a sleep clinic had to be referred on for longer term psychotherapeutic help. Although the presenting problem was sleep, these parents had a hidden agenda in the form of deeper problems related to mothering, relationships, grief etc. It is interesting to ask why families referred to sleep clinics with a hidden agenda have not directly asked for help for the 'hidden' problem. One reason may be that of a perceived stigma attached to asking for help for such problems. Alternatively it may be that where family problems are multi-factorial, the parents may consciously only see the sleep problem - i.e. externalise their own problems.

1.3.3 Self help approaches

Self help approaches consist mainly of the use of written guides to treatment which parents implement independently of health professionals. It is logical to think that greater improvements would be found if therapist input accompanied the use of written information, however, the use of written information has been shown to be equally as effective as a therapist led treatment programme (Seymour et al, 1989). Initially, the group with therapist contact showed improvements more quickly, perhaps because the influence that the therapist had was to commit parents to the programme. After four weeks treatment however, no difference between the two groups was seen. At a three month follow-up the therapist led programme showed stronger maintenance of improvement. These results are not totally surprising

when one considers that the therapist led group actually received relatively little therapist contact - a one hour long introductory interview, and telephone contact - 2-3 hours contact in total. Perhaps another interpretation of these data may be that substantially more frequent and regular, face to face client contact could have resulted in more significant improvements. Another interpretation is that therapist input is not a necessary factor in order to achieve significant improvement in a child's sleep pattern, yet it is important in the maintenance of improvements seen over time.

A similar study by Scott & Richards (1990b) found no significant differences between the group receiving therapist treatment or written information; indeed, unlike the previously reported study, neither method led to improvement. The clients in this study had entrenched sleep problems which had persisted for over one year; this may have contributed to their resistance to change. At the same time it may provide some support for early intervention e.g. by health visitors who see families routinely at relatively frequent intervals.

There are a number of self help manuals available, including 'My Child Won't Sleep', (Douglas, 1984), 'Toddler Taming' (Green, 1992), and 'If You Don't Behave...' (Bidder & Hewitt, 1985); however, so far there appears to be little research into their effectiveness.

1.3.4 Prevention rather than treatment

If it is accepted that all infants are vulnerable to developing sleeping problems (Blampied & France, 1993), which may not be transitory in nature, then it may be that an approach directed at the prevention of sleep problems may be an effective

method to reduce the number of children who actually go on to develop such problems. It has already been ascertained that behaviour problems in young children can result in a great deal of stress within the family circle, and that they have been cited as risk factors for child abuse.

Prevention programmes have been suggested as a method of preparing parents to recognise and manage potential behaviour problems in the hope that some problems may be avoided or at least have a reduced impact upon the child and its family. This approach appears sensible, however caution needs to be taken as there is little research identifying the parenting skills which are necessary in order that a child will grow up without significant behavioural problems (Hewitt, 1988). The literature does however provide a mass of knowledge on situations which lead to the development of such problems (Hewitt, 1988). One longitudinal study looked at the efficacy of an ongoing prevention programme called the 'parent education project' for the parents of infants and toddlers (Hewitt et al, 1989). The results did not support the use of a prevention programme in terms of reducing the number of potentially problematic behaviours seen in children, however the parents involved in the programme evaluated it positively. The authors suggest that perhaps the programme empowered parents, reassured them and raised their self esteem, which in turn may have allowed them to function more effectively as parents.

In contrast; Wolfson et al (1992) carried out a behavioural training programme for sleep strategies with first time parents in the month before the baby was due to be born. They found that the training group parents awakened and responded less often to their children when they roused from sleep, and also reported greater

parental competence. It appears that further research into the efficacy of preventative approaches is necessary.

1.3.5 Behavioural approaches

Traditional behavioural approaches are based on the notion that parental responses to wakeful behaviour reinforce and maintain that behaviour. If parents change their responses to the child, the pattern of wakefulness will change as a consequence (Richman, 1986). It is often the case that a child has not learnt to settle to sleep without specific parental attention, and therefore the treatment goal is to break the cycle of dependency.

Behavioural approaches have gathered most support as the treatment of choice in recent years, and they are one of the main foci of the present study. For this reason, they will now be discussed in greater detail.

A variety of techniques are used in behavioural treatment:

1.3.5.1 Extinction

Traditionally, extinction (systematic ignoring) has been the technique most commonly used. Extinction requires parents to withdraw or minimise reinforcement for inappropriate behaviours, e.g. night crying. The strict use of extinction can be very distressing both for parent and child (France, 1994); some parents refuse to use this method, are unable to persevere with it, or use it intermittently which usually makes the problem worse. For example, it is known that the child's behaviour is likely to get worse (post extinction response burst) before it gets better, however, when parents experience the extinction burst they often abandon

treatment as being unsuccessful. The risk of abuse to the child has been associated with the post extinction response burst, and therefore in some families this approach may be contra-indicated.

Most parents have unsuccessfully attempted to use some form of extinction prior to professional referral. Their failure is likely to be due to ambivalence about treatment, incorrect administration and lack of support (France, 1989 - cited in France, 1994). Seymour et al (1983) attribute their success in treatment to the support families were given throughout the treatment process.

Extinction techniques have been further criticised for producing children who will feel frightened, rejected and helpless and who will lose faith in their parents (Elizabeth, 1988). However, most studies have failed to find any detrimental effects when extinction has been carried out properly, and indeed several studies have reported positive changes in the daytime behaviour of children who have been treated with behavioural techniques (Minde et al 1994; Seymour, 1983, 1987).

If used correctly extinction produces a rapid and enduring effect; however because most parents do find this a harsh and distressing method to use, modifications of this technique have been developed over recent years.

1.3.5.2 Graded extinction (or shaping)

Graded extinction is a modification of pure extinction, in which the parent changes their response to the child's behaviour in gradual stages, thereby reducing stress

for both parties. This technique takes longer to produce an effect, however some parents find it an easier technique with which to persevere.

1.3.5.3 Positive reinforcement

Positive reinforcement is frequently used with children over the age of approximately three years as it requires understanding from the child. It aims to increase desirable behaviour by providing positive consequences; in other words, a child is rewarded for an appropriate behaviour, which should result in that behaviour being reinforced. Reward systems such as the use of star charts in order to earn a treat are commonly used.

1.3.5.4 Scheduled awakening

Scheduled awakening is used with children who wake during the night, to increase the number of hours slept at any one time. This technique entails the parent initially identifying the natural waking times of the child, and then having the parent wake the child and soothe them prior to the natural waking time (Rickert & Johnson, 1988;Durand & Mindell, 1990; Edwards & Christophersen, 1994). Over time these scheduled awakenings are extended later into the night, until after several days, the number of natural awakenings is reduced. One disadvantage with this technique is that it does not allow the child to learn the skill of reinitiating sleep for themselves, and therefore in the long term it may not be the most effective cure for the problem.

1.3.5.5 Positive routines

More recently, behavioural treatment involving sleep induction and positive bedtime routines (Milan et al, 1982) has been introduced as an alternative or aid to

the previous methods discussed (Galbraith et al, 1993). The positive routine uses chaining and fading procedures; a child's bedtime is initially changed to more closely coincide with the time that the child naturally tends to fall asleep. A positive routine is then established, consisting of a set of pre-bedtime activities to be used to signal to the child that bedtime is approaching. Activities may include a bath, followed by quiet play, the child being taken to their bedroom, having pyjamas put on, a story read in bed, and finally saying goodnight to the child and the parent leaving the room. When this chain is established, it is systematically begun at an earlier time each evening so that bedtime occurs earlier and earlier until a pre-established bed time is achieved.

The approaches mentioned previously are based upon the idea that children who wake at night do so for attention, and that the removal of attention will lead to fewer awakenings. The idea behind sleep induction and positive routines is to address the child's inability to resettle himself. One suggestion has been that this is due to a disorder of arousal (Galbraith et al, 1993), i.e. that over-arousal prior to bedtime may result in difficulties in settling and problems with light, restless sleep.

Thus treatment employing sleep induction methods involves establishing a calm and predictable bedtime routine with appropriate cues for sleep, and to ensure that activities prior to bedtime are calm and relaxing for the child. These techniques have been shown to be at least as effective as extinction and its variants, and a much more positive experience for all involved (Adams et al, 1989; Crawford et al, 1989). An additional advantage is that they have been found to result in a greater reduction in stress within the family, and an increase in marital satisfaction, as compared with extinction techniques (Adams et al, 1989). They result in both the elimination of the target behaviour and also teaching new and appropriate

behaviours. It has been shown that bedtime routines are not necessary for good sleep, but they are indeed very helpful in improving the sleep pattern of children with sleep problems (Hewitt et al, 1996).

The vast majority of research into the treatment of childhood sleep disturbance has supported the behavioural approach as treatment of choice. Behaviour treatments have resulted in up to 73-90% success rates (Galbraith et al, 1993; Jones & Verduyn, 1983; Richman et al, 1985; Seymour, 1987), with improvements persisting up to at least one year following treatment. These treatments are simple and provide an acceptable rationale for parents.

1.3.5.6 Assessment of behavioural treatment

In general the success of behavioural treatment for sleep problems is assessed by two methods. Firstly, the analysis of sleep diaries which are completed by parents throughout treatment; secondly from reports of parental satisfaction with any changes in the child's problem behaviour. Indeed measures of outcome are heavily dependent upon parental perception of the child's problem behaviour. Researchers have questioned the accuracy of parental recordings in sleep diaries (Richman 1986), however it has been shown that parents of poor sleepers are indeed very good at keeping accurate diaries, whereas parents of good sleepers are much less accurate (Minde et al, 1993). In addition, over ninety per cent agreement has been found when comparing parental sleep diary recordings with video recordings of a child's sleep behaviours (Anders, 1979). Data recorded in sleep diaries have been analysed in a number of ways; most commonly a single score has been derived based upon the information from the diaries, to assess the

severity of a sleep problem, such as the composite sleep score devised by Richman (1985, 1981).

Treatment has been carried out in a variety of ways, including individual treatment at specially set up sleep clinics, home visits, groups and through self help manuals. Individual treatment is tailored to the special needs of each child and family depending upon the problems, and the resources the family have available to them.

Most of the studies carried out have used small select numbers of subjects, and the majority had no control groups. A large proportion of the literature has consisted of retrospective evaluations of treatment programmes that have been implemented, and they had not been subjected to controlled criteria or conditions. Thus, the accuracy of data gathering, and inferences made in conclusion may be questionable. Another shortfall of the existing literature is that there has often been little long term follow-up of clients to assess the maintenance of changes.

1.3.5.7 Who facilitates treatment?

Behavioural treatment has traditionally been carried out by clinical psychologists, psychiatrists and behaviour therapists; however these professionals are usually part of a secondary or tertiary health service, and in high demand, and their services are not always easily accessible. As sleep problems are of such a high prevalence, and the demand for treatment is increasing, it would appear sensible to be able to deliver effective treatment at a primary care level. This is true in terms of preventative work as well as treatment.

One group of professionals well equipped to take on this role are community health visitors. They are in close and regular contact with families from when a child is very young indeed, and they are likely to have formed a good relationship with mothers in particular. This means that the health visitor would be able to intervene with a sleep problem at its early stages, thereby reducing the likelihood of it developing into a chronic problem for later childhood. In addition, a parent is likely to perceive less social stigma attached to receiving help from a health visitor than from a psychologist or a psychiatrist, whom they may consider to deal primarily with mental health issues.

1.4 THE ROLE OF HEALTH VISITORS IN THE BEHAVIOURAL TREATMENT OF SLEEP PROBLEMS

The criticisms put forward for studies into behavioural treatment in general also apply to the literature which specifically looks at behavioural treatment as carried out by health visitors. A number of studies of sleep clinics run by health visitors have been supportive of the efficacy of treatment using behavioural methods (Bidder et al, 1986; Crawford et al, 1989; Farnes & Wallace, 1987; Galbraith et al, 1993; Thornton et al, 1984); however few have been controlled studies. In many of these studies treatment has been guided by the Sleep Manual (Richman & Douglas, 1985) which recommends with equal weight, the use of all of the behavioural techniques previously mentioned (extinction, positive reinforcement, shaping, and bedtime routines), with treatment being individually tailored for each case.

1.4.1 Controlled studies

The small number of controlled studies reported have not been supportive of the use of behaviour treatment as delivered by health visitors. Weir & Dinnick (1988) examined the efficacy of behavioural treatment given by health visitors (guided by the Sleep Manual) as compared with the effect of standard health visitor practice. Results indicated that although both groups showed significant improvement in sleep patterns, the behavioural treatment was not found to be superior to standard health visitor practice. These results are based upon health visitor ratings of success rather than parental ratings of success, which is the method by which most other studies have been evaluated. In addition, the experimental group of health visitors were trained specifically for this study, yet their training was not evaluated in terms of its success. A number of other factors, highlighted by the authors could contribute to the results found. Firstly, it may be that health visitors are unable to effectively use behavioural techniques in their work; this is unlikely, as a number of other studies indicate. Secondly, the health visitors in this study may not have had enough training in these techniques to make them effective. Another interpretation of this result is that it is not the actual behavioural techniques that are important in treatment, but the non-specific aspects of the treatment, such as the therapist involvement, which could account for the success of both types of treatment, as perceived by parents.

1.4.2 Uncontrolled studies

The majority of uncontrolled studies do support the effectiveness of behaviour treatment for sleep problems by health visitors. Farnes & Wallace (1987) evaluated a pilot sleep clinic run over a six month period. Fifteen out of 22 of the children treated using the guidance of the Sleep Manual were discharged with their

parents feeling that the sleep problem had been completely resolved. On average four and a half attendances to the clinic were required to reach a satisfactory improvement, this is consistent with other studies. The majority of studies used parental recognition that a sleep problem has improved as the criterion for success, and in fact all of the studies which have supported the efficacy of health visitor guided behavioural treatments have used this measure of outcome. In practical terms this is perhaps the most useful method as it is the parents who ultimately decide if their child's sleep behaviour is a problem. Unfortunately the use of these subjective measures render the outcome difficult to assess from an objective and scientific point of view.

Bidder et al (1986) were also supportive of the health visitor facilitated treatments; however another study conducted by the same team (Richards, Bidder and Gardener, 1992), which reported using the same methods as in the first study, was not supportive in terms of improvement rates, referral rates and cost effectiveness. They had evaluated ten sleep clinics in their district, and reported a 32 per cent non attendance rate, and only an overall 22 per cent improvement rate in the 68 per cent who did attend. The families referred to these sleep clinics lived in a relatively deprived geographical area where health clinics in general had a poor attendance rate. Another factor highlighted is that the health visitors received little supervision. The fact that in the studies showing significant improvement rates, supervision has usually been offered on a regular basis by a clinical psychologist, highlights the importance of supervision in successful outcomes. It was also reported that half of the health visitors involved in this study had little enthusiasm for the method of working, although they had originally been motivated to be involved in the study.

Whereas the majority of the earlier studies used the Sleep Manual for guidance, Crawford et al (1989) conducted a study placing emphasis on what they called a constructional approach which emphasised the use of sleep induction techniques and positive routines, rather than extinction and positive reinforcement. They reported significant improvements in all nine children in their study; however, of those, only two had had a sleep problem for more than six weeks. For most of the children the problem was not a long-standing one; even so, this does show that the early intervention of the health visitors was successful in bringing about significant improvement in a problem which could have become more difficult to deal with at a later date. This study's success may also have been contributed to by the fact that the health visitors visited clients' homes for treatment, rather than asking them to attend a clinic. Also, these families were self selected and fairly middle classed, and such families tend to be well motivated.

In another study using the constructional approach, but this time in a sleep clinic (Galbraith et al, 1993), a 73 per cent success rate was reported. 62 per cent maintained their improvement rate at follow-up, however the follow-up period ranged from 2 to 18 months, thus the figure of 62 per cent may not in itself be a meaningful one. Criticisms aside, it is clear that an approach focusing on sleep induction and positive bedtime routines is an effective one in the treatment of sleep problems. It is possible that it is more effective than traditional methods such as extinction in terms of its relative ease to incorporate into individual family schedules.

As illustrated by the different methodologies, criteria and methods of assessment, it is difficult to make clear comparisons of the research conducted in this area. Health visitors are able to deliver treatment for childhood sleep problems in an

effective manner; what is not quite so clear is what it is about the treatment that works. It has already been suggested that the non-specific aspects of therapist involvement may play an important role in the outcome of treatment (Weir & Dinnick, 1988). What is needed is further research using controlled studies, with clearly defined procedures in order to attempt to ascertain if it is indeed the behavioural treatment that is effective or whether improvement is related to non-specific factors of treatment, such as the therapist's attitude, and having someone to talk to, as has been suggested by a number of the studies (Hewitt et al, 1989; Hewitt et al, 1993; Weir & Dinnick, 1988). This is one of the issues to be addressed in the present study.

1.5 NON-SPECIFIC FACTORS IN BEHAVIOURAL TREATMENT OF SLEEP DISTURBANCE IN CHILDREN

Further support for the importance of non-specific factors in treatment is offered by Galbraith et al (1993). Parental satisfaction with a child's sleeping pattern following behavioural treatment was found to be independent of whether or not the child's settling times or awakenings had reduced. The parents felt that the most useful thing about the sleep clinic was the support they received and the opportunity to talk the problem through with an objective observer. Being that the assessment of success of this type of treatment is based on parental perceptions, this suggests the possibility that non-specific variables of treatment may play an important role in the success or failure of behavioural treatments for sleep disorders as reported by parents.

It has been accepted that the therapeutic relationship is a component of all types of psychological therapy; and that a good therapeutic relationship is an important factor in the level of outcome in behavioural therapy (Bennun & Schindler, 1988; Ford et al, 1978; Keijsers et al, 1991; Marziali & Alexander 1991). Non-specific factors are those factors common to all types of therapy, which are not directly concerned with the treatment approach itself. Rogers has been extremely influential in this area, with his emphasis on the relationship between therapist and client being the important vehicle for change. Outcome is likely to be a function of the type of therapy as well as the quality of the therapeutic relationship. Bordin (1979 - cited in Marziali & Alexander, 1991) suggests that a productive therapeutic relationship relies on the therapist's and client's agreement on the goals of treatment; their agreement on the tasks needed to achieve the goals, and the development of an interpersonal bond or relationship.

The role of non-specific factors in childhood sleep problems have been highlighted, yet the author is not aware of any studies that have looked particularly at the non-specific factors in treatment with such children. What is different about such treatment is that trained therapists are engaged in helping parents to act as therapists themselves to enable them to carry out the treatment with their children. A number of studies have looked at which non-specific factors are important within therapy in general, and within behavioural therapy in particular in the adult population.

In a literature review, Sweet (1984) concluded that non-specific factors are powerful in their interaction with behavioural techniques to affect outcome of therapy. Important factors included the personality of the therapist, helping the client understand their problem, and the client having the opportunity to talk to an

understanding person. Galbraith et al (1989) found that parents were satisfied with outcome irrespective of actual changes in the behaviour of their sample of children. In other words their apparent satisfaction with therapy did not reflect the outcome. One suggestion is that it is the parent's attitude and perceptions towards their child that changed in treatment, which were important in determining whether the sleep pattern continued to be seen as a problem. The implications for these findings are important as it is not the actual improvement in sleep pattern that is important, but the parental perception of improvement. The power of the therapeutic relationship is felt to lie in the client's like, trust and respect for the therapist, which is likely to increase the likelihood that the client will listen to the therapist, trust their judgement in choice of intervention and persevere with the interventions, i.e. it appears that in the process of behaviour therapy the therapist is a social reinforcer for the client. Within behavioural therapy the client is regarded as a co-therapist, and decisions about goals and treatment are negotiated with the client; along with the positive relationship, the treatment is likely to succeed. A good quality therapeutic relationship appears to be necessary but not sufficient to produce positive outcomes as a result of therapy.

One focus of this study was to attempt to assess whether the parents who were satisfied with treatment outcome (regardless of actual improvements recorded), perceived the non-specific aspects of therapist involvement to be as important as the behavioural aspects of therapy in the treatment they received. Several studies have carried out such investigations in the adult literature showing non-specific factors to be felt to be more useful in treatment by clients than the behavioural treatment itself (Llewelyn & Hume 1979; Sloane et al, 1977).

If indeed, the non-specific factors are accepted as being more important, this offers support for the suggestion that satisfaction may not be with the consequences of behavioural treatment, but with the impact of the non-specific factors resulting in a change of attitude of the parents and a change in perception of their child's behaviours. Such factors may include the development of a sense of empowerment in the parents, an increased self esteem, perception of increase social support, a decrease in depressed mood, all of which are likely to lead to better coping strategies and attitudes.

1.6 EFFECT OF TREATMENT ON GENERAL BEHAVIOUR

Generalised behaviour problems are present in between 30 to 45 per cent of pre-school children with sleep disorders as compared to 15 to 19 per cent without sleep disorders (Kataria et al, 1987; Minde et al, 1994; Richman et al, 1982). These figures have been gathered using behavioural checklists completed by parents i.e. they reflect parent's perceptions of their child's behaviour.

The relationship between sleep problems and the attribution of negative characteristics in a child's behaviour are clear, for example mothers of poor sleepers are more ambivalent towards their young children (Lozoff et al, 1985) and are often more depressed. The mother-child relationship is only one of the factors in the complex relationship of causes and consequences of childhood sleep problems (Sadeh & Anders 1993). It would be logical to suggest that the negative feelings a parent might have towards a poor sleeper might affect that parent's general interaction with the child in a negative way. In addition, it is predicted that a poor sleep pattern would result in a tired parent and possibly a tired and irritable

child (although this is not always the case, as often children do not appear to suffer from a lack of night-time sleep perhaps because they are able to make up for it during the day), contributing to difficult daytime behaviour. An improvement in sleep pattern would be likely to result in a well rested family able to function in a less stressful atmosphere during the day. An improvement in parental attitude towards the child may also be seen.

Some studies have commented on these issues, but only one study (Minde et al, 1994) has carefully considered them. Following successful treatment for sleep problems, the sample's behaviour rating improved by a mean of 30 per cent, to show that treatment had a positive effect on both sleep and overall behaviour as perceived by parents. It was also identified that the changes were not as a result of the generalisation of skills the parent had learnt in order to deal with the sleep problems. Following on from this work it would be useful to see whether generalised behavioural improvements correlated with changes in sleep pattern as measured by a composite sleep score taken from sleep diary data. This investigation will be attempted in the present study, paying particular interest to whether similar results were recorded if, following treatment, parents perceived there to be a sleep improvement when in fact no clinical or statistical improvement was seen.

Quine & Wade (1991) focused on sleep disorders in children with learning disabilities, and found clear associations with daytime behaviour problems. Settling problems were related to difficulties with general management, hyperactivity, concentration, attention seeking behaviour, destructiveness and disruption. Waking problems were associated with temper tantrums, mood, hyperactivity, problems with concentration and attention seeking. This list of

problems is not surprising; the majority are symptoms one might expect to see in a child who has not been sleeping well and one who might be experiencing interactional difficulties with a parent.

1.7 SUMMARY

Sleep disorders are extremely common in infancy and early childhood; they are not always transitory and can prevail into later childhood if untreated. Behavioural approaches have been evaluated as the treatment of choice, with a success rate of between 73 and 90 per cent. Behavioural treatment of sleep problems has traditionally been administered by psychologists, psychiatrists and behaviour therapists, however due to the high prevalence of sleep disorders it would be more efficient if effective treatment could be carried out by professionals at the primary care level. Health visitors are in an ideal position to develop this role.

Research has been mixed in its support for health visitors' abilities to use behavioural treatment with sleep problems in children. It is unclear what differentiates between the studies, although a number of factors are suggested. The more supportive studies have focused on positive routines as their method of treatment as opposed to the more traditional behavioural approaches of extinction and shaping. The less supportive studies appear to have used the more traditional approaches. Problems with definitions of sleep problems and their criteria for study inclusion have also varied. Additional important factors have included the motivation and level of training of health visitors. The level of training received and supervision given would appear to be critical factors. A number of the less supportive studies have indicated a reliance upon the Sleep Manual created by

Richman as their sole source of training. Thorough training from professionals well acquainted with behavioural treatments, such as clinical psychologists, would almost certainly add to the effectiveness of health visitors' success in treatment.

Several studies have also made allusion to the fact that although treatment outcome may not have been successful in terms of an improvement in settling and waking as measured by the sleep diary data, parents have still expressed satisfaction with outcome, and no longer perceived their child's sleep pattern to be problematic. Parents have described the non-specific aspects of therapy as being the most helpful part of therapy. If the non-specific aspects of therapy have caused changes in perception in terms of the way in which parents see their child, then it has been successful. If a parent feels that they have been heard, they are more likely to engage in treatment than if a positive therapeutic relationship is not present.

To date, the author is not aware of any study which has looked specifically at what it is about the treatment as delivered by the health visitors, that works. It is predicted that not only will health visitors be successful in terms of treatment outcome; but non-specific factors will be perceived by parents to be at least as important as the behavioural techniques themselves.

Finally, general behaviour problems have been associated with the presence of sleep problems in pre-school children. These data have been gathered using parental perceptions of child behaviour. It is predicted that if parental perceptions of their child's sleep pattern change, then a shift in perceived behaviours will also occur. It will be useful to see if there is an association between parental perception of sleep problems and general behaviour regardless of whether analyses of sleep

diaries shows improvement in sleep pattern, or whether there is an association between general behaviour and sleep behaviour as assessed by the sleep diaries.

1.8 AIMS OF STUDY

- To evaluate the efficacy of a sleep clinic run by health visitors employing behavioural techniques in the treatment of pre-school children with sleep problems.
- To assess what it is about the treatment that results in the outcomes achieved, with specific attention to the effect of the non-specific variables of the whole treatment package. It is suggested that parents will perceive that the non-specific aspects of treatment are as important as the behavioural aspects of therapy.
- To formally attempt to measure any changes in daytime behaviour as associated with changes in sleep pattern.

1.9 HYPOTHESES

1.9.1 Hypothesis 1

Health visitors will be effective in treating sleep problems in children with the use of behavioural techniques, effects will be demonstrated as follows:

a) an improvement in overall sleep pattern will be demonstrated by a decrease in composite sleep scores (calculated from data collected in sleep diaries) when compared pre- and post-treatment for each child (within subjects).

More specifically,

b) for children who present with a settling problem, a comparison of the sleep diaries pre- and post-treatment will show a decrease in time taken to settle for each child (within subjects).

c) For children who present with night waking problems, a comparison of sleep diaries will show a reduction in the number of times a child wakes during the night, post-treatment as compared to pre-treatment (within subjects).

d) Regardless of presentation of problem, comparison of the sleep diaries pre- and post-treatment for each child will show an increase in the number of hours slept per night (within subjects).

e) It will be demonstrated that a:

- decrease in composite sleep score
- decrease in time taken to settle
- decrease in number of times waking per night
- increase in number of hours slept per night

will be seen for children who are entering the treatment phase whereas the corresponding children who are in the baseline phase will not show any change, thus eliminating maturation as the cause of the effect (between subjects).

1.9.2 Hypothesis 2

The improvements in sleep patterns predicted in Hypotheses 1a,b,c,d will have been maintained at a six week follow-up, as illustrated by changes recorded in the sleep diaries.

1.9.3 Hypothesis 3

a) Scores of improvement in sleep pattern as indexed by post intervention measures minus baseline measures (composite sleep score) will correlate with an improvement in scores of general behaviour as indexed by the post intervention measures minus baseline measures (of BCL).

b) Scores of improvement in sleep pattern as indexed by follow-up measures minus baseline measures (composite sleep score) will correlate with an improvement in scores of general behaviour as indexed by the follow-up measures minus baseline measures (of BCL).

1.9.4 Hypothesis 4

As measured by the purpose designed questionnaire, it is hypothesised that parents will rate measures of the non-specific aspects of the therapeutic process as equally helpful as the behavioural aspects.

2. METHOD

2.1 DESIGN

The study was based on a variation of a multiple baseline across subjects design (Barlow & Hersen, 1984). The nature of the sleep clinic was such that the number of children seen was dependent upon the number of referrals and the availability of appointments at the clinic. This meant that children would become involved in the study in succession, rather than concurrently, as required for a multiple baseline across subjects design. The design was adapted as a non-concurrent multiple baseline across subjects (Barlow & Hersen, 1984). This would enable analysis both between and within subjects. There was no separate control group, however it was planned that control comparisons would be provided by the clients themselves, as at any one time, there would be at least two children at different stages in baseline, treatment and follow-up phases.

2.2 HEALTH VISITORS

The author approached two health visitors who were keen to set up a sleep clinic in their local health centre to ask for their co-operation in this study. They had recently attended an intensive one day introductory course on running sleep clinics using behavioural approaches, organised by the Health Visitors Association and Karvol Family Healthcare Service.

2.3 PARTICIPANTS

The sleep clinic accepted referrals only directly from parents and carers. Posters and leaflets were displayed in local health centres, nurseries and GP surgeries. Local health visitors and GPs were informed of the clinic (see Appendix I) and encouraged to convey this information to the families that they saw. Information was also be sent to the local National Childbirth Trust officer.

2.3.1 Inclusion criteria

- Children aged between ten months and five years at the time of referral, whose primary identified difficulty was dysomnia, i.e. problems associated with settling or waking during the night.
- Unlike the majority of studies previously conducted, a 'sleep problem' was defined in terms of a parent's perception. The definition of a 'sleep problem' being that the parents perceived there to be a problem with their child's sleeping habits. There were no limitations placed on the persistence or severity of the problem before a referral was accepted; if the problem was severe enough for the parent to seek treatment from a source other than their routine care network, then it warranted assessment and treatment at the sleep clinic.

2.3.2 Exclusion criteria

- Parents with significant learning difficulties
- Children whose sleep problems were associated with a psychological trauma, e.g.bereavement, abuse.

- Children who were already receiving treatment regarding their sleep problem or another behavioural problem, from another source.
- Following initial assessment, the health visitors reserved the right to refer children on to other professions if this was felt to be more appropriate.

2.3.3 Numbers of participants

A drop out rate of 30% was estimated. The aim was to recruit approximately 30 children and their parents in the hope that 20 families would complete the study. This estimate was based on a number of factors including the availability of health visitors' time, and the period available in which to conduct the study. Data was collected between July, 1996 and February, 1997; see Appendix II for a calendar indicating the timing and order of children referred for treatment.

2.3.4 Description of treatment group

Thirty children and their parents were self-referred. Eleven completed the study, i.e. treatment and follow-up in the time available; seven males and four females ranging in age at the onset of the study from ten months to five years. It was not possible to analyse the sleep diary for one of the children (child 11), hence this child was included for the analysis of only hypothesis 4 . Table 2.1 summarises data for each child.

Nineteen of those recruited did not complete treatment either due to time constraints or for a variety of other reasons:

- one child was autistic with severe learning disabilities, and was seeing another specialist

- family problems necessitated the withdrawal of one child
- the sleep clinic was run at an inconvenient time for one mother to attend
- four children made a spontaneous recovery before they were due to be seen
- one family gave no reason for non-attendance
- one mother attended the clinic and engaged in treatment with her child, however she felt unable to record the sleep behaviour in the diary
- two completed the treatment phase, but not the follow-up phase
- eight families were still engaged in treatment when data collection had to be terminated.

Child	Age at onset	No. days of baseline	No. days of treatment	No. Days of follow-up	Problem: w-night waking s-settling
1	15 m	26	82	7	S
2	19m	3	14	7	W
3	2 yrs	10	21	7	W & S
4	2 yrs	14	28	7	W & S
5	2 yrs	7	42	7	W
6	3 yrs	7	42	7	W
7	4 yrs	7	11	7	W
8	4 yrs	7	47	7	W & S
9	5 yrs	7	42	7	S
10	10m	14	35	7	W & S
11*	10m	14	35	7	W & S

* Sleep diary data not available, therefore data used only for hypothesis four.

Table 2.1: ***Summary of participant data***

2.4 MEASURES

Only a brief outline will be offered, as detailed descriptions of measures are available in published form.

2.4.1 Questionnaire derived from the Knowledge of Behavioural Principles as Applied to Children (KBPAC) Questionnaire (O'Dell et al 1979)

KBPAC is a 50 item, multiple forced choice questionnaire designed to assess the understanding of the application of basic behavioural principles as applied to children. The full instrument takes between 30 and 60 minutes to complete. Although not standardised, it possesses satisfactory content validity and good internal consistency (r=0.86), even on odd-even split-half administration. The questionnaire given to the health visitors was a derivation of the KBPAC in that it utilised only the odd numbered questions due to time constraints. (See Appendix III).

2.4.2 The Child Behavior Checklist (Achenbach 1988)

This checklist is an empirically based form designed to assess children's behavioural and emotional problems. It is designed to be completed by people who can directly observe children's behaviour in various contexts, such as parents and teachers. There are two versions of the checklist; one for children aged 2-3 years, and another for those aged 4-18 years (see Appendix IV). Both were used in this study. Test-re-test reliability is high for both versions (r=0.85 for the problem scale for 2-3 year olds; r=0.89 for the problem scale for 4-18 year olds), and is also high for the individual syndrome scales. Measures of internal consistency of syndrome scales are deemed redundant, as scales were derived from principal

components analyses of correlations among items. The results can be analysed in terms of a total problem scale score, as well as in terms of the individual syndrome scales which are identified.

2.4.3 Sleep diaries

Parents were asked to record their child's sleep behaviours in sleep diaries prior to their initial meeting with the health visitors, during the intervention phase, and during follow-up (see Appendix V). This information was used in order to calculate four values: the number of hours slept per night, the number of times the child woke per night, the time taken to settle each night, and a composite sleep score (see Appendix VI - adapted from Richman, 1985). As previously highlighted, many variations in the type and severity of sleep problems make it difficult to compare children; calculation of a composite sleep score allows this comparison to be made (see Appendix VI for the method of calculation).

2.4.4 Sleep Questionnaire

This is a semi-structured questionnaire adapted from the one designed and used by Hewitt et al (1991) (see Appendix VII). It was designed as an information gathering tool to be completed by the health visitors in conjunction with parents at the initial assessment interview. The inter-rater reliability of this tool is high at r=0.94 (range 0.86-1.0). Test-retest reliability was not calculated for this assessment tool. Individual treatment programmes were based on the both this information and that recorded in the sleep diaries.

2.4.5 Assessment of therapeutic factors questionnaire

This was designed by the author to assess how parents perceived the input received from the sleep clinic, and what they found helpful. This was with particular reference to the behavioural components and non-specific components of the therapeutic process. The questionnaire was designed as the author was not aware of an existing questionnaire which addressed the issues fully.

2.4.5.1 Construction of questionnaire

The construction of the questionnaire was based upon a review of the literature, with particular reference to two studies, Sloane et al (1977) and Llewelyn & Hume (1979). Two lists of statements were generated (Oppenheim, 1992); one designed to access the behavioural aspects of treatment and the other to access the non-specific aspects. In all, 39 statements were initially generated and incorporated into one questionnaire.

Five judges (all clinical psychologists) were asked to sort these items into one of three categories:

- an activity in the therapeutic process whose central emphasis was upon the behavioural elements of therapy;
- an activity in the therapeutic process whose central emphasis was upon the non-specific elements of therapy;
- a third category was available if it was not clear which of the above two categories the item should be placed.

Only those items with at least 80 per cent agreement of placement into categories were accepted for the final questionnaire. Twenty-nine items were included in the

final version; nine items focusing on the behavioural aspects and twenty on the non-specific aspects of therapy.

Each item was to be rated on a five point scale, from unhelpful to very helpful, so that on analysis it could be assessed which of the items were perceived as being most helpful within the therapeutic process (see Appendix VIII). The questionnaire achieved a Flesch Readability Index of 77.3%, suggesting that it has a high level of reading ease. The questionnaire was piloted on three mothers whose children had attended the sleep clinic whilst it was being piloted prior to the commencement of the study. It took the mothers on average, ten minutes to complete, and commented that they found it an easy task.

The temporal stability of the questionnaire was not checked before it was used in the study for a number of reasons. Firstly, it was not possible in practical terms to carry out test-retest reliability as it was considered that it would be placing too many demands upon parents, particularly when one bears in mind how busy the parents of young children are, and how many demands they already have placed upon them. Secondly, difficulties had already been encountered in attempting to arrange suitable times to visit parents for their assistance; this along with the lengthy distance that had to be travelled to their homes rendered the task impossible at the time. Finally, the questionnaire was piloted and it was established that the questions asked were very simple, clear and easy to understand, and in view of this it was felt that they were not likely to cause any problems in terms of their temporal stability.

2.5 PROCEDURE

2.5.1 Setting up the sleep clinic

The health visitors agreed to run the sleep clinic as part of their routine work, and thus had to set aside time in which to commit to this project. Establishing the sleep clinic was jointly negotiated by the author and the health visitors. The sleep clinic was run in a health centre, for a four hour period, once a week, with each health visitor doing a two hour shift. Initial assessments were scheduled for one hour, with subsequent visits being allocated an half hour each.

Once the framework for the sleep clinic had been established, the author was not involved in any way in its running, or in any supervisory or consultancy role. It was the efficacy of the treatment given by the health visitors that was being assessed, and any involvement may have contaminated the outcome.

The sleep clinic was piloted for 10 weeks prior to the beginning of the study, in order that the health visitors were able to familiarise themselves with the methods and procedures they were using, and to deal with any teething problems that might occur. As a result of this a number of only minor adjustments were made.

2.5.2 Training of health visitors

As previously mentioned the health visitors had attended a one day introductory course about sleep clinics and behavioural approaches. In addition, both health visitors attended a further two day course in behavioural treatments for sleep problems. This course was run by their Healthcare Trust.

The health visitors were asked to complete a questionnaire derived from "Knowledge of Behavioural Principles as Applied to Children" (KBPAC) questionnaire (O'Dell et al 1979), before and after attending this course in order to obtain pre- and post- course measurements of acquisition of knowledge. On completion of the study, the health visitors again completed this questionnaire to assess any change in their level of knowledge following the experience they had acquired during the study.

2.5.3 Recruitment of parents and children

The leaflets and posters sent out to promote the clinic did not highlight the fact that the clinic was to be involved in a study, as the service was to be offered regardless of parents' willingness take part in the study. Letters sent to general practitioners and health visitors did however, state the purpose of the study (see Appendix I).

Cases were randomly allocated to each health visitor, unless a particular family was routinely seen by that health visitor, in which case, the referral was managed by the other health visitor. Once a referral was received a letter of appointment was sent to the parents. Enclosed was an information leaflet about the study, asking for parental involvement (see Appendix IX). The author telephoned parents to arrange an appointment at their homes to discuss the study further, obtain their consent to be involved (see Appendix X) and complete the first questionnaire. For obvious reasons, this meeting had to take place prior to the first appointment at the sleep clinic.

2.5.4 Parent's introduction to study

It was explained that in order to further the development of services for children with sleep problems, the study was being conducted to evaluate the efficacy of the sleep clinic, and to enquire what, within the treatment process, parents found helpful. It was felt that identifying the purpose more specifically might bias the parents and therefore introduce extraneous variance. It was made clear to parents that treatment was to be non-contingent upon their participation in the study, and they had the right to withdraw at any time.

Involvement consisted of them being asked to complete some short questionnaires at three points in time: prior to the initial sleep clinic appointment, in the week following discharge, and finally six weeks after discharge. They were also asked to keep comprehensive sleep diaries of their child's sleep behaviours for the period of the study. If parents agreed to take part, the first questionnaire was completed at the initial meeting with the author; the author again visited the family at home to complete the second set of questionnaires. After the six week follow-up period, the parents were telephoned to remind them that the last questionnaire was due to be completed; this was sent through the post along with a stamp addressed envelope to return it to the author.

2.5.4.1 Measures

The child behaviour checklist (BCL - Achenbach 1988) was completed at the three points in time, identified above. Following discharge the questionnaire designed to assess what parents had found helpful about the clinic was also completed.

The parents were asked to complete sleep diaries for the two week period prior to the initial appointment with the health visitor at the sleep clinic and throughout the treatment period. After the six week follow-up, a blank sleep diary was sent along with the final questionnaire, and parents were requested to complete this for a further week, in order to assess whether any changes in the child's sleeping habits had been maintained at a six week follow-up.

2.5.5 Sleep clinic procedure

The initial appointment involved taking a thorough assessment, using the semi-structured interview schedule, the Sleep Questionnaire.

Interventions were based upon behavioural approaches to sleep problems. Parents were seen on an individual basis, and the interventions were individually tailored for each child depending upon the nature and severity of the problems, and negotiated with each parent depending upon their ability and willingness to implement the techniques. The health visitors also encouraged the parents to suggest interventions.

As the author was not involved in the treatment process, it is not possible to detail the precise interventions used for each child, however it is emphasised that each intervention was individually tailored to family's needs. The behavioural approaches used were based primarily upon positive routines, and it is possible to identify and outline of some of the principles used:

- Treatment was goal orientated, and the sleep problem cut down into manageable chunks to be dealt with one at a time.

- There should be a consistent and predictable bedtime routine lasting for no more than approximately one hour before bedtime.
- During the bedtime routine, excited physical play should be avoided in favour of supervised quiet activity, in order to avoid excess stimulation, and induce a relaxed atmosphere.
- A child should learn to settle themselves without needing the presence of a parent.
- Night-time feeding should be discouraged after the age of approximately six months, as this is a potential reinforcer for refusing to re-settle following night-time waking.
- A child should be helped to learn that bedtime is a distinct part of the day, and the routine should reinforce this, by providing appropriate cues, such as pyjamas being put on immediately prior to going to bed.

The frequency of appointments with the health visitor was negotiated with each parent, so that each parent was seen either every week or every two weeks, until a successful outcome had been reached. This entailed the complete resolution of the sleep problem or a reduction in the problem to a level with which the parent was satisfied.

Following discharge, parents were made aware that they could contact the sleep clinic again should they require. They were also told that following completion of the project, general feedback on the findings would be available to them, although individual cases would not be discussed.

2.6 SUMMARY OF PROCEDURE

- Self referral to sleep clinic received.
- Appointment letter sent out, including 2 weeks sleep diaries to complete and letter introducing study.
- Parent(s) received appointment letter.
- Author called parent(s) to arrange meeting to discuss study.
- Meeting with parent(s) - if consent to participate is given, initial questionnaire is completed - BCL.
- Parent(s) attend assessment appointment with health visitor, sleep questionnaire is completed.
- Parent(s) attend sleep clinic on weekly or two weekly basis until problems are rectified to satisfaction of parents.
- Health visitors inform author of last sleep clinic appointment with family.
- Author arranges second meeting with parent.
- At second meeting, second BCL and purpose designed questionnaire are completed.
- Six week gap.
- Author makes telephone contact with parent(s), and sends out third BCL to
- complete, along with a sleep diary to be completed for one week. A stamp addressed envelope provided to return to author.

3. RESULTS

TESTING OF HYPOTHESES

Eleven children completed the study, although sleep diary recordings for one child were not suitable for use, and hence this child's data was not included in analyses other than for hypothesis 4. The data for each child are illustrated in graphical form to allow visual inspection (Figure 3.1 and Appendices XI, XII, XIII). A linear regression trendline over all three phases is included on the graphs to show the trend of changes over the study period. For graphs representing time taken to sleep, please note that data points suggesting that the child took no time (zero) to fall asleep actually mean that the child settled immediately or took less than 5 minutes to settle. Statistical analyses were performed in order to supplement the visual inspection as there was so much variance in the data,.

For hypotheses 1a-d, 2 and 3, each child was treated and analysed in terms of a single case experimental design. One way analysis of variance was used to analyse overall data for each child for hypotheses 1a-d; if significance was found, contrasts were used to identify differences in means between the phases in the study. Means and standard deviations for each child can be found in Appendix XIV. As recommended by Kazdin (1984 - cited in Barlow & Hersen 1984), the data for each phase for each child were tested for serial dependency using autocorrelations of lag 1, and where dependency was found, a conservative significance level of p=0.01 was used, rather than employing the Greenhouse-Geiser or Huynfedt tests, as they assume equal numbers in each phase. There were too few data points in each data set to enable time series analyses.

3.1 ASSESSMENT OF HEALTH VISITORS' KNOWLEDGE OF BEHAVIOURAL PRINCIPLES

As measured by the questionnaire derived from the 'Knowledge of Behavioural Principles as Applied to Children' (KBPAC) Questionnaire (O'Dell et al 1979), Table 3.1 illustrates little increase in the health visitors' knowledge of behaviour principles. The range of possible scores is 0-25. In the O'Dell et al study (1979), a group of 125 completed five hours of training in behavioural principles; their mean percent correct on the KBPAC increased pre-post from 48-85%.

Health Visitor	Score prior to training	Score day after training	Score at follow-up
1	10	13	11
2	8	11	11

Table 3.1 ***Health visitors' behavioural knowledge***

3.2 WAS THERE AN OVERALL IMPROVEMENT IN SLEEP PATTERN?

In hypotheses 1a and 2, it was predicted that treatment would result in an overall improvement in sleep pattern as measured by the composite sleep scores, and that this would be maintained after a six week follow-up period.

Table 3.2 summarises the results of the one way analysis of variance for each child over the three phases - baseline, treatment and follow-up. Of the ten children involved, a significant difference in means was found for seven children. Inspection of the graphical representation of the data in figure 3.1 complements the statistically analysed data.

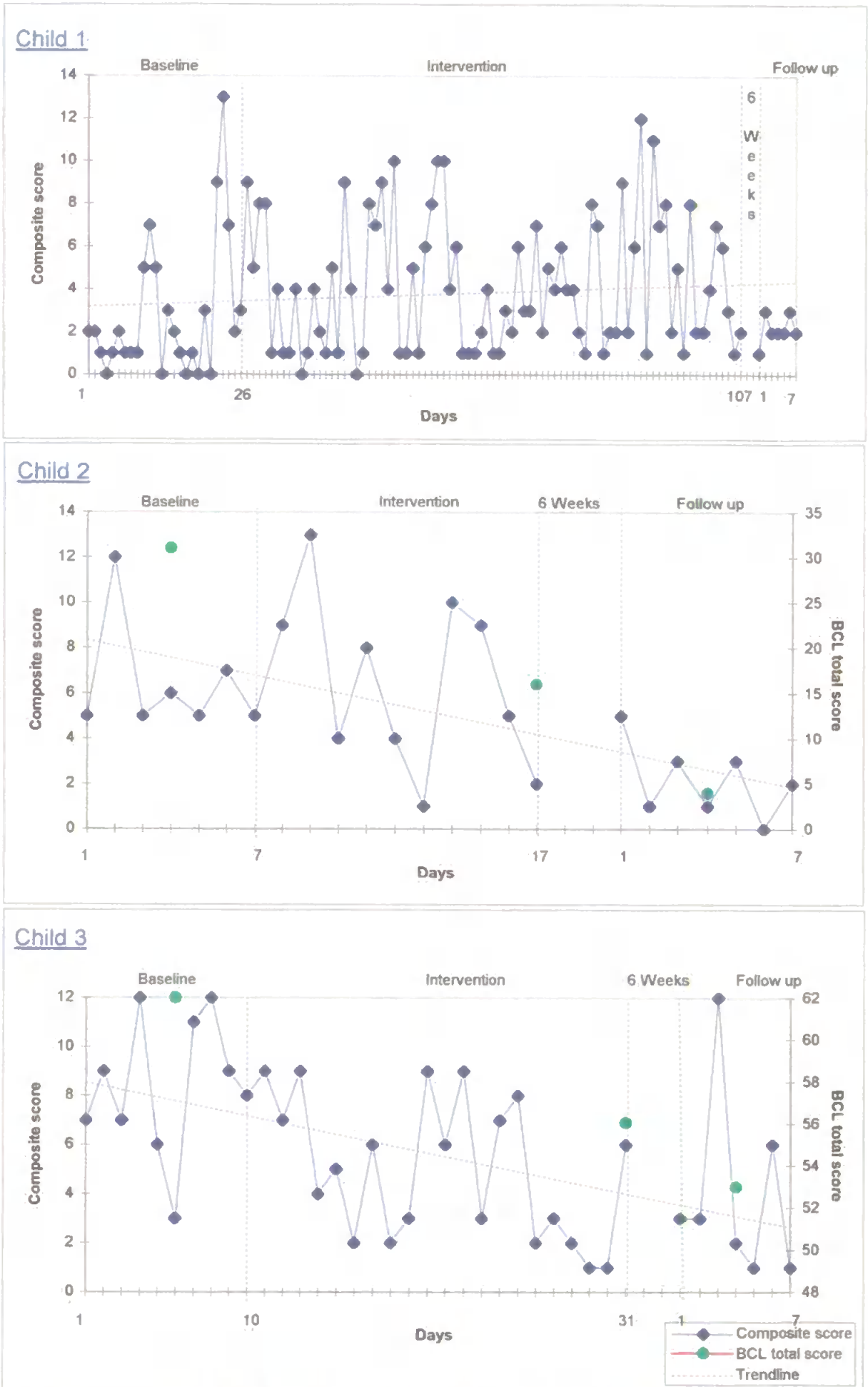
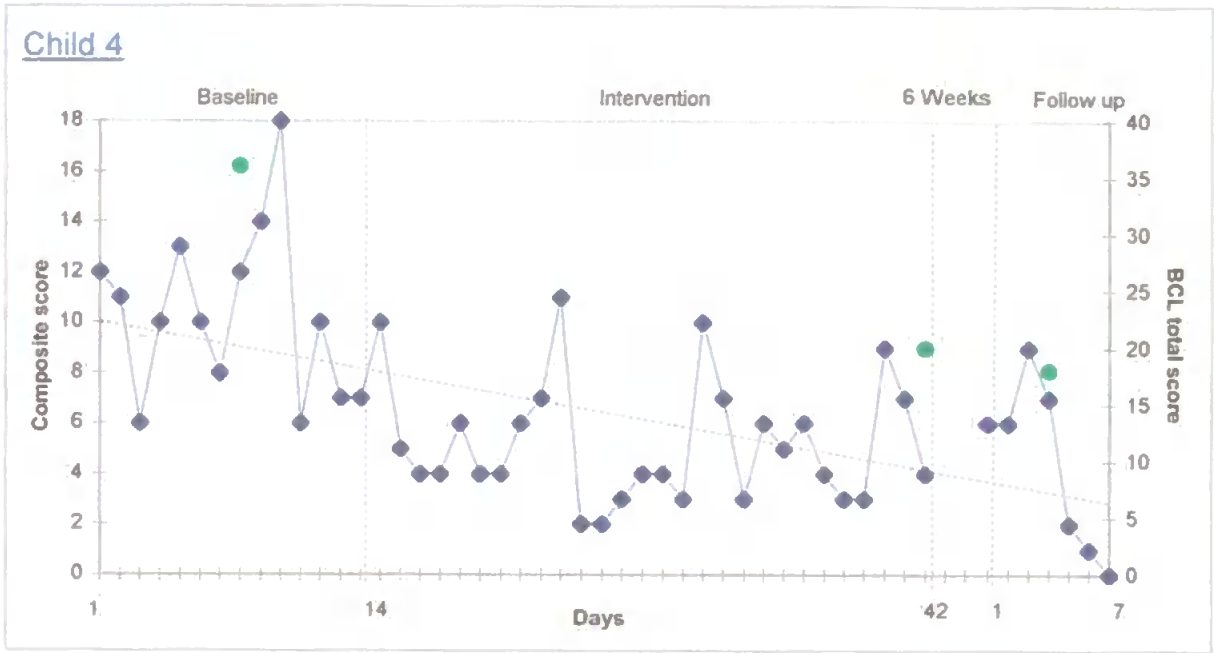
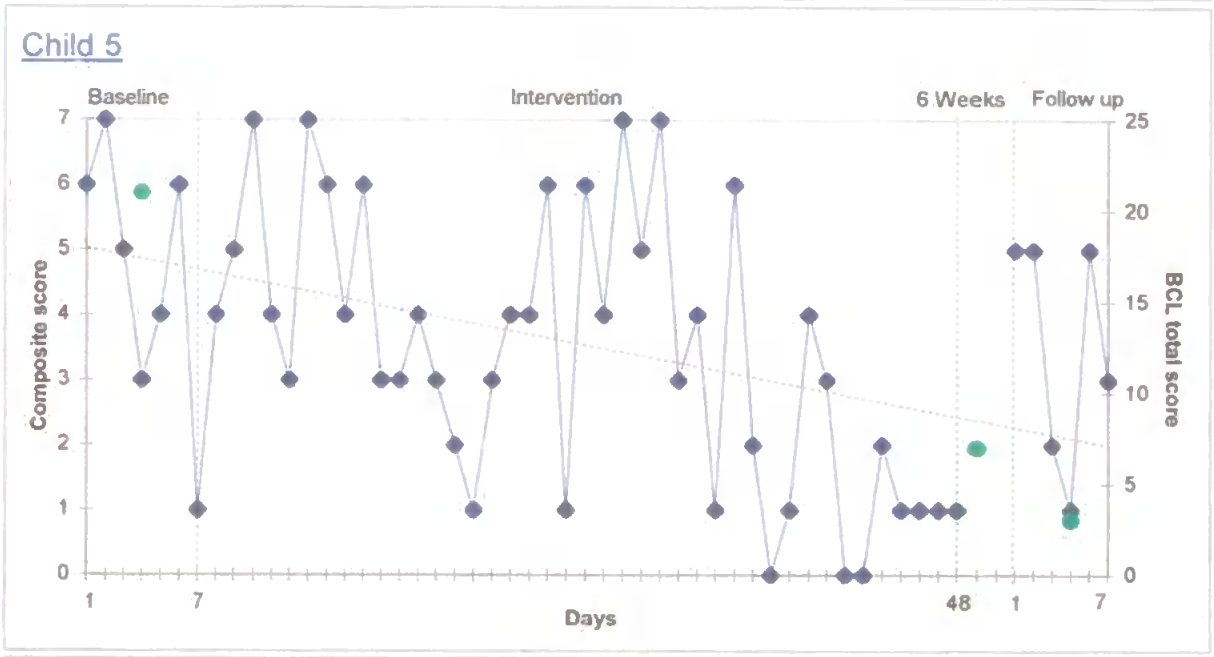


Figure 3.1: Composite sleep score and BCL score per child





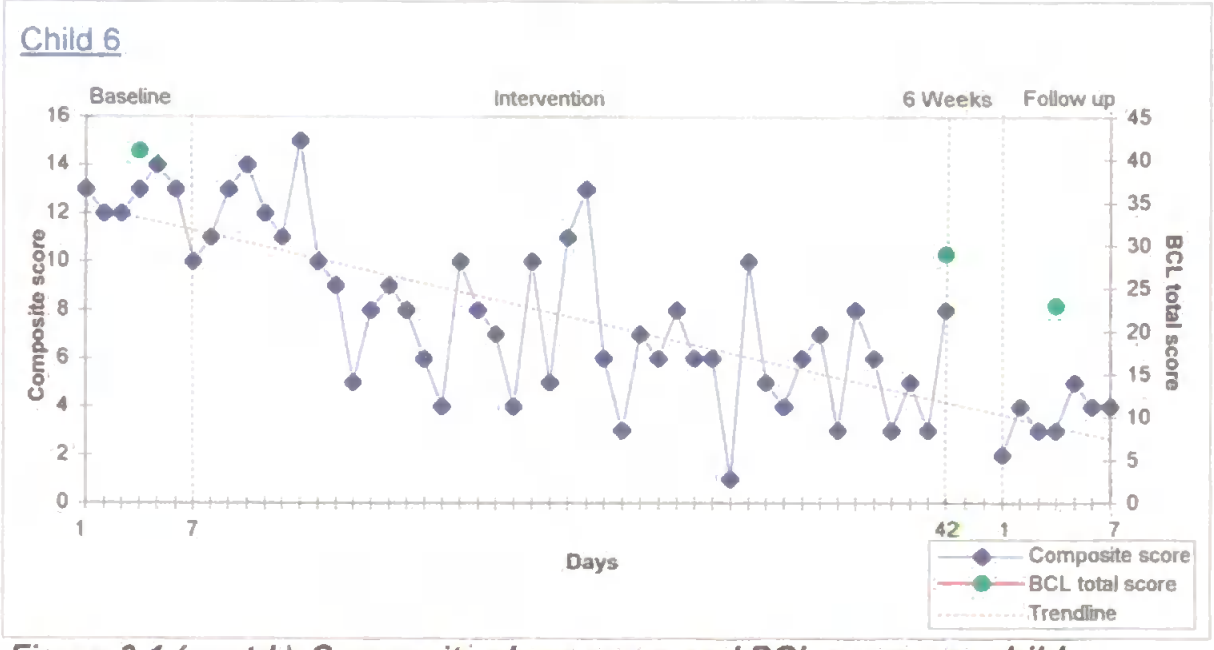


Figure 3.1 (contd.) ***Composite sleep score and BCL score per child***

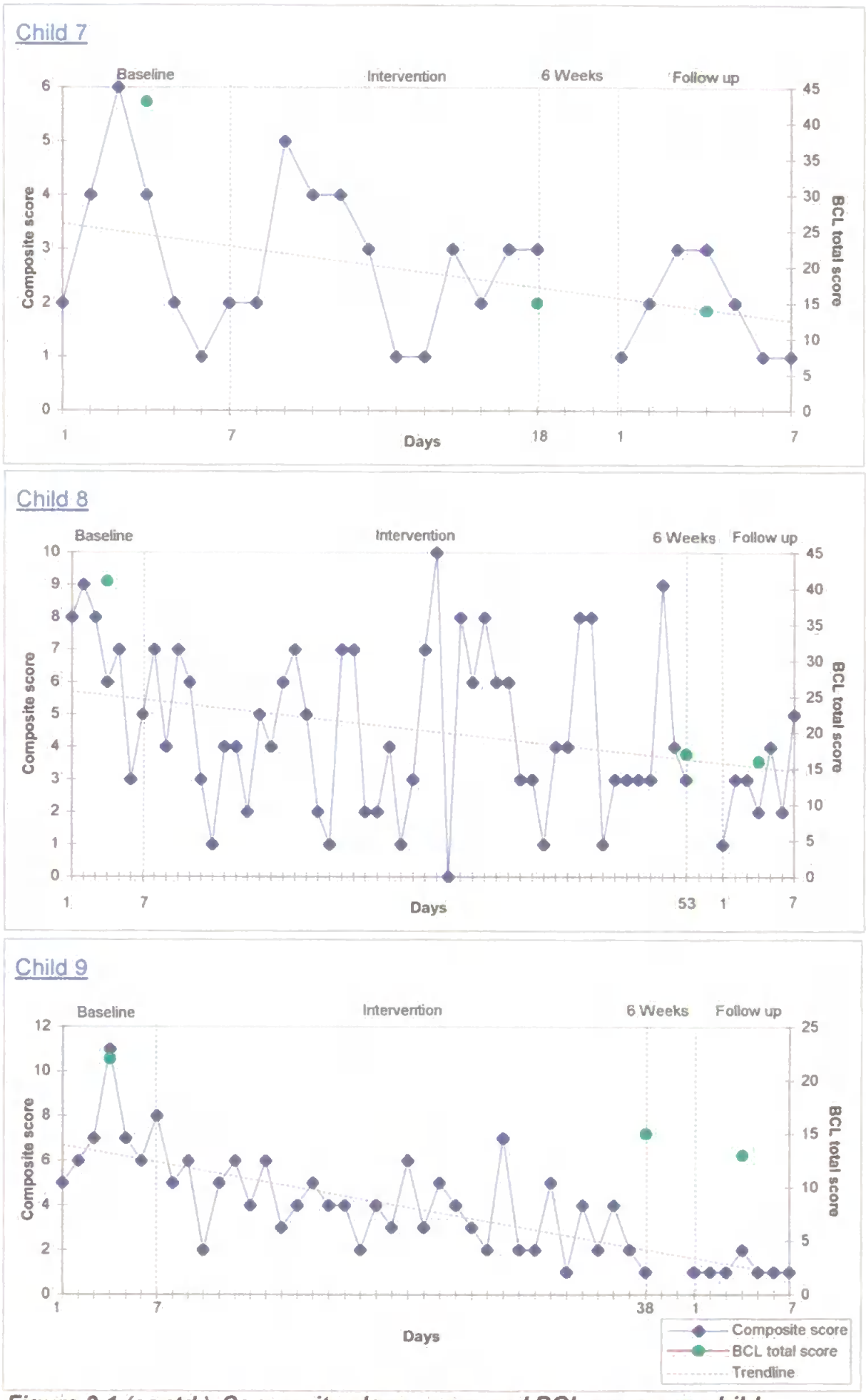


Figure 3.1 (contd.) ***Composite sleep score and BCL score per child***

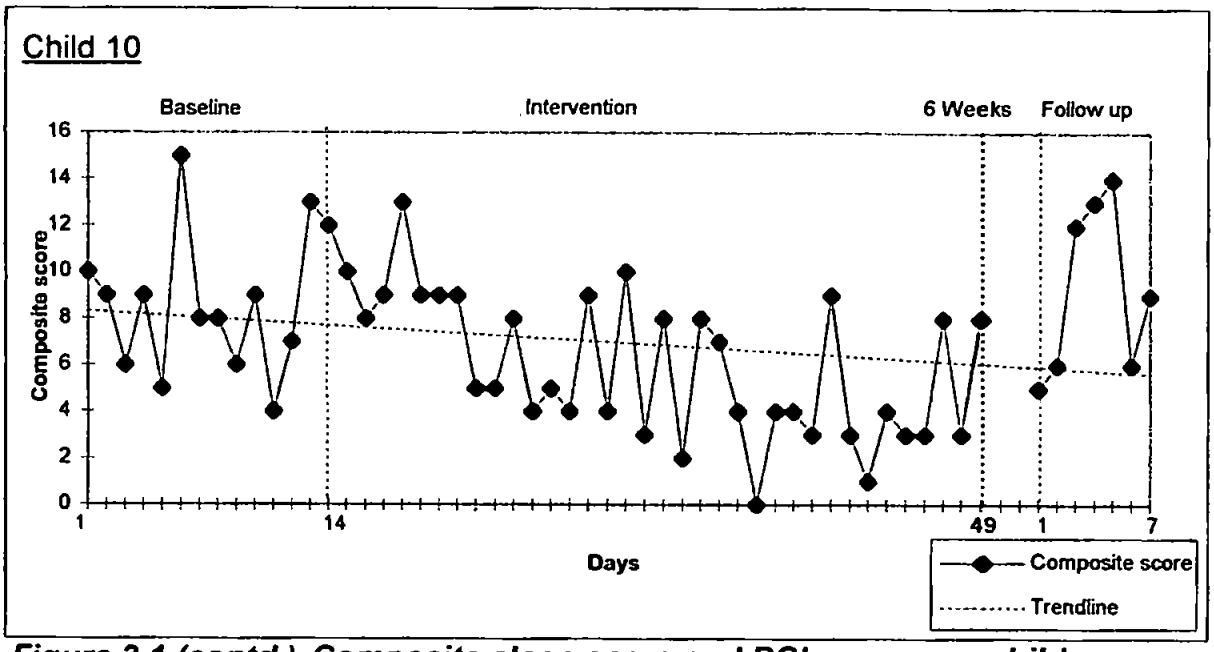


Figure 3.1 (contd.) Composite sleep score and BCL score per child

Analysis of Variance				
Child	**Age at onset**	**F ratio (d.f. 2)**	**F probability**	**Significance**
1	15 m	3.2673	0.418	not significant *
2	**19m**	**5.3273**	**0.0134**	**significant**
3	**2 yrs**	**5.5716**	**0.0079**	**significant**
4	**2 yrs**	**16.6123**	**0.00**	**significant**
5	2 yrs	0.9564	0.3910	not significant *
6	**3 yrs**	**15.8491**	**0.00**	**significant**
7	4 yrs	1.5735	0.2298	not significant
8	**4 yrs**	**4.4476**	**0.0160**	**significant**
9	**5 yrs**	**26.3508**	**0.00**	**significant**
10	**10m**	**5.8887**	**0.0049**	**significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which significant changes were seen are indicated in bold lettering.

Table 3.2 ***Composite sleep score for all three phases***

Further analyses were carried out for those children in which an overall significant change was identified (see Table 3.2); table 3.3 summarises the results for the baseline and treatment phases, which were analysed using contrasts from the analyses of variance. This indicates that six children (nos. 3,4,6,8,9,10) showed statistically significant improvement by the end of the treatment phase, and suggesting that treatment was successful. Child 2 did not show statistical improvement until the follow-up period.

Child	**t value**	**Degrees of freedom**	**t probability**	**Significance**
2	0.420	2.6	0.707	not significant
3	**3.151**	**18**	**0.006**	**significant**
4	**4.963**	**20**	**0.00**	**significant**
6	**7.026**	**22.9**	**0.00**	**significant ***
8	**2.448**	**8.9**	**0.037**	**significant**
9	**4.292**	**8**	**0.003**	**significant**
10	**2.817**	**23.8**	**0.010**	**significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which significant improvement were seen are indicated in bold lettering.

Table 3.3 ***Composite sleep score; contrasts for baseline - treatment phases***

Table 3.4 summarises the results for the treatment and follow-up phases. Of the six who initially showed improvement, three showed further statistically significant improvement (nos. 6,8,9), and three children (nos. 3,4,10) maintained that level of improvement (although child 10 showed a strong non-significant deterioration in sleep pattern). Significant improvement was not shown by child 2 until the follow-up phase.

Child	t value	Degrees of freedom	t probability	Significance
2	**3.839**	**18.9**	**0.001**	**significant**
3	**0.593**	**8.3**	**0.569**	**not significant**
4	**0.574**	**7.6**	**0.583**	**not significant**
6	**6.201**	**33.2**	**0.000**	**significant ***
8	**2.553**	**13.4**	**0.024**	**significant**
9	**7.985**	**35.8**	**0.000**	**significant**
10	**-2.263**	**7.7**	**0.055**	**not significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which maintenance of improvement or further improvement were seen are indicated in bold lettering.

Table 3.4 ***Composite sleep score; contrasts for treatment - follow-up phases***

3.3 OVERALL IMPROVEMENT FOR THE GROUP AS A WHOLE

The eventual numbers of children who completed the study were sufficient to allow group analyses; therefore this was carried out in addition to the analyses for each individual child. Group analysis of the composite score data using a paired samples t-test indicate a highly significant improvement by the end of the intervention phase ($t = 5.78$, d.f. = 9, $p < 0.001$). This was maintained at the follow-up phase ($t = -0.28$, d.f. = 9, $p > 0.05$).

3.4 DID TIME TAKEN TO SETTLE DECREASE?

In hypotheses 1b and 2, it was predicted that there would be a decrease in time taken to initially settle to sleep for those who had a specific settling problem; however, data was analysed for all ten children. Graphical representation of changes can be found in Appendix XI. Table 3.5 summarises the results of the one way analyses of variance for each child for changes in the time taken to settle to sleep in the evening. The parents of six of the children (1,3,4,8,9,10) specified that settling in the evening was the main problem. Of those six, there was a significant change for four children; however three showed improvement (nos. 3,4,9) and one showed deterioration (child 10). Of those children for whom settling was not identified as a problem, two children (nos. 5,6) showed significant reduction in time taken to settle.

Analysis of Variance			
Child	**F ratio (d.f. 2)**	**F probability**	**Significance**
1**	2.8383	0.0628	not significant
2	3.8690	0.09703	not significant *
3**	**6.2120**	**0.0049**	**significant ***
4**	**5.6544**	**0.0064**	**significant ***
5	**6.3713**	**0.0034**	**significant**
6	**7.8731**	**0.001**	**significant**
7	1.32	0.2875	not significant
8**	1.32	0.276	not significant
9**	**8.3987**	**0.0009**	**significant**
10**	3.7161	0.0309	significant

* p=.01 used as conservative value due to serial dependency in a phase within study
** child presented with specific settling problem
Cases in which significant improvements were seen are indicated in bold lettering.

Table 3.5 ***Time taken to settle for all three phases***

Further analyses were carried out for those children in which an overall significant change was identified (see table 3.5). Table 3.6 summarises the results for the baseline and treatment phases, indicating that one (no. 9) showed statistically significant improvement and two children (5,10) showed significant deterioration by the end of the treatment phase. It is worth noting, that if conservative probability values had not been necessary due to serial dependency, significance would have been indicated in cases three and four.

Child	t value	Degrees of freedom	t probability	Significance
3	2.802	12.3	0.016	not significant *
4	2.283	15.2	0.037	not significant
5	-2.152	25.4	0.041	significant
6	1.441	8.2	0.187	not significant
9	**4.879**	**32.7**	**0.00**	**significant**
10	-3.125	36.1	0.003	significant

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which significant improvements were seen are indicated in bold lettering.

Table 3.6 ***Time taken to settle; contrasts for baseline - treatment phases***

Table 3.7 summarises the results for the treatment and follow-up phases. Child 9, who showed improvement by end of the intervention showed further improvement by the follow-up phase. Of the two who showed deterioration in settling (nos. 5,10), one continued to deteriorate and one showed no significant change. Child 6 showed significant improvement by the end of the intervention; the others maintained the non-significant levels of improvement made by the end of intervention.

Child	t value	Degrees of freedom	t probability	Significance
3	**-0.478**	**11.3**	**0.642**	**not significant ***
4	**0.855**	**10.7**	**0.412**	**not significant ***
5	-2.920	6.4	0.025	significant
6	**3.398**	**8.0**	**0.009**	**significant**
9	**4.488**	**32.7**	**0.000**	**significant**
10	**-0.541**	**6.9**	**0.605**	**not significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which maintenance of improvement or further improvement were seen are indicated in bold lettering.

Table 3.7 ***Time taken to settle; contrasts for treatment - follow-up phases***

3.5 DID FREQUENCY OF NIGHT WAKING DECREASE?

In hypotheses 1c and 2, it was predicted that there would be a reduction in the number of times a child woke during the night, if the parents perceived their child to have a waking problem, and that improvement would continue six weeks after termination of treatment; data was analysed for all ten children. Table 3.8 presents the results for the number of times each child woke during the study period. A significant change was found for only two of the children. The data are presented graphically in Appendix XII (a graph for child 9 is not included as he did not wake during the night). A bar graph was chosen in preference to a line graph as it is more applicable to the raw data.

Analysis of Variance			
Child	**F ratio (d.f 2)**	**F probability**	**Significance**
1	1.5466	0.2175	not significant
2**	2.7512	0.0869	not significant
3**	2.1982	0.1261	not significant
4**	2.2726	0.1145	not significant
5**	1.5448	0.2232	not significant
6**	1.9376	0.1541	not significant *
7**	0.8067	0.4591	not significant
8**	**9.1852**	**0.0003**	**significant ***
9	2.9556	0.063	not significant
10**	**10.4069**	**0.0002**	**significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
** child presented with specific waking problem
Cases in which significant changes were seen are indicated in bold lettering.

Table 3.8 ***Number of awakenings per night for all three phases***

Further analyses were carried out for those children in which an overall significant change was identified (see table 3.8). Table 3.9 summarises the results for the baseline and treatment phases, indicating that one showed a statistically significant reduction and the other showed a strong non-significant reduction in the number of awakenings per night by the end of the treatment phase.

Child	t value	Degrees of freedom	t probability	Significance
8	2.759	7.0	0.028	not significant *
10	**3.791**	**27.7**	**0.001**	**significant**

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which significant improvements was seen are indicated in bold lettering.

Table 3.9 ***Number of awakenings per night; contrasts for baseline - treatment phases***

Table 3.10 summarises the results for the treatment and follow-up phases. Child 10 showed a significant increase in the number of awakenings per night, indicating a deterioration in sleep pattern.

Child	t value	Degrees of freedom	t probability	Significance
8	**2.626**	**12.3**	**0.022**	**not significant ***
10	-2.985	7.5	0.019	significant

Cases in which maintenance of changes were seen are indicated in bold lettering.

Table 3.10 ***Number of awakenings per night; contrasts for treatment - follow-up phases***

3.6 WAS THERE AN INCREASE IN HOURS SLEPT PER NIGHT?

In hypotheses 1d and 2, it was predicted that whatever the sleep problem, treatment would result in an increase in the number of hours slept per night, and this improvement would continue six weeks after the termination of treatment. Table 3.11 presents the results for the number of hours slept for all phases. Of the five children in which a significant change was seen, four showed an increase in the numbers of hours slept per night. Data are presented in graph form in Appendix XIII.

Analysis of Variance			
Child	**F ratio (d.f. 2)**	**F probability**	**Significance**
1	**9.5085**	**0.0002**	**significant ***
2	**5.7782**	**0.01**	**significant**
3	2.1088	0.1365	not significant
4	**5.6242**	**0.0065**	**significant**
5	1.5478	0.2225	not significant *
6	**8.4061**	**0.0007**	**significant**
7	0.9639	0.3969	not significant
8	2.4681	0.0938	not significant
9	**12.9231**	**0.00**	**significant**
10	0.1481	0.8627	not significant

* p=.01 used as conservative value due to serial dependency in a phase within study
Cases in which significant changes were seen are indicated in bold lettering.

Table 3.11 ***Number of hours slept during the night for all three phases***

Further analyses were carried out for those children in which an overall significant change was identified when the three phases were compared (see table 3.11). Table 3.12 summarises the results for the baseline and treatment phases. Two showed a significant increase and one showed a decrease in the hours slept.

Child	t value	Degrees of freedom	t probability	Significance
1	4.296	42.9	0.00	significant
2	-0.190	3.2	0.86	not significant
4	-0.189	29.5	0.851	not significant
6	**-3.745**	**7.9**	**0.006**	**significant**
9	**-3.316**	**12.1**	**0.006**	**significant**

Cases in which significant improvements were seen are indicated in bold lettering.

Table 3.12 ***Number of hours slept; contrasts for baseline - treatment phases***

Table 3.13 summarises the results for the treatment and follow-up phases in which an overall significant change was identified when the three phases were compared.

Of the two who initially showed improvement, one maintained that level of improvement and one showed further statistically significant improvement. Of the three children who did not show improvement at the end of the intervention (nos. 1,2,4), two showed an improvement by follow-up, and one maintained the deterioration in number of hours slept.

Child	t value	Degrees of freedom	t probability	Significance
1	**-1.718**	**13.1**	**0.109**	**not significant**
2	**-3.387**	**13.8**	**0.004**	**significant**
4	**-2.658**	**8.0**	**0.029**	**significant**
6	**1.601**	**15.5**	**0.129**	**not significant**
9	**-5.144**	**17.2**	**0.000**	**significant**

Cases in which maintenance of improvements or further improvements were seen are indicated in bold lettering.

Table 3.13 ***Number of hours slept; contrasts for treatment - follow-up phases***

3.7 DID GENERAL BEHAVIOUR CHANGE?

It was predicted in hypothesis 3 that with a change in sleep behaviour there would be a corresponding change in general behaviour. A summary of the BCL total scores can be found in Appendix XV. The results of the BCL indicate that none of the eight children assessed were displaying behaviour problems which could be described as being in the clinical range, at any stage of the study. Analyses using Pearson's correlation suggest that there is no correlation between change in sleep pattern and general behaviour either between the baseline and intervention phases ($r = -0.482$; $n = 8$; $p > 0.05$).or between the baseline and follow up phases ($r = -0.482$; $n = 8$; $p > 0.05$).

However, Figure 3.1 illustrates that there is a decline in BCL score (indicating an improvement in behaviour) as perceived by parents, over the period of the study. In addition, a statistically significant improvement in behaviour was seen after the intervention ($t=5.67$, $d.f.=7$, $p<0.001$), and between the end of the intervention phase and follow-up ($t=-2.98$, $d.f.=7$, $p<0.01$). The improvement in behaviour was apparent regardless of whether an actual improvement in sleep pattern was seen, i.e. it is suggested that there may be a relationship between parental perceptions of sleep problem and parental perceptions of general behaviour.

3.8 WHAT WAS IMPORTANT IN TREATMENT?

In hypothesis 4, it was predicted that parents would perceive the non-specific aspects of treatment to be important in the treatment process, along with the behavioural aspects, as measured by the purpose designed questionnaire. As there were unequal numbers of items pertaining to the two therapeutic factors being assessed, the raw scores were converted to means for each child in order to make analysis possible.

Parents perceived the non-specific aspects of therapy to be helpful (mean = 4.4, s.d. 0.616). Indeed they were perceived as equally as helpful as the behavioural aspects (mean = 4.19, s.d. 0.462), in that no significant difference was found between them using a paired samples t-test ($t = -1.4$; $d.f. = 10$; $p > 0.05$).

3.9 ELIMINATION OF MATURATION AS CAUSE OF EFFECTS

It was intended to use R^n Test of Ranks (Revusky, 1979 - cited in Barlow & Hersen, 1984) to determine whether the intervention produced a statistically reliable effect by ranking the performance of each of the baselines at the point when the intervention was introduced. However it was not possible to carry out this ranking procedure as five of the children had baselines over seven days, and two children had baselines of fourteen days.

3.10 SUMMARY OF OUTCOME FOR EACH CHILD

The interventions were ended by mutual agreement between the health visitor and parent, when the parent deemed that they were satisfied with the improvements in their child's sleep pattern, i.e. essentially the end of the intervention implied a successful outcome as perceived by parents. It should also be noted that although the intervention was terminated, it was intended that parents would now be equipped with the knowledge in order to continue to use the behavioural methods in their management of the child's sleep behaviours, and so although the health visitors' intervention had terminated, parental intervention with their child would hopefully have continued.

CHILDREN 1 & 7: No statistically significant improvement was found in sleep problems either by the end of the intervention phase or at follow-up, although a trend towards improvement was identified.

CHILD 2: No statistically significant improvement was noted by the end of the intervention phase, however, statistically significant improvement in the number of hours slept per night was noted at the six week follow-up period. It is possible that the improvements were due to a delayed treatment effect; however this cannot be confirmed.

CHILDREN 3 & 4: Overall statistically significant improvement was illustrated by the end of the intervention, and this was maintained at the follow-up.

CHILD 5: No statistical improvement was noted either by the end of the intervention or follow phases. A significant increase in time taken to settle was noted at the follow-up phase.

CHILDREN 6, 8 & 9: Overall statistically significant improvement was illustrated by the end of the intervention phase, and further improvement was noted at follow-up.

CHILD 10: Statistically significant improvement was found the end of the intervention phase, and a significant deterioration was found at the follow-up phase. It should however be noted that at the follow-up period this child she was suffering from bronchitis, to which the deterioration in sleep pattern may be attributed.

4. DISCUSSION

The overall aim of this study was to evaluate the efficacy of a sleep clinic for pre-school children run by health visitors employing behavioural principles, and to explore what parents found to be important in the treatment process. In addition there was an attempt to assess the relationship between general behaviour and night-time behaviour. Out of the thirty families recruited, eleven completed the study, however the sleep diary data for one family was not comprehensive enough for analysis. Of the remaining nineteen families, ten were still in treatment at the point at which data collection ceased. Results indicate that although all eleven parents were satisfied with the outcome of the intervention, on analysis of the ten sets of sleep diary data, seven showed statistically significant improvements.

4.1 STRENGTHS AND LIMITATIONS

4.1.1 Aims

Few attempts have been made to systematically evaluate sleep clinics run by health visitors using behavioural principles, which have utilised measures that go beyond sleep diaries. This study included a purpose designed questionnaire in an attempt to measure the client's view of the efficacy of behavioural versus non-specific aspects of the intervention, whereas the majority of previous studies have predominantly considered the views of professionals. A formal attempt was also made to measure changes in general behaviour in relation to changes in sleep pattern as a result of behavioural interventions.

The health visitors involved in running the sleep clinic were field health visitors, whose involvement with the sleep clinic was incorporated into their routine working week. Although they were both aware of behavioural approaches, they had not previously knowingly used them in their working practice. They attended a number of short courses on sleep management and behavioural techniques in preparation for the sleep clinic. This means that their sleep clinic practice could easily be generalised to other health visitors without specialist knowledge, who are currently working in the community; thus making treatment for sleep problems far more frequently and easily accessible at a primary care level.

The majority of previous studies in this area have used rather extreme inclusion criteria for sleep problems. It is likely that this leads to the study of a very specific population. If the criteria are relaxed, as was the case in this study, it is likely that a more representative picture of findings related to families and children with sleep problems will be found, which would be more generalizable to the general population.

The sleep clinic was provided in the community, and referrals were taken directly from parents alone, although a variety of professionals were informed of the sleep clinic in order that they were able to alert parents of its existence. The participants in this study were a self-selected group in that they were individually motivated to refer themselves; it is therefore more likely that they would succeed in treatment than others less motivated to become involved. An alternative viewpoint would be to suggest that in comparison to other parents whose children had similar sleep patterns, this group differed in their perception of the sleep behaviour being a problem within the family. A wide range in the severity of sleep problems was

identified using the sleep diary data, highlighting individual differences in parents' perceptions of what constituted a problem.

4.1.2 Design, method and analysis

In the study design it was anticipated that at all times there would be at least two children at the same stage in the treatment process (concurrent multiple baseline across subjects), which would have enabled direct comparisons to be made and the children to act as controls for one another. In practice children were recruited non-concurrently, making comparisons and control more difficult. It was found that the sleep problems for the children in this study had persisted for lengthy periods; parents reported that seven out of the ten had never slept well, and the problems for the other three had persisted for over six months. In addition, for all children included, it was only at the point after which the intervention began that improvements in sleep pattern began to become apparent. In view of this, it appears unlikely that spontaneous recovery through maturation or other factors would have occurred without intervention in problems so persistent; it is likely that the interventions themselves were responsible for the changes identified.

The single case experimental approach was taken rather than a group approach as until very near to the point at which data collection was to cease it was apparent that only six children would complete the study, although eleven finally did complete. Statistical power would have been too low to generate any meaningful findings from group data. Single case designs have traditionally been analysed using visual inspection, as the intention is generally to identify a reliable intervention effect at a therapeutic level rather than at a statistical level. Statistical analyses are more and more often being applied, although some controversy

around this still exists, as opponents suggest that such fine inspection of data is not required. In addition, statistical analyses are recommended to supplement visual inspection where there is high variability in data both within and across phases (Barlow & Hersen, 1984), as was often the case in this study. Both types of analyses were therefore used in this study.

It is important in terms of the findings of this study to show clinically significant changes as well as statistically significant improvements; visual inspection demonstrates clearly that the majority of children improved following intervention, and that improvement was maintained at a six week follow-up.

The use of a single case experimental design may be said to weaken the study. Support for this approach lies in one of its underlying principles, in that the treatment process is data driven, as was the case in this study. The results of one part of an intervention may determine what happens next in terms of treatment, allowing scientific curiosity to be indulged (Morley, 1989). Although one can not clearly generalise from data gathered using one single case experimental design, generalisation can proceed by replicating functional relationships across individuals as was the case in this study. However, the strength of the conclusions that may be drawn from this research is considerably weakened by the limited numbers included, and therefore caution must be taken in their interpretation. Further replication is recommended.

Time constraints had a greater than expected impact upon this study in terms of recruitment and the length of the baseline and intervention phases and the length of the follow-up period. Traditionally, baseline recordings prior to intervention should continue until stability in the data is clearly established; this does not stand

true for this study. Parents were asked to record a minimum of one week's sleep diary recordings as baseline data. Most parents provided this, although one parent was only able to provide data for three days, and several others provided more than requested.

A high level of commitment was required from parents due to the longitudinal nature of the study, therefore care was taken not to place too many demands upon parents to record data for prolonged periods. This may have influenced their decision to participate, bearing in mind the difficulties they must already have been facing due to the nature of the sleep problems. By the time that parents sought help, it was likely that they would be quite desperate to find a solution to the problems, and it was felt that it would be unreasonable to withhold treatment for long periods whilst baseline data was being recorded. It is however likely that a fairly representative picture of the problems were illustrated by one week of baseline data, bearing in mind that the sleep problems for all children included had persisted for longer than six months.

4.1.3 Intervention

A standard package of behavioural treatment was not used in this study, as has been the case in many other studies. It is emphasised that the interventions were individually tailored to each child's specific needs and to the resources available for each family. This ensured that each parent-child unit was offered the best possible treatment.

Measures of the health visitors' level of knowledge of behavioural principles were taken, and no significant increase in their knowledge base was identified either as

a result of the training they received or of their experience during the course of the study. One interpretation of these results is that training was ineffective; if this was the case, it did not impede the clinical effectiveness of their practice, particularly if it is accepted that the improvements were as a result of the behavioural techniques rather than other aspects of the process such as the non-specific factors. This raises questions about what it was that resulted in the improvements seen. There was no objective evaluation of the way in which the health visitors conducted the sleep clinic sessions, or how they incorporated their knowledge into their work, which may have assisted in answering the question raised above. However, the health visitors' descriptions of the intervention approaches illustrated clearly that they were adhering to a behavioural approach. Supervision was available to the health visitors from a clinical psychologist on an informal basis, however they rarely called upon this support. They found that peer supervision suited their methods of working. In view of this, the level of success of their interventions is even more notable.

The interventions were not time limited, but data driven, and there was a wide range in the amount of time in which improvements were perceived to have occurred. In addition to the different rates at which children would have responded to the changes in management approach, there would also have been variations in the rates at which individual parents were able to apply the techniques learned. It is also impossible to know how well the behavioural techniques were being applied in the home setting, as this was not assessed in any way. The amount of change in sleep pattern is as likely to be attributed to the child's response to treatment, as it is to the parent's ability to administer the techniques.

This study along with many others, may be criticised for its reliance on parental report for assessment and data collection, hence the data has a subjective component. Possible solutions to this problem would be to appoint an independent assessor into the family home to observe the child or to have the child video recorded (Anders et al, 1992). Both of these solutions would be intrusive and likely to alter the behaviours of both parents and child. There is evidence, however that information reported by parents is accurate, particularly when the child is deemed to have a sleep problem (Minde et al, 1993). Indeed, there is also evidence that parents underestimate the sleep problems. Parents provided very rich data on their child's sleep problems as recorded in the sleep diaries although there was an initial concern that they may not complete the diaries regularly or fully.

4.1.4 Measures

4.1.4.1 Questionnaire derived from the 'Knowledge of Behavioural Principles as Applied to Children' (KBPAC) questionnaire (O'Dell et al, 1979)

This tool is said to have good content validity and internal consistency. For each of the multiple forced choice questions, one of the responses is described as the best and most appropriate choice. In several cases, the responses all appear equally appropriate, and the health visitors voiced difficulties in deciding upon the best response. This is a possible contributory explanation as to why there was no significant increase in the health visitors' behavioural knowledge as measured by this instrument. It is also possible that the total scores achieved would have differed if the complete questionnaire had been administered. There was consistency in their responses when compared over the three points in time,

suggesting that the responses were a reliable assessment of their theoretical knowledge.

As the health visitors were responsible for training parents in the use of behavioural techniques with their children, it may have been useful to ask parents to complete the KBPAC at the three phases of the study, in order to gain some objective measure of their level of skill acquisition. This is recommended for future research.

4.1.4.2 The Child Behavior Checklist (BCL) (Achenbach, 1991/1992)

This instrument is a widely used, standardised assessment, with good reliability (0.85) and validity. The two versions are however not comparable in terms of raw scores, and had to be converted to percentages in order to carry out group analyses. Unfortunately, no equivalent behaviour checklist is available for the children under the age of two years, and it would have been inappropriate to use the BCL, and so no measurement of their general behaviour was taken.

In all cases but two, it was the mother who completed the BCL at the three points in time. Whenever feasible, it would have been helpful to have had both parents independently complete the BCL, to enable consideration of the level of agreement between parents. Achenbach (1991, 1992) has shown that mothers tend to report more problems than fathers, possibly because mothers that tend to spend more time with their children. However, disagreements between parents may also be related to deeper rooted problems that may need to be explored; they would also be useful in formulating intervention plans. Taking this further, as the instrument relies upon parental perceptions, having the two parents complete it would offer

more information about whether in fact the child does exhibit certain behaviours or whether it is only the parent's perception that this is so i.e. further differentiating parental perceptions of behaviour from the actual presence of certain behaviours.

4.1.4.3 Assessment of therapeutic factors questionnaire

The work required to design a questionnaire well could constitute a thesis in its own right, however it was deemed a necessary task as the author was not aware of any equivalent existing instrument designed for completion by parents.

Despite piloting the questionnaire on a small number of mothers, shortcomings became apparent when the questionnaire was completed by the parents in the study group. A form of halo effect (Oppenheim, 1992) was noted in that there was a response bias in their answers. Most parents scored the majority of the statements as being helpful or very helpful on the Likert scale. It is possible that their responses were a true reflection of their feelings, suggesting that the questions were indeed a valid measure. However, it may have been that individuals identified the ratings which were favourable and scored them without actually considering the content of the statements individually. In order to respond to this problem, the direction of the scales could have been randomised so that socially more acceptable responses sometimes fell on the left and sometimes on the right of the scale. The statements could also have been reversed in some cases in order that individuals were required to think more carefully about them. It is also possible that they did consider each statement, but wanted to appear positive about the help they had received from the sleep clinic, for the benefit of the study.

4.2 CONTRIBUTION TO RESEARCH

4.2.1 Was treatment effective?

For all cases the intervention phase was terminated when parents were satisfied with the change in their child's sleep pattern. The average number of days in the intervention phase was 36.4 (range 11 - 82), which is consistent with the other studies. All parents reported a significant improvement in sleep pattern. Thus, in terms of parental perceptions, treatment had a one hundred percent success rate. This compares favourably with other health visitor intervention studies; Galbraith et al (1993) reported a 73% success rate in terms of parental perceptions; Roberts (1993) reported an 84% success rate.

However, although all parents were pleased with the outcomes following intervention, visual and statistical analyses of the composite sleep score data suggested somewhat different findings. In terms of the study overall, improvements were indicated in 7 (70%) in terms of sleep pattern as measured by the composite sleep score, and the level of improvements made were highly significant; six children (60%) showed significant improvements in their sleep behaviours by the end of the intervention period. When compared to other health visitor run intervention studies, these results are not as high as those in the Farnes & Wallace (1987) study, but are certainly far higher than in the Richards et al (1992) study where improvement rates of several sleep clinics averaging only 21.8% were achieved. The results are also consistent with the Weir and Dinnick (1988) study in which a similar level of significant improvement was seen in both the behavioural intervention and health visitor routine approach groups. Thus, Weir and Dinnick did not find support for the behavioural approach specifically, as delivered by health visitors, as the treatment of choice. One possible explanation

is that it is not the behavioural techniques that are important in treatment, but the non-specific aspects of the therapeutic process. The success rate was not as high as that reported by Richman et al (1985) where a 90% improvement rate was recorded; however the therapists in this study were clinical psychologists and psychiatrists who were experienced in using behavioural methods, rather than health visitors.

More detailed inspection of the data reveals that some significant changes in certain aspects of the sleep problems were found i.e. in the number of times the child woke per night, the time taken to settle in the evening, and the total number of hours slept per night, although these changes were not necessarily reflected in the composite sleep scores. For example, the composite sleep score suggests that no significant changes were seen for child five, however further exploration indicates that this child showed a significant increase in time taken to settle i.e. deterioration in sleep pattern, which was not reflected in the overall composite sleep score. This suggests that although the composite sleep score is a useful method of enabling comparison of children's sleep problems, it may dilute the apparent importance of some of the changes in sleep pattern achieved.

Six children were perceived to have settling problems; two of those showed no statistical improvement by the end of the intervention phase, although visual inspection indicates a clear trend towards significance. One child showed significant improvement and one showed an increase in time taken to settle. In addition a significant increase in settling was seen for one child and a decrease was seen for another, who were originally identified as having only night waking problems.

Although eight children were originally perceived as having a waking problem, only one child showed a significant decrease in the number of times woken per night, and one showed a non-significant decrease as illustrated by graphical data.

The number of hours slept per night should have been affected by both changes in settling and number of times waking; four children showed an increase in the number of hours slept, and one showed a decrease.

As previously discussed, there is a difference between the statistical and therapeutic significance, and this should be borne in mind when assessing the efficacy of the behavioural interventions. Although actual improvements were not seen in three children, parents perceived that their child's sleep had improved and they therefore no longer saw it as a problem. This is a very important factor in determining the efficacy of a service; in this case it is clear that the interventions as administered by the health visitors had a very positive affect upon the lives of the families involved.

Moving on from the finding that treatment is effective, two central issues are raised. Firstly, the importance of parental perceptions in the treatment of childhood behavioural problems. Secondly, it is not clear what the actual agent of change is within the intervention.

4.2.2 Did the improvements last?

The efficacy of any intervention needs to be accompanied by evidence indicating the maintenance of the changes over time, as has been shown in the majority of studies supporting the use of behavioural intervention in the treatment of sleep problems. The results of this study are comparable with previous research;

however, the follow-up period of six weeks is short in comparison to others (2-12 months) and so a longer term follow-up is recommended.

Each child was followed up approximately six weeks after discharge. In terms of the overall sleep pattern, three children maintained the improvements they had made by the end of the intervention phase. One child who initially showed no improvement following the intervention showed significant improvement by the follow-up; another three children improved further. Overall, maintenance of improvement was seen in seven children. This is consistent with previous studies (Galbraith et al, 1993), and provides further support of this approach in comparison with the use of medication, whose effects do not persist following withdrawal (Richman 1985). Eight mothers continued to be satisfied with their children's sleep at follow-up. One child (child 10) showed a marked deterioration in sleep in the follow-up phase, this was due to illness; and another mother was able to identify why there had been a deterioration in her child's sleep, and was in the process of making amends.

On examination of the time taken to settle, improvements were maintained in three children, and further improvement was seen in two children. At follow-up, one child showed a deterioration in the number of times they woke per night. Five children showed maintenance or further improvement in the number of hours slept.

It is perhaps not surprising that improvements have been maintained. During the intervention phase, parents acquired the skills to act as 'lay' behavioural therapists for their children, and it was intended that they would incorporate these skills into the daily management of their children on an ongoing basis. Therefore although the end of the intervention marked their discharge from the sleep clinic, it was

intended that parents would be continuing to manage their children in a more effective way, as informed by the behavioural principles they had learned. A likely explanation for further improvement at follow-up is that as parents have had time to practice using their new skills, and have become more affective behavioural managers to affect further behavioural improvement in their children. It would have been helpful to have collected data on parents' management strategies following discharge in order to substantiate this explanation.

4.2.3 Which elements of treatment worked?

Galbraith et al (1993) asked parents what they found most useful about their sleep clinic. Few parents commented upon the actual behavioural techniques that were introduced, but the majority reported that it was the non-specific aspects of the therapeutic process that they found most important, such as being able to discuss the problem with someone.

The parents in this study found both the behavioural aspects and the non-specific aspects of therapy to be equally as important and helpful as one another. These results are in contrast to those found by Llewelyn & Hume (1979) who found that non-specific aspects were perceived as more useful than either the behavioural or psychotherapeutic aspects of treatment for a group of adults receiving therapy. Parents comments (see Appendix XVI) are an illustration of this finding. What is also interesting is that eight of the parents were familiar with the techniques suggested by the health visitors, but had been unable to use them without the support and motivation they received at the sleep clinic; this suggests that knowledge of behavioural principles alone is not enough to effect change. Support for this notion is provided by the limited research into the efficacy of self help

manuals, which has not been very supportive (Scott & Richards, 1990b); one explanation for this is that parents may not find manuals helpful as they lack the 'human' support and motivational factors along with the other non-specific factors of the therapeutic process.

Some research has shown behavioural interventions to be as effective as routine health visitor approaches (Weir & Dinnick, 1988); this offers further support for the relative importance of non-specific as opposed to the behavioural aspects of therapy. Another explanation is that increasingly health visitors are being offered training and supervision in the use of behavioural methods which means that their work may be already be informed by behaviour theory. Many of the behavioural principles and techniques are very logical, practical and straight forward - indeed what one might call common sense. It is possible that this accounts for the lack of support for behavioural approaches over standard health visitor practice.

However, contradicting the suggestions above, health visitor interventions have also been shown to be no more effective than written information approaches (Seymour et al, 1989), suggesting that therapist contact is not even a necessary factor in treatment. As discussed in the introduction, it is very difficult to draw any conclusions from the existing literature for a number of reasons. The numbers taking part in studies have been very small, and results may have been spurious; it is also not possible to safely generalise from the findings. Participants have been recruited using differing inclusion criteria, and the health visitors have come from a variety of backgrounds with wide ranging experiences, from clinical research health visitors to community health visitors. Finally, the types of behavioural approaches used have also varied widely.

It is important to bear in mind that asking parents what they found to be the most useful aspects of therapy is not the same as finding out definitely what did actually help them most of all; further research in this field is necessary. The limitations of the purpose designed questionnaire have already been discussed; they include its retrospective nature, and the fact that it only considers the parents view point, although research has shown that patients tend to place more emphasis on the non-specific aspects of therapy than do their behaviour therapists (Llewelyn et al, 1988; Sloane et al, 1977). Taking the results of this study in the context of previous research, it is suggested that guidance on behavioural techniques is not enough to effect change, and that the non-specific aspects of the process and the behavioural techniques interact to affect outcome (Sweet, 1984), and are a necessary part of a successful treatment approach.

A review of the literature (Bennun & Schindler, 1988; Coady & Marziali, 1994; Cooley & Lajoy, 1980; Ford, 1978; Gelder et al, 1973; Keijsers et al, 1990; Llewelyn et al, 1988; Marziali & Alexander, 1991; Sloane et al, 1977; Sweet, 1984) indicates that the power of the therapeutic relationship lies in the client's like, trust and respect for the therapist, which increases the likelihood that the client will listen to the therapist and allow techniques to be implemented (Cantela & Upper, 1978 - cited in Sweet, 1984); i.e. the more effective the therapist is as a social reinforcer to a client, the more effective they will be in equipping the client to effect behavioural change. Unquestionably, there is more to the non-specific aspects of therapy than the therapeutic relationship, however it does appear to play a very important role along with other factors, such as having someone to talk to who is not involved in a situation, being taken seriously and having a problem acknowledged for the distress it is causing.

It is proposed that the behavioural and non-specific aspects of therapy work together in treatment. One explanation is that the non-specific aspects actually allow parents to think more clearly about their child's problems, and to put them into perspective. This empowers parents to take responsibility along with the therapist (health visitor), to effect changes using the behavioural techniques. Maternal depression, marital dissatisfaction, stress, self esteem and empowerment are important factors in determining parental perceptions of child behaviour (Forehand, et al, 1982; Forehand et al, 1986; Middlebrook & Forehand, 1985) and parental perceptions in turn play an important role in how a parent interprets their child's behaviour; the relationship is complex and interdependent.

A shortcoming of the questionnaire designed as part of this study is that it did not ask parents to prioritise the importance of the behavioural and non-specific aspects; it simply asked them to rate the importance of such factors on a five point scale. As such, it is not possible to determine whether parents felt that the sleep clinic interventions would have been as successful if either the behavioural or non-specific aspects could have been offered independently of one another. One suggestion for future research is to compare the behavioural approach as offered in this study with a counselling approach, as the counselling approach might be the nearest equivalent of a therapeutic approach made up predominantly of non-specific factors. Scott & Richards (1990b), previously mentioned, found little support for the use of self help manuals with or without support from a health visitor. If non-specific factors alone were sufficient to allow parents to deal successfully with the child's sleep problems then a more successful outcome would have been noted with the group who received both the manual and the health visitor support.

Another factor apparent upon examining the literature is that the majority of studies which do not support the efficacy of health visitor interventions have used the more traditional behavioural techniques such as extinction and shaping. Whilst the more successful (and recent) interventions have focused upon positive approaches which moves the emphasis away from night-time waking and focuses on the period before bedtime, and bedtime routines. Positive approaches are known to be less distressing and easier for parents to work with than the more traditional methods. What is needed is research comparing positive approaches with both standard health visitor practice and counselling approaches.

It is clear that health visitors are able to work successfully with parents using behavioural techniques focusing upon positive approaches. What is still not clear is whether the behavioural approach is necessary to effect change, although the results of this study suggest that the behavioural aspects are equally as important as the non-specific aspects. Approaches reliant solely upon non-specific factors, such as those illustrated in a humanistic counselling approach, have not been found to be highly successful mediums of change for childhood sleep problems. Other approaches have been shown to be successful, but so far the behavioural approach appears to be the most effective treatment of choice. Further research bearing all of the shortcomings in mind is recommended to attempt to identify more clearly what in fact is the agent of change in behavioural approaches.

4.2.4 Did general behaviour change as a result?

None of the eight children whose behaviour was assessed by the BCL were identified as having behavioural problems of clinical consequence, and none of the parents reported behavioural problems other than the sleep problems. Parents completed the BCL and in all cases there was a significant reduction in each child's

BCL scores, indicating an improvement in behaviour over the duration of the study. This is consistent with other studies (Minde et al, 1994; Pritchard & Appleton, 1988; Seymour et al, 1983; Zuckerman, 1987). However, when the parents were questioned directly about changes in their child's general behaviour, five out of the eight reported improvements and attributed them to their child's improved sleeping patterns. The other three reported no change in their child's behaviour although improvements were identified by the BCL.

As the BCL includes items about sleep, those items confound the total problem score (Minde et al, 1994), and it would be expected that a reduction in the scores would be found as sleep pattern improved. However, when the scores were adjusted to take this into account, significant improvements were still found. It is possible that because none of the children exhibited behavioural problems other than those related to sleep, that the changes in behaviour measured by the BCL were so small that they were not even observed by parents. Actual changes in behaviour were consistent with those identified in other studies, such as improved concentration and attention, reduction in aggressive behaviour and temper tantrums, and improved mood (Kataria et al, 1987; Minde et al, 1994; Quine & Wade, 1991; Richman, 1982).

One would expect the BCL scores and parental responses to questioning to agree as the BCL scores are fundamentally based upon parental perceptions. The differences in judgement about the general behaviour which were found for three of the eight children assessed, are unlikely to be explained by issues of reliability; the test-retest reliability of the BCL is high (r=0.85, BCL 2-3yrs.; r=0.89, BCL 4-18yrs) for problem scales over a period averaging 7.7 days. There is a commonly found tendency for the problem scores to decline over brief rating intervals, however this

accounts for a very small variance in the scores, and in this study there was at least a one month gap in between repeated tests of the BCL, and therefore a decline would not be expected if the behaviours had indeed remained the same.

The BCL scores are likely to be offering a more realistic and valid measure of behaviour than the comments made by parents in response to a question about changes in their child's behaviour. In order to respond to this question parents were required to recall their child's behaviour prior to the sleep intervention, and make a post-intervention comparison which may have been difficult for some parents. The human memory can be inaccurate and selective, and people do tend to forget bad experiences. The BCL is a detailed instrument and is less likely to be confounded by personality variables and factors such as mood. It is possible that the three parents who perceived no change in their child's behaviour had more depressive attitudes than the others, and were therefore unable to perceive the positive aspects of their child's behaviour. It is also possible that during the baseline phase, when the BCL was completed for the first time, parents were more likely to be low in mood, irritable, and angry at their child for displaying the sleep problems. This may have resulted in a child being rated as having more problem behaviours than they actually had i.e. their perceptions of their child prior to the sleep clinic intervention are likely to have been poorer. This is consistent with a study by Middlebrook & Forehand (1985) in which mothers of clinic referred children rated neutral behaviours as more deviant relative to mothers of non-clinic children. If this had been the case, however, one might expect it to stand true for a significant proportion of the children in the sample although the relative severity of each child's sleep problem would need to be considered.

In addition, further findings suggest that parental perception of behavioural change is independent of actual improvements in sleep pattern. For example, the mothers of children five and seven were both satisfied with improvements in their child's sleep pattern although analyses of the sleep diaries showed no improvement; changes were also seen in their general behaviour, yet only the mother of child five perceived there to have been an improvement in her child's behaviour.

If it is accepted that improvements in behaviour have occurred in association with the sleep intervention, then a number of explanations are put forward to account for this finding. Firstly, it is possible that parents have been able to generalise their newly acquired behaviour management skills in order to manage their child's daytime behaviour in a more effective manner, indicating that the sleep clinic intervention had a positive influence both upon sleep and general behaviour. Following the intervention phase, all eight parents reported that they had learned methods which enabled them to manage their child differently. It has been shown that it is the child's behaviour that changes following sleep interventions rather than the parent's behaviour (Minde et al, 1994), and so a second possibility may be more fitting; the improvements may be due to the fact that both the child and parents are less tired and irritable during the day, and so their relationship is healthier, which in turn both improves the child's actual behaviour and the parents' perceptions of the child and their behaviour.

In considering the overall study outcomes of the eight children whose behaviour changes were measured, the only clear finding was that all parents perceived their child's sleep problems to have improved and that actual behavioural improvements (as measured by the BCL) were also recorded in all children assessed. It is suggested that this points towards the importance of how parental perceptions of

problem behaviour have a significant effect upon the parents' perception and attitude towards their child in general. It is evident that there is a very complex relationship between four variables which are likely to play a part in the results found - actual improvements in sleep problem; parental perception that improvements in the sleep problem have occurred; actual change in general behaviour; parental perception that changes in general behaviour have occurred. Further research is necessary in order to attempt to understand this relationship more clearly.

4.2.5 Parental perceptions

Although the parents in this study perceived their children to have sleep problems which required treatment, from an objective view point, the problems may not have actually been so bad. It is likely that more than half of the study sample would not have fulfilled Richman's criteria (Richman et al, 1985) for moderate to severe sleep problems. It might be suggested that although these children's sleep habits presented a problem for their parents, they were within normal limits for their age. Perhaps the parents were being unreasonable in terms of their expectations for their child; one method of addressing this would be to attempt to help parents to put their perceptions of childhood behaviour into some sort of developmental perspective in terms of their expectations of their child.

It would be reasonable to suggest that an educational programme focusing on developmental milestones, and parental expectations would have a positive impact on attitudes and responses towards sleep habits and general behaviour in pre-school children and toddlers. Hewitt et al (1991) conducted a study which entailed health visitors providing education through regular family contact and the use of

educational leaflets. They found that parental awareness of behavioural problems actually increased the reporting of significantly more potentially problematic behaviours (behaviours which represented some difficulty, but which were not yet considered problematic by the parent) in their children aged nine months and two years. Thus suggesting that awareness increases the likelihood of behaviours being seen as potentially problematic, rather than reducing it as one might expect. The study did not report any fewer actual behavioural problems in the experimental group when compared with controls. It is proposed that a group educational course focusing on the developmental aspects of behaviour may have more positive effects.

The role of parental perceptions has emerged as a major theme in this study, and from this another question has been generated, concerning the criteria for marking the success of a behavioural programme. Should success be measured by parental perceptions of improvement or by more objective measures of improvement, bearing in mind that it is ultimately the parents for whom the sleep patterns herald a problem? It is likely that in cases where a child is presenting an objectively moderate to severe sleep problem (as in Richman et al 1985), both measures would be important; however in less severe cases, changing parental perceptions of the child's sleep pattern may be enough to result in parental satisfaction with the sleep pattern.

4.3 GENERAL DISCUSSION

In summary, actual improvement and maintenance in sleep patterns was seen in seven of the ten children studied, although the parents of all ten expressed

satisfaction with their child's sleep pattern. It remains unclear what the actual agent of change was within the intervention, but parents attributed equal importance to the non-specific and the behavioural aspects of the process. Improvement in general behaviour was noted in all eight children assessed, although only five parents perceived there to have been an improvement. The other three parents reported no change at all.

For those three children whose sleep patterns did not improve, it is possible that the interventions were terminated too soon, particularly as parents themselves perceived improvements to have occurred. If the interventions had continued over a longer period, actual improvements may have been seen. If this study were replicated it is recommended that once a parent is satisfied with improvements, that they should continue to attend the sleep clinic for a further period of say, two weeks in order to allow the new sleep pattern to stabilise, and to ensure that changes have been maintained. Another explanation is that the problems presented by these children were more intractable, and may not have responded to treatment of any length, but may require referral on to a clinical psychologist for psychological input. It is worth noting that in the majority of the cases in the sample, there were additional issues which accompanied the sleep problem at the time of referral, although they had not necessarily persisted for the same time as had the sleep problems. These issues are likely to have contributed to the maintenance of the sleep problems; they included the birth of a new baby, mother-child separation issues, maternal depression, sharing a bedroom with parents, and parents who were working night shifts. The health visitors were able to effect changes in seventy percent of the cases, despite the presence of these complicating issues.

It is not realistic to expect that health visitors, or indeed any other professionals, would be able to effect the successful resolution of all of the sleep problems in those referred to them. However, if they are able to treat the majority of cases, they are providing an easily accessible and invaluable service to parents within the primary care setting; this also eases the pressure on clinical psychologists who are becoming increasingly more difficult to access quickly, due to the demands being placed upon them.

The health visitors in this study did not analyse the sleep diary data; they used the raw data only as a guide during the clinic sessions. It may have been more useful for the health visitors to have analysed the data on an ongoing basis in order to inform their work more clearly and to enable them to have more objective guidelines upon which to negotiate treatment with parents. This may have resulted in a higher success rate.

Improvements in sleep pattern and general behaviour were clearly found. The fact that these changes occurred with the introduction of the intervention phase, after having persisted for over six months for each child, offers support for the proposition that the health visitor led interventions using behavioural principles were responsible for the improvements noted. Some caution must however be taken in interpreting the results of this study, as although there is a need to control for as many variables as possible in order to maximise the potential for the effect of the intervention, as opposed to other factors, this proved very difficult due to the fundamental nature of quasi experimental design.

A number of factors may have accounted for or contributed to the improvements. Firstly, it is possible that maturation may have influenced improvements; however

the children were aged between ten months and five years and at very different stages in the developmental process, and the majority showed improvement, rendering it unlikely that maturation was the sole trigger for change.

Secondly, it is possible that the initial meeting between the author and the parents to complete the BCL, acted as an intervention in itself, which may have prompted or motivated parents to alter their approach to their child's sleep problems. In order to minimise the possibility of this meeting acting as an intervention, the author was very careful not to become involved in any discussions about the sleep problems, and asked parents to save all of their questions about the actual treatment and its background until the assessment interview with the health visitor.

Thirdly, it is possible that the act of completing the BCL alerted parents to behavioural problems in general, and prompted them to become more thoughtful about their own child's behaviour, again resulting in an intervention. Many of the 30 parents originally recruited commented upon how well behaved they realised their child was in comparison to the range of possible behavioural problems that are alluded to in the BCL. One possibility is that this put their child's behaviour into perspective, increased parental perceptions and thus altered their approach to their child.

Finally, parents found that completing the sleep diaries was a helpful part of the treatment process, although this does not mean that it is an effective form of treatment in its own right. Richman (1985) found no significant improvement in the sleep patterns of a group of children whose parents' only intervention was to complete sleep diaries. Having said this, the completion of the sleep diaries can legitimately be seen as part of the behavioural intervention from the parents'

viewpoint, which perhaps helps them focus on the use of behavioural techniques with their child (Pritchard & Appleton, 1988).

4.4 CONCLUSIONS

The use of behavioural approaches in health visitor interventions is a significant departure from traditional health visitor - client roles. Equipping health visitors to provide parents with the techniques and skills to deal effectively with and to prevent the occurrence of behavioural problems, is a logical way forward in maximising the resources available in a health service that is continually being stretched in terms of the demands being placed upon it. In addition, health visitors are able to access behavioural problems at an early stage in their development, thereby offering treatment before they become deeply embedded and more difficult to resolve. Health visitors are more easily accessible than many other health professionals, and parents often feel more comfortable dealing with them, rather than say clinical psychologists or psychiatrists.

The results of this study clearly indicate that field health visitors with little previous experience in the use of behavioural techniques, who received in-service training in behavioural approaches to sleep problems, were able to effect considerable improvements in sleep patterns of those children referred, with minimal supervision. If the success obtained by these health visitors were generalised to the wider population of health visitors, then a very effective service could be offered to families. Past research indicates that when health visitors have been involved with the application of negative behavioural principles such as extinction, success has not always been demonstrated. This study indicates that health

visitors can be effective using more positive approaches. Negative approaches were rarely if ever used in the treatments applied in this study. Further research is recommended to compare the relative merits of the traditional behavioural approaches with those used in this study.

The health visitors found their work a very rewarding though challenging and are continuing to run the sleep clinic after the completion of this study.

4.5 RECOMMENDATIONS FOR FUTURE RESEARCH

Recommendations have been made throughout the text of this study. In addition:

- A large scale, controlled longitudinal study comparing the different treatment approaches to sleep problems is recommended, to also include, a comparison of behavioural interventions as carried out by health visitors and clinical psychologists and child psychiatrists. This is in order to enable direct comparison of the approaches, bearing in mind the wide range of methodologies and inclusion criteria which have been used in the established research which have so far prevented clear comparisons.

- The central role of parental perceptions in determining outcome has been identified; further work is needed comparing outcomes based upon parental satisfaction versus improvements based upon objective data, with particular attention being paid to the maintenance of improvements over time.

- Further research is recommended into the complex relationship between the four variables identified in this study as playing a part in the outcomes: actual improvements in sleep problem; parental perception that improvements in the

sleep problem have occurred; actual change in general behaviour; parental perception that changes in general behaviour have occurred.

- Evidence was found for improvements in the children's general behaviour over time, but this was found not to be linked to improvements in their sleep patterns. This requires further investigation, perhaps using larger samples in order to examine any possible relationship between sleep pattern and general behaviour.

- More research is need to identify the actual agent of change within the behavioural approach. One recommendation is for the development of a formal questionnaire to ask parents to prioritise the behavioural and non-specific aspects of therapy in terms of what they felt helped most in the treatment process.

-ΨΨΨ-

APPENDICES

APPENDIX I

GP INFORMATION SHEET

I am writing to inform you that your patient, ... and his/her carers have been referred to a sleep clinic for treatment of .....'s sleep problems. The sleep clinic is being run by health visitors at Clevedon Health Centre.

The sleep clinic is being evaluated as part of a postgraduate research project, for a Doctorate of Clinical Psychology qualification, by trainee clinical psychologist, Gail Barlow Simcock. The study has the approval of the Southmead Trust ethical committee.

The family have agreed to be part of this study. If, at any time the family choose to withdraw from the study, they are aware that they are able to do so, without affecting their treatment rights.

Information about the study

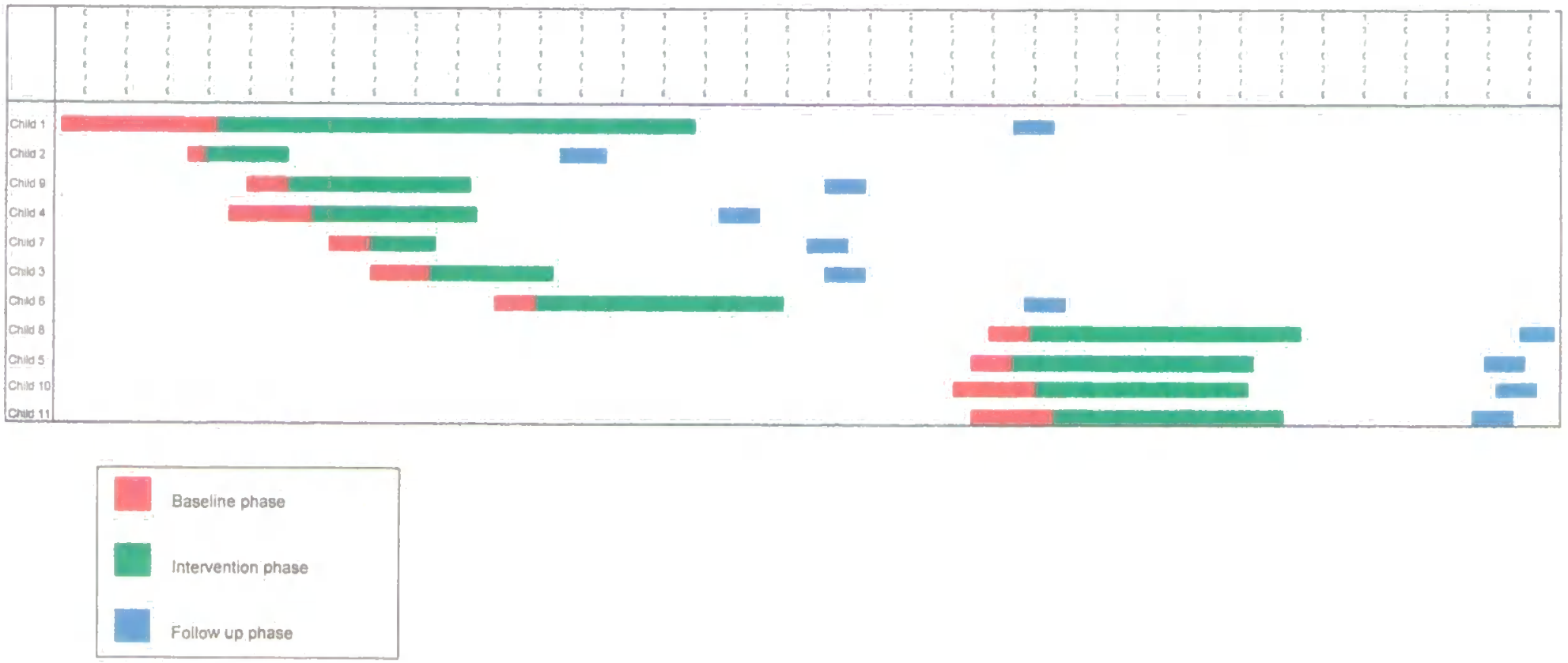
The study is entitled "Community sleep clinics run by health visitors - an evaluation of outcome".

It has two main aims. Firstly, to evaluate the effectiveness of a sleep clinic run by health visitors employing behavioural techniques in the treatment of pre-school children with sleep problems. Secondly, to assess what it is about the treatment that results in the outcomes achieved, with specific attention to the effect of the non-specific variables of the whole treatment package.

Brief outline of the project: A time limited sleep clinic has been set up by 2 health visitors as part of their everyday work, in conjunction with the trainee clinical psychologist. The health visitors will see families weekly in order to treat the children with sleep problems; the treatment will be based upon behavioural techniques. Prior to treatment baseline information will be gathered about each child's sleep behaviours using sleep diaries which will be kept by parents. These diaries will continue to be kept as part of the treatment in order that the process and outcome of treatment may be followed over time. A general behavioural checklist will be completed pre- and post-treatment in order to see whether any changes in sleep pattern have generalised to daytime behaviour. The trainee clinical psychologist will interview parents and ask them to complete a questionnaire to assess what it was about treatment that they found useful, for example, the behavioural techniques taught to them and the non-specific aspects of treatment. Families will be discharged when they feel that enough improvement has been achieved, or if they feel that this treatment is not going to be successful in their particular case. A follow up session will occur after approximately 6 weeks in order to determine whether any changes have been maintained.

If you require any further information, please do not hesitate to contact Gail Barlow Simcock by telephone, on 0117 9732336, or by writing to her at 23 St Johns Road, Clifton, Bristol BS8 2EY.

APPENDIX II: Schedule of phases for all children



APPENDIX III

KNOWLEDGE OF BEHAVIOURAL PRINCIPLES QUESTIONNAIRE

(O'Dell, Tarles-Benlolo, Flynn 1979. Odd questions)

Read each question and each of its four possible answers. Sometimes more than one answer could be selected under certain circumstances; however, please select the best answer or the answer that is most generally true. Circle the letter of the answer you chose.

Be sure to answer every question, and circle only one answer for each question.

1. Desirable and undesirable behaviour are most alike in that they are:

   a) the result of emotions and feelings
   b) habits and therefore difficult to change
   c) ways the child expresses himself
   d) the result of learning.

2. Most problem behaviour in young children is probably:

   a) a reaction to deeper emotional problems
   b) due to lack of communication in the home
   c) accidentally taught by the child's family
   d) due to a stage which the child will outgrow.

3. Which of the following is most important for parents in controlling their child's behaviour?

   a) the rules the parents make about behaviour
   b) the parents' understanding of the child's feelings
   c) the behaviour to which the parents attend
   d) being strict, but also warm and gentle.

4. Which of the following is the least likely way for children to react to the person who punishes them?

   a) the child will try to avoid the punisher
   b) the child will have admiration and respect for the punisher
   c) the child may copy the punisher's methods and do similar things to playmates
   d) the child will associate the punishment with the punisher.

5. If you are trying to teach a child to talk, you should first:

   a) reward the child after speaking a sentence
   b) reward the child for saying a word
   c) reward the child for any vocalisation
   d) punish the child if he did not speak.

6. A child has been rewarded each time he cleans his room. In order to keep the room clean without having to use a reward, the next step should probably be to:

   a) have a talk about how pleased you are and then stop giving the reward
   b) give the reward about one out of five times
   c) give the reward almost every time
   d) you must always reward it every time

7. When should a child who is just learning to dress himself be praised the first time?

   a) when he gets his foot through the first hole in his underwear
   b) when he gets his underwear completely on
   c) when he asks to do it himself
   d) when he has completely finished dressing himself.

8. Three of the following responses refer to forms of punishment which are mild and effective. Which one is not?

   a) ignoring the undesirable behaviour
   b) sending the child to a dull room for a few minutes
   c) taking away something the child likes (such as dessert after supper)
   d) scolding.

9. Which of the following is the most effective form of punishment in the long run for reducing a child's undesirable behaviour?

   a) scolding him every time he does it
   b) occasionally spanking him when he does it
   c) sending him to his room for five minutes every time he does it
   d) sending him to his room all afternoon every time he does it.

10. A good rule to remember is:

   a) do not reward with money if possible
   b) catch a child doing something right
   c) reward good behaviour and always punish bad behaviour
   d) punishment is always unnecessary.

11. Which of the following is true about punishment?

   a) punishment teaches respect
   b) punishment should be delayed until it can be carefully determined that it is really necessary
   c) punishment can teach a child new behaviours
   d) some punishments can result in a child becoming aggressive.

12. A boy loves football. What is most likely to happen if, each time he is playing nicely with his sister, his father invites him to play football?

a) he will always be asking his father to play football
b) he will play nicely with his sister more often
c) he will be annoyed with his father for interfering with his activities
d) he will be encouraged to teach his sister to play football.

13. A father is teaching his son to hit a thrown ball with a bat. Which of the following methods will probably most help his son to learn to his?

a) let him try to hit the ball without saying anything so the child can learn on his own
b) occasionally tell him what he is doing wrong
c) occasionally tell his what he is doing right
d) tell him almost every time he does something right.

14. Punishment, as a way to get rid of an undesirable behaviour, is best used when:

a) you are very upset
b) you want to teach the child the right way to behave
c) the behaviour may be dangerous
d) scolding doesn't seem to be effective.

15. If you want your child to develop proper study habits, you should:

a) encourage him to do his homework
b) help him to see school as pleasant
c) reward him whenever he studies
d) give him good reasons why he will need school.

16. A child often cries over any small matter that bothers her. How should her parents react to best reduce her crying?

a) reward when she reacts without crying
b) use a mild punishment when she cries
c) try to find out what is really troubling the child and deal with that
d) provide her with something interesting so she will stop crying.

17. If you want your child to say "please" and "thank you" at the table, it is probably most important to:

a) reprimand him when he forgets to say them
b) explain why good manners are important
c) remember to compliment him when he remembers to say them
d) praise other members of the family when they use these words.

18. A major problem has been getting Leon to bed in the evening. His mother has decided to change this and wants to measure the relevant behaviours. Which is the best way for her to do this?

a) each evening, record whether or not he goes to bed on time
b) chart his behaviour all day long, up to and including bedtime to try to find out what causes his not wanting to go to bed
c) each week, make a note of how easy or difficult it has been to get him to bed
d) ask Leon to keep his own record each week.

19. A father tells a child she cannot go to the shop with him because she didn't clean her room like she promised. She reacts by shouting, crying and promising she will clean the room when she gets home. What should the father do?

a) ignore her and go to the shop
b) take her to the store but make her clean her room when they return
c) calm her down and go help her clean her room together
d) talk to her and find out why she doesn't take responsibility.

20. In changing a behaviour it is most important to use:

a) methods which have been tested by others
b) consequences which are rewarding to the child
c) consequences which are punitive to the child
d) rewards which do not bribe the child.

21. Stan is doing a number of things that greatly disturb his parents. It would be best for them to:

a) try to quickly eliminate all of these undesirable behaviours at once
b) select just a few behaviours to deal with at first
c) select the single behaviour they find most disruptive and concentrate on changing that
d) wait for 28 to 30 days before beginning to try to change his behaviours to make certain they are stable and persistent.

22. Listed below are four methods used to change behaviour. Which is usually the best technique to get Frank to stop sucking his thumb?

a) punish the undesired behaviour
b) ignore the behaviour
c) reward him for desirable behaviour in the situation in which he usually misbehaves
d) explain to the child why the behaviour is undesirable.

23. If you want to make a behaviour a long-lasting habit, you should:

a) reward it every time
b) first reward it every time and then reward it occasionally
c) promise something the child wants very much
d) give several reasons why it is important and remind the child of the reasons often.

24. The most likely reason a child misbehaves is because:

a) he is expressing angry feelings which he often holds inside
b) he has learned to misbehave
c) he was born with a tendency to misbehave
d) he has not been properly told that his behaviour is wrong.

25. A baby often screams for several minutes and gets his parents' attention. Which of the following is probably the best way to reduce his screaming?

a) if there is nothing physically wrong with the child, ignore his screaming even though the first few times he screams even louder
b) distract the child with something he finds interesting whenever he screams
c) ignore all noises and sounds the child makes
d) none of the above. Babies usually have good reasons for screaming.

SCORING KEY:

1.d	6.c	11.d	16.a	21.c
2.c	7.a	12.b	17.c	22.c
3.c	8.d	13.d	18.a	23.b
4.b	9.c	14.c	19.a	24.b
5.c	10.b	15.c	20.b	25.a

CHILD BEHAVIOR CHECKLIST FOR AGES 2-3

For office use only
ID #

	AGE	ETHNIC GROUP OR RACE
☐ Girl		

DATE	CHILD'S BIRTHDATE
___ Date_____ Yr._____	Mo._____ Date_____ Yr._____

fill out this form to reflect *your* view of the child's be-
even if other people might not agree. Feel free to write
nal comments beside each item and in the space
d on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now *(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S
TYPE OF WORK: _____

MOTHER'S
TYPE OF WORK: _____

THIS FORM FILLED OUT BY:

☐ Mother (name): _____

☐ Father (name): _____

☐ Other—name & relationship to child:
_____

is a list of items that describe children. For each item that describes the child **now or within the past 2 months**, please the 2 if the item is **very true or often true** of the child. Circle the 1 if the item is **somewhat or sometimes true** of the child. tem is **not true** of the child, circle the 0. Please answer all items as well as you can, even if some do not seem to apply child.

0 = Not True (as far as you know) **1 = Somewhat or Sometimes True** **2 = Very True or Often True**

2	1.	Aches or pains (without medical cause)	0	1	2	33.	Feelings are easily hurt
2	2.	Acts too young for age	0	1	2	34.	Gets hurt a lot, accident-prone
2	3.	Afraid to try new things	0	1	2	35.	Gets in many fights
2	4.	Avoids looking others in the eye	0	1	2	36.	Gets into everything
2	5.	Can't concentrate, can't pay attention for long	0	1	2	37.	Gets too upset when separated from parents
2	6.	Can't sit still or restless	0	1	2	38.	Has trouble getting to sleep
2	7.	Can't stand having things out of place	0	1	2	39.	Headaches (without medical cause)
2	8.	Can't stand waiting; wants everything now	0	1	2	40.	Hits others
2	9.	Chews on things that aren't edible	0	1	2	41.	Holds his/her breath
2	10.	Clings to adults or too dependent	0	1	2	42.	Hurts animals or people without meaning to
2	11.	Constantly seeks help	0	1	2	43.	Looks unhappy without good reason
2	12.	Constipated, doesn't move bowels	0	1	2	44.	Angry moods
2	13.	Cries a lot	0	1	2	45.	Nausea, feels sick (without medical cause)
2	14.	Cruel to animals	0	1	2	46.	Nervous movements or twitching (describe): _____
2	15.	Defiant					
2	16.	Demands must be met immediately					
2	17.	Destroys his/her own things	0	1	2	47.	Nervous, highstrung, or tense
2	18.	Destroys things belonging to his/her family or other children	0	1	2	48.	Nightmares
			0	1	2	49.	Overeating
2	19.	Diarrhea or loose bowels when not sick	0	1	2	50.	Overtired
2	20.	Disobedient	0	1	2	51.	Overweight
2	21.	Disturbed by any change in routine	0	1	2	52.	Painful bowel movements
2	22.	Doesn't want to sleep alone	0	1	2	53.	Physically attacks people
2	23.	Doesn't answer when people talk to him/her	0	1	2	54.	Picks nose, skin, or other parts of body (describe): _____
2	24.	Doesn't eat well (describe): _____					
2	25.	Doesn't get along with other children	0	1	2	55.	Plays with own sex parts too much
2	26.	Doesn't know how to have fun, acts like a little adult	0	1	2	56.	Poorly coordinated or clumsy
			0	1	2	57.	Problems with eyes without medical cause (describe): _____
2	27.	Doesn't seem to feel guilty after misbehaving					
2	28.	Doesn't want to go out of home					
2	29.	Easily frustrated	0	1	2	58.	Punishment doesn't change his/her behavior
2	30.	Easily jealous	0	1	2	59.	Quickly shifts from one activity to another
2	31.	Eats or drinks things that are not food—don't include sweets (describe): _____	0	1	2	60.	Rashes or other skin problems (without medical cause)
			0	1	2	61.	Refuses to eat
2	32.	Fears certain animals, situations, or places (describe): _____	0	1	2	62.	Refuses to play active games
			0	1	2	63.	Repeatedly rocks head or body
			0	1	2	64.	Resists going to bed at night

Please see other side

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

2	65.	Resists toilet training (describe): _____	0	1	2	82.	Sudden changes in mood or feelings
		_____	0	1	2	83.	Sulks a lot
2	66.	Screams a lot	0	1	2	84.	Talks or cries out in sleep
2	67.	Seems unresponsive to affection	0	1	2	85.	Temper tantrums or hot temper
2	68.	Self-conscious or easily embarrassed	0	1	2	86.	Too concerned with neatness or cleanliness
2	69.	Selfish or won't share	0	1	2	87.	Too fearful or anxious
2	70.	Shows little affection toward people	0	1	2	88.	Uncooperative
2	71.	Shows little interest in things around him/her	0	1	2	89.	Underactive, slow moving, or lacks energy
2	72.	Shows too little fear of getting hurt	0	1	2	90.	Unhappy, sad, or depressed
2	73.	Shy or timid	0	1	2	91.	Unusually loud
2	74.	Sleeps less than most children during day and/or night (describe): _____	0	1	2	92.	Upset by new people or situations (describe): _____
		_____					_____
2	75.	Smears or plays with bowel movements	0	1	2	93.	Vomiting, throwing up (without medical cause)
2	76.	Speech problem (describe): _____	0	1	2	94.	Wakes up often at night
		_____	0	1	2	95.	Wanders away from home
2	77.	Stares into space or seems preoccupied	0	1	2	96.	Wants a lot of attention
2	78.	Stomachaches or cramps (without medical cause)	0	1	2	97.	Whining
			0	1	2	98.	Withdrawn, doesn't get involved with others
2	79.	Stores up things he/she doesn't need (describe): _____	0	1	2	99.	Worrying
		_____				100.	Please write in any problems your child has that were not listed above.
2	80.	Strange behavior (describe): _____	0	1	2		_____
		_____	0	1	2		_____
2	81.	Stubborn, sullen, or irritable	0	1	2		_____

SE BE SURE YOU HAVE ANSWERED ALL ITEMS. UNDERLINE ANY YOU ARE CONCERNED ABOUT.

your child have any illness, physical disability, or mental handicap? ☐ No ☐ Yes – Please describe

concerns you most about your child?

e describe the best things about your child:

CHILD BEHAVIOR CHECKLIST FOR AGES 4–18

se Print

For office use only
ID #

S FIRST MIDDLE LAST

oy ☐ Girl | AGE | ETHNIC GROUP OR RACE

'S DATE ____ Date ____ Yr. ____

CHILD'S BIRTHDATE Mo. ____ Date ____ Yr. ____

E IN OL ____

TTENDING OL ☐

Please fill out this form to reflect *your* view of the child's behavior even if other people might not agree. Feel free to print additional comments beside each item and in the spaces provided on page 2.

PARENTS' USUAL TYPE OF WORK, even if not working now. *(Please be specific—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)*

FATHER'S TYPE OF WORK: ____

MOTHER'S TYPE OF WORK: ____

THIS FORM FILLED OUT BY:

☐ Mother (full name) ____

☐ Father (full name) ____

☐ Other—full name & relationship to child: ____

ease list the sports your child most likes take part in. For example: swimming, seball, skating, skate boarding, bike ding, fishing, etc.

☐ None

Compared to others of the same age, about how much time does he/she spend in each?

	Don't Know	Less Than Average	Average	More Than Average
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

Compared to others of the same age, how well does he/she do each one?

	Don't Know	Below Average	Average	Above Average
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

ease list your child's favorite hobbies, tivities, and games, other than sports. r example: stamps, dolls, books, piano, afts, cars, singing, etc. (Do *not* include tening to radio or TV.)

☐ None

Compared to others of the same age, about how much time does he/she spend in each?

	Don't Know	Less Than Average	Average	More Than Average
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

Compared to others of the same age, how well does he/she do each one?

	Don't Know	Below Average	Average	Above Average
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

ease list any organizations, clubs, ams, or groups your child belongs to.

☐ None

Compared to others of the same age, how active is he/she in each?

	Don't Know	Less Active	Average	More Active
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

ease list any jobs or chores your child s. For example: paper route, babysitting, aking bed, working in store, etc. (Include *th* paid and unpaid jobs and chores.)

☐ None

Compared to others of the same age, how well does he/she carry them out?

	Don't Know	Below Average	Average	Above Average
a. ____	☐	☐	☐	☐
b. ____	☐	☐	☐	☐
c. ____	☐	☐	☐	☐

4-95 Edition

Please Print

1. About how many close friends does your child have? (Do *not* include brothers & sisters) ☐ None ☐ 1 ☐ 2 or 3 ☐ 4 or more

2. About how many times a week does your child do things with any friends outside of regular school hours? (Do *not* include brothers & sisters) ☐ Less than 1 ☐ 1 or 2 ☐ 3 or more

Compared to others of his/her age, how well does your child:

	Worse	About Average	Better	
a. Get along with his/her brothers & sisters?	☐	☐	☐	☐ Has no brothers or sisters
b. Get along with other kids?	☐	☐	☐	
c. Behave with his/her parents?	☐	☐	☐	
d. Play and work alone?	☐	☐	☐	

1. For ages 6 and older—performance in academic subjects. ☐ Does not attend school because _____

Check a box for each subject that child takes	Failing	Below Average	Average	Above Average
a. Reading, English, or Language Arts	☐	☐	☐	☐
b. History or Social Studies	☐	☐	☐	☐
c. Arithmetic or Math	☐	☐	☐	☐
d. Science	☐	☐	☐	☐
r academic ects – for ex- le: computer ses, foreign uage, busi- . Do *not* in- e gym, shop, r's ed., etc. e. _____	☐	☐	☐	☐
f. _____	☐	☐	☐	☐
g. _____	☐	☐	☐	☐

2. Does your child receive special remedial services or attend a special class or special school? ☐ No ☐ Yes—kind of services, class, or school:

3. Has your child repeated any grades? ☐ No ☐ Yes—grades and reasons:

4. Has your child had any academic or other problems in school? ☐ No ☐ Yes—please describe:

When did these problems start?

Have these problems ended? ☐ No ☐ Yes – when?

your child have any illness or disability (either physical or mental)? ☐ No ☐ Yes—please describe:

concerns you most about your child?

se describe the best things about your child:

elow is a list of items that describe children and youth. For each item that describes your child ***now or within the past 6 months***, please circle e ***2*** if the item is ***very true or often true*** of your child. Circle the ***1*** if the item is ***somewhat or sometimes true*** of your child. If the item is ***not ue*** of your child, circle the ***0***. Please answer all items as well as you can, even if some do not seem to apply to your child.

Please Print

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

1 2 1. Acts too young for his/her age
1 2 2. Allergy (describe): _____
_____
1 2 3. Argues a lot
1 2 4. Asthma
1 2 5. Behaves like opposite sex
1 2 6. Bowel movements outside toilet
1 2 7. Bragging, boasting
1 2 8. Can't concentrate, can't pay attention for long
1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): _____
_____
2 10. Can't sit still, restless, or hyperactive
2 11. Clings to adults or too dependent
2 12. Complains of loneliness
2 13. Confused or seems to be in a fog
2 14. Cries a lot
2 15. Cruel to animals
2 16. Cruelty, bullying, or meanness to others
2 17. Day-dreams or gets lost in his/her thoughts
2 18. Deliberately harms self or attempts suicide
2 19. Demands a lot of attention
2 20. Destroys his/her own things
2 21. Destroys things belonging to his/her family or others
2 22. Disobedient at home
2 23. Disobedient at school
2 24. Doesn't eat well
2 25. Doesn't get along with other kids
2 26. Doesn't seem to feel guilty after misbehaving
2 27. Easily jealous
2 28. Eats or drinks things that are not food – ***don't*** include sweets (describe): _____
_____
2 29. Fears certain animals, situations, or places, other than school (describe): _____
_____
2 30. Fears going to school

0 1 2 31. Fears he/she might think or do something bad
0 1 2 32. Feels he/she has to be perfect
0 1 2 33. Feels or complains that no one loves him/her
0 1 2 34. Feels others are out to get him/her
0 1 2 35. Feels worthless or inferior
0 1 2 36. Gets hurt a lot, accident-prone
0 1 2 37. Gets in many fights
0 1 2 38. Gets teased a lot
0 1 2 39. Hangs around with others who get in trouble
0 1 2 40. Hears sounds or voices that aren't there (describe): _____
_____
0 1 2 41. Impulsive or acts without thinking
0 1 2 42. Would rather be alone than with others
0 1 2 43. Lying or cheating
0 1 2 44. Bites fingernails
0 1 2 45. Nervous, highstrung, or tense
0 1 2 46. Nervous movements or twitching (describe):
_____
_____
0 1 2 47. Nightmares
0 1 2 48. Not liked by other kids
0 1 2 49. Constipated, doesn't move bowels
0 1 2 50. Too fearful or anxious
0 1 2 51. Feels dizzy
0 1 2 52. Feels too guilty
0 1 2 53. Overeating
0 1 2 54. Overtired
0 1 2 55. Overweight

56. Physical problems ***without known medical cause:***
0 1 2 a. Aches or pains (***not*** stomach or headaches)
0 1 2 b. Headaches
0 1 2 c. Nausea, feels sick
0 1 2 d. Problems with eyes (***not*** if corrected by glasses) (describe): _____
0 1 2 e. Rashes or other skin problems
0 1 2 f. Stomachaches or cramps
0 1 2 g. Vomiting, throwing up
0 1 2 h. Other (describe): _____
_____

Please see other side

Please Print

0 = Not True (as far as you know) 1 = Somewhat or Sometimes True 2 = Very True or Often True

2 57. Physically attacks people
2 58. Picks nose, skin, or other parts of body (describe): _____
_____
2 59. Plays with own sex parts in public
2 60. Plays with own sex parts too much
2 61. Poor school work
2 62. Poorly coordinated or clumsy
2 63. Prefers being with older kids
2 64. Prefers being with younger kids
2 65. Refuses to talk
2 66. Repeats certain acts over and over; compulsions (describe): _____
_____
2 67. Runs away from home
2 68. Screams a lot
2 69. Secretive, keeps things to self
2 70. Sees things that aren't there (describe):
_____
_____
2 71. Self-conscious or easily embarrassed
2 72. Sets fires
2 73. Sexual problems (describe): _____
_____
_____
2 74. Showing off or clowning
2 75. Shy or timid
2 76. Sleeps less than most kids
2 77. Sleeps more than most kids during day and/or night (describe): _____
_____
2 78. Smears or plays with bowel movements
2 79. Speech problem (describe): _____
_____
2 80. Stares blankly
2 81. Steals at home
2 82. Steals outside the home
2 83. Stores up things he/she doesn't need (describe): _____
_____

0 1 2 84. Strange behavior (describe): _____
_____
0 1 2 85. Strange ideas (describe): _____
_____
0 1 2 86. Stubborn, sullen, or irritable
0 1 2 87. Sudden changes in mood or feelings
0 1 2 88. Sulks a lot
0 1 2 89. Suspicious
0 1 2 90. Swearing or obscene language
0 1 2 91. Talks about killing self
0 1 2 92. Talks or walks in sleep (describe): _____
_____
0 1 2 93. Talks too much
0 1 2 94. Teases a lot
0 1 2 95. Temper tantrums or hot temper
0 1 2 96. Thinks about sex too much
0 1 2 97. Threatens people
0 1 2 98. Thumb-sucking
0 1 2 99. Too concerned with neatness or cleanliness
0 1 2 100. Trouble sleeping (describe): _____
_____
0 1 2 101. Truancy, skips school
0 1 2 102. Underactive, slow moving, or lacks energy
0 1 2 103. Unhappy, sad, or depressed
0 1 2 104. Unusually loud
0 1 2 105. Uses alcohol or drugs for nonmedical purposes (describe): _____
_____
0 1 2 106. Vandalism
0 1 2 107. Wets self during the day
0 1 2 108. Wets the bed
0 1 2 109. Whining
0 1 2 110. Wishes to be of opposite sex
0 1 2 111. Withdrawn, doesn't get involved with others
0 1 2 112. Worries

113. Please write in any problems your child has that were not listed above:

0 1 2 _____
0 1 2 _____
0 1 2 _____

E BE SURE YOU HAVE ANSWERED ALL ITEMS.

UNDERLINE ANY YOU ARE CONCERNED ABOUT.

Sleep Diary: A Practical Record For Parents

Sponsored by *Karvol*

Name/Age:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Time woke in morning							
Mood on waking							
Time of nap(s) in day							
Time went to bed in evening							
Time went to sleep in evening							
Time(s) woke in night What you did Time(s) went to sleep again							
Time you went to bed							

APPENDIX VI

Composite scores from sleep diary data

As each child's sleep pattern and problems are so individual it makes it difficult to compare the severity of sleep problems and to rate improvements that are comparable with other children. In order to obtain comparable measures which could be used to show change in overall sleep behaviour, Richman(1985, 1981) developed a weekly composite score of the child's sleep. Data taken from the sleep diaries is categorised into 6 ordinal scales rated 0 - 4. The scores from each scale are added to obtain the final composite sleep score.

Richman's 6 scales:

1. average time went to bed **or** time taken to settle once in bed **- use worst score**
2. average number of nights waking per week
3. average number of times waking per night
4. average time awake per waking
5. average total time slept in hours
6. average time spent in parent's bed per week.

The composite score is calculated on a weekly basis; the higher the score the more disturbed the sleep.
Mean composite score for children sleeping well was 2.7 (Richman 1981).

ADAPTATION OF THE SCORE FOR THIS STUDY:

It was decided to calculate composite score on a daily basis rather than a weekly basis in order to gain richer data, and to enable one to see the pattern of sleep problems day by day. In order to do this, the method of calculation was adapted from that used by Richman (1981).

The adapted method of calculating the scores for each of the scales:

1. Time taken to sleep (minutes) i.e. time taken to fall asleep once in bed

minutes	score
<15	0
16-29	1
30-44	2
45-60	3
>60	4

2. Bedtime

5.00-8.30	0
8.31-9.10	1
9.11-10.00	2
10.01-11.00	3
after 11.00	4

3. Number of wakings per night

wakings	score
<1	0
1	1
2	2
3	3
>4	4

4. Total time awake per night

minutes	score
0-5	0
6-15	1
16-30	2
31-60	3
>60	4

5. Total time slept per night

hours	score
>12	0
11.00-11.59	1
10.00-10.59	2
9.00-9.59	3
<9	4

6. Total time spent in parents bed per night (to include time parent spent sleeping with child in child's own bed).

hours	score
0	0
>0-1.00	1
1.01-2.59	2
3.00-4.59	3
>5.00	4

The composite score is calculated by adding the score for each of the 6 scales. Unlike the Richman calculation, the scores were not averaged.

N.B. Definition of NIGHT. In this study, the parent's perception of what constitutes 'night' was used i.e. what parents find acceptable, as demonstrated by content of sleep diaries (bedtime to morning waking).

APPENDIX VII

SLEEP QUESTIONNAIRE

A. BACKGROUND INFORMATION:

1. Sex of child: M F

2. Date of birth: _____

3. Date of interview: _____

4. Child's age at interview: _____

5. Members of family:

	Name	Age	Occupation
mother:			
father:			
siblings:			
others:			

6. Type of Home:

House Flat Maisonette Lodgings Other

(specify)_____

Number of bedrooms _____

7. Is your child in good health? YES NO

If NO please specify

_____

_____

B. DAYTIME I'd like to start by asking you about what _____does during the day. I'd like to know about what normally happens, based on THE PAST MONTH.

1. Is _____ in your full-time care all day every day?

   YES NO

   If YES, go to 3.

If NO,

2. Where does he normally go?

	How many sessions per week?	How long for?
TODDLER GROUP		
PLAYGROUP		
NURSERY		
OTHER (eg. Looked after by a friend/relative)		

3. Does _____ have a nap(s) during the day?

   Frequently/Almost always Sometimes Rarely/Almost never

   If Rarely/never, go to C.

4. When does he have his nap(s) and how long does each nap last for?

	Time it commences	Time he wakes
Nap 1		
Nap 2		
Nap 3		

5. Do these nap(s) occur at a very predictable time (eg. To within one hour?)

YES NO

6. Do you wait for him to fall asleep during the day or do you try to settle him for his/her daytime naps?

Wait for him to fall asleep _____

Settle him for naps _____

7. Where does he usually have her daytime nap(s)?

COT/BED SETTEE PUSHCHAIR OTHER (specify)
_____

8. Is there anything during the day that regularly sends him to sleep (eg. car, hoover noise etc.)?

YES (please specify) NO

_____

C. Now I would like to talk to you about what sorts of things happen during the early evening, before he goes to bed. Remember to base what you say on how things have been OVER THE PAST MONTH.

1. Do you have a routine for _____ before bedtime?
(By routine, I mean things which happen in the same order before he goes to bed).

   YES NO

2. So what sort of things happen in the evening, starting with teatime?

   Pre-bedtime events Approx time it happens

   Teatime.

   _____

   _____

   _____

   _____

3. How often do you have this routine?

   Frequently/Almost always Sometimes Rarely/almost never

   If frequently or sometimes, go to 5.

4. If you do NOT have a routine for _____ how do you decide when it is bedtime?

   _____

   _____

   _____

   _____

5. Is _____ bedtime at roughly the same time each evening (eg. to within one hour)?

YES NO

If YES, what time, roughly is it? _____

Now I would like to know a bit more about what _____ USUALLY does in the last half-hour or so before he goes to bed/falls asleep.

D. Does he do..

1. QUIET PLAY (eg. with books, crayons, puzzles)

YES NO

(i) Alone

Frequently/Almost always Sometimes Rarely/almost never

(ii) With brother/sister/other children

Frequently/Almost always Sometimes Rarely/almost never

(iii) With parent/older adult

Frequently/Almost always Sometimes Rarely/almost never

2. ACTIVE PLAY (eg. Riding bicycle, playing ball, rough and tumble)

YES NO

(i) Alone

Frequently/Almost always Sometimes Rarely/almost never

(ii) With brother/sister/other children

Frequently/Almost always Sometimes Rarely/almost never

(iii) With parent/older adult

Frequently/Almost always Sometimes Rarely/almost never

3. WATCHING TV/VIDEO

YES NO

(i) Alone

Frequently/Almost always Sometimes Rarely/almost never

(ii) With brother/sister/other children

Frequently/Almost always Sometimes Rarely/almost never

(iii) With parent/older adult

Frequently/Almost always Sometimes Rarely/almost never

4. OTHER (please specify)

_____

_____

5. Does _____ play in the living room in his/her pyjamas/night clothes before bed?

Frequently/Almost always Sometimes Rarely/almost never

6. Does _____ usually have a bath in the evening?

Frequently/Almost always Sometimes Rarely/almost never

If Rarely/never, go to section E.

7. Does the bath happen earlier in the evening or last thing before bed?

Earlier in the evening _____

Just before bed _____

8. Is he very lively when having a bath?

Frequently/Almost always Sometimes Rarely/almost never

9. Would _____ usually come back downstairs again after the bath?

Frequently/Almost always Sometimes Rarely/almost never

E.

1. Is he lively when you are putting him to bed?

Frequently/Almost always Sometimes Rarely/almost never

2. At bedtime does _____ seem drowsy and ready for sleep?

Frequently/Almost always Sometimes Rarely/almost never

3. Where does _____ normally fall asleep in the evenings?

_____

4. Does _____ sleep in a BED_____

COT_____

OTHER (specify)_____

5. Does _____sleep in his/her own room?

YES NO (please explain)_____

_____

6. After he has got into her cot/bed what do you do?

_____

_____

_____

7. As far as you can tell, how long does it usually take him to settle after being put into his cot/bed?

0-15 mins 15-30 mins more than 30 mins

8. Do you have any special comforters which help to settle him?

YES (please specify) NO

_____

9. Is he normally awake when you leave him?

YES NO

10. Do you leave a light on for _____ anywhere in the house?

Bedroom _____

Landing/hall _____

Other (please specify) _____

11. i) After _____ has been put in his cot/bed, do you have to go to him again?

Frequently/Almost always Sometimes Rarely/almost never

ii) What do you do with him at these times?

_____

_____

_____

12. Does he come back downstairs again?

Frequently/Almost always Sometimes Rarely/almost never

13. Does _____'s behaviour about going to bed/settling to sleep create difficulties or problems for you?

Frequently/Almost always Sometimes Rarely/almost never

Please specify:_____

_____

F. The next set of questions are about waking during the night.

1. Does _____ wake at night? (Apart from during illness)

Frequently/Almost always Sometimes Rarely/almost never

If Rarely/never go to question 9.

2. How often is he like this at night?

Every night of the week _____ At least once a fortnight _____

5 - 6 nights a week _____ At least once every 3 weeks _____

2 - 4 nights a week _____ At least once a month _____

About one night a week _____

3. After _____ has settled to sleep, roughly how often does he usually wake up again (please circle)?

Once Twice Three x Four x Five x Six x Seven x Eight x

Nine x Ten x More than ten x

4. Who usually goes to her when he wakes?

_____

5. How soon do you usually get to him after he has woken up?

Within a few seconds or a minute _____

Between a minute and five minutes _____

After more than five minutes _____

6. What do you do to get him back to sleep?

Cuddle/rocking	YES	NO
Change nappy (if needed)	YES	NO
Offer drink	YES	NO
Leave him to cry	YES	NO

Other (please specify) _____

_____

7. (a) Do you settle him back to sleep in his own cot/bed?

Frequently/Almost always Sometimes Rarely/almost never

If Frequently, go to question 8.

(b) Do you settle him back to sleep in your bed?

Frequently/Almost always Sometimes Rarely/almost never

If Frequently, go to question 8.

(c) Do you settle him back to sleep in another part of the house? (Please specify)

Frequently/Almost always Sometimes Rarely/almost never

8. Approximately how long does it take to settle him back to sleep again?

0 - 15 mins 15 - 30 mins more than 30 mins

9. When he is asleep. Is he a restless sleeper?

Frequently/Almost always Sometimes Rarely/almost never

10. Does he do any of the following things in his sleep?

(i) Toss and turn a lot?

Frequently/Almost always Sometimes Rarely/almost never

(ii) Talk in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(iii) Shout out in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(iv) Grizzle or make noises in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(v) Seem to dream a lot in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(vi) Seem to have nightmares?

Frequently/Almost always Sometimes Rarely/almost never

(Vii) Bang his head in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(Viii) Rock in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(Ix) Walk in his sleep?

Frequently/Almost always Sometimes Rarely/almost never

(X) Other (please specify) _____

11. Do you ever sleep all night with your child (apart from if he is unwell)?

Frequently/Almost always Sometimes Rarely/almost never

If Frequently/sometimes, is this in: your bed _____

his bed _____

12. Does _____'s sleeping pattern at night create difficulties or problems for you?

Frequently/Almost always Sometimes Rarely/almost never

G. Thinking about what happens in the mornings .....

1. At approximately what time does your child wake for the day?

_____

2. How often does he wake at this time?

Frequently/Almost always Sometimes Rarely/almost never

3. Does this create any difficulties or problems for you? (Please specify)

_____

4. What is the first thing your child usually does just after he has woken up? (eg. Plays on own/comes into parents room etc)

_____

_____

H. Finally, I would like to talk a bit about what used to happen as regards _____'s sleep.

1. Did your child sleep well up to about 6 months of age?

   Frequently/Almost always Sometimes Rarely/almost never

2. Did your child sleep well between 6 months to one year of age?

   Frequently/Almost always Sometimes Rarely/almost never

3. Did your child sleep well between one year to about 18 months of age?

   Frequently/Almost always Sometimes Rarely/almost never

4. Did your child sleep well between 18 months and the present day?

   Frequently/Almost always Sometimes Rarely/almost never

5. Have you ever made a major change to how you get him ready for bed / deal with him at night / deal with him in the mornings?

   YES NO

   If Yes, please specify:_____

   _____

   _____

   _____

6. Has your child ever been prescribed drugs / medication for sleeplessness?

   YES NO

   If Yes, please specify:_____

   _____

7. Is your child presently taking medication for sleeplessness?

YES NO

If Yes, please specify:_____

8. Have there been any changes in your family routine recently? (e.g. birth of a new baby, change of bedroom, changing from cot to bed, moving house etc.).

YES NO

If YES pleas specify:_____

_____

9. How long ago did this change happen?

_____

10. Have there been any significant life events in the family in the last few years? (e.g. accident/trauma, death, loss, family difficulties, etc.).

YES NO

If YES please specify:_____

_____

11. What have you already tried so far to manage your child's sleep problems?

_____

_____

_____

What gave you the idea to try those things?

_____

_____

I. Finally I'd like to ask you a few questions about your pregnancy.

1. Did everything go well in your life during your pregnancy?

   YES NO

   If NO, please specify:_____

   _____

   _____

   _____

2. Thinking back to when you were pregnant, do you remember him being active in your tummy?

   Very active Quite active Not very active Inactive

3. Was your child born: fullterm? _____

   premature? _____

   how many weeks early? _____

4. Would you consider your labour with this child to have been easy?

   Don't know very easy quite easy quite difficult very difficult

5. Was the birth by: normal delivery ____

   planned caesarean ____

   emergency caesarean ____

6. Did you have medication during the labour?

   YES NO

7. Would you say that you have a close emotional relationship with your child?

Not close _____ Very close

1 2 3 4 5

Finally, I would like to ask you about whom you feel has had most control over your child's settling time and sleeping pattern over the past month.

For example, do you feel as if you have in general been in control or do you think your child has been in control? You can describe this by using the following rating scale (show this to parents). For example, if you put a stroke on the line here (demonstrate) this means that your child was completely in control. If you put a stroke through the line here (demonstrate) this means that you were completely in control. If you put a line here (demonstrate) this means that the balance of control was fairly even between yourself and your child.

Remember, you can place a stroke through the line at any point that you wish.

|_____|

I had complete control over child's settling time/ sleeping pattern

Child had complete control over settling Time/sleeping pattern

END.

APPENDIX VIII

Therapeutic factors questionnaire

Please circle one answer for each question.

1. Did the sessions at the sleep clinic occur:

Too often	Often enough	Not often enough

2. Were the sessions:

Too long	Long enough	Not long enough

3. Did you find the sleep diaries easy to fill in?

Yes	No	Don't know

4. Did you mind filling in the questionnaires that the psychologist brought to you?

Yes	No	Don't know

5. Did you find the questionnaires that the psychologist brought to you easy to fill in?

Yes	No	Don't know

6. Who decided to end the treatment sessions?

You	Health Visitor	Both Together

7. Do you feel that your child's sleep problems have improved as a result of you attending the sleep clinic?

Yes a lot	Yes a bit	Not sure	No not really	No, they are worse

8. Do you feel that there has been any change in your child's behaviour during the day?

Yes	No	Don't know

If yes:

9. Has you child's behaviour during the day:

Got worse	Remained the same	Improved a little	Improved a lot

10. Are you satisfied with the help you have received through the sleep clinic?

Yes No Unsure

11. Were you already familar with the ideas the health visitor discussed with you?

Yes No Unsure

12. Did the advice that the health visitor give make any difference to what you did about preparing your child to go to sleep?

Yes No Don't know

13. Did the advice that the health visitor gave make any difference to the way you dealt with your child if he/she woke in the night?

Yes No Don't know

14. Did the methods that the health visitor talked to you about make any difference?

Yes No Don't know

15. If a friend of yours was experiencing sleep problems with their child, would you reccommend they attend the sleep clinic?

Yes No Don't know

Please rate the following statements about what you found helpful or unhelpful about the sleep clinic:

	Did this happen?	Unhelpful				Very Helpful
1. Filling in the sleep diaries	Yes/No	1	2	3	4	5
2. Having someone to talk to about the sleep problems, who wasn't personally involved	Yes/No	1	2	3	4	5
3. Having the health visitor give me confidence and determination to carry out the programme with my child	Yes/No	1	2	3	4	5
4. Having set goals to meet by the next session	Yes/No	1	2	3	4	5
5. Being firm and consistant in managing my child	Yes/No	1	2	3	4	5
6. Speaking to someone who was able to acknowledge the scale of the problems from my point of view	Yes/No	1	2	3	4	5
7. Realizing that I was in control of the situation with child	Yes/No	1	2	3	4	5
8. Learning to understand how my behaviour was in turn affecting my child's behaviour.	Yes/No	1	2	3	4	5
9. The health visitor and I liking each other	Yes/No	1	2	3	4	5
10. Being able to talk about what was bothering me	Yes/No	1	2	3	4	5
11. Having the health visitor's respect	Yes/No	1	2	3	4	5
12. The sleep clinic enabled me to try to manage my child in a different way at home	Yes/No	1	2	3	4	5
13. Getting reassurance and encouragement	Yes/No	1	2	3	4	5
14. Having a person-to-person relationship with the health visitor	Yes/No	1	2	3	4	5
15. Being able to speak to someone who knew exactly what I was going through	Yes/No	1	2	3	4	5
16. Having the health visitor help me to break down the sleep problem into manageable pieces, so I was able to work on them each in turn	Yes/No	1	2	3	4	5
17. Having someone to talk to who was not critical of me	Yes/No	1	2	3	4	5

18. Realizing that other parents have similar problems with their children; that it is not just me	Yes/No	1	2	3	4	5
19. Having the opportunity for the health visitor and I to talk about my child's sleep problem	Yes/No	1	2	3	4	5
20. Trusting in the health visitor's special knowledge about sleep problems in children	Yes/No	1	2	3	4	5
21. Working through the sleep problem in detail using a step by step approach	Yes/No	1	2	3	4	5
22. Meeting other parents who were experiencing similar problems to mine	Yes/No	1	2	3	4	5
23. Learning methods to manage my child that I could apply to similar problems in the future	Yes/No	1	2	3	4	5
24. Having a chance to let go and get things off my chest	Yes/No	1	2	3	4	5
25. Having the health visitor understand the problems I described about my child's sleep problem	Yes/No	1	2	3	4	5
26. Understanding that a a lot of my child's behaviour is learned, and therefore can be 'unlearned', given the right circumstances	Yes/No	1	2	3	4	5
27. Being taken seriously	Yes/No	1	2	3	4	5
28. Reassurance that I wasn't responsible for the situation and was not doing anything wrong	Yes/No	1	2	3	4	5
29. Just having someone to confirm some of my ideas	Yes/No	1	2	3	4	5

30. Please write down any other things that you found HELPFUL about the sleep clinic and the help you received there:

31. Please write down any other things that you found UNHELPFUL about the sleep clinic and the help you received there:

Any other comments:

Thank you for taking the time to fill in this questionnaire.

APPENDIX IX

SLEEP CLINIC - WE NEED YOUR HELP!

Dear Parent,

We are always trying to improve our services to parents. This sleep clinic is part of a project being run by health visitors, Sue Acland and Fiona Meagher, along with Gail Simcock, psychologist. We are looking at whether the sleep clinic helps parents, and if so, what sorts of things parents find helpful about it.

Gail Simcock would like to meet with you (at your own home if this is convenient), to see whether you would like to take part in this study. This meeting should take no more than 45 minutes of your time. Taking part would only involve you completing a small number of short questionnaires about your child's sleep pattern and behaviour.

If for any reason you do not want to take part in this project please call Gail Simcock on 0117 9732336, or call health visitors Sue Acland or Fiona Meagher on 01275 876097. Please note that if you chose not to take part in this project, this in no way affects your attendance at the sleep clinic.

If we do not hear from you within the next week, Gail Simcock will contact you either by letter or telephone to arrange a time to meet.

Many thanks.

INFORMATION FOR PARENTS

We would like to ask you if you are willing to take part in a study about how effective this sleep clinic is at helping you to deal with your child's sleep problems. You and your child will be seen by a health visitor who is running the sleep clinic. With your permission you will be asked to fill in some short questionnaires about your child's behaviour and sleep pattern. I will also arrange to meet you (at your own home if this is most convenient for you) to find out about what you thought about the sleep clinic.

If you agree to take part, you are still able to withdraw from the study at any point, and without giving any reason. This will not affect the treatment that you would continue to receive from the health visitor. If you choose not to be part of the study, you and your child will receive the same treatment at the clinic, however, you will not be asked to complete the questionnaires.

You are welcome to discuss the study further with the health visitor at you first sleep clinic appointment. You are also welcome to contact Gail Simcock, psychologist on 0117 9732336 for further information.

Many thanks for your time and help.

Gail Simcock

APPENDIX X

CONSENT FORM

STUDY TITLE: COMMUNITY SLEEP CLINICS RUN BY HEALTH VISITORS - AN EVALUATION OF OUTCOME.

In order to obtain the consent for you and your child to participate in this study, I would be grateful if you would answer the following questions by circling the appropriate answer:

Have you read the Parent Information Sheet?	Yes / No
Have you had an opportunity to ask questions and discuss this study?	Yes / No
Have you received satisfactory answers to all your questions?	Yes / No
Have you received enough information about the study?	Yes / No

Who have you spoken to? .....

Do you understand that you and your child are free to withdraw from the study:

- At any time
- Without having to give a reason for withdrawing
- And without affecting your future medical care Yes / No

Do you agree to take part in this study? Yes / No

Child's name.....

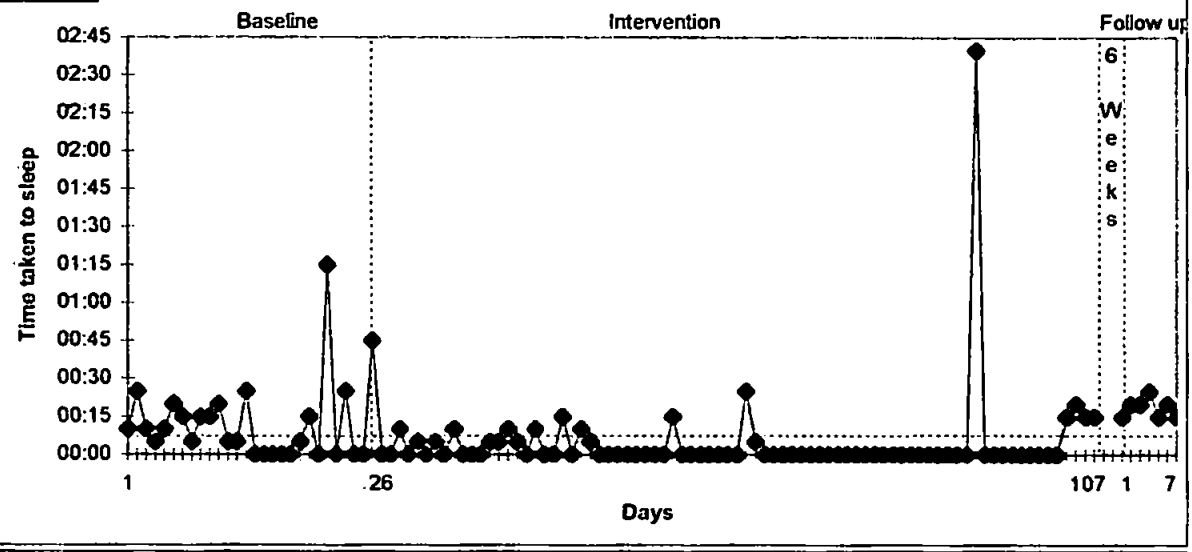
Parent's signature..... Date.....

(Name in block letters) .....

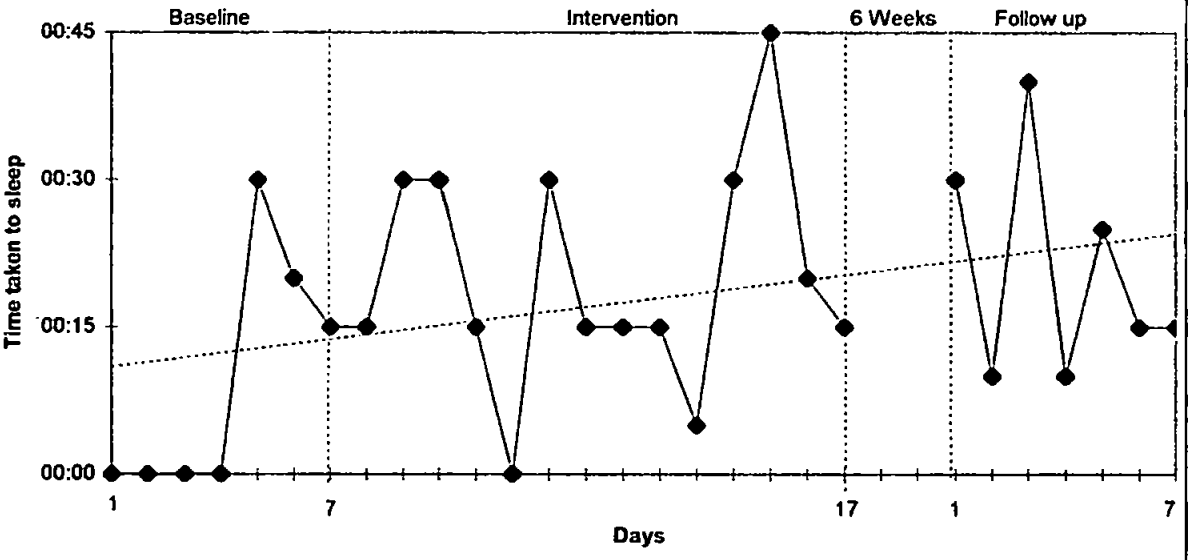
Signed (Researchers): ..... Date.....

APPENDIX XI: Time taken to sleep each night per child

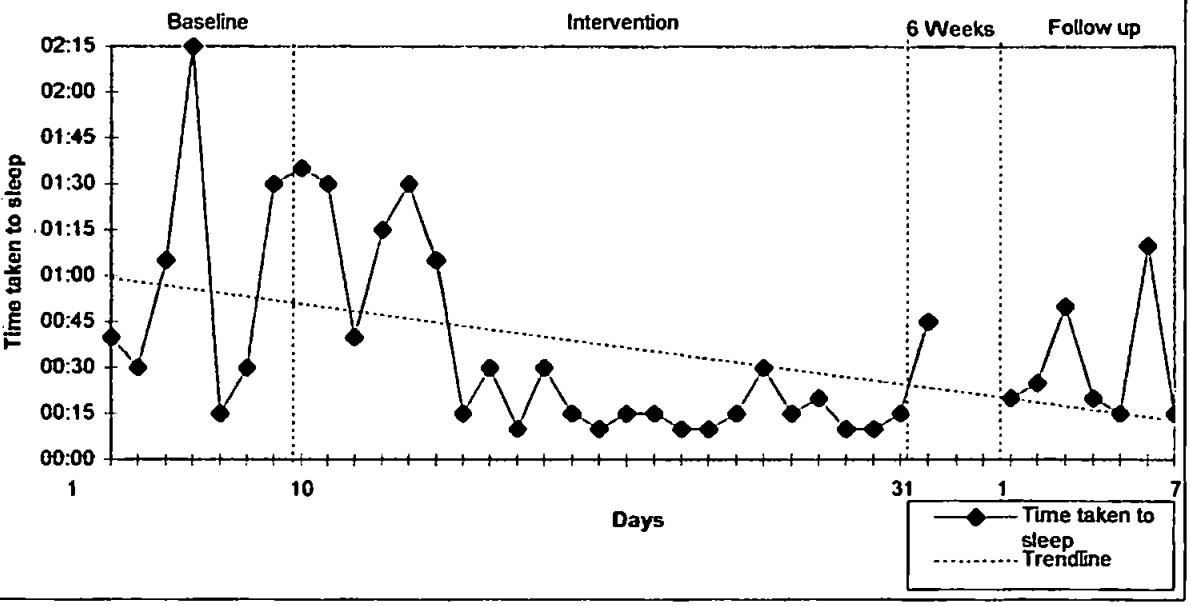
Child 1



Child 2

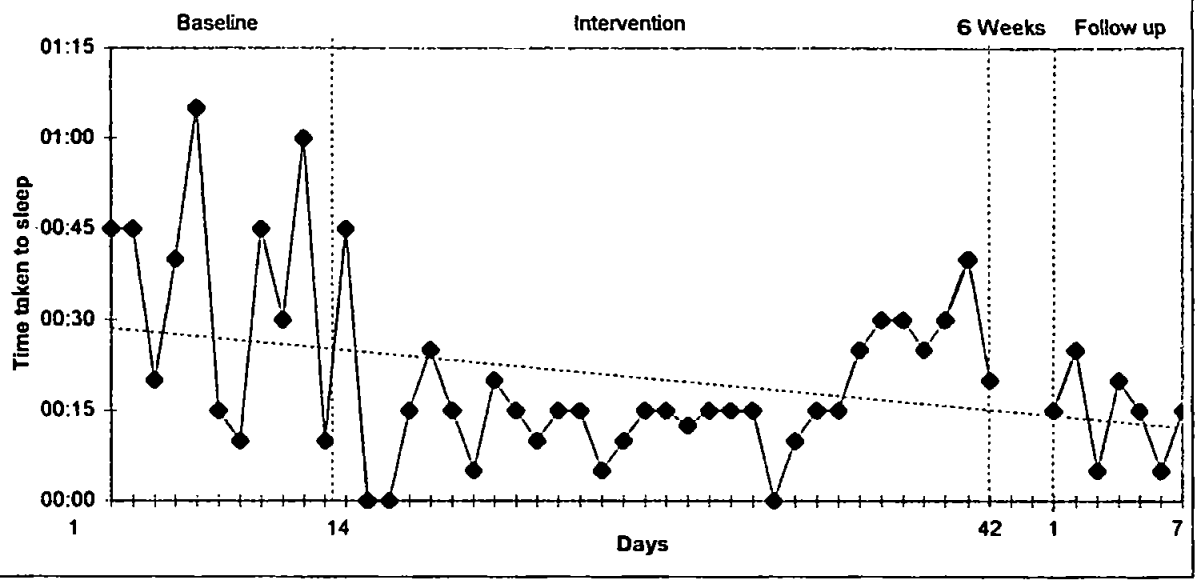


Child 3

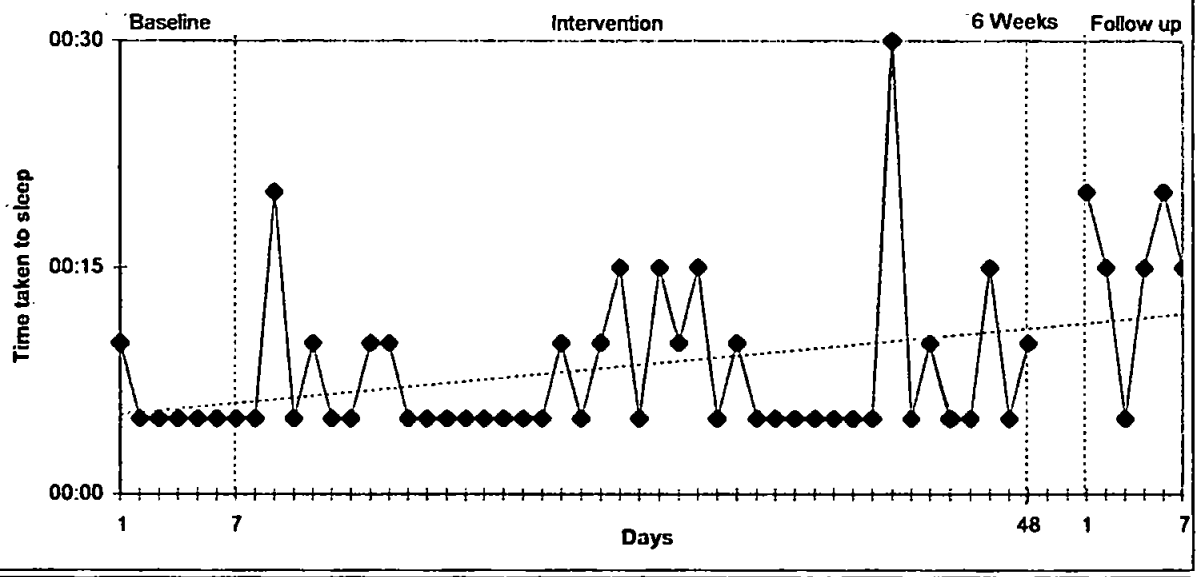


APPENDIX XI (contd): Time taken to sleep each night per child

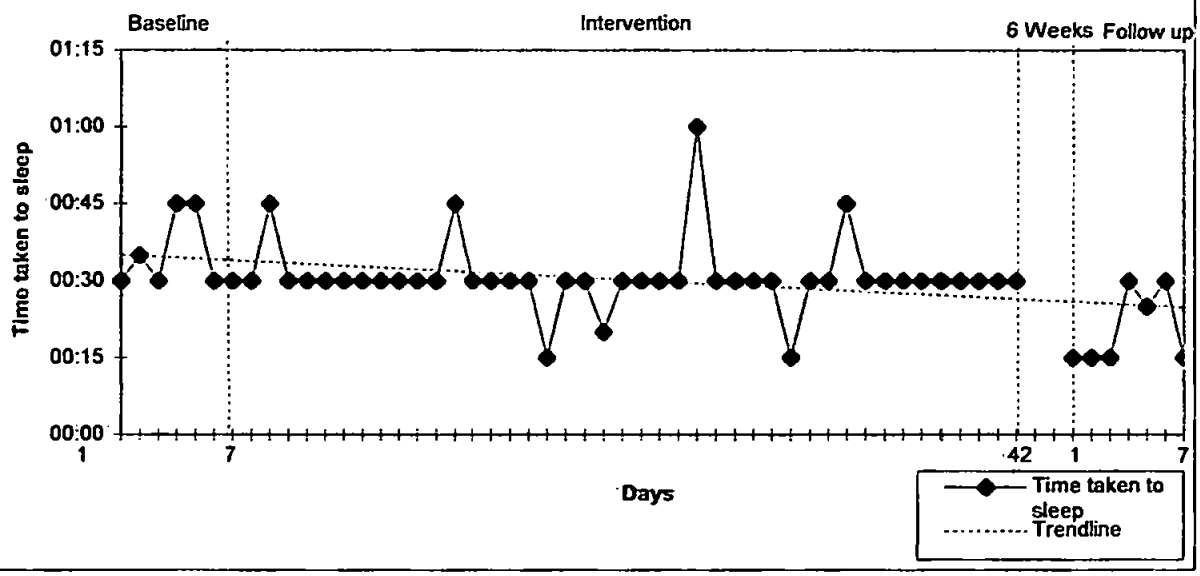
Child 4



Child 5

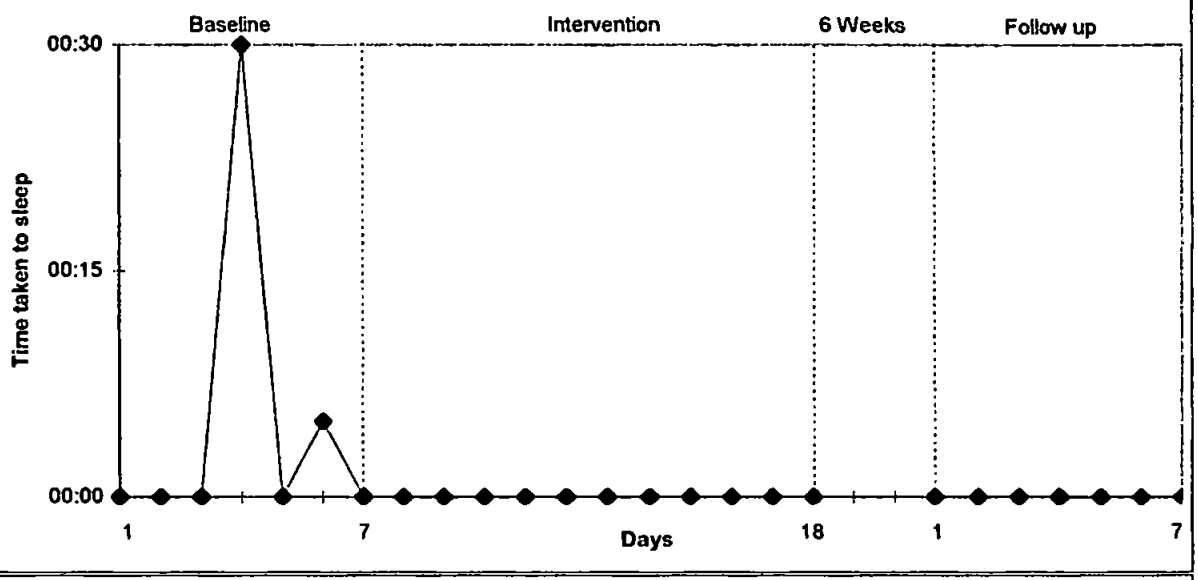


Child 6

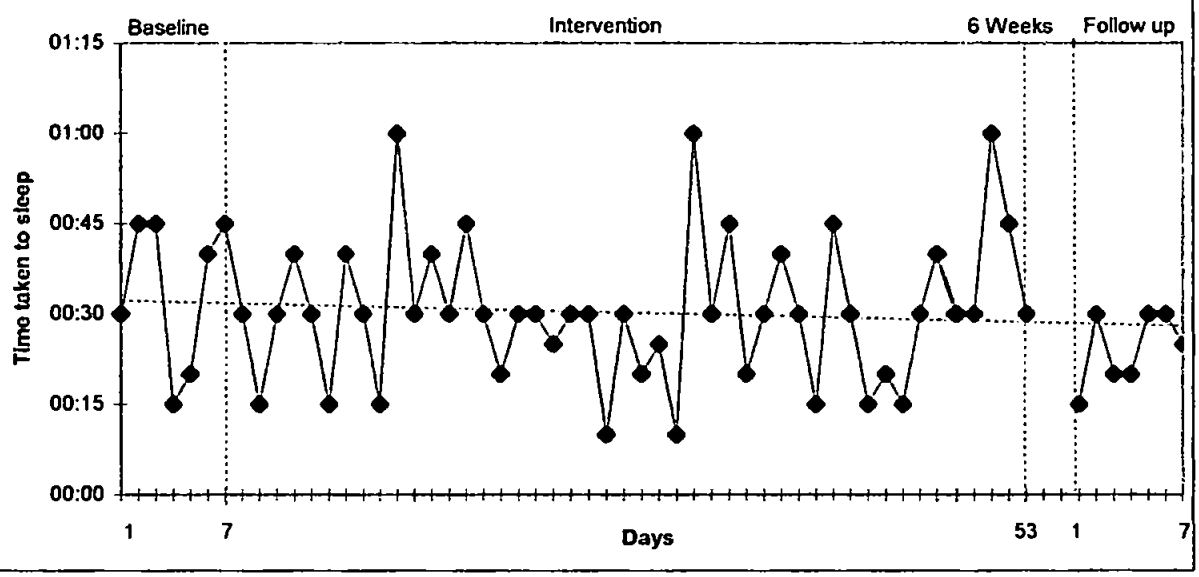


APPENDIX XI (contd.): Time taken to sleep each night per child

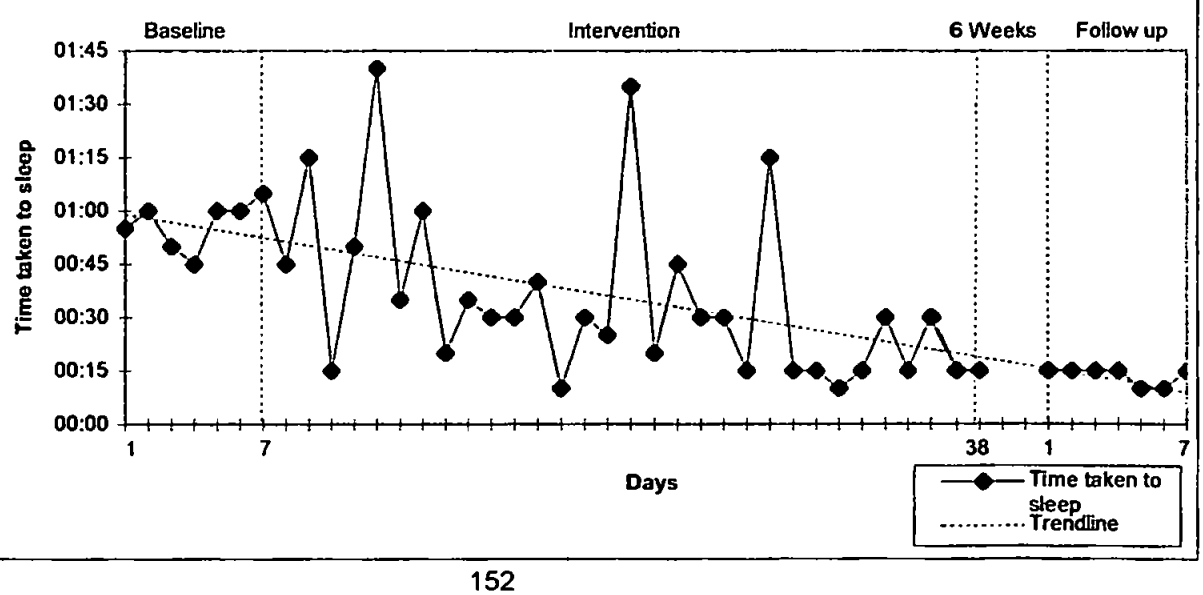
Child 7



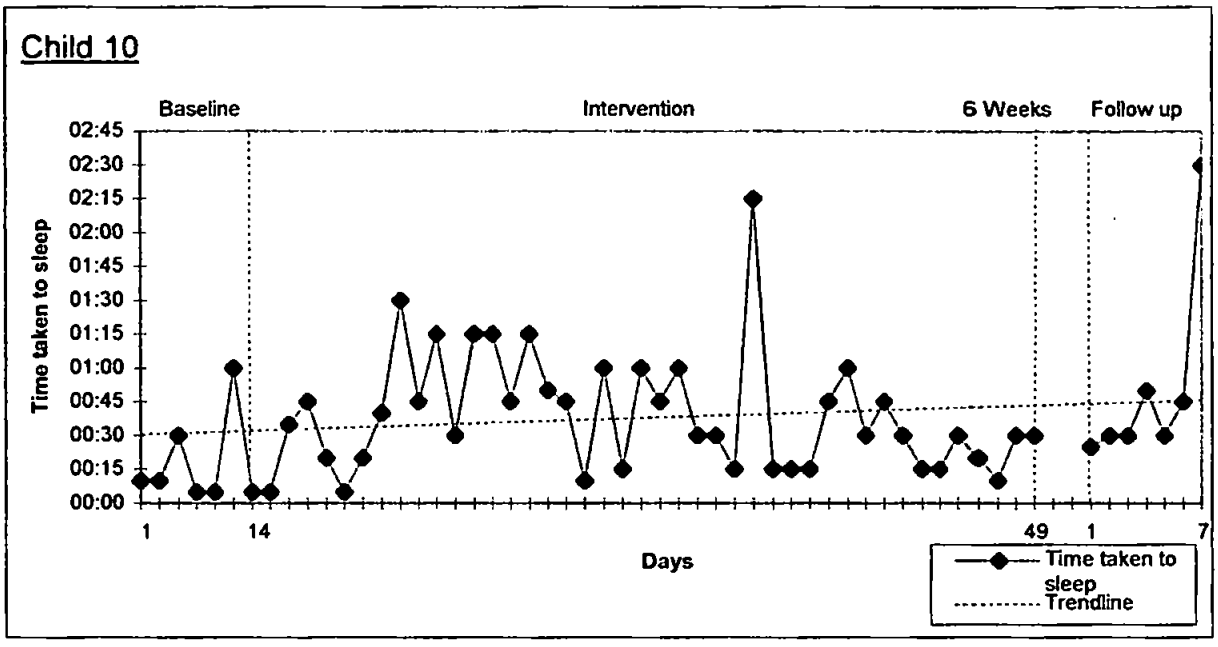
Child 8



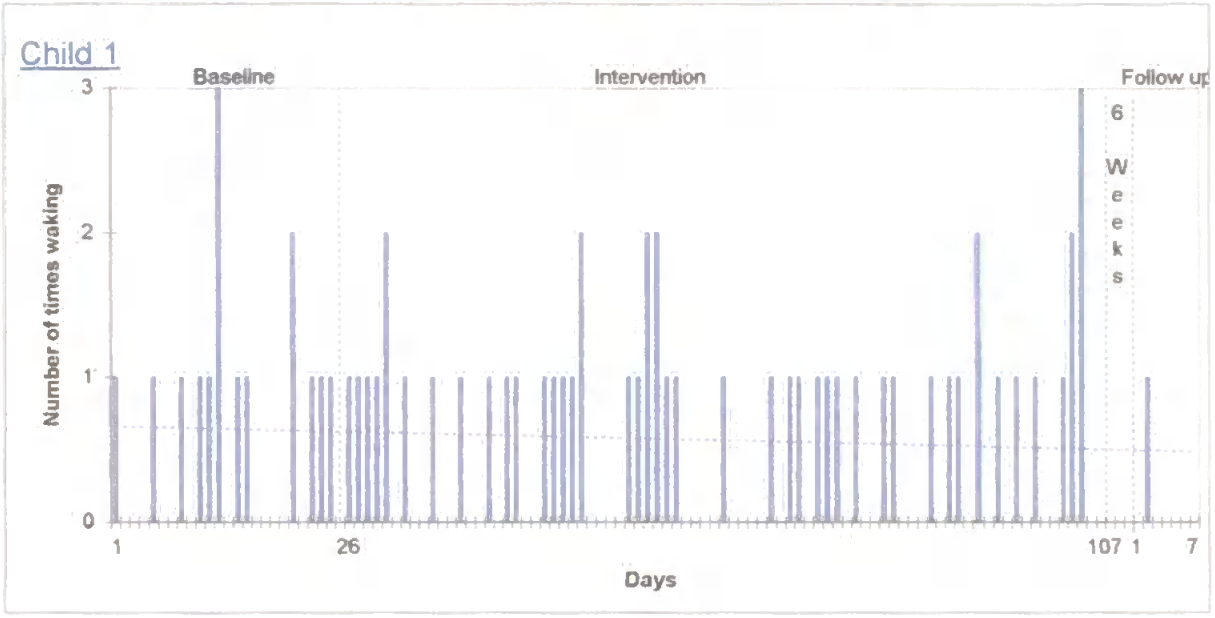
Child 9

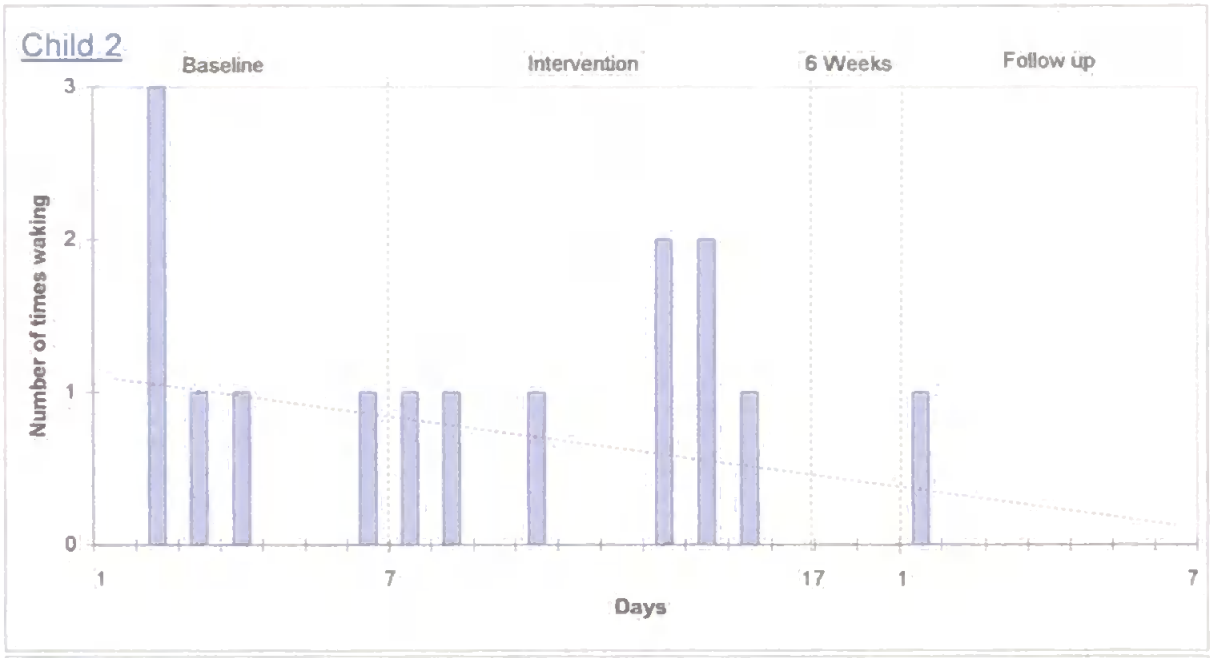


APPENDIX XI (contd.): Time taken to sleep each night per child



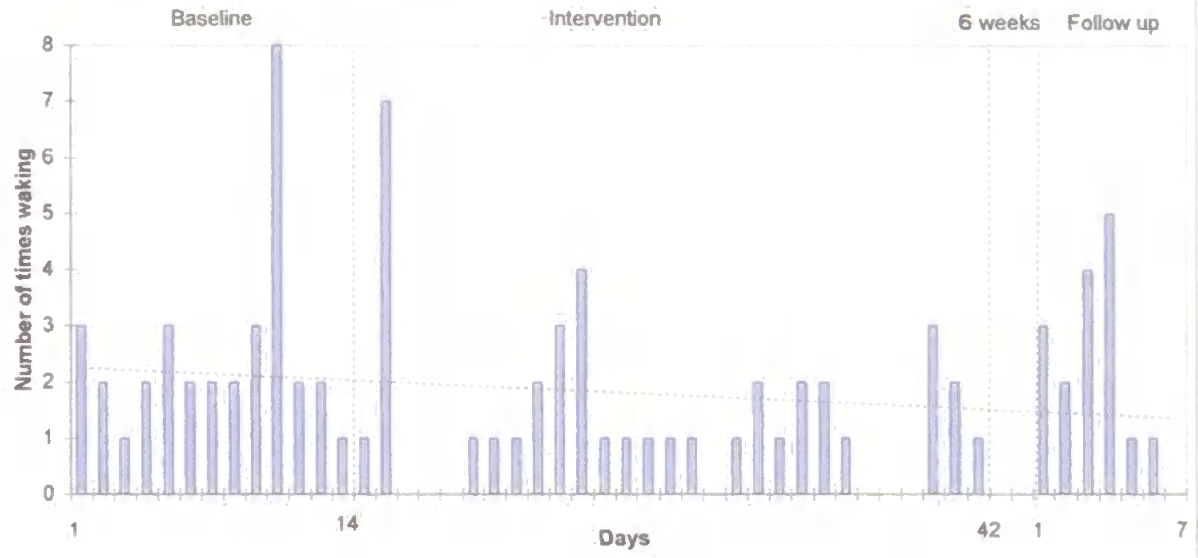
APPENDIX XII: Number of times each child woke per night



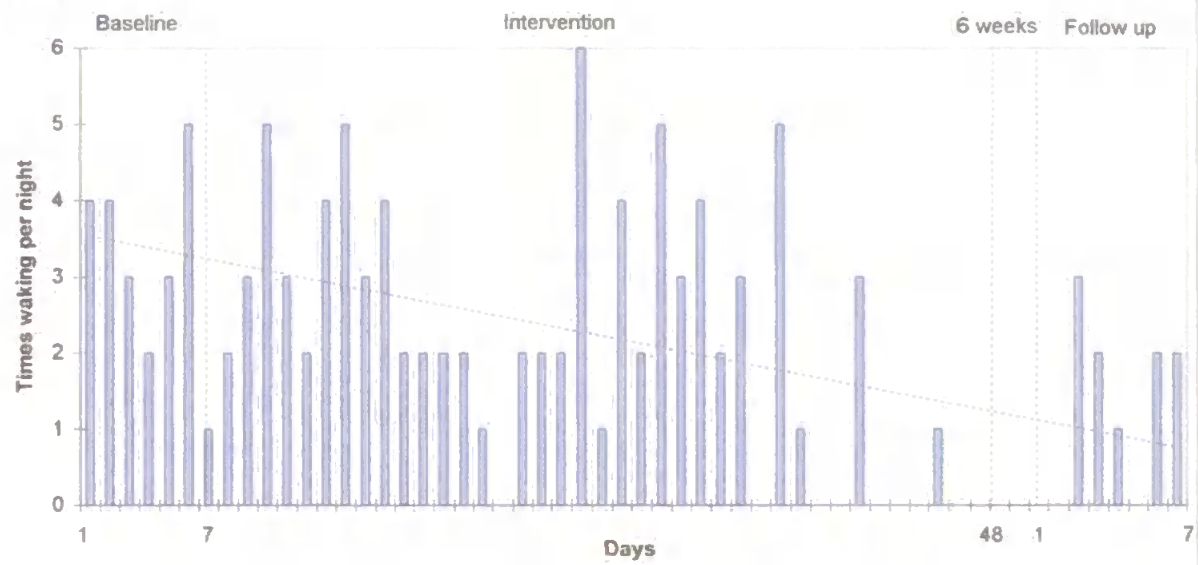


APPENDIX XII (contd.): Number of times each child woke per night

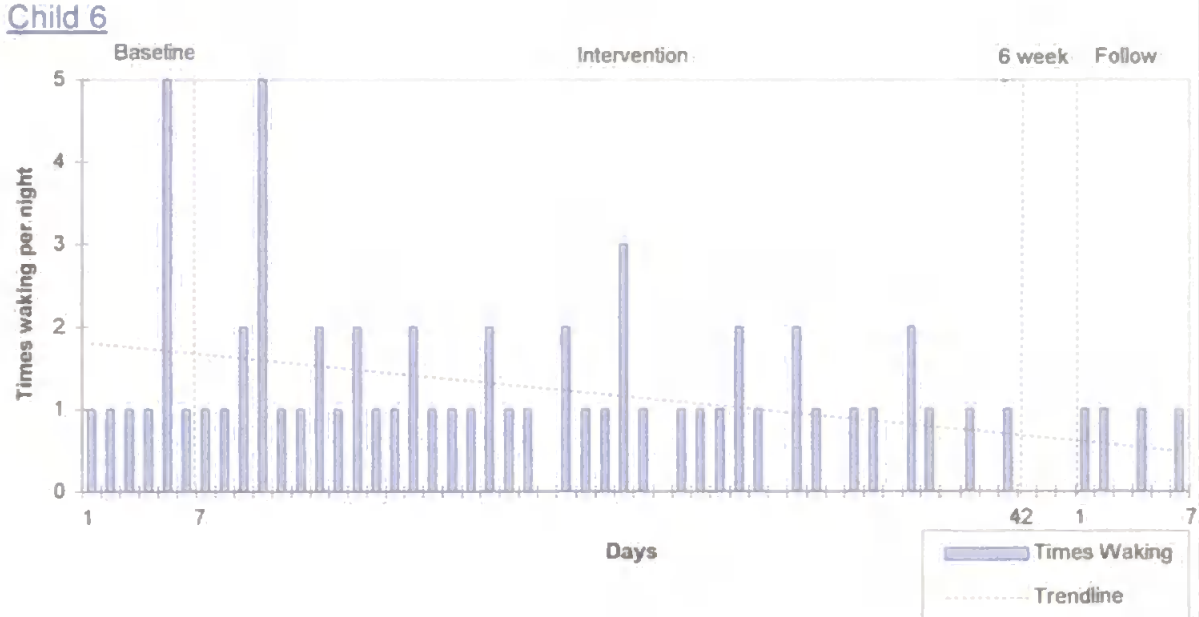
Child 4



Child 5

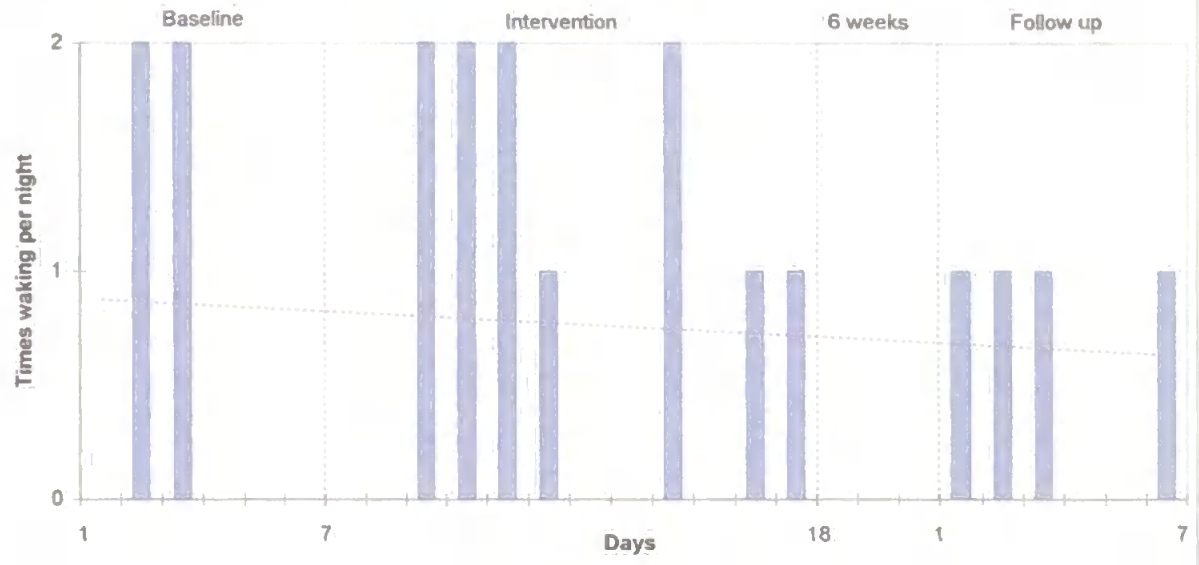


Child 6

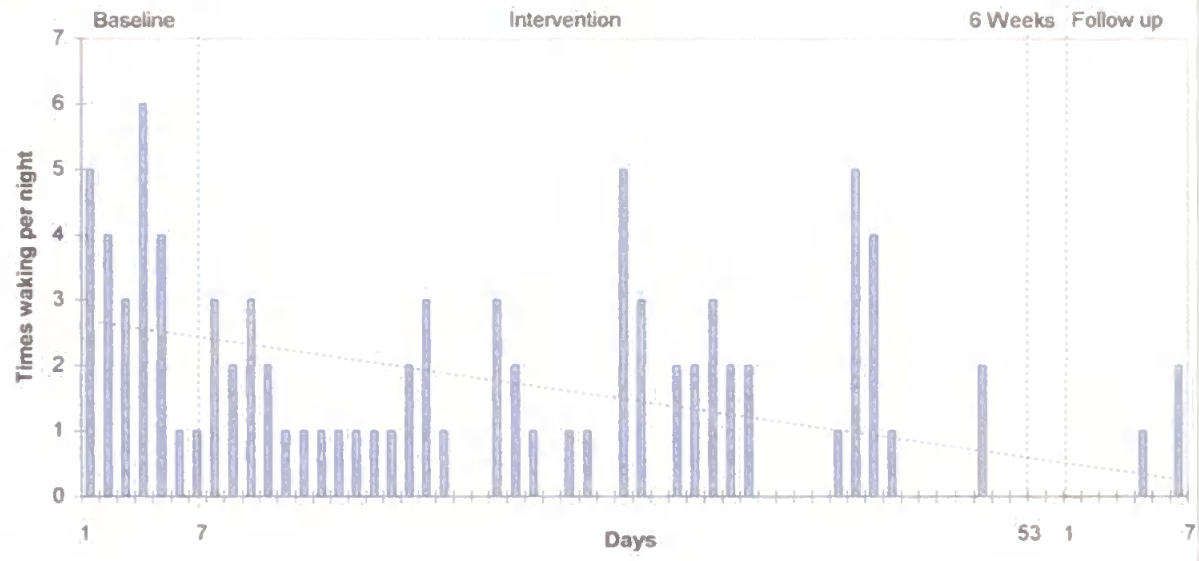


APPENDIX XII (contd.): Number of times each child woke per night

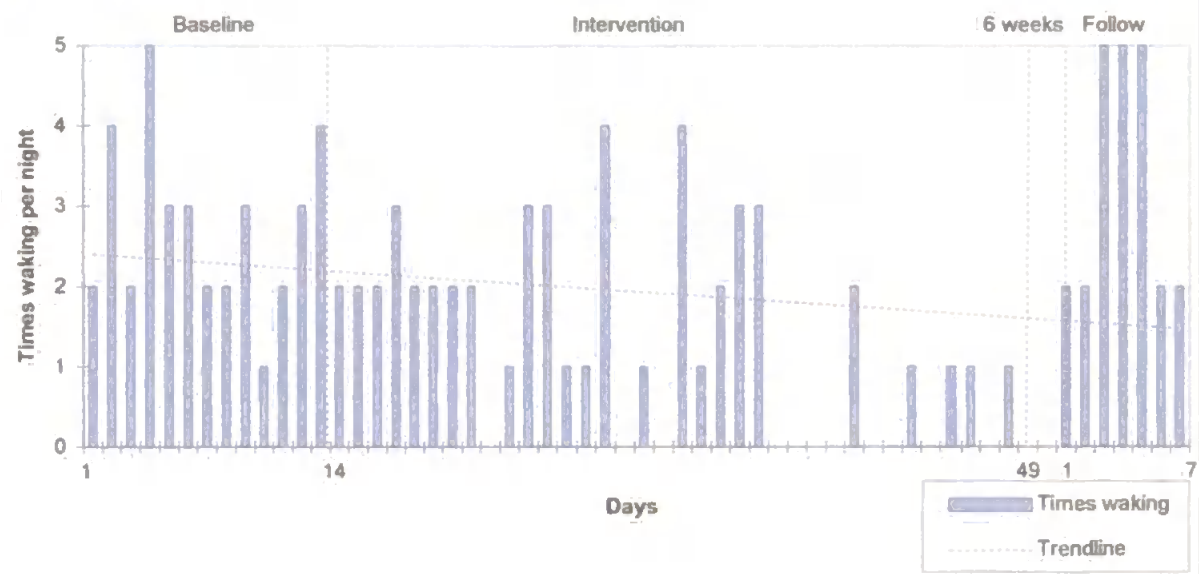
Child 7



Child 8

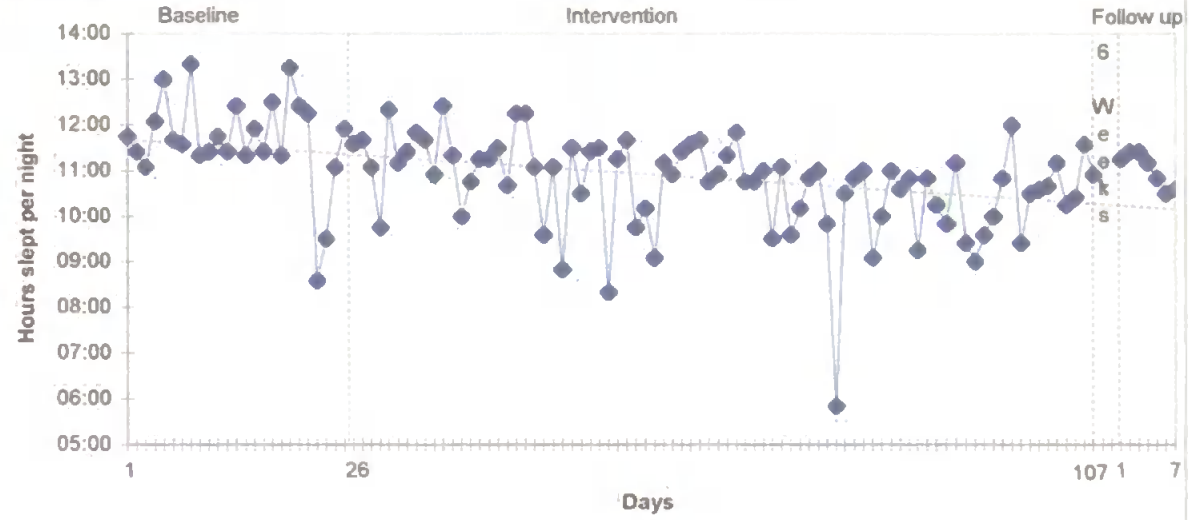


Child 10

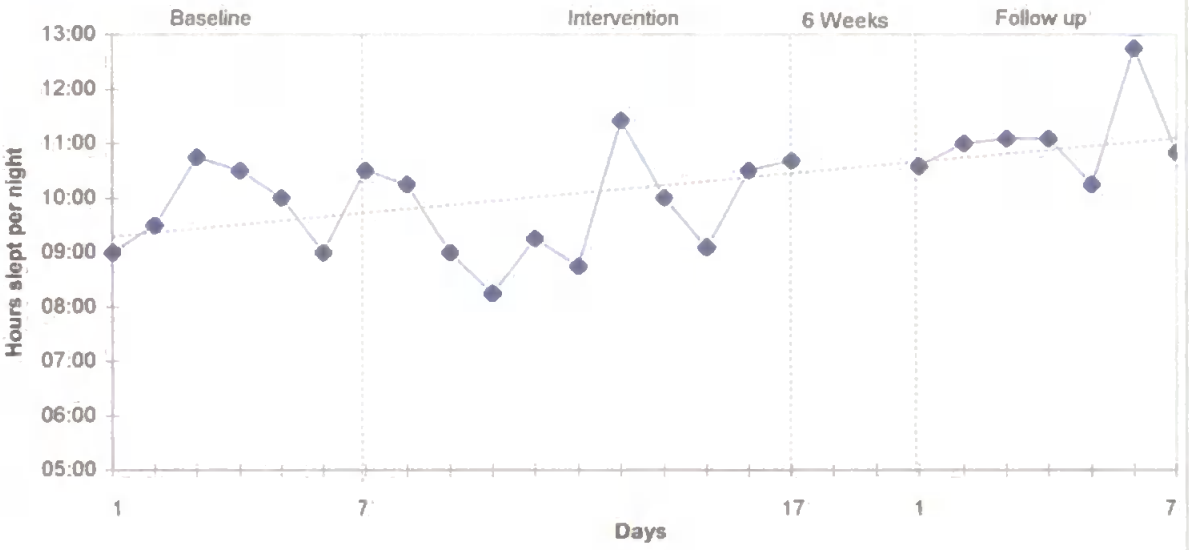


APPENDIX XIII: Number of hours slept each night per child

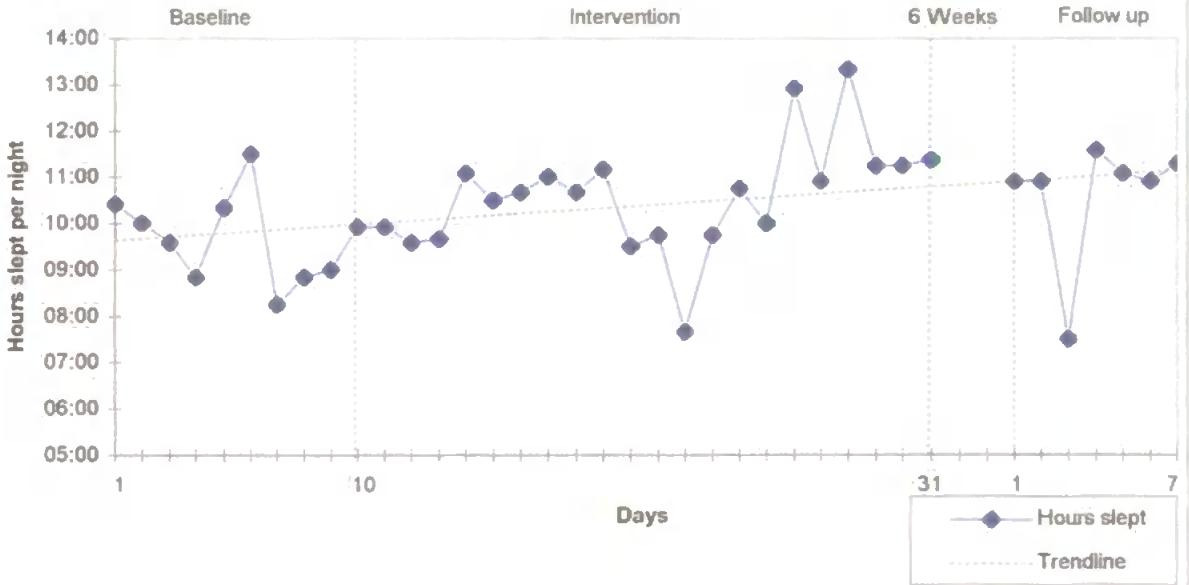
Child 1



Child 2

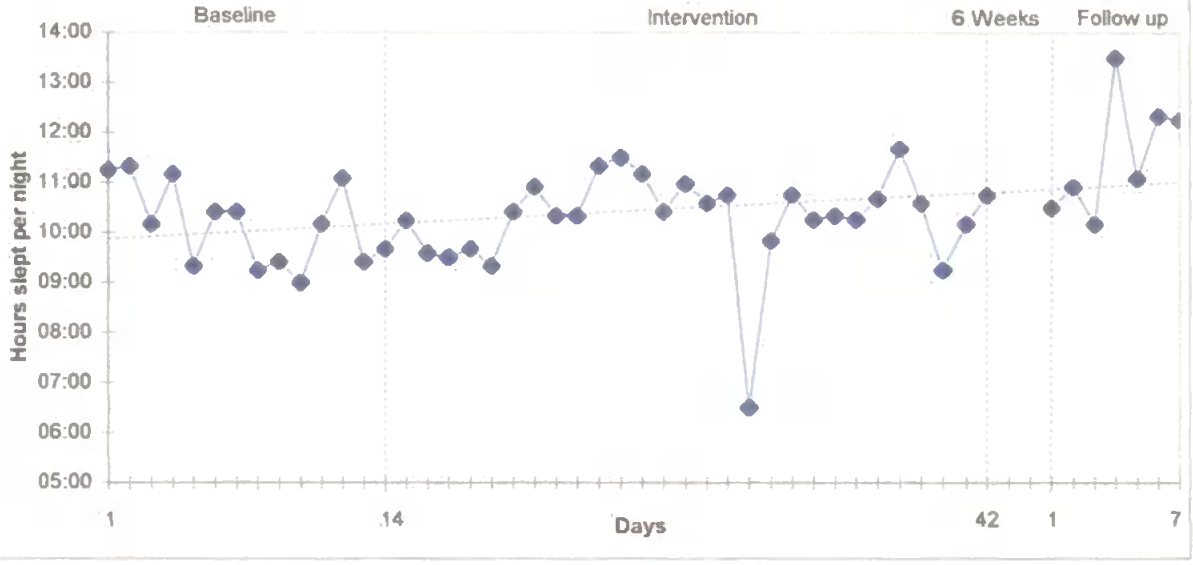


Child 3

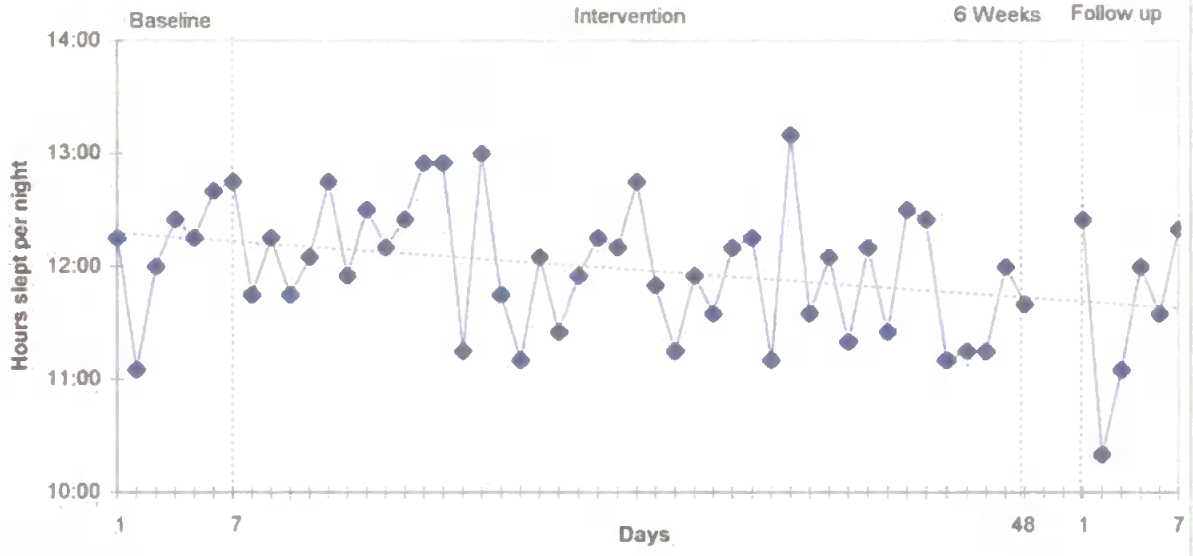


APPENDIX XIII (contd.): Number of hours slept each night per child

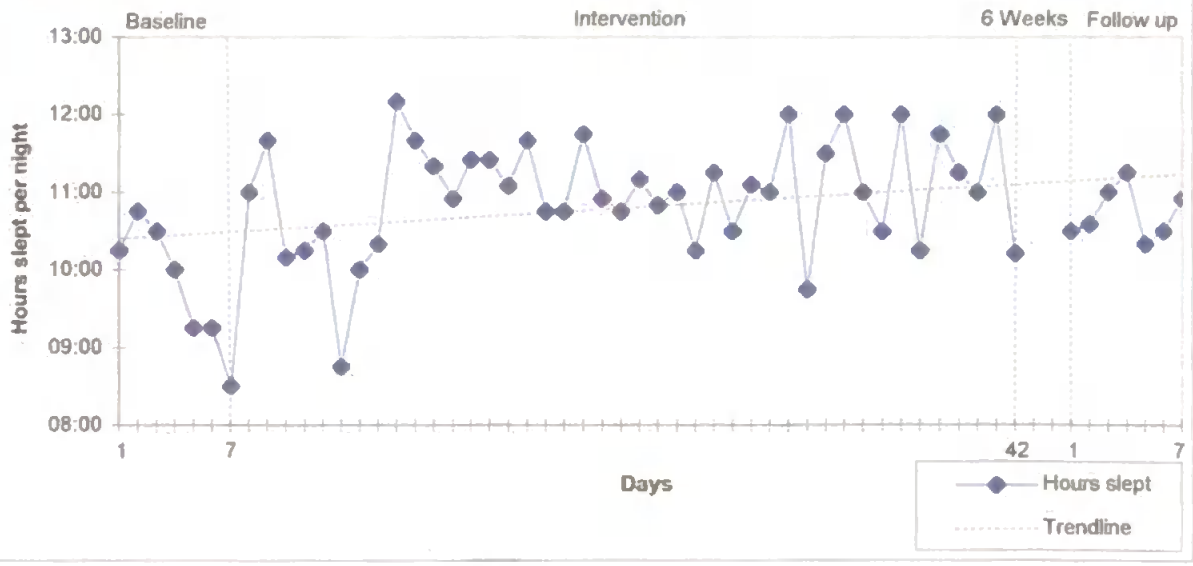
Child 4



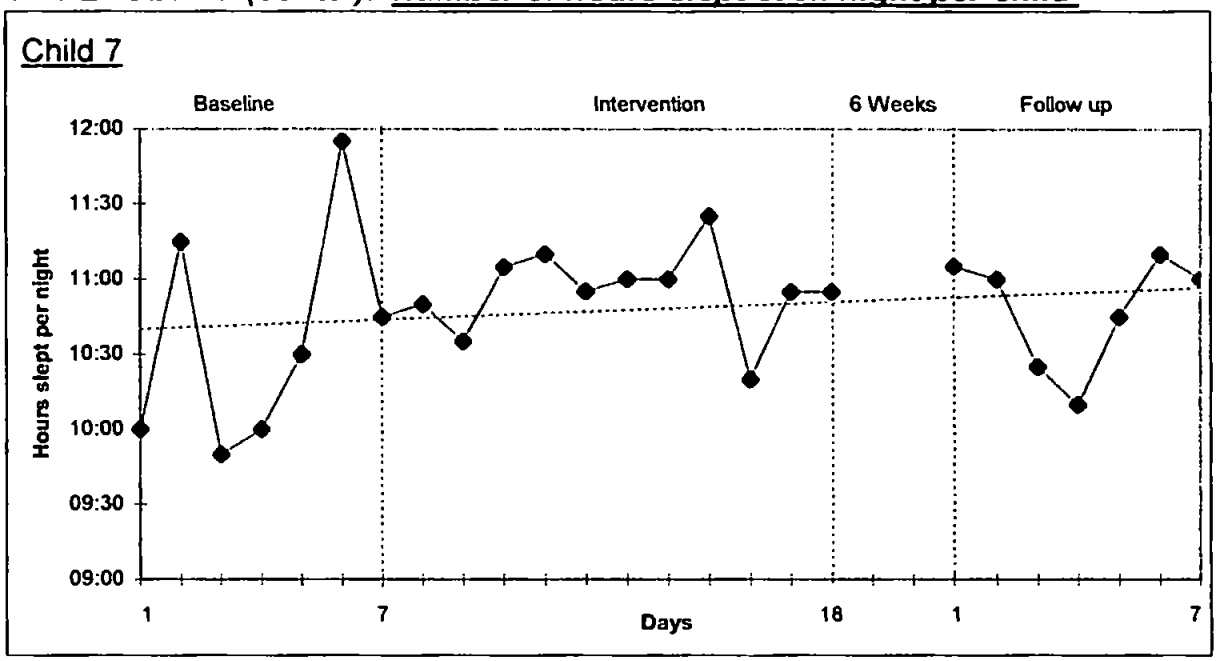
Child 5

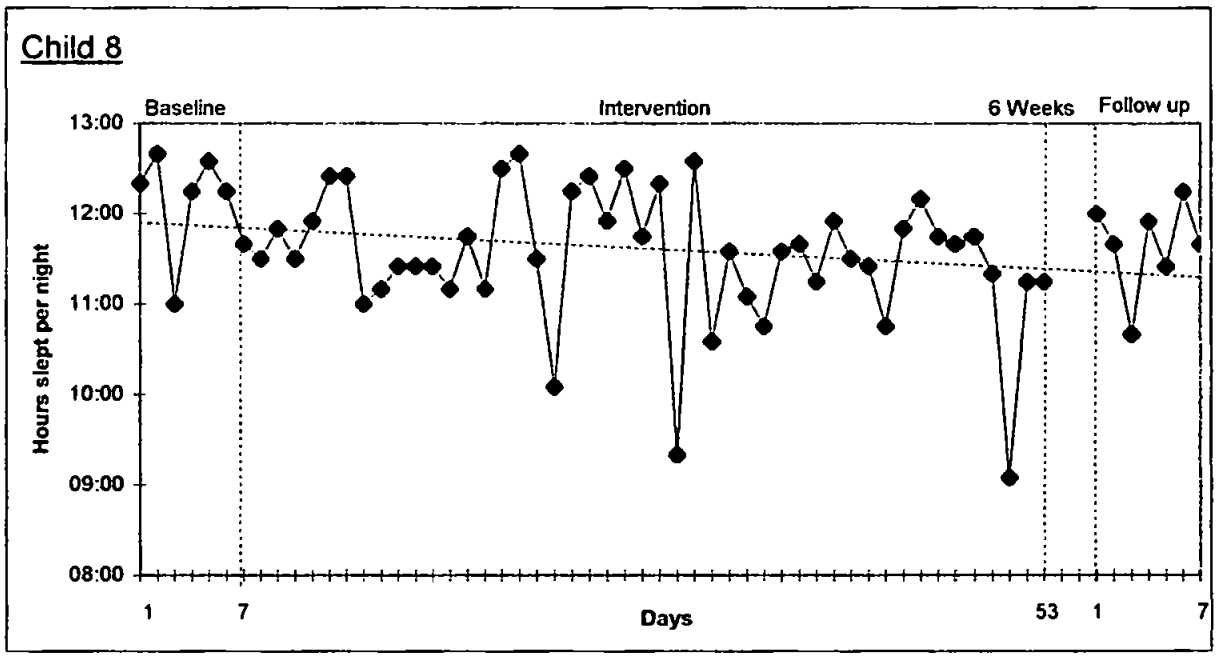


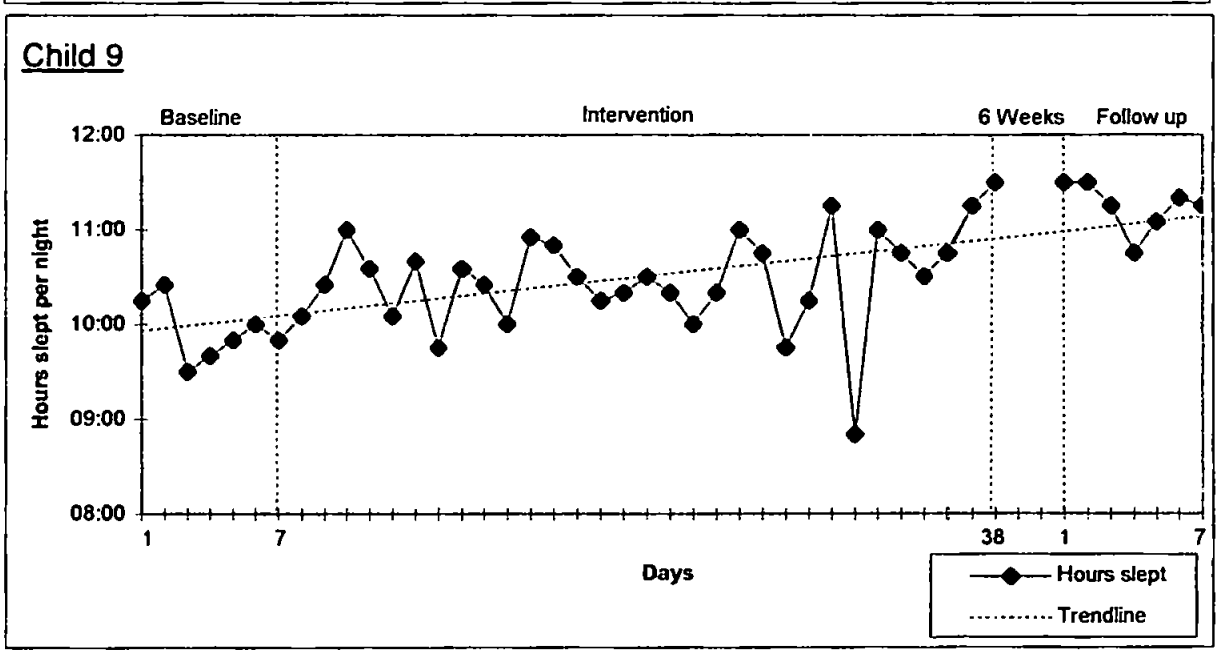
Child 6



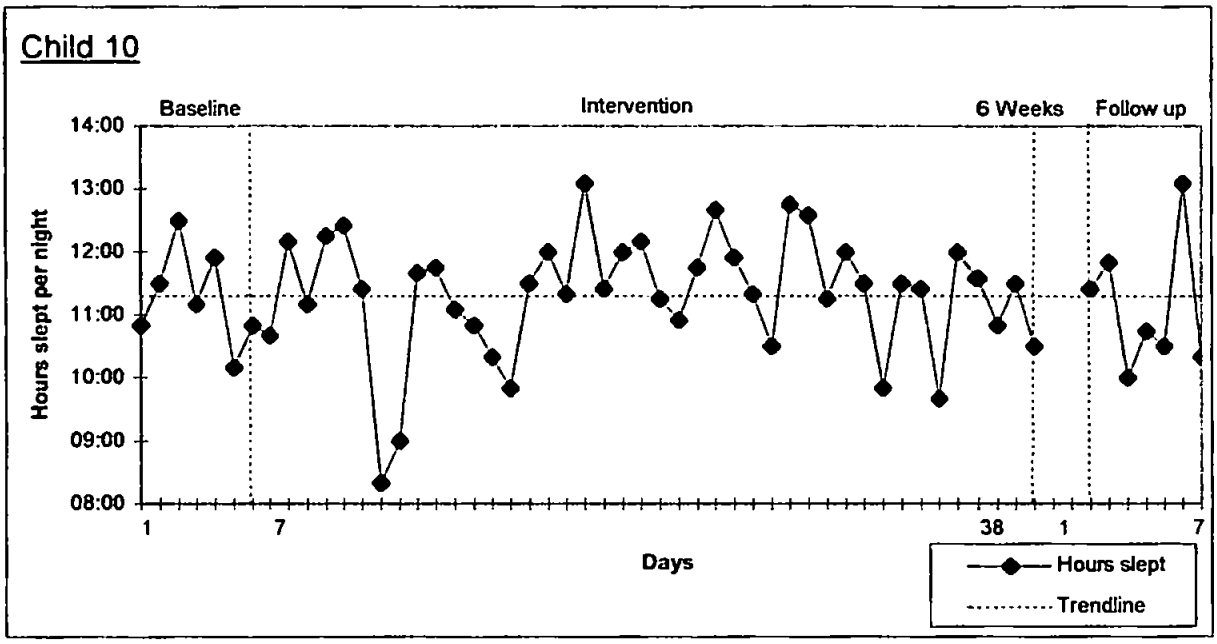
APPENDIX XIII (contd.): Number of hours slept each night per child







APPENDIX XIII (contd.): Number of hours slept each night per child



APPENDIX XIV

Means and standard deviations - composite sleep score

	PHASE 1		PHASE 2		PHASE 3	
Child	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days
1	2.77 (3.18)	26	4.21 (3.1)	81	2.14 (0.69)	7
2	7.33 (4.04)	3	6.29 (3.27)	14	2.14 (1.68)	7
3	8.4 (2.84)	10	4.95 (2.87)	21	4.0 (3.92)	7
4	10.29 (3.4)	14	5.21 (2.45)	28	4.43 (3.41)	7
5	4.57 (2.07)	7	3.39 (2.13)	41	3.5 (1.76)	6
6	12.43 (1.28)	7	7.48 (3.31)	42	3.57 (0.96)	7
7	3.0 (1.73)	7	2.82 (1.25)	11	1.88 (0.9)	7
8	6.57 (2.07)	7	4.46 (2.48)	46	2.86 (1.34)	7
9	7.14 (1.95)	7	3.74 (1.61)	31	1.14 (0.38)	7
10	8.64 (3.10)	14	5.89 (3.08)	35	9.29 (3.73)	7

Means and standard deviations - time taken to settle

	PHASE 1		PHASE 2		PHASE 3	
Child	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days
1	11.35 (15.59)	26	4.94 (18.83)	81	18.57 (3.78)	7
2	21.67 (7.64)	3	20.0 (11.78)	14	20.71 (11.34)	7
3	63.0 (38.31)	10	26.19 (23.29)	21	30.71 (21.10)	7
4	30.71 (21.56)	14	17.04 (8.70)	28	14.29 (7.32)	7
5	5.71 (1.89)	7	8.05 (5.23)	41	15 (5.48)	6
6	35.0 (8.00)	7	30.83 (7.15)	42	20.71 (7.32)	7
7	8.57 (9.45)	7	5.0 (0)	11	5.0 (0)	7
8	34.28 (12.72)	7	30.43 (12.19)	46	24.29 (6.07)	7
9	56.43 (6.90)	7	32.58 (23.02)	31	13.57 (2.44)	7
10	21.07 (18.1)	14	42.0 (27.39)	35	51.43 (44.41)	7

Means and standard deviations - number of awakenings per night

	PHASE 1		PHASE 2		PHASE 3	
Child	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days
1	0.50 (0.69)	26	0.60 (0.68)	81	0.14 (0.38)	7
2	1.33 (1.53)	3	0.71 (0.73)	14	0.14 (0.38)	7
3	0.90 (0.57)	10	0.95 (1.12)	21	0.14 (0.38)	7
4	2.43 (1.74)	14	1.39 (1.50)	28	2.29 (1.80)	7
5	3.14 (1.34)	7	2.1 (1.74)	41	1.67 (1.03)	6
6	1.57 (1.51)	7	1.19 (0.92)	42	0.57 (0.53)	7
7	0.57 (0.98)	7	1.0 (0.89)	11	0.57 (0.53)	7
8	3.43 (1.90)	7	1.37 (1.36)	46	0.43 (0.79)	7
9	56.43 (6.90)	7	32.58 (23.01)	31	13.57 (2.44)	7
10	2.71 (1.07)	14	1.37 (1.24)	35	3.29 (1.60)	7

Means and standard deviations - hours slept per night

	PHASE 1		PHASE 2		PHASE 3	
Child	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days	Mean (standard deviation)	No. of days
1	11.49 (1.09)	26	10.5 (1.04)	81	10.84 (0.44)	7
2	9.58 (0.76)	3	9.68 (0.88)	14	10.94 (0.76)	7
3	9.48 (0.98)	10	10.40 (1.24)	21	10.36 (1.39)	7
4	10.03 (0.83)	14	10.09 (0.96)	28	11.38 (1.19)	7
5	12.06 (0.47)	7	11.81 (0.54)	41	11.51 (0.80)	6
6	9.64 (0.79)	7	10.84 (0.75)	42	10.55 (0.37)	7
7	10.42 (0.71)	7	10.74 (0.35)	11	10.71 (0.43)	7
8	11.95 (.053)	7	11.33 (0.72)	46	11.45 (0.57	7
9	9.73 (0.39)	7	10.32 (0.55)	31	11.09 (0.29)	7
10	11.06 (1.10)	14	11.16 (0.93)	35	10.96 (1.07)	7

APPENDIX XV

Behaviour Checklist Scores for each child

Child	Baseline score	Post intervention score	Follow-up score
2	31	16	4
3	62	56	53
4	36	20	18
5	21	7	3
6	41	29	23
7	43	15	14
8	41	17	16
9	22	15	13

BCL 2-3 years used for children 2 - 6; 4-18 years used for children 7 - 9.

APPENDIX XVI

PARENT'S COMMENTS ABOUT WHAT WAS HELPFUL ABOUT THEIR EXPERIENCE AT THE SLEEP CLINIC

"Finding out that help with the problem was available and the sleeping problems could be resolved by applying the techniques."

"Mainly the reassurance, giving me the confidence to tackle the problems."

"I found the sleep clinic to be extremely helpful. The problem has not gone totally, but it is certainly a lot better."

"Having problems highlighted that we could not see as we were so involved and tired."

"We were responsible to some extent for our son's sleep problems, and these were highlighted in a very diplomatic and helpful way - we didn't want someone who would agree with everything we said."

"Being able to talk about my daughter's sleep problems."

"My son is now sleeping through, and we are both a lot happier."

"it was helpful just to be given some different ideas to try out."

"discussing the problem at length, and having suggestions as to what techniques to use to allay the problem....."

"Apart from the support and tips I was given, I already knew what I should have been doing but I am very grateful for the 'push' in the right direction. I would recommend it to anyone."

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