KNOWLEDGE AND ATTITUDE (KA) ON EARLY SIGN OF AUTISM AMONG 1ST YEAR TO 3RD YEAR MEDICAL STUDENTS IN A SELECTED MEDICAL COLLEGE IN BANGLADESH

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Abstract
Autism is a neurodevelopmental disorder but not a curse. In Bangladesh maximum people have no clear conceptions about the early sign of Autism. This study discussed about the Knowledge and Attitude (KA) on early sign of autism among 1st year to 3rd year Medical students in a Selected Medical College in Bangladesh. A descriptive type of cross-sectional study was conducted in Ibrahim Medical College among 1st year to 3rd year medical students and 240 samples was taken. Here most of the respondents were from 18 years to 21 years among them 58% of the respondents were female and 42% were male. Most of the respondents (44.2%) were from Middle class family. Main source of information (68.8%) about early sign of autism were from their Friends and Relatives. Overall 56.7% respondents had poor knowledge and attitude on early sign of autism. Socio-demographic characteristics- age, sex, year of medical education and word of mouth had highly significant association with knowledge and attitude on early sign of autism. In multivariate analysis the respondents who got information from Campaign and religious leader had significantly higher odds compare to the respondents who got information from friends and relatives which is more 2.25 times higher. Overall knowledge and attitude on early sign of autism among 1st year to 3rd year medical students in Ibrahim Medical College was poor. Because of the infrequent introduction of these cases to orthodox medical services, many medical students do not have the opportunity to see actual cases of Autism Spectrum Disorder.
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Introduction
Autism is a form of childhood psychosis that begins in the first 30 months of life and can last into adulthood, depending on its severity (Pratap et al., 2014). Boys are four times more likely than girls to have ASD (Ehsan et al., 2018). More than 7.4 million people are affected with autism worldwide. In last two decades with a 60% increase in prevalence (Maenner MJ, Shaw KA, Baio J, 2020). This ASD occurs not only in developed countries; it also occurs in developing and under developed countries. For initial assessment and diagnosis of ASD Bangladesh has a very small of specialized hospitals with skilled professionals and resources. ASD is a rapidly growing public health problem that has a significant impact on families, communities, and nations around the world (Bhuiyan et al., 2017)

For a better long-term outcome, early detection and intensive care are required; recent research has clearly demonstrated their value.

Background

Autism is difficult to detect until the age of around 12 months, but by the age of two years, a diagnosis is usually likely. (Mohammad Al-Masum Molla, 2018). Bangladesh is a developing nation in Southeast Asia with a moderate literacy rate. Mental illness is very common here, and it is a major burden on the country. There is a strong tendency in developed countries to stigmatize individuals with mental illnesses (Johnson et al., 2007). Autism is a condition that is passed on from generation to generation. ASD is believed caused by a combination of environmental and genetic factors. Siblings of autistic children have a recurrence risk of 2% to 8%. The risk of having a second child with autism is nearly 50 times higher in people who have previously had an ASD child (Soron, 2015).

Rationale

Now a day, parents are also much concern about child's neuro-developmental growth with physical growth (Anwar et al., 2018). It is also important to conduct study on knowledge, perception, and attitudes of medical students about the early sign of Autism. This will contribute to the formation of coordinated initiatives by putting together, in particular, medical students who will be potential doctors, in order to create a plan to train medical students to make right diagnoses in order to assist autistic children in their recovery and improvement (Bakare et al., 2015). The findings would be extremely useful to the medical education policy maker to include chapter of autism in national medical curriculum in early 1st professional syllabus for gathering better knowledge about autism when they go to pediatrics ward in 3rd year can do early diagnosis and this will help them to be better practitioner in future life (Helmy, 2017). Medical students must have accurate knowledge of this disease in order to recognize, diagnose, and notify it early.

This study was therefore conducted among selected Medical College Students to assess Knowledge and attitudes regarding early sign of Autism to provide baseline information for intervention.

Objective

The main objective of this study was to assess the knowledge and attitude towards Autism among Medical students in Ibrahim Medical College, Dhaka.

Methods and Materials

A cross-sectional descriptive type of study was conducted in Ibrahim Medical College among 1st year to 3rd year Medical students. Total 240 students interviewed as per eligibility criteria by using self-administered semi-structured questionnaire. Likert scale was used to categorize the level of knowledge and attitude on Autism. Twenty one questions were asked to assess their knowledge and Attitude. Correct answer will carry 1, neutral 0, wrong 0. So total scoring is 21. Here, if the participant's total score was 12 or above out of 21 that means 57 % or above, was graded as Good Knowledge and Attitude, if score was below 12 points that means below 57% was considered as poor Knowledge and attitude. For Multivariate analysis, researcher had chosen binary logistic regression to analyze the strength between dependent and independent variables. For this study dependent variable is Knowledge and attitude on early sign of autism among medical students. At first researcher calculated knowledge on early sign of autism and attitude towards autistic child separately by using likert scale. Then, researcher calculated the point of knowledge and attitude related variables together by creating good knowledge and poor knowledge section. For chi square and multivariate table only correct answer was considered as 1 point and wrong answer and not sure considered as 0 point. Because not sure means respondent either confused about the statement or don't have any idea about the topic.

Results and Findings

Most (64.6%) of the respondents were from 18 years to 21 years of age group and (35.4%) 85 respondents were from 22 years to 25 years of age group. The Mean age was 21.14 years and Standard Deviation was ±1.583.Among 240 respondents 58% were female and conversely 42% respondents were male. Most of the respondents' families were from Middle Class where their percentages were 44.2% (106) and their monthly income range was 51,000 BDT to 99,000 BDT. Only 24.6% (59) respondents' families were from Lower Middle Class and their monthly family income was 20,000 BDT to 50,000 BDT. Among 102 (42%) respondents were 1st year student, 76 (32%) were 2nd year student and 62 (26%) respondents were 3rd year student. Among 240 respondents 165 (68.8%) respondents got information on early sign of autism from their Friends and Relatives and 39 (16.2%) respondents got information from Religious Leader. Also 33 (13.7%) respondents got information on early sign of autism from Public Campaign.

A set of questions asked to the respondents and put in Likert's scale. This scale described the answer in three options agree, not sure and disagree. Most of the respondents 225 (93.8%) agreed that *in early childhood some baby has difficulties in social interaction and communication and repetitive patterns of thought and behavior* which was a true statement for early sign of autism. Around 187 (77.9%) respondents agreed that *autism is a neurodevelopmental disorder* but 47 (19.6%) respondents were not sure about this statement. Most of the respondents 142 (59.2%) were agreed that *at the age of 2 years, doctor can diagnose Autism* but 77 (32.1%) respondents were not sure about this statement which reflects that half of the respondents didn't have good knowledge about diagnosis of early sign of autism. Most of the respondents 55.8% (134) agreed to the statement *a parents come to a ceremony with an autistic child feel you comfortable,* again 24.2% (58) respondents were not sure and 20% (48) respondents were disagreed which shows good attitude of the respondents to an autistic child. Around 53.8% (129) respondents were agreed that *autistic child should not be integrated into main-stream school*, but 25.4% (61) respondents were not sure and 20.8% (50) respondents were disagreed to the statement which means respondents had good attitude to an autistic child.

Age group of the respondents had highly significant association $(X^2=76.758^a, p=0.000)$ with knowledge and attitude on early sign of autism. The respondents who were from 22 years to 25 years age group had good knowledge and attitude than the respondents who were from 18 years to 21 years age group. Sex of the respondents had highly significant association $(X^2=24.326^a, p=0.000)$ with knowledge and attitude on early sign of autism. Male respondents had good knowledge than the Female respondents. Third year students had good knowledge than second and first years' students. Again second year students had good knowledge than first year students. Word of mouth had significant association $(X^2=10.445^a, p=0.001)$ with knowledge and attitude on early sign of autism. The respondents got information from their friends and relatives about autism had good knowledge than the respondents who got from other sources like rally, public campaign or religious leader.

Variables	Category	Knowledge & Attitude on early sign of autism		P-Value
		cOR (95% CI)	aOR (95% CI)	
Age Group	18-21 years	**1.47 (1.17-1.86)**	**1.38 (1.07-1.79)**	**0.000**
	22-25 years	1	1	
Sex	Female	**1.18 (1.03-1.34)**	**1.19 (1.03-1.37)**	**0.000**
	Male	1	1	
Income	Lower Middle Class	0.568 (0.28-1.14)	0.488 (0.19-1.21)	0.284
	Middle Class	0.787 (0.43-1.43)	0.419 (0.19-0.94)	
	Higher Class	1	1	
Year of Medical Education	1st Year	**1.42 (1.22-1.66)**	**1.41 (1.20-1.65)**	**0.000**
	2nd Year	**1.83 (1.54-2.18)**	**1.67 (1.37-2.03)**	
	3rd Year	1	1	
Print Media	Poster	0.74 (0.44-1.24)	0.79 (0.47-1.33)	0.999

	Leaflet	0.82 (0.57-1.18)	0.90 (0.62-1.32)	
	Newspaper	1	1	
Word of Mouth	Campaign & religious leader	**2.60 (1.44-4.69)**	**2.25 (1.03-4.90)**	**0.042**
	Friends & Relatives	1	1	

Table-1 shows the strength of the association between socio-demographic characteristics and access to media with knowledge and attitude on early sign of autism. The medical college students whose age group were between 18 years to 21 years had significantly higher odds (AOR = 1.38, 95% CI 1.07-1.79) compare to the students whose age group were between 22 years to 25 years. That means 18 years to 22 years age group medical students had poor knowledge and attitude than 22 years to 25 years age group. Female students at medical college had significantly higher odds (AOR= 1.19, 95% CI 1.03-1.37) compare to the male students at medical college. That reveals the poor knowledge and attitude of female students on early sign of autism. First year students at medical college (AOR = 1.41, 95% CI 1.20-1.65) and Second year students at medical college (AOR = 1.67, 95% CI 1.37-2.03) had significantly higher odds compare to the third year students of medical college. The respondents who got information from Campaign and religious leader (AOR = 2.25, 95% CI 1.03-4.90) had significantly higher odds compare to the respondents who got information from friends and relatives which is more 2.25 times higher. That means the respondents who got information from campaign and religious leader had poor knowledge and attitude on early sign of autism.

Discussion

Early diagnosis and intervention are likely to be related to better long-term performance, making it imperative for medical students to improve their awareness of the condition (Baird et al., 2003; Fernell et al., 2013; Helmy, 2017). Two hundred forty students were interviewed with an administered structured questionnaire, 42%, 32%, 26% from 1st year, 2nd year and 3rd year respectively. The mean age of the respondents was 21.14 years. The male, female ratio of the respondents, were close, 42% and 58% respectively. Majority of the respondents came from a Muslim background. Majority of the respondents' parents holds Post-Graduation and above degrees, fathers being private jobs holder or business and mothers being a house maker.

There were 21 questions for both knowledge and attitude sections and researcher calculated each point for each right answer. For good knowledge and attitude above 12 points had been considered as good knowledge and attitude and below 12 points were considered as poor knowledge and attitude. According to Liu et al, 2016, they considered 50% correct answer as good knowledge about autism spectrum disorder among preschool teachers. In this study researcher considered 57% correct answer as good knowledge among medical students about early sign of autism. Medical students have some knowledge about autism because there is a topic on autism in their curriculum and they deal with the patients suffering from autism in pediatric ward. In this study overall 56.7% respondents had poor knowledge and attitude and 43.3% had good knowledge and attitude on early sign of autism.

The multivariate analysis was conducted to find the association between the Socio-demographic characteristics with Knowledge & Attitude on the early sign of autism among the respondents. Age and sex had highly significant association $X^2=76.758^a$, $X^2=24.3265^a$ (p<0.001) with knowledge and Attitude on the early sign of autism. Female students at medical college had significantly higher odds (aOR = 1.19, 95% CI 1.03-1.37) compare to the male students at medical college. Years of Medical education had a highly significant association; third-year students had good knowledge than the second- and first-years' students.

Association between the Accesses to Media with Knowledge & Attitude on the early sign of autism among the respondents shows the respondents got information from friends and relatives about autism had good knowledge than the respondents from other sources like rally, public campaign, or religious leader. Accesses to print media had no association with knowledge and Attitude on the early sign of autism. Multivariate analysis between socio-demographic characteristics and access to media with knowledge & Attitude on early sign of autism shows the

respondents who got information from campaign and religious leader (aOR= 2.25, 95% CI 1.03-4.90) had poor knowledge and Attitude on the early sign of autism.

Previous research has found that in Bangladesh, the diagnosis of autism is rarely made solely on the basis of intellectual disability (Anwar et al., 2018) (Soron, 2015) (Bardhan et al., 2016). Though autism symptoms can now be detected in infancy thanks to multiple early screening methods (Bakare et al., 2015), the typical onset of autism symptoms occurs in childhood. A little more than half of those polled believe the government should spend more money on autism programs for children. More campaigns and seminars can be held to raise community awareness of autism.

Conclusion

Given the observation, the overall knowledge and attitude on early sign of autism among 1st year to 3rd year medical students in Ibrahim Medical College was poor. Because of the infrequent introduction of these cases to orthodox medical services, many medical students do not have the opportunity to see actual cases of Autism Spectrum Disorder (ASD). This is due to social stigma and abnormal help-seeking conduct (Lai et al., 2019; Weiss et al., 2012). The findings of this study revealed that more attention should be paid to autism and other neurodevelopmental disorders in medical students' curricula in Bangladesh, especially prior to their psychiatry and pediatric clinical placements.

The study suggests training on early signs of autism; thus, it offers ample clinical expertise to allow students to deal with cases for better early sign screening, diagnosis, and therefore better prognosis. Health educational campaigns aimed at improving information about autism, improvising autism spectrum disorder in the curriculum of medical stream and providing medical student a scope to visit the special institutions deal with ASD for getting practical experience by this they can understand the early sign of ASD better.

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