



Knowledge and attitudes toward Autism Spectrum Disorder in Poland – results of a national survey and identification of key areas for educational initiatives

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Abstract

Introduction and Objective. Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by social communication difficulties, repetitive behaviours, and atypical sensory responses. Despite increasing recognition, comprehensive understanding of ASD is lacking among the public and healthcare professionals. The aim of the study was to assess the knowledge and opinions of Polish society on ASD, identifying the weakest areas to inform future educational initiatives.

Material and Methods. A cross-sectional survey was conducted from May to June 2024, involving 1,098 respondents, representative of the Polish population. Three questionnaires were used: an author-designed autism knowledge questionnaire, the Polish Autism Knowledge Questionnaire, and the Knowledge about Childhood Autism among Health Workers (KCAHW). Socio-demographic data were also collected.

Results. 37% of respondents considered ASD rare, 34% had interacted with someone with ASD, and 18% had a family member with ASD. Genetics (26.5%), maternal alcohol use during pregnancy (10%), and vaccines (7%) were cited as causes. The Internet (85%) and social media (28%) were the main sources of information. The mean KCAHW score was 8.6 ± 5.5 , indicating moderate ASD knowledge, with women, younger individuals, and those with higher education or personal contact scoring higher ($p < 0.001$).

Conclusions. Knowledge about ASD in Poland is moderate yet fragmented, with significant gaps that could impede early diagnosis and intervention. Targeted educational campaigns are needed, focusing on specific gaps, along with increased government support for early diagnosis.

Key words

Autism Spectrum Disorder; mental disorder; health education; health promotion

List of abbreviations

ANOVA – Analysis of Variance; **ASD** – Autism Spectrum Disorder; **CAWI** – Computer-Assisted Web Interview; **CBOS** – Poland's Public Opinion Research Centre; **DSM-5** – The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition; **GMO** – Genetically Modified Organism; **KCAHW** – Knowledge about Childhood Autism among Health Workers; **NGOs** – Non-Governmental Organization; **OCD** – Obsessive-Compulsive Disorder

INTRODUCTION AND OBJECTIVE

Autism Spectrum Disorder (ASD) is a complex neurodevelopmental condition increasingly recognized worldwide in both children and adults [1]. Despite this, the understanding of ASD within society and among healthcare professionals remains limited. Symptoms vary widely, typically appearing within the first two years of life,

and include social communication challenges, repetitive behaviours, restricted interests, and atypical sensory responses [2, 3].

The primary aim in addressing ASD is to foster social and emotional development, improving the quality of life and independence in adulthood [4]. Research suggests these outcomes are best achieved through early identification, accurate diagnosis, and timely interventions addressing social, communicative, and behavioural challenges [2, 3]. However, limited knowledge among caregivers and healthcare providers often hinders symptom recognition. Many struggle to distinguish ASD signs from typical behaviours or temporary developmental delays, and other

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medical conditions, leading to missed opportunities for early intervention – a phenomenon further enhanced by the fear of stigma [5, 6].

The early symptoms of ASD, such as limited eye contact, delayed language, and repetitive play, can be subtle and may resemble typical development, which complicate diagnosis [7]. Additionally, knowledge gaps are frequently filled by such unreliable sources as social media, highlighting the need for accessible, evidence-based information on ASD [8, 9].

Comorbidities further complicate ASD diagnosis. Around 70% of people with ASD experience at least one additional condition [10], such as Attention Deficit Hypersensitivity Disorder (ADHD) – 50–70% [11], anxiety (40%) [12], epilepsy (6–27%) [13], sleep disorders (50–80%) [14], Obsessive-Compulsive Disorder (OCD) [15], or intellectual disabilities. Such co-occurrences obscure ASD symptoms and delay diagnosis, even for specialists [16].

Diagnostic criteria updates have also expanded ASD definitions, increasing prevalence rates. In 2013, the DSM-5 (The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition) unified Asperger's and Autistic Disorder under ASD, emphasizing its spectrum nature [17]. The ICD-11 similarly adopted a unified classification, which, while not yet fully implemented in Poland, has gained support among professionals [18, 19]. Globally, it is considered this shift has led to a rising prevalence, with rates climbing from 1 in 68 children in 2010 to 1 in 36 by 2020 in the USA alone [20].

The aim of the study is to assess current knowledge and opinions regarding ASD in Polish society, specifically identifying weak areas of understanding. By addressing these gaps, targeted educational campaigns could enhance awareness among the public and healthcare professionals, improving early recognition and outcomes for individuals with ASD.

MATERIALS AND METHOD

This study was conducted between May and June 2024 in a representative sample of the Polish population, consisting of 1,098 individuals. Data collection was conducted using the Computer-Assisted Web Interview (CAWI) method through the Nationwide Research Panel Ariadna, focusing on the Polish population. The participants were recruited using a stratified sampling model from a pool of over 100,000 registered and verified individuals on the Ariadna platform. The primary inclusion criterion was voluntary consent to participate in the study. To ensure that the population was representative, if a selected participant declined to participate, an alternative respondent who met the inclusion criteria was randomly selected.

This study used three research questionnaires:

- 1) Author's questionnaire on autism – a questionnaire consisting of 10 questions regarding knowledge about the autism spectrum, including 8 closed, 1 semi-open and 1 open-ended question.
- 2) Autism Knowledge Questionnaire – a Polish questionnaire developed by Nowakowska I and Pisula A2, based on 6 established tools designed to measure knowledge about Autism Spectrum Disorder from previous research. The questionnaire comprises 18 item questions regarding ASD, incorporating both older and more recent findings on the etiology and functioning of individuals with this disorder,

as well as common myths about ASD. Respondents can answer 'yes' or 'no' to each item question. Out of 18 item questions, 14 are false and 4 are true. A correct answer to each question is awarded a score of one, while an incorrect answer receives a score of zero. The total score of the Autism Knowledge Questionnaire is the number of correct answers to 18 questions and it ranges from 0 – 18. The higher the total score, the greater the respondent's knowledge about ASD. This questionnaire exhibited strong internal consistency, which is confirmed by a high value of the Kuder-Richardson 20 coefficient, which in this study equalled 0.6926.

- 3) Knowledge about Childhood Autism among Health Workers (KCAHW): a standardized questionnaire on knowledge about autism, used among health workers and other groups. The questionnaire was adapted to Polish conditions, including a study of groups that were not health workers. The KCAHW questionnaire comprises 19 item questions, each offering 3 response options, with only one correct answer. A correct answer to each question is awarded a score of one, while each of the 2 incorrect answers receives a score of zero. The total score of KCAHW is the number of correct answers to 19 questions, and ranges from 0 – 19. The higher the total score, the better the respondent's knowledge about ASD. The questionnaire exhibited strong internal consistency, which is confirmed by a high value of Kuder-Richardson 20 coefficient, which in the current study equalled 0.8926.

The questionnaire was structured in 4 domains.

- 1) Domain 1 – Social Interaction Impairments, included eight (8) item questions that focused on commonly observed in children with childhood autism. The scores in this domain range from 0 – 8.
- 2) Domain 2 – Impairments in Communication and Development, comprised a single (1) item question and assessed development, key aspects of the symptomatic presentation in childhood autism. The possible scores in this domain ranged from 0 – 1.
- 3) Domain 3 – Obsessive and Compulsive Behaviour, contains four (4) item questions that address the observed in children with childhood autism, characterized as restricted, repetitive, and stereotyped. The scores ranged from 0 – 4.
- 4) Domain 4 – Types of Disorder and Co-morbidities, includes six (6) item questions that gather information about the nature of childhood autism, potential co-morbid conditions, and onset of the disorder in affected children. The scores in this domain ranged from 0 – 6.

The higher the score in a particular domain, the better the respondent's knowledge about ASD in this domain.

Respondents also completed a form containing socio-demographic information (year of birth, gender, marital status, education level, place of residence, living alone or with others, and professional status).

Ethical aspects. The study was approved on 10 April 2024 by the Bioethics Commission of the Centre of Postgraduate Medical Education in Warsaw (Decision No. 25/2024).

Statistical analysis. Statistical analyses were performed using STATISTICA data analysis software system version 13.0,

StatSoft. Inc. (2017). www.statsoft.com. The sample size was calculated for proportion, assuming a 95% confidence level and approximately 30 million Polish adults. Because no proportion is given, a proportion of 50% was used, which guaranteed that the error would not exceed 3 percentage points.

The Kuder–Richardson 20 formula was used to test the reliability and internal consistency of both the KCAHW and the Polish Autism Knowledge Questionnaire, where each item question had a dichotomous score (correct answer=1, or incorrect answers=0).

Minimum and maximum values, as well as mean (M) and standard deviation (SD), were estimated for numerical variables, while absolute numbers (n) and percentages (%) of the occurrence of category were estimated for categorical variables. Two sample unpaired Student t tests were used to compare numerical scores of both the KCAHW and Polish Autism Knowledge Questionnaire between men and women, between the respondents who had contact with a person on the autism spectrum and those who did not, between the respondents who had a person on the autism spectrum in their own family or environment, and those who did not. Analysis of variance (ANOVA) F test was used to compare numerical scores of both KCAHW and Polish Autism Knowledge Questionnaire between age groups, places of residence, levels of education and employment statuses, and between the respondents who thought that autism spectrum disorder occurred very often in society, those who thought it occurred often, and those who thought it occurred rarely.

Owing to the large sample size, the central limit theorem was used to analyze the numerical scores of both the KCAHW and the Polish Autism Knowledge Questionnaire. This theorem states that, with a sufficiently large sample size, the sampling distribution of sample means can be approximated by a normal distribution. The significance level was set at $p < 0.05$.

RESULTS

Socio-demographic characteristics of the study group.

The study group consisted of 1,098 people aged 18–83 years, mean age 48.1 ± 15.9 , the majority aged at least 55 years (39%), were married (53%), and 53% of whom were women. The majority of respondents lived in villages (38%), graduated from university (43%), and were employed full-time or part-time (51%) (Tab. 1).

Questions regarding ASD. Answers to questions regarding ASD are summarized in Table 2. In the study, 34% of respondents reported contact with someone on the autism spectrum, with 18% having a family member or close acquaintance with ASD. While 38% considered ASD to be rare, 31% believed it was common, and 3% regarded it as very common. Nearly half (46%) felt the causes of ASD were not fully understood; 26.5% attributed it to genetic factors, 10% to maternal alcohol use during pregnancy, 7% to vaccines, 4% to disturbed parental bonds, and 4% to GMO foods.

A majority (65%) viewed ASD as a socially relevant issue. However, only 21% noted any State or institutional support, with just 14% finding such efforts to have any impact. To improve the situation for individuals with ASD, 41% advocated for more State involvement, while 9.5% suggested better education.

Table 1. Socio-demographic characteristics of the study group (N=1098)

Variable, parameter	Category or unit	Result
Gender, n (%)	female	584 (53.19)
	male	514 (46.81)
Age, min-max, M \pm SD	year	18–83, 48.1 \pm 15.9
Age (years), n (%)	18-24	84 (7.65)
	25-34	180 (16.39)
	35-44	225 (20.49)
	45-54	177 (16.12)
	55+	432 (39.34)
Marital status, n (%)	single	215 (19.58)
	married	578 (52.64)
	in partnership	181 (16.48)
	divorced	64 (5.83)
	widowed	60 (5.46)
Place of residence, n (%)	village	422 (38.43)
	small town (up to 20,000 inhabitants)	145 (13.21)
	medium town (20,000-99,000 inhabitants)	214 (19.49)
	big town (100,000 – 500,000 inhabitants)	180 (16.39)
	city (above 500,000 inhabitants)	137 (12.48)
Level of education, n (%)	primary	23 (2.09)
	basic vocational	106 (9.65)
	secondary without high school diploma	151 (13.75)
	secondary education with high school diploma (bachelor)	341 (31.06)
	university	477 (43.44)
Employment status, n (%)	Employed (full- or part-time)	559 (50.91)
	Civil-law contract	72 (6.56)
	Self-employed	70 (6.38)
	Student	23 (2.09)
	Retired or pensioner	292 (26.59)
	Unemployed	82 (7.45)

The Internet was the main information source on ASD (57%), followed by TV/radio (44%) and social media (28%). While 35% observed an increase in ASD information over the past five years, half saw no change.

Knowledge about autism according to the Polish Autism Knowledge Questionnaire.

Answers to the Polish Autism Knowledge Questionnaire are summarised in Table 3. Out of the 18 questions, two were answered correctly by the least number of respondents: Question 6: ‘Most children with autism have outstanding abilities in some area’ – 21% of the respondents answered correctly, and question 8: ‘Most children with autism have a high intelligence quotient’ – 29% of the respondents answered correctly. Half of the respondents correctly answered question 9: ‘Autism is more common in boys’.

More than 60% of respondents answered the other questions correctly (Fig. 1). Only 10 respondents from the study group, i.e. 0.9% of all respondents, answered all 18 questions correctly, 3% answered 17 questions correctly, 10% answered 16 questions correctly, and 17% answered

Table 2. Answers to questions regarding autism spectrum disorder in the study group (N=1098)

Question	Answer	n (%)
1. Have you had contact with a person on the autism spectrum?	Yes	378 (34.43)
	No	549 (50.00)
	I don't know	171 (15.57)
2. Is there a person on the autism spectrum in your family or in your environment?	Yes	199 (18.12)
	No	793 (72.22)
	I don't know	106 (9.65)
3. According to your knowledge, how common is the autism spectrum disorder in society?	Very often	34 (3.10)
	Often	337 (30.69)
	Rarely	416 (37.89)
	I don't know	311 (28.32)
4. Autism spectrum disorder is caused by:	Vaccines	76 (6.92)
	GMO foods	48 (4.37)
	Alcohol used by mother during pregnancy	115 (10.47)
	Disturbed bond between parents and child	41 (3.73)
	Genetic factors	291 (26.50)
	Causes not fully understood	506 (46.08)
	I don't know	251 (22.86)
5. Do you consider the problem of autism spectrum disorder to be socially relevant?	Yes	719 (65.48)
	No	90 (8.20)
	I have no opinion	289 (26.32)
6. Do you notice activities of state, local government and other institutions for the benefit of people with autism spectrum disorder?	Yes	231 (21.04)
	No	496 (45.17)
	I have no opinion	371 (33.79)
7. Do these activities, if they occur, have a real impact on improving the situation of people suffering from autism spectrum disorder?	Yes	153 (13.93)
	No	28 (2.55)
	I have no opinion	917 (83.51)
8. What opportunities do you see for action in relation to improving the situation of people with autism spectrum disorder?	Education	104 (9.47)
	More interest from the state	448 (40.80)
	I don't know	546 (49.73)
9. Where do you encounter information on autism spectrum disorder?	Internet	627 (57.10)
	TV/radio	480 (43.72)
	Social Media	310 (28.23)
	Press	134 (12.20)
	Other	95 (8.65)
10. How would you rate the frequency of dissemination of information about autism spectrum disorder compared to information from the last years (e.g. 5 years)?	I encounter more information than before	384 (34.97)
	I encounter less information than before	158 (14.39)
	I see no difference	556 (50.64)

15 questions correctly. The study group was dominated by respondents who answered 14 questions correctly (19% of the respondents).

The mean total score of the Polish Autism Knowledge Questionnaire in the study group was 12.9±2.9 of correct answers. The mean percentage of correct answers was 72, which means that the respondents answered 72% of the questions correctly, on average.

Knowledge about autism according to the KCAHW questionnaire. In the KCAHW questionnaire, 2 questions had the lowest correct response rates: 'Autism could be associated with Mental Retardation' (18%) and 'Onset of Autism is usually in childhood' (29%) (Tab. 4). Only one respondent answered all 19 questions correctly; 0.7% answered 18 correctly, 3% answered 17 correctly, and 5% answered 16 correctly. A significant portion (16%) of participants answered all questions incorrectly (Fig. 2).

The mean score across the study group was 8.6 out of 19, with an average accuracy rate of 45%, meaning respondents answered nearly half the questions correctly, on average. Analysis by domains showed variable levels of understanding. In Domain 1 (Impairment in Social Interaction), 20% of respondents answered all 8 questions correctly, while 22% answered none of them correctly, with an average score of 54% correct (Fig. 3a). In Domain 2 (Impairment in Communication and Development), 41% of responses answered correctly (Fig. 3b). Domain 3 (Obsessive and Compulsive Behaviour) revealed 16% accuracy across all 4 questions, with 29% answering all incorrectly, averaging 34% correct (Fig. 3c). For Domain 4 (Type of Disorder and Co-morbidities), only 1% answered all 6 questions correctly, and 21% answered all incorrectly, with an average of 34% correct responses (Fig. 3d).

The results obtained indicate moderate knowledge of ASD within the study group, with strengths in recognizing social impairments but gaps in understanding associated conditions and onset of autism.

Correlations of knowledge about with socio-demographic characteristics, and some questions regarding ASD in the study group. Table 5 shows correlations between autism knowledge scores (KCAHW and Polish Autism Knowledge Questionnaire) and socio-demographic characteristics. Women scored significantly higher than men on both assessments ($p<0.05$). Younger respondents (18–44) demonstrated greater knowledge, especially in KCAHW's Domain 2 (Impairments in Communication) and Domain 4 (Types of Disorders and Co-morbidities), compared to those aged 45 and older. Place of residence showed no significant correlation with knowledge scores ($p>0.05$).

Higher levels of education were associated with better knowledge on both questionnaires, including all KCAHW domains ($p<0.05$). Respondents on civil-law contracts and students scored higher in Domain 2 of the KCAHW compared to others. Respondents with direct or familial contact with someone on the autism spectrum scored significantly higher on all KCAHW domains and total scores, as well as on the Polish Autism Knowledge Questionnaire ($p<0.05$, $p<0.001$ for personal contact). Additionally, those perceiving autism as common scored better on both assessments than those viewing it as rare ($p<0.05$).

DISCUSSION

The study provides valuable insights into knowledge about Autism Spectrum Disorder (ASD) within a representative sample of the Polish population, highlighting both strengths and significant gaps. Differences in responses by socio-demographic factors reveal disparities and misconceptions that underscore the need for targeted educational interventions.

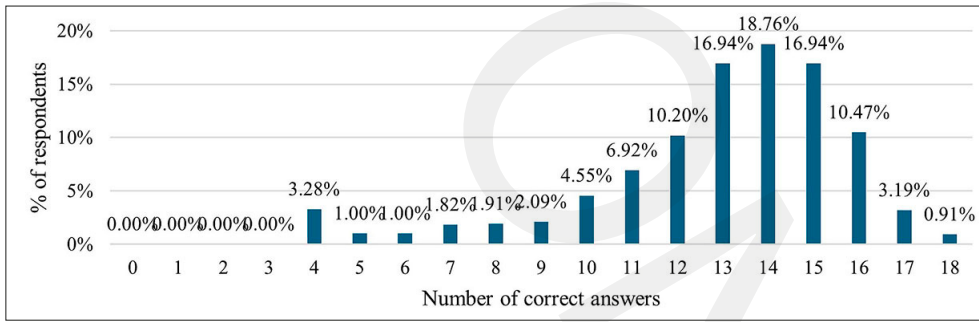


Figure 1. Polish Autism Knowledge Questionnaire score in the study group (N=1098)

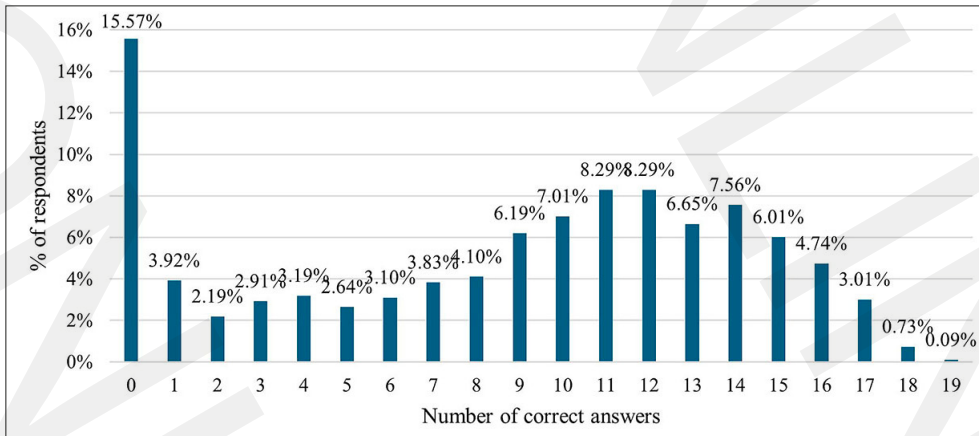


Figure 2. KCAHW total score in the study group (N=1098)

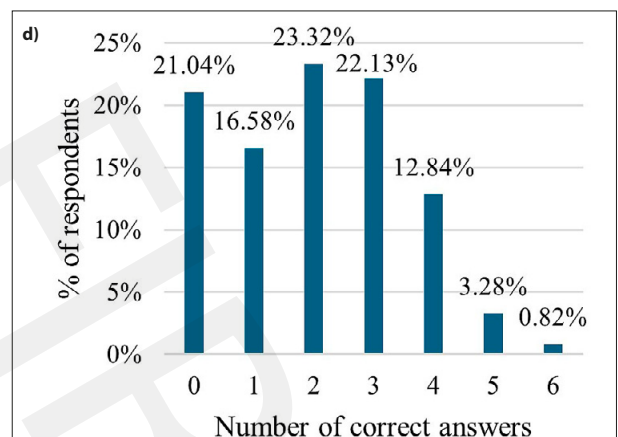
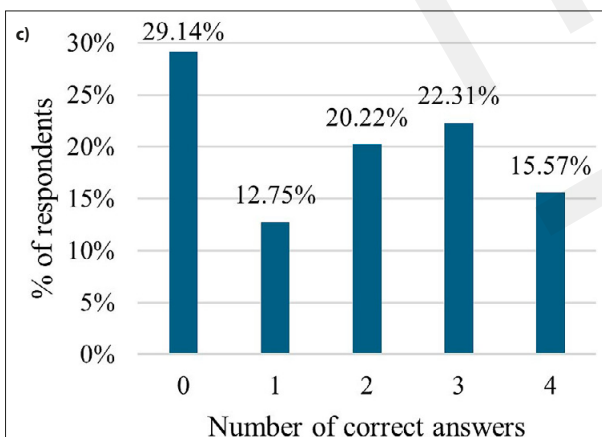
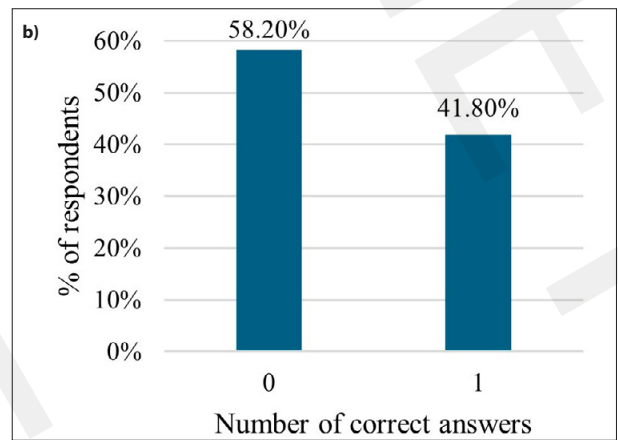
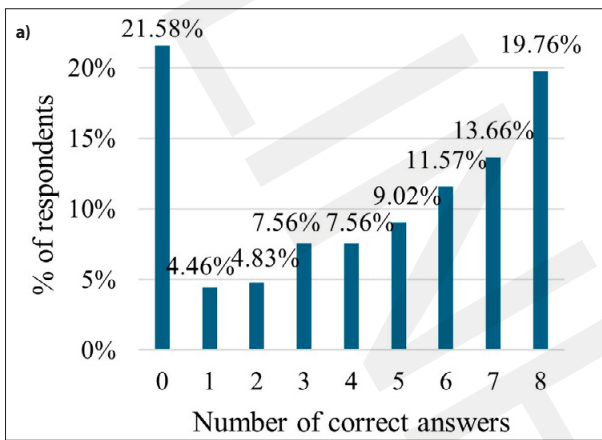


Figure 3. KCAHW domains in the study group (N=1098)

a) Domain 1 – Impairments in Social Interaction; b) Domain 2 – Impairment in Communication; c) Domain 3 – Obsessive and Compulsive Behaviour; d) Domain 4 – Type of Disorder and Co-morbidities, and onset of ASD

Table 3. Polish Autism Knowledge Questionnaire in the study group (N=1098)

Item	Correct answer	No. (%) of respondents who answered correctly
1. Children with autism have difficulty building relationships with others	True	931 (84.79)
2. Most children with autism do not speak	False	760 (69.22)
3. Children with autism display unusual, repetitive behaviours	True	946 (86.16)
4. Children with autism maintain eye contact easily	False	827 (75.32)
5. Abnormal contact with the mother in early childhood can cause the child to become autistic	False	897 (81.69)
6. Most children with autism have outstanding abilities in some area	False	230 (20.95)
7. Pre-natal screening can detect whether a child will have autism	False	741 (67.49)
8. Most children with autism have a high intelligence quotient	False	297 (27.05)
9. Autism is more common in boys	True	542 (49.36)
10. Most children with autism have hearing impairment	False	821 (74.77)
11. Autism can be treated pharmacologically	False	946 (87.80)
12. There are educational programmes to support the development of people with autism	True	978 (89.07)
13. Autism is a temporary developmental condition that can be outgrown	False	901 (82.06)
14. Children with autism do not show attachment even to their parents	False	708 (64.48)
15. Vaccination can cause autism	False	875 (79.69)
16. Children with autism respond well to changes in their environment	False	867 (78.96)
17. Parents can prevent their children from developing autism	False	927 (84.43)
18. Every person with autism will sooner or later develop schizophrenia	False	955 (86.98)

Table 4. Knowledge about autism according to KCAHW in the study group (N=1098)

Domain	Item	Correct answer	No. (%) of respondents who answered correctly
1. Impairments in social interactions	1. Is the impairment of such non-verbal behaviours as eye to eye contact, facial expression, body postures and gestures during social interaction, typical for a child with ASD?	Yes	675 (61.48)
	2. Failure to develop peer relationship appropriate for developmental age?	Yes	625 (56.92)
	3. Lack of spontaneous will to share enjoyment, interest or activities with other people?	Yes	570 (51.91)
	4. Lack of social or emotional reciprocity?	Yes	587 (53.46)
	5. Staring into open space and not focusing on anything specific?	Yes	579 (52.73)
	6. The child can appear as if deaf or dumb?	Yes	674 (61.38)
	7. Loss of interest in the environment and surroundings?	Yes	583 (53.10)
	8. Social smile is usually absent in a child with autism?	Yes	486 (44.26)
2. Impairments in communication	9. Delay or total lack of development of spoken language?	Yes	459 (41.80)
3. Obsessive and repetitive pattern of behaviour	10. Stereotyped and repetitive hand movement (e.g. hand or finger flapping or twisting)?	Yes	547 (49.82)
	11. Maybe associated with abnormal eating habits?	Yes	296 (26.96)
	12. Persistent preoccupation with parts of objects?	Yes	572 (52.09)
	13. Love for regimented routine activities?	Yes	588 (53.55)
4. Type of disorder autism and associated comorbidity	14. Is Autism the Childhood Schizophrenia?	No	472 (42.99)
	15. Is Autism an auto-immune condition?	No	215 (19.58)
	16. Is Autism a neurodevelopmental disorder?	Yes	555 (50.55)
	17. Could Autism be associated with Mental Retardation?	Yes	299 (27.23)
	18. Could Autism be associated with Epilepsy?	Yes	357 (32.51)
	19. Onset of Autism can usually be found in	Childhood	323 (29.42)

On average, participants scored 72% correct answers on the Polish Autism Knowledge Questionnaire and 45% on the KCAHW questionnaire. Over 80% correctly identified core ASD traits, such repetitive/compulsive behaviours and social interaction challenges, which reflects moderate awareness. However, there were notable gaps, particularly concerning cognitive abilities and the myth that individuals with ASD often possess unique skills; only 21% knew these abilities are not universal, and fewer than 30% understood that high

intelligence is not typical in ASD. Misconceptions about the causes of ASD also persisted. Although 46% of respondents recognized the causes as largely unknown, 7% still cited vaccines, and 4.8% indicated parenting. This persistence of outdated beliefs is consistent with the 2021 report by Poland's Public Opinion Research Centre (CBOS), which found that outdated views influencing ASD perceptions [21].

Barriers to timely diagnosis also arose from psychological factors and stigma-related fears. In a 2019 study, 38.1% of

Table 5. Correlations of KCAHW and Polish Autism Knowledge Questionnaires with socio-demographic characteristics of the study group as well as with some questions regarding autism spectrum disorder (N=1098)

Variable	Category	KCAHW						Polish Autism Knowledge Questionnaire score	
		Total score (19 items)	Domain 1. Impairments in social interactions (8 items)	Domain 2. Impairments in communication (1 item)	Domain 3. Obsessive and repetitive pattern of behaviour (4 items)	Domain 4. Type of disorder, autism and associated comorbidity (6 items)	M±SD	p	M±SD
Total sample		8.62±5.48	4.35±2.99	0.42±0.49	1.82±1.45	2.02±1.47		12.9±2.9	
Gender	female	9.4±5.3	4.8±2.9	0.5±0.5	2.0±1.4	2.1±1.4	0.122	13.3±2.6	<0.001
	male	7.7±5.5	3.8±3.0	0.4±0.5	1.6±1.4	1.9±1.5		12.5±3.2	
Age group	18-24	9.2±5.2	4.4±2.7	0.5±0.5	2.0±1.5	2.3±1.3		12.7±2.8	
	25-34	8.6±5.8	4.1±3.0	0.5±0.5	1.9±1.5	2.1±1.5		12.6±3.5	
	35-44	9.0±5.7	4.5±3.1	0.063	1.9±1.5	2.2±1.5	0.010	12.7±3.1	0.078
	45-54	7.7±5.8	3.9±3.1	0.4±0.5	1.7±1.5	1.8±1.5		13.4±2.6	
	55+	8.7±5.1	4.6±2.9	0.4±0.5	1.8±1.4	1.9±1.4		13.0±2.7	
Place of residence	village	8.4±5.6	4.2±3.0	0.4±0.5	1.7±1.5	2.0±1.5		12.8±2.9	
	small town	8.4±5.6	4.2±3.1	0.4±0.5	1.8±1.4	2.0±1.5		13.0±2.9	
	medium town	9.3±5.2	4.8±2.8	0.075	2.0±1.4	1.9±1.4	0.836	12.6±3.1	0.056
	big town	8.5±5.6	4.1±3.0	0.4±0.5	1.8±1.5	2.1±1.5		13.3±2.7	
	city	8.8±5.3	4.5±2.9	0.4±0.5	1.9±1.4	2.0±1.4		13.3±3.0	
Level of education	primary	6.1±6.0	2.7±2.8	0.3±0.5	1.3±1.6	1.8±1.7		12.3±2.5	
	basic vocational	6.0±5.6	3.1±3.1	0.3±0.5	1.3±1.4	1.3±1.4		12.2±3.0	
	secondary without high school diploma	7.3±5.6	3.6±3.1	<0.001	1.6±1.5	1.8±1.5	<0.001	11.9±3.0	<0.001
	secondary education with high school diploma (bachelor)	8.7±5.2	4.5±2.9	0.4±0.5	1.8±1.4	2.0±1.4		12.9±2.8	
	university	9.7±5.3	4.8±2.9	0.5±0.5	2.1±1.4	2.3±1.5		13.4±2.9	
Employment status	Employed (full- or part-time)	8.8±5.6	4.4±3.0	0.4±0.5	1.9±1.5	2.1±1.5		12.9±3.1	
	Civil-law contract	9.4±5.5	4.4±2.9	0.6±0.5	2.1±1.5	2.4±1.5		12.2±3.2	
	Self-employed	8.5±6.0	4.3±3.2	0.4±0.5	1.8±1.5	2.0±1.7	0.193	13.0±3.0	0.105
	Student	8.7±4.6	4.0±2.4	0.5±0.5	2.0±1.3	2.2±1.2		13.6±2.7	
Have you had a contact with a person on the autism spectrum?	Retired or pensioner	8.4±5.1	4.4±2.9	0.4±0.5	1.7±1.3	1.9±1.4		12.9±2.7	
	Unemployed	7.4±5.9	3.6±3.1	0.4±0.5	1.5±1.6	1.8±1.5		13.5±2.2	
Is there a person on the autism spectrum in your family or in your environment?	yes	11.2±4.3	5.5±2.4	0.6±0.5	2.5±1.3	2.6±1.4	<0.001	13.2±2.8	0.007
	no	7.3±5.6	3.7±3.1	0.3±0.5	1.5±1.4	1.7±1.4		12.7±2.9	
According to your knowledge, how common is the autism spectrum disorder in society?	yes	11.4±4.5	5.6±2.4	0.6±0.5	2.6±1.3	2.6±1.3	<0.001	13.2±3.0	0.335
	no	8.3±5.4	4.2±3.0	0.4±0.5	1.7±1.4	1.9±1.5		12.9±2.8	
	very often	11.9±3.8	5.8±2.2	0.6±0.5	2.9±1.2	2.7±1.1		13.4±2.4	
	often	10.9±4.7	5.4±2.6	0.001	2.4±1.4	2.5±1.3	0.006	13.2±2.8	<0.001
	rarely	9.3±4.8	4.7±2.8	0.4±0.5	1.9±1.4	2.2±1.4		10.9±3.6	

parents initially denied ASD symptoms in their children, with only a third of cases referred for psychiatric evaluation by primary care physicians [22].

Misattributions to such factors as bonding issues or diet may lead families to delay seeking help, as they fear stigma or lack of adequate support [23, 24], despite the fact that timely diagnosis provides access to essential services that alleviate financial and emotional stress [25].

ASD knowledge in the study correlated with such socio-demographic factors as gender, age, and education level. Women consistently scored higher on both questionnaires, likely due to their greater involvement in care giving and developmental concerns. Younger participants (aged 18–44) showed greater awareness of communication impairments and ASD onset, which may reflect increased exposure through education and the media. University-educated participants scored the highest, underlining the need for targeted awareness efforts across various demographics.

Despite the rising prevalence of ASD, awareness has not kept pace. Internet sources were the primary information source (57%), followed by traditional media (44%) and social media (28%), but only 8.65% cited scientific resources, underscoring the risk of misinformation. Notably, 38% still perceive ASD as rare, and only 21% were aware of government initiatives, with only 14% finding them effective. However, 41% believe greater State involvement could significantly improve support for individuals with ASD.

Personal contact with individuals with ASD strongly predicted a higher awareness, with close acquaintances scoring consistently better. This suggests contact-based interventions could effectively foster understanding and empathy in society, although such initiatives remain underutilized in social campaigns.

In summary, while ASD awareness in Poland has progressed, gaps and misconceptions still persist, particularly regarding causes, special abilities, and co-morbidities. Targeted educational efforts, better media portrayal, and increased government support are essential. Collaboration among policymakers, Non-Governmental Organizations (NGOs), and the ASD community – as recommended by The Lancet Commission – could advance a more inclusive, informed approach to ASD, ultimately benefiting individuals and families affected by the disorder.

Limitations of the study. Although the study is insightful regarding knowledge in Polish society about autism, it nevertheless has limitations. Conducted online via the CAWI method, access to the Internet was essential for participation, which potentially excluded those less familiar with technology or from lower socio-economic backgrounds, which could have affected the results obtained. Self-administered questionnaires also risk misinterpretation, especially on complex autism-related topics. Additionally, the KCAHW questionnaire designed for healthcare workers, may have influenced some responses. The study primarily assessed declarative knowledge, not practical skills or attitudes toward individuals with ASD.

CONCLUSIONS

The study revealed moderate awareness of ASD in Poland, with notable gaps in understanding the causes of autism, co-

occurring disorders, and the importance of early intervention. While ASD awareness exists, visible and effective support from the State is limited. To bridge these gaps, educational campaigns are needed, focusing on correcting misinformation and emphasizing available support options. Targeted efforts should consider demographic differences, as knowledge varies by gender, age, and level of education. Greater government involvement, including funding, support programmes, and clear communication of initiatives, are essential to foster a more informed society, improve recognition, understanding, and support for individuals with ASD.

Institutional Review Board Statement. The study was approved by the Bioethics Commission of the Centre of Postgraduate Medical Education in Warsaw, Poland, on April 10, 2024 (Decision No. 25/2024).

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