Screening of autism using a revised checklist in toddlers who have difficulty in communication

Luay Farhood Jumaah[1], Emad Maaroof Thakir[2], Mohammed I. Younis[3]
[1, 2, 3]FIBMS, DCH, MBCHB, Departments of Pediatrics- College of Medicine. University of Tikrit/ IRAQ
Email: Drluayfarhood1973@tu.edu.iq

Abstract
One contemporary umbrella term for a spectrum of disorders sharing autism's hallmark traits is autism spectrum disorder (ASD). The purpose of this screening modified checklist is to identify patients with autism spectrum disorder (ASD) through early detection. A cross-sectional study of pediatric in- and out-patients at Salah-Alden Government Hospital between May 1, 2018, and January 31, 2019. Study participants were polled on the presence of interpersonal difficulties., or panic attacks, or problem in speech. Cases with problems with problems are displayed for a modified checklist of 20 questions, and if the case is suspected it is subject to a diagnostic checklist. There was significant results cases in the study were scored on the Modified Checklist for Autism Spectrum Disorder.

1. Introduction

Autism spectrum disorders (ASD) are developmental conditions first observed in young children and marked by difficulties with communication, social interaction, and a broad range of interests and activities. The various autism-related disorders are now together referred to as autism spectrum disorder (ASD). (1) The term "autism spectrum disorder" (ASD) encompasses a wide range of disorders formerly known by other names, including autistic disorder, pervasive developmental disorder, Asperger syndrome, Rett syndrome, and fragile X syndrome. Autism spectrum disorder (sometimes called "autism" or "autistic disorder") has been referred to by these words in the past (ASD). (1) PDD was originally used to characterize autism spectrum disorder (ASD) and other conditions that have some features with ASD. High-functioning Asperger patients typically have average to above-average intelligence. Patients with Asperger syndrome may or may not display the common language impairments seen in those with autism spectrum disorders. In addition to autism spectrum disorder, other hereditary disorders with distinct symptoms include Rett syndrome and fragile X syndrome. First, it's not known whether or if patients with Rett syndrome or fragile X syndrome also have ASD or autistic traits. (2) . The purpose of this research is to expedite the diagnosis of individuals on the autistic spectrum by employing a modified check list for autism screening (ASD).

2. Materials and Methods

Patients

Parents of toddlers (12-36 months old) were interviewed orally prior to participation in the study to acquire their informed permission. Following the initial evaluation, families were invited to fill out an ASD screening checklist if their kid displayed social interaction issues, speech challenges, or panic attacks.

A cross-sectional study involving inpatients and outpatients of the pediatric department at Salah-Alden Government Hospital was conducted between May 1, 2018, and January 31, 2019.

Each example included in the study was subjected to the following conditions

Interpersonal relationship conflict 1. communication issues once the fundamental cause of deafness has been ruled out

Anxiety disorders 3. existing

A detailed checklist was used to assess any child who displayed any of the following indicators for autism spectrum disorder.

• The ASD screening checklist's 20 items can be responded with a "YES" or "NO."

• After completing the ASD screening checklist, participants were divided into three groups: • Those at risk for ASD were those who answered "NO" to all questions on the checklist except items 2, 5, and 12; • Those who answered "YES" to items 2, 5, and 12 were not at risk for ASD.

Individuals in Group 1 (score 0-2) are average and will not be included in the results.

Group 2: (scores of 3-7) was deemed a likely case and was given the ASD diagnosis tool.

The third group (scores 8-20) is presumptively diagnosed with ASD and given the ASD diagnostic checklist to confirm the diagnosis.

Extensive Case Study

Only 176 of the total number of participants assessed for ASD displayed social interaction difficulties; 103 of them obtained a score of 0-2 and were thus eliminated from the research. The remaining 73 cases can be grouped roughly as follows: There were 52 cases with a score of (3-7) and 21 cases with no score (8-20). Those with ASD diagnosis scores ranging from 3 to 20 were assessed.

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3. A Statistical Analysis of the Situation

The results are tallied and visually depicted, and the chi-square test was employed to establish their significance (p values were used). If the P value is less than 0.05, statistical significance is assumed.
The parents of 2,000 toddlers were polled for this study to discover if their children had any communication issues.

4. Results

This study collected information from the parents of 2,000 children aged 12 to 36 months who may have had communication issues.
In total, 176 children with social interaction issues were included in the study, while the remaining 1824 were not. This is illustrated in the figure (1)

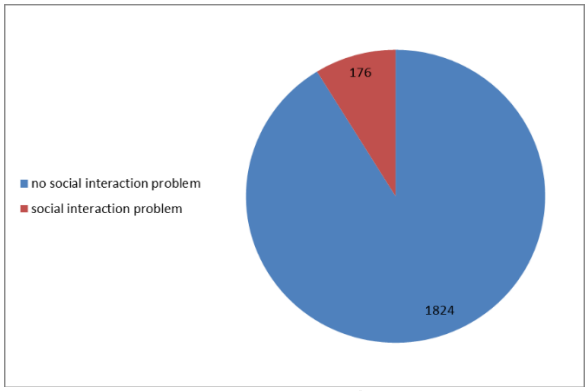
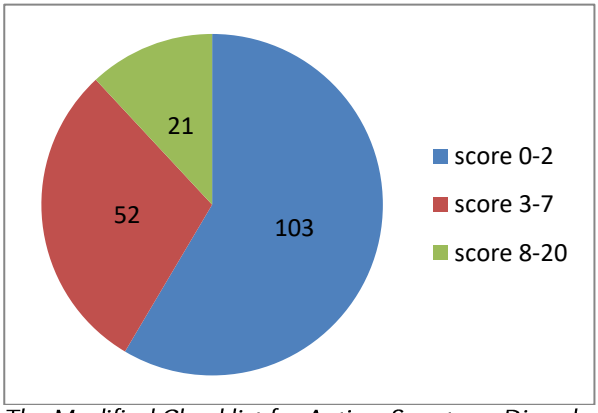


Figure (1) show the number of cases (2000 cases) subjected to the study in regard to social interaction problem.

176 toddlers were tested using the Modified Checklist for Autism Spectrum Disorder, and the results are divided into high- and low-functioning categories. There were three separate clusters, as indicated by the final tally.
Results from Group 1 (0-2.(
The Result of the Second Group (3-7.(
Results from Group 3 (8-20).
The number cases for each group shown in figure (2).



The Modified Checklist for Autism Spectrum Disorder screening score distributions are displayed graphically in Figure (2.(

As can be seen in Table (1), the majority of cases (103 out of 218) occurred between 12 and 23 months of age, and the mean score on the Modified Checklist for Autism Spectrum Disorder varied little between age groups. The next largest age group, 24–36-month-olds, accounted for 41.5% (73 cases).
Using the mean score on the Modified Checklist for Autism Spectrum Disorder, Table (1) also depicts the gender distribution of the study population; the majority of the sample (100) is male, accounting for 56.8% of the sample. An additional 76 female cases were reported, making up 43.2% of the total.

Relationship between age and sex on the Modified Checklist for Autism Spectrum Disorders (MCI-ASD) (Table 1).

P-Value	Modified ASD check list score		%	Number		
	8 – 20	3 – 7				
	10	30	58.5	103	12 – 23 months	A G E
	12	21	41.4	73	24 – 36 months	
	22	51	%100	177		Total
0.048	15	30	56.7	100	Male	S E X
	5	22	43.2	77	Female	
	21	52	%100	176		Total
p. value=0.048.						

Table (2) displays the demographic breakdown of the sample population based on their Modified Checklist for ASD score (3-20), with the majority (64.4%) living in urban areas and the remaining (35.6%) living in rural areas.

Results from the Modified Checklist for Autism Spectrum Disorder and where people live are shown in Table 2.

	Modified ASD check list score		%	No	Residenc
	20 – 8	7 – 3			
	17	30	635.	48	Urbana
	4	21	36.6	26	Rura
	20	51	%100	74	Total

The vast majority of cases (82.2%) do not involve any chronic illness, while the remaining 13.8% involve cases in which the children suffer from chronic disease, as shown in Table (3), which displays the

distribution of study cases by Modified Checklist for ASD score (3-20) with regards to children's chronic illness.

Child chronic illness and Modified Checklist for ASD scores are shown in Table 3.					
Modified ASD check list score		%	N	chronic illness	
20-8	7 – 3				
4	7	16.7	12	YES	
16	44	83.2	60	NO	
21	52	%100	72	Total	

If you look at Table 6, you can see what percentage of people in the study had at least one family member with a social handicap as measured by the participant's score on the Modified Checklist for Autism Spectrum Disorder (range: 3-20). Only 13 families (17.8%) have a member who has a social handicap, whereas the remaining 60 (82.2%) do not.

Table 4 shows a relationship between the presence of a social impairment in the family and scores on the Modified Checklist for Autism Spectrum Disorder.					
	Modified ASD check list score		%	N	social disability
	8 – 20	3 – 7			
	6	7	17.7	12	YES
	15	45	82.3	60	NO
	21	52	%100	72	Total

The distribution of study cases according to the Modified Checklist for ASD score (3-20) in terms of the presence or absence of a family member with a psychiatric problem is shown in Table (7); 68 cases (93.2% of the total) have no family member with a psychiatric problem, while 5 cases (6.8% of the total) do.

The correlation between the Modified Checklist for Autism Spectrum Disorder score and the presence of a mental health disorder in the family is shown in Table 7.				
Modified ASD check list score		%	N	psychiatric problem
8 – 20	3 – 7			
2	5	6.7	6	YES
19	47	93.3	67	NO
21	52	%100	73	Total

Cases with a score of 3-7 on the Modified Checklist for Autism Spectrum Disorder (52) and a verified diagnosis of ASD (3) are shown in Table (8)
In contrast, the Diagnostic Checklist for Autism Spectrum Disorders validated the diagnosis in 18 of the 21 cases where the Modified Checklist for ASD yielded a score between 8 and 20. Value of p = 0.0008.

The correlation between the Diagnostic Checklist for ASD and the screening version of the Diagnostic Checklist for ASD is shown in Table (8).				
	Diagnostic check list of ASD		No	Modified Screening checklist score of ASD
	NO	YES		
P-Value = 0.0008	48	4	53	Score 7 – 3
	4	17	20	Score 20– 8
	52	21	73	Total

5. Discussion

Autism, a developmental disease, is defined by restricted and repetitive patterns of behavior, as well as difficulties in communication and social interaction.
The exact reason why some people are diagnosed with autism and other ASDs is still unknown, but several hypotheses have been proposed. Particularly in developing and underdeveloped nations, this article's topic—a lack of data—is a persistent problem.
The majority of the patients in the paper were between the ages of 12 and 23 months, as stated by the study quoted by Buxbaum JD (2009.(
Similar results have been seen in other studies (50), suggesting that this trend may be related to the increased awareness of this chronic disease among families and the increased use of ASD diagnostic tools among physicians, allowing for earlier detection of individuals with ASD.
Males are at a higher risk of being diagnosed with autism spectrum disorder (ASD) than females, according to research by Sanders SJ, He X, Willsey AJ, Ercan-Sencicek AG, Samocha KE, Cicek AE, et al (September 2015.(
Exactly why boys are at a higher risk of being diagnosed with ASD than girls are is still up for debate; however, there are numerous hypotheses that have gained traction in recent years (51). Several ideas have been proposed to explain the differential occurrence of ASD in males and females. These

include a hereditary protective effect, the Extreme Male Brain Theory, and phenotypic differences in the presentation of ASD between sexes (52.(
The vast majority of ASD cases were found in urban areas, despite the fact that Brandler WM, Antaki D, Gujral M, Noor A, Rosanio G, Chapman TR, et al. found no association between residential location and ASD prevalence (April 2016.(
(53) which find no statistically significant effects associated with place of residence; this may be due to a small sample size or to the fact that the majority of ASD cases were located in close proximity to the hospital and that people living in more rural areas had a harder time locating specialized centers for ASD (54,55).

6. Conclusions

Strong data suggests that both sex and social dysfunction in the family increase the likelihood of an individual developing ASD. There does not appear to be any significant risk factors for ASD based on characteristics such as age, area of residence, history of chronic illness, short intervals between pregnancies, family history of mental illness or learning disability, feeding method, or paternal age. The Modified Checklist also has demonstrated encouraging results as a screening tool for early ASD diagnosis.

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