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Original Research Article

Knowledge and attitude concerning Autism Spectrum Disorder (ASD) among Taif Medical College students Kingdom of Saudi Arabia

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ABSTRACT

Background: To Assess the knowledge about childhood ASD among second and sixth year medical students in Taif medical college KSA.
Methods: The cross-sectional descriptive study was conducted in medical college - Taif City, KSA-from September to December 2016. All students of second and sixth year present at time of data collection were included in our study. Data collection was done by Knowledge About Childhood Autism Among Health Worker questionnaire from second and sixth year medical students. Data was analyzed using SPSS 20.
Results: Second year (Group A) out of 163 students who completed the study 88 (54.0%) males, and 75 (46.0%) females, regarding sixth year (Group B) total respondents were 84 students 44 (52.4%) males and 40 (47.6%). The mean score of questionnaire assessing knowledge for group B was (8.99±1.91) which was statistically significant higher than group A (6.44±2.24) p=<0.001*. Also the attitude score for group B (3.92±0.97) was statistically significant higher than group A (3.29±1.33) p=<0.001*. Moreover, there was a significant correlation between total overall knowledge and attitude of our study sample p= <0.001*
Conclusions: Medical students curriculum should include information about ASD allowing them better screening, early diagnosis, thus better prognosis.

Keywords: ASD, Attitude, Children, College students, Knowledge

INTRODUCTION

American Psychiatric Association (DSM-IV-TR) 2000 defined Autism or autistic spectrum disorder (ASD) as a pervasive developmental disorder (PDD), characterized by social interaction impairments, communication deficits, and restricted or repetitive behaviors. Pervasive developmental disorder (PDD) refers to a group of conditions that include autistic disorder, Rett's disorder, Asperger's disorder, as well as a group of other related conditions.[1] Autism symptoms are highly heterogeneous and can range from severe impairment to mild delay.[2] The condition is usually diagnosed by the age of 3 and is more prevalence in males than females, in a ratio of 4:1.[3]

There has been a reported worldwide increase in the apparent prevalence of autism and related autism spectrum disorders such an increase might be related to: increased awareness by both healthcare professionals and families of autistic children, and changes in diagnostic criteria. In gulf region studies were conducted in UAE Saudi Arabia, Oman and Bahrain. The study conducted in KSA documented patients' characteristics and reasons for referral for group of Saudi autistic patients, it concluded that consanguinity was present in 28.6% of Saudi patients, and behavioral problems such as hyperactivity or aggression were evident in 45% of patients.[4-9]

ASD can be detected in boys and girls when they are about 18 months old 1. Studies1011 found that early

intervention on children identified before age 2 improves prognosis. Therefore the participation of the health system in screening for cases of autism is highly important and leads to significant improvements in the quality of life of autistic individuals and of caregivers. Shah 12 2016 evaluated the level of awareness about childhood autism among 250 medical students attending St George medical school London, he suggested that more emphasis needs to be placed on teaching medical students about autism if diagnosis and access to intervention are to be improved.

In KSA, child psychiatric services are still in their infancy. There are no formal referral pathways to psychiatric centers for children. The diagnosis and treatment of Autism occurs in an un organized system. Most of health professionals have little or no formal training in child and adolescent psychiatry. So, appreciating the importance of early recognition and intervention for children with autism with regards to better prognosis, 10 the hope will be put on medical students, who will be a part of multidisciplinary healthcare teams, and responsible for the initial assessments and treatment of children with autism. To date, no research has been published from KSA regarding the previous mentioned issues. There-fore, the present study seeks to address the knowledge and attitude of Taif medical students regarding ASD.

METHODS

The aim of the study was

- To assess Taif medical college -males and females- students' knowledge and attitude about ASD.
- To compare between the knowledge and attitude of medical college students in second and sixth grade.

This was a cross-sectional study conducted among second and sixth year medical students attending Taif Medical college.

After obtaining permission from the institutional ethics committee, we selected second year students, as an example of starting medical years, and sixth year students who will be graduated soon, giving us a chance to compare between students in both grades in relation to their knowledge and attitude about ASD. In relation to number of students, there were total 55 female students and 75 male students enrolled in sixth year, while there were approximately 100 male and 100 female students enrolled in second year.

Data was collected before the scheduled session in class-room and all the 2nd and 6th year medical students present at time of data collection were included in the study. Those who were either absent or did not give consent were excluded. Data was collected through a self- administered and structured questionnaire which was divided into three parts.

Part 1: Questionnaire

Questions 1, 2, 3 to assess students general knowledge about ASD and its source

Part 2: Questionnaire

The Autism Knowledge Questionnaire (AKQ) (13), contains 17 items proposed to measure one's knowledge of Autism. The questionnaire was divided into four domains, each one assess and measure knowledge about the following

- Domain 1: Etiology of ASD (questions 4, 5, 6, 7)
- Domain 2: Characteristic clinical features of ASD (questions 8, 9, 10, 11, 12)
- Domain 3: Way of ASD diagnosis (questions 13,14,15)
- Domain 4: Management of ASD (questions 16,17)

Knowledge items were adapted from Stone (14), Shah (12), and Furnham and Buck (15). The questions (1,5,8) in this section the student had to choose from 3 optional answers while the rest of questions were presented as True/ False/ Don't Know statements.

Part 3: Questionnaire

Five statements assessing attitude of students towards care, education, and advocacy for autistic children. The questions in this section were presented as True/False statements

Data analysis procedure

After completion, the questionnaires were collected immediately from the respondents to avoid any discussion with colleagues. The data was analyzed by using SPSS Version (16). For the purpose of analysis we divided sample in two groups

Second year students (group A)

Sixth year students (group B)

For all purposes, p-value of <0.05 was considered statistically significant.

RESULTS

Regarding Second year (Group A) their mean age was (19.89±1.31), total respondents were 163 students (81.5%), of which 88 (54.0%) males, and 75 (46.0%) females Figure 1. While concerning (group B) their mean (23.10±1.49), total respondents were 84 students (64.6%) of which 44 (52.4%) males and 40 (47.6%) female Figure 2.

Figure 1: The male to female student percentage of (group A).

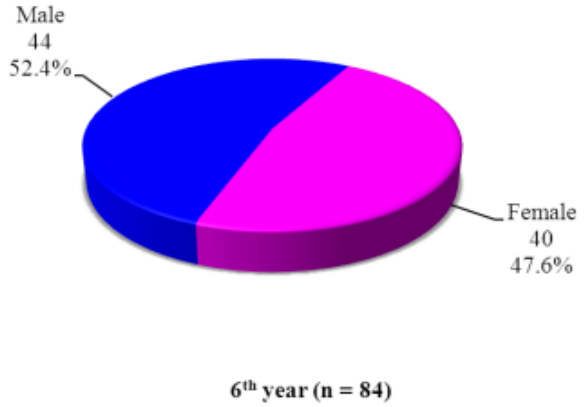

Figure 2: The male to female student percentage of (group B).

Figure 3 and 4 shows that total 75 (89.3%) students from group B versus only 98 (60.1%) from group A had previous knowledge on childhood autism, this difference was statistically significant. It is worth mentioning that for group B the majority of students (77.3%) stated that their source of knowledge was their fifth-year pediatric curriculum, while for group A their source of knowledge was the media. Regarding both groups A and B, only (19.6%, 10.7%) respectively attended an autism campaign, and the majority in each group nearly (54%) stated that they did not see a child with autism.

Table 1: Comparison between the two studied groups according to total overall.

Knowledge question	2nd year (n = 163)	6th year (n = 84)	p
Total Overall			
Mean±SD	6.44 ±2.24	8.99±1.91	<0.001*
Median (Min.-Max.)	6.0(2.0-12.0)	9.0(4.0-13.0)	

Abnormally distributed data was expressed using Median (Min.-Max.) and was compared using Mann Whitney test*: Statistically significant at p ≤0.05

In Table 1, the total mean score of knowledge for B was (8.99±1.91) which was significantly higher than that of group A (6.44±2.24) p= 0.001*.

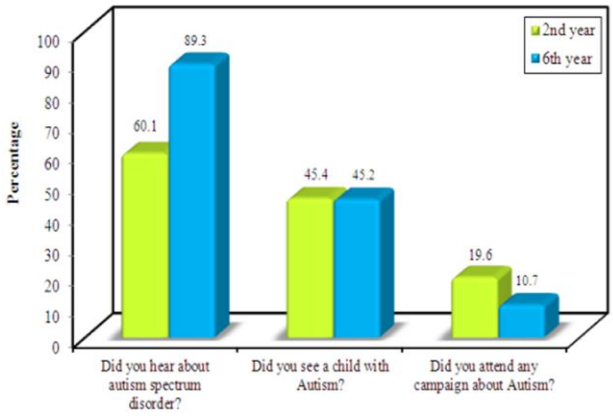

Figure 3: Comparison between students in group A (2nd year) and B (6th year) in relation to their general knowledge about ASD.

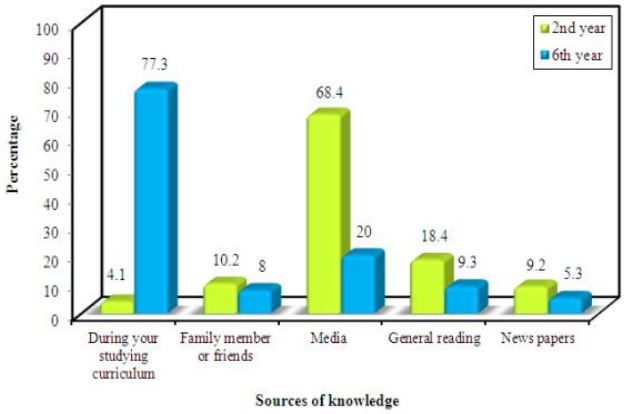

Figure 4: Comparison between students in group A (2nd year) and B (6th year) in relation to their source of knowledge about ASD.

Regarding Table 2 we can find that the first group of questions assessing the knowledge of students regarding ASD etiology (Domain 1), the mean scores for group A was (1.86±0.97) versus (2.58 ± 0.88) for group B, this difference was statistically significant (p=0.001*). While (Domain 2) assessing the knowledge of students regarding ASD Characteristic features, the mean scores for group A was (2.66±1.07) versus (3.36±0.93) for group B, this difference was statistically significant (p=0.001*). Moreover (Domain 3) assessing the knowledge of students regarding diagnosis of ASD the mean scores for group A was (0.97±0.80) versus (1.63±0.83) for group B, this difference was statistically significant (p=0.001*). Lastly for (Domain 4) assessing the knowledge of students regarding management of cases of ASD mean scores for group A was (0.96±0.83) versus (1.42±0.70) for group B, this difference was statistically significant (p=0.001*).

Table 2: Comparison between the two studied groups according to Knowledge Domain.

Knowledge Domains	2nd year (n = 163)	6th year (n = 84)	p
Domain 1 Etiology			
Mean±SD	1.86±0.97	2.58±0.88	<0.001*
Median (Min.–Max.)	2.0(0.0-4.0)	3.0(0.0-4.0)	
Domain 2 Clinical features			
Mean±SD	2.66±1.07	3.36±0.93	<0.001*
Median (Min.-Max.)	2.0(0.0-5.0)	3.0(1.0-5.0)	
Domain 3 Way of diagnosis			
Mean±SD	0.97±0.80	1.63±0.83	<0.001*
Median (Min.-Max.)	1.0(0.0-3.0)	2.0(0.0-3.0)	
Domain 4 Management			
Mean±SD	0.96±0.83	1.42±0.70	<0.001*
Median (Min.-Max.)	1.0(0.0-2.0)	2.0(0.0-2.0)	

Table 3: Comparison between the two studied groups according to their attitude towards ASD.

Attitude	2nd year (n = 163)	6th year (n = 84)	p
Autistic children should not be integrated into main stream school?			
No	67(41.1%)	39(46.4%)	0.423
Yes	96(58.9%)	45(53.6%)	
Do you think there is discrimination in society against autistic children in Saudi Arabia?			
No	67(41.1%)	21(25.0%)	0.012*
Yes	96(58.9%)	63(75.0%)	
Will you permit your son or daughter to play with a child having autism?			
No	56(34.4%)	14(16.7%)	0.003*
Yes	107(65.6%)	70(83.3%)	
Government should allocate more resources for the provision of services for children with autism?			
No	48(29.4%)	12(14.3%)	0.008*
Yes	115(70.6%)	72(85.7%)	
More campaigns and Workshop should be done to increase knowledge of the community about autism?			
No	41(25.2%)	5(6.0%)	<0.001*
Yes	122(74.8%)	79(94.0%)	
Total Attitude			
Mean±SD	3.29±1.33	3.92±0.97	<0.001*
Median (Min.-Max.)	4.0(0.0-5.0)	4.0 (0.0-5.0)	

Qualitative data were described using number and percent and was compared using Chi square test.
Abnormally distributed data was expressed using Median (Min. – Max.) and was compared using Mann Whitney test
*: Statistically significant at $p \leq 0.05$

As for attitude, total mean attitude for group B was (3.92±0.97), was statistically significantly higher than (group A) (3.29±1.33) (Table 3). Meanwhile in Table 4, there was a significant correlation between overall knowledge and attitude of our study sample.

Table 4: Correlation between Student knowledge and attitude concerning ASD.

	Attitude	
	r	p
Etiology	0.208*	0.001*
Clinical features	0.260*	<0.001*
Diagnosis	0.041	0.525
Management	0.190*	0.003*
Total Overall Knowledge	0.277*	<0.001*

r: Pearson coefficient
*: Statistically significant at $p \leq 0.05$

DISCUSSION

Whereas there is increasing worldwide awareness and research on childhood autism, after a thorough literature search we found only two studies done in Jeddah city K SA assessing knowledge and attitude about ASD.[17] First targeted general population, and the second targeted primary school teachers.[18,19] To our knowledge no study was done locally assessing same target among medical students.

Recent evidence that the prevalence of diagnosed ASD may be increasing and that early diagnosis and intervention are likely associated with better long-term outcomes has made it imperative that medical students should increase their fund of knowledge regarding the disorder.[20,21]

This study showed that among group B (sixth year students) about 90% stated that they heard about ASD, versus only 60% in group A (second year students). The source of knowledge was different, concerning the majority of students in both groups, while for group B the knowledge was mainly from their study coarse, group A source of knowledge was from the media. To our surprise for both groups A and B the majority of students neither attended an autism campaign nor seen a case of ASD, which reflects defective public health education programs done concerning ASD.

Sixth year students (group B) had significantly better knowledge regarding the etiology (domain 1), characteristic features (domain 2), diagnosis (domain 3) and management (domain 4) of ASD compared with second year students (group A). This showed clearly that better knowledge concerning (group B), was secondary to their previous awareness about ASD during their fifth year pediatric curriculum.

Two other studies targeted our aim , first one done among medical students from private and public universities in

Karachi, and the other one done among final year undergraduate medical students in Nigeria.[22,23] Both studies concluded that poor knowledge about childhood autism among medical students was attributed to less numbers of lectures and hours posted on ASD, and strongly recommend that education on pervasive developmental disorders should become a part of five-year medical curriculum of MBBS.

In regards to etiology questionnaires (domain 1) asking about the nature of ASD, 100 (61.3%) of group A students versus only 14 (16.7%) in group B stated that they didn't know. However, concerning the questionnaire related to characteristic features of ASD (Domain 2), since the majority of students in both groups stated that they did not see a case with ASD, it was not surprising to find that the majority of students in both groups answered the questions related to type of play and activities characteristic to ASD incorrectly. This highlights the point that taking the theoretical course in fifth year for group B students or information from media by A students, both were not sufficient for satisfactory knowledge concerning clinical features of ASD. As for way of diagnosis and management of ASD (Domain 3, Domain 4), the majority of students in group A stated that they did not know the age of ASD diagnosis nor its correct management. It is worth mentioning that this points to the limited effect of media on knowledge concerning ASD.

Compared to students of group A, group B students-owing to their better knowledge- they had significantly a positive attitude towards ASD children. But surprisingly, the majority of students in both groups stated that ASD children should not be integrated in main school stream As autistic child is an important part of our society and has the right to enjoy all resources of a society in an effective way, more public awareness is needed about the rights and interests of children with childhood autism and other developmental disorders.

In the light of this study, we can conclude that although fifth year pediatric curriculum included only two lectures concerning child mental health disorders, it significantly affected students' knowledge. We recommend that part of their training, medical students, should be provided with sufficient clinical experience to allow them getting confronted with cases of ASD. This will be a tool helping them, once qualified, they will have better screening for ASD, early diagnosis, and thus better prognosis. Documented by the study done in Jeddah KSA, in order to bridge the knowledge gap, it is imperative to increase public awareness about ASD.[18] Several educational awareness programs, seminars, and campaigns are required to build an autism friendly society. Moreover we need to concentrate on health educational campaigns targeting to increase knowledge about ASD in general, specifying their rights to be integrated in main school stream, built a society more empathetic and responsible towards ASD patients thus helping them to live an wholesome life.

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