

Anxiety and Social Skills Deficit levels among Children with Autism Spectrum Disorder in Nairobi, Kenya.

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Abstract

This paper examines the severity level of anxiety and social skills deficits among children living with Autism between two schools in Nairobi County. Parents and teachers of 40 children and adolescents aged between 5-21 years old were used to conducting the assessment. Social skills deficits (SRS-2) and anxiety (CASI) questionnaires were used in data collection. The quasi-experimental study then involved a follow-up six months after data collection before conducting a statistical analysis. The results depict a significant decline in social skills represented by $p=0.006$ (95% C.I 4.97, 27.8). However, anxiety treatment was found to be not substantial even though the p -value = 0.002 was less than the significant level. The study concluded that the effect of ASD is real and can be treated. It requires being addressed as early as possible in the affected persons to allow them to achieve their full potential in life. The results provide essential insights into ASD and mental health. This paper adds to knowledge on ASD and anxiety and social skills and common comorbid disorders. The study recommended that the effect of ASD is real and can be treated. It requires being addressed as early as possible in the affected persons to allow them to achieve their full potential in life. The results provide essential insights into ASD and mental health.

Key Terms: Social skills deficit, Autism, Autistic Spectrum Disorder, Adolescents.

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1.0 INTRODUCTION

In the International Classification of Diseases 10 for Clinical Modification (ICD-10-CM), autism is defined as a disorder that begins in childhood, which is manifested by the existence of abnormal or impaired social interaction development, communication and a controlled range of actions and interest. The disorder's characteristics may vary significantly depending on the level of development and age of the person. Globally, it is estimated that one child in every 160 suffers from Autism (WHO, 2014).

According to APA (2013), the three most severe and pervasive characteristics of ASDs include social skills impairments, communication skills impairments, and restrictive, repetitive well as stereotyped patterns of behaviour, interests and activities. Anxiety and social skills deficits are core features of autism spectrum disorders, which have intense adverse consequences irrespective of their intellectual or verbal capability (Carter et al., 2005). Further, social deficits and their effects do not show up with maturation, neither do they reduce in childhood or adolescence. On the contrary, the effects may escalate as the child approaches adolescence due to the complexity of the social milieu and the child's awareness of their social differences (Berzonsky & Adams, 2003; Dishon & Tipsord, 2011; Tantam, 2003).

Anxiety and social skills deficits can enormously affect the lives of children who already are having trouble in social relations, communication, restricted interests and repetitive behaviours (APA, 2013). In addition, ASD presents in a wide variety of forms and individuals suffering from it may display any degree of severity and combination of behaviour, as described in the APA (2013). With reference to Weitlauf et al. (2014), persons with ASD might simply present with repertoire behaviour, interests and actions in the initial years of development, thus calling for a complete detailed intake during diagnosis. The unavailability of symptoms does not exclude a diagnosis of ASD in present regulated interests and repertoire behaviours of the past. Consequently, social communication deficit diagnosis is settled only when the developmental account does not expose any evidence of the repertoire patterns of behaviour, interests or activities (APA, 2013).

2.0 LITERATURE REVIEW

The deficit in social skills defines features of ASD and, if not treated, will probably persist over time and reduce social involvement, cognition and language growth (Weiss & Harris, 2001). The maturity of children becomes critically essential for them to fit among their peers. However, they may find themselves rejected, isolated and bullied when they fail to measure up to the standards of their peers as the challenges of ASD become conspicuous. Research indicates that ASD is a threat to poor self-esteem, depression and leads to anxiety disorders (Tse et al., 2007). Interventions that are designed to address natural context social demands of children with ASD may show problematic social behaviour and become distanced as significant effects.

Symptom Severity of Children with Autism

There is evidence that no biological markers were found to identify autism in specific patients reliably (Arky, 2016; Ecker et al., 2010; Posey et al., 2008). Trying to translate experimental study results to bench side clinical practice on biomarkers has proved problematic in mental health and behavioural sciences, particularly in child and adolescent psychiatry (Sunder, 2017). This is because ASD is a neurological condition whose investigations

are still underway. Sunder explains that some of the classical challenges in identifying biomarkers in ASD include delineating the complex interplay between environmental and genetic factors; identifying the epigenetic changes, and also ascertaining if these changes are unique to ASD (in other words, are they a biomarker for ASD or are they just the result of underlying pathological processes common to many disorders).

Another study that examined potential correlations among biomarkers association with ASD had a collection of multiple biomarkers, which allowed for examination of associations between biochemical and clinical measures, and identified several findings that pointed a direction for future studies (Carolyn et al., 2019). As such, no diagnosis of ASD has ever shown any blood or tissue samples that would confirm the existence of ASD in a person suffering from it (Arky, 2016). Instead, the identity of ASD is established through a series of tests that include parental reports, health histories, psychological tests, and speech and language assessment. The same measures determine the severity of the condition, all of which is done by a qualified professional trained in handling ASD (Hyman, et. al., 2020).

Children with ASD have a problem forming and maintaining healthy social relationships (Bellin, 2006; Reaven, 2009; White, 2013). Studies show that these children lack the skills needed to interact normally with other typically developing peers due to their neurological functions, which affect their sensory processing, thus influencing their ability to participate in social activities (Herbert, 2005; Shriber, 2010). Further research ratifies that in autism, every part of the brain appears to do its anomalous activity (Just et al., 2004). Assimilation of information, consequently, does not happen, as it should.

The social problems experienced as depicted in DSM-V (2013) include; shortfalls in social-emotional reciprocity, such as a failure in usual back-and-forth discussion, decreased involvement of interests, feelings and inability to start or respond to societal communications. There is a lack of communicative gestures, for instance, meagre eye contact, reduced verbal and nonverbal communication integration and lack of knowledge as well as the use of gestures. There is a failure to develop, maintain, and understand relationships. This is seen in difficulties experienced in regulating behaviour to match several social settings, involvement in creative play, creating friendships and lack of concern in peers. Anxiety symptoms and social challenges related to bouts of depression and can be damaging to social relations and academic performance in children with ASD (Chang et al., 2012; Strang et al., 2012).

The Severity of Anxiety and Social Skills Disorders

Bakare and Munir (2011), in their book entitled Autism spectrum disorders in Africa, argued that there is presently little research work on ASDs in Africa. However, in the West and affluent Asian cities such as Japan, many are documented (Fombonne, 2009; Williams et al., 2006). There is, therefore, a need to support more research work in developing countries. Further, a recent worldwide observation has been made on documentation of cultural dynamics that affect the diagnosis and treatment of ASD (Bakare & Munir, 2011). Interestingly, ASD was earlier believed to be limited to western society but it is now clear that it is found among all cultures, economic background and ages (Bakare & Munir, 2011; Bernier et al., 2010; Mankoski et al., 2006).

To establish the ASD prevalence in Africa, intellectual disabilities in children were screened in Ghana, Kenya, Nigeria, Zimbabwe, South Africa and Zambia (Lotter, 1978). Lotter found out that 9 out of 1312 children had ASD. The study also found out that, among other things, there exist variations in the occurrence of explicit

behaviours in children in Africa and those from the USA and Western Europe. This was noticeable about the stereotypic repertoire of behaviour, observed as uncommon in children from Africa when compared to their peers in Europe (Bakare & Munir, 2011; Bernier et al., 2010). While a recent review indicated a discrepancy in the prevalence of ASD through various cultural backgrounds and areas, public epidemiological data are lacking for the African sub-region (Springer et al., 2013; Zaroff & Uhm, 2011).

3.0 RESULTS AND DISCUSSION

This paper aimed to determine the severity of anxiety and social skills deficits among children with ASD. The results were presented in concern to the parent's responses, teachers and the children themselves. To compensate for the small study sample size, a non-parametric correlation test was conducted and included only selected independent variables with a putative link with ASD into the regression model to prevent over-fitting. For example, Spearman correlation (rs) analysis was conducted to test any relationship between anxiety and social skills deficits in ASD.

Scores and Levels of Autism in Children with ASD

Table 1 presents the comparison scores of the two schools at baseline from both parents and teachers. Scoring by parents and teachers on Autism and SSD was relatively higher for both sites. However, the percentage difference in the scoring was the same for autism but with a variance of 2.9 per cent for SSD. Although the differences in scoring were evident, their highest-scoring was not much of a worry when the comparison is made within the groups. The same conclusion can be obtained from the scoring on anxiety with a difference of 5.1 per cent

Table 1. Baseline Scores by Parents and Teachers between Control and Experimental Groups for Autism, Anxiety Disorders and Social Skills Deficits

		CONTROL		EXPERIMENT		% DIFFERENCE
		Mean	Std. Dev	Mean	Std. Dev	
AUTISM	Parents	71.20	11.40	68.90	12.80	3.2%
	Teachers	63.85	6.29	61.95	9.33	3.0%
CASI	Parents	5.15	1.87	7.25	1.94	-40.8%
	Teachers	6.75	3.26	9.85	3.66	-45.9%
SSD	Parents	160.05	20.08	143.15	26.18	10.6%
	Teachers	143.45	14.97	132.40	21.91	7.7%

The scoring protocol of the ABC test tool scores equal to or greater than 68 points was classified to present a high level of autism. Scores between 54 and 67 points were considered to represent the moderate level of autism, and scores between 47 and 53 points were supposed to represent the mild level of autism. When the

score was below 47 points, the children were not considered autistic. Table 2 presents the levels of classifications, which indicate that about half of the children in experimental and 65 per cent (13) in control schools that were assessed by their parents were found to have severe levels of autism. On the contrary, only about a quarter (25%) of the children in both schools assessed have severe levels of autism. Teachers assessment showed that a large proportion of their children have a moderate level of autism. No association was found between school type and autism levels ($p=0.459$).

Table 2. Levels of Severity of Autism amongst Children Presenting with ASD

Category	Autism Level	Control School		Experimental school		p-value
		Number	Per cent	Number	Per cent	
Parent	Severe	13	65.0%	10	50.0%	0.603
	Moderate	6	30.0%	8	40.0%	
	Mild	1	5.0%	2	10.0%	
	Total	20	100.0%	20	100.0%	
Teacher	Severe	5	25.0%	5	25.0%	0.562
	Moderate	14	70.0%	12	60.0%	
	Mild	1	5.0%	3	15.0%	
	Total	20	100.0%	20	100.0%	
Overall	Severe	18	45.0%	15	37.5%	0.459
	Moderate	20	50.0%	20	50.0%	
	Mild	2	5.0%	5	12.5%	
	Total	40	100.0%	40	100.0%	

Levels of Anxiety in children with ASD

The study sought to find out the proportion of children and adolescents with the severity of the anxiety. The level of anxiety among the children was categorized as follows; a score of 4 and below were not considered to have anxiety. A score of between 5 and 9 showed mild anxiety, and a score of between 10 and 15 suggested moderate stress levels. A score of 16 and above indicated severe anxiety.

Table 3. Correlation between Autism, Anxiety and Social Skills Deficits

	Autism	Autism	p-value	Anxiety	p-value	SSD	p-value
Baseline	Autism					-0.211	0.06
	Anxiety	-0.127	0.262				
	Social Skills	0.384	0.000				

Midline	Autism						
	Anxiety	-0.15	0.184				
	Social Skills	0.41	0.000	0.13	0.252		
Post	Autism						
	Anxiety	-0.114	0.316			0.136	0.226
	Social Skills	0.458	0.000				

For anxiety (CASI20), the interaction between time and condition was significant, $F(2, 78) = 5.614$, $p = 0.006$, $\eta^2 = 0.067$.

Therefore In terms of ASD severity (SRS-2), again, the interaction was significant, $F(2, 77) = 3.96$, $p = 0.023$, $\eta^2 = 0.093$.

Based on the findings of the study presented in the preceding section, the results show that there was a correlation between anxiety and social skills deficits. According to Kleinhans et al. (2010) and Myles et al. (2001), social disabilities are contributed by the presence of anxiety. A similar finding by Bellini (2006) also established that social disability, defined as awkward, unsuccessful or negative interactions with others, contributes to heightened anxiety. Correspondingly, White et al. (2010) concluded that anxiety could composite the deficits in social skills in children having ASD.

This study found that anxiety and social skills deficit among children and adolescents presenting with ASD significantly improved in the experimental school. At the same time, it remained insignificant in the control school over the six months. According to Wood et al. (2009), only a few studies have looked at both the reduction of anxiety and the development of social skill. These studies had the majority of those participating in the young-end of age, which ranged from 7 years to 14 years of old. They, however, noted that no intervention had targeted anxiety, particularly in youths having ASD. This study looked at both children and adolescents (5 to 21 years) and found out that the correlation between the two variables does exist (Bellini, 2006; Kleinhans et al., 2010; Myles et al., 2001; White et al., 2010).

In Africa, as noted earlier, there is little research work in this area. Although anxiety is comorbid in ASD, it is not a highly prevalent comorbid condition concerning ASD among children in Africa (Bakare & Ikegwuonu, 2008; Belhadj et al., 2006). This finding corroborates with the observation made by Mankoski et al. (2006) in their study in Tanzania. Similarly, this study found out that the caregivers did not easily recognize anxiety in ASD. As many have ascertained, differences exist in symptoms presented and comorbid conditions, as shown by literature originating from Africa (Bakare et al., 2011). Further outcomes indicate low awareness and knowledge on ASD among the health workers and the general populace in Africa, thus hindering early identification of ASD (Bakare et al., 2008; Igwe et al., 2010; Igwe et al., 2011; Maulik & Darmstadt, 2007; Riccio, 2011). Additionally, the diagnosis of anxiety, especially in ASD, is complicated (Joshi et al., 2010; Leyfer et al., 2006; White, 2010). Thus, lack of awareness explains further, why anxiety and social skills deficit continue to receive no attention in identification and treatment.

Anxiety disorders do exist among African children with ASD, as observed in this study. The nature of African culture, which is more accommodative, interactive and working interdependently, lacks the definition of anxiety (Bakare et al., 2008; Sue & Sue, 2008; Trembath et al., 2005). Therefore, the relationship between ASD and anxiety disorders among African children exists, and there is a need to identify those with anxiety disorders and push for their treatment. This study realized a reduction of anxiety and significant P-value = 0.002 (95% C.I 0.79, 3.16). Adolescents experienced more anxiety than children in this study, as results indicated. The covariates of schooling level and guardian type was significant in explaining the anxiety levels ($p=0.009$ and $p=0.46^{**}$). As children approach puberty, they become more aware of themselves due to social milieu, thus heightening the anxiety levels (Reaven et al., 2009; White et al., 2009; Woods et al., 2009).

Additionally, the adolescents in this study experienced more than one type of anxiety. The model of treatment Multimodal Anxiety and Social Skills Intervention (MASSI) was more dimensional than specific. This addressed all forms of anxiety disorders, as is the case in other studies (Walkup et al., 2008; White, 2010). This approach favoured the treatment of anxiety greatly and was sustained in the second phase of treatment. There is a need to make further follow-up in treatment and compare the change in outcome and sustainability.

Finally, the findings in this paper show that culture is an aspect that has recently drawn interest worldwide as worth noting in ASD presentation across borders (Bakare & Munir, 2011). From the tools of measure used, more prevalent indicators for anxiety and deficits in social skills among children having ASD in the study population were realized. The ten critical indicators for anxiety and deficits in social skills among children having ASD that was prevalent in the study group were: difficulty controlling worries, acts of restlessness or edginess, has difficulty falling asleep or staying asleep, overly fear of (or tries to avoid) specific objects or situations (animals, heights, storms, going places alone, being "trapped", etc.), get distressing thoughts out of his/her mind (worries about germs or doing things perfectly, etc.), a complaint about physical problems (headaches, upset stomach, etc.) for which there was no apparent cause, anxiety in social situations than most other youths, excessive shy with peers, and fear of going to sleep unless near parent. Though the list was dominant among the respondents, some of the indicators can be found among the general population of school-going children.

Social skills deficits were not simply restricted to children with ASD; many children with other mental health issues, for instance, Attention Deficit Hyperactivity Disorder (ADHD), can also have difficulty with social skills. The core social skills deficits included a marked impairment in the use of nonverbal, social behaviours like failure to develop age-appropriate peer relationships; a lack of spontaneous seeking to share enjoyment, interests, or accomplishments with others; and a lack of social or emotional reciprocity (Weru, 2005; White et al., 2009). The study found out that 20 indicators were moderately correlated with social skills disorder. The other indicators were dismissed since the Pearson's coefficient was low and children and adolescents without ASD are prone to display the same behaviour.

The impact of anxiety does not only affect the child but the parent and teacher as well (Gona, 2016; Green, 2007; Weiss & Lunsky, 2013) as they try to figure out how to help the child. The teacher who may not have the skills to handle the children with ASD may refer the child elsewhere. As gathered in the preliminary survey of

this study, sometimes this referral may not be for help but to avoid the blame for poor marks sheet acquired by the child with ASD.

Withdrawing these children from social life or locking them up in houses does not help to lower anxiety or better their social skills (Silverstein et. al, 2010).). Further, parents give up their livelihood to give care to their children, which in the Kenyan setting could lead to ASD symptom severity and, therefore, anxiety disorders (Khasakhala, 2012). However, there is no documented treatment of anxiety in children with ASD in Kenya as far as this paper concerned.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Conclusion: The effect of ASD is real and can be treated. It requires being addressed as early as possible in the affected persons to allow them to achieve their full potential in life. The results provide essential insights into ASD and mental health. This paper adds to knowledge on ASD and anxiety and social skills and common comorbid disorders.

Recommendations: The effect of ASD is real and can be treated. It requires being addressed as early as possible in the affected persons to allow them to achieve their full potential in life. The results provide essential insights into ASD and mental health. This research adds to research on ASD and anxiety and social skills and common comorbid disorders.

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