

RESEARCH ARTICLE

Knowledge and Attitude Toward Autism Spectrum Disorder (ASD) Among Students in Faculty of Education UiTM Selangor, Puncak Alam Campus

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Abstract:

Introduction: Delays in identifying autism lead to lack of support and therapy for the child, who may not develop basic social skills, speak or behave in ways that cause problems. Aside from early detection, screening among health care providers, school teachers should also be involved in recognizing autistic traits in children. Thus, late diagnosis can be avoided. Objective: To assess the level of knowledge and attitude toward Autism Spectrum Disorder (ASD) among students in the faculty of Education at UiTM Puncak Alam Campus. Method: A cross-sectional survey was done utilising an online questionnaire via Google link and completed by 213 students from faculty of Education UiTM Puncak Alam. Questionnaire was divided on 3 parts: Part A demographic data, part B Knowledge and Part C Attitude on ASD. Result: 89.2% of students had good knowledge and 10.8% had poor knowledge on autism. Furthermore, 93% had positive attitude, while 7% had negative attitude toward ASD. This study showed no significant relationship between the students' level of knowledge and attitude towards ASD ($p=1.000$). Conclusion: This study indicates good knowledge and a positive attitude about ASD. In the future, more autism education to students and teachers should be provided for better understanding regarding autism.

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1. INTRODUCTION

Autistic spectrum disorder (sometimes called autism or classical ASD) is the most common condition in a group of developmental disorders. ASDs are a group of illnesses that affect the development of the brain and are characterised by a wide range of inadequate reciprocal socio-communicative interaction abilities with language difficulties, tantrums, self-destructive conduct, and other forms of inappropriate personal behaviour (Nur et al., 2017). Autism varies widely in its severity and symptoms and may go unrecognized, especially in mildly affected children or when more debilitating handicaps mask it. Scientists aren't sure what causes autism, but both genetics and environment are likely to have an impact (NINDS, 2019). According to the American Psychiatric Association (2018), the effects of ASD and the severity of symptoms are different in each person. Salleh et al. (2018) report that, children with ASD frequently engage in maladaptive behaviors like aggressive, self-injurious conduct and stereotyped behavior. Families with children with ASD often face difficulties and have high stigma in society and this shows that the stigma and views that have been given by society have increased the stress and burden of parents for children with ASD (Zainun et al., 2019). Even though there is no cure for autism, there are therapies and interventions that are tailored to the individual requirements of autistic children. These therapies and interventions include educational and

behavioural interventions, medicines, and other therapies (Mohd Kusrin et al., 2020).

In Malaysia, autism has become a widespread condition, with an estimated 300,000 people on the autism spectrum. However, from the total 300,000 people with autism, only 20,000 are registered with the ministry and issued Persons with Disabilities (OKU) cards (Radhi, 2018). World Health Organization (WHO) (2019) reports that one out of every 160 children have ASD, which is on the rise globally. In 2014, around 47,000 Malaysians aged six months to twenty years had autism, with the number increasing by 3% each year (Salleh et al., 2018).

However, in Malaysia, ASD is still not clear among the public because they lack good information or experience with individuals that have autism, and their level of awareness of ASD is still low and lead to misconceptions in treating the person with ASD as a mental problem (Majin et al., 2019). Teachers' lack of understanding of ASD contributes to a poor perception of ASD (Majin et al., 2019). Most of the respondents were familiar with autism, but not all could identify autistic children's outward appearance and thought autism was similar to hyperactivity in children (Salleh et al., 2018). The majority of those who took part in the study had a high degree of awareness and a favourable attitude regarding ASD, with female being more positive than males (Kuzminski

et al., 2019). According to Liu et al. (2016) teachers in mainstream schools, still lack knowledge about autism, particularly in terms of the cognitive, social, and emotional development of children with autism. A study of applicants to a Family Health Centre (FHC) found that while autism awareness is low, most of the respondents have a favourable attitude about the disorder (Surmen, 2016). A study by Mohd et al. (2018) explains that the community in Malaysia still has a bad perception toward ASD.

Delays in diagnosing autism result that the children will lack of support and therapy, who may not acquire adequate social skills and may speak or behave in ways that pose complications (Majin et al. 2019). According to Centers for Disease Control and Prevention (CDC) (2020), ASD can be discovered as early as 18 months of age and by the age of two, a professional diagnosis can be considered quite reliable. Many children, however, do not obtain a formal diagnosis until they are much older, causing a delay in diagnosis, which means that children with ASD may not receive the early support they require. Therefore, we can see, apart from early detection screening in the clinic, schools also need to involve in identifying the autistic characteristics among the children. Thus, late diagnosed can be avoided and ASD children can be referred to health care provider for further interventions. Therefore, this study is essential to assess the knowledge and attitude towards ASD among students in the faculty of education UiTM Selangor, Puncak Alam Campus.

2. MATERIALS AND METHODS

2.1 Study Design and Setting

This study was using descriptive quantitative with an approach of cross-sectional study design. The study was conducted at Universiti Teknologi MARA (UiTM) Selangor, Puncak Alam Campus.

2.2 Respondent

Using simple random sampling method, the students at the faculty of education at UiTM Selangor's Puncak Alam Campus, full-time Education students, and students who could read and understand English were all eligible for this study.

2.3 Sample size

The total number of students enrolled in the Education Faculty at UiTM Selangor's Puncak Alam Campus was (N=1662). The sample size calculated by using Krejcie and Morgan Formula:

$$s = \frac{X^2 NP(1-P)}{d^2(N-1) + X^2 p(1-P)}$$

$$s = \frac{(3.841)(1662)(0.50)(1-0.50)}{(0.05)^2(1662-1)} + (3.841)(0.50)(1-0.50) = 313$$

Therefore, the minimum recommended size showed for this study (n) is 313 Students.

2.4 Data Collection

Ethical approval from the UiTM Research Ethics Committee (REC/01/2021(UG/MR/22) has been obtained. Due to the current situation of the Covid-19 pandemic, the researchers collect the data and contact the students through online. Thus, the researchers provided the Google link and share it through social media such asWhatsapps and Telegram and the students received a personal message from the researchers regarding the Google link for the study and a little explanation of the study. Students need to answer the questionnaire questions, which contain three parts, Part 1 on demographic data, which includes 3 questions include gender, age, and level of education; part 2 on knowledge about autism which contains 10 questions; and part 3 on attitude towards autism which includes 16 questions. Time taken to answer all questions is approximately 10 minutes to 15 minutes.

2.5 Data Collection Instrument

The questionnaire form consisted of 3 parts. For the Part A was demographic data among students in faculty of Education UiTM Selangor, Puncak Alam campus. This section on demographic data consists of three questions; students must fill in the relevant information for social demographic data, including age, gender, and degree of education.

Part B was regarding the knowledge of ASD that consists of ten questions. The knowledge and attitude of autism among the community questionnaire was adapted from Nur et al. (2017). The Cronbach's alpha for original version shown good reliability, which is 0.8 (Nur et al., 2017). This questionnaire was used in close-ended questions. Respondents are required to answer each item that comprises the option "yes" or "no," which requires the students to tick on the applicable column. The students would get one mark for each correct answer, while the wrong answer would get a zero mark. Then, the total marks of each question on knowledge was calculated, and the total score of 5 marks and above was categorized as good knowledge. In contrast, a total score below 5 was categorized as poor knowledge.

Part C consists of 16 questions on attitude toward autism spectrum disorder. The questionnaire regarding attitude toward ASD was adapted from Effatpanah et al. (2019), and the Cronbach's alpha test for this questionnaire shown good reliability, which is 0.926. This questionnaire uses the Likert scale as a scale in which items are rated as "agree," "disagree," and "not sure." The "not sure" answer automatically marks as disagree. For each correct answer, students would get one mark, and zero marks for the wrong answer. Then, the total marks of each question on attitude were calculated, and the total score of 8 marks and above was categorized as a positive attitude.

3. RESULTS

A total of 213 education students of UiTM Selangor, Puncak Alam campus participated in this study.

3.1. Socio-demographic characteristics

Table 3.1 represents the socio-demographic characteristic of the students; 213 education students of UiTM Selangor, Puncak Alam campus. This section of the questionnaire covered the students' gender, age, and educational level.

A total of students 213, the female students (n=149; 70.0%) and male (n=64; 30.0%), with most of the students ages from 23 to 24 years old (n=78; 36.6%).

Table 3.1 Socio-demographics Characteristics of students in faculty of education UiTM Selangor, Puncak Alam campus (N=213)

Variables	Frequency (n)	Percentage (%)
Gender		
Male	64	30.0
Female	149	70.0
Age		
17-19	40	18.8
20-22	75	35.2
23-24	78	36.6
>25	20	9.4
Education level		
Diploma	37	17.4
Degree	176	82.6

3.2. Frequency distribution on knowledge level toward Autism Spectrum Disorder (ASD)

Table 3.2 represents the detailed result of the knowledge of the students related to ASD questions. In the table, the frequency and percentage of correct and incorrect answers were included.

A majority (89.2%) of the students have good knowledge. Regarding the questionnaire, most of the students (79.8%) of the students correctly answered that children must exhibit impaired interaction and language communication to be diagnosed with autism, autism is a developmental disorder (91.5%), most children with autism have intellectual disability (59.6%), and with proper intervention, most children with

autism disorder will eventually 'outgrow' the disorder (62.0%). Only 45.5% correctly answered that autism is a neurological disorder that does not affect the functioning of the limbs, majority of children with autism are not female (17.8%), whereas, 43.2% of the students thought that most autistic children talk a lot. Furthermore, 62.4% knew that children with autism do not make any visual communication during a conversation with others, 74.2% knew that most children with autism have a problem with imaginary playing, and 62.4% knew that autism disorder could not be diagnosed depending on physical features alone.

Table 3.2 Knowledge of Autism Spectrum Disorder (ASD) among students in faculty of education UiTM Selangor, Puncak Alam campus (N=213)

No.	Knowledge of ASD	Correct answer n (%)	Wrong answer n (%)
1	Autism is a neurological disorder that affects the functioning of the limbs.	97 (45.5)	116 (54.5)
2	Most children with Autism have an intellectual disability.	127 (59.6)	86 (40.4)
3	Children must exhibit impaired interaction and language communication to be diagnosed with Autism.	170 (79.8)	43 (20.2)
4	Autism is a development disorder.	195 (91.5)	18 (8.5)
5	With proper intervention, most children with Autism disorder will eventually "outgrow" the disorder.	132 (62.0)	81 (38.0)
6	Most autistic children talk a lot.	121 (56.8)	92 (43.2)
7	The majority of children with Autism are female.	38 (17.8)	175 (82.2)
8	Children with autism do not make any visual communication during conversations with others.	183 (85.9)	30 (14.1)
9	Most children with Autism have a problem with imaginary playing.	158 (74.2)	55 (25.8)
10	We can diagnose Autism disorder depending on physical features.	133 (62.4)	80 (37.6)

3.3. Knowledge level

The second section of the questionnaire inquired about students' knowledge towards ASD. As shown in table 3.3, the level of students' knowledge on ASD was classified into two groups; 'good knowledge' (n=190; 89.2%) and 'poor knowledge' (n=23; 10.8%).

Table 3.3 Knowledge level among students in faculty of education UiTM Selangor, Puncak Alam Campus (N=213)

Knowledge level	Frequency (n)
Good	190
Poor	23
Total	213

3.4. Frequency distribution on attitude toward Autism Spectrum Disorder (ASD)

Majority of the students disagree with statement on attitude items which were autistic children are schizophrenic 197(92.5%), and autistic children are mentally retarded 186(87.3%). However, 82.6% agree that autism is a neurodevelopmental disorder.

Table 3.4 Attitude toward Autism Spectrum Disorder (ASD) among students in faculty of education UiTM Selangor, Puncak Alam campus (N=213)

Items	Disagree	Agree
	n (%)	n (%)
1 Autistic children are separated from their parents.	165(77.5)	48(22.5)
2 Autism happens in families with high socioeconomic status.	153(71.8)	60(28.2)
3 Autism happens in children of parents with higher educational levels.	153(71.8)	60(28.2)
4 Autistic children are not affectionate.	168(78.9)	45(21.1)
5 Autistic children are schizophrenic.	197(92.5)	16(7.5)
6 It is difficult to differentiate autism from schizophrenia.	163 (76.5)	50(23.5)

7 Autistic children are neglected by parents.	157(73.7)	56(26.3)
8 Autistic children need special education.	30(14.1)	183(85.9)
9 Autism is a social stigma.	103(48.4)	110(51.6)
10 Autism discriminates affected children.	144(53.5)	99(46.5)
11 There is a generally negative view of autism.	89(41.8)	124(58.2)
12 Parents know the symptoms of autism.	94(44.1)	119(55.9)
13 Autism is preventable.	184(86.4)	29(13.6)
14 Autistic children are mentally retarded.	186(87.3)	27(12.7)
15 Autism is a neurodevelopmental disorder.	37(17.4)	176(82.6)
16 Autism is an epileptic disorder.	176(82.6)	37(17.4)

3.5. Attitude

Among 213 of the students, 198(93%) had a positive attitude as shown in table 3.5.

Table 3.5 Attitude toward Autism Spectrum Disorder (ASD) among students in faculty of education UiTM Selangor, Puncak Alam campus (N=213)

Attitude	Frequency (n)	Percentage (%)
Positive	198	93.0
Negative	15	7.0
Total	213	100

3.6. The relationship between the level of knowledge and attitude toward Autism Spectrum Disorder (ASD) among students in faculty of education UiTM Selangor, Puncak Alam campus

The relationship between students' level of knowledge and attitude toward ASD is depicted in Table 3.6. This study found that 6.7% of students with a negative attitude have limited understanding of ASD. This study found that there was no significant relationship between the students' level of knowledge and their attitude towards ASD ($p=1.000$).

Table 3.6 The relationship between the level of knowledge and attitude toward Autism Spectrum Disorder (ASD) among students in faculty of education UiTM Selangor, Puncak Alam campus (N=213)

Knowledge level	Attitude status		P-value*
	Positive n (%)	Negative n (%)	
Good	176 (88.9)	14 (93.3)	1.000
Poor	22 (11.1)	1 (6.7)	

*Fisher's Exact Test

4. DISCUSSION

Female students dominated this study (70.0%), due to higher percentage of the female students in the faculty. Based on another analysis by Surmen (2016), the 160 respondents in the study were 61.9% female and 38.1%, male. Other than that, a study done in Dengkil reports that the majority (57.7%) of the respondents were female while 42.3% were male (Nur et al., 2017). The majority of the respondents were female; it happened because females make up most of the student and community population.

This study found that majority of students in faculty education (89.2%) had a good knowledge on ASD. However, according to a survey conducted in Ghana, majority of the participants (78.6%) had a low level of knowledge of child autism that unable to answer accurately to half of the items in the domain of ASD (Twi-Yeboah et al., 2021). Despite the absence of information sources on understanding, society's knowledge increased as the usage of television (28.5%), newspapers (16.9%), and conferences (2.5%) became the most prevalent methods of communication (Suhaily & Siti, 2017). As a result, it is proposed that a lack of awareness and knowledge can be prevented by utilizing ICT or multimedia learning (Mohd et al., 2018)

However, this study found that students had a lot of misconceptions about ASD. The majority of the students answered incorrectly on statements "autism is a neurological condition that can affect limb function". Only 25.5% of individuals correctly answered the question. Nur et al. (2017) found that 11.5% of individuals who knew about autism accurately stated that it is a neurological condition that does not affect limb function. According to Mohd et al. (2018), autistic youngsters tend to touch and striking others, as well as becoming restless and jumpy. It reveals that autistic youngsters have no problems with their limbs.

Most of the students (59.6%) correctly answered that most children with Autism had an intellectual handicap. Another local study by Nur et al. (2017) also reported that 62.8% of respondents agreeing that most children with ASD have an intellectual handicap. Mohd et al. (2018) stated that ASD can disrupt normal brain functioning and significantly influence

learning, social interaction, and communication ability.

The impairment of interaction and linguistic communication can be used to diagnose autism. In this study, 79.8% of students correctly indicated that children diagnosed with autism must have impaired social and linguistic communication. Similarly, Nur et al. (2017) found that 84.6% of people who knew about autism accurately replied that children with autism must have impaired interaction and linguistic communication. Effatpanah et al. (2019) backed it up, claiming that autism is a communication condition that may be diagnosed through impaired interaction and language.

Surprisingly, this study found that only 17.8% of students were aware that the majority of children with autism are not female. In contrast with a study by Nur et al. (2017) most of their respondents agreed that the majority of children with autism are not only female. This could be due to women's superior verbal communication skills and social empathy, making it easier for girls with autism to mask their social deficiencies. Meanwhile, in boys, the same social communication difficulties are more likely to go unnoticed, reinforcing male identity (Nur et al., 2017).

In this study, 85.9% of the students correctly answered the statement, "Children with autism do not make any visual communication while speaking with others". The majority of respondents (86.9%) believed that impairment in nonverbal behaviors such as eye contact, facial impressions, gestures, postures, and body language is one of the most well-known indicators of autism (Lüleci et al., 2016). Another study indicated that half of the respondents believed that children with autism do not make any visual communication during a conversation with others (Nur et al., 2017). Eye contact with individuals, facial movements and expressions, body postures, and body language is nonverbal behavioral abnormalities that autistic children exhibit during social interactions (Surmen, 2016).

Almost three-quarters of those who took part in the survey agreed that most children with autism have difficulty with pretend play. Previous research by Davis et al. (2018), children diagnosed with ASD shows that this population is profoundly delayed in imaginative play, specifically social imaginative play and pretend play. However, 44.9% were aware that most children with autism have difficulty with pretend play (Nur et al., 2017). According to Paola et al. (2021), many children with autism reveal abnormal elements in their play from an early age, such as less creativity and imagination, such as verbatim reproducing events from a television show.

Most of the students (62.4%) agreed that autism cannot be diagnosed depending on physical features. However, Nur et al. (2017) showed that only 38.4% of the respondents agreed that ASD could not be diagnosed depending on physical features alone. It happened because autistic children are viewed as ordinary people, and the general public is unaware of the distinctive traits of autistic children. Most of them could not

distinguish between hyperactive and autistic children (Mohd et al., 2018).

This study also assessed the level of attitude about ASD among students in the faculty of Education. The majority (93%) of the students had a positive attitude toward autism. This result was similar with Effatpanah et al. (2019) and Kuzminski et al. (2019) found that 94.9% and 81.3% of the respondents had a positive attitude toward ASD respectively. The important factor that influences attitude toward autism was spending time, knowing, and staying together with someone with autism (Kuzminski et al., 2019). This factor shows that a person's attitude will improve or increase if they have ever been together and known someone with autism.

A much more significant proportion, 85.9% of the total students of this study reported, agreed that "Autistic children need special need." The need for special education for a person with autism is vital in improving self-management because autistic children require continuing education. However, while some persons with autism may be able to live freely with their families, others will require lifelong assistance (Marzo, 2016). By providing education for the long-term period can improve the level of social interaction toward autistic children (Azam, 2015). There were still many parents who refuse to accept the state of a child with a disability, some of them refuse to seek treatment for their child.

This study found that there was no statistically significant relationship between the level of knowledge and attitude toward autism ($p > 0.05$), which is similar to the findings of Nur et al. (2017), who also found no relationship between the level of knowledge and level of attitude toward autism. The attitude toward autism was determined by personnel experience and curiosity about an illness, particularly autism, rather than the respondents' level of understanding. According to Kuzminski (2019), knowing and spending time with persons who have autism will result in a good mind set.

There was no relationship between the level of knowledge and level of attitude in this study may be due to students' lack of exposure to the real situation on handling people with autism. Students were not experienced in handling people with autism coupled with the constraints of the Covid-19 pandemic that hit caused students to be unable to make visits to autism treatment centers. Students may gain a better understanding of autism and wish to learn more about it after being exposed to people with ASD. Through this study as well, the students were more interested in finding information regarding ASD during answering the questionnaire.

5. CONCLUSION

In conclusion, this study can encourage the students to know more about autism, although this is only focusing on the students in the faculty of Education UiTM Puncak Alam. The majority of the students show good knowledge and positive attitudes towards ASD. The study highlighted some

misconceptions about ASD, which need to be addressed. Therefore, interventions to implement strengthened health education on ASD-related issues were required to change knowledge and attitudes. Individuals should also be encouraged to learn about these issues. Society's narrow-mindedness was believed to be a barrier in searching for more information about ASD. Education not only from the learning institutions but also from family, friends, and society was highly valued in this matter.

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