

# Persistent Co-sleeping of Children in Their Parents' Room and Its Association with the Appearance of Behavioral and Emotional Problems in Children in Saudi Arabia

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## Abstract

**Objective:** Co-sleeping is highly dependent on cultural influences. There is conflicting data on the effect of co-sleeping on children's psychological wellbeing in the western world. However, less is known about co-sleeping and its implications on Saudi children.

**Methods:** Structured detailed interviews with parents in a children's clinic, including information about the child's age, gender, family demographics, family's sleeping setup, and the child's behavioral and emotional problems within the last 6 months. For this study, co-sleeping is defined as children sleeping in their parents' room every night, either in the same bed as their parents or in a separate bed.

**Results:** The mean age of  $6.5 \pm 2.7$  years. Almost all children included in the study were co-sleeping in their parents' room (99.7%) and (94.1%) of the children displayed either behavioral and/or emotional problems. Overall, (77.6%) of the parents had a graduate or higher education degree.

**Conclusion:** This study shows an association between co-sleeping and, behavioural & emotional problems (BEP) in Saudi children. Healthcare providers should pay attention to the reported BEP and consider assessing the parent-child sleeping setup.

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Co-sleeping; Emotional problems, Behavioral problems, Marital distress.

## Highlights:

- This study reports that persistent co-sleeping in Saudi Arabia is more common among toddlers, preschoolers, and school-aged children than has been reported in other countries.
- This type of co-sleeping is significantly associated with emotional and behavioral problems in children.

## Methods

### Setting and data collection

This retrospective study was conducted during the period 2014-2018. Data collection was done in a child-psychology counselling clinic in Makkah city, Saudi Arabia. We have included all consecutive available records. All of the visits used a structured interview format during a one-hour meeting with the person most knowledgeable (PMK) about the child. The PMK in this research was usually the mother, who provided detailed information about her child, herself, and her family. All of this information was submitted on the designed questionnaire.

In this study, co-sleeping is defined as all-night bed-sharing or room-sharing with a parent or parents. It was assessed by presenting the parent with two questions, as follows: When did your child stop sleeping in your bedroom every night? Does your child sleep in the same bed as you or in a separate bed in your room? The independent variables in this study were child's age, gender, family demographics (e.g., marital status, parents' education, and distress), while the outcome variables were family sleeping setup (parents' room: same bed, separate bed, different room), both emotional/internalizing problems (e.g., irritation, anxiety, fears), behavioral/externalizing problems (e.g., aggression, rebellion, lack of independence, low

## Introduction

Behavioral and emotional problems are common during childhood, but if unresolved, they may lead to psychological problems later in life[1, 2]. In the United States, 11% to 20% of children experience behavioral or emotional disorders at any given time[3]. Many risk factors have been described, with co-sleeping being one of them.

Co-sleeping is defined as children persistently sharing the same bed or sleeping in the same room as their parents. Although it has not been thoroughly explored in the literature[4], co-sleeping is highly dependent on cultural influences[5]. Co-sleeping children show a higher incidence of sleep disorders, relatively short sleep times, and higher demands for assistance in falling asleep[5-7]. The prevalence of co-sleeping through the first four years of a child's life across different cultures has ranged between 6% and 70% and, in school-aged children, between 4% and 23%[8, 9]. In Saudi Arabia, the prevalence of co-sleeping is 26% among school-aged children[10].

Many studies reported co-sleeping children to have a higher risk of developing preadolescent BEP, including anxiety, depression and withdrawal problems[11],[12-17]. However, little is known in the Middle East about this association. Therefore, the purpose of this study is to explore the impact of co-sleeping and its association with the appearance of behavioral and emotional problems in children between the ages of one and twelve years in Saudi Arabia.

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attention, low self-esteem), and language problems (e.g., delay in speech, expressive language, receptive language).

### Statistical analysis

Data were analyzed using Statistical Package for Social Sciences (SPSS version 24 IBM Corp., Armonk, N.Y., USA). Discrete variables were reported in percentages, while continuous variables were reported in mean and SD, as appropriate.

### Results

A total of 347 children between 1 and 12 years of age were included in the study. All variables were available for all children except for parental marital distress, where 3.5% (n=12) were missing. Also, 34% (n=118) of the children sleeping problems were missing. Baseline characteristics are shown in Table 1. Of these cases, 62.5% (n=217) were boys and 37.5% (n=130) were girls. The sample is thus disproportionately boys. The mean  $\pm$  standard deviation (SD) for age was  $6.46 \pm 2.751$  years.

The study found that 99.7% of the cases were co-sleeping. The number of cases were split relatively evenly between the same bed (49.4%) and separate beds (50.6%). In this study, 77.6% (n=270) of parents had university or higher education compared to 22.4% (n=77) with a high school degree or less. Also, 53% (n=177) of the parents were shown to be experiencing marital distress, and 39.72% of the children were experiencing disturbed sleeping

The results show that 94.1% (n=337) of the children have behavioral and/or emotional problems, while 5.9% (n=21) of the children have neither behavioral or emotional problems (Table 2).

Moreover, 25% (n=90) of co-sleeping children have one behavioral symptom, 63.3% (n=228) have two or more behavioral problems, and 11.7% (n=42) have no behavioral problems. On the other hand, 40.3% (n=145) had one emotional symptom, 28.3% (n=101) of co-sleeping children exhibited two or three emotional symptoms, while 31.4% (n=113) had no emotional symptoms.

		N (%)
Gender	Male	217(62.5)
	Female	130(37.5)
Age (mean $\pm$ SD)		6.46 $\pm$ 2.75
Parents' level of education*	High	270(77.6)
	Low	77(22.4)
Marital distress	No	158(47)
	Yes	177(53)

Table 1: Demographic Characteristics of Participants.

\*Parents' level of education: High = (university degree, college, or postgraduate); Low = High school or less.

### Discussion

This is the first study in the Middle East to use a face-to-face structured interview with parents in a children's clinic to investigate the psychological impact of co-sleeping on children aged 1 to 12 years.

Surprisingly, nearly all of the children (99.7%) who presented with emotional and/or behavioral problems practiced co-sleeping. Bahammam et al. described the prevalence of co-sleeping in Saudi Arabia among school-aged children as being around 26%[10]. Although this number is higher than that reported in Western

Co-sleeping	Yes	346(99.7)
	No	1(0.3)
Parents' co-sleeping	Same bed	171(49.4)
	Separate bed	175(50.6)
Sleeping problems	Continuous	86(23.89)
	Disturbed	143(39.72)
Emotional problems	1 symptom	141(40.7)
	2 or 3 symptoms	97(27.9)
	None	109(31.4)
Behavioral problems	1 symptom	86(24.8)
	2 or 3 symptoms	224(64.5)
	None	37(10.7)
Either behavioral and/or emotional problems	One or more symptoms	331 (95.4)
	None	16 (4.6)

Table 2: Co-sleeping and Associated Problems.

countries, it does not explain the finding in our study. This suggests the significant association between co-sleeping and emotional and/or behavioral problems in children.

Interestingly, co-sleeping in our study was much more prevalent among highly educated parents (77.6%) than in lower-educated ones. This could be explained by the greater number of working mothers in the higher education group, with co-sleeping being a way to compensate for the time of their absence and to minimize interrupted sleep. On the other hand, S. Li et al. found no statistical association between co-sleeping and parental education level[18], while Horsley et al. found an association between low parental education and a higher percentage of co-sleeping[19, 20]. Another significant finding in our study is that co-sleeping was higher among boys than girls (62.5% vs. 37.5%, respectively). This difference in gender prevalence could be explained by higher destructive behavior in boys[21].

This finding was consistent with that of a prior study, where boys were more likely than girls to co-sleep (55.6%)[22]. In contrast, other studies found no association between co-sleeping and child gender[16, 18]. It is worth noting that small living spaces have been described as a factor contributing to co-sleeping[6]; however, the modern Saudi standard of living is characterized by spacious homes with adequate living and sleeping space[10].

Overall, our findings were consistent with those of many studies that revealed co-sleeping as being significantly associated with increased behavioral problems in young children. As well, co-sleeping showed a higher risk of pre-adolescent behavioral and emotional problems, including sleep problems, anxiety, depression, withdrawal, attention deficit, and temperamental and affective problems[11],[12-17]. Moreover, co-sleeping in our study revealed a lack of independency among children, which has been reported in other studies[5, 23]. Importantly, many of the behavioral and emotional problems reported by parents in our study do not meet the criteria of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), which delays detection and thus early intervention[1].

On the other hand, some studies contradicted our findings, showing that neither positive nor negative consequences for co-sleeping exist

at any age [23, 24]. These studies also found that children who co-slept were happier, less anxious, had higher self-esteem, were less likely to be afraid of the dark, had fewer behavioral problems, and were generally more independent as adults [25, 26].

Since the quality of parents' relationship is a key factor in bringing up children, it is important to pay attention to the triggers that might affect it. Our study showed that (39.72%) of the children had disturbed sleep and also revealed an association between co-sleeping and parental marital and psychological distress (53%), which may be the result of interrupted and poor quality of sleep [15, 18, 27, 28]. Also, co-sleeping disrupts the parents' privacy and intimacy, which may further contribute to marital distress.

One of the study's limitations is that it was conducted in a single clinic, so the results may not be generalizable. Areas for further research could be to evaluate reversing persistent co-sleeping into partial co-sleeping at children's rooms to gauge its impact on pre-existing emotional and/or behavioural problems.

## Conclusion

Persistent co-sleeping in the parents' room is common in toddlers, preschoolers, and school-aged children who have behavioral and/or emotional problems in Saudi Arabia. At the same time, co-sleeping is significantly associated with children's emotional and behavioral problems and could also result in or exacerbate marital distress. Pediatricians and family healthcare providers should pay attention to reported behavioral and emotional problems and consider assessing parent-child sleep setup and any related sleep problems.

## Competing Interests

The authors declare that they have no competing interests.

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