ORIGINAL ARTICLE

A study exploring the autism awareness of first grade nursing and medical students in Istanbul, Turkey

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Abstract

Objective: To assess the level of awareness about childhood autism among first-grade nursing and medical students.

Methods: The descriptive study was conducted at Marmara University, Istanbul, Turkey, in December 2012, and comprised first-grade nursing and medical students. Data was collected using a self-administered questionnaire. Association between categorical variables was determined and $p<0.05$ was considered statistically significant.

Results: Of the 175 students, 138(78.9%) were aware of autism, 14(8%) of them being highly aware and 124(70.9%) moderately aware, whereas 37(21.1%) were not aware. There was a significant difference in the awareness level as far as gender was concerned as 102(82.9%) females and 36(69.2%) males were aware ($p=0.043$). Moreover, 104(59.4%) participants were aware that autism was a neurodevelopmental disorder, 62(67.4%) of them being nursing and 42(50.6%) being medical students ($p<0.05$).

Conclusion: First-grade medical and nursing students could be considered relatively well aware of autism as their awareness level was in between that of the general public and healthcare professionals.

Keywords: Autism, Awareness, Nursing students, Medical students. (JPMA 66: 916; 2016)

Introduction

Autism disorder (AD) was first described in 1943 by American child psychologist Leo Kanner.[1] He presented 11 children whose behaviours were obviously different from others.[1] Kanner suspected that they had an inborn feature which had prevented their regular social contacts.[1] AD is sometimes referred to as early infantile autism, childhood or Kanner's autism.[1]

Autism is a life-long neurodevelopmental condition interfering with the person's ability to communicate and relate to others.[2] It appears to be one of the fastest-growing disabilities in children.[3] Prevalence rates have been rising sharply and are estimated to be 1:88, and 1 in 50 amongst children.[4]

To date, there are no known medical cure and researches to identify the real cause(s) of autism.[5] However, early diagnosis of an autism spectrum disorder (ASD) is important because evidence suggests that interventions to improve functioning may be more effective in younger children and optimise long-term prognosis.[3] Not all children with autism are mentally incapable; some of them could be smarter than normal children.[5] However, in many cases, autistic children end up having behavioural problems.[5] Some of the characteristics among the autistic children can present severe problems for parents.[5] Study on public awareness towards children with autism is essential in decreasing discrimination and stigmatisation and create a sense of responsibility among citizens on autistic children and families.[5]

Adequate knowledge and awareness about childhood autism among healthcare workers (HCWs) would ensure early diagnosis of autism AC in the community and this in turn allows early interventions.[6]

Whether the HCW concerned provides further information necessary to care-givers about autism or not has a great impact on the overall prognosis in children with ASD.[6]

Medical students, who will be a part of multidisciplinary healthcare teams, are responsible for the initial assessments and treatment of children with autism.[7]

Paediatric and psychiatric nurses as members of multidisciplinary teams that care for autistic children are expected to provide holistic care and adequate counselling to the families of these children.[8] Undergraduate final year medical, nursing and psychology students after their training will become members of such multidisciplinary teams.[9]

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Carefully-designed curricula can influence the attitudes of nursing students towards children with disabilities.[10]

In a study carried out by Dillenburger,[11] 18-24 year-olds were found to be more knowledgeable about autism prevalence than people aged 55 and over.[11]

The current study was planned to assess the awareness of childhood autism among nursing and medical students.

Subjects and Methods

The descriptive study was conducted at Marmara University, Istanbul, Turkey, in December 2012, and comprised first-grade nursing and medical students. Data was collected through a self-administered questionnaire distributed among students in the classroom. These students had neither attended any lecture on ASDs before nor had been exposed to clinical wards.

Questions about "autism awareness" were prepared referring to Knowledge about Childhood Autism among Health Workers (KCAHWC)",[6,7,9] and to two other studies.[12,13]

"Autism awareness" was calculated with a maximum score of 19 and a minimum score of zero, and the awareness level was categorised as follows: score 15-19 'high'; 8-14 'moderate'; and 0-7 'not aware'.

The participants had 'yes', 'no', and 'don't know' choices. Association between categorical variables was determined through chi-square test. P<0.05 was considered statistically significant.

Results

Of the 247 students, 175(71%) gave consent to take part in the study. Of them, 92(53%) were nursing and 83(47%) were medical students. Moreover, 44(53%) among the medical students and 79(85.9%) among the nursing students were girls (p=0.00).

Overall mean age was 18.86±0.969 years (range: 17-23 years), while those of medical and nursing students separately were 19.07±0.934 years and 18.66±0.964 years, respectively.

Of the respondents, 138(78.9%) were aware, while 37(21.1%) were likely to be unaware of autism. Of the former, 14(8%) were highly aware, while 124(70.9%) were moderately aware. There was a significant difference in the awareness level as far as gender was concerned. A total of 102(82.9%) girls and 36(69.2%) boys were aware of autism (p=0.043) (Table-1).

Among the medical and nursing students, 20(24.1%) and 17(18.5%) were unaware (p=0.363).

As far as participants' mothers were concerned, 31(17.7%) had graduated from college, 59(33.7%) from secondary or high-school, and 85(48.6%) from primary school (p=0.086).

Of the fathers, 60(34.3%) had graduated from college, 73(41.7%) from secondary or high-school, and 42(24.0%) from primary school (p=0.626).

Among all the respondents, 21(12.0%) reported Istanbul as their hometown while 154(88%) hailed from other regions of Turkey (p=0.750).

Of all the subjects, 81(46.3%) accepted that "Autism is a socio-emotional developmental disorder". However, there was a significant difference among the two groups on this account as 49(53.3%) nursing students agreed with the statement compared to 32(38.6%) medical students (p=0.051) who did not.

Of the 104(59.4%) respondents who were aware that autism is a neurodevelopmental disorder (NDD), 62(67.4%) were nursing and 42(50.6%) were medical students (p<0.05).

Furthermore, 103(83.7%) of the girls and 37(71.2%) of the boys agreed to the statement that "A child with autism is unable to build up friendship with his/her peers" (p=0.057) (Table-2).

The most known characteristics of autism among the participants was "Impairment in non-verbal behaviours such as eye contact, facial impressions, gestures, postures and body languages" as 159(86.9%) responded correctly, followed by "Repetitive and stereotypical behaviours",

Table-1: Autism awareness of the students according to sex.

Sex	Awareness				Total	
	Aware		Not aware			
	Number	%	Number	%	Number	%
Female	102	84.9	21	17.1	123	100.0
Male	36	69.2	16	30.8	52	100.0
Total	138	78.9	37	21.1	175	100.0

x^2=4.112 (p=0.043).

Table-2: Autism awareness items of respondents according to sex and school.

Awareness items		Yes		No/I do not know		Total		Chi-square,
		Number	%	Number	%	Number	%	Significance
Autism is a socio-emotional developmental disorder.	Female	54	43.9	69	56.1	123	100	x^2=0.946
	Male	27	51.9	25	48.1	52	100	p=0.331
	Total	81	46.3	94	53.7	175	100	
	Nursing school	49	53.3	43	46.7	92	100	x^2=3.796
	Medical school	32	38.6	51	61.4	83	100	p=0.051*
	Total	81	46.3	94	53.7	175	100	
Autism is a neuro-developmental disorder.	Female	75	61	48	39	123	100	x^2=0.41
	Male	29	55.8	23	44.1	52	100	p=0.522
	Total	104	59.4	71	40.6	175	100	
	Nursing school	62	67.4	30	32.6	92	100	x^2=5.101
	Medical school	42	50.6	41	49.4	83	100	p=0.024
	Total	104	59.4	71	40.6	175	100	
Autism is impairment of non-verbal behaviors such as eye contact, facial impressions, gestures, postures and body languages	Female	110	89.4	13	10.6	123	100	x^2=2.402
	Male	42	80.8	10	19.2	52	100	p=0.098
	Total	152	86.9	23	13.1	175	100	
	Nursing school	80	87	12	13	92	100	x^2=0.002
	Medical school	72	86.7	11	13.3	83	100	p=0.571
	Total	152	86.9	23	13.1	175	100	
Autism is repetitive and stereotypical behaviors	Female	110	89.4	13	10.6	123	100	x^2=2.402
	Male	42	80.8	10	19.2	52	100	p=0.098
	Total	140	80	35	20	175	100	
	Nursing school	67	72.8	25	27.2	92	100	x^2=3.11
	Medical school	50	60.2	33	39.8	83	100	p=0.054
	Total	117	66.9	58	33.1	175	100	
Autism is staring blankly without concentration to a specific object	Female	78	63.4	45	36.6	123	100	x^2=0.899
	Male	29	55.8	23	44.2	52	100	p=0.218
	Total	107	61.1	68	38.9	175	100	
	Nursing school	54	58.7	38	41.3	92	100	x^2=0.489
	Medical school	53	63.9	30	36.1	83	100	p=0.293
	Total	107	61.1	68	38.9	175	100	
Autism is deaf and dummy appearance	Female	70	56.9	53	43.1	123	100	x^2=0.899
	Male	29	55.8	23	44.2	52	100	p=0.218
	Total	99	56.6	76	43.4	175	100	
	Nursing school	54	58.7	38	41.3	92	100	x^2=0.551
	Medical school	45	54.2	38	45.8	83	100	p=0.328
	Total	99	56.6	76	43.4	175	100	
Autism is performing routine activities	Female	66	53.7	57	46.3	123	100	x^2=0.798
	Male	29	55.8	23	44.2	52	100	p=0.565
	Total	95	54.3	80	45.7	175	100	
	Nursing school	47	51.1	45	48.9	92	100	x^2=0.800
	Medical school	48	57.8	35	42.2	83	100	p=0.229
	Total	95	54.3	80	45.7	175	100	
Autism is inattentive to the outside world	Female	64	52	59	48	123	100	x^2=0.651
	Male	29	55.8	23	44.2	52	100	p=0.388
	Total	93	53.1	82	46.9	175	100	
	Nursing school	46	50	46	50	92	100	x^2=0.380
	Medical school	47	56.6	36	43.4	83	100	p=0.234
	Total	93	53.1	82	46.9	175	100	
Autism is abnormal eating habit	Female	63	51.2	60	48.8	123	100	x^2=0.281
	Male	22	42.3	30	57.7	52	100	p=0.181

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	Total	85	48.6	90	51.4	175	100	
	Nursing school	50	54.3	42	45.7	92	100	x^2=2.592
	Medical school	35	42.2	48	57.8	83	100	p=0.072
	Total	85	48.6	90	51.4	175	100	
Autism is non-sharing interesting or certain activities spontaneously	Female	55	44.7	68	55.3	123	100	x^2=0.597
	Male	21	40.4	31	59.6	52	100	p=0.360
	Total	76	43.4	99	56.5	175	100	
	Nursing school	41	44.6	51	55.4	92	100	x^2=0.749
	Medical school	35	42.2	48	57.8	83	100	p=0.434
	Total	76	43.4	99	56.6	175	100	
Autism is not having social smiling ability	Female	41	33.3	82	66.7	123	100	x^2=0.279
	Male	18	34.6	34	65.4	52	100	p=0.388
	Total	59	33.7	116	66.3	175	100	
	Nursing school	30	32.6	62	67.4	92	100	x^2=0.870
	Medical school	29	34.9	54	65.1	83	100	p=0.501
	Total	59	33.7	116	66.3	175	100	

*almost significant, +significant p<0.05.

Table-3: Specific characteristics of autism and the percentage of correct responses.

Specific characteristics of autism*	Percentage of correct responses
1. Impairment of non-verbal behaviors such as eye contact, facial impressions, gestures, postures and body languages	86.9
2. Repetitive and stereotypical behaviors	66.9
3. Staring blankly without concentration to a specific object	61.1
4. Deaf and dummy appearance	56.6
5. Performing routine activities	54.3
6. Unattentive to the outside world	53.1
7. Abnormal eating habit	48.6
8. Non-sharing interesting or certain activities spontaneously	43.4
9. Not having social smiling ability	33.7

*There was no statistically significant difference in the percentage of correct responses to the specific characteristics of autism among the respondents based on sex or school (p<0.05).

117(66.9%). On the other hand, the least known characteristic of autism was "Not having social smiling ability" as only 59(33.7%) responded correctly to the statement. Awareness level on other characteristics was: "Staring blankly without concentration to a specific object", 107(61.1%); "Deaf and dummy appearance", 99(56.6%); "Performing routine activities", 95(54.3%); "Inattentive to the outside world", 93(53.1%); "Abnormal eating habit", 85(48.6%); and "Non-sharing interesting or certain activities spontaneously", 76(43.4%) (Table-3).

Discussion

The majority of the participants, 138(78.9%), were found to be aware of autism, 14(8%) of them being highly aware, while 37(21.1%) were not aware.

However, a Nigerian study found that there was low level of knowledge among HCW and the general public.[9] A Northern Ireland study found that 80% of the general population was seen to be aware of autism,[11] which was similar to our study. This can be considered as a high level of autism awareness in a community.[11] Another study in France showed similar results.[11] A Malaysian study reported that while a high percentage (76.7%) of the respondents in the general public were familiar with the word of autism, they did not know the specific characteristics of children with autism.[5]

In the study carried out in France, fewer than 70% of the respondents could report the specific characteristics of autism.[14]

In our study, most of the specific characteristics of autism could be understood by around half of the respondents, except "Failure to develop friendship" and "Impairment of nonverbal behaviours like eye-contact, facial impressions, gestures etc.", which were understood by the majority. "Making friends" being a challenging issue for autistic children was also admitted by their parents in Dillenburger's study.[11] In a UK study, teachers who were

without knowledge of autism reported to perceive children with autism as vulnerable, dependent and uncooperative.[15]

A London study found that children with autism actually sought friendships with others, but did not have the skills to maintain them.[15]

Similar to our study, in another study, difficulty maintaining relationships, deficits in nonverbal communication and lack of eye contact were reported as important features for the diagnosis of autism.[3]

Resembling the findings of our study, in a Turkish study carried out among elementary school teachers, around half of the respondents stated that children with autism have difficulty maintaining eye contact.[16]

In our study the characteristic of "Failure to develop friendship" was found to be almost significantly (p= 0.057) higher in girls (83.7%) compared to boys (71.2%). Similarly, different studies conducted in Karachi,[7] Northern Ireland[11] and Malaysia[5] found that girls were more aware of autism than boys.

In a study carried out by Matziou et al., girls were found to hold significantly more positive attitudes towards children with disabilities than boys[10] which helped increase awareness.

Among all participants of our study, 81(46.3%) students agreed that "Autism is a socio-emotional developmental disorder". This percentage was 53% in nursing and 38.6% in medical students (p=0.051).

The most striking shift has been the move from seeing autism as a condition involving social and emotional withdrawal to a view of autism as a disorder of development involving severe cognitive deficits by the authorities.[7]

Similar to our study, a majority of medical students in a Karachi study defined autism as a pervasive developmental disorder that affects children's social, communication and behavioural development.[7] However, the total mean score was reported to be low, reflecting deficit in knowledge, education and awareness of autism.[7]

The general public characterising autism as a social or behavioural problem in Dillenburger's study[11] and the elementary school teachers characterising it as a social communication problem in Durand's study[14] resembled the findings of our study.

In our study, 104(59.4%) respondents were aware that autism was also an NDD.

ASD is in fact an NDD that is associated with deficits in social interaction and communication with restricted and repetitive behaviours.[3] A study reported similar percentages to our study as their respondents believed autism to be a brain disorder, and not mental illness.[11]

In our country, nursing schools normally admit students from high schools of health sciences, whereas medical schools admit students from general high schools. This could explain nursing students' higher awareness of autism.

By contrast, medical students in a Nigeria study were found to be equipped with relatively more knowledge about childhood autism than nursing students.[9]

This was attributed to longer exposure to paediatrics of the medical students.[9] However in our study, neither medical nor nursing students had attended paediatrics.

In our study group, "repetitive and stereotypical behaviours" were also found to be among the well-known (66.9%) characteristics of autism. Similar findings were reported by other studies.[3,6,16]

However, limitations of this study included the fact that we did not ask about the contact level with someone having autism, source of their information, misperceptions, myths or cultural beliefs about autism, and also the strengths of autism like being honest, loving and perfectionist and having special talents in arts, music, math, good memory, etc.

Conclusion

Autism awareness among first-year medical and nursing students could be considered relatively good, and they could be interpreted as a group of people in between the general public and health professionals. However, against the backdrop of rising prevalence of autism, more studies could be carried out and ASDs could be integrated into the curricular or extracurricular courses of both nursing and medical students to take autism awareness a step further.

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