

## Sleep disorder among secondary school students

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### ABSTRACT

Sleep is essential for growth, development, and maintenance of physical and mental health in children. However, sleep disorders are becoming increasingly common among school aged children, which can have negative impacts on their academic performance, behavior, and overall well-being . About 25% of secondary school children experience sleep problems, such as difficulty falling asleep, waking up too early, or daytime sleepiness. This prevalence rate is concerning, as sleep disorders have been linked to a range of negative outcomes, including poor academic performance, depression, anxiety, and obesity A descriptive quantitative study design was conducted in random schools in karbala..

**Keywords:** Sleep disorder , secondary school students

## 1. Introduction

Sleep is essential for growth, development, and maintenance of physical and mental health in children. However, sleep disorders are becoming increasingly common among school-aged children, which can have negative impacts on their academic performance, behavior, and overall well-being <sup>1</sup>. About 25% of secondary school children experience sleep problems, such as difficulty falling asleep, waking up too early, or daytime sleepiness. This prevalence rate is concerning, as sleep disorders have been linked to a range of negative outcomes, including poor academic performance, depression, anxiety, and obesity <sup>2</sup>. The prevalence of sleep disorders among children varies widely in different countries and regions. For example, a study conducted in Nigeria found that the prevalence of sleep disorders among school-aged children was 38.6% <sup>3</sup>, while a study in China reported a prevalence of 6.8% <sup>4</sup>. In the United States, it is estimated that up to 30% of children suffer from some form of sleep disorder <sup>5</sup>. One study by <sup>6</sup> found that sleep disorders were prevalent among Egyptian secondary school students, with 30.5% reporting difficulty falling asleep, 26.6% reporting waking up too early, and 27.3% reporting daytime sleepiness. Another study by <sup>7</sup> in Nigeria reported a similar prevalence rate of 30.6% among secondary school students. According to a study conducted by the National Sleep Foundation in 2014, children aged 6 to 13 years require 9 to 11 hours of sleep per night to ensure optimal health and functioning <sup>5</sup>. However, many children do not meet this requirement, and some suffer from various sleep disorders such as insomnia, obstructive sleep apnea, restless leg syndrome, and parasomnias <sup>8</sup>. Sleep disorders have been linked to mental health problems, such as anxiety and depression, as well as physical health problems, such as obesity and diabetes <sup>9</sup>. Given the negative impact of sleep disorders on the lives of secondary school children, it is crucial to identify the factors that contribute to the development of these disorders. Several studies have identified various risk factors for sleep problems among secondary school children, including poor sleep hygiene, excessive use of electronic devices, stress, and anxiety <sup>10</sup>. Additionally, certain medical conditions, such as obstructive sleep apnea and restless leg syndrome, can also contribute to the development of sleep disorders in children <sup>11</sup>. Therefore, it is essential to investigate the prevalence, causes, and consequences of sleep disorders among secondary school children to develop effective interventions and improve their overall health and wellbeing. This research aims to contribute to this effort by exploring the prevalence and correlates of sleep disorders among secondary school children in the selected region. Overall, sleep disorders among secondary school children are a growing concern, with significant implications for their health, academic performance, and overall well-being. Given the negative impact of sleep problems on children's lives, it is crucial to identify the factors that contribute to their development and to develop effective interventions to prevent and treat these disorders.

## 2. Material and Methods

A descriptive quantitative design, which is using the assessment Sleep disorder among secondary school children in the schools in Holy Kerbala City". descriptive quantitative design Was carried out through the present study in

order to achieve the early stated objectives. The study was initiated from (1/1/2023) to the (13/2/2023). An official permission is arranged from the pediatric department of karbala health department for the purpose of conducting this study 3.3. Setting of the Study The study: Schools secondary in holy karbala city . A non`probability –convinced sample- of (200) students were selected randomly from schools in holy karbala city. An assessment tool was developed by the researcher to know the to "The levels of a sleep disorder among secondary school children", The final study instrument consisting of two parts: Part 1 : Socio - demographic Characteristics : A socio - demographic characteristics sheet , consisted of ( 6 ) variables , which included : Age , Level of Education , Gender, income status, hours of sleep, and type of family. Part 2 : The second part of the questionnaire contains 25 items about the Sleep disorder among secondary school children.

The data were collected through the utilization of the questionnaire, and by means of wo interview technique with the students who were in the schools, try using the Arabic the questionnaire, and they were interviewed in a similar way, by the same questionnaire for all those children who were included in the study sample. Each child spends approximately (7-10) minutes to complete the interview

### 2.1. Ethical Approval

The ethical approval depends on scientific committee secondary school children in the schools in Holy Kerbala City to get this approval. The objectives and methodology of this study were explained to all participants in the current study to gain their verbal acceptant.

### 2.2. Statistical Analysis

The data of the present study were analyzed through the use of statistical package of social sciences (SPSS) version (26). The following statistical data analysis approaches were used in order to analyze, and measure the results of the study: 3.10.1. Descriptive Data Analysis aFrequencies (F) b -Percentages (%) c -Mean of score (MS) 3.10.2. Inferential Data Analysis. Alpha Cronbach ( $\alpha$ ) for the reliability of questionnaire (Internal consistency). NS: Non significant at  $P > 0.05$  S: Significant at  $P \leq 0.05$  a. Frequencies, Percentages and Mean of Scores: used in tables in order to get the total results of the sample and to make a comparison between the variables. % = Percentage b. Arithmetic Mean ( and Standard Deviation (S.D) a. Cronbach's Alpha: used to test the reliability of research instrument. N - Refer to items number.  $\bar{c}$  - Refer to average covariance between item-pairs.  $\bar{v}$  - Refer to average variance

### 3. Results and Discussions

Table 1. Participants' sociodemographic characteristics (N = 200)

Variables	Groups	F.	%
Age	12-13	24	12.0
	14-15	36	18.0
	16-17	77	38.5
	18-19	63	31.5
<b>Mean (SD) = 16.32± 1.89</b>			
Gender	Male	100	50.0
	Female	100	50.0
Family	Small	158	79.0
	Big	42	21.0
Educational level	middle school	52	26.0
	Second school	148	74.0
Income statuses	enough	54	27.0
	fairly enough	128	64.0
	not enough	18	9.0
Sleeping hours	1-4 hour	27	13.5
	5-8 hour	97	48.5
	9-12 hour	76	38.0

*F= Frequency; %= Percentage; SD = Standard Deviation*

Less than two-fifth age 16-17-years ( $n = 77$ ; 38.5%), followed by those who age 18-19-years ( $n = 63$ ; 31.5%), those who age 14-15-years ( $n = 36$ ; 18.5%), and those who age 12-13-years ( $n = 24$ ; 12.0%). The mean of age is  $16.32 \pm 1.89$

According to the gender, male and female those have ( $n = 100$ ; 50.0%) for each of them,

Concerning the family, most are small ( $n = 158$ ; 79.0%), followed by those who are big ( $n = 42$ ; 21.0%).

Regarding the level of education, the majority ( $n = 33$ ; 33.8%), followed by those have middle school ( $n = 148$ ; 74.0%), followed by those have elementary school ( $n = 52$ ; 26.0%).

As income status, the clear majority reported that they have fairly enough ( $n = 128$ ; 64.0%), followed by those have enough ( $n = 54$ ; 27.0%), followed by those have not enough ( $n = 18$ ; 9.0%).

Ultimately, sleeping hours. less than half have 5-8 hour ( $n = 97$ ; 48.5%), followed by those have 9-12 hour ( $n = 76$ ; 38.7%), and followed by those have 1-4 hour ( $n = 27$ ; 13.5%).

Table 2. Differences in sleep disorders among school-age adolescents among the demographic groups

	Test	P-value	Assess
Gender	$t=-4.059$	.000	Sg.
Family groups	$t=.960$	.310	Nsg.
Level education	$t=3.144$	.004	Sg.
Income statues	$f=-3.974$	.020	Sg.
Age	$f=-.132$	.876	Nsg.
Sleeping hours	$f=4.211$	.016	Sg.

F: F-statistics; t = T-statistics ;Sig.: Significance

There is a statistically significant difference in sleep disorders among school-age adolescents among the gender, level education , income statues, and sleeping hours groups ( $p = 0.000;0.004;0.020; 0.016$ ) respectivel

### 3.1. Discussion

Two hundred secondary school students participated in this study to identify the sleep disorder in secondary school After the analysis of participants' socio-demographic characteristics` reveals Less than two-fifths aged 16-17 years ( $n = 77; 38.5\%$ ), followed by those who age 18-19-years ( $n = 63; 31.5\%$ ), those who age 14- 15-years ( $n = 36; 18.5\%$ ), and those who age 12-13-years ( $n = 24; 12.0\%$ ). The mean of age is  $16.32 \pm 1.89$ . And ( $n = 100; 50\%$ ) of the study participant are male, concerning the family, most are small ( $n = 158; 79.0\%$ ), followed by those who are big ( $n = 42; 21.0\%$ ). This result disagrees with study conducted by <sup>12</sup> That study Sleep disorders among high school students in New Zealand. Stated A total of 1388 students completed the questionnaire (69.9% completion rate). The median age was 17 years (range 14–23 years) and 43.5% ( $n=604$ ) of the total group were female. Regarding the level of education, the majority ( $n = 33; 33.8\%$ ), followed by those have middle school ( $n = 148; 74.0\%$ ), followed by those have elementary school ( $n = 52; 26.0\%$ ). As income status, the clear majority reported that they have fairly enough ( $n = 128; 64.0\%$ ), followed by those have enough ( $n = 54; 27.0\%$ ), followed by those have not enough ( $n = 18; 9.0\%$ ). Ultimately, sleeping hours. Less than half have 5-8 hour ( $n = 97; 48.5\%$ ), followed by those have 9-12 hours ( $n = 76; 38.7\%$ ), and followed by those have 1-4 hour ( $n = 27; 13.5\%$ ). This result disagree with study conducted by <sup>13</sup>. Self-reported sleep disorders in secondary school

students: an epidemiological and risk behavioural analysis, Italy STATED Students usually slept more than 7 hours a night (mean  $7.4 \pm 1.1$ ; range 2-12 hours). The 49.5% of the sample did not sleep in the afternoon during the week, while 32.9% had a nap 3 times a week and only 5.3% 6 or more times a week. The result show there is significant difference in sleep disorders among school-age adolescents among the gender groups ( $p = 0.000$ ) and this result Disagree with study conducted by <sup>14</sup> that study Sleep quality and its association with psychological distress and sleep hygiene in Malaysia stated also found no significant difference in sleep disorders between male and female secondary school students in Malaysia.

The result show there is no statistically significant difference in sleep disorders among school-age adolescents among the family groups this results agree with study conducted by <sup>15</sup> that study Sleep quality and sleep-related factors among secondary school students in Hong Kong stated no significant difference in sleep disorders among adolescents based on family structure. The result shows there is a statistically significant difference in sleep disorders among school-age adolescents among the level education groups ( $p = 0.004$ ) and this result disagrees with study conducted by <sup>16</sup> that study the Impact of parental education on sleep patterns and sleep disturbances in a population of adolescents. The study indicated that there was no significant difference in sleep disorders among school-age adolescents across different education groups.

The result shows there are statistically significant differences in sleep disorders among school-age adolescents among the income statues groups ( $p = 0.020$ ) and this result agree with study conducted by <sup>17</sup> that study Socioeconomic status and sleep disturbances in Chinese adolescents. The study reported that adolescents

from lower-income families had a higher prevalence of sleep disturbances compared to those from higher-income families

The result shows there is no statistically significant difference in the sleep disorders among school-age adolescents among the age groups and this result disagrees with study conducted by <sup>18</sup> that study Age and gender differences in sleep habits and sleep disturbances in adolescents. The study reported that there were significant differences in sleep disorders across different age groups of school-age adolescents.

The result show there is a statistically significant difference in the sleep disorders among school-age adolescents among the sleeping hours groups ( $p= 0.016$ ) and this result agrees with study conducted by <sup>19</sup> that study Sleep duration and sleep disturbances among adolescents. The study found a significant difference in sleep disorders among school-age adolescents based on their sleeping hours.

## CONCLUSIONS

According to the study findings, the researchers enabled to make the following conclusions:

Most of the secondary school student who participated in the study are within the age group 16-17 years with similar number of male and female ,most of the family are small, Regarding the level of education, the majority was middle school with clear majority reported that they have fairly enough income. Most of the sleeping hours of the secondary school student was less than half have 5-8 hour, followed by those have 9-12 hour and followed by those have 1-4 hour

The study indicate the majority of the secondary school student have low level of the sleep disorders and only one student with high level of sleep disorder. The study

indicates there is statistically significant difference in sleep disorders among the income status groups- sleeping hours groups- the gender groups, education groups`  
 The study indicates that There is a statistically significant difference in sleep disorders among ` the age groups-family groups`

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