

## Autism Spectrum Disorder as an Intractable Disorder: research into Main indicators

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### Abstract:

Autism spectrum disorder is considered one of the disorders that has puzzled scientists and made them reconsider many matters, due to the difficulty of explaining it and proving the causes and factors for its occurrence, in addition to being one of the disorders that have no cure in all types of treatments. This study aimed to try to study and identify the most important Indicators that indicate intractable disorders, and the extent to which these indicators match the characteristics of autism spectrum disorder. To achieve the purpose of the study, the descriptive approach was relied upon, which relies on the survey method in collecting data. The study tool was used, which is a questionnaire on indicators that indicate incurable diseases, and the extent of their correspondence. On autism spectrum disorder, this questionnaire was applied to a sample of 264 participants, including specialists (psychologists, psychologists, educators), and academic researchers (university professors) from various regions of the country, and it was concluded that the indicators of incurable diseases confirm their correspondence with the characteristics of autism spectrum disorder. To a large extent, this confirms that this disorder is considered one of the incurable disorders, and the future of those suffering from it remains subject to unraveling the mystery.

**Keywords:** disorder, autism spectrum, Intractable disorder, main indications.

### 1. Introduction

Autism Spectrum Disorders (ASD) present a significant challenge faced by the global and Arab communities, including Algeria. Autism spectrum refers to a group of neurodevelopmental disorders that affect social interaction, communication, and behavior. Despite scientific and technological advancements, the challenge remains in understanding its causes and developing effective treatments for these disorders. Globally, many individuals suffer from autism spectrum disorders. According to the Centers for Disease Control and Prevention (CDC) in the United States, in 2012, 1 in every 160 children was diagnosed with autism, and in 2015, 1 in every 68 births was identified as having autism a staggering increase in autism cases (**Summaries Surveillance, 2016**). In Algeria, 40,000 children were diagnosed with autism as of 2009, 600,000 in 2012 according to Mahmoud Ould Taleb, and 100,000 children with autism in 2016. The impact of this disorder on individuals' lives ranges from mild to severe, affecting their communicative, social, and independence skills, as well as all areas of their development (**Mahmoud, 2015, p. 07**).

In the Arab world, the challenges of Autism Spectrum Disorder are among the most difficult. Knowledge and awareness of this disorder may be non-existent in some Arab countries, leading to delays in diagnosis and early treatment for affected individuals. Despite developments in education and healthcare in Arab societies, individuals with autism face significant challenges in social and educational integration.

In Algeria, autism is one of the neurodevelopmental disorders that require more attention and research. Algerian families with individuals diagnosed with autism spectrum disorder face great challenges in providing adequate support and meeting their needs. As noted by Chouail and Chalihi in 2021, one of the most difficult challenges faced by autistic children and their families is addressing their basic needs, whether related to the children themselves or their families. This challenge extends to specialized associations and government agencies as well (**Rabih&Chouail, 2021**). Autistic children and their families in Algeria live in severe hardship, facing similar problems as in other Arab and global countries due to the lack of specialized care (medical, psychological, educational, social, speech therapy). Although the state makes some efforts to assist this vulnerable segment of the Algerian society, these efforts remain largely insufficient. The 2011 World Autism Report by the World Health Organization stated: "The burden of autism spectrum disorders and other developmental disorders is higher than that of many socially recognized health problems, measured

by Disability-Adjusted Life Years (DALYs), which accounts for disease burden as a function of prevalence and functional impairment at the onset of the disorder." Autism has remained a relatively rare disorder with the characteristics of refractory diseases.

Refractory diseases are health conditions that are difficult to treat or manage due to various factors. These diseases are complex, evolve over time, and are characterized by difficulties in diagnosis and treatment. They often require long-term support and care. These disorders can be rare, with varying effects on individuals, and present a significant challenge for patients, their families, and medical teams alike. According to the *Journal of Diseases*, "Refractory diseases are those that cannot be treated with existing therapies, with no known path to cure. These diseases are often caused by genetic abnormalities, environmental factors, or other uncontrollable conditions. Refractory diseases can be particularly devastating for individuals and their families, as they may be accompanied by severe symptoms and a shortened life expectancy. Research into refractory diseases is essential for improving diagnosis, treatment, and prevention through a better understanding of their underlying causes and the development of new treatments. Ultimately, more research may lead to better outcomes for patients suffering from incurable diseases" (*Diseases*, 2021). Since refractory disorders encompass a wide range of conditions, we will provide examples of some, including autism spectrum disorder, epilepsy, multiple sclerosis, bipolar disorder, and diseases like cancer and AIDS. Refractory disorders require comprehensive support and integrated interventions by specialized medical teams to improve the quality of life for patients and help them cope with the condition. These refractory disorders have burdened not only the individuals affected but also their families, doctors, and specialists, not to mention society at large. Given that special education is a field of research for such conditions, including autism spectrum disorder, we can pose the following main question:

**Can Autism Spectrum Disorder be considered a refractory disorder?**

### **3. Theoretical Framework and Previous Studies**

#### **1.2. Theoretical Framework**

Autism is a neurodevelopmental disorder that primarily affects an individual's communication and social interaction skills, accompanied by repetitive and restricted patterns of behavior and specific interests. Autism presents a significant challenge for individuals affected, their families, and even the medical professionals and specialists working with them. It requires appropriate support and care to improve their quality of life and achieve as much well-being as possible. Autism Speaks (2023) defines autism or Autism Spectrum Disorder (ASD) as a range of conditions characterized by challenges in social skills, repetitive behaviors, speech, and non-verbal communication. According to the Centers for Disease Control and Prevention (CDC), autism affects an estimated 1 in 36 children in the United States today. It is understood that there is not one type of autism but many subtypes, with individuals affected differently (**Autism Speaks, 2023**).

This is the common definition, and whenever autism is defined, references are often made to the DSM-5 or CIM-11. While this definition is currently accepted, we should not entirely rely on it; there is a need to rethink the definition or concept to keep pace with advances in research on this disorder. Over time, the understanding of autism has changed significantly from a narrow definition in the past to a broader one today, from being considered rare to now being seen as common in the population, from being studied mainly in childhood to now being observed across different life stages, from being viewed as something isolated to now seen as more diverse, from "autism" as a single entity to a spectrum of "autisms," from simple to complex, and from a "disorder" to "neurodiversity." With all these changes over time, we should challenge our assumptions and rethink the concept. Many in this field have already initiated such discussions, and this dialogue must continue until we achieve a paradigm shift that fundamentally improves areas that currently lack development, which are the most important given the goals of society and the field (**Lombardo Michael V & Mandelli, 2022**).

Scientific studies on Autism Spectrum Disorder are continuously increasing, as this subject receives great attention from researchers and practitioners. Consequently, there are numerous previous studies on this variable, both locally, in the Arab world, and globally. However, when linked to another topic, such as refractory disorders, there is a noticeable lack of academic studies that address the connection between autism spectrum disorder as a refractory condition (based on the researcher's knowledge). Autism is considered one of the refractory disorders, as its impact on individuals lasts throughout their lifetime. The severity of the disorder varies from person to person, with some exhibiting mild or moderate symptoms, while others experience more severe forms that require intensive support and specialized intervention.

Individuals with autism, their families, and even the specialists working with them face significant challenges. These challenges lead to numerous difficulties in communication and social participation, which in turn affect their overall development and educational and occupational opportunities. Nevertheless, researchers and specialists in the field of special education strive to raise societal awareness about autism and provide appropriate resources and programs for comprehensive support and early intervention. Their aim is to improve the lives of individuals with autism and enable them to participate actively in society. Specialists and researchers have largely agreed that Autism Spectrum Disorder is one of the most complex and refractory disorders to manage and treat, a condition that has long remained mysterious or has been referred to as an "enigmatic disorder."

We will present some indicators that suggest autism can be considered a refractory disorder and the challenges in dealing with it, as found in the literature related to the subject, including:

1. **Difficulties in Social Interaction and Communication:** One of the main indicators that autism can be considered a refractory disorder is the difficulty individuals with autism have in social development and communication. They may find it hard to establish and maintain social relationships and may struggle with understanding social cues and expressing their emotions clearly.
2. **Psychological and Emotional Adaptation:** A major challenge in dealing with autism is its negative impact on the psychological and emotional well-being of individuals. Some individuals with autism experience anxiety, depression, and emotional stress, requiring special support and strategies to manage these challenges.
3. **Limited and Repetitive Interests and Behaviors:** Another indicator of refractory autism is the likelihood of individuals having limited and repetitive interests and behaviors. These traits can be defining features of individuals with autism and require medical teams to adapt to these challenges to achieve progress in treatment.
4. **Effects on Learning and Development:** Autism's impact on learning and development is a key indicator of the difficulty in managing this disorder. Individuals with autism may face challenges in academic learning and the development of motor and language skills, which necessitates innovative educational interventions and specialized teams to support their growth and development.

Refractory disorders, in essence, refer to rare diseases often caused by unidentified factors or lacking established or curative treatments. Currently, it is estimated that there are 5,000–7,000 distinct rare refractory diseases worldwide, with 50% being identified as having genetic origins, and 50% manifesting in childhood and persisting throughout life. Most of these difficult and rare disorders fall under the concept of refractory disorders, leading to significant physical suffering and psychological despair due to the lack of treatment hope and the absence of practical support for daily life. These disorders also place a heavy burden on family members, both financially and emotionally. Research has shown that the state of prevention and management of rare and refractory disorders is bleak worldwide, with almost no clarity or understanding of these conditions (Tang & Masatoshi, 2012).

A comprehensive definition of a refractory disorder was provided in 1972 by the Japanese Ministry of Health, Labor, and Welfare (Nanbyou), which described it as a disorder caused by an unknown reason, with no clearly defined treatment, and associated with a high risk of disability. It requires a significant amount of effort to care for the affected individual, which places a heavy burden on the family, both materially and emotionally (Manabe, 2013). Since the Medical Care Law for Patients with Refractory Disorders (Refractory Diseases Law) came into effect on January 1, 2015, specific measures for dealing with refractory diseases have been defined in the law. Additionally, financial support for medical expenses was renewed under the "Special Research Project for the Treatment of Rare, Refractory, and Chronic Diseases."

This law defined "refractory disorders" as disorders with an "unknown mechanism of onset," "no fixed treatment," "rare diseases," and requiring "long-term care." These four requirements also categorize "specific refractory diseases" (Study Group in Japan, 2022). Refractory disorders are conditions where the impact on health or functionality is more negative, complex, and difficult, whether in diagnosis, evaluation, or treatment. The condition is usually long-lasting and, thus, requires significant effort and multiple resources to manage effectively and supportively.

Autism Spectrum Disorder (ASD) is known to require continuous and multidisciplinary support for individuals affected by autism, as they may experience difficulties in communication and social interaction, along with limited and repetitive interests and behaviors. The extent of autism's impact varies from person to person, and individuals with autism need continuous support and intervention from various fields, including

special education, psychological therapy, speech and language therapy, and others. Working with individuals with autism requires patience, understanding, and a readiness to adapt programs and educational approaches based on each individual's needs. All these challenges position autism as a refractory disorder.

Since autism is considered a refractory disorder, early intervention and comprehensive support can significantly improve the quality of life for individuals with autism, helping them reach their potential and develop their skills. It also helps their families and caregivers in meeting the needs and requirements of their children with autism.

### 3.2. Previous Studies

There are numerous and diverse studies on refractory disorders from a medical perspective, but psychological, educational, and behavioral studies are rare, especially in the Arab world, including Algeria. This scarcity becomes more evident when these studies address autism, which is considered a refractory disorder. However, some foreign studies have descriptively and analytically addressed autism as a refractory disorder but with different approaches, referring to autism as a "mysterious disorder" or "complex disorder." Some examples include:

- **Mark Greener's Study (2015)**, titled *The Autism Puzzle*, aimed to present some studies and research related to the genetics, molecules, and neuroanatomical basis of the diverse clinical presentation of Autism Spectrum Disorder (ASD). It reviewed literature on the topic through a systematic analysis and concluded that ASD is a complex disorder that is difficult to treat, with no cure available at present (Greener, 2015).
- **Ekaterina Pesheva's Study (2019)**, titled *Solving the Autism Puzzle*, aimed to identify the biological roots and molecular changes that lead to autism and related disorders, with the goal of developing better diagnostic tools and new treatments. The results indicated that recent advances in neuroscience, such as single-cell analysis and optogenetics, along with the unprecedented ability to visualize molecular mechanisms down to the finest level, are enabling researchers to address a highly complex disorder like ASD (Pesheva, 2019).

Several scientists and researchers in the field of autism and neurodevelopmental disorders present some facts and characteristics that distinguish this disorder. These facts include:

1. Autism, like cancer, is an umbrella of disorders, each with its own cause. It is well-known and confirmed that autism manifests as a spectrum of symptoms, ranging from severe to mild, leading doctors to use the term "Autism Spectrum Disorders" to refer to the varying degrees and forms of the disorder.
2. Contrary to previous beliefs that autism results from a cerebellar disease a part of the brain involved in integrating sensory and motor activities it is now seen as a broader issue in how different parts of the brain communicate with each other.
3. The immune system may play a crucial role in some forms of autism. If confirmed, this could open new avenues for prevention and treatment.
4. Many classic symptoms of autism, such as spinning, head banging, and endless repetition of certain phrases, might be coping mechanisms rather than inherent behaviors. Other symptoms, such as a lack of emotions or the inability to love, could result from weak communication, which may also explain the high assumed rate of intellectual disability among patients.
5. Autism remains a refractory disorder for doctors and scientists, and finding a medication that treats all or part of the causes without side effects would be an unprecedented achievement worth investing time and resources into (Al-Hakim, 2006).

Autism remains one of the most challenging neurological and psychological conditions. To this day, no effective treatment has been developed for the core features of this disorder. In the absence of effective treatments, doctors have resorted to using medications to manage the associated behaviors and syndromes that appear in individuals with autism, placing it at the top of the list of refractory and difficult disorders.

### 3.2. Comparison Between Autism Spectrum Disorder and Some Refractory Disorders Mentioned in This Study

Based on the information provided in this research paper, there are some similarities between the characteristics of Autism Spectrum Disorder and other refractory disorders found on the list of refractory disorders (such as epilepsy, migraines, multiple sclerosis, and bipolar disorder). At the same time, these disorders share similar indicators with ASD. We conducted a comparison between the information available on autism and the characteristics of the mentioned refractory disorders:

1. **Autism and Epilepsy:**
  - Both are persistent and evolving disorders requiring long-term support.
  - Diagnosis is challenging in both disorders, and accurate diagnosis is essential to provide appropriate interventions.
2. **Autism and Migraines:**
  - Both can affect the quality of life and cause chronic pain and daily challenges.
  - Autism and migraines are considered ongoing disorders that affect the daily lives of those affected.
3. **Autism and Multiple Sclerosis:**
  - Both can cause a variety of chronic symptoms and long-term effects.
  - Refractory disorders like autism and multiple sclerosis require continuous and specialized care.
4. **Autism and Bipolar Disorder:**
  - Both are characterized by mood, behavioral, and emotional changes.
  - Autism and bipolar disorder can both cause challenges in social interaction and personal relationships.

From this comparison, we can conclude that the general characteristics of autism resemble those of other refractory disorders, such as the persistent nature of the condition and its long-term effects. Thus, autism requires continuous support and integrated intervention to improve the quality of life for individuals affected by it and to enhance their overall development.

#### 4. Tools and Method (Field Procedures of the Study)

During the field procedures of this research, the researcher faced many challenges that altered various aspects of the study as a whole. This was due to the complexity and intricacy of the topic, as well as the lack of studies and research that could guide the researcher in defining his intellectual starting points. Nevertheless, we were able to establish a precise methodological pathway for this study.

##### 3.1. The Adopted Methodology:

The topic of Autism Spectrum Disorder in relation to refractory disorders represents an important research avenue for researchers and practicing specialists in the field. The significance, objectives, and methodological and field considerations of this topic led us to choose an appropriate methodology, which is the **descriptive method**. Through this method, we aim to clarify to what extent Autism Spectrum Disorder can be considered a refractory disorder by matching the indicative criteria of refractory disorders. We relied on a **survey approach** to explore the field, using tools such as an **open-ended questionnaire** and an **evaluation list of indicators**, as well as an **analytical approach** to analyze the data and information obtained in the current study. We then interpreted the findings within the context of the study's questions and the results of previous research mentioned in this study.

##### 3.2. The Sample Used:

In our current study, we used two samples.

###### 3.2.1. The First Sample (Exploratory):

The first sample consisted of a group of specialists and academic researchers, numbering 14 individuals, including 4 specialists working in psycho-pedagogical centers and private psychological clinics, and 10 professors conducting research in the fields of education and psychology. An open-ended questionnaire, shown in Appendix 1, was presented to them. After building the evaluation list, it was applied to a group of 32 individuals, including researchers and specialists working in psycho-pedagogical centers and private psychological clinics, as outlined in Table 01.

**Table 01** provides a description of the exploratory sample.

Sample	Professors and Researchers	Practicing Specialists	Total
Males	14	5	19
Females	4	9	13
Total	18	14	32

###### 2.2.3. The Second Sample (Main Sample):

The main sample of the study was used to answer the research questions and analyze the data. The number of participants in this sample was 148, as described in the following table:

**Table 02** provides a description of the main sample.

Sample	Professors and Researchers	Practicing Specialists	Total

<b>Males</b>	18	20	38
<b>Females</b>	8	48	56
<b>Total</b>	26	68	94

### 3.3 Description of the Study Tools:

#### 1.3.3. First Tool: Open-Ended Questionnaire

This questionnaire aimed to gather as much information as possible about the main topic of the study. It was used to collect data on the key indicators of refractory and difficult disorders. The questionnaire was directed to professors, researchers, and practicing specialists, and included the following content:

- **Question 1:** In your opinion, what are the key signs and indicators that suggest a disorder is refractory or difficult?
- **Question 2:** If you consider Autism Spectrum Disorder to be a refractory disorder, what are the main indicators that support this?

#### 2.3.3. Second Tool: Content Analysis

RabehChalihi, in his 2020 study titled *Information Gathering Mechanisms in Academic Research*, pointed out the use of content analysis as a complementary technique to develop a research measurement tool from an open-ended questionnaire. Content analysis has various uses depending on different research situations. It can be employed as a research method, which is common, such as in the analysis of school textbooks, medical files, and educational programs, among others. It can also be used as a complementary research technique, as is the case in our study, where it plays a supplementary role in the main data collection tool used in academic research and studies.

As Maurice Angers noted, one of the essential characteristics of scientific research methods is flexibility, meaning that one method can become a tool for another (Chalihi, 2020, p. 45). This is what the researcher applied in this study. The researcher collected the responses from participants and analyzed the content of these questionnaires to gather information in the form of indicators and signs of refractory disorders, then systematically organized and formulated them into items for the evaluation list of indicators of refractory disorders.

#### 3.3.3. Third Tool: Evaluation List of Indicators of Refractory Disorders

This tool was designed to collect data aimed at identifying indicators of refractory disorders and assessing their applicability to the characteristics of Autism Spectrum Disorder, thereby determining whether or not ASD is a refractory disorder. The tool was developed by the researcher and went through several steps, including:

- **Step 1:** Reviewing the literature related to the topic, directly or indirectly connected to the current study (studies, research, scales, questionnaires, etc.), and extracting relevant information for constructing the evaluation list.
- **Step 2:** Developing an open-ended questionnaire aimed at collecting information from the initial study sample, which consisted of raw responses that required analysis, organization, and reformulation.
- **Step 3:** Complementing the second step, after gathering the responses from the open-ended questionnaire, the researcher analyzed the content of these responses, organized them, and reformulated them into items for the evaluation list.
- **Step 4:** Formulating the items appropriately to match the purpose of the evaluation list, preparing the complete list, creating appropriate alternatives, and presenting it to experts for review.
- **Step 5:** Preparing the final version of the evaluation list, modified after expert feedback, and calculating its validity and reliability (the psychometric properties of the tool). See Appendix 2.

### 4.3. Psychometric Properties of the Study Tool:

#### 1.4.3. Validity:

- **Expert Validity:**

The preliminary version of the evaluation list was presented to a group of experienced and competent professors in the fields of psychology, education, speech therapy, and special education. The group consisted of 10 professors from various universities across the nation (the People's Democratic Republic of Algeria). The following table shows the agreement percentages on the items between the experts.

**Table number (03) shows the percentages of agreement on the items between the experts.**

Item	Number of Judges	Agreement	Percentage	Item	Number of Judges	Agreement	Percentage
1	10	9	90%	6	10	10	100%
2	10	10	100%	7	10	10	100%
3	10	10	100%	8	10	10	100%
4	10	10	100%	9	10	10	100%
5	10	8	80%	10	10	10	100%
10	10	9	90%	21	10	9	90%
11	10	9	90%	22	10	9	90%
12	10	9	90%	23	10	9	90%
13	10	8	80%	24	10	9	90%
14	10	9	90%	25	10	9	90%
15	10	9	90%	26	10	9	90%
16	10	9	90%	27	10	10	100%
17	10	8	80%	28	10	10	100%
18	10	10	100%	29	10	9	90%
19	10	10	100%	30	10	10	100%
20	10	10	100%	31	10	10	100%
/	/	/	/	32	10	10	100%

As a criterion for accepting or rejecting the statement, we set the agreement percentage at 80% or higher, meaning that the statement can be accepted in the estimated list. We observe from the table above that the agreement percentages among the judges for the statements ranged between 80%, 90%, and 100%. Therefore, all the statements were accepted with some recommended modifications from the experts, such as rephrasing, clarifying, and refining the statement.

• **Discriminant Validity (Extreme Group Comparison):**

The purpose of calculating this type of validity is to ensure that the list is able to distinguish between the two ends of the survey, the lower group and the upper group. We calculated 33% of the items, and by applying the *t*-test to calculate the differences, we found the following:

Table number (04) shows the results of the discriminant validity for the estimated list.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
adarajat	Equal variances assumed	.237	.632	-8.161	20	.000	-6.00000	.73518	-7.53357	-4.46643

	Equal variances not assumed			-8.161	19.45 0	.000	-6.00000	.73518	- 7.536 35	- 4.46365
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From Table 4, it is clear that the *t* value reached -8.16 at a significance level of 0.000, which means that the *t* value was statistically significant at a significance level of 0.01. Thus, we conclude that the discriminant validity was strong when comparing the two ends of the estimated list, indicating that the list is capable of distinguishing between the lower and upper extremes of the test. This confirms that the list is indeed valid, and the items formulated genuinely reflect what they were designed for.

#### 2.4.3. Reliability:

- **Cronbach's Alpha Reliability:** To ensure the reliability of the estimated list, Cronbach's Alpha value was calculated, as shown in the table below:

Table number (05) shows the Cronbach's Alpha value.

Cronbach's Alpha Value	Number of Items
0.558	30

Based on the data presented in Table 5, we observe that the Cronbach's Alpha value reached 0.558, which is greater than 50%. This indicates that the value is significant, giving the list an acceptable level of reliability for application in the main study. This means that the list has an acceptable reliability level, allowing us to apply it in the main study.

**5.3. Temporal and Spatial Scope of the Study:** The timeframe covered by the current study can be identified as starting from the distribution of the open-ended questionnaire to the initial research sample during the second half of 2023, continuing until the final estimated list was retrieved from the participants in the main study during the early months of 2024. This study was conducted on professors and researchers in psychology and education sciences, as well as a group of practicing specialists across various regions of the country, specifically in the following provinces: Batna, Constantine, Médéa, Blida, and Algiers.

#### 5. Results (Presentation and Discussion of the Results):

**1.4. Answering the First Question:** To answer the first question, "Can autism spectrum disorder (ASD) be considered one of the intractable disorders?", we matched these indicators with the characteristics and challenges of ASD and found the following: The study sample participants responded with a level of agreement higher than average, with the overall arithmetic mean for the sample reaching 77.45, which is greater than the list's estimated arithmetic mean of 60. This means that most of the participants agreed that the indicators of intractable disorders align with those of ASD. The following table illustrates this:

Table number (06) shows the overall arithmetic mean for the sample participants.

Sample	Total	ArithmeticMean	Standard Deviation	Sample	Total	ArithmeticMean	Standard Deviation
1	75	2.5	0.69	48	79	2.63	0.61
2	79	2.63	0.61	49	79	2.63	0.61
3	79	2.63	0.61	50	77	2.57	0.68
4	79	2.63	0.61	51	79	2.63	0.61
5	79	2.63	0.61	52	78	2.6	0.67
6	79	2.63	0.61	53	79	2.63	0.61
7	79	2.63	0.61	54	78	2.6	0.67
8	79	2.63	0.61	55	77	2.57	0.73
9	77	2.57	0.68	56	77	2.57	0.68
10	77	2.57	0.68	57	78	2.6	0.67
11	77	2.57	0.68	58	79	2.63	0.61
12	77	2.57	0.68	59	79	2.63	0.61
13	78	2.6	0.62	60	79	2.63	0.61
14	77	2.57	0.68	61	78	2.6	0.62

15	77	2.57	0.68	62	77	2.57	0.68
16	76	2.53	0.68	63	77	2.57	0.68
17	78	2.6	0.62	64	77	2.57	0.68
18	77	2.57	0.68	65	77	2.57	0.68
19	78	2.6	0.62	66	77	2.57	0.68
20	77	2.57	0.73	67	77	2.57	0.68
21	77	2.57	0.68	68	76	2.53	0.68
22	77	2.57	0.68	69	77	2.57	0.68
23	77	2.57	0.68	70	78	2.6	0.62
24	77	2.57	0.68	71	78	2.6	0.62
25	77	2.57	0.68	72	78	2.6	0.62
26	77	2.57	0.68	73	78	2.6	0.62
27	76	2.53	0.68	74	79	2.63	0.56
28	76	2.53	0.73	75	78	2.6	0.62
29	77	2.57	0.68	76	76	2.53	0.73
30	76	2.53	0.68	77	76	2.53	0.68
31	79	2.63	0.61	78	77	2.57	0.68
32	77	2.57	0.63	79	79	2.63	0.56
33	78	2.6	0.62	80	77	2.57	0.68
34	78	2.6	0.62	81	77	2.57	0.68
35	78	2.6	0.62	82	77	2.57	0.68
36	77	2.57	0.68	83	78	2.6	0.62
37	74	2.47	0.73	84	78	2.6	0.62
38	78	2.6	0.62	85	77	2.57	0.68
39	77	2.57	0.68	86	77	2.57	0.68
40	78	2.6	0.62	87	77	2.57	0.68
41	77	2.57	0.68	88	78	2.6	0.62
42	76	2.53	0.68	89	78	2.6	0.62
43	77	2.57	0.68	90	77	2.57	0.68
44	77	2.57	0.68	91	76	2.53	0.73
45	78	2.6	0.62	92	77	2.57	0.68
46	77	2.57	0.68	93	77	2.57	0.68
47	78	2.6	0.62	94	77	2.57	0.68
				Total	7281	2.582553	0.655957

From Table 7, it is evident that the total score of the study sample participants on the estimated list reached 7281, while the overall arithmetic mean was 2.582. Given that the arithmetic mean of the indicators list is set at 2, this shows that the arithmetic mean of the sample participants was higher than the list's mean. This suggests that the participants largely viewed autism spectrum disorder (ASD) as highly significant, with their scores exceeding the average. All participants had a mean score greater than 2.5, except for participant 37, whose mean score was 2.47, which is still higher than the list's average. According to the Likert scale, a score between 2.34 and 3 represents a high level of agreement. Consequently, all participants agreed that ASD can be considered an intractable disorder, although the level of agreement varied between individuals, without falling below the "high agreement" threshold.

The highest arithmetic mean, 2.63, was observed in 17 items (items 2, 3, 4, 5, 6, 7, 8, 31, 48, 49, 51, 53, 58, 59, 60, 74, 79), corresponding to a high level of agreement. The lowest mean, 2.47, was seen for item 37, but it still falls within the high agreement range. This indicates that the entire sample agreed that ASD can be classified as an intractable disorder. Although the level of agreement varied slightly among individuals, it remained within the high agreement category.

The overall arithmetic mean for the sample was 2.58, which also falls within the range of 2.34 to 3, signifying a high level of agreement. This confirms that the study participants collectively agreed that ASD shares many of the characteristics and indicators associated with intractable disorders to a significant degree. To understand the relationship between ASD and intractable disorders, the results from Table 7 indicate that most participants viewed ASD as highly intractable. This may be due to several factors, which we can summarize as follows:

- **Symptom Overlap:** This is one of the most significant potential factors explaining the alignment between ASD and the indicators of intractable disorders. According to the researcher, the characteristics and traits of ASD appeared similar to many participants, as reflected in their responses to the following key items:
  - Item 1: "It has unknown causes."
  - Item 2: "Its prevalence rate continues to increase without end."
  - Item 6: "The disorder persists with the affected individual for life."
  - Item 8: "There is no clear and definite cure."
  - Item 10: "The costs of caring for those affected are a burden on the family."
  - Item 14: "It occurs widely across all societies and races."
  - Item 21: "The disorder is a burden (prevalence, symptom severity, degree of disability) on the affected individual, their family, and society."
  - Item 24: "There is no drug or alternative treatment that ends the suffering."
  - Item 26: "It is recognized as a difficult (intractable) disorder by global organizations, such as the World Health Organization."

These indicators reflect the nature of intractable disorders and are also major challenges of ASD. The disorder is characterized by unknown causes, an alarmingly increasing prevalence, lifelong persistence, and a significant burden on families and society (prevalence, symptom severity, degree of disability). The lack of effective treatments has been confirmed by various studies in the medical and behavioral fields. Additionally, global organizations describe ASD as a complex and challenging disorder, often considered a puzzle.

Thus, this factor is key in explaining the study results. The participants' ability to draw connections between ASD and intractable disorder indicators led to the results. It is important to note that the participants in this study were specialists, whether academics or practitioners, meaning that the higher their awareness and understanding of disorders, the better their ability to recognize the similarities and differences between ASD and intractable disorders.

Given the high level of agreement among the participants, it is safe to conclude that ASD can indeed be considered an intractable disorder, based on the opinions of the professors and specialists involved in the study.

### **Conclusion**

In conclusion, autism spectrum disorder (ASD) is a neurological disorder characterized by difficulties in communication, social interaction, and restricted and repetitive behaviors. Some cases of autism may be considered intractable, as ASD encompasses a wide range of syndromes and often resists various forms of treatment. It poses a challenge to specialists, therapists, and those close to the affected individuals. Autism can be understood as an intractable disorder due to several indicators and challenges associated with managing it.

One of the key indicators of the intractability of autism is the difficulty in social interaction and communication. Individuals with autism struggle to form and maintain social relationships, often experiencing challenges in understanding social cues and expressing emotions clearly. This increases the complexity of the disorder, making it more difficult to manage.

One of the greatest challenges for individuals with autism and their families is the difficulty in psychological and emotional (affective) adjustment, which negatively impacts the mental health of both the affected person and their family. Comorbid conditions, such as anxiety and depression, often exacerbate the struggles faced

by individuals with autism, further increasing the burden on their families and those involved with them. This necessitates significant support and specialized strategies to manage these challenges.

Another major aspect of autism that highlights its intractability is the presence of restricted and repetitive behaviors and interests. These traits are defining characteristics of individuals with autism and require specialized medical teams to address them effectively in treatment. Since families of autistic individuals often prioritize their child's learning and development, the impact of autism on education and development becomes a key indicator of the difficulty in managing the disorder. People with autism may face challenges in academic learning and in developing motor and language skills, which necessitates innovative educational interventions and specialized teams to support their growth. This further confirms the difficulty of autism and its alignment with the indicators of intractable disorders.

Based on these points, it is clear that autism shares many characteristics with intractable disorders, supporting the idea that it can be considered an intractable condition in many cases. It requires continuous support and comprehensive intervention to improve the quality of life for those affected by it. Therefore, from the above, we can conclude that autism spectrum disorder is, in many cases, an intractable disorder that demands ongoing support and intervention to improve quality of life and address the challenges faced by affected individuals. This conclusion is supported by the findings of our current study.

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