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Behavioral characteristics in children with Autistic disorders, Autism Center in Sulaimania Governorate

ArazoAdilJassim

M.Sc. / Psychiatric Mental Health Nursing / garmian University

E-mail: arezoasil@yahoo.com

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Abstract

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Objectives: This study aims to describe the Behavioral characteristics in children with Autistic disorders, Autism Center in Sulaimania Governorate.

Methodology: A qualitative design, descriptive study with A non- probability purposive sample, 50th children attending to the Autism Center in Sulaimania



Key Words:

Patient's family, behavioral characteristic, Autism, Autism Center, Sulaimania Governorate.

Governorate, study carried out to assess the behavioral characteristic of children diagnosed with autism in Sulaimania Autism Center in the Sulaimania governorate for the period from November 2013 to May 2014. The study was conducted at the Sulaimania Autism Center, Sulaimania governorate with the aim to study the behavioral characteristic of children diagnosed with autism. A questionnaire was developed for this purpose; data was analyzed through percentage and mean

Results and Conclusion: the study indicated that the children have Impairment in social interaction, the highest responses occur in the item " Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction " represents 88%", followed by the item " Stereotyped and repetitive use of language or idiosyncratic language ", which represents 82%. The impairments in communication, the children have the highest frequency to the item " Delay in, or total lack of, the development of spoken language (without an attempt to use alternative modes of communication such as gesture or mime) represents 80%. concerning to the restricted repetitive and stereotyped patterns of behavior, interests, and activities, the children have the highest frequency to the item " Preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus" which represents 62% . And the least one frequency in the item "Stereotyped and repetitive motor mannerisms (e.g. hand or finger flapping or twisting or complex whole-body movements)".

Recommendation: provided with means and education to help patients with depressive disorder to reach optimum level of functioning .these include creating opportunities to participate in ward daily activities as much as possible as a way of assisting. They learn how to assume responsibility for themselves and others, establish their independence and interact in socially acceptable way with other children and family.

Introduction

Autism is defined by early signs of impairments in socialization and communication and the presence of repetitive behaviors. The spectrum includes children and adults across the range of severity and intellectual ability, from severely impaired to high-functioning (termed ' Asperger syndrome'). Approximately a third of children with autism appear to lose skills in their second year, but the significance, in terms of cause and life-course, is unclear [1].

Autism is a developmental disorder that was first described by Leo Kanner in 1943, in a classic article that included case studies of 11 children. Since that time, the diagnostic criteria have evolved based on continued observations and research, resulting in the current criteria in the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition or DSM-IV*[2] and the *International Classification of Diseases or ICD-10* [3]. At the present time, *autistic disorder* is defined in terms of qualitative impairments in social interaction and communication, and restricted, repetitive, and stereotyped patterns of behaviors, interests, and activities, with impairments in one of these areas prior to the age of 3 years [4]. Major characteristics

Many autistic infants are different from birth. Two common characteristics they may exhibit include arching their back away from their caregiver to avoid physical contact and failing to anticipate being picked up (i.e., becoming limp). As infants, they are often described as either passive or overly agitated babies. A passive baby refers to one who is quiet most of the time making little, if any, demands on his/her parents. An overly agitated baby refers to an infant who cries a great deal, sometimes non-stop, during his/her waking hours. During infancy, many begin to rock and/or bang their head against the crib; but this is not always the case [5].

Types of autism are:



- *Autistic Disorder*: also known as “Classic Autism,” “Kanner Autism,” or Childhood Autism” Characterized by difficulties with language, social and leisure activities/ imaginative play.
- *Asperger’s Syndrome*: sometime referred to as “High-functioning”. No problem in communication or cognitive development.
- *Pervasive Development Disorder-Not Otherwise Specified (PDD-NOS)*-sub threshold diagnosis. Also refers to “ atypical autism” (later age of onset or atypical symptoms). [1].

Autism is a “spectrum” disorder because it affects no two people in exactly the same way. [8].

Subgroups and Related Disorders are:

Asperger Syndrome, Fragile X Syndrome, Landau-Kleffner Syndrome, Rett Syndrome, and Williams Syndrome. Asperger Syndrome is characterized by concrete and literal thinking, obsession with certain topics, excellent memories, and being 'eccentric.' These individuals are considered high-functioning and are capable of holding a job and of living independently [7][8].

Fragile X Syndrome is a form of mental retardation in which the long arm on the X chromosome is constricted. Approximately 15% of people with Fragile X Syndrome exhibit autistic behaviors. These behaviors include: delay in speech/language, hyperactivity, poor eye contact, and hand-flapping. The majority of these individuals function at a mild to moderate level. As they grow older, their unique physical facial features may become more prominent (e.g., elongated face and ears), and they may develop heart problems.

People with Landau-Kleffner Syndrome also exhibit many autistic behaviors, such as social withdrawal, insistence on sameness, and language problems. These individuals are often thought of as having 'regressive' autism because they appear to be normal until sometime between ages 3 and 7. They often have good language skills in early childhood but gradually lose their ability to talk. They also have abnormal brain wave patterns which can be diagnosed by analyzing their EEG pattern during an extended sleep period [5].

Rett Syndrome is a degenerative disorder which affects mostly females and usually develops between 1/2 to 1 1/2 years of age. Some of their characteristic behaviors include: loss of speech, repetitive hand-wringing, body rocking, and social withdrawal. Those individuals suffering from this disorder may be severely to profoundly mentally retard [8].

Williams Syndrome is characterized by several autistic behaviors including: developmental and language delays, sound sensitivity, attention deficits, and social problems. In contrast to many autistic individuals, those with Williams Syndrome are quite sociable and have heart problems.

Childhood disintegrative disorder is a very rare disorder, with reported prevalence rates of 0.6 per 100,000[5]. This disorder involves a period of normal development in the first 2 years of life, followed by a regression in a number of skill areas prior to the age of 4 years, resulting in autistic Symptoms. The other 2 ASD diagnoses are Asperger’s Disorder and pervasive developmental disorder – not otherwise specified (PDD-NOS). Asperger’s disorder, like Autistic disorder, includes qualitative impairments in reciprocal social interactions, and restricted, repetitive, and stereotyped patterns of behaviors, interests, and activities. However, unlike Autistic disorder, it does not require qualitative impairments in communication [7].

Causes

The Causes of autism although there is no known unique cause of autism, there is growing evidence that autism can be caused by a variety of problems [11]. There is some indication of a genetic influence in autism. For example, there is a greater likelihood that two monozygotic twins (i.e., identical twins) will have autism than two dizygotic twins (i.e., fraternal twins). In the case of monozygotic twins, there is a 100% overlap in genes; whereas in dizygotic twins,



there is a 50% overlap in genes, the same overlap as in non-twin siblings [9]. Currently, a great deal of research has focused on locating the 'autism gene;' however, many researchers speculate that three to five genes will likely be associated with autism. There is also evidence that the genetic link to autism may be a weakened or compromised immune system. Other research has shown that depression and/or dyslexia are quite common in one or both sides of the family when autism is present.

There is also evidence that a virus can cause autism. There is an increased risk in having an autistic child after exposure to rubella during the first trimester of the pregnancy. Cytomegalovirus has also been associated with autism. Additionally, there is also a growing concern that viruses associated with vaccinations, such as the measles component of the MMR vaccine and the pertussis component of the DPT shot, may cause autism [9], [10].

There is growing concern that toxins and pollution in the environment can also lead to autism. There is a high prevalence of autism in the small town of Leominster, Massachusetts, where a factory manufacturing sunglasses was once located. Interestingly, the highest proportion of autism cases were found in the homes down-wind from the factory smokestacks. Recently, a large proportion of autistic children were identified in Brick Township, New Jersey. Several agencies are now attempting to uncover the reason(s) for the high proportion of autism in this community [11].

Physical abnormalities

Researchers have located several brain abnormalities in individuals with autism; however, the reasons for these abnormalities is not known nor is the influence they have on behavior. These abnormalities can be classified into two types--dysfunctions in the neural structure of the brain and abnormal biochemistry of the brain. It will be important for future researchers to examine the relationship between these two types of abnormalities.

With respect to brain structure, Drs. Bauman and Kemper examined post-mortem brains of several autistic individuals and have located two areas in the limbic system which are underdeveloped--the amygdala and the hippocampus. These two areas are responsible for emotions, aggression, sensory input, and learning. These researchers also found a deficiency of Purkinje cells in the cerebellum [10]. Using Magnetic Resonance Imaging, Dr. Courchesne has found two areas in the cerebellum, vermal lobules VI and VII, which are significantly smaller than normal in autistic individuals. Interestingly, there are some autistic individuals whose vermal lobules VI and VII are larger than normal. One or both of these areas of the cerebellum are believed to be responsible for attention [11].

With respect to biochemistry, many autistic individuals have elevated levels of serotonin in their blood and cerebral spinal fluid, whereas others have relatively low levels of serotonin. It should be mentioned that other disorders, such as Down Syndrome, attention deficit/hyperactivity disorder, and unipolar depression are also associated with abnormal levels of serotonin. There is also evidence that some autistic individuals have elevated levels of beta-endorphins, an endogenous opiate-like substance in the body. It is felt that those individuals who have an increased pain tolerance may likely be due to elevated levels of beta-endorphins [11].

A dysfunctional immune system has also been associated with autism. It is thought that a viral infection or an environmental toxin may be responsible for damaging the immune system. As mentioned above, there is also evidence of a genetic association to a compromised immune system. Researchers have found that many autistic individuals have a decreased number of helper t-cells which help the immune system fight infection [10].

There is growing evidence that the gut or intestinal tract of autism children is impaired. Researchers have documented yeast overgrowths (*Candida albicans*), low levels of phenyl sulfur transferase, and measles virus in their intestinal tract.

Sensory impairments

Many autistic individuals seem to have an impairment in one or more of their senses. This impairment can involve the auditory, visual, tactile, taste, vestibular, olfactory (smell), and proprioceptive senses. These senses may be



hypersensitive, hyposensitive, or may result in the person experiencing interference such as in the case of tinnitus, (a persistent ringing or buzzing in the ears). As a result, it may be difficult for individuals with autism to process incoming sensory information properly[12].

"Theory of mind" refers to one's inability to realize that other people have their own unique point of view about the world. Many autistic individuals do not realize that others may have different thoughts, plans, and perspectives than their own. For example, a child may be asked to show a photograph of an animal to another child. Rather than turning the picture around to face the other child, the autistic child may, instead, show the back of the photograph. In this example, the autistic child can view the picture but does not realize that the other child has a different perspective or point of view[13].

About 10% of autistic individuals have savant skills. This refers to an ability which is considered remarkable by most standards. These skills are often spatial in nature, such as special talents in music and art. Another common savant skill is mathematical ability in which some autistic individuals can multiply large numbers in their head within a short period of time; others can determine the day of the week when given a specific date in history or memorize complete airline schedules.

Many autistic individuals also have a narrow or focused attention span; this has been termed 'stimulus overselectivity.' Basically, their attention is focused on only one, often irrelevant, aspect of an object. For example, they may focus on the color of a utensil, and ignore other aspects such as the shape. In this case, it may be difficult for a child to discriminate between a fork and a spoon if he/she attends only to the color. Since attention is the first stage in processing information, failure to attend to the relevant aspects of an object or person may limit one's ability to learn about objects and people in one's environment [12].

Interventions

Over the years, families have tried various types of traditional and non-traditional treatments to reduce autistic behaviors and to increase appropriate behaviors. Although some individuals are given medications to improve general well-being, there is no primary drug which has been shown to be consistently effective in treating symptoms of autism. The most widely prescribed medication for autistic children is Ritalin, (a stimulant used to treat Attention Deficit/Hyperactivity Disorder). However, there are no double-blind controlled studies to demonstrate its effectiveness for those with autism [14]; [15], [16].

The two treatments which have received the most empirical support are Applied Behavior Analysis (ABA; behavior modification) and the use of vitamin B6 with magnesium supplements. Behavior modification involves a variety of strategies, (e.g., positive reinforcement, time-out), to increase appropriate behaviors, such as communication and social behavior, and to decrease inappropriate behaviors, such as self-stimulatory and self-injurious behavior.

Vitamin B6 taken with magnesium has been shown to increase general well-being, awareness, and attention in approximately 45% of autistic children. There are also a number of recent reports about the benefits of another



nutritional supplement, Di-methylglycine (DMG). DMG also seems to help the person's general well-being, and there are many anecdotal reports of it enhancing communication skills [17]; [18]; [19].

Some people with autism have excessive amounts of a type of yeast called 'candida albicans' in their intestinal tract. It is thought that high levels of candida albicans may be a contributing factor to many of their behavioral problems. One scenario is that when a child develops a middle ear infection, the antibiotics that help fight the infection may destroy microbes that regulate the amount of yeast in the intestinal tract. As a result, the yeast grows rapidly and releases toxins in the blood; and these toxins may influence the functioning of the brain. Excessive candida albicans can be treated with rather mild medications such as Nystatin age [23]; [15].

Food intolerances and food sensitivities are beginning to receive much attention as possible contributors to autistic behaviors. Many families have observed rather dramatic changes after removing certain food items from their children's diet. Researchers have recently detected the presence of abnormal peptides in the urine of autistic individuals [20]. It is thought that these peptides may be due to the body's inability to breakdown certain proteins into amino acids; these proteins are gluten (e.g., wheat, barley, oats) and casein (found in human and cow's milk). Many parents have removed these substances from their children's diets and have, in many cases, observed dramatic, positive changes in health and behavior [17]; [18]; [19].

As mentioned earlier, many autistic individuals have sensory impairments. Sensory integration techniques are often used to treat dysfunctional tactile, vestibular, and proprioceptive senses. Some of the techniques involve swinging a child on a swing in various ways to help normalize the vestibular sense and rubbing different textures on the skin to normalize the tactile sense. In addition, an autistic woman, Dr. Temple Grandin, developed a hug machine which provides the individuals with deep pressure which appears to have a calming effect on the person.

Many autistic individuals are also sensitive to sounds in their environment. They may hear sounds beyond the normal range and/or certain sounds may be perceived as painful. Auditory integration training, (listening to processed music for ten hours), is an intervention which is often used to reduce these sensitivities. Visual training is another sensory intervention designed to normalize one's vision. There are several different methods of visual training [20].

ethodology:

A quantitative design, descriptive study. with A non- probability purposive sample, study carried out to assess the behavioral characteristic of children diagnosed with autism in Sulaimania Autism Center in the Sulaimania governorate for the period from November 2013 to May 2014. The study was conducted at the Sulaimania Autism Center, Sulaimania governorate with the aim to study the behavioral characteristic of children diagnosed with autism. Our sample consisted of 50 children with a clinical diagnosis of autism or typically developing children between 3 and 9 years of age recruited for a study of behavior disorders in children with autism. A descriptive study was conducted with the aim of study .the aims of the studies are:

1- Find out the family history of with autism.

2- To determine the causes of autism among children. 3- To determine behavioral characteristics of children with autism. To obtain reliable and valid data, a questionnaire was developed according to the objectives of the study. A questionnaire consists of 3 parts, each of which aimed at collecting information and data as follows, part(I): general information concerning mother history of children with autism , part (II): information concerning family history, and part (III): A list of 3 parts describing expected behavioral characteristics. A purposive sample is used which consists of



(50) children diagnostic with autism in the autism in sulaimania governorate. The children and their relatives were interviewed for data collection procedure. The empirical field work was carried out.

The statistical procedures were applied to determine the result of present study includes:

a. Description statistic

This approach includes Percentage (%) to calculate the description of sample.

b. mean and standard deviation to estimate the value of some data .

Arithmetic mean(X):

Result and discussion:

Table (1): Distribution of the sample according to their family history of children with autism:

Characteristics	F		M	characteristics		%	M
Age of Mother				Age of father			
27-36years	2 7	4	3 7.18	31-40years	0	60	4 3.08
37-46 years	2 0	0		41-50 years	4	28	
47-over years	3			51-over years	0	12	
Total	5 0	00		Total	0	100	
Series of children				Mental state of father			
First child	8	6		Normal	7	94	
Middle child	2 7	4		Abnormal		6	
Last child	1 5	0		Total	0	100	
Total	5 0	00		Economical state	9	58	
Gestational time				Good	5	30	
Soon	1			Mild		64	



	9	8			2		
<i>After a year</i>	2 6	2		<i>Bad</i>		6	
<i>After two years and more</i>	5	0		<i>Total</i>	0	100	
<i>Total</i>	5 0	00		<i>Family living</i>			
<i>Family relationship</i>				<i>Urban</i>	8	76	
<i>Yes</i>	3 3	6		<i>Town</i>	0	20	
<i>Close</i>	8	6		<i>Rural</i>		4	
<i>Far</i>	9	8		<i>Total</i>	0	100	
<i>No</i>	5 0	00					
<i>Total</i>							

It appears from the table that most frequent age of mothers group is 27-36 years and represents 52%, and least frequent group of 47-over (6%), the mean of the ages 37.18. Most of them had middle child in series and represents (54%). The table reveals that the gestational time of most of the mother sooner (66%). Also appears from this table that most frequent age group fathers children is (31-40) years and represents (60%), the mean of the ages 43.08. Most of the families have not relationship between them (58%). The table shows that majority of the sample have mild economical state and represents (64%), and 97% of fathers have normal mental slate. In regard to their family living most of them lives in urban and represents (76%).

Our sample which participated in the study undertaken is male and the age group between 3-9 years old; there are many studies support the finding of this study related to socio demographical characteristics in regard to children age and gender. The present study suffered from some of the usual methodological limitations. Although the sample size compared well with most other studies on the subject, it can be argued that the number of participants was still relatively small, the Malow[21]state that sample consisted of 101 children with a clinical diagnosis of autism disorder or typically developing children between 4 and 10 years of age recruited for a study of sleep and behavior in children with autism.

Table (2): Distribution of the sample according to their behavioral characteristics of children with autism.

Autism Symptoms	Responses	
	Yes	No
	%	



(1) Impairment in social interaction, as indicated of the following:				
a. Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction	4	8	8	2
b. Failure to develop peer relationships appropriate to developmental level	1	2	6	8
c. Stereotyped and repetitive use of language or idiosyncratic language	1	2	8	8
d. Does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace	4	8	6	2
e. Lack of social or emotional reciprocity	6	2	5	4
(2) Impairments in communication as indicated of the following:				
a. Delay in, or total lack of, the development of spoken language (without an attempt to use alternative modes of communication such as gesture or mime)	0	0	8	0
b. In individuals with adequate speech - marked impairment in the ability to initiate or sustain a conversation with others	1	2	4	8
c. Stereotyped and repetitive use of language or idiosyncratic language	2	4	6	8
d. Does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace	7	4	5	3
(3) Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as indicated of the following:				
a. Preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus	1	2	6	9
b. Adamantly demands specific, nonfunctional routines or rituals	8	6	3	2
c. Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)		2	1	4
d. Persistent preoccupation with parts of objects	6	2	5	3

F. = Frequency

% = percentage

The table shows that the children have Impairment in social interaction, the highest responses occur in the item " Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction " represents 88%", followed by the item " Stereotyped and repetitive use of language or idiosyncratic language ", which represents 82%.

The impairments in communication, the children have the highest frequency to the item " Delay in, or total lack of, the development of spoken language (without an attempt to use alternative modes of communication such as gesture or mime) represents 80%.

Also the table shows that concerning to the restricted repetitive and stereotyped patterns of behavior, interests, and activities, the children have the highest frequency to the item " Preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus" which represents 62%. And the least frequency relating to the item "Stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)".

Mash and Barkley[22], child psychopathology, provides an excellent description of autistic disorder and gives a detailed explanation of each of its core symptoms.it also discusses some of the behavioral myths associated with autistic



disorder, such lack of attachment to caregivers. Additionally, Mash and Barkley provide a list of related symptoms that commonly occur among autistic individuals as well as comorbid disorder.

The science and fiction of Autism includes all of the current controversies concerning the disorder. In regards to the causes and treatment, nothing has been widely accepted. As a result, many aspects of the disorder remain highly controversial, particularly about specific behavioral features, treatment, and etiology. Schreibman meticulously discusses the different issues concerning autism and well as providing important information on the main aspects of autism.

Recommendations Suggestions:-

In the light of the present study, it is recommended that:-

1. Encouraging the private sector to establish psychiatric services and sanitarium for children who can offer.
2. As psychiatric nursing teaches the patient social skills and using positive approaches of coping for depressed and anxious patients to build their self-esteem, and may decrease risk of developing depressive behavioral symptomatic characteristics.
3. provided with means and education to help patients with depressive disorder to reach optimum level of functioning .these include creating opportunities to participate in ward daily activities as much as possible as a way of assisting. They learn how to assume responsibility for themselves and others, establish their independence and interact in socially acceptable way with other children and family.

Suggestions:-It is suggested that:

1. Early intervention leads to better outcomes
2. A follow-up studies should be carried out to insure that similar behavioral characteristic of such children surely identified and how it is dealt within community.

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