

# Outcomes of Survey on the Public Attitudes toward Autism in Hanoi, Vietnam

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**Abstract:** ***Introduction:** Children autism spectrum disorder have been treated as discriminated and stigmatized in many countries. **Aim:** The purpose of this study is to assess public attitudes among Hanoi citizen toward autism spectrum disorder. **Materials and Methods:** A cross – sectional survey of a total of 640 people aged 20 to 65 years old in Hanoi from September 2017 to December 2017. A 20 item – questionnaire was developed according to the criterial of the Diagnostic and Statistical Manual of Mental Disorders, Five Edition (DSM-V), and literature studies on Autism Spectrum Disorder (ASD) and was adapted to Vietnamese culture by experienced psychologists. **Results:** The findings showed that more than 65 percent of people had the correct attitude about autism in children in the total of 640 interviewed people. There were some negative conception toward ASD such as poor parenting, stigma, and exclusion from mainstream schools. **Conclusion:** Approximately one-third of the respondents had an incorrect attitude about autism. In order to increase the inclusion of autistic children, knowledge and skills should be provided to caregivers and preschool teachers in terms of care and education services for children with autism, especially early interventions and community-based programs on autism spectrum disorder.*

**Keywords:** autism, ASD, attitudes, children.

## 1. Introduction

Autism spectrum disorders (ASD), according to the American Psychiatric Association, are a mild to severe neurodevelopmental disorders characterized by [1]: problems in social and communication interactions; verbal and non-verbal impairments; recurrent behavior, focal localization, sensory disturbances. Although many studies have been conducted, the exact cause of autism spectrum disorders remains complex [2]. ASD causes severe consequences for themselves, their language and their behavior, which limits their ability to participate in social activities, not to support themselves and not to take care of themselves. In addition, the quality of life is severely reduced and becomes a burden on families and society [3, 4].

In Vietnam, autism rates have not been reported due to the fact that national surveys have not yet been conducted, but the number of children diagnosed and treated in autism centers and hospitals has increased rapidly in recent ten years [5, 6]. According to a number of studies on the epidemiological characteristics of autism spectrum disorders conducted in Asia, Europe and North America, the incidence of autism is about 1% to 2% of the world population [7]. Statistic data from the Centers for Disease Control and Prevention (CDC) and the Network for the Development of Autism, the rate of children under 8 with autism ranges from 3.3 to 10.6 / 1000 children [8]. Autism is a burden of illness for the family and society. The cost of caring for children with autism is more than \$ 9 billion in 2011 [9]. The total cost burden for autistic children including adults and children in the United States is \$ 137 billion per year [10]. People with autism spectrum disorders (ASD) may experience high levels of stigmatization within society such as bullying, discrimination because the public people appears to lack good information or understanding with children with ASD [11, 12]. Little is known about whether

such negative views are present among people in developing countries such as Vietnam.

In Vietnam, autism rates have not been reported due to the fact that national surveys have not yet been conducted, but the number of children diagnosed and treated in autism centers and hospitals has increased rapidly in recent ten years [5, 6]. There are no studies in Vietnam to find out the current status and attitudes of people about ASD.

The aim of our study was to assess public attitudes among Hanoi citizen toward autism spectrum disorder.

## 2. Materials and method

**Study Design:** A cross – sectional survey was conducted during the period of 4 months from September to December 2017.

### Participants

People between the ages of 20 and 65 years old who have the ability and willingness to answers the autism questionnaire. Exclusion criteria: people have difficulty to communicate, diagnosed with Down syndrome or mental health issues.

### Measurement

A 20 item – questionnaire was developed experienced psychologists based on the criterial of the Diagnostic and Statistical Manual of Mental Disorders, Five Edition (DSM-V), and literature studies on Autism Spectrum Disorder (ASD). The measurement tool was piloted and was adapted to Vietnamese culture context. The attitude included: attitudes related to autistic children in mainstream class, role of parents, stigma and Social attention with autistic children. The study was conducted in one urban district and one rural district to compare the people attitudes of the to regions.

### Statistical analyses

The data was entered into the computer using Epidata version 3.1. Data were processed and analyzed using R software version 3.4.3. Descriptive statistics are presented for participants' characteristics. The Kruskal – Wallis test are used for univariate analyses. For multivariate analysis, the relationship between attitudes of Hanoi citizen on autism with characteristics of participants such as gender, age, educational level, occupation were investigated. The level of statistical significance is set at 0.05 (two-sided).

The attitude score is calculated as the total score of the questions. The value of 70% (24.5 points) is used as the cut-off value. Anyone who have 25 points or higher will be considered to have the correct attitude. If people have below 25 points, it will be considered to have the incorrect attitude. The maximum score for attitudes about autism is 35 points.

## 3. Result

### Characteristics of the participants

A cohort of 640 participants who lived in Minh Khai (Hai Ba Trung District) and Co Loa (Dong Anh District), Hanoi City was included in this study. Average age was 48.7, standard deviation was 13.4. The majority of participants in the study were aged 32 and above accounting for 90.5%. There were 180 males (28.1%) and 460 female (71.9%). Participants' characteristics were summarized in **Table 1**.

### Attitudes of Hanoi people about autism in children

Attitude score is the total score of the questions. Anyone who have 25 points or higher will be considered to have the correct attitude. The findings showed that 65.3% of people had the correct attitude about autism in children in the total of 640 interviewed people. In urban area, the rate of people have right attitude was 66.9 % whereas 63.8% of participants in the rural area. The proportion of subjects have the incorrect attitude in Minh Khai and Co Loa was 33.1% and 36.3%, respectively (**Table 2**).

There was 73.7% (65.6% of the respondents disagree and 8.1% strongly disagree) that the right attitude when disagreeing with the view of autistic children is due to the fact that parents are no longer able to care for the child). However, there are still 8.8% have the wrong attitude and 7.5% have unclear attitude on this issue. 82.4% of people disagreed with the view that autistic children should be isolated in their own environment, and they must not to go out. At the same time, there are still 7.5% of the views are not correct and 7% of the attitude is not clear. More than 65% of people who do not agree with the view that autistic children in the mainstream class will affect normal children. Those who agree with this view are 14.8% and 13.9% are not clear (**Figure 1**).

### Univariate analysis for association between participants' characteristic and attitude toward ASD

The univariate analysis using Kruskal – Wallis test showed a statistically significant relationship between the attitudes and the level of education. The percentage of people who have education of high school and above has the correct attitude about autism (70%) is higher than that of people with lower education level (54.6%) with  $p = 0.000006$  (**Table 3**).

### Multivariate analysis for association between participants' characteristic and attitude toward ASD

In the multivariate analysis with 5 independent variables (gender, age group, occupation, and location of living) are showed in **Table 4**. Models were built for attitudes on ASD as the outcome. The education levels of participants were significantly associated with the total attitude score ( $p < 0.05$ ). Other factors including gender, age group, occupation, and location of living were associated with the total attitude score. However, these associations were not statistically significant (**Table 4**).

## 4. Discussion

The aim of this study was to investigate the attitude of Hanoi citizen toward ASD. Our findings show that more than 30% of respondents do not have correct attitude and false believe in autism. This finding is consistent with an autism-related cross-sectional study of 164 teachers in Oman, which found that misconceptions about autism spectrum disorder were common among mainstream teachers [13]. However, this is in contrast to the study of 23 specialist and 49 mainstream teachers in Scotland. Most of the teachers in this study who have had experience teaching children with autism have a positive attitude towards autistic children who attend school with their children. Specialized teachers are the most positive group. However, they also acknowledge that there are certain disadvantages for both groups of children when learning together and that inclusive education is successful depending on the individual child [14]. Similarity, the survey on 471 preschool teachers in 2 cities in China indicated that still 16 % of participants had the view that children with special needs should be included into mainstream school [15].

According to our survey, there are approximately 10 percent (7.5%) of the respondents agreed with the view that autistic children should be isolated in their own environment. This rate is lower than that in previous survey on 102 caregivers of children with developmental disorders in low-income African country. This study revealed that nearly one third (26.7 %) of parents made an effort to keep their child's condition secret [16].

Our study result did not find the association between gender and beliefs and attitudes about ASD ( $p = 0.2254$ ). However, Obaid's study of 162 parents (males and 77 females from nine Autistic institutions) to investigate the parents' attitudes towards their autistic child, and also to understand the parents' attitudes in meeting the vital requirements for autistic child. This study revealed that mothers were more positive than their dad [17].

However, it is important to note that services for both autistic children and their parent are vital to reduce stigma and discrimination. Our survey also shows that the family plays a central role in ensuring that children with autism receive suitable services and support. The support in terms of financial and mental support are crucial for autistic children and their family overcome challenges. This finding in parallel with the study of Sivberg et. al (2002) which show that preschool services as well as financial aid were essential to support ASD children's success [18].

## 5. Conclusion

Based on the survey result on 640 Hanoi citizens on autism spectrum disorder, we found that the knowledge of Hanoi residents about autism is limited (only 3% Autism spectrum disorders in young children). This result shows the urgent need to improve the attitudes of Ha Noi people on autism spectrum disorder. The study also showed that autism is not only delayed, but early intervention for autistic children has not been paid attention. Lack of correct attitude toward autism, combined with social stigma and isolation, make the lives of children and their families more challenging. In order to increase the inclusion of autistic children and enhance the correct attitude, knowledge and skills should be provided to caregivers and preschool teachers in terms of care and education services for children with autism, especially early interventions and community-based programs on autism spectrum disorder.

## 6. List of abbreviations

ASD: Autism Spectrum Disorder

## 7. Declarations

### Ethics approval and consent to participate

The study protocol was reviewed and approved by the Institutional Review Board of Vinmec Research Institute of Stem Cell and Gene Technology on July 25, 2017. The reference number for the ethics committee is 04/2017/QD-VNC. The committee evaluated the ethical aspects of the study in accordance with The World Medical Association Declaration of Helsinki. The study was explained in details to the parents of the participants. Parental written informed consent was obtained well before patient enrollment in every case.

### Consent for publication

Parental written informed consent was obtained well before patient enrollment in every case. This consent included their agreement on publishing patients' indirect identifiers such as age and gender.

### Competing interests

The authors have declared that no competing interests exist.

### Funding

We did not receive any funding to conduct this study.

### Authors' contribution

NHP, NTK, NTL: participated in the study concept, design and data collection. NHP, NTK: performed data analysis. NHP, NTK, NTL participated in acquisition and interpretation of the data, drafted the manuscript. All authors have read and approved the final version of the manuscript.

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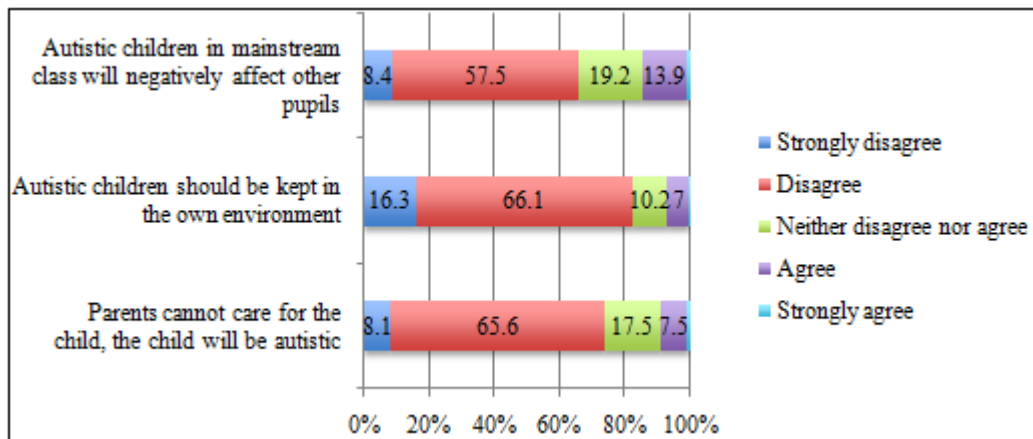
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**Table 1:** Characteristics of the participants (N=640)

Characteristics		Minh Khai N= 320 (%)	Co Loa N= 320 (%)	Total N=640 (%)
Sex	Male	137 (42.8%)	43 (13.4%)	180 (28.1%)
	Female	183 (57.2%)	277 (86.6%)	460 (71.9%)
Age group	Under 32 years old	23 (7.2%)	38 (11.9%)	61 (9.5%)
	32-46 years old	89 (27.8%)	122 (38.1%)	211 (33.0%)
	46-60 years old	113 (35.3%)	104 (32.5%)	217 (33.9%)
	Over 60 years old	95 (29.7%)	56 (17.5%)	151 (23.6%)
Education	Primary	4 (1.3%)	11 (3.4%)	15 (2.3%)
	Secondary	47 (14.7%)	134 (41.9%)	181 (28.3%)
	High school	130 (40.6%)	90 (28.1%)	220 (34.4%)
	Vocational training	77 (24.1%)	41 (12.8%)	118 (18.4%)
	Graduate and post - graduate	62 (19.4%)	44 (13.8%)	106 (15.6%)
Occupation	Farmer	59 (18.4%)	99 (30.9%)	158 (24.7%)
	Worker	84 (26.3%)	70 (21.9%)	154 (24.1%)
	Professional/Officer	88 (27.5%)	53 (16.6%)	141 (22.0%)
	Trader	38 (11.9%)	34 (10.6%)	72 (11.3%)
	Unemployment	10 (3.1%)	3 (0.9%)	13 (2.0%)
	Housekeeping	23 (7.2%)	33 (10.3%)	56 (8.8%)
	Retired employees	16 (5.0%)	25 (7.8%)	41 (6.4%)
	Others	2 (0.6%)	3 (0.9%)	5 (0.8%)

**Table 2:** Total attitude scores toward ASD of participants

Attitudes of Hanoi people about autism in children	Minh Khai N= 320 (%)	Co Loa N= 320 (%)	Total N=640 (%)
Correct	214 (66.9%)	204 (63.8%)	418 (65.3%)
Incorrect	106 (33.1%)	116 (36.3%)	222 (34.7%)



**Figure 1:** Negative attitude of the people about ASD

**Table 3:** Association between participants's characteristic and attitude toward ASD

Characteristics		Negative attitudes (%)	Positive attitudes (%)	P
Sex	Male	66 (36.7%)	114 (63.3%)	0.2254
	Female	156 (33.9%)	304 (66.1%)	
Age group	Below 52 years old	129 (33.8%)	253 (66.2%)	0.9407
	Over 52 years old	93 (36.1%)	165 (63.9%)	
Education	High school and above	133 (30.0%)	311 (70%)	0.000006
	Below high school	89 (45.1%)	107 (54.6%)	
Occupation	Employment	187 (33.0%)	379 (67.0%)	0.1289
	Unemployment	35 (47.3%)	39 (52.7%)	
Location	Urban	106 (33.1%)	214 (66.9%)	0.7742
	rural	116 (36.3%)	204 (63.8%)	

**Table 4:** Multivariate logistics regression models of attitude toward autism

		Attitude adjusted OR	P - value
<b>Gender</b>	Male	Ref	
	Female	0.26	0.339

<b>Age (years)</b>	< 52	Ref	
	≥ 52	0.011	0.221
<b>Education</b>	Primary school	Ref	
	Secondary school	1.216	0.141
	High school	1.651	<b>0.044*</b>
	Under graduate	2.785	<b>0.0009*</b>
	Graduated	1.925	<b>0.0234*</b>
<b>Occupation</b>	Employment	Ref	
	Unemployment	0.492	0.202
<b>Location</b>	Urban	Ref	
	rural	0.065	0.791