**Original Article :**

# Pediatricians, Pediatric Nurses', and parents' Experience with Children with Autism Spectrum Disorder

Joan Lagmay Jimenez[1], Amed Jacob[1], Khalid Dhawi AlThobaiti[2], Mohammad Manae Al Ahmari[3], Ahmad Mohammad Al Ghamdi[4], Abdulhakim Saad Al Malky[5]

1.Performance Improvement Officer, Hospital Lead, Taif-Children's Hospital, Taif, Kingdom of Saudi Arabia, joanjohara@gmail.com

1. Academic Advisor, Atlantic International University, Hi, U.S.A,amedjoacob@aol.com

2. Pediatric Consultant-Taif-Children's Hospital, Taif City, Kingdom of Saudi Arabia, khdalthobaiti@gmail.com

3. Pediatric Consultant-Taif-Children's Hospital, Taif City, Kingdom of Saudi Arabia, mal-ahmrani@moh.gov.sa

4. Head of Patient Experience Department-Taif-Children's Hospital, Taif City, Kingdom of Saudi Arabia, ahmed7m2@gmail.com

5. Head of Electronic System Department- Taif-Children's Hospital, Taif City, Kingdom of Saudi Arabia, hkemo@hotmail.com

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**Corresponding Author:**

Joan Lagmay Jimenez,
Performance Improvement Officer, Hospital Lead, Taif-Children's Hospital, Taif, Kingdom of Saudi Arabia,
joanjohara@gmail.com

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**Abstract**

**Background and Aims:**
Autism spectrum disorder is a social development disorder that affects brain development and, as a result, behavior. It is becoming more common worldwide, and more emphasis is needed to view the perspective of all parties involved in treating autistic children. The study aims to determine the experiences of parents, pediatric physicians, and pediatric nurses on the impact of enhanced therapies for children with ASD.

**Methods:**
A cross-sectional study was carried out that utilized a pre-validated three questionnaires targeting pediatricians, pediatric nurses, and parents involved with autistic children. Knowledge scores regarding signs and symptoms were calculated by adding one point to each recognized symptom and 0 for unrecognized ones.

**Results:**
According to the participants, poor communication was the most common symptom of ASD. Most pediatricians and pediatric nurses believe behavioral and pharmacological approaches to ASD management have no negative impact. Most pediatricians, pediatric nurses, and parents can manage the child's condition, and most healthcare providers participate on special days, hope to be a part of the research team in the future, and collaborate with their colleagues to improve their ability to find a cure. Pediatricians' and pediatrics' experiences had a significant difference in knowledge of signs and

symptoms of ASD (p-value- 0.008). Furthermore, older parents were less likely to be stigmatized than younger parents (p- value= 0.016).

**Conclusions:**
Patients with ASD can benefit from enhanced therapy to improve their speech, comprehension, communication, sleep, and diet. Involved healthcare providers and parents are in favor of intensifying therapy. Most pediatricians, pediatric nurses, and parents are capable of dealing with a child's illness.

**Keywords:**
Autism spectrum disorder, Experience, Enhanced Therapy, Parents, Pediatricians, Pediatric Nurse .

## Introduction

Autism spectrum disorder (ASD) is a category of neurodevelopmental disorders characterized by social and communication impairment and restricted or repetitive behaviors.[1,2] ASD has various characteristic that affects social interaction, communication, behavioral problems, anxiety, depression, and sleep disturbance.[1] ASD has been associated with other medical and mental health conditions, which lead to more frequent contact with the healthcare system.[2-5] Thus, healthcare practitioners must train and equip themselves to meet the demands of this group.

The evaluation of autistic children involves determining the child's difficulties and the therapies needed to alleviate their problems.[6] It also seeks to identify the child's strengths and weaknesses, concomitant developmental or mental problems, assess the family's requirements and suggest resources to meet them.[7] Screening exams are performed on preschool children to detect and raise awareness of individuals with poor social adjustment and those at high risk of suffering inadequate social adjustment. The diagnostic examination is more intensive than screening in determining the disease's cause. Early detection of all neurodevelopmental abnormalities is critical for the early implementation of special education programs. An accurate diagnosis of autism in children may be made at around 30 months of age, and autism-related testing can begin as early as 18 months.[8]

The behavior of children with ASD is crucial because they engage in repetitive activities that follow a routine, and they often offer a restricted record of behaviors. There is currently no cure for ASD. However, numerous therapies have been trialed and tested. These therapies have been shown to lessen symptoms, enhance cognitive ability and daily living skills and increase a child's ability to function and engage in society.[9-11]

Parents are the first to discover developmental issues in their children. They begin to seek assistance in areas where they are concerned or where their children have shortcomings.[7] In an Italian study parents' perspectives on autism diagnosis were evaluated. Most parents (71%) stated that they first recognized their children's autism symptoms at two, while others stated that they noticed symptoms when their children were three to four years old. Only one mother stated that her child displayed signs from birth. When parents noticed the ASD-related symptoms, they sought the advice of specialists to get information about their child's situation or to learn more about the process. Half of the mothers requested a diagnostic investigation for their child's condition without consulting an expert, while other families followed the advice of teachers or other specialists. After their children were diagnosed, 50% of the parents in the survey acquired thorough information regarding special education facilities and various application programs.[12]

Pediatricians and family physicians are frequently the first healthcare practitioners to see children who exhibit indications of developmental disorders such as autism. In other words, doctors are the first people with whom parents discuss their child's developmental difficulties. As a result, physicians' attitudes play an important role in the early identification and treatment of a serious and persistent disease with lifetime consequences, such as autism.[13] Unfortunately, physicians' education does not explicitly encompass diagnosing and treating developmental issues. Furthermore, because the department of pediatric mental health and disorders is not present in all medical colleges in Saudi Arabia, medical faculty students receive insufficient instruction in pediatric psychiatry. Few faculty members in the department of pediatric mental health and illnesses acquire proper pediatric psychiatry training. As a result, several physicians graduate without knowing about autism, which proceeds with serious developmental issues if not recognized by a pediatric psychiatrist within the early stage. As a result, it is claimed that physicians lack enough information regarding autism symptoms and do not know which treatment techniques to employ or how to lead children, particularly those with severe autistic symptoms.[14] An Australian survey of over 1000 pediatricians indicated their key educational requirements for autism: understanding services and local facilities dedicated to the illness, areas of diagnosis/screening, and the medications used to treat it.[15] Another noteworthy research on ASD awareness among healthcare workers (not only

nurses) was undertaken in Florida by Heidgerken et al.,[16] where the views of 111 hospitalized participants about ASD were considered. The study discovered that individuals in this context exhibited more outdated autism beliefs than those at the Centre for Autism and Related Disabilities (CARD). Most participants indicated little need for further training or special education services for autistic children.

Pediatric nurses' problems in managing children with ASD are exacerbated by their lack of information about ASD.[17] A pilot study by Giarelli et al.[18] discovered that academic nursing education provides minimal knowledge about autism; however, a continuing education program can enhance practice setting management. Gardner et al.[19] corroborated similar findings and mentioned a dearth of knowledge on ASD in nursing curricula. Most of the nurses interviewed claimed they had no clinical experience or formal training with children with ASD. Will et al.[20] discovered inadequate competencies of nurses in dealing with and relating to patients with ASD. Parents and family members repeatedly note a limited recognition of their potential role with limited expertise and information sources that can help in the ongoing support for their family member with ASD.[21,22] Healthcare providers are likely to know the elements that help or hinder the formation and maintenance of the therapeutic rapport in patient-provider interaction. The healthcare providers' perspective in these interactions is not explored sufficiently, while research has focused on service users' experiences and healthcare providers' awareness of ASD. Therefore, the current study aims to examine the experiences of parents, pediatric physicians, and pediatric nurses on the impact of enhanced therapies for children with ASD.

## Methods

*Study Design and Setting*

This cross-sectional study collected data from a group of physicians, pediatric nurses, and parents of children with ASD. The study was conducted at Taif-Children's Hospital from October to December 2021.

*Study Participants and Procedure*

Fifty pediatric nurses and fifty physicians participated in the study and fifty parents of a child with ASD were enrolled in the study. Three interview questionnaires were developed to collect the data from the participants.

*Data Analysis*

Descriptive data was conceptualized using Microsoft Excel, while the SPSS program (version 24.0) was used to analyze the data. The data were presented in the form of frequencies and percentages. Furthermore, knowledge scores regarding signs

and symptoms were calculated by adding one point to each recognized symptom and 0 for unrecognized ones. Independent sample t-test and ANOVA test were used to examine the difference in participants' perceptions and demographic characteristics. The Chi-square test examined the relationship between stigma and demographic characteristics. The confidence interval was considered at 95%, and a p-value of < 0.05 was deemed significant.

*Ethical Consideration*

The Institutional Review Board approved the study of the Taif Regional Research Ethics Committee with Approval No: HAP-02-T-067 No: 669. Informed written consent was obtained from all the individuals participating in the study. Anonymity was guaranteed, and participants were assured about the confidentiality of the data management.

## Results

A total of 150 individuals participated in this study, with 50 pediatricians, 50 nurses, and 50 parents. Regarding pediatrician practitioners, 60% were males, married, and had less than ten years of experience. Meanwhile, the majority of the nurses were females (96%), married (80%), between the ages of 31 and 40, and had greater than ten years of experience (70 %). Lastly, 60% of the parents that participated in the survey study were females, and 68 % were between the ages of 31 and 40. Regarding their occupation, 40% worked in offices, 20% in business, and 10% were teachers and workers

Table 1: Demographic characteristics of Participants

| Variables | Categories | N (%) |
|---|---|---|
| Pediatricians | | |
| Gender | Male | 30 (60%) |
| | Female | 20 (40%) |
| Marital status | Married | 30 (60%) |
| | Single | 20 (40%) |
| Age | 21-30 years | 5 (10%) |
| | 31- 40 years | 39 (78%) |
| | 41-50 years | 6 (12%) |
| Experience | <10 years | 30 (60%) |
| | >10 years | 20 (40%) |
| Nurses | | |
| Gender | Male | 2 (4%) |
| | Female | 48 (96%) |
| Marital status | Married | 40 (80%) |
| | Single | 10 (20%) |

| Variables | Categories | N (%) |
|---|---|---|
| Age | 21-30 years | 10 (20%) |
| | 31-40 years | 35 (70%) |
| | 41-50 years | 5 (10%) |
| Experience | < 10 years | 15 (30%) |
| | 10 years and more | 35 (70%) |
| Parents | | |
| Gender | Male | 20 (40%) |
| | Females | 30 (60%) |
| Marital status | Married | 50 (100%) |
| | Single | 0 (0%) |
| Age | 21-30 years | 11 (22%) |
| | 31-40 years | 34 (68%) |
| | 41-50 years | 5 (10%) |
| Occupation | Office job | 20 (40%) |
| | Driver | 4 (8%) |
| | Health care worker | 5 (10%) |
| | Security | 6 (12%) |
| | Business | 10 (20%) |
| | Teacher | 5 (10%) |

*Experience of pediatricians*

Regarding signs and symptoms of which the interactive, communication, and interaction aspect is affected by ASD, 56% of the pediatricians recognized difficulties with social communication to be the most common, followed by the patient's preference to stay and play alone (50%), sleeping disturbance (32%), response problems (28%), and loss of appetite (24%). Furthermore, all the respondents stated that behavioral therapy was the best-recommended type of therapy (100%) followed by pharmacological therapy (98%). When asked about the reason for their recommendations, the majority (80%) stated that it improved speech and comprehensiveness, and 28% thought it improved communications. Only 2% thought it affected the child's well-being and condition. Moreover, most pediatricians (98%) responded that the therapy has no negative impact on autistic children, while only one pediatrician mentioned hypersalivation as a side effect.

Regarding difficulties pediatricians encountered when administering behavioral therapy, 90% stated that it was manageable, 6% thought it was quite hard, especially in behavioral therapy, and 2% thought it was challenging. When asked about efforts made by pediatricians regarding ASD treatment, 90% would participate in Autism Day on a regional or local level. In

comparison, 10% hope to be a part of the research team in the future in an attempt to find a possible cure for ASD (Table 2). The differences between knowledge scores about signs and symptoms of ASD and pediatricians' demographic characteristics showed that experience had a significant difference, with those with more than ten years of experience having more knowledgeable scores than those with less than ten years of experience (p-value 0.008).

Table 2: Pediatricians and nurses' perspectives on ASD

| Answers | N (%) |
|---|---|
| Pediatricians' perspectives | |
| What are the signs and symptoms that a patient's interactive; communication and interaction aspect is affected by ASD? | |
| Communication difficulties | 28 (56%) |
| Stay alone, play alone | 25(50%) |
| Comprehensive and speech delay | 19 (38%) |
| Loss of appetite and food preference | 17 (34%) |
| Sleeping disturbance | 16 (32%) |
| Response problems | 14 (28%) |
| Irritability and temper tantrums | 13 (26%) |
| Silent, quiet | 12 (24%) |
| Hyperactivity | 8 (16%) |
| Aggressiveness | 8 (8%) |
| What recommendations would you offer as a therapist for ASD? | |
| Behavioral | 50 (100%) |
| Pharmacological | 49 (98%) |
| Occupational | 4 (8%) |
| Speech therapy | 2 (4%) |
| IQ test | 2 (4%) |
| Psychometric evaluation | 2 (4%) |
| What are some of the reasons you were advised or recommended such therapies | |
| Improvement of speech and comprehensive | 40 (80%) |
| Improvement in communication skills | 14 (28%) |
| Improvement in sleeping | 12 (24%) |
| Improvement in eating | 12 (24%) |
| Lesser hyperactivity | 5 (10%) |
| Improvement in comprehension | 5 (10%) |
| Better response | 4 (8%) |
| Improvement in concentration | 2 (4%) |
| Improvement in the child's condition and well-being | 2 (4%) |
| What are the negative impacts of the therapies on patients? | |
| None | 48 (96%) |
| Behavioral | 1 (2%) |

| Answers | N (%) |
|---|---|
| Pharmacological side effect | 1 (2%) |
| What difficulties did you experience when administering enhanced therapies to children with ASD? | |
| Manageable | 45 (90%) |
| Quite hard at times, especially in Behavioral Therapy | 3 (6%) |
| Challenging, delayed improvement | 2 (4%) |
| What are the difficulties associated with managing adults with ASD compared to children? | |
| Managing Children is easier than adults | 43 (86%) |
| No notable difference; they suffer the same condition | 5 (10%) |
| I don't know about adults with ASD, as I specialize in pediatrics | 2 (4%) |
| What efforts have you made to find a possible cure for ASD? | |
| We participate in Autism Day of the Region/hospital | 45 (90%) |
| Hope to be a part of the Research team in the future | 5 (10%) |
| Nurses' perspectives | |
| What are the signs and symptoms showing the impacts of ASD on behavior? | |
| Staying and playing alone | 23 (46%) |
| Loss of appetite and food preference | 12 (24%) |
| Comprehensive and delayed speech | 12(24%) |
| Quiet and silent | 12 (24%) |
| Response | 10 (20%) |
| Sleeping disturbance | 10 (20%) |
| Lack of communication and eye contact | 9 (18%) |
| Hyperactivity | 7 (14%) |
| Absent mind | 3 (6%) |
| Irritability | 3 (6%) |
| Poor concentration | 3 (6%) |
| Shouting | 2 (4%) |
| How are children with ASD usually managed? | |
| Behavioral | 46 (92%) |
| Pharmacological | 40 (80%) |
| Speech | 11 (22%) |
| Occupational | 9 (18%) |
| What factor do you think is the leading cause of ASD? | |
| Hereditary | 36 (72%) |
| Family history | 9 (18%) |
| Environmental factors like radiation | 1 (2%) |
| Psychological issues | 1 (2%) |
| Possible trauma during pregnancy | 1 (2%) |
| Possible comorbidity of epilepsy | 1 (2%) |
| Environmental factors like radiation | 1 (2%) |
| What role do you play in trying to find the cure for the condition? | |
| Collaborating with nurses who directly work with ASD patients | 19 (38%) |

| Answers | N (%) |
|---|---|
| To join a research team | 10 (20%) |
| I don't know | 9 (18%) |
| Working as a teamwork | 6 (12%) |
| Attending Autism Day to increase awareness of it | 2 (4%) |
| Joining Awareness programs annually | 1 (2%) |

Table 3: Differences between defining signs and symptoms and demographic characteristics for Pediatricians and Nurses

| Respondent | Variable | N | Signs and symptoms knowledge Mean ± SD | P- Value |
|---|---|---|---|---|
| Gender | | | | |
| Pediatrician | Male | 30 | 3.03 ± 1.3 | 0.592 |
| | Female | 20 | 3.3 ± 1.1 | |
| Nurse | Male | 2 | 2 ± 1.4 | 0.85 |
| | Female | 48 | 2.2 ± 0.91 | |
| Marital status | | | | |
| Pediatrician | Married | 30 | 3.03 ± 1.3 | 0.613 |
| | single | 20 | 3.4 ± 1.1 | |
| Nurse | Married | 40 | 2.2 ± 0.93 | 0.402 |
| | Single | 10 | 1.9 ± 0.88 | |
| Experience | | | | |
| Pediatrician | <10 years | 20 | 2.5±0.23 | 0.008* |
| | ≥10 years | 30 | 1.4± 0.26 | |
| Nurse | <10 years | 15 | 1.6±0.51 | 0.001* |
| | ≥10 years | 35 | 2.3±0.96 | |
| Age | | | | |
| Pediatrician | 21-30 years | 5 | 2.8±.84 | 0.866 |
| | 31- 40 years | 39 | 3.2±1.4 | |
| | 41-50 years | 6 | 3.2±1.7 | |
| Nurse | 21-30 years | 10 | 1.7± 0.48 | 0.147 |
| | 31-40 years | 35 | 2.3± 0.99 | |
| | 41-50 years | 5 | 1.8±0.84 | |

*Knowledge of pediatric nurses*

Regarding what the nurses think is a sign of ASD, the most common sign answer was staying and playing alone (46%), followed by loss of appetite and food preference, comprehensive and delayed speech, and the child being quiet and silent (24%). On the other hand, shouting, poor connection, and irritability were the least common signs, with 4%, 6%, and 6%, respectively. Nonetheless, 92% of the nurses thought that ASD children are usually managed by behavioral therapy, while 18% thought they are managed by occupational therapy. When asked about the leading cause of ASD, 72% chose hereditary

as the leading cause. Lastly, when asked about the nurse's role in trying to find a cure for ASD patients, 38% collaborated with other nurses that are working directly with ASD, 20% would join a research team, and 18% did not know while joining awareness programs was the least chosen answer (2%) (Table 2). The majority (92%) chose behavioral therapy, while 80 % chose pharmacological therapy as a method for treatment. Furthermore, 22 % and 18 % of nurses are considered speech therapy and occupational therapy, respectively. The relationship between nurses' knowledge about signs and symptoms of autism and demographic characteristics showed that the level of experience was the only variable that affected the nurses' knowledge (p- value= 0.001) (Table 3).

*Parental perspective*

The majority of challenges that the parents face with their children are playing and staying alone (28%), hyperactivity (26%), loss of appetite (24%), and irritability (24%). Interestingly, most participating parents do not feel stigmatized (80%). Similarly, 80% did not find it challenging to deal with stigmatization, and only 20% found it difficult. When asked about family history, 90% of the participants had no family history of ASD. Moreover, 76% knew the physician was treating their child with behavioral/medications/speech therapy/ occupational therapy. At the same time, all the respondents had a positive view of enhanced therapy, with 100% of them would allow the child to continue it. However, 90% of the parents stated that the child's improvement was only moderate and not efficient (Table 4). When examining the link between parental demographics and feelings of stigma. Feeling stigma and age had a statistically significant association, with older people feeling stigmatized less than younger people (p-value= 0.016). In the case of gender and occupation, no correlation was found (Table 5).

Table 4: Parents' perspectives on ASD

| Variable | N (%) |
|---|---|
| Challenges that parents face due to their sons' conditions | |
| Playing and staying alone | 14 (28%) |
| Hyperactivity | 13 (26%) |
| Loss of appetite | 12 (24%) |
| Irritable | 12 (24%) |
| Communication problems and eye contact | 9 (18%) |
| sleeping disturbance | 8 (16%) |

| Variable | N (%) |
|---|---|
| Response problems | 6 (12%) |
| Difficulties in comprehension and speech | 5 (10%) |
| Moody | 4 (8%) |
| Shouting | 4 (8%) |
| Climbing | 3 (6%) |
| Concentration problems | 2 (4%) |
| Do you face stigma or any other form of discrimination from the community, friends, or relatives? | |
| No | 40 (80%) |
| Yes | 10 (20%) |
| Can you rate 1-5 the difficulty in dealing with stigma? | |
| Manageable | 40 (80%) |
| Difficult | 10 (20%) |
| Does your family line have a history of ASD? | |
| No | 45 (90%) |
| Yes | 5 (10%) |
| What therapies does your child's physician use to manage the condition? | |
| Behavioral/Medications/Speech therapy/Occupational therapy, IQ Test | 38 (76%) |
| started with Behavioral therapy; my child is newly diagnosed | 11 (22%) |
| Behavioral/Medication/speech therapy | 1 (2%) |
| If given a chance to choose, would you be optimistic about allowing your child to continue with the enhanced therapy? | |
| Yes | 50 (100%) |
| No | 0 (0%) |
| Are there any improvements in the child's behavioral, interactive, and communication aspects as a result of the therapy? | |
| Improved moderately | 45 (90%) |
| Have not seen yet-our child is newly diagnosed | 5 (10%) |

Table 5: Relationship between feeling stigma and parents' demographic characteristics

| Variable | N | Feeling stigma | | P- Value |
|---|---|---|---|---|
| | | Yes N (%) | No N (%) | |
| Gender | | | | |
| Male | 20 | 3 (15%) | 17 (85%) | 0.365 |
| Female | 30 | 7 (23.3%) | 23 (76.7%) | |

| Variable | N | Feeling stigma | | P- Value |
|---|---|---|---|---|
| | | Yes N (%) | No N (%) | |
| Age | | | | |
| 21-30 years | 11 | 5 (45.5%) | 6 (54.5%) | 0.016*# |
| 31-40 years | 34 | 5 (14.7%) | 29 (85.3%) | |
| 41-50 years | 5 | 0 (0%) | 5 (100%) | |
| Occupation | | | | |
| Office job | 20 | 5 (25%) | 15 (75%) | 0.255 |
| Driver | 4 | 0 (0%) | 4 (100%) | |
| Health care worker | 5 | 1 (20%) | 4 (80%) | |
| Security | 6 | 0 (0%) | 6 (100%) | |
| Business | 10 | 4 (40%) | 6 (60%) | |
| Teacher | 5 | 0 (0%) | 5 (100%) | |

* Statistically significant; # fishers' test

## Discussion

In the present study, the participants reported that the most common symptoms of ASD are poor communication, comprehension, and speech problems, staying alone and playing alone, loss of appetite and food preference, hyperactivity, irritability, response problems, and sleeping disturbance. Most pediatricians and pediatric nurses prefer behavioral and pharmacological methods to manage ASD with no significant negative impact. The benefits of using enhanced therapy are to improve speech and comprehension and improve communication, sleeping, and eating. The participating healthcare providers encourage using the enhanced therapy, and the parents have a positive attitude regarding utilizing it.

Poor social communication, comprehension, and speech problems, being alone, loss of appetite, hyperactivity, irritability, response problems, and sleeping disturbance are the significant signs and symptoms of ASD derived from the study. The symptoms are similar to signs and symptoms previously recognized in a previous study that further include isolation speech difficulties, difficulty interpreting emotions and feelings, difficulties in verbal and non-verbal communication, being an alone preference, and the inability to self-recognition.[1] Other studies found sleep disturbances, communication problems, adaptive behaviors, and aggressive behavior are common symptoms of ASD.[23,24] Persistent deficiencies in social communication and engagement, as well as confined, repetitive patterns of behavior, interests, or hobbies, were found in another study.[25] Most doctors and nurses choose behavioral and pharmaceutical approaches to man-

aging ASD since they have minimal side effects. Behavioral therapy is usually the first-line treatment, with pharmacological therapies added to help patients function in their daily activities. Improved speech and comprehension, as well as communication, sleeping, and eating, are all advantages of employing enhanced therapy from pediatricians' and pediatric nurses' perspectives. These results are aligned with the literature.[26,27]

Most doctors, nurses, and parents were capable of dealing with the child's illness and said it was manageable. However, this is inconsistent with previous studies, as some challenges were reported in therapeutic addressing of the varied demands that people with ASD may have.[28-31] Also, limited effective communication is present in patients with ASD.[28,32] Further, clarity concerning diagnostic criteria and symptoms of ASD has been established in a few of the previous studies.[33-35] Most healthcare providers participate on special days, hope to be a part of the research team in the future, and collaborate with their colleagues to improve their ability to find a cure.

Several studies have developed training programs for healthcare providers who work with patients with ASD. These training programs are effective in improving the knowledge and skills of healthcare providers when they involve exposure to real-life or case-study situations.[36-38] By working with patients with ASD in real-life situations, healthcare providers can gain a better understanding of the challenges that patients with ASD face and learn how to tailor their care to meet their needs. Preparedness, self-efficacy, and confidence among healthcare providers may allow for more initiative and creativity in adjusting techniques to suit the requirements of patients with ASD better. Another study conducted in 2016 explored parents' perceptions of early interventions and related services for children with ASD in Saudi Arabia.[39] The study found that parents perceived a lack of specialized services and resources for children with ASD, including a shortage of trained professionals and limited access to appropriate educational programs. Furthermore, the study identified cultural and societal factors that may contribute to the delay in diagnosis and limited access to services for children with ASD in Saudi Arabia. These factors include a lack of understanding of ASD among healthcare providers and the general population, as well as cultural beliefs that may stigmatize individuals with disabilities.[39]

The prevalence of ASD in Saudi Arabia is similar to that reported in other countries, indicating a global rise in the prevalence of ASD. However, there are challenges in early diagnosis and access to specialized

services for children with ASD in Saudi Arabia. These challenges may be due to cultural and societal factors and highlight the need for increased awareness and resources for individuals with ASD in the country. The study on parents' perceptions of early interventions and related services can provide valuable insights into addressing these challenges and improving the care and support for individuals with ASD in Saudi Arabia.

There are several limitations in the present study. First, this study considered a small sample size that limits the generalizability of the results. More research with a larger and better-structured sample, as well as more relevant techniques, is required. Despite these limitations, the study provides valuable insights into the gaps in ASD knowledge among pediatricians, pediatric nurses, and parents currently understudied. Finally, it gives valuable insights into pediatric nurses', pediatricians', and parents' experiences with children with ASD that may lead to the development of support programs and training to improve their knowledge, experience, and well-being.

## Conclusion

Enhanced therapy can aid in improving speech, comprehension, communication, sleep, and food among patients with ASD. The use of enhanced therapy is supported by participating healthcare providers and parents. The majority of doctors, nurses, and parents are capable of dealing with a child's condition. More research is needed to understand best the gaps in healthcare service provision with this population and future research with patients with ASD and their families to support and maintain the condition of the patient- and family-centered practices with this population.

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## Conflict Interest Declaration

The author declares no conflict of interest.

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