

PUBLIC KNOWLEDGE ABOUT AUTISM SPECTRUM DISORDER IN THE REPUBLIC OF NORTH MACEDONIA

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Abstract

The notion of inclusion has received great attention in all countries around the world, emphasizing that all people, including people with autism spectrum disorder, have the right to be fully included in society by being given the appropriate support. Beyond the educational process, inclusion should also extend to employment and independent living, creating equal conditions for all. All people with autism should have equal opportunities to learn, to be employed and to be an active part of the community, having access to appropriate support for their specific needs. For this reason, it is essential that society provides conditions that promote their emotional, social and economic well-being, eliminating the barriers that limit them in education, the labor market and daily life. This study aims to assess knowledge about Autism Spectrum Disorder in the general population. Participants were 100 people of different ages and profiles, who were surveyed electronically using a questionnaire taken from a similar study, which was translated and adapted into Albanian. The study used a quantitative research method, while the data were processed using the SPSS program, using statistical and descriptive analysis, as well as differential and comparative analysis. We found that the general population has a high level of knowledge on ASD, the female gender has slightly less knowledge compared to the male gender, there are no significant differences depending on the age and level of education of the respondents, while statistically significant differences were found between groups of different professions.

Keywords: Autism Spectrum Disorder (ASD), Knowledge, Inclusion.

Introduction

Autism Spectrum Disorder (ASD) represents one of the most complex neurodevelopmental disorders, characterized by a wide range of difficulties in social interaction, communication, and repetitive behaviors. The increasing prevalence of diagnosed cases over the past decades has brought autism to the forefront of public health, education and social policy, increasing the need to better understand both the characteristics of this disorder and the role that society plays in creating a supportive environment for individuals with Autism Spectrum Disorder.

This study aims to assess the current level of knowledge of the population about ASD, identify common misconceptions and develop strategies to improve understanding and awareness through education and information programs.

Through this research, it is intended to contribute to promoting sensitivity and acceptance of individuals with ASD, encouraging individuals and society to develop a more open and supportive attitude towards them. Overall, this study aimed to contribute to the existing literature on autism spectrum disorder in North Macedonia, shedding light on public knowledge, as well as on barriers that may affect inclusion and support for people with autism.

Research questions

Overall Knowledge: What is the general population's level of knowledge about ASD?

Gender Differences: How does the level of knowledge about ASD differ between females and males?

Age Differences: How does the level of knowledge about ASD differ between individuals over 32 years old and those under 32 years old?

Educational Differences: Are there differences in the level of knowledge about ASD among the general population based on their educational level?

Occupational Differences: Are there differences in the level of knowledge about ASD among the general population based on their profession?

Hypotheses

1. The general population's knowledge of the ASD is at an average level.
2. There are differences in the level of knowledge of the general population on ASD depending on demographic characteristics:
 - 2.1 There are differences in the level of knowledge on ASD depending on the gender of the respondents.
 - 2.2 There are differences in the level of knowledge on ASD depending on the age of the respondents.
 - 2.3 There are differences in the level of knowledge on ASD depending on the level of education of the respondents.
 - 2.4 There are differences in the level of knowledge on ASD depending on the profession of the respondents.

Literature review

Definition of Autism Spectrum Disorder (ASD)

Individuals with autism spectrum disorder (ASD) exhibit persistent deficits in communication and social interaction, as well as restricted and repetitive patterns of behavior, interests, and activities. The level of deficits in social interaction, communication, cognitive functioning, and adaptive skills varies among individuals with ASD. Some individuals with ASD have typical intellectual and language development, but others have below-average cognitive functioning and language skills. (Chiang, 2017)

The DSM-IV-TR classifies autism-related disorders into:

Autism

Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS)

Asperger's Syndrome

Rett Syndrome

Childhood Disintegrative Disorder (Heller's Syndrome)

In 2013, the DSM-5 introduced significant updates to Autism Spectrum Disorder (ASD), consolidating various autism-related diagnoses under the single ASD category, meaning that all of these types of autism are now identified and diagnosed under the term "Autism Spectrum Disorder". (Bagasra & Heggen, 2018)

Importance of Early Diagnosis

Symptoms of autism spectrum disorder can appear as early as 12 to 18 months. However, there is often a 5 to 24 month delay between symptom concern and seeking evaluation, with most diagnoses occurring by age 3-4 years. Many people use a "wait and watch" approach, which can often delay effective interventions, reducing potential health benefits for the child and family. Early diagnosis and intervention, especially before age 4, are associated with significant improvements in cognitive, social, and daily living skills, resulting in fewer challenging behaviors and reduced stress in the family. (Matson & Sturmey, 2022)

Early diagnosis facilitates the process of designing and planning individualized education and therapy programs, based on the specific needs of the child. Early intervention can improve overall development and maximize the child's potential to integrate effectively into educational and social environments. (Aarons & Gittens, 1999)

Social and Emotional Development

Key deficits include challenges in initiating and maintaining interactions, understanding others' perspectives, and joint attention (the ability to share focus on objects/events). Many individuals with ASD engage in social exchanges less frequently, rely more on parallel play, and report less enjoyment in social situations. Nonverbal communication, such as gestures, eye contact, and recognition of facial expressions, are often limited, further impacting social engagement. (Chiang, 2017) Impairments in forming friendships are common, with children and adults with ASD often having fewer reciprocal relationships and experiencing greater loneliness. Social difficulties continue into adolescence and adulthood, with individuals reporting fewer social interactions compared to peers with other disabilities. (Chiang, 2017)

Living with Autism and Coping Strategies

People with autism spectrum disorder are characterized by reflection in various social situations, where during their quiet moments they evaluate their performance and recall details that they may not have understood. This process helps them identify misunderstandings and learn from past experiences, as social and emotional cues from neurotypical individuals can be overwhelming to process in real time (Plummer, 2021). People with autism may have difficulty recognizing emotions, not because they don't care, but because they often don't intuitively understand what others are feeling. Children with ASD also tend to see lying in black and white terms and have difficulty understanding why someone would tell a "white lie" or use sarcasm, irony, or manipulation. They may not understand the intent behind others' lies and may not be aware when others are deceiving them (Fulton, 2004). Individuals with autism rely on scripting - predicting and planning events - to feel safe and in control of their environment.

"I don't like to fit in, being like everyone else is very boring to me. I want to be someone who is different. Just being like everyone else sounds like the most boring thing in the world to me." – Ali (Duffus, 2023)

Methodology

In this paper, we used the quantitative research method to assess the public's knowledge about Autism Spectrum Disorder. Data were collected through the Autism Stigma and Knowledge Questionnaire (ASK-Q), which we translated and adapted into Albanian and then distributed electronically through the Google Forms platform. This research involved 100 respondents from different demographic groups, who expressed their willingness to participate. The data were analyzed and processed using the SPSS program, where we used several functions of this program; we used descriptive statistical analysis to examine the level of knowledge of the respondents about Autism Spectrum Disorder and we also used T-test and ANOVA to investigate possible differences between different demographic variables.

Results

After reviewing the data obtained from 100 respondents, regarding the demographic variables of this study, we saw that the average age of the respondents was 34 years old, while there is a range of ages from 19 to 60 years old. Regarding gender, females make up 60% of the respondents, while males were included with 40%.

When talking about the level of education, 10% of the respondents had primary education, 17% had secondary education and 73% had higher education.

Regarding the field of profession, we saw that among the respondents, 19% were special educators and rehabilitators, 36% were teachers, 9% were students, 7% were housewives and 29% were from other professional profiles.

Analysis of Results

After reviewing the data, we concluded that the level of knowledge of the general population about ASD is above average. From the data obtained from 100 respondents, the overall average resulted as 53.83 out of 60, which means that they had high knowledge. If we focus on individual responses, we see that the respondents understand the importance of early intervention for autism, however, misconceptions still exist such as the belief that most children with autism cannot live independently. These findings support the hypothesis that the level of knowledge about ASD is average to above average, highlighting the need for further awareness and education to reduce current stereotypes and misconceptions.

Gender Differences (Hypothesis 2.1)

To examine Hypothesis 2.1 of this study, which concerns the differences in knowledge about ASD depending on the gender of the respondents, the overall average level of knowledge between female and male respondents was analyzed. According to this, we saw that the average of females was 53.68, while that of males was 54.08, indicating a small difference in favor of males. However, statistical analysis showed that this difference is not statistically significant: Levene's test confirmed the equality of variance ($F=0.985$, $p=0.323$), and the T test confirmed that the difference between the two groups does not carry statistical significance ($t=0.654$, $p=0.515$). Based on these results, Hypothesis 2.1 was rejected, as there are no statistically significant differences in the level of knowledge about ASD between male and female respondents.

Age Differences (Hypothesis 2.2)

To analyze Hypothesis 2.2 of the research, in which we assumed that there are differences in the level of knowledge about ASD depending on the age of the respondents, we divided the data into two groups, based on the median age (32 years): respondents over the age of 32 and those under the age of 32. The overall mean of respondents over 32 years of age resulted in 53.35, while for those under 32 years of age it resulted in 54.33, showing a small difference in favor of the younger group. The statistical results showed that this difference was not statistically significant: Levene's test confirmed the equality of variance ($F=0.048$, $p=0.827$), and the T test showed that the difference between the two groups was not statistically significant ($t=-1.798$, $p=0.075$). Therefore, Hypothesis 2.2 is rejected, as no statistically significant differences were found in the level of knowledge about ASD depending on age.

Educational Level Differences (Hypothesis 2.3)

To examine Hypothesis 2.3 of the research, regarding differences in the level of knowledge about ASD depending on the level of education, we used analysis of variance (ANOVA). The results showed that there is no statistically significant difference between the different educational groups ($F=0.364$, $p=0.696$). Based on these data, Hypothesis 2.3 is rejected.

Professional Differences (Hypothesis 2.4)

Regarding Hypothesis 2.4 of this study, which analyzes the differences in the level of knowledge about ASD depending on the profession of the respondents, ANOVA showed statistically significant differences between groups with different professions ($F=5.784$, $p<0.05$). Post-Hoc Scheffe analysis confirmed this statistically significant difference between the group of special educators and rehabilitators and the group of teachers ($p=0.001$) and students ($p=0.027$), while the differences between the other groups did not carry statistical significance. Based on these results, Hypothesis 2.4 is accepted.

Conclusions

Key Conclusions from the Study:

1. **Level of Knowledge about ASD** - The hypothesis that the general population's knowledge of Autism Spectrum Disorder is at a moderate level was accepted, as the overall mean score exceeded expectations.
2. **Gender difference** - Hypothesis 2.1 of this study in which we claimed that there are differences in the level of knowledge of the population about ASD depending on gender, was rejected, because based on the data, we found that there are no statistically significant differences between the two gender groups.
3. **Age differences** – Hypothesis 2.2, which proposed that the population's level of knowledge about ASD varies according to age, was not supported. The findings indicated no statistically significant differences between the two age groups examined.
4. **Differences in educational attainment** – Hypothesis 2.3, which suggested that educational level influences knowledge about ASD, was not confirmed. The analysis

revealed no statistically significant differences among individuals with varying levels of education.

5. **Professional differences** – Hypothesis 2.4, which posited that professional background affects knowledge about ASD, was supported. The results demonstrated statistically significant differences between individuals working in special education and rehabilitation and those who are teachers, students, or employed in other professional domains.

Recommendations

1. **Public Awareness and Education**

Organizing information campaigns on Autism Spectrum Disorder (ASD) through the media, schools, and public institutions to reduce stigmatization and misunderstandings.

2. **Training of Educational and Health Personnel**

Organizing ongoing training for teachers, school psychologists and health professionals to improve their skills in identifying and supporting children with autism.

3. **Improving Support Services**

Increasing the number of diagnostic and therapeutic centers for children with autism throughout North Macedonia.

4. **Improving Society's Approach to Autism**

Promoting the inclusion of children with ASD in social and educational activities to reduce their isolation.

Limitations of the study

1. **Insincerity in giving answers**

Some participants may not have been completely honest in their answers, either due to lack of knowledge on the topic, fear of social judgment, or a desire to give answers that they consider more socially acceptable.

2. **Giving correct answers randomly**

It is possible that some participants may have given answers without thinking carefully or without reflecting on their true experience and attitudes.

3. **Influence of others in giving answers**

In cases where questionnaires were completed in the presence of others, there is a possibility that participants were influenced by the opinions of those around them, not reflecting their true attitude.

4. **Lack of desire to cooperate**

Some participants may have lacked interest and motivation to complete the questionnaire with care and diligence, which may have impacted the quality of the data.

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