

Assessment of Mothers' knowledge and Practice regarding Sleeping Disorders among their Children Suffering from Attention Deficit Hyperactive Disorder

Nesma Ahmed Abd El Aleam, Safaa Salah Ismail, Salma Elsyed Hassan

*Administrator of pediatric health nursing, ** Professor of pediatric health nursing, ***Professor of pediatric health Nursing, Faculty of nursing *Fayoum University,** Helwan University, ***& Ain Shams University

Abstract

Background: Attention-deficit hyperactivity disorder (ADHD) is the most common neurobiological and psychiatric disorder in children, however it's a developmental disorder that affects behavior, attention, and learning of children. **Aim of the study:** This study aimed to assess mothers knowledge and practice regarding sleeping disorders among their children suffering from attention deficit hyperactive disorder. **Research design:** A descriptive design was used to conduct this study. **Setting:** The study was carried out at the out-patient clinics in pediatric university hospital and psychiatric center affiliated to Elfayoum University Hospital. **Study subjects:** A purposive sample consisted of eighty-one children and their accompanying mothers suffering from attention deficit hyperactive disorder, who attended the previously mentioned settings over six month period. **Tools** of the study involved an interviewing questionnaire; to assess sleeping disorders for children with ADHD. **Results:** the majority of studied children were males and less than one fifth of of studied children had usually sleeping disorder, less than half of them had sometimes sleeping disorder, while more than one third of them had rarely sleeping disorders. Consequently, almost less than two quarters of studied mothers had unsatisfactory knowledge about ADHD and sleep disorder **conclusion** : the current study concluded that less than two quarters of mothers had unsatisfactory knowledge about ADHD and sleeping disorders , also it was cleared that the studied sample had adequate reported practices about sleeping disorders in addition to there were statistically significant differences between studied mother's characteristics and their total knowledge and practices **Recommendations:** the study recommended that Establish specialized centers for follow up of children with special needs and their families.

Keywords: Children ,Attention Deficit Hyperactive Disorders, ADHD, Sleeping Disorder mothers knowledge and practice.

Introduction

Attention/deficit/hyperactivity disorder (ADHD) is a chronic condition that affects millions of children and often continues into adulthood. The ADHD is defined today, as one of the most commonly diagnosed childhood psychiatric disorders. It includes a combination of persistent problems, such as difficulty sustaining attention, hyperactivity and impulsive behavior. Children with ADHD also may struggle with low self-esteem, troubled relationships and poor performance in school. Symptoms sometimes lessen with age. however, some children never completely outgrow their ADHD symptoms. but they can learn strategies to be successful (Visser et al., 2014)

Attention Deficit Hyperactivity Disorder (ADHD) can affect approximately 3% to 5% of elementary school-aged children. Moreover, the number of diagnoses is

increasing: rates increased by approximately 5.5% per year between 2003 and 2007 in the USA (Mayes et al., 2015) and this rise has been reflected in increasing prescription rates of ADHD treatment medication the disorder is estimated to affect between 3-5% of children worldwide, although some studies estimate up to 16% in some communities, and it is about 2-3 times more common in males than females (Mowlem et al., 2018 & Wilens ,2015). (Mayes et al., 2015)

Sleeping is a complex physiological process influenced by intrinsic biologic properties, temperament, cultural norms, and e.nvironmental conditions (Prado et al., 2018 & Serra-Negra et al., 2014). Also, it is essential, accounting for approximately 40% of a child's typical day. When children do not get enough sleep aspects of their physical, emotional,

cognitive and social developments are negatively affected (Vandekerckhove & Wang, 2018).

Sleep disorders are conditions that prevent a person from getting restful sleep and, as a result, can cause daytime sleepiness and dysfunction. Sleep can be classified into two major categories, which include Dysssomnias and parasomnia. Dysssomnias include those disorders that result in difficulty either initiating or maintaining sleeps or involves excessive sleepiness. Parasomnias are disorders that disrupt sleep after it has been initiated but do not result in complaints of insomnia or excessive sleepiness (Mowatt, 2018).

Sleeping disorders represented highly common phenomena that often interfere with daily child's and family functioning and also, one of the most commo

n problem that occur in children suffering from (ADHD). Children with sleep disorders are often inattentive or hyperactive, and some carry a diagnosis of (ADHD) until sleep disorder is detected (Lumeng & Chervin, 2017)

While sleep problems can affect anyone in the general children, there is a greater occurrence of these problems in children with ADHD. One-quarter to one-half of parents of children with ADHD report that their children suffer from a sleep problem, especially difficulties with falling asleep and staying asleep. Based on parent reports, kids with ADHD are two to three times more likely to have sleep problems when compared to kids or without (Moulding & Bartsch, 2019).

Sleeping problems have been shown to induce hyperactivity, impulsivity or behavioral problems in children. The hyperactivity may be paradoxically a response to daytime sleepiness. (Ma et al., 2017), parents have reported ADHD-like symptoms in typically developing children when the kids don't sleep long enough. To make diagnosing more difficult, the use of psych stimulant medications to treat ADHD can cause sleep problems in some patients but can improve sleep in others, serious enough to interfere with

normal physical, mental, social and emotional functioning (Yürümez & kilic, 2016).

Aim of the Study:

This study aimed to assess mothers' knowledge and practices regarding sleeping disorders among their children suffering from attention deficit hyperactive disorder.

Research Questions:

- 1- 1- What are mothers' level of knowledge and practice regarding sleeping disorder among their children suffering from attention deficit hyperactive disorder
- 2- Is there a relationship between mothers' knowledge and their practice regarding sleep disorder among their children suffering from attention deficit hyper active disorder.
- 3- Are there relationship between mothers' characteristics and their knowledge and practice about the sleep disorder.

Subjects and Methods:

1) The technical design:

A) Research design:

A descriptive research design was used to conduct this study.

B) Setting:

The study was carried out at the out-patient clinics in pediatric university hospital and psychiatric center affiliated to Elfayoum University Hospital

C) Subject:

A purposive sample consisted of 81 children suffering from attention deficit hyperactive disorder and their accompanying mothers who attended to previously mentioned settings over six months period.

D) Tools for data Collection:

Tools 1: Pre-designed questionnaire sheet:

It was designed by the researcher after reviewing the relevant literature and was written

in a simple Arabic language to suit children's level of understanding and their mother's it consisted of five parts on, occupation, relation to child, family mental history

Part I: It concerned with characteristics of study subject; characteristics of children with attention deficit hyperactive disorder and sleeping disorder and Characteristics of mothers

Part II: Past history of children with ADHD.

Part III: Children behavior and habits.

Part III: dealt with mothers' knowledge regarding **ADHD and sleeping disorders** .

III: Delt with mothers' reported practices regarding care of their ADHD children suffering from sleep disorder

Tools 2: The children sleeping disorder scale , it was adapted from *Owens et al., (2000), and Mohamed et al .,(2016)* to assess sleeping disorders among children suffering from attention deficit hyperactive disorder..

Ethical consideration

Prior study conduction, ethical approval was obtained from the Scientific Research Ethical Committee of Faculty of Nursing Helwan University. The purpose of the study was explained to the children and their accompanying mothers and oral consent was obtained from them to participate in this study, assured them data collected would be confidential and would be only used to achieve the purpose of the study. They were given an opportunity to withdraw from the study without given a reason and they were assured that confidentiality of information was protected

II. Administrative design:

An official approval would be obtained from dean of Faculty of Nursing Helwan University to the Director of the psychiatric out- patient clinics of Fayoum University Hospital to conduct the proposed study

III. Operational design:

The operational design includes preparatory phase, content validity & reliability, and pilot study.

Preparatory phase:

During this phase, the study tools were prepared through reviewing the available local and international related literature to be oriented with the various aspects of the research problem. This was necessary to the researcher to be acquainted with and oriented toward all aspects of the research problems and designs the tools..

Pilot study:

A pilot study was conducted on 10% (8 children) of the total number of the study children and their accompanying mothers suffering from ADHD with sleeping disorders of the expected total study sample to test the applicability, clarity and the efficiency of the study tools. The result of the data obtained from the pilot study helped in removing of some repeated questions related to study tools and all children involved in the pilot study were excluded from the study subjects. The completion of each sheet took about 45 minutes.

Field work:

The actual field work of the study started from the beginning of May 2018 to the end of November 2018 (6month) It was done during the morning shifts, two days per week (Wednesday, Monday), in which the researcher met every child and their accompanying mothers individually in the outpatient clinics, the researcher started with introducing herself and explaining the aim of the study for the mothers and expected outcomes of the study, the components of the tools. The questionnaires were read for illiterate mothers and the choices were recorded by the researcher after agreement of the mothers.

IV. Statistical design:

All data coded, entered, and analyzed by using statistical package of social science (IBM SPSS Statistics for Windows, Version 20.0. Armonk, NY: IBM Corp). The quantitative data were presented as a mean and standard deviation. The qualitative data were presented as number and percentage. The chi-square (χ^2) test was used to find the association between variables of qualitative data. The P value <0.05 or <0.001* mean statistical significant difference, while P value >0.05 mean non-significant.

Results:

Table (1): Shows that more than half (56.8 %)of studied children were aged 6<8 years with mean age 9.7 ± 3.2 year ,while 80.2% of them were males,80.2% from rural area and77.8% had negative family history of ADHD respectively.

Table (2): shows that more than two thirds (70.4 %)of studied mothers aged 25<35 years,while 58% of them had primary education. The same table revealed that most (81.5% &95.1% of studied mothers didn't work and were married respectively.

Table (3) illustrates that more than half (58.6%) of studied children were aged 6 to 12 years when appearance of ADHD symptoms and almost less than two thirds (65.4%) of them used medication for treatment .The same table clarified that 14.8% of studied children had sleeping disorder from medication.

Table (4): reveals that 61.7% of studied mothers had unsatisfactory knowledge regarding ADHD and sleep disorders.

Table (5): reveals that more than half (56.8%)of studied mother had adequate reported practice regarding care of their children suffering from sleeping disorders ,while the rest

(43.2%) of them had inadequate reported practices.

Figure (1) shows that more than one third (33.3%) of studied children rarely had sleeping disorders, while 43.2% of them sometimes had sleeping disorders and less than one fifth (23.5%) of them had usually sleeping disorders.

The table(6): shows that there were statistical significant relation between studied mother's characteristics namely age, Education and job and their children's total sleeping disorders ,while no statistical significant relation between mother s' marital status and their children's total sleeping disorders.

The table (7): Indicates that there were statistical significant relation between mothers' characteristics namely age and education with their total knowledge, while no statistical significant relation between mother s' job and marital status and their total knowledge.

The table (8) clarifis that there were statistical significant relation between their children's total sleeping disorder and their mother's total knowledge.

Table (1): Distribution of studied children according to their characteristics.

Items	No	%
Age/year		
6<8 year	46	56.8
8<10 year	25	30.9
10 ≤12 year	10	12.3
Mean ±SD	9.7±3.2	
Gender		
Male	65	80.2
female	16	19.8
Ranking		
First	36	44.4
Second	22	27.2
Third &more	23	28.4
Education Level		
Nursery	26	31.1
Primary	55	67.9
Residence		
Urban.	16	19.8
Rural.	65	80.2
Family history		
+ve	18	22.2
-ve	63	77.8

Table (2): Distribution of studied mother's according to their characteristics (n=81).

Items	NO	%
Age / years		
<25 year	7	8.6
25<35	57	70.4
35≤45	17	21
Mean ±SD		32.6±6.3
Education		
Illiterate		17,3
Read and write	14	3.7
Primary education	3	58
Secondary education	47	17,3
University	14	14
Job		
Working	3	3.7
Not workin	15	18.5
	66	81
Social status		
Married	77	95.1
Divorced	4	4.9

Table (3): Distribution of studied children according to their past history of attention deficit hyperactive disorder (n=81).

Items	No.	%
Age of child at appearance of ADHD symptoms		
1<3year	35	43.2
3<6 year	39	48.2
6 to 12 year	7	58.6
Using medication for ADHD		
Yes	53	65.4
No	28	34.6
Side effect of Medication		
Delayed speech	10	12.3
Difficulty learning achievement and impulsive	11	13.6
Nervous	4	4.9
Hyper activity	9	11.1
Sleep disorder	12	14.8
Nocturnal enuresis.	7	8.6

Table (4): Distribution of the studied mother's according to their total knowledge regarding ADHD and sleep disorder.

Total knowledge	N	%
Satisfactory	31	38.3
Unsatisfactory	50	61.7

Table (5): Distribution for total Mother's practices about the child's suffered from sleep disorders .

Total reported practices	N	%
Adequate	46	56.8
Inadequate	35	43.2

Figure (1): Total Sleeping Disorders

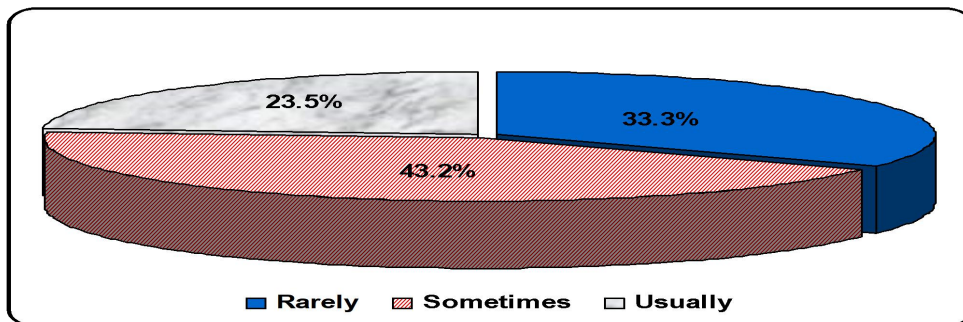


Table (6): Relation between studied mother's characteristics and their children's total Sleeping Disorders .

Items	Total levely sleeping disorder						Tost/ signnificant	
	Rarely		Sometimes		Usually		X ²	P-value
	No	%	No	%	No	%		
Age /years								
< 25 year	5	71.4	1	14.3	1	14.3	22.261	<0.001*
25<35year	17	29.8	32	56.1	8	14.0		
35≤45year	5	29.4	2	11.8	10	58.8		
Education							22.296	0.004*
Illiterate	6	42.9	7	50.0	1	7.1		
Read and writ	2	66.7	1	33.3	0	0.0		
Primary education	0	0.0	1	33.3	2	66.7		
secondary education	17	36.2	23	48.9	7	14.9		
university	2	14.3	3	21.4	9	64.3		
Job							14.529	<0.001*
Not working	23	34.8	33	50.0	10	15.2		
Working	4	26.7	2	13.3	9	60.0		
Marital status							0.678	0.713
Married	25	32.5	34	44.2	18	23.4		
Divorced	2	50.0	1	25.0	1	25.0		

Table (7): Relation between studied mothers' characteristics and their total knowledge's about ADHD and sleeping disorder (N=81).

Items	Satisfactory (31)		Unsatisfactory (50)		Chi-square	
	No	%	No	%	X ²	P-value
Age / years						
<25year	6	85.7	1	14.3	7.811	0.020*
25 <35year	18	31.6	39	68.4		
35≤ 45year	7	41.2	10	58.8		
Education					11.676	0.007*
Illiterate	10	71.4	4	28.6		
Read and write	2	66.7	1	33.3		
Primary education	2	66.7	1	33.3		
Secondary education	14	29.8	33	70.2		
University	3	21.4	11	78.6		
Job					0.190	0.663
Not working	26	39.4	40	60.6		
Working	5	33.3	10	66.7		
Marital status					2.403	0.121
Married	28	36.4	49	63.6		
Divorced	3	75.0	1	25.0		

Table (8): Relation between studied mother's according to their total knowledge and their children's total sleeping disorder (N=81).

Sleeping Disorders		Total knowledge					
		Satisfactory		Unsatisfactory		Total	
		N	%	N	%	N	%
Rarely		12	14.8	15	18.5	27	33.3
Sometimes		28	34.6	7	8.6	35	43.2
Usually		10	12.3	9	11.1	19	23.5
Total		50	61.7	31	38.3	81	100.0
Chi-square	X ²	9.026					
	P-value	0.011*					

Discussion:

On assessing characteristics of the studied children, the current finding revealed that more than half aged 6<8 years with mean age 9.7 ± 3.2 year. This finding is in agreement with finding of **Podolski (2015)**, who studied Parent stress and coping relation to child ADHD severity and associated child disruptive behavior problems and reported that the majority of the sample are more than 6 years old.

Regarding to gender of the studied children, the findings of the current study clarified that more than three quarters of them were boys. This finding is consistent with those finding of **Cynthia et al (2017)**, who carried out a study entitled "parent and family process related to ADHD management" and mentioned that the majority of participants were boys and more than one third were girls. On the other hand, **Mahmoud (2013)**, found in a study entitled "Arenting stress and self-esteem among families of children with ADHD in pediatric university hospital" and **Mohamed et al (2016)**, who studied of sleep disorder in children hyperactive disorder, and reported that the majority of the studied sample were boys, while the minority of them were girls and the ratio between boys and girls reached 6:1.

Considering ranking of the studied children in their families, the finding of current study revealed that less than half of them were first child, This finding is corresponding with those finding of **Wajszilber, et al (2018)**, and found in study entitled "sleep disorder in patient with ADHD impact and management challenge" the majority of sample ranked as the first child. The finding is similar to those finding of **Mahmoud. (2013)**, in Egypt who carried out a study entitled "Studied a renting stress and self-esteem among

families of children with ADHD in pediatric university hospital" and found that more than two fifths of the studied children were ranked the first child in their families.

As regards the level of education of the studied sample, the result of present study clarified that, more than two thirds of them were in the primary school. This finding is parallel to that finding of **Thomas et al. (2018)**, who conducted a study about physical function emotion and behavior problem in children ADHD and mentioned that almost all of studied children were in primary school in both private and governmental schools.

Concerning the age of mother, The result of present study clarified that more than two thirds of studied mothers aged 25<35 years and the majority of sample were primary education and were married this finding is supported by that findings of **Adler et al (2014)**, who conducted a study about Diagnosing ADHD in children and adult Attention-Deficit Hyperactivity Disorder in Adults and Children and reported that age of the most of the studied mothers ranged between 25-39 years. As well, this finding was in accordance with finding of **Mohamed et al.(2016)**, who explained that, since the mothers at the time of birth of first child were young they tended to have less education, less experience and more worries about their children.

In regard to occupation of mothers, the study finding illustrated that more than three quarters of mothers were housewives (not working). The finding is similar to this finding of **Podolski (2015)**, and reported that, three quarters of theb, mothers have no work. And the result is matched with that finding of **Mahmoud. (2010)**, in Egypt who found in study entitled "the impact of play therapy program on attention and activity of school age children with attention deficit hyperactivity disorder" and found that the

majority of the mothers in the studied sample was housewives and representing four fifths.

Considering appearance of ADHD symptoms the present study finding showed that more than half appear symptoms at 6-12 years This finding is in accordance with the finding of **Wilens. (2015)**, who conducted study entitled Understanding ADHD from childhood to adulthood and reported that the majority of sample appear symptoms at 6-12 years.

The finding of current study illustrated that slightly less than one fifth of studied children had sleeping disorders associated with ADHD treatment as side effect. The finding is in agreement with this of the finding of **Gruber& Raviv (2015)**, who carried out study entitled "Instability of sleep patterns in children with ADHD" and reported that more than two thirds of children with ADHD develop symptoms of sleeping disorder when use medication to treat this condition.

As regards caregivers' knowledge about ADHD and sleeping disorders, the result of present study clarified that almost all of studied caregivers had unsatisfactory knowledge about ADHD and sleeping disorders. It could be related to reduction of health awareness programs regarding the care of these children. This finding is consistent with finding of **Mahmoud (2010)**, which proved that, the level of knowledge of caregivers were inadequate preprogram about ADHD and sleep disorder and caregivers become more knowledge after applying the program

Concerning the caregivers' practice regarding sleeping disorders, the finding of current study revealed that, almost more than half of studied caregivers had adequately practices about sleeping disorders This finding was supported with the finding of **Owens. (2016)**, who carried study of Epidemiology of sleep disorders during childhood and reported that more than one thirds of caregivers had adequate practices to deal for their children especially night mares and urination during sleep.

The finding of current study revealed that slightly less than one quarter of studied children had usually sleeping disorders. The study are corresponding with this finding of **Cortese.et al (2016)**, who carried study entitle Assessment and management of sleep problem in children with

ADHD and found that slightly less than two fifths of studied children had usually sleeping disorders.

Considering sleeping disorders checklist there were a statistically significant relation between mother's total knowledge regarding ADHD and sleeping disorders checklist of studied children . The finding is similar to those of the finding of **Tsai et al (2016)**, who carry out study entitled sleep problem in children with ADHD current status of knowledge and appropriate management and mentioned that, there were a highly statistically significant differences between ADHD children and sleep disorder.

The current study result revealed that, there were statistical significant relation between mothers knowledge about ADHD and sleep disorder and their education This finding was reflected by **Moulding&Bartsch (2019)**, Sleep problems and associations with psychopathology and cognition in young people with 22q11. 2 deletion syndrome (22q11. 2DS), who studied of Sleep problems and associations with psychopathology and cognition in young people with subtypes of ADHD whose founded that , mothers with primary education the main parents score decrease significant in the study group. The effect on behavior was more evident in the children of primary educated mothers

Conclusion:

Based upon the results of the current study, it can be concluded that less than three quarters of mothers had unsatisfactory knowledge about ADHD and sleeping disorders , also it was cleared that the studied sample had adequate reported practices about sleeping disorders in addition to there were statistically significant relation between studied mother's characteristics and their total knowledge and practices , there were statistically significant relation between their mothers charctistics and total sleeping disorder.

Recommendations:

Based on the results of the present study the following recommendation is suggested:

- Health education program should be given to children who had ADHD and sleeping disorders and their mothers about periodic follow up to improve their quality of lif to prevent complication.

- Educational program for schools health team and teaches about effect of ADHD and sleeping disorders on students physical physiological state and academic achievements. Orientation programs on mass media as TV should be carried in order to increase public health awareness about ADHD and sleeping disorders.
- Designing and carrying out educational and training program for mothers are essential to increase awareness about children with ADHD and sleeping disorders are needed to investigate the efficacy of a behavioral sleep program in treating sleep problems experienced by children with ADHD and ensure an effective and sensitive response to the needs of those children and their parent's caregivers.

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