

ORIGINAL ARTICLE

Parental influence on sleep habits and problems in preschool children

Elif Yalçintaş-Sezgin^{1*}, Leyla Ulus²

¹ Uludağ Üniversitesi, İnegöl Meslek Yüksekokulu

² İstanbul Üniversitesi Cerrahpaşa

ABSTRACT

The aim of this study was to evaluate preschool children's sleep habits, determine parental behaviours that affect these sleep habits, and examine the potential factors that cause sleep problems. 400 children aged 5-6 and their mothers participated in the study. A Child Information Form and Sleep Habits Questionnaire were applied to the mothers. In this way, the children's resistance to bedtime, delay in falling asleep, sleep duration, sleep anxiety, waking during the night, parasomnias, sleep-disordered breathing, and daytime sleepiness were evaluated. The results of the study revealed that six-year-old children's scores in the *sleep habits and problems scale* were higher than those of five-year-olds, and that sleep duration decreased in six-year-olds. In the study, when *varieties of sleep problems* were examined, it was found that children sleeping in the same bed as their parents had more sleep problems, and that as length of time spent sleeping together increased, sleep problems also increased.

Keywords: Sleep habits, Sleep problems, Bed-sharing, Sleeping together, Preschool

Introduction

Babies experience a sleep-waking cycle before they are born. Between the 28th and 32nd weeks of pregnancy, this cycle becomes regular. The REM period, during which the eyes move rapidly, also appears. After the 32nd week, however, the REM sleep period can be easily distinguished from the other periods. In newborn babies, sleep duration is between 13 and 16 hours. As the first birthday approaches, this changes to at least 10 hours. Until the school

period, children sleep between 9 and 11 hours, getting their sleep at night and during the day in two sessions, while children in the school period aged 6-13 sleep up to 9 or 10 hours. Sleep habits change from adolescence onwards. In youths, who try to go to bed later and are used to sleep condensed into night time, the duration of sleep is 8 hours, while in adults it varies from 6 to 9 hours (Iglowstein, Jenni, Molinari & Largo, 2003; Williams, Zimmerman & Bell, 2013; Jenni & Carskadon, 2012; Blair, Humphreys, Gringras et al., 2012; Price, Brown, Bittman, Wake et al., 2014). Moreover, there are intercultural differences among sleep durations in preschool children. In Asian countries, children generally go to bed later and mostly sleep less than children in Western countries (Galland, Taylor, Elder & Herbison, 2012; Teng, Bartle, Sadeh & Mindell, 2012). For example, it is revealed that while 70.5% of preschool children in China sleep for 9 to 10 hours, their total

*Correspondence: elifyalcintas@uludag.edu.tr, +905453012198, Uludağ Üniversitesi, İnegöl Meslek Yüksekokulu, İnegöl, Bursa.

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Wang, Geng et al., 2016). In a study made in Turkey with babies ages 3-12 months, it was found that the infants studied woke up on average 3 times a night, had waking periods of 30 minutes, spent 120 minutes asleep during the day and spent a total of 617.5 minutes asleep. It was determined that 11.9% of the babies woke up more than three times a night, that 30.2% of them woke up and stayed awake for over an hour, that 35.7% of them had total sleep durations of less than 9 hours, and that 52.8% of them experienced sleep problems. In a study conducted by Özvurmaz & Çalışır (2018), it was determined that children in the preschool period slept for an average of 9.52 hours.

Very few norms have been set for normal/typical baby sleep and atypical baby sleep or sleep problems. In a comprehensive study conducted on children from birth to three years of age, it was reported that during the first 3 months, sleep sessions lasted less than 3.5 hours during the day, and that between 3 and 7 months, there were two short consolidated sleep sessions of about 1.5 hours and a night-time sleep session of about 10.5 hours (Mindell, Leichman, Composto et al., 2016). Another research group determined that on average, nighttime sleep during babyhood lasted approximately 12.8 hours (Galland, Taylor, Elder & Herbison, 2012). Although sleep problems are defined as a lower standard deviation from these norms of nighttime sleep, researchers generally define sleep disorder as sleep delay, short-duration nighttime sleep and frequent nighttime awakening, as reported by parents. Sleep regulation is affected according to age and development. While a newborn baby spends 16 out of 24 hours asleep, when a person reaches the age of 18, this period is reduced to 8 hours as nighttime sleep (Shaffer, 1993). While a baby's sleep and feeding is observed in intervals of 3-4 hours during the first 3 months after birth, between 3 and 6 months, a daily sleep pattern begins to appear in a baby. After 6 months, a sleep pattern is observed in which nighttime sleeps are longer and afternoon sleeps occur regularly. While the non-REM/REM sleep cycle occurs every 45 minutes at 3 months of age, this period increases to 60 minutes towards one year of age, and between 5-10 years of age it reach-

es the 90 minutes observed in normal adults (Pelin & Gözükırmızı, 2001). A one-year-old child spends 11 hours of its 24-hour day in nighttime sleep and 2 hours in daytime sleep over one period or split into two periods. While morning sleeps disappear between 2-3 years of age, afternoon sleeps continue until 5 years of age. Whilst REM sleep and total sleep duration decrease during the childhood period, the duration of deep slow wave sleep increases (Pelin & Gözükırmızı, 2001).

Difficulties in getting to sleep may arise from the baby and/or the child being unable to get to sleep without the aid of another individual, the unwillingness of an older child in the house to go to bed, and parents' inability to make the necessary arrangements for healthy and adequate sleep (AASM, 2005).

Although biological factors create individual differences in sleep regulation, conducted studies stress the importance of social environments and family contexts for the development and continuation of sleep problems in children at an early age (Dahl & El-Sheikh, 2007). Parental behaviours with regard to sleep are a particularly important relational factor in the development of sleep regulation. For example, correlations have been found between development of better sleep in children and parental implementation of regular bedtimes for their children, consistency of bedtime routines and parental encouragement of child sleep autonomy. On the other hand, bedtimes, bedtime rules and limits and excessive involvement by parents have been found to contribute to the development and continuation of problems related to children's sleep (Erath & Tu, 2011).

Although the importance of parental and family effects on the development of children's sleep problems is touched upon, surprisingly few studies focus on these relationships during the preschool years. This issue is important because the preschool years are a critical developmental period. For example, among the important sleep-related issues in preschool children are resistance to bedtime prior to sleep, sleep routines, sleeping together and the need for parents to be present both during sleep and in night wakings (Beltramini & Hertzog, 1983).

Sleep problems in infants are normally observed by parents as unsatisfactory sleep habits in their children (Bharti, Mehta & Malhi, 2013; Sadeh, Mindell & Rivera, 2011). These problems generally appear as difficulty in going to bed in the evening, a long time spent getting to sleep and frequent bouts of waking up at night. It is revealed that children who develop sleep regulation with an ability for “self-soothing” before going to sleep generally sleep more satisfyingly and experience fewer night wakings than other children (Owens, Chervin & Hoppin, 2017; Sadeh, Mindell, Luedtke & Wiegand, 2009). Certain behavioural sleep problems in infants are generally caused by parents who try to control sleep regulation in their children. Parents’ rocking their children, or familiarising them with undesirable sleep-related stimuli such as sending them to sleep with an object, cause problems for children in the development of routines related to falling asleep by themselves. This may lead to children’s expecting the same stimuli when they wake up during the night as they had when they fell asleep in the evening (Owens, Chervin & Hoppin, 2017).

As preschool children become more autonomous and develop self-regulation behaviours, these years may be a critical period for parental teaching of sleep hygiene and self-regulation. Understanding parent-child interactions and parental styles related to the sleep process is very important for dealing with children’s early sleep difficulties, and can assist in setting targets for clinical intervention (Smith, Leppert, Alfano & Dougherty, 2014).

In two studies related to babies conducted on the effects of sleep on social-emotional problems, a relationship was found between sleep problems and social-emotional problems (Mindell, Leichman, Composto et al., 2016; Mindell, Leichman, DuMond et al., 2016). Sleep problems in babies affect other developmental outcomes. For example, poor quality sleep at 12 months is a predictor of attention regulation and behavioural problems at 3-4 years of age (Sadeh, De Marcas, Guri, Berger vd. 2015). Later sleep onset time was found to be correlated with atypical neurodevelopment at 18 months in a study of 479 babies in Japan (Lemura Lemura, Iwasaki, Yamakawa, Tomiwa, 2016). Furthermore, in a

sample consisting of 1351 babies in Brazil, although no relationship was found between babies’ sleep variables and developmental results, attention was drawn to relationships between sleep and emotional state (Mindell & Lee, 2015).

Sleep problems are common in the early childhood period, affect about 15-30% of children of preschool age and become permanent in the adolescent period (Mindell & Owens, 2003; Gregory & O’Connor, 2002).

Sleep problems are related to various cognitive, behavioural and emotional regulation difficulties in children (Gregory & Sadeh, 2012). Adequate and quality sleep is important for healthy development. Unhealthy sleep patterns have been associated with various negative effects. Irregular sleep habits and patterns in preschool children result in emotional and behavioural problems as well as neurodevelopmental problems and situations such as feeling of tiredness by the child (Li, Zhu, Jin et al., 2010; Owens, Fernando & Mc Guinn, 2005).

Sleep problems are associated with significant attention and memory problems. The main ones of these are decrease in performance at school, problematic behaviour, mood disorders, increased risk of obesity, and poor health in general (Blunden & Beebe, 2006).

The aim of this study is to evaluate preschool children’s sleep habits, determine parental behaviours that affect these sleep habits, and to examine the potential factors that cause sleep problems.

METHOD

2.1. Research Type

In the study, to determine the relationship of length of time the mother and child spent sleeping together and the status of bed sharing between the mother and child with sleep habits and patterns, the descriptive research method was used. Descriptive studies are studies that try to investigate the event as it is and to determine the current situation (Tanrıöğen, 2009).

2.2. Location and Date of Research

The study was carried out with 400 children aged 5 and 6 in six independent kindergartens affiliated

to Bursa Provincial Directorate of National Education between September 2018 and January 2019. The study universe consisted of kindergartens located in the central district of Bursa according to the data for January 2018. The research sample was taken from six kindergartens with the simple random sampling method. In the research, it was planned to reach 30% of the universe to determine the most appropriate number to represent the universe and not to select a sample (Blanche, 2007). 420 mothers of kindergarten children agreed to take part in the research, although 10 of these did not return the questionnaire form and 10 of them left it half-finished. Therefore, the study was completed with 400 mothers of children aged 5-6.

2.3 Procedure

Firstly, ethical approval was obtained for the research. Then, permission was obtained from the institutions which agreed to participate in the research. At the institutions, written consent was obtained from the mothers who voluntarily agreed to take part in the study. A Child Information Form and Sleep Habits Questionnaire were applied to the mothers.

2.4. Participants

Of the children participating in the research, 206 (51.5%) were girls and 194 (48.5%) were boys. The children's ages ranged between 60 and 72 months (M age SD=).

2.5. SCALES

2.5.1. Personal Information Form

This form was prepared to obtain sociodemographic data about the children taking part in the research and data related to length of time spent sleeping together and to bed sharing. The form consists of two parts. Questions about the child's age and gender are found in the first part, while in the second part, questions related to bed sharing status and length of time spent sleeping together are included.

2.5.2. Sleep Habits Questionnaire

The Children's Sleep Habits Questionnaire (CSHQ), which aims to investigate children's sleep

habits and related problems, was developed by Owens et al. (2000), and the reliability and validity of its Turkish version were tested by Fiş, Arman, Ay, Topuzoğlu, Güler, Gökçe, İmren, Ersu & Berkem (2010). The short form of the Children's Sleep Habits Questionnaire (CSHQ) consists of a total of 33 items. As a questionnaire in which psychomotor characteristics of preschool and school-age children are determined and whose validity and reliability are proven, the CSHQ was designed with the aim of investigating children's sleep habits and related problems, and was developed by Owens, Spirito & McGuinn (2000). An important feature of this questionnaire is that it has been prepared based on the International Classification of Sleep Disorders (ICSD). Although the original scale consists of 45 items, in the analyses of the community study conducted by Owens, Spirito & Mc Guinn, 2000), 33 items that were functional for the scoring and the creation of the subscales were analysed, and thus the short form of the scale was obtained. In the scale, eight subscales are defined, namely bedtime resistance (items 1, 3, 4, 5, 6 and 8), sleep onset delay (item 2), sleep duration (items 9, 10 and 11), sleep anxiety (items 5, 7, 8 and 21), night wakings (items 16, 24 and 25), parasomnias (items 12, 13, 14, 15, 17, 22 and 23), sleep-disordered breathing (items 18, 19 and 20) and daytime sleepiness (items 26, 27, 28, 29, 30, 31, 32 and 33). The questionnaire is filled in retrospectively by parents. Mothers/fathers are required to evaluate their children's sleep habits for the previous week. The scale items are coded as 3: generally (if the stated behaviour occurs 5-7 times per week), 2: sometimes (if the behaviour occurs 2-4 times per week) and 1: rarely (if the behaviour occurs 0-1 times per week). Items 1, 2, 3, 10, 11 and 26 are reverse coded (1: generally, 2: sometimes and 3: rarely). Items 32 and 33 are coded as 0: does not seem sleepy, 1: seems very sleepy, and 2: falls asleep. A total score of 41 is accepted as the clinical cut-off point and scores above this are evaluated as "clinically significant". In addition, three open-ended questions related to children's sleep habits (bedtime, length of time spent asleep throughout the whole day, and length of time spent awake during night wakings) are included in the scale. For a total

of nine items aimed at examining the existence of hyperactivity/restlessness, inattention, irritability, aggressiveness, disobedience/noncompliance, uneasiness, sorrow/unhappiness, worry/fear/anxiety and physical symptoms (pain, tiredness, weariness), parents are asked to indicate and rate (as rarely, sometimes and often) their children's behavioural and emotional problems. The questionnaire was used to determine the sleep habits and problems of children aged 3-6 (Özvurmaz& Çalışır, 2018; Akbaş, Uysal & Özenin, 2018; Durankuş, 2015). The mothers who participated in the study were asked to answer questions about their children's sleep patterns and problems over the previous week.

2.6. Data Analysis

The statistical analysis of the data was performed with SPSS 23.0 statistical software. The Shapiro-Wilk test was used to examine whether or not data showed normal distribution. Descriptive

statistics of quantitative data were defined as medial, minimum and maximum, while frequencies and percentages were given for qualitative data. For abnormally distributed data, the Mann-Whitney U test was used for comparisons between two groups, while the Kruskal-Wallis test was used for comparisons among more than two groups. In cases where significance was determined, Dunn's test was used for pairwise comparisons to find out which groups created significant differences. Significance level was accepted as $p < 0.05$ in statistical analysis.

RESULTS

400 preschool children were included in the study. 51.5% of children who took part in the research were girls, while 48.5% of them were boys. 60.5% of the children belonged to the 5-year-old age group, while 39.5% of them were in the 6-year-old age group.

When total scores for the sleep scale as a whole and scores for the subscales are compared, it is seen

Table 1: Sociodemographic characteristics

	n	%
Gender		
Girl	206	51.5
Boy	194	48.5
Age		
5	242	60.5
6	158	39.5
Bed Sharing		
Same bed	80	20
Separate bed in parents' room	58	14.5
Separate bedroom	262	65.5
Sleeping together		
First 6 months	86	21.6
6 months to 2 years	130	32.5
More than 2 years	183	45.9

that a statistically significant difference was found in the sleep duration subscale, whereas no statistically significant difference was found regarding the

other subscales. Six-year-old children's scores in the sleep scale were found to be higher than those of five-year-olds (Table 2).

Table 2: Comparison of Sleep Habits scale according to age

	Age		P
	5	6	
Sleep bedtime resistance	10.24±3	10.02±2.82	0.462
Sleep sleep onset delay	1.33±0.62	1.43±0.68	0.139
Sleep duration	3.99±1.33	4.31±1.52	0.031
Sleep anxiety	7.11±2.21	7.13±2.29	0.912
Sleep night wakings	4.21±1.29	4.14±1.2	0.577
Sleep parasomnias	8.85±1.89	8.83±1.94	0.932
Sleep sleep-disordered breathing	3.31±0.72	3.41±0.87	0.274
Sleep daytime sleepiness	10.47±2.79	10.61±2.78	0.628
Sleep TOTAL	45.64±7.16	46.18±6.85	0.455

Table 3: Comparison of Sleep Habits scale according to gender

	Gender		P
	Girl	Boy	
Sleep bedtime resistance	10 (6-17)	10 (6-18)	0.709
Sleep sleep onset delay	1 (1-3)	1 (1-3)	0.337
Sleep duration	4 (3-9)	3 (3-8)	0.209
Sleep anxiety	7 (4-12)	7 (4-12)	0.982
Sleep night wakings	4 (3-9)	4 (3-7)	0.484
Sleep parasomnias	8 (7-15)	8 (7-17)	0.734
Sleep sleep-disordered breathing	3 (3-6)	3 (3-8)	0.677
Sleep daytime sleepiness	12 (8-22)	12 (8-21)	0.164
Sleep TOTAL	47 (33-70)	46 (34-72)	0.406

In terms of gender, when total scores for the sleep scale as a whole and scores for the subscales are compared, it can be seen that no statistically significant difference was found (Table 3).

Table 4: Comparison of Sleep Habits scale according to bed sharing status

	"Who does your child sleep with?"		P
	In the same bed (with mother)	In separate bed in parents' room	
Sleep bedtime resistance	12 (7-17)	11 (6-16)	<0.001
Sleep sleep onset delay	1 (1-3)	1 (1-3)	0.793
Sleep duration	4 (3-9)	3,5 (3-9)	0.668
Sleep anxiety	8 (4-12)	7 (4-12)	<0.001
Sleep night wakings	4 (3-9)	4 (3-7)	0.286
Sleep parasomnias	9 (7-17)	8 (7-15)	0.116
Sleep sleep-disordered breathing	3 (3-7)	3 (3-6)	0.772
Sleep daytime sleepiness	10 (7-18)	10 (6-20)	0.574
Sleep TOTAL	49 (34-70)	46 (33-65)	<0.001

According to parents' responses to the question "Who does your child sleep with?" when total scores for the sleep scale as a whole and scores for the subscales are compared, a statistically significant difference was found in the *bedtime resistance* and *sleep anxiety* subscale scores, as well as in scores for the *sleep scale* as a whole, whereas no statistically significant difference was found with regard to the oth-

er subscales. The groups differed from each other regarding the *bedtime resistance* score, with a higher score found among those sleeping in the same bed and a lower score found among those sleeping in separate beds. With regard to scores for the *sleep anxiety* subscale and scores for the scale in general, scores for those sleeping in the same bed were found to be higher than for those sleeping in separate beds.

Table 5: Comparison of Sleep Habits scale according to length of time spent sleeping together

	"Until what age of your child did you sleep with him/her?"			P
	First 6 months	6 months to 2 years	Over 2 years	
Sleep bedtime resistance	9 (6-18)	10 (6-16)	11 (6-18)	0.001
Sleep sleep onset delay	1 (1-3)	1 (1-3)	1 (1-3)	0.023*
Sleep duration	3 (3-7)	4 (3-9)	4 (3-9)	0.161
Sleep anxiety	7 (4-12)	7 (4-12)	7 (4-12)	0.276
Sleep night wakings	3 (3-7)	4 (3-9)	4 (3-9)	0.074
Sleep parasomnias	8 (7-13)	9 (7-15)	8 (7-17)	0.006
Sleep sleep-disordered breathing	3 (3-6)	3 (3-8)	3 (3-7)	0.890
Sleep daytime sleepiness	10 (6-19)	10 (6-20)	10 (6-20)	0.198
Sleep TOTAL	43 (31-67)	45 (33-68)	45 (33-70)	0.033

*Mean rank score of those answering "over 2 years" (141.69) was higher than mean rank score of those answering "first 6 months" (120.77).

According to parents' responses to the question "Until what age of your child did you sleep with him/her?" when total scores for the sleep scale as a whole and scores for the subscales are compared, a statistically significant difference was found in the *bedtime resistance*, *sleep onset delay* and *sleep parasomnia* subscale scores, as well as in scores for the *sleep scale* as a whole, whereas no statistically significant difference was found with regard to the other subscales. In terms of bedtime resistance, it was determined that scale scores of those answering "over 2 years" were higher than scores of those answering "first 6 months". Regarding sleep parasomnias, scale scores of those answering "first 6 months" were found to be lower than scores of those giving other responses. With regard to the sleep scale total, while a statistical difference was found between those answering "first 6 months" and "over 2 years", scores for those answering "first 6 months" were found to be lower.

CONCLUSION AND DISCUSSION

The aim of this study was to evaluate preschool children's sleep habits, determine parental behaviours that affect these sleep habits, and examine the potential factors that cause sleep problems. According to the findings of our study, scores of 6-year-old children in the *sleep habits and problems scale* were higher than those of 5-year-old children. On the other hand, when examined in terms of sleep duration, it was seen that this decreased in 6-year-old children. In a conducted study, it was observed that 6-year-old children had shorter sleep durations than 5-year-old children (Liu, Wang, Geng, Luo, Li & Owens, 2016). This finding of the study corresponds with those of other studies which reveal that night sleep duration shows a tendency to decrease with age (Blair, Humphreys, Gringras, Taheri, et al., 2012; Iglowstein, Jenni, Molinari & Largo, 2003; Liu, Wang, Geng, Luo, Li & Owens,

2016). In the study, it was found out that older preschool children had shorter sleep durations (both night and day) than younger children, and that even though not significant, they had higher scale scores for sleep habits and problems. The literature shows that certain sleep problems increase with age. In a study conducted with Chinese children aged 0-5, it was determined that although night wakings were more common in younger children, bedtime resistance was more common in older children (Hong & Wei, 2007). Night wakings were reported in 20-30% of children in the 1-3 age group, and in 6% of the 5-12 age group. It was revealed that bedtime resistance increased in the first 5 years from 14% in the babyhood period to 50% at 5 years of age. Due to resistance to bedtime in older children, difficulties or delays in getting to sleep were more likely to be experienced. About 25% of parents report serious problems experienced in getting to sleep by children of school age (Thunström, 1999; Blader, Koplewicz, Abikoff, Foley, 1997; Owens, Spirito, McGuinn, Nobile, 2000; Wolfson & Carskadon, 1998).

In this study, a significant difference was not found in sleep patterns according to gender. This finding is consistent with a study on Chinese children aged 5-12 which reveals that, as reported by parents, there was no gender difference in bedtime duration, waking duration or sleep duration (Liu, Ma, Wang, Jiang et al. 2005). On the other hand, in a study carried out with kindergarten children in the USA, although no other significant difference was found in the other sleep variables, it was determined that girls had longer sleep durations than boys (Liu, Ma, Wang, Jiang et al. 2005). However, in an American study conducted on 5-year-old children using polysomnography, it was asserted that boys' night sleep durations were longer than those of girls (Hatzinger, Brand, Perren, Stadelmann, et al., 2008). Studies examining the effect of gender on prevalence of sleep disorders in preschool children have produced contradictory results (Hong & Wei, 2007; Yu, Hu, Li & Qiang, 2005).

In the study, when *bedtime resistance* was examined according to bed sharing status, it was determined that *those sleeping in the same bed* showed more resistance. In other words, children sleeping

in separate beds to their mothers showed less bedtime resistance. *Sleep anxiety* and *sleep problems* of those sharing the same bed were greater than those sleeping alone or in separate beds. Studies based on subjective reports found that sleeping together was correlated with more sleep problems (Cortesi, Giannotti, Sebastiani et al., 2004; Ramos, Youngclarke & Anderson, 2007). On the other hand, parents who sleep with their infants, independently of the baby's sleep quality, can be more aware of their babies' night wakings due to their physical proximity to the child at night (Madansky & Edelbrock, 1990; Volkovich, Ben-Zion, Karny, Meiri & Tikotzk, 2015). In the study, mothers who slept with their children reported more night wakings by their babies compared to mothers of the group sleeping alone. These findings are consistent studies in which mothers of babies who slept with them reported sleep problems in their babies more frequently (Cortesi, Giannotti, Sebastiani, et al. 2004; Ramos, Youngclarke & Anderson, 2007; Lozoff, Askew & Wolf, 1996). In a study conducted with children aged 6-48 months and their families, a relationship was found between an increase in sleepwalking/protesting against bedtime and regularly sleeping together with parents in white children with low socioeconomic level and black children with higher socioeconomic level. While there was a common perception of night wakings and bed sharing decreasing together with age, difficulties in getting to sleep increased. It was found that bed sharing and night wakings in the early infancy period were not predictors of bed sharing or night wakings in the childhood period, but that both bed sharing and night wakings persisted during the childhood period. Bed sharing and night wakings are common in the early childhood period. Developmental changes in the separation-attachment processes, and cognitive abilities aimed at self-recognition and development of night fears, and motor locomotion may contribute to the particular age trend towards night wakings and bed sharing in the early childhood period (Jenni Fuhrer, Iglowstein, Molinari, et al. 2005). In some western, industrialised and socially individualised countries, families sleep separately from their babies. Although not the case for all these countries (Jenni & O'Connor,

2005), this situation is valid for countries like Australia, the UK and the USA, where English is generally the mother tongue. Some children never sleep in their parents' room. During the night, babies typically wake up and generally cry or give a signal to attract their parents' attention. This usually contributes significantly to parents' complaints of sleep disturbance (France, Blampied & Henderson, 2003). Sleep disturbances are the most commonly encountered problems in the first year of life in which medical help is sought by parents (Mindell, Moline, Zendell, Brown & Fry, 2004).

When examined with regard to length of time spent sleeping together, significant differences were found in *bedtime resistance*, *sleep onset delay* and *sleep parasomnias*. *Bedtime resistance* was found to be greater in children sleeping with their mothers until the age of 2 and over than in children sleeping together for the first 6 months. As length of time spent sleeping together increased, resistance to bedtime behaviours also increased. In terms of sleep parasomnias, those answering "first 6 months" were found to have lower scale scores than the others. Regarding total sleep scale score, while a statistical difference was found between those answering "first 6 months" and "over 2 years", scores for those answering "first 6 months" were found to be lower. *Sleep onset problems* were determined to be greater in children sleeping together for 2 years and over. Examining general sleep problems with length of time spent sleeping together, it is seen that these were greater in children sleeping together for 2 years and over. Sleeping together in the infancy period is associated with sleep disorders in later years, such as dependency on the sleeping partner, difficulty in getting to sleep and actively seeking a parent after waking up at night (Lozoff, Wolf & Davis, 1984, 1985; Madansky & Edelbrook, 1990). For example, in the study by Paul, Hohman, Loken, Savage et al., (2017), it was found that room sharing at 4 and 9 months was associated with less nighttime sleep in both the short term and long term, decreased sleep consolidation, and unsafe night practices previously associated with sleep-related death. The findings of the present study show that length of time spent sleeping with the mother was correlated with sleep problems. In the study by Taka-

hashi, Wang, Adachi, Jiang, et al. (2018), it was found out that resistance to bedtime behaviours of Japanese preschool children were higher than those of Chinese preschool children. Resistance to bedtime behaviours and needing their parents while sleeping in Japanese preschool children who slept with their families were higher than they were in Chinese preschool children. The reason why resistance to bedtime was greater in Japanese preschool children was due to greater prevalence of sleeping together. Studies generally reveal that sleeping together and length of time spent sleeping together are related to sleep problems. However, the results of some studies contradict each other. For example, in one study, mothers reported that when they were not physically together with their children, especially when they were asleep in the evenings or when they woke up at night, their children were generally disturbed (Sviggum, Sollesnes & Langeland, 2018). Up to the present, the question of whether a child's sleeping together with a parent is harmful to its sleep quality is still debated. Some studies do not evaluate this situation as a problem situation for sleep habits, while other studies suggest that this situation can assist children in the development of their sleep habits. Indeed, in one study, the presence of the mother at the start of sleep was shown to be a protective factor against sleep onset delay in preschool children (Mileva-Seitz, Bakermans-Kranenburg, Battaini et al., 2017; Jain, Romack & Jain, 2011) While prevalence of bed sharing was found to be negatively related with sleep disturbances in studies made among ethnic groups, in another intercultural study, sleeping together was shown to be more highly correlated with a greater amount of struggling/resistance at bedtime and with increased night wakings in America, whereas it was related only with night wakings in Japanese children (cited in Hayes, Parker, Sallinen & Davare, 2001). In Hayes, Parker, Sallinen & Davare's (2001) study, it was determined that preschool children who shared a bed with a parent were more likely to wake up at night and seek out their parents after waking up than children who slept alone, and that those who shared their bed with a parent had less regular bedtimes than those who slept alone, as well as being less likely to fall asleep in their own beds or to fall asleep on their own. In Okami, Weisner & Olm-

stead's (2002) longitudinal study, it was found that bed sharing in babyhood and early childhood was not related to sleep problems, sexual pathology or other problematic outcomes in 6-year-old children. In the study by Jenni, Fuhrer, Iglowstein, Molinari & Largo (2005), it was found out that bed sharing was not very common in the early years of life, but that it increased from the first year until the fourth year. It was determined that bed sharing and night wakings in early infancy were not predictors of bed sharing or night wakings in childhood, but that bed sharing and night wakings persisted over time. Struggling with regular bedtime and night wakings occurred in a larger percentage of children in USA who sleep together. In the USA sample, sleeping together was associated with greater bedtime resistance, night wakings and general stressful sleep problems. In Japanese children, however, sleeping together was associated only with night wakings (Latz, Wolf & Lozoff, 1999). Mothers who continually slept with their infants reported more night wakings (Teti, Shimizu, Crosby & Kim, 2016).

RECOMMENDATIONS

In the study, by evaluating preschool children's sleep habits, determining parental behaviours that

affected these sleep habits and examining potential factors causing sleep problems, it was found that 5- and 6-year-old children's sleeping with their mothers and extended length of time spent sleeping together were related to a variety of sleep problems in the preschool period. This finding reveals that the reasons for sleep problems experienced in the preschool period can be understood and that bed sharing and a long period spent sleeping together lead to certain sleep problems in this period.

Children aged 5 and 6 participated in the study. By extending the age range and including children at a younger age, sleep problems over a wider age range can be compared.

The psychological state of the mothers taking part in the study was not examined. In future studies, the effects of length of time spent sleeping together and bed sharing status on mothers' psychological state can be examined together with their relationship with sleep problems.

In the study, only the case of children sleeping together with mothers was investigated. This was because in Turkish society, children generally tend to sleep with their mothers. In future studies, cases of children sleeping together with both mothers and fathers can be examined separately.

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