The awareness of childhood autism among residents of neuropsychiatric and other disciplines of a research and training hospital in Istanbul, Turkey

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Abstract

Objective: To assess the awareness of childhood autism among physicians undergoing residency training in various disciplines.

Methods: This cross-sectional study was conducted at a research and training hospital in Istanbul, Turkey, in February 2013 and comprised physicians undergoing residency training in various disciplines. Data was collected through a self-administered questionnaire. Questions about "awareness on autism" were prepared in the light of "Knowledge about Childhood Autism among Health Workers questionnaire.

Results: Of the 128 physicians, 122(95.3%) were aware that the most known characteristic of childhood autism was "failure to build-up friendship". All of the 29(22.66%) physicians at the neuropsychiatric disciplines were aware that "autism can be a genetic disorder", whereas, in other disciplines 69(69.7) physicians had that awareness. Besides, 15(51.7%) of the residents of the neuropsychiatric disciplines thought that "autism can be associated with childhood epilepsy", while 32(32.3%) physicians of other disciplines gave a similar answer (p=0.057).

Conclusion: The awareness on childhood autism of residents belonging to the non- neuropsychiatric disciplines was moderate.

Keywords: Awareness, Childhood autism, Physicians, Residents. (JPMA 68: 247; 2018)

Introduction

Autism disorder was first described in 1943 by the American child psychologist Kanner[1] who suspected that these children had an inborn feature which had prevented their regular social contacts.[1]

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

To date, it is still reported that there is no known medical cure of autism.[5] However, early diagnosis of an autism spectrum disorder is important because evidence suggests that interventions to improve functioning may be more effective in younger children and optimise long-term prognosis.[3]

Adequate knowledge and awareness about childhood autism among healthcare workers can ensure early diagnosis in the community and may lead to early interventions.[6] However, autism is often not diagnosed until the age of 3-4 years and healthcare providers may lack training to offer parents evidence-based treatment recommendations;[7] this in turn results in patients' turning to other sources of information that may not be actually so accurate, like, for instance, internet.[7]

The current study was planned to assess the awareness of childhood autism among physicians undergoing residency training.

Subjects and Methods

This cross-sectional study was conducted at a research and training hospital in Istanbul, Turkey, in February 2013, and comprised physicians undergoing residency training in various disciplines. Using Table of Random Samples participants were approached. If the selected participant did not give consent, the next participant who gave consent was included. The sample size was calculated using Epi Info 7.2.01. The prevalence value for the sample size calculation was taken as 50% and the sample size was determined with 0.05 type 1 error, 99% confidence interval, pattern effect 1. When determining the sample size needed for a given level of accuracy some books or guides suggest that if it is impossible to come up with a good estimate for prevalence, one may set P=0.5 to yield the maximum sample size.[8] Furthermore, it is also suggested that if there is doubt about the value of P, it is best to keep it

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towards 50% as it would lead to a larger sample size.[9]

The disciplines at the hospital were analysed in two categories; neuropsychiatric, and other disciplines. Neuropsychiatric disciplines included psychiatry; child and adolescent psychiatry; neurology; and child neurology. Other disciplines included paediatrics; family medicine; public health; physical therapy and rehabilitation; dermatology; internal medicine; emergency medicine; obstetrics and gynaecology; ophthalmology; urology; otorhinolaryngology; general surgery; biochemistry; microbiology; and anatomy.

According to Hofvander et al., in individuals with autism spectrum disorders psychiatric and psychosocial problems might be expected to be seen.[10] According to Saltik et al. study, neurological disorders might accompany autism spectrum disorder in children. This reference is a local paper conducted in the city of Istanbul similar to our study. For this reason we thought that the autism awareness of residents of Neurology Discipline could be expected to be higher.[11]

In our study we could analyse the neurology and psychiatry disciplines separately; however, this was found not appropriate since participants in each discipline were small in number. Therefore this study combined the neurology and psychiatry disciplines together and compared them with the residents of other disciplines.

Data was collected through a self-administered questionnaire. Questions about "awareness on autism" were prepared in the light of Knowledge about Childhood Autism among Health Workers questionnaire and previous studies.[6,11-14] Questions included specific characteristics of autism. Each question had four choices: "Yes"; "Partially"; "No"; and "Don't Know".

Chi-square test and Fisher's chi-square test was applied for finding association between categorical variables. P<0.05 was taken as statistically significant.

Results

Of the 150 residents present, 128(85%) were included. Of them, 29(22.6%) belonged to neuropsychiatric disciplines and 99(77.3%) to other disciplines. There was no difference on account of age, gender and education (p<0.05).

Overall, 98(76.6%) respondents were aware that "Autism can be a genetic disorder" (Table-1).

According to 122(95.3%) physicians, the most known characteristic of childhood autism was "failure to build-up friendship". Besides, 120(93.6%) physicians stated that the characteristic of "liking to perform routine activities" was the second in order among children with autism. The characteristic of being "inattentive to outside world" was also very well known to 119(93%) respondents. A child with autism can have repetitive and stereotypical behaviours as a characteristic which is also indicated by 118(92.3%) of the respondents. Moreover, 110(86%) physicians thought that "autism is a neuro-developmental disorder". A child being severely affected by autism can sometimes stare blankly without concentration on a specific object. This characteristic was also well-known to 109(85.2%) respondents. Besides, 98(76.6%) respondents were aware that there can be a delay of ability to speak in children with autism, and even some of them can have no speech at all.

According to 111(86.7%) physicians, children with autism had the characteristic of "not sharing interesting or certain activities spontaneously" (Table-2). All the 29(100.0%) physicians working at neuropsychiatric disciplines were aware of this characteristic, while only 82(82.8%) of the other disciplines were aware of this characteristic (p=0.012).

Similarly neuropsychiatric residents were aware that

Table-1: The specific characteristic of autism and percentages of responses given by the participants.

Characteristics of autism[a]	Responses (%); n=128	
	"Yes" + "Partially"	"No" + "Don't Know"
Failure to build up friendship	95.3	4.7
They like to perform routine activities	93.6	6.4
Inattentive to outside world	93.0	7.0
Repetitive and stereotypical behaviours	92.3	7.7
Autism is a neurodevelopmental disorder	86.8	13.2
Staring blankly without concentration on a specific object	85.2	14.8
Delay of ability to speak or no speech at all	76.6	23.4

[a]The above-mentioned characteristics were not found to be statistically significantly distributed between neuropsychiatric and other disciplines (p>0.05).

Table-2: The specific characteristic of autism and the distribution of the responses according to disciplines.

Characteristic of autism	Responses	Disciplines				Total		Statistical significance
		Neuropsychiatrica (n=29)		Otherb (n=99)				
		N	%c	N	%c	n	%c	
Autism can be a genetic disorder	"Yes" and "Partially"	29	100	69	69.7	98	76.6	χ^2=9.851d
	"No" and "Don't Know"	0	0	30	30.3	30	23.4	p=0.0001e
Not-sharing interesting or certain activities spontaneously	"Yes" and "Partially"	29	100	82	82.8	111	86.7	χ^2=4.348d
	"No" and "Don't Know"	0	0	17	17.2	17	13.3	p=0.012e
Abnormal eating habits (e.g. smelling food, difficulty in chewing, eating only special food, overeating)	"Yes" and "Partially"	24	82.8	61	61.6	85	66.4	χ^2=4.494
	"No" and "Don't Know"	5	17.2	38	38.4	43	33.6	p=0.034
Autism can be associated with childhood epilepsy	"Yes" and "Partially"	15	51.7	32	32.3	47	36.7	χ^2=3.633
	"No" and "Don't Know"	14	48.3	67	67.7	81	63.3	p=0.057f

[a]Psychiatry; Child and Adolescent Psychiatry; Neurology; Pediatric Neurology

[b]Pediatrics; Family Medicine; Public Health; Physical Therapy and Rehabilitation; Dermatology; Internal Medicine; Emergency Medicine; Obstetrics and Gynecology; Ophtalmology; Otorhinolaryngology; Urology; General Surgery; Biochemistry; Microbiology; Anatomy

[c]Column percentage

[d]with continuity correction

[e]Fisher's exact test

[f]Almost significant.

"autism can be a genetic disorder", while in the other disciplines 69(69.7%) were aware of it (p=0.0001). "Abnormal eating habits" of children with autism were accepted by 24(82.8%) of neuropsychiatric residents and by 61(61.6%) of the other disciplines (p=0.034). The characteristic that "autism can be associated with childhood epilepsy" was also questioned, and 15(51.7%) of neuropsychiatric residents thought this could definitely or partially be a characteristic of childhood autism, while 32(32.3%) of the other disciplines gave the similar answer (p=0.057).

Discussion

The awareness of 128 physicians undergoing their residency training at several disciplines of a Research and Training Hospital in Istanbul, Turkey, about autism was assessed in this descriptive study.

The most known characteristic of childhood autism among residents was "failure to build up friendship".

"Making friends" being a challenging issue for the children having autism is also admitted by their parents in Dillenburger's study.[16]

In a review article reported by Gray,[17] the early features of autism were reported as "lack of interest in other children", "lack of seeking to share own environment", "failure to develop peer relations", "failure to join in activities of others", and "lack of social play".[17]

A London study reported that children with autism actually seek friendships with others, but they do not have the skills to maintain them.[18]

"Liking to perform routine activities" was among the very well-known characteristics of childhood autism among the residents. Stereotypical behaviours and repetitive routines such as verbal rituals, hand and finger mannerisms, whole body mannerisms, and unusual/repetitive attachments to objects were emphasised in a review article about childhood autism.[17] Other repetitive behaviours with objects are rocking/flipping, swiping, rolling, clutching and with the body are rubbing and stiffening.[19] However this adherence to rituals and routines, insistence on sameness, and distress over change in routines were reported to be more frequent in older children as compared to preschool-aged children.[17] This is important because the absence of adherence to repetitive routines does not necessarily exclude possibility of autism.[17,19] This issue must be very well emphasised in developing autism awareness in physicians. In a study carried out in Nigeria, repetitive pattern of behaviour indicated lack of knowledge about childhood autism in the health care workers.[6]

"Inattentive to outside world" was observed as a well-known characteristic of childhood autism in the residents who participated in our study. "Ignoring other people" was reported as one of the early identification of autism in second year of life.[19] "Reduced gaze to faces" was also reported in children with autism at 9-12

months of age in the same study.[19]

In a study carried out in US, specialists and primary healthcare providers were found to less likely endorse that children with autism share social attachments or affectionate behaviours to individuals around them.[20] In our study, majority of the residents were aware that there can be a delay of speaking in children with autism. Delay of speaking is reported to be one of the signs that first attracts the attention of the parents.[21] These children can sometimes never speak; they can use words in different meanings, they can misuse the pronouns, they can have echolalia, they cannot start or continue a conversation.[17,21]

These children have difficulty with not only verbal but also with nonverbal communication[17,19,21] such as lack of eye-contact, lack of gesture, lack of facial expression, lack of social responsiveness, dislikes social touch, no social smile.[17,19,21]

In the first contact professional study, difficulty maintaining relationships, deficits in nonverbal communication and lack of eye-contact were reported as important features for the diagnosis of autism.[3] Impairments in social interaction and symptoms of communication impairments indicated knowledge gap about childhood autism among the health care workers in Nigeria.[6] Deficits in nonverbal communication, difficulty in developing and maintaining relationships, and presence of speech delay presented with fewer percentages in potential the first-contact professional study[3] compared to the residents in our study.

The most striking shift has been reported being 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.[12]

Autism Spectrum Disorder is in fact a neuro-developmental disability that can be associated with deficits in social interaction, and communication with restricted and repetitive behaviours.[3]

In our study, too, the majority of the residents indicated that "autism is a neurodevelopmental disorder". Around 51.7% of the residents of the neuropsychiatric disciplines participating in our study stated that "autism can be associated with childhood epilepsy"; whereas only 32.3% of the residents of non- neuropsychiatric disciplines stated this characteristic (p= 0.057). In the first-contact professional study, the majority of the respondents were not aware that seizures occur more commonly among individuals with autism.[3]

Epilepsy is reported to be an important medical complication developing in individuals with autism.[22] Seizures may first begin in adolescence or adulthood,[22] therefore it may not be an early diagnostic feature in childhood.

All of the physicians undergoing residency training at the neuropsychiatric disciplines were aware that "autism can be a genetic disorder"; whereas other disciplines presenting as 70.8% in this item (p=0.0001). In autism, genetic factors are reported to play important causative roles.[23,24] Advanced parental age at the time of the conception, pre-conceptual exposure to mutagens such as mercury, cadmium, residence in urbanised regions, higher latitudes, Vitamin-D deficiency can be mutagens.[23,24]

In this study, autism can be interpreted as to show moderate level of knowledge and awareness in physicians undergoing residency training as compared to healthcare workers included in the Nigerian study.[13]

This can bring a limitation to our study as that we did not question the source of knowledge of the residents. If the residents could gain their knowledge during their training they would possibly be more aware of the up-to-date literature on childhood autism.

Another limitation of our study is that we did not question the presence of autism in close friends or relatives; or if the residents had come across with a child having autism. This could help a resident identify a child with autism.

The other limitation could be that we did not question the strengths of a child having autism; such as being talented, loving, ensure etc.[20] which can arise prejudice towards autism in the residents who participated in our study.

Another limitation of our study is that we did not compare the findings of the residents undergoing paediatric and family medicine training with other disciplines, since paediatric and family medicine specialists can probably be the first contact physician for a young child.

Furthermore, as a limitation we did not ask the misconceptions about autism which could be needed to be corrected in forthcoming trainings of the residents. The personal characteristics as far as experience of the participants with autism is concerned are also the limitation of this manuscript.

Neuropsychiatry rotations covering autism or special lectures/conferences/courses on autism are

recommended to be integrated in the residents' training schedule for the early diagnosis and treatment of autism in the community and to overcome misconceptions, prejudice against autism.

Conclusion

The overall awareness of the residents about childhood autism were at moderate levels except for items on autism being a genetic disorder and being associated with epilepsy. These two items were statistically less known by the residents of the non-neuropsychiatric disciplines.

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