



## Review Article

## Autism Spectrum Disorder In Pakistan: A Review

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## ABSTRACT

Autism spectrum disorder (ASD) is a neurological condition that affects characterized with limitations the occurrence of specific interests and recurrent behaviors in social interaction. This article explains factors that may influence prevalence rates, such as recent changes to the diagnostic criteria, in light of current concerns about increased prevalence. To observe the development of literature regarding autism spectrum disorder in light of recent researches. The data was collected from data bases such as google scholar, Pubmed, HEC library and Scopus. The researches from only national scholars was considered. The data was vetted by a self appointed committee of expert peer reviewer to ensure maximum quality. Based on our analysis of published works, it can be claimed that there is a lack of academically sound published material from Pakistan, making it challenging to quantify the burden of ASD in this community, identify risk factors, or even create efficient intervention methods.

## INTRODUCTION

Autism spectrum disorder (ASD) is a neurological condition that affects characterized with limitations the occurrence of specific interests and recurrent behaviors in social interaction. The DSM-IV classified four distinct pervasive developmental disorders (PDD) as discrete diagnoses: Asperger's disorder, childhood disintegrative disorder, autistic disorder, and PDD-NOS. The notion of a "spectrum" the DSM-5 has a diagnostic for ASD [1]. Standardized ASD screening at ages 18 and 24 months and ongoing developmental monitoring are still advised in primary care because ASD is common, can be detected as early as 18 months of age, and has evidence-based treatments that

may improve function [2]. The etiology of ASD is diverse. Risk factors are the importance of parental age, teratogenic substances, prenatal hazards, medications, alcohol and tobacco use, diet, immunization, hazardous exposures, and the effect of severe psychosocial variables are all well mapped out in this study [3]. Deficits in social reciprocity are a fundamental aspect of autism spectrum disorders (ASD) [4]. Early childhood is when typical symptoms first appear [5]. The term "autism spectrum disorder" (ASD) refers to a collection of multifactorial disorders marked by difficulties with social interaction, communication, and repetitive behavior. ASD affects 1 in 59

kids and is around 4 times more prevalent in boys than in girls [6]. American Psychiatric Association (APA, 2013) describes autism spectrum disorder (ASD) as a complex illness that is defined by enduring challenges with social interaction and communication as well as by the prevalence of stereotypical patterns of interests, behavior, and activities [7]. Six metals (Pb, Hg, As, Cd, Mn, and Al) that are present in the environment are hypothesized to have a direct or indirect effect on autism spectrum disorder (ASD) [8]. In a research including two North African nations found that among African children with developmental problems, the prevalence of ASD was 11.5% and 33 [9]. There is a significant prevalence of ASD in children of African heritage, according to other research [10–12]. Despite the fact that their representativeness is in doubt [13]. As with nonverbal ASD, research on ASD show that African children with ASD have a high co-morbidity of intellectual impairment (over 60%) and nonverbal ASD (50–71%) [14, 15]. These and other distinguishing characteristics of ASD in Africa, including a possible viral origin, delayed diagnosis, and inadequate care [14–16]. After moving passed the discussion that questioned the universality of ASD [17]. ASD is increasingly receiving more attention in Africa, as seen by the continent's growing number of scientific research on the illness. Several reviews have been published that compile data on ASD from Africa [13, 18].

## METHODS

**Search Methodology.** The PRISMA (preferred reporting items for systematic reviews) guidelines were used [19]. The key phrases used in the search were "Autism" or "Autistic" or "Pervasive" AND "Pakistan". In order to find any other possibly pertinent research that the systematic database search could have overlooked, we also examined the reference lists of the retrieved articles and the Google Scholar database. The data on the basic features of the studies and their major conclusions were compiled on one data extraction sheet using a Microsoft Excel spreadsheet (version 2013). The following factors were of particular interest: (i) author; (ii) publication year; (iii) research nation; (iv) sample description; and (v) main findings.

## RESULTS

1st Author	Year	Country	Sample	Results
Maria Sohaib Qureshi	2022	Pakistan	Data were gathered through a questionnaire, interviews, and a focus group.	According to the study's findings, parents encountered a number of difficulties when attempting to have their child diagnosed with ASD [20].
Nazish Imran	2011	Pakistan	medical professionals non-medical professionals participated	Total participants=247 Physicians=154 non-physicians=94 respondents' median age was 33 years 53% of them were female [21].
Tania Nadeem	2019	Pakistan	remedial fees, tailored academic programmes, ABA was also used.	Autism sufferers and their families in Pakistan have limited access to pricey services [10].
Shaina Khan Lodhi	2016	Pakistan	233 primary school teachers Karachi self-administered questionnaire.	Ability scores=58.8% Learning difficulties=53.3% [11].
Nazish Imran	2014	Pakistan	All allied health professionals	Age of community over 38% [12].
Dost Muhammad	2014	Pakistan	Individuals age =0-12	Research tells that BDNF plays a critical role in the development of autism, including increased blood levels of BDNF in autistic children [22].
Mohammad H. Rahbar	2021	Pakistan	Total = 30 ASD patients ages of 2 - 12 30 age- and sex-matched Karachi, Pakistan.	Pb concentrations ( $p = 0.05$ ), Al concentrations, ( $p = 0.06$ ) [23].

Usman Hamdani	2016	Pakistan	PASS used in sessions Goa( India) Rawalpindi (Pakistan)	(15 in Goa and 17 in Rawalpindi) (15 in Goa and 18 in Rawalpindi). 26 (81%) of the 32 participants in the intervention completed it [24].
Ansa Rabia	2022	Pakistan	DSM -IV used diagnosis of 147 ASD patients from Children's Hospital and Institute of Child Health	In 131 (89.1%) ASD participants, a total of 381 14 (9.5%) =microcephaly, of which 13= varying number of Dysmorphology. A M:F ratio of 4.7:1 was found among the 131 participants with Dysmorphology, male= 108 female= 23 subjects, whereas a ratio of 6:1 was found male=12 female=2 subjects with microcephaly [25].
Ghazal Nadeem	2018	Pakistan	76 consecutive children with ASD demographic factors cross-sectional research Autism Resource Center Pakistan.	men : women = 4.4:1. 33(43.4%) children was found to consanguineous. 50 (66%) children had mild to moderate ASD, 13 (17%) had severe ASD, and 13 (17%) had borderline traits [26].
Bushra Akram	2017	Pakistan	83 ASD 5= unique schools ages =8 and 18 Lahore analytical cross-sectional survey practical sample approach. NSSI was evaluated using the Urdu version of a standardized test.	33% overall point prevalence of NSSI. Pounding or self-beating (47%), scratching (38), pinching (35%), picking at sores (33%), self-biting (32%), pulling hair (30%), and rubbing skin (19%) were additional troublesome behaviors [27].
Fatima Sohaib	2017	Pakistan	cross-sectional study of 27 of the siblings of the 58 Pakistani children with ASD	Children with autism =50% greater incidence of tooth decay unaffected siblings, who had a22.2% rate. 24% of children with ASD dental plaque on their front teeth, compared to 14% of the control group [28].
Arwa Quaid	2021	Pakistan	information was gathered using the BREF-COPE standard questionnaire	64.5% =parents recognize the reality of the situation, 51.6% = parents typically focus on their efforts with their kids. 12.9% = people with depression either drink alcohol or use antidepressants, Only 16.1% of people can successfully incorporate coping mechanisms into their daily routines [29].
Ayesha Minhas	2015	Pakistan	interviews with parents (N = 15) Pakistan	The results show that the mother is essentially responsible for everything,

				which results in high levels of stress [30].
Noreena Kausar	2019	Pakistan	Lazarus and Folk man's (1984) stress model and interviews with parents = 502 children with ASD, a 46-item tool was created.	The scale is recognized as a viable and reliable tool for measuring the stress that parents of children with ASD believe to be experiencing [31].
Ansa Rabia	2022	Pakistan	115 consanguineous marriages	clinical characteristics of the biallelic pathogenic/ likely pathogenic variation in this research differ from those of heterozygous mutations in the same gene [32].
Farhan sarwar	2022	Pakistan	112 moms who were recruited from autism centers in two cities in Pakistan	The findings revealed a strong direct relationship between social capital and perceived stress, psychological support, and life happiness [33].
Zaib Un Nisa Khan	2022	Pakistan	Midstream urine samples were collected children with ASD who had been identified by a paediatric neurologist	85=total age of 4.5 2.3 years for the ASD group (n=65) 6.4 2.2 years for the TD group (n=20), respectively, there were 72.3% men in each group. In the groups with ASD and TD, parental consanguinity was 47.7 and 30%, (70.8%)= delayed verbal ability (66.2%)= difficulties constructing entire phrases (56.9%) [34].
Anum Farooq	2020	Pakistan	detailed qualitative interviews with eight moms of ASD-diagnosed children who were older than 36 months.	The main themes in the barriers to ASD diagnosis were found to be parental ignorance and misconceptions, as well as issues with the healthcare system, delays brought on by structural and procedural barriers, and family factors like stigma associated with mental illness and disability, family denial, and financial constraints [35].
Shaheen Pasha	2021	Pakistan	100 health professionals public private settings	several institutions offered a range of speech and language therapies to kids with ASD, PECS as speech and language interventions [36].
Shabbih Fatima	2021	Pakistan	4 elementary-aged children with ASD in Pakistan, English was spoken as 2nd language	Despite receiving training in one setting observations revealed that participants enhanced social interaction in a different setting [37].
Adil Ayub	2017	Pakistan	Primary school teachers cross-sectional self-administered questionnaire.	73 educators—with a mean age of 34 and a 66% female representation—replied. Of the 52 instructors who said they knew anything about

				autism, or 71.2% of them, 23(44.2%), thought of it as a neurological or mental illness. 73.1 percent of respondents think special education is a good [38].
Umesh sharma	2019	Pakistan	review process to find peer-reviewed journal publications from South Asian nations, india Pakistan, Sri Lanka.	Three of the nine best teaching methods were most commonly implemented, according to the review's findings [39].
Sumayya Sajjad	2022	Pakistan	Quiet Ego Scale questionnaires Social Support Scale, Life Satisfaction Scale, and Scale of Positive and Negative Experience.	The results showed a significant beneficial relationship between a composed ego and every aspect of social support and subjective wellbeing [40].

**Table 1:** Cited literature in the study

## DISCUSSION

In this study, we examined the published research on ASD in Pakistan. We study that there is limited literature on sensory issues of autistic child and there is no literature on types of food and medication used for autistic child as compare to other parts of the world. We only found one population-level research that was trying to figure out how common ASD is in Pakistan. In this study we noted that there are limited literature on autism in Pakistan. We need to enhance awareness about autism in all cities of Pakistan at smaller as well as bigger level. Being a part of rehabilitation team as a speech language pathology we should construct a proper formal assessment tool which is use for assessment with the opinion of all expert speech therapist of Pakistan which is based on content of speech and language which is fulfill are requirements which are needed for assessment of level of speech language in autistic child and the level of severity in autistic child. We need much work to be best in the world in our field of rehabilitation sciences and we should also launch awareness campaigns for autism in Pakistan [41]. The neurological underpinnings of autism are further complicated by interactions throughout development between impacted functional networks and abnormal experience consequences (related to atypical behavior) in autistic children, leading to a "exponentially scattered" profile [42].

## CONCLUSIONS

Based on our analysis of published works, it can be claimed that there is a lack of academically sound published material from Pakistan, making it challenging to quantify the burden of ASD in this community, identify risk factors, or even create efficient intervention methods.

## Conflicts of Interest

The authors declare no conflict of interest

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