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EVALUATION OF THE RESULTS OF PSYCHOLOGICAL EFFECTS ON IRAQI CHILDREN WITH AUTISM

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Abstract: Aims: The aim of the research here is to evaluate the psychological effects of treatment within an institution for Iraqi children with Autism Spectrum Disorder (ASD). Specifically, it addresses therapeutic benefits in communication, social interaction, emotional regulation, and flexibility, as well as any risk factors that may influence these benefits.

Material and Method: Adopting a quantitative research method, the study was conducted on a sample of 140 children aged between 6 and 12 years with a confirmed diagnosis of ASD based on DSM-5 criteria. Pre and post-therapy testing was carried out using standardized measures such as the Autism Behavior Checklist (ABC), Vineland Adaptive Behavior Scales, WISC-IV, and anxiety scales of the parents and physician. Therapeutic interventions were ABA-focused and provided on a weekly basis for six months. Data analysis included descriptive and inferential statistics, i.e., paired sample t-tests and logistic regression.

Results: Significant improvements were observed in all measurement areas after therapy. Symptom severity of autism was significant reductions with ABC scores decreasing from 75.4±10.2 to 58.3±9.5 ($p<0.001$). Furthermore, communication ability increased from 6.2±2.8 to 9.5±3.1 ($p<0.001$), social interaction from 5.5±2.1 to 8.1±3.0 ($p<0.001$), and emotional control from 4.0±1.9 to 7.0±2.5 ($p<0.001$). By logistic regression analysis, male gender, low family income, presence of sibling with autism, and parental anxiety were identified as the principal risk factors associated with symptom severity of autism and finally the findings underscore the effectiveness of early and personalized therapeutic interventions for children with ASD, highlighting the importance of family dynamics and parental health in enhancing outcomes.

Key words: Children, Autism, Psychological, Effects, Treatment, Communication, Emotional, Flexibility, Dynamics.

Introduction

Autism Spectrum Disorder (ASD) is a developmental disorder that seriously impacts communication, social interaction, and behavior. The World Health Organization (WHO) approximates the global prevalence of autism among children at about 1 in 160, with rates diverging according to region, diagnosis criteria, and socio-economic context. Autism remains under-studied and underdiagnosed in Iraq due to socio-cultural biases and a lack of proper healthcare facilities. [1] This lack of awareness not only postpones early diagnosis but also affects the delivery of therapeutic interventions, leaving many of those involved children and families without the necessary help [2,3,4].

Those with ASD typically have an individualized set of symptoms that can be highly variable in severity. [5,6] Amongst these, communication delay, behavioral issues, and withdrawal are particularly common, and these can lead to severe difficulties in daily functioning and quality of life. For example, children with delayed communication may struggle to voice their needs or emotions and, therefore, get frustrated and act out. Withdrawal may also push the child further into isolation and render it more difficult for him or her to acquire fundamental social skills and make friends. As childhood represents such a critical phase in social growth and feelings, intervention at an early stage is much preferred if one wants to maximize long-term results [7].

Autism treatment is extremely varied, with an emphasis on the acquisition of communication skills, social interaction, and emotional regulation [8,9]. The incidence of Autism has noted a persistent and dramatic rise, attributed to the alteration in the diagnostic criteria that now encompasses a wider view of symptomatology, referred to as autism spectrum disorders (ASD). This development has stirred greater awareness and a demand for early detection and assessment of the condition. Classically, Autism Spectrum Disorder (ASD) encompassed several various conditions like autistic disorder, pervasive developmental disorder not otherwise specified, and Asperger's disorder. However, in 2013, the Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) classified these various disorders under one heading: Autism Spectrum Disorder. The latest estimate provided by the Centers for Disease Control and Prevention (CDC) is that 1 in 68 children have Autism Spectrum Disorder (ASD) [10,11,12,13].

Material and method

Outlines the methods employed in assessing the psychological impact of autism interventions on Iraqi autistic children. The study followed a quantitative design in which standardized instruments and statistical analysis were applied in measuring and evaluating the results pre- and post-therapy intervention in which the study was applied on a sample of 140 autistic children aged 6-12 years old and registered in various clinics in Iraq with study duration from January 2024 to march 2025 The criteria for inclusion were children with a clear diagnosis of autism spectrum disorder (ASD) according to the DSM-5 criteria. Participants' demographic information was collected, like age, gender, and cause of autism, symptoms, family monthly income, and siblings with autism.

Instruments

A number of standardized tools were utilized in assessing the behavioral, emotional, and cognitive functioning of the children:

1. Autism Behavior Checklist (ABC): This tool was employed in measuring the severity of the autism symptoms. Both pre- and post-therapy measures were obtained in order to establish the efficacy of the intervention.
2. Vineland Adaptive Behavior Scales: This rating scale evaluated the communication, socialization, and daily living skills of the clients both pre- and post-therapy.
3. WISC-IV (Wechsler Intelligence Scale for Children): Cognitive function was assessed using this scale, that is made up of various subtests for verbal comprehension, visual spatial abilities, fluid reasoning, working memory, and processing speed.

4. Parental and Physician Anxiety Scales: These scales measured the level of anxiety of both the parents and physicians for the status of the children and were documented in order to determine stress factors that might influence therapy outcomes.

Procedures

Data collection comprised post-therapy and pre-therapy assessment. Parents of the children chosen were informed about the study and the purpose of the study, and informed consent was given before therapy could be started. All the children were given thorough assessments to obtain baseline scores.

- Therapy interventions were started on a weekly basis and continued for six months. Interventions were individualized based on Applied Behavior Analysis (ABA) principles, with a focus on communication skill development, social relationships, and emotional regulation.
- Post-therapy evaluations were conducted using the same assessment tools to identify performance changes and skill development.

Data Analysis

Data gathered were subjected to both descriptive and inferential statistics. Means and standard deviations were calculated for continuous variables, while frequencies and percentages were identified for categorical variables. Paired sample t-tests were employed for comparing the pre-therapy and post-therapy scores for various assessment tools. Logistic regression analysis was employed in determining potential risk factors associated with the severity of autism in children.

Statistical analysis

Statistical significance was ascertained based on a significance level of $p < 0.05$, and all the analyses were performed using statistical software (SPSS) to ensure accurate calculations.

Results

Table 1: General Demographic Elements

Parameter	Mean ± SD	Count
Age	8.5 ± 2.1 years	140
Gender		
Boys	90 (64.3%)	
Girls	50 (35.7%)	
Causes of Autism		
Genetic	50 (35.7%)	
Environmental	30 (21.4%)	
Unknown	60 (42.9%)	
Symptoms of Autism		
Communication delays	95 (67.9%)	
Behavioral issues	70 (50.0%)	
Social withdrawal	80 (57.1%)	
Monthly Family Income	550 ± 200 USD	
Signs of Autism (Age)	7.8 ± 2.3 years	
Having a Sibling with Autism	40 (28.6%)	
Parental Anxiety (mean ± sd)	5.3 ± 1.4	
Physician Anxiety (mean ± sd)	4.8 ± 1.6	

Table 2: Autism Behavior Checklist (ABC) Results

Assessment	Before Therapy	After Therapy	p-value
Total ABC Score	75.4 ± 10.2	58.3 ± 9.5	<0.001

Table 3: Logistic Regression Results for Risk Factors

Risk Factor	Odds Ratio (OR)	95% Confidence Interval (CI)	p-value
Male Gender	1.8	1.2 - 2.8	0.006
Low Family Income	2.1	1.4 - 3.2	<0.001
Sibling with Autism	1.5	1.1 - 2.2	0.031
Parental Anxiety	1.6	1.2 - 2.4	0.015

Table 4: Evaluation of Children's Outcomes after Weekly Therapy

Outcome Measure	Pre-Therapy Score	Post-Therapy Score	p-value
Communication Skills	6.2 ± 2.8	9.5 ± 3.1	<0.001
Social Interaction	5.5 ± 2.1	8.1 ± 3.0	<0.001
Emotional Regulation	4.0 ± 1.9	7.0 ± 2.5	<0.001

Table 5: Emotional Regulation Scores

Assessment	Before Therapy	After Therapy	p-value
Emotional Regulation Score	20.3 ± 4.6	27.2 ± 4.8	<0.001

Table 6: Vineland Adaptive Scales Results

Domain	Before Therapy	After Therapy	p-value
Communication	45.5 ± 8.7	58.2 ± 7.9	<0.001
Socialization	39.0 ± 9.3	53.4 ± 8.1	<0.001
Daily Living Skills	47.2 ± 7.4	60.5 ± 6.5	<0.001

Table 7: WISC Scale Results

Subscale	Before Therapy	After Therapy	p-value
Verbal Comprehension	70.3 ± 10.5	83.7 ± 9.8	<0.001
Visual Skills	72.1 ± 11.3	85.5 ± 10.2	<0.001
Fluid Reasoning	68.4 ± 9.9	81.8 ± 8.7	<0.001
Working Memory	69.7 ± 10.3	81.1 ± 9.5	<0.001
Processing Speed	67.9 ± 10.0	78.4 ± 11.0	<0.001

Discussion

Discussion: Table 1 displays the demographic profile of the study sample. Sample size is an important factor in determining the reliability of research findings, and it can be observed that the distribution of the sample across age, gender, and socioeconomic status is rather dissimilar. Notably, the participants were overwhelmingly male, reflecting the widely established fact that autism diagnoses are higher in boys compared to girls. The age distribution reveals more participants in early childhood, which is in line with early intervention recommendations in autism spectrum disorder. The demographic information are crucial because they allows researchers and practitioners to build therapeutic interventions more appropriately for specific groups, with the overall goal of maximizing effectiveness.

As Table 2 shows, pre-treatment assessment scores show significant impairments in participants' social and communication abilities. Mean scores indicate significant delays from norms, reflecting the impaired status of children with autism spectrum disorder children in these abilities. Trends in pre-treatment scores provide a baseline against which to assess the impact of future interventions. Recognition of such initial deficits is crucial for teachers and therapists to develop particular measures to overcome communication challenges and maximize social interactions during treatment.

Table 3 outlines the significant improvements in communication skills after treatment in terms of higher test scores. From the findings, there is a clear, strong, positive systematized treatment effect, substantiating the effectiveness of intervention methods such as ABA. A 2010 Spanish study also agrees, showing that early intensive intervention leads to significant gains in communication in autistic children. These dramatic improvements validate the need for early and extended treatment to achieve better long-term communication outcomes, which is essential to improving the overall quality of life in children with autism.

The outcomes presented in Table 4 reflect a significant increase in social skills scores over the treatment period. This is a reflection that extended intervention not only has direct payoffs but also ensures ongoing growth in social interactions. This agrees with evidence from the United States (2011), which emphasizes the importance of ongoing social skills training. The results confirm the hypothesis that social competence in children with autism spectrum disorder can enhance peer relations and reduce loneliness. The fact that improvement over time proves the effectiveness of therapeutic interventions used to build enduring social skills confirms the application of these practices in early childhood education.

The comparison of the scores in emotional regulation listed in Table 5 demonstrates the significant impact therapy can have towards addressing current issues in children's behavior in terms of autism. Based on information from the statistics, there is a significant drop in emotional anguish and accompanying maladaptive behaviors during treatment. This aligns with social and emotional learning (SEL) models laid out in a German study conducted in 2011, promoting the application of emotional skills training in therapeutic settings. Enhancing emotional regulation benefits not only the individual but also family relationships and interpersonal relationships, demonstrating the overall benefit of treating emotional competence in therapeutic settings.

The correlation between levels of parental anxiety and treatment outcomes for children. The results indicate a significant correlation, where higher levels of parental anxiety are related to less improvement in the treatment outcomes of the child. This is consistent with earlier studies showing that parental stress and anxiety have a major effect on a child's participation and progress in treatment. The findings highlight the need to incorporate elements of parental support and education in treatment interventions to reduce anxiety and enhance child treatment outcomes. Parental well-being is crucial in creating a supportive environment for children with autism spectrum disorder, thereby enhancing the effectiveness of treatment programs.

The psychological effects of autism spectrum disorder (ASD) in children are multifaceted and worthy of careful consideration. [14,15] Understanding these effects is necessary to properly plan interventions and develop a supportive environment for the children and their families [16]. The evaluation of the psychological outcome in children with autism addresses many dimensions, including emotional, social, and cognitive, all of which affect the general health of these children [17,18]. Children with Autism Spectrum Disorder children will experience different speech and language skill impairments. Impairments in joint attention and learning social skills are likely to be significant factors in abnormal language development. Speech therapy may be used to develop verbal communication and to learn nonverbal communication, like gestures. This is also referred to as Alternative Augmentative Communication (AAC) [19,20]

The individuals with ASD's restrictive and repetitive behaviors and interests can be linked to sensory integration and processing challenges. People with ASD are typically described as selective or picky eaters. It is hypothesized that it is due to abnormal oral sensory processing.

Conclusion

These new aids have helped in reducing misdiagnosis of autism and helped to direct individuals with the condition to the services that they need. Additionally, with the advancement of autism, over time, many treatments and interventions have been set up to help improve the lives of individuals with associated disabilities.

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