

Current State of Knowledge about Autism Spectrum Disorder Based on DSM-5 in the General Population of Faisalabad City, Pakistan: A Survey Study

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Abstract

The present study expands understanding of public awareness by assessing a current knowledge and awareness levels of general population regarding autism spectrum disorder (ASD) in Faisalabad, Pakistan. Despite increasing global awareness of ASD, limited research has been conducted on the general population's knowledge of ASD in Faisalabad, Pakistan. Therefore, it was crucial to assess the current state of public knowledge and awareness regarding ASD in Faisalabad, Pakistan. The present study adopted descriptive survey method to answer the research questions. The sample of the study comprising 60 respondents was chosen through convenience sampling technique from public having some affiliations with ASD students. A self-made questionnaire was designed for the data collection from respondents. The results of the study represented that there was a low level of general knowledge about the ASD children among the general population. There was a moderate level of awareness about the social interaction, repetitive behavior and restricted behavior of the ASD children among the general masses. No significant variation in the level of knowledge about the ASD children was noted among the respondents based on their gender, qualification and institutional sector.

Keywords: *Autism spectrum disorder, general knowledge, diagnostic and statistical manual for mental disorder.*

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Introduction

Individuals with autism spectrum disorder (ASD) are characterized by difficulties in their social interactions, verbal and nonverbal communication, and restricted repetitive behaviors, interests, and activities (American Psychiatric Association, 2013). According to studies, prevalence of ASD is increasing worldwide, and likewise in Pakistan (Amyn, 2021). Thus, educating the public, and raising awareness about ASD has been the focus of local and global bodies. Millions of dollars, pounds and euros have been spent on autism awareness campaigns; the World Autism Awareness Day (WAAD; 2 April) and World Autism Awareness Month (April) has become institutionalized (Dillenburger et al., 2013).

While professional knowledge about autism is widely acknowledged as important, the rising prevalence of autism underscores the necessity for the public to possess awareness and a correct understanding of the ASD. To address this, organizations like Autism Speaks have launched campaigns aimed at enhancing public knowledge of autism. However, there is a scarcity of studies assessing autism knowledge among the general population in the Faisalabad, Pakistan (Ibrahim, 2019; Mitchell & Locke, 2015), which could provide valuable insights for shaping campaign content (Golson et al., 2022).

The present study expands understanding of public awareness by assessing a current knowledge and awareness levels of general population regarding ASD in Faisalabad, Pakistan. Despite increasing global awareness of ASD, limited research has been conducted on the general population's knowledge of ASD in Faisalabad, Pakistan. This lack of research can lead to misconceptions, stigma, and inadequate support for individuals with ASD and their families. Therefore, it is crucial to assess the current state of public knowledge and awareness regarding ASD in Faisalabad, Pakistan. Thus, the study aims to address this need by determining the awareness and understanding of ASD within the Pakistani general population.

Objectives of the study

Following objectives were set to be explored in the study:

1. To know the current level of knowledge of the general population about ASD in Faisalabad, Pakistan.
2. To ascertain the level of awareness about the characteristics of Social Interaction of ASD based on DSM-5 diagnostic procedures in Faisalabad, Pakistan.

3. To assess the level of awareness about the features of Repetitive Behaviors of ASD based on DSM-5 diagnostic procedures in Faisalabad, Pakistan.
4. To evaluate the level of awareness about the characteristics of Restricted Behaviors of ASD based on DSM-5 diagnostic procedures in Faisalabad, Pakistan.
5. To compare the level of knowledge of public about ASD based on gender, qualification, sector of the institutions.

Literature Review

ASD is a neurodevelopmental condition characterized and diagnosed by impairments in social communication and social interaction in the presence of restricted, repetitive behaviors or interests (DSM-V 2013). Despite the availability of various therapies, Pakistan's healthcare system relies heavily on psychopharmacological interventions, with limited access to therapies and inadequate training of professionals. To address the significant burden on individuals and families, the government must prioritize improving healthcare services, increasing awareness, and enhancing the competency of healthcare professionals (Amin, 2021).

ASD, estimated between 1 in 100 and 1 in 59, there is a lack of research on risk factors in developing countries, including Pakistan (Qureshi et al., 2022). A recent survey in Northern Ireland revealed high levels of autism awareness, with over 80% of data providers familiar with ASD and over 60% knowing someone with ASD personally. The findings suggest that awareness campaigns have been successful, but there is a need to focus on accurate information about interventions and services (Dillenburger et al., 2013).

ASD represents a complex neurodevelopmental condition characterized by challenges in social communication, restricted interests, and repetitive behaviors. The global prevalence of ASD has prompted a growing body of research aimed at understanding its epidemiology, etiology, and management. This study seeks to address this gap by conducting a comprehensive survey to assess the current state of knowledge about ASD within Faisalabad's diverse populace. By exploring the levels of awareness, misconceptions, and attitudes towards ASD, this research helps to provide insights that will lead to inform public health strategies, educational initiatives, and policy-making processes to better support individuals with ASD in this region. Keeping above in view, the study aims to explore the current state of knowledge about autism spectrum disorder based on DSM-V in the General Population of Faisalabad City, Pakistan.

Methodology

The present study was descriptive survey in its nature to answer the research questions. The research population consisted of all the people within the Faisalabad, Pakistan. The sample of the present study was comprised of 60 (n=60) persons surrounded by the segment of ASD within the Faisalabad city. Convenience sampling technique was used to draw the conclusions of the study. The researchers used self-developed questionnaire. The developed questionnaire was validated by three experts of the field and the given suggestions by the experts were incorporated in the questionnaire. The survey questionnaire was comprised of five parts. First part of the questionnaire was dealing with the demographic information such as gender, education, job experience, institutions, and city. Second part of the questionnaire comprising of 7 items was based on general information such as characteristics and symptoms of ASD. Third, fourth and five parts of the questionnaire comprised of 10, 9 and 12 items respectively based DSM-V. Reliability index of the questionnaire was $r=0.983$ which indicated excellent internal consistency of the questionnaire. Descriptive analysis and independent sample t-test was performed to infer the study results.

Results

Table 1
Demographics of respondents

		Frequency	Percentage
Gender	Male	20	33.3
	Female	40	66.7
Qualification	Under Graduation	32	53.3
	Post-Graduation	28	46.7
Sector	Private	16	26.7
	Public	44	73.3

This table explained that 66% of the data providers were female and 33% of them were male who took part in the study, 53.3% of the data providers were under graduated, and 46.7% were post graduated, and 73.3% of the data providers belonged to public sector and 26.7% of the data providers belonged to private sector.

Table 2
Analysis of general knowledge

Items	Not at all	Somewhat aware	Complete aware
General awareness about ASD	25 (41.7%)	27 (45%)	8 (13.3%)

<i>Current State of Knowledge about Autism Spectrum Disorder...</i>		21	
Common characteristics associated with ASD	27 (45%)	29 (48.3%)	4 (6.7%)
ASD Children can lead a successful life	28 (46.7%)	23 (38.3%)	9 (15%)
Society is generally accepting of people with autism	34 (56.7%)	20 (33.3%)	6 (10%)
Communities support ASD children and their families	22 (36.7%)	33 (55%)	5 (8.3%)
ASD children can study in mainstream education	24 (40%)	25 (41.6%)	11 (18.3%)
Learning ASD is interesting	3 (5%)	28 (46.7%)	9 (48.3%)

This table explained that 41.7% of the data providers had not at all general awareness regarding ASD, 45% of them had somewhat awareness and 13.3% of them had complete awareness. 45% of the data providers had not at all awareness regarding common characteristics associated with ASD, 48.3% of them had somewhat awareness and 6.7% of them had complete awareness. 46.7% of the data providers had not at all awareness regarding ASD children lead successful life, 38.3% of them had somewhat awareness and 15% of them had complete awareness. 56.7% of the data providers had not at all awareness regarding society is generally accepting ASD, 33.3% of them had somewhat awareness and 10% of them had complete awareness. 36.7% of the data providers had not at all awareness regarding community's support ASD and their families, 55% of them had somewhat awareness and 8.3% of them had complete awareness. 18.3% respondents were completely aware that ASD children can study in mainstream education, 41.6% had somewhat awareness, and 40% had not at all awareness about the idea. 9% respondents were completed aware about the idea that learning ASD is very interesting, 46.7% had somewhat awareness while 5% had not all awareness.

Table 3
Knowledge about the Social Interaction based on diagnostic criteria of DSM-V

Items	Not at all	Very little	Somewhat	To a great extent
ASD Children require patience to build rapport with them	20 (33.3%)	12 (20%)	12 (20%)	16 (26.7%)
ASD Children often have difficulty making eye contact	22 (36.7%)	12 (20%)	16 (26.7%)	10 (16.7%)
ASD Children may have specific routines that they insist on	23 (38.3%)	13 (21.7%)	13 (21.7%)	11 (18.3%)
ASD Children may not use facial expressions to convey emotions same as their peers	20 (33.3%)	14 (23.3%)	11 (18.3%)	15 (25%)

ASD Children might struggle to interpret others' body language	24 (40%)	10 (14.7%)	14 (23.3%)	12 (20%)
ASD Children may have difficulty understanding gestures	20 (33.3%)	11 (18.3%)	19 (31.7%)	10 (16.7%)
ASD Children may have a limited range of vocal tone, pitch, and volume when speaking	21 (35%)	10 (16.7%)	16 (26.7%)	13 (21.7%)
ASD Children might struggle to understand social cues	21 (35%)	8 (13.3%)	18 (30%)	13 (21.7%)
ASD Children might struggle to perceive facial expressions	24 (40%)	9 (15%)	18 (30%)	9 (15%)
ASD Children may have delayed speech development	23 (38.3%)	13 (21.7%)	12 (20%)	12 (20%)

This table explained that 33.3% of the data providers had not at all awareness with the statement that ASD Children require patience to build rapport with them, 20% of them had very little awareness, 20% of them had somewhat awareness and 26.7% of them had greater extent awareness. 36.7% of the data providers had not at all awareness with the statement that ASD Children often have difficulty making eye contact, 20% of them had very little awareness, 26.7% of them had somewhat awareness and 16.7% of them had greater extent awareness. 33.3% of the data providers had not at all awareness with the statement that ASD Children may have specific routines that they insist on, 21.7% of them had very little awareness, 21.7% of them had somewhat awareness and 18.3% of them had greater extent awareness about the statement that ASD Children may have specific routines that they insist on. 33.3% of the data providers had not at all awareness with the statement, 23.3% of them had very little awareness, 18.3% of them had somewhat awareness and 25% of them had greater extent awareness about the idea that ASD Children may not use facial expressions to convey emotions in the same way as their peers. 40% of the data providers had not at all awareness with the statement that ASD Children might struggle to interpret others' body language, 16.7% of them had very little awareness, 23.3% of them had somewhat awareness and 20% of them had greater extent awareness. 33.3% of the data providers had not at all awareness with the statement that ASD Children may have difficulty understanding gestures, 18.3% of them had very little awareness, 31.7% of them had somewhat awareness and 16.7% of them had greater extent awareness about the idea. 35% of the data providers had not at all awareness with the idea, 16.7% of them had very little awareness, 26.7% of them had somewhat awareness and 21.7% of them had greater extent awareness about idea that ASD children may have limited range of vocal

tone, pitch, and volume when speaking. 35% of the data providers had not at all awareness with the statement, 13.3% of them had very little awareness, 30% of them had somewhat awareness and 21.7% of them had greater extent awareness regarding the idea that ASD children might struggle to understand social cues. 40% of the data providers had not at all awareness with the statement, 15% of them had very little awareness, 30% of them had somewhat awareness and 15% of them had greater extent awareness pertaining to the idea that ASD children might struggle to perceive facial expressions. 38.3% of the data providers had not at all awareness with the statement, 21.7% of them had very little awareness, 20% of them had somewhat awareness and 20% of them had greater extent awareness related to the statement that ASD children may have delayed speech development.

Table 4
Knowledge about Repetitive Behaviors based on diagnostic criteria of DSM-V

Items	Not at all	Very little	Somewhat	To a great extent
ASD Children can have intense interests in specific topics	28 (46.7%)	18 (30%)	10 (16.7%)	4 (6.7%)
ASD Children might repeat phrases rather than using spontaneous speech	23 (38.3%)	9 (15%)	19 (31.7%)	9 (15%)
ASD Children might repeat words rather than using spontaneous speech	24 (40%)	11 (18.3%)	15 (25%)	10 (16.7%)
ASD Children often engage in hand-flapping	23 (38.3%)	13 (21.7%)	17 (28.3%)	7 (11.7%)
ASD Children may prefer playing alone than with other children	25 (41.7%)	4 (6.7%)	19 (31.7%)	12 (20%)
ASD Children might show an intense interest in specific activities	25 (41.7%)	9 (15%)	16 (26.7%)	10 (16.7%)
ASD Children can lead independent and fulfilling lives	25 (41.7%)	16 (26.7%)	12 (20%)	7 (11.7%)
ASD Children might engage in repetitive verbal scripting by repeating lines from conversations	25 (41.7%)	9 (15%)	18 (30%)	8 (13.3%)
ASD Children may engage in repetitive questioning by using phrases from movies	22 (36.7%)	12 (20%)	17 (28.3%)	9 (15%)

This table explained that 46.7% of the data providers had not at all awareness with the statement that ASD Children can have intense interests in specific topics, 30% of them had very little awareness, 16.7% of them had somewhat awareness and 6.7% of them had greater extent awareness. 38.3% of the data providers had not at all awareness with the statement, 15% of them had very little awareness, 31.7% of them had somewhat awareness and 15% of them had greater extent awareness pertaining to the idea that ASD children might repeat phrases rather than using spontaneous speech. 40% of the data providers had not at all awareness with the statement that ASD Children might repeat words rather than using spontaneous speech, 18.3% of them had very little awareness, 25% of them had somewhat awareness and 16.7% of them had greater extent awareness. 38.3% of the data providers had not at all awareness with the statement, 21.7% of them had very little awareness, 28.3% of them had somewhat awareness and 11.7% of them had greater extent awareness about the statement that ASD children often engage in hand-flapping. 41.7% of the data providers had not at all awareness with the statement, 6.7% of them had very little awareness, 31.7% of them had somewhat awareness and 20% of them had greater extent awareness related to the statement that ASD children may prefer playing alone rather than with other children. 41.7% of the data providers had not at all awareness with the statement, 15% of them had very little awareness, 26.7% of them had somewhat awareness and 16.7% of them had greater extent awareness about the idea that ASD children might show an intense interest in specific activities. 41.7% of the data providers had not at all awareness with the statement, 26.7% of them had very little awareness, 20% of them had somewhat awareness and 11.7% of them had greater extent awareness pertaining to the idea that ASD children can lead independent and fulfilling lives. 41.7% of the data providers had not at all awareness with the statement, 15% of them had very little awareness, 30% of them had somewhat awareness and 13.3% of them had greater extent awareness related to the idea that ASD children might engage in repetitive verbal scripting by repeating lines from conversations. 36.7% of the data providers had not at all awareness with the statement that ASD Children may engage in repetitive questioning by using phrases from movies, 20% of them had very little awareness, 28.3% of them had somewhat awareness and 15% of them had greater extent awareness.

Table 5
Knowledge about Restricted Behaviors based on diagnostic criteria of DSM-V

Items	Not at all	Very little	Somewhat	To a great extent
ASD Children can have intense interests in specific topics	24 (40%)	11 (18.3%)	15 (25%)	10 (16.7%)
ASD Children may display obsessive interests in objects, often to the exclusion of other activities	23 (38.3%)	8 (13.3%)	19 (31.7%)	10 (16.7%)
ASD Children prefer to follow strict schedules and can become distressed if their routine is disrupted	26 (43.3%)	11 (18.3%)	12 (20%)	11 (18.3%)
ASD Children might spend hours focusing on a single activity	22 (36.7%)	11 (18.3%)	16 (26.7%)	11 (18.3%)
ASD Children may have strong attachments to a particular toy	24 (40%)	10 (16.7%)	13 (21.7%)	13 (21.7%)
ASD Children may prefer clothing made of specific textures	25 (41.7%)	10 (16.7%)	18 (30%)	7 (11.7%)
ASD Children can become intensely interested in collecting items	23 (38.3%)	19 (31.7%)	14 (23.3%)	4 (6.7%)
Demonstrate sensory-seeking behaviors towards certain sensations	24 (40%)	15 (25%)	13 (21.7%)	8 (13.3%)
ASD Children have aversion to certain foods due to sensory issues	27 (45%)	14 (23.3%)	13 (21.7%)	6 (10%)
ASD Children may demonstrate sensitivity to crunchy textures	27 (45%)	12 (20%)	16 (26.7%)	5 (8.3%)
ASD Children may demonstrate sensitivity to smooth textures	26 (43.3%)	15 (25%)	15 (25%)	4 (6.7%)
ASD Children may prefer foods with consistent presentation	24 (40%)	16 (26.7%)	11 (18.3%)	9 (15%)

This table explained that 40% of the data providers had not at all awareness with the statement that ASD Children can have intense interests in specific topics, 18.3% of them had very little awareness, 25% of them had somewhat awareness and 16.7% of them had greater extent awareness. 38.3% of the data providers had not at all awareness with the statement, 13.3% of them had very little awareness, 31.7% of them had

somewhat awareness and 16.7% of them had greater extent awareness pertaining to the idea that ASD children may display obsessive interests in objects often to the exclusion of other activities. 43.3% of the data providers had not at all awareness with the statement that ASD Children often prefer to follow strict schedules and can become distressed if their routine is disrupted, 18.3% of them had very little awareness, 20% of them had somewhat awareness and 18.3% of them had greater extent awareness. 36.7% of the data providers had not at all awareness with the statement that ASD Children might spend hours focusing on a single activity, 18.3% of them had very little awareness, 26.7% of them had somewhat awareness and 18.3% of them had greater extent awareness. 40% of the data providers had not at all awareness with the statement that ASD Children may have strong attachments to a particular toy, 16.7% of them had very little awareness, 21.7% of them had somewhat awareness and 21.7% of them had greater extent awareness. 41.7% of the data providers had not at all awareness with the statement that ASD Children may prefer clothing made of specific textures, 16.7% of them had very little awareness, 30% of them had somewhat awareness and 11.7% of them had greater extent awareness. 38.3% of the data providers had not at all awareness with the statement that ASD Children can become intensely interested in collecting items, 31.7% of them had very little awareness, 23.3% of them had somewhat awareness and 6.7% of them had greater extent awareness. 40% of the data providers had not at all awareness with the statement that Demonstrate sensory-seeking behaviors towards certain sensations, 25% of them had very little awareness, 21.7% of them had somewhat awareness and 13.3% of them had greater extent awareness. 45% of the data providers had not at all awareness with the statement that ASD Children have aversion to certain foods due to sensory issues, 23.3% of them had very little awareness, 21.7% of them had somewhat awareness and 10% of them had greater extent awareness. 45% of the data providers had not at all awareness with the statement that ASD Children may demonstrate sensitivity to crunchy textures, 20% of them had very little awareness, 26.7% of them had somewhat awareness and 8.3% of them had greater extent awareness. 43.3% of the data providers had not at all awareness with the statement that ASD Children may demonstrate sensitivity to smooth textures, 25% of them had very little awareness, 25% of them had somewhat awareness and 6.7% of them had greater extent awareness. 40% of the data providers had not at all awareness with the statement, 26.7% of them had very little awareness, 18.3% of them had somewhat awareness and 15% of them had greater extent awareness about the idea that ASD children may prefer foods with consistent presentation.

Factor wise analysis of the data

Table 6

Factor wise analysis of the data regarding the level of knowledge among general population about the ASD Children

Factors	N	Mean	Std. Deviation	Level of Agreement
General Knowledge (GK)	60	1.783	0.478	Low
Social Interaction (SI)	60	2.288	1.002	Moderate
Repetitive Behavior (RB1)	60	2.139	0.952	Moderate
Restricted Behavior (RB2)	60	2.106	0.933	Moderate

This table revealed the factor wise analysis of the level of knowledge among general population about the ASD Children. There was a very low level general knowledge (GK) with mean score (M=1.783, SD=0.478), however a moderate level of awareness about the ASD Children was found all the three domains i.e. Social Interaction (M=2.288, SD=1.002), Repetitive Behavior (M=2.139, SD=0.952), and Restricted Behavior (M=2.106, SD=0.933). It was evident that the level of knowledge among general population about the ASD Children was at low level in district Faisalabad, Pakistan.

Table 7

Comparison of the knowledge of general population about the ASD Children based on their gender and sector

Variable	Category	Mean	SD	df	t	Sig	Decision
Gender	Male	1.97	0.826	58	-1.032	0.306	Null
	Female	2.21	0.840				hypothesis accepted
Sector	Public	2.04	0.839	58	-0.522	0.604	Null
	Private	2.16	0.842				hypothesis accepted

This table displayed that there was no significant difference between the knowledge male and respondents ($p>0.05$) about the ASD children, therefore null hypothesis was accepted. Similarly, no any significant variation ($p>0.05$) was noted between the knowledge public and private sector respondents about the ASD children, consequently null hypothesis was accepted.

Table 8

Comparison of the knowledge of general population about the ASD children based on their qualification

	Sum of Squares	df	Mean Square	F	Sig.	Decision
Between Groups	4.125	4	1.031	1.528	0.207	Null
Within Groups	37.127	55	0.675			hypothesis

The one-way analysis of variance values represented that there was no significant difference ($p>0.5$) in knowledge of general population about the ASD children based on their qualification. Therefore, null hypothesis was accepted.

Discussion

Over time, more and more research is being done on autism. While a greater number of studies (Sanz-Cervera et al., 2017) concentrate on the general public as opposed to professionals, a large portion of the study is tailored to subgroups within the general population, such as parents, neurotypical peers, or students (McClain et al., 2017). A large portion of research on the general public has to be placed in the context of the state or country under investigation. However, prior studies of the broader public as a whole have shown a number of recurring motifs. For instance, according to Dillenburger et al. (2013), a large portion of the public underestimates the prevalence of autism. The most well-known are perhaps the myths about the cause of autism. According to research by Durand-Zaleski et al. (2012), about 25% of the French general population thinks that stressful life experiences are a factor in autism, while an even higher percentage said they are completely unaware of a reason. In a similar vein, Holt and Christensen (2013) discovered that individuals in the general community of Utah had limited knowledge of the etiology. The general public is more aware of the frequent symptoms and behaviors associated with autism, such as social communication difficulties (Dillenburger et al., 2013; Mitchell & Locke, 2015), despite the lack of information regarding the etiology of the condition. In general, the public is aware of some aspects of the topography of autism, but not enough about other crucial topics, such evidence-based services.

The literature contains indications that our understanding of autism may be growing. Two cohorts of university students were evaluated by White et al. (2019) for their awareness of autistic symptoms five years apart. Compared to the first cohort, the latter group showed a higher level of awareness of symptoms and behaviors. Furthermore, a sample of community people and college students in the Midwest of the United States who attended a state fair had a high degree of awareness of the diagnosis, etiology, and prevalence of autism (Stronach et al., 2019). There doesn't seem to be a uniform high degree of expertise among the groupings. While Americans in the public sample showed sufficient understanding of the diagnosis, causation, and treatment of autism, Chinese data providers knew much less about these concepts (Yu et al.,

2020). Collaboratively, this suggests the importance of ongoing evaluation of autism understanding to examine patterns and also wider surveys to evaluate autism knowledge among different groups.

In general, having a good understanding of autism among the population is essential for enhancing the well-being and outcomes of autistic individuals. When people have a better understanding of autism, they are less likely to judge, have better interactions, and feel more comfortable socializing with individuals on the spectrum. The more informed and knowledgeable the general population is, the more they can positively affect the lives of people with autism. The aim of this research was to present findings on the existing awareness and beliefs about autism in a random sample of the United States population and to emphasize the significance of enhancing understanding among this group. There is a hypothesis that the overall population will have deficiencies in understanding autism.

Conclusion

The survey study on the current state of knowledge about ASD among the general population of Faisalabad City, Pakistan, revealed a critical need for enhanced awareness and education. Despite some awareness of ASD, significant misconceptions and gaps in understanding persist. The general public has a low level of knowledge about the social interaction, repetitive behavior and restricted behavior of the ASD Children. Many data providers demonstrated limited knowledge of the symptoms, causes, and appropriate interventions for ASD, highlighting the necessity for targeted public health campaigns and educational programs. These initiatives should aim to dispel myths, provide accurate information, and promote early diagnosis and intervention strategies. By improving the general population's understanding of ASD, we can foster a more inclusive and supportive environment for individuals with ASD and their families, ultimately contributing to better social integration and quality of life for those affected. This study underscores the importance of continuous efforts to raise awareness and educate the public about ASD in Faisalabad and similar contexts in Pakistan.

Recommendations

These were as follows:

1. To bridge the knowledge gap identified in this study, it is essential to launch extensive public awareness campaigns about ASD in Faisalabad. These campaigns should utilize multiple platforms, including social media, television, radio, and community outreach

programs, to disseminate accurate information about the symptoms, causes, and interventions related to ASD.

2. Incorporating ASD education into school curricula and teacher training programs can foster early identification and support for children with ASD. Educators should be equipped with the knowledge and skills to recognize early signs of ASD and to implement inclusive teaching strategies.
3. Establishing community centers dedicated to providing resources and services for individuals with ASD and their families is crucial. These centers should offer diagnostic services, therapeutic interventions, and support groups. Collaboration with healthcare professionals, psychologists, and special educators can ensure that families receive comprehensive care and guidance.

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