

Knowledge and Behavior of Primary School Teachers Towards Attention Deficit Hyperactivity Disorder

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Background: School teachers in Bahrain have never received any educational programs about attention deficit hyperactivity disorder (ADHD) except for a workshop which was conducted for primary school social supervisors in 2005.

Objective: To evaluate the knowledge of primary school teachers of ADHD, attitude and behavior towards ADHD students.

Design: Cross-Sectional study.

Setting: Primary Schools in Bahrain.

Method: One hundred fifty-eight randomly selected governmental primary school teachers completed the questionnaire about knowledge and attitude towards ADHD.

Result: Eighty-four (53.2%) of the teachers were knowledgeable about ADHD. Their main sources of knowledge about ADHD were newspapers and magazines.

Conclusion: Teachers' Knowledge of ADHD was found to be less than optimal.

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Attention Deficit Hyperactivity Disorder (ADHD) is a disorder combining inattention, hyperactivity and impulsive behavior, which are severe and inappropriate¹. It is a common childhood behavioral problem, which has been estimated to affect 2-18% of school children². ADHD is more prevalent in boys than in girls. Its onset is in early childhood, before the age of seven. It often persists into adolescence and adult life and puts sufferers at risk of a wide range of abnormalities in personality development³.

The exact aetiology of ADHD is unknown. It aggregates in families with 3-5 times increased risk in first-degree relatives⁴.

The diagnosis of ADHD could be established by the International Classification of Diseases, 10th revision (ICD-10) or the Diagnostic and Statistical Manual of Mental Disorders 4th Ed

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criteria DSM-4³. A diagnosis requires clear evidence of clinically significant impairment in social, academic or occupational functioning. Impairment implies not only a higher severity or frequency of symptoms but also interference with functioning in major life domains, e.g. at home, at school, with friends or elsewhere³.

Psychological interventions, educational change, medication and diet are the modalities of treatment of ADHD. ADHD children have many problems and multimodal intervention is usually indicated. Education and advice should be included in any treatment³.

Medication should be considered when the patient meets the DSM-4 criteria for the ADHD syndrome and psychological treatment is insufficient³. Methylphenidate (Ritalin) is usually the first choice. Parents and teachers should be helped to identify specific problem situations and to find behavioural management techniques.

The prevalence of ADHD in Bahrain is not known; however, it is imperative that teachers should be knowledgeable about this disorder and has an understanding of the skills required in working with students with ADHD in the regular classroom setting.

The aim of this study is to evaluate the knowledge of primary school teachers about ADHD and their attitude and behavior towards ADHD students.

METHOD

This is a cross-sectional study, which involved male and female government primary school teachers working in the ministry of education; the study was performed February 2006 to February 2008. Private schools were excluded because each has its own curriculum; therefore, they could not be compared to government schools.

A sample of 160 teachers was randomly selected from a total of 4314 primary school teachers working in 114 government primary schools in Bahrain.

The questionnaire used in this study was taken from a similar study in Iran². To ensure the content validity of the questionnaire it was translated from Iranian to Arabic language and then retranslated again to Iranian. It consisted of two parts, the first part included personal characteristics (age, gender, educational level, marital status and years of teaching experience), while the second part was about the knowledge and attitude of teachers towards ADHD. It consisted of true or false questions.

Data analysis was done using SPSS program version 14. True answers were given a score of 1 and false answer 0. Scores of true answers were calculated for each individual. The average was calculated using the sum of all scores.

RESULT

One hundred sixty questionnaires were distributed, two were not completed; therefore, a response rate of 98.7%.

Seventy-three (46.8%) were males, 83 (53.2%) were females and 2 (1.3%) were missing data. Ninety-three (60%) were between 25-35 years, 49 (31.6%) were between 36-45 years, 13 (8.4%) were >45 years and 3 (1.9%) did not document their age. One hundred thirty (82.8%) were married, 27 (17.2%) were singles and one (0.6%) did not mention the marital status. Seventy-nine (81.4%) of those married had children, 18 (18.6%) did not have children and 33 (25.4%) did not mention whether they had children or not.

Twelve (7.6%) have diplomas, 134 (85.4%) have bachelor's degrees, 11 (7%) have master's degrees and one teacher (0.6%) did not mention the educational level. Only one teacher is specialized in learning difficulties (0.6%) while 13 (8.2%) did not mention their specialties. Sixty-seven (43.2%) teachers had 5-15 years of experience, 48 (31%) had <5 years of experience, 40 (25.8%) had >15 years and 3 (1.9%) teachers did not mention the years of experience, see table 1.

Table 1: Distribution of Personal Characteristics

Variables		Number and Percentage	Total
Age	25-35	93 (60)	155*
	36-45	49 (31.6)	
	>45	13 (8.4)	
Sex	Male	73 (46.8)	156*
	Female	83 (53.2)	
Educational level	Diploma	12 (7.6)	157*
	BSc	134 (85.4)	
	MSc	11 (7)	
Years of experience	<5	48 (31)	155*
	5-15	67 (43.2)	
	>15	40 (25.8)	
Marital status	Married	130 (82.8)	157*
	Single	27 (17.2)	
Do you have children	Yes	79 (81.4)	97*
	No	18 (18.6)	

*Missing data

Seventy-two (45.9%) teachers' knowledge of ADHD was from magazines and newspapers and the least was from medical source, 6 (3.8%). One hundred forty (88.6%) dealt with ADHD students while 18 (11.4%) did not.

Table 2 shows the responses of teachers to various knowledge questions. Forty-five (29.4%) believed that ADHD is inherited. Twenty-one (13.5%) thought that ADHD is a lifelong condition; seventy-three (47.1%) thought that ADHD is due to parental punishment. Only 39 (25.8%) knew that it was treated with medications. Eighty (51.6%) believed that it is the result of excess sugar in food, see table 2.

Table 2: Teachers' Knowledge of ADHD

Knowledge Items	False	True	Total
	Number and Percentage		
Is ADHD inherited?	108 (70.6)	45 (29.4)	153*
Are ADHD children accident prone?	4 (2.5)	153 (97.5)	157*
Is ADHD a lifelong condition?	135 (86.5)	21 (13.5)	156*
Are they prone to immoral behavior?	97 (62.2)	59 (37.8)	156*
Are they prone to depression	80 (51.3)	76 (48.7)	156*
Are they impatient and less tolerant?	29 (18.4)	129 (81.6)	158
Is it due to parental punishment?	82 (52.9)	73 (47.1)	155*
What is their IQ level in comparison to others?	69 (45.1)	84 (54.9)	153*
Do they have conflict with other classmates?	15 (9.5)	143 (90.5)	158
Do they have learning difficulties?	56 (35.7)	101 (64.3)	157*
Do they have more family problems?	30 (19.2)	126 (80.8)	156*
Is it treated with medication?	112 (74.2)	39 (25.8)	151*
Is it a result of addition of sugar in food?	75 (48.4)	80 (51.6)	155*
Is it a result of medication?	126 (79.7)	32 (20.3)	158

*Missing data

One hundred teachers (67.1%) agreed that ADHD students need special education. One hundred fourteen (76.5%) thought that they need a psychiatrist. Forty-six (30.9%) believed that they should be punished differently. Teachers' knowledge and attitude towards ADHD students is shown in table 3.

Table 3: Teachers' Knowledge and Attitude towards ADHD Students

Attitude	False	True	Total
	Number (Percentage)		
Do they need special education?	49 (32.9)	100 (67.1)	149*
Do they need specialized schools?	61 (41.5)	86 (58.5)	147*
Do they need a psychiatrist?	35 (23.5)	114 (76.5)	149*
Do they need a specialized teacher?	39 (26)	111 (74)	150*
Do they need special care?	1 (0.6)	153 (99.4)	154*
Do they need to be punished similar to others?	103 (69.1)	46 (30.9)	149*
Should teachers know that they have an ADHD student in their classroom?	5 (3.2)	153 (96.8)	158
Should other students know about the ADHD student?	128 (81)	30 (19)	158
Do they need less homework than other children?	93 (58.9)	65 (41.1)	158
Should they be examined orally?	103 (66)	53 (34)	156*

*Missing data

DISCUSSION

Our study showed that the knowledge of male and female teachers of ADHD was marginal. Some teachers were not aware that these students need special educational techniques and care.

The lack of knowledge could have affected the performance and future career of ADHD students. Neither the level of education nor the years of experience for teachers affected such knowledge. Our study showed that 74.2% of teachers were unaware that ADHD is treatable by medication, similar studies showed 18% in Israeli (occupied Palestine) and 62.2% in Iranian teachers^{2,5}. These findings reflect the fact that teachers in Bahrain have limited knowledge of

ADHD. This might be due to a deficiency in their study program and that increased awareness could benefit ADHD students and could also decrease teachers' stress.

The majority of teachers knew that ADHD students need special care. Only 30.9% of teachers thought that ADHD students should be punished similar to others, in the Iranian study the rate was 39.1%.

ADHD students are unable to attend lessons for a long time; therefore, they will be wrongly punished, which in turn might affect the ADHD students' performance at school.

Only 41.1% believed that ADHD students need less homework than others, this rate was similar to the rate in the Iranian study. Thirty-four percent thought that ADHD students should be examined orally; this reflects teachers' ignorance towards the right way of teaching ADHD students. This adversely affects those students' evaluation.

There was a significant relationship between knowledge and attitude (p-value 0.000) of teachers which indicates that those teachers who know more about ADHD might deal in proper manner towards these students.

In our study, the associations of ADHD students with a variety of environmental risks including prenatal and perinatal obstetric complications, low birth weight, prenatal exposure to benzodiazepines, alcohol, or nicotine, brain diseases and injuries were not discussed⁶⁻¹¹.

Other factors which are considered to have etiological importance include reactions to food, exposure to toxic levels of lead and institutional rearing¹²⁻¹⁵. Unfortunately, these were not researched in our study; however, it would be interesting to include these factors in a future study.

CONCLUSION

This study indicates that the educational system does not pay enough attention to ADHD students. It also shows that teachers have not been adequately prepared to deal with such cases.

The main source of teachers' knowledge about ADHD was from magazines and newspapers and not from courses and seminars.

The Ministry of Health and the Ministry of Education should arrange workshops and courses directed towards teachers to help them identify and deal with such students.

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