

## Twenty Two Problems in Children's Sleep with Autism Disorder

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### Abstract

*This study aimed at acknowledging problems of autistic children's' sleeping and the number of hours of their sleep. The sample of study consisted of (133) one hundred and thirty three children, aged (3–15) years with autism disorder. The results show that the majority problems are “difficulty is falling asleep” wakening up at night to watch television, and getting up early. The results also showed that the average sleep time for children with severe disorder, is less when compared to children of the mild, and moderate autism spectrum.*

**Key words:** sleep problems, number of hours sleep, autistic children.

### Introduction

Autism is a severe neurodevelopment disorder characterized by an impairment in social interaction, communication defects, and restricted, repetitive behaviors (Xianchen, Hunbbard, Richard, James, Adam,2006). Autism is considered one of the developing disorders, which affect the different aspects of individual development, and appearance of peculiar behavior, unsuitable for the child's age. Sleep problems are commonly moves side by side with autism, and reported with regards to children with autism disorders (Oyane, Bjorvatn,2005). Problems usually include sleeping instability, long sleep tendency, night waking, and early morning waking. Sleep problems are also likely to be stressful for parents (Richdale, Francis , Gavidia,Cotton,2000).

Such sleep problems are frequently reported by parents of children with autism and common estimates are (44–83%) for sleep disorders in this population (Williams, Sears, Allard 2004). Sleep problems tend to be more common in non-autistic younger children and are associated with self-injury, aggression, screaming, tantrums, noncompliance, and impulsivity (Clements, Wing, & Dunn, 1986; Wiggs & Stores, 1996). It is unknown whether these associations occur in children with autism as well.

Problems usually begin to appear in the first or second year of the child's age. Parents often report difficulties coping with sleep problems due to the continuous sleep problems in different stages of their children's lives. These problems manifest themselves in different ways i.e., sleeping late, night fear, wetting the bed, waking up early, severe drowsiness in the day, nightmares, snorting in sleep, anxiety, and headaches in the morning (Durand, 1998). Insufficient sleep affects children negatively in their daily operational performances and negatively impacts their families altogether (Moschos, Susan, 2011). Parents assured that the problem does not appertain to the number of sleep hours but to the quality of sleep and how it differs from their non-autistic siblings. The autistic child is unaware of the natural responses to sleep routine (Dorris, Scott, Zuberi, Gibson, and Espie, 2008).

Sleep problems add more pressure on the families, who in return are neither able to deal with them nor overcome them. (Piazza, Fisher, Kiesiewetter, Bowman, Moser, 1990) found that young women with rett symptoms have several sleeping disorders such as waking up early, sleeping for few hours only, and sleeping during day-time. Those problems usually exacerbate at the age of 29. Several studies attempt to investigate causes of sleep problems with autistic children, and the extent of the relationship of these problems with the behavior problems and other social and communicative difficulties. (Schreck, 1997; Richdale, 1995, 1992) indicated that the cause of sleep problems of autistic children is due to excessive physical activity, Therefore, it is probable that a correlation is found between waking up quite early in the morning and indulging in excessive activity. and communicative difficulties with others.

(Brown, 1995) however, suggests a possible relationship between social communication problems and sleep problems. For the cycle of sleeping and waking includes a harmony depending on the person's biological clock which is related to the cycle of night and day. A regular person uses certain signals and social indications to understand this cycle. However, due to social difficulties in autistic people it remains difficult to recognize these signals leading to struggles of understanding time tables and social routines of sleeping and waking.

Meanwhile (Stores, 1992) suggests that the cause of sleep problems may be due to indefinite causes of disease. Also, what occurs between the psychological and social factors may extensively add to the anxiety of autistic children and create tension and an unsystematic sleeping pattern. This specifically affects children with high anxiety. Others believe that the cause of sleep problems may relate to medical causes and to a group of diseases, such as epilepsy, asthma, or due to side effects of some therapies and medicines used in treating autistic children (Mendell, & Owens, 2003).

An essay issued by (Eggerding, 2012) indicates that sleep is considered a fundamental element of health, necessary for development and returning vitality to the body along with enhancing the immunity system and strengthening memory. Lack of sleep for children, on the other hand, affects all kinds of behavior during the day leading to psychological pressures with families and intensifying the burden. Moreover, the body never functions properly if it is deprived of sleep.

In spite of these sleep problems; some researchers in this field assure the availability of possible solutions through the change in sleep routine together with the necessity of training parents to overcome these problems.

Lack of sleep or restless sleep for children is considered one of the main problems that affect the autistic child's life. Studies show a correlation between sleep and the following characteristics:

- 1- Aggression
- 2- Sorrow
- 3- Excessive physical activity
- 4- Increase of difficult behavioral problems
- 5- Agitation
- 6- Weakness in learning and cognitive operation (Autism Spectrum Disorders Health Center, 2005).

## Sleep and children

Parents often ask specialist how much sleep their child needs. This can be a difficult question to answer as sleep needs not only change with developmental stages, but recent studies and surveys show that there is a large variability in children's sleep need, especially in the first few years of their life ( Meltzer, Mindell, 2006).

Table 1 describes what typically is seen in terms of sleep patterns in children across developmental stages:

**Age group Years and Total sleep need**

Age group	Years	Total sleep need
Infants	3 to 12 months	14 to 15 hours
Toddlers	1 to 3 years	12 to 14 hours
Preschoolers	3 to 5 years	11 to 13 hours
School-aged	6 to 12 years	10 to 11 hours
Adolescents years	12 to 18	8.5 to 9.5 hours

## **Review of Studies**

From the studies related to the subject of the present study is the study (William, Sears, and Allard, 2004) also performed a study on (210) two hundred and ten children with autism. The most discernable problems were repetition, breathing difficulty, unsteady sleep, child's rejection to sleep in his/her private bed, and a possibility of waking up after a short while. Fewer problems consisted of sleepwalking, morning headaches, night weeping, breath failure or suffocation, and night-mares. And in (Silver Stone, Posserud, Gillberg, Lundevold, 2011) was conducted to know the extent of permanent problems spread in the sleep of autistic children. It was carried out through performing a linear study of a sample of (3700) children with autism aged between (7–9) and (11–13). Their sleep difficulties were observed and revealed that autistic children have ten times more problems in sleeping and a regular sleeplessness in comparison to non-autistic children.

(Polimeni, Richdale, and Francis, 2005) performed a study on a sample of (66) sixty-six families of normal children, (53) fifty-three families of autistic children, and (52) fifty-two families of Asperger's disorder cases. The results show that the most common behavior problem was among autistic children with (73%), followed by children with Asperger, and finally Normal children with (50%). Results did not show many differences among the study groups regarding the type or complexity of problems; however, autistic children improved after the interference of behavioural therapy especially in comparison to the Asperger group.

Additionally, a study performed by (Kimberly, James, Mulick, Angela, Smith, and Schreck, 2004) aimed at recognizing problems of sleep in autistic children and the relationship with some of their behavioral problems using a number of (55) fifty five autistic children aged (5–12) years with an average of (8.2). Results of the study shows that sleeping hours for autistic children are very few, and there are additional problems that appear at night, such as screaming and the difficulty of going to bed. The study also shows that there is a relationship between sleep problems and the failure of social skills along with the appearance of an atypical behavior.

## **Importance of Study**

The difficult part of the study resides in the attempt to recognize problems and the number of sleep hours for autistic children in order to create a database. Having a database as such would assist in using this data as a source to develop training programs for the families aiming to overcome these problems. This would be a crucial solution since sleep problems excessively affect the increase of pressure and tension within a family. Besides, as mentioned earlier, sleep problems appear to have a close relationship with the behavioral and communicative problems from which autistic children suffer. What increases the importance of such a study is the absence of studies related to sleep problems in autistic children across the Arab world.

## **The statement of Question in the Study: The problem**

This study was made in order to limit sleep problems of autistic children in Jordan and as an attempt to answer the following two questions:

1. What are the sleep problems of autistic children?
2. What is the number of sleep hours of autistic children due to the hardness of disorder variable?

## **Limitations of the Study**

One hundred and thirty three autistic children aged (3–15) years who joined Amman Autism Centers participated in the study.

## Methodology:

### Sample of Study individuals

Centers specialized in treating autism distributed the study to families of children with autism. One hundred and fifty copies of the questionnaire were distributed, and only one hundred and thirty three children's forms were filled. Ten questionnaires were neglected due to their incompleteness. The remaining seven were never returned to us.

**Table No.2:** Shows the classification of individuals through timed age.

**Table No.3:** Shows the distribution of individuals of the sample of study due to timed age.

**Table No.2**  
**Distribution of individuals of the sample of study due to timed age variable**

Timed age	Repetition	Percentage
3-9 years	69	48.3
9-15 years	64	44.8
Total	133	93.0

**Table No.3:** Reveals the classification of individuals according to the number of sleep hours.

**Table No.3**  
**Shows distribution of individuals of sample of study due to number of sleep hours**

Number of Sleep Hours	Repetition	Percentage
6 - 4	13	9.1
8 - 6	55	38.5
10 - 8	44	30.8
12 - 10	9	6.3
Total	121	84.6

## Method

One hundred and thirty three autistic children, joining centers specialized in teaching cases of autism in Jordan participated in the study. Ages of children were (3-9) years and (9-15) years. All children were diagnosed in centers authorized by public authorities. A questionnaire, which consisted of (22) twenty-two paragraphs of sleep problems, was distributed to families.

### Measure of sleep problems

Measure of sleep problems of children was prepared, for the sake of the present study purposes, by examining the study of (Hering, Epstein, Elroy, Iancu, Zelnik, 1999), (Williams, Sears, Allard, 2004) and (Schreck, 2001).

### Constancy of Measure

Constancy of measure was deduced by the method of internal harmony (Alpha Cronbach), so the harmony coefficient as whole was (0.85), therefore the study tool becomes content and true and pliable to be implemented for the study purposes.

## Results

To answer the first question: "What are the sleep problems of autistic children?" Arithmetic averages, and standard deviations of sample of study responses on the measure of sleep problems of autistic children are demonstrated in table No.4:

**Table No.4**  
**Arithmetic averages and standard deviations of autistic children families' responses on sleep problems measure, organized according to measures paragraphs**

No.	Paragraph	Arithmetic Average	Standard Deviation	Repetition
1	Difficulty falling asleep	3.16	.787	133
2	Resists when forced to sleep	3.06	.833	133
3	Rejects sleeping in a special bed	3.07	.931	133
4	Wets his bed	2.52	1.005	133
5	Requests W.C. during sleep	2.65	1.016	133
6	Walks when asleep	2.81	1.067	133
7	Laughs when asleep	2.79	.962	133
8	Screams when asleep	2.75	.972	133
9	Fears darkness	2.74	.912	133
10	Wakes and eats at midnight	2.74	.984	133
11	Moves round the house at midnight	2.90	.984	133
12	Difficulty in breath occurs at sleep	2.23	.933	132
13	Turns over at sleep	2.89	.893	132
14	Snorts during sleep	2.28	1.047	133
15	Wakes up at hearing any sound	2.91	.830	133
16	Speaks at sleep	2.81	.982	132
17	Slumbers at school	2.47	.953	132
18	Covers his head completely with the warp	2.84	.944	133
19	Presses his teeth during sleep	2.19	1.049	132
20	Complaints of headache in the morning	2.09	1.073	132
21	Gets up early from bed when sees sunlight	3.11	.873	133
22	Gets up and watches television at midnight	3.12	.879	133

It is clear from table No.4 that all problems appear with the individuals of the sample, for the average of these problem amounts between (2.09) and (3.16), while the highest degree resembles four steps. The results showed that, the most abundant problems, which secured the highest averages, were "Difficulty falling asleep ". It got an average of (3.16), while the problem "wakes and watches television at midnight" got an average of (3.12), follows it is the problem "gets up early from bed when sees light" which got an average of (3.11), however, rejection of sleep in a special bed got an average of (3.07), followed by the problem of "resistance at forcing him to sleep" which got an average of (3.06). The following problems got lesser averages due to other problems: "complaint from headache" with an average of (2.23), "presses his teeth" with an average of (2.19) and finally "complaint from headache" with a (2.09) average.

**To answer the second question: "what is the number of sleep hours of autistic children according to the hardness of disorder variable? Table No.5 illustrates the results:**

**Table No.5**  
**Distribution of individuals of sample of study due to variable of the number of sleep hours and hardness of disorder**

Hardiness of disorder/number of sleep hours	6-4	8-6	10-8	12-10	Total
Simple	0	13	25	5	43
Medium	0	22	17	2	41
Hard	13	20	2	2	37
Total	13	55	44	9	121

It is clear from table No.5 that 13 thirteen autistic children with simple autism sleep average amounts between (6–8) hours, while 25 sleep between (8–10) hours and only 5 children sleep between (10–12) hours.

Sleep of children with moderate disorder reads as follows: 22 children from the sample of study sleep an average between (6–8) hours, while 17 children sleep (8–10) hours, and only 2 sleep an average of (10–12) hours. But the least hours of sleep is between (4–6) hours showing the highest number of children with severe disorder for (13) cases. (20) Cases sleep between (6–8) hours, 2 sleep between (8–10) hours and 2 cases between (10–12) hours.

## **Discussion**

### **Discussion of the first question results:**

Discussion of the first question, "What are the sleep problems of the autistic children?" show the following results:

Arithmetic averages and standard deviations of the sample of study responses were deduced according to sleep problems measure of the autistic children. And the results showed that the whole degree average of the measure was between (2.09) and (3.16) while the highest degree represents (4) steps due to the organization of the highest problems occurred. And problems which got the highest averages, difficulty falling asleep, he gets up and watches television at midnight; he gets up early from the bed when he sees light, rejects sleeping in the special bed, and the problem of "resistance of forcing him to go to sleep. This result gets in harmony with the majority of studies that discussed sleep problems of autistic children, such as (Willaims, Sears and Allard's study, 2004).

The result of this study also agrees with the result of of (Silver Stone, Posserud, Gillberg, Lunevold, 2011). And it is in harmony with the results of study of (Kimberly, James, Mulick, Angela, Smith, and Schreck, 2004). This result is justified by its agreement with the result of most of the previous studies, that the individuals have a true problem in sleep, and these problems are not caused by environmental causes, but they are an accompanying problem, moves side by side with autism, and results of study get in harmony with literature of the subject, which assured that the rate of sleep problems spread of autism children amount between (43 - %80).

### **Discussion of the results of the second question:**

What concerns the second question, "What is the number of sleep hours of the autistic children due to the hardiness of disorder variable?" is that:

Despite not finding many studies, according to the researcher's knowledge, and the sources which she consulted discussed the variable of disorder hardiness and the number of sleep hours, the results of the study shows that sleep hours are very few for all of the individuals of the sample of study and the number of sleep hours has a correlation with the hardiness of disorder. The results show that individuals with hard disorder sleep very few hours. It is clear that (13) individuals sleep between (4–6) hours, while results did not show any cases with simple disorder, or moderate ones with such hours. The result is justified by finding a relationship between the number of sleep hours and the hardiness of disorder, for the harder the disorder, the less sleep hours were found. But generally, the results of the study show a decrease in sleep hours' average for autistic children. These results concur with the results of (Kimberly, James, Mulick, Angela, Smith, and Schreck, 2004) study which shows that sleep hours of autistic children are very few.

### **Result**

The study shows that the individuals of the sample of study have numerous sleep problems which varies in rates. It also demonstrates that sleep hours are few and worsen by the increase of the severe of autism disorder.

**In the light of these results, the researcher recommends the following:**

Performing more future studies about sleep problems of autistic children and connecting them with some variables, such as: enrolling the children of different ages in training centers, realizing the connection between the hardness of sleep with the social and behavioral problems and the necessity of preparing training programs for parents to treat sleep problems of autistic children.

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