

# Examining Specialized Therapeutic Services for Children with Autism Spectrum Disorders

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**Abstract:-** A child with an autism spectrum disorder (ASD) is known to experience many challenges in their daily lives, not only because of their social, behavioural, and communication challenges, but also because they do not conform to society's notions of what is "normal." This study's goal was to investigate the specialised therapy available for children with autism spectrum disorder (ASD). The sample size included 60 parents of autistic children, 40 ASD, and 20 occupational therapists (OTs). One hundred and twenty (120) participants made up the entire sample. Predefined random sampling techniques were used to determine the sample size. Questionnaires and an observational guide were used to collect the data. In contrast to the observation guide, which was used to determine the frequency of behaviours, questionnaires were given to parents of autistic spectrum disorder patients who are also UPIA members. Using both descriptive and inferential statistics, the acquired data was examined. Quantitative data analysis was done using SPSS. The qualitative information helped to explain and make sense of the quantitative information from the questionnaires. Pie charts, bar graphs, and frequency distribution tables were used to display the results of the data analysis. The study found that the most common behaviours among children with autism spectrum disorder were social and communication difficulties, disruptive behaviour, and stereotypic behaviour. The majority of occupational therapists used self-management, use of swings, trampoline and picture exchange communication systems strategies to lessen out-of-seat behaviour, according to the study's findings. The techniques helped to reduce out-of-seat behaviours, so the parents and ASD students had a positive attitude toward them. The majority of occupational therapists firmly agreed that the majority of children learned self-efficiency by watching what their peers do. Furthermore, it has been proven that using visual aids encourages children to participate. The study suggests that in order to develop policy guidelines on integrated therapy approach, the Ministry of Education, Science, and Technology should work with the Ministry of Health to launch an awareness campaign on therapeutic approaches, community-based rehabilitation programs, and transformational approaches.

**Keywords:-** Autism Spectrum Disorder, Tailored Therapy.

## I. INTRODUCTION

A series of neurodevelopmental disorders collectively known as autism spectrum disorder (ASD) show clinically as deficiencies in "social communication skills and poor social interaction," as well as "limited, repetitive patterns of behaviour, interest, or activities" (American Psychiatric Association, 2013). Around the world, the prevalence of ASD has rapidly increased, with 1 in 54 children now receiving the diagnosis (Maenner, 2020). The financial burden associated with caring for children with ASD is significant and consists of expenses for things like medical treatment, health education, therapy for the condition, services for the families, and caregiver work (Lavelle et al., 2014). In this study, the terms autism and autism spectrum disorders (ASDs) will be used interchangeably. The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) published by the World Health Organization has been used to diagnose autism disorder. It is a manual with diagnosis categories that have been approved by the American Psychological Association (WHO). Five classifications were included under the Pervasive Developmental Disorders (PDD) umbrella when the fourth edition of the DSM was published in 1994: Autism, PDD-NOS, Asperger's Syndrome, Retts Syndrome, and Childhood Disintegrative Disorders. PDD is a general term encompassing disorders that include stereotyped behaviours, interests, and hobbies, as well as a deficit in communication and reciprocal social interaction abilities. The term "autistic spectrum disorders" refers to the fact that, although these people have some traits in common, how these traits exhibit themselves will vary from person to person. As a result, no two people are exactly the same.

Mental disability (IQ below 70) and epilepsy are frequent comorbidities that are connected to 70% and 25%, respectively, of autism cases (Ospina et al. 2008). Although there is no known cure for ASDs, it is generally agreed that early diagnosis, followed by appropriate intervention, can improve outcomes for most ASDs patients in later years (Bailey, 2006, Ospina et. al. 2008 & Bakare, 2012). Despite the fact that there are no conclusive medical tests to detect any kind of ASDs, a diagnosis can be made by the age of three based on the presence or absence of particular behaviours that serve as diagnostic criteria (Kiguta, 2010, Bakare, 2012). Occupational therapists frequently provide sensory integration to children with autism disorder. Grandin (1995) defined sensory integration as the neurological mechanism that arranges sensations from one's own body and from the environment and enables effective

use of the body within the environment. For students who exhibit inappropriate responses to sensory stimulation, such as tapping and body swaying, sensory integration is frequently advised. Fine arts therapy has been proven to be calming and beneficial for students with autism who struggle with motor coordination and emotional problems, according to Richman (2005). These treatments may also be successful in temporarily lessening the challenging behaviour of autistic students.

ASD is diagnosed in one out of every 50 children, according to the Social Security Administration and the Centers for Disease Prevention and Control (2019), which many people consider to be a pandemic. The outcomes for children with ASD can vary widely and are influenced by a number of factors, including the education services they have received. The evidence-based practice of peer-mediated intervention (PMI) has a number of benefits and few drawbacks. In this study, respondents used a multiple baseline approach to assess the effects of a basic PMI on the off-task behaviour and work completion of four early elementary-age children with ASD enrolled in inclusion classes. The PMI decreased off-task behaviour and improved task completion for all four of the ASD children. Reductions in off-task behaviour were transferable to non-treatment situations for three of the four subjects. The current study used a survey design and had a larger population than the study under review.

For children with impairments who have a lot of trouble processing sensory information, which limits involvement in daily activities, therapeutic programs are designed. Integrated treatment aims to increase the capacity for processing and integrating sensory information as well as to establish the groundwork for increased independence and involvement in play, schoolwork, and daily activities (Smith-Roley and Spitzer, 2001). It also improves sensory integration, which clarifies possible connections between brain mechanisms for receiving, regulating, and integrating sensory input and the behaviour that results: adaptive behaviour. The use of sensory motor tasks that are rich in tactile, vestibular, and proprioceptive experiences is encouraged by therapies. The therapeutic setting aims to encourage the child's natural desire to play. The therapist observes and interprets the children's behaviours and interests using excellent observational abilities. She then provides a playful setting in which the youngster actively pursues attainable challenges (Bundy et al., 2002; Kimball, 1993; Schaaf and Smith-Roley, in press).

## II. REVIEW OF LITERATURE

According to the child's degree of cognitive functioning, ritualistic behaviours are present in between 68% and 74% of autistic children, varied in intensity (Whitman, 2004). Flapping hands, rocking forwards and backwards, spinning objects that are not intended to spin, stepping on tiptoes, organising, and pounding toys are a few ritualistic behaviours. According to a study by Hsu (2009), 92% of children with ASDs struggle with taking turns in games and other activities that call for flexibility and

following rules. As children are expected to follow rules and regulations, this presents difficulties in the classroom and in therapy sessions. Whitman (2004) and Hsu (2009) both agree that the degree of stereotyped behaviour is influenced by the severity of the autism and the level of cognitive function.

In contrast, Whitman (2004) reported that stereotyped behaviours such as flapping hands and rocking are meaningless, whereas Hsu (2009) discovered that the rituals serve a purpose and are displayed differently in different environments, as well as being controlled by the child's emotions. Rigidity, for example, was discovered in 9.9% of children with mild autism, 24.6% of those with difficulty, and 42.3% of those with severe autism. Many children with autism have gut issues such as poor digestion, stomach cramps, leaky gut, and chronic diarrhoea. For example, Horvath and Perman (2002) discovered that 76% of autistic children had Gastro Intestinal (GI) distress that lasted until adulthood, compared to 30% of healthy siblings. The study also found that 48% of autistic children had significant delays in toilet training and were not fully toilet trained by 4 years, compared to 2% of their typical siblings. Doherty (2013) discovered that 90% of children with autism had problems with intestinal flora and digestion, which are linked to the GI distress described earlier by Horvath et al.

Impaired sensory modulation is one of the traits that children with autism frequently display (Cranowitz and Miller, 2006). When it comes to certain sensory stimuli like sound, touch, and smell, sensory modulation impairment can range from hypersensitivity to hyposensitivity (Mortimer et al, 2005). While a child who is hyposensitive to touch may yearn for hugs and squeezes, a child who is hypersensitive to high pitched sounds may close his ears or cry when someone shouts. Some children might be tactile hypersensitive and reject hugs, handshakes, and other forms of close contact. They might also object to wearing a particular style of clothing. Sensitivity to certain smells, food flavours, temperature, and vestibule sensitivity are other sensory integration issues that have been noted. Sleep disorders and irregular sleeping habits have also been linked to autism in children.

Evaluation of Self-Management Approaches for High School Learners with Disabilities at California State University, Monterey Bay was the subject of a study by Vucina (2017). The study examined the level of calling out behaviour when self-management strategies were used with three middle school students in a juvenile detention facility. The calling out behaviour is when students frequently talk aloud to one another, speak without the teacher's approval, or move irrationally from one seat to another. In the scholar-employed ABA design, learners tracked how frequently they engaged in the calling out behaviour while using self-management. The study's findings showed that all of the participants' students' calling out behaviour decreased when they used self-monitoring strategies.

In Scotland, Kristen's (2008) phenomenological study found that some parents perceived getting a diagnosis as a significant and stressful life event. The diagnosis meant a sudden loss of their child's ability to accomplish all the goals they take for granted, like living independently, getting married, and starting a family. Additionally, the majority of these participants reported that even though the diagnosis provided explanations for why certain events occurred, it also generated additional questions and confusion. Many families report having trouble getting their child into inclusive education because of the stigma and lack of knowledge that surround it. Compared to parents of children with other disabilities, many parents of children with this disorder find it challenging to get educational support or help for their children (Tiffany, 2010).

Wolde (2017) carried out a study to explore the use of creative art therapy as a method to improve the social skills of autistic children. The effectiveness of creative art therapy was tested, and the researcher emphasised the necessity for inclusive solutions that mix social and behavioural approaches to this complicated problem. The researcher also devised a social skills treatment program and put it into practice for three months. The social skills outcome factors that were recorded were making eye contact, taking turns, imitating others, recognizing oneself, obeying orders, and participating in social interactions. The study employed a multiple-subject, single-experiment design. The literature evaluation found that it was possible to employ creative art therapy to assist the social skills development of autistic children. The hypothesis that creative art therapy can be utilised to assist these individuals was then supported by a research in which a group of six students with autism participated in creative art therapy activities and their social skill development was monitored. The result confirmed the hypothesis: creative art interventions had a favourable impact on making eye contact, taking turns, imitating others, recognizing oneself, obeying directions, and participating in social interactions. The findings show that involving a child with autism in creative art therapy was a successful strategy for enhancing social skills in kids with autism spectrum condition. According to the study's findings, children with autism spectrum condition could benefit from creative art therapy to improve their social and communicative abilities. The results of this study were compared to the management given to children with ASDs in the Kenyan context.

An investigation of how contextual interventions affect parental competence and children involvement in children with autism spectrum disorders Using a pretest-posttest repeated measures design, according to Dunn et al. (2012): In this study, occupational therapy context-based interventions were used to boost parental competence and boost autistic children's involvement. The effectiveness of an occupational therapy intervention that included three components—authentic activity environments, family daily routines, and the child's sensory patterns—was evaluated with the assistance of 20 parents. Sessions included reflective discourse with parents to assist them in identifying strategies for achieving their objectives and formulating joint plans for the next week. Parental competence was

evaluated using the Parenting Stress Index and the Parenting Sense of Competence, and child engagement was evaluated using the COPM and GAS. Given that both parents and kids significantly increased their participation in daily activities, the results suggested that this strategy is successful in occupational therapy intervention.

A qualitative study was carried out to investigate multiculturalism-related concerns in order to properly engage with autistic children discovered in autism care facilities (Abdulhakim, 2016). The Joy Center for Children with Autism and Related Developmental Disorders, the Nehemiah Autism Center, and the Ryan Autism Center were the subjects of the study. This study mainly focused on the covert factors influencing therapies that are beneficial when working with multicultural children who have been diagnosed with autism spectrum disorder. Nine semi-structured interviews with specialists who work with these autistic kids inside the three autism treatment facilities produced the data. In order to maximise the amount of data collected, practitioners in the treatment centres also received 22 open-ended questionnaires. In this study, codes in the data were analysed using open coding and grounded theory techniques, and similar patterns from the gathered data were noted. Themes from the study's findings were divided into three categories: impediments to intercultural intervention caused by language, accessibility, and culture. Participants in this study recommended interventions based on the Applied Behavioral Analysis (ABA) model to be more beneficial when treating these autistic children from diverse backgrounds. These interventions should use individualistic treatments based on their unique needs and include speech therapy, occupational therapy, social interaction enhancement therapy, and picture exchange therapy while teaching them self-advocacy. The aforementioned study was conducted with and among professionals who work with children who have ASD. It is challenging to generalise the findings to every country in the world because of the variances in geography, culture, and research population. The current study concentrated on how professionals in Mombasa County, Kenya, handled kids with ASDs.

### III. PROBLEM STATEMENT

The Individuals with Disabilities Education Act, passed by Congress in 1986, was the first to establish early intervention services (IDEA). A comprehensive statewide program of early intervention services for infants and toddlers with disabilities and their families is operated by states with the help of a federal grant program. Children under the age of three who have a confirmed diagnosis of a disability or an established developmental delay in one or more of the following areas—physical, cognitive, communication, social-emotional, and/or adaptive—are eligible for these services. According to a survey conducted by Mombasa County's Educational Assessment and Research Centre (EARC, 2017), the majority of children with autism spectrum disorders (ASDs) are unable to function independently in terms of fine motor, gross motor, and oral motor skills. Due to this, they must receive training in human occupational skills. For students with ASDs, a

lack of these abilities may have detrimental effects on their adult outcomes and occupational success. Only 3% of kids with autism spectrum disorders receive therapeutic services, according to EARC (2017). Unfortunately, due to a lack of integrated therapy, the majority of students with ASDs do not meet their basic developmental milestones.

#### ➤ *Research Objectives*

- Determine the behaviours and traits that children with autism spectrum disorder present.
- Investigate the tailored therapies for children with autism spectrum disorders

### IV. METHODOLOGY

The research used a descriptive survey methodology that combines qualitative and quantitative methods. As highlighted by, triangulation is also the use of both qualitative and quantitative methods (Creswell & Plano Clark, 2011). 120 children with ASDs who are enrolled in special needs centres will make up the study's target group, together with 25 centres for special needs, 200 UPIA parents, 60 occupational therapists (OTs) who are members of the Kenya Occupational Therapists Association, and 25 centres for special needs. There were 380 participants in the study's target population overall.

#### ➤ *Study Site*

Mombasa County served as the site of the current study. It is the smallest County in Kenya, with a land area of 229.7 km<sup>2</sup> and a water mass of 65 km<sup>2</sup>. The County is located in the former Coast Province's southernmost region.

It is bordered to the north by Kilifi County, the south by Kwale County, and to the east by the Indian Ocean. Six Sub-counties make up the County: Jomvu, Changamwe, Mvita, Likoni, Nyali, and Kisauni. Moreover, it is the only county on the Kenyan Coast where parents of children with ASDs can join the Unleashing Potential in Autism (UPIA) group.

#### ➤ *Study Participants, Sampling Criteria and Sample Size*

The respondents for the study were chosen using random selection. There are 23 centres for special needs. The special units were organised by the researcher, who gave them a numerical code. For the study, only special units with odd numbers were chosen. Also, a random sample technique was utilised to choose 12 of the 120 identified children with ASDs who would be observed during the trial from special needs centres. 40 children were chosen to be observed from various centres. The occupational therapist and parents from the UPIA organisation were chosen using a systematic random sampling procedure. Systematic random sampling was employed since it enhances the possibility that occupational therapists and all parents in the UPIA organisation will take part in the study. Also, parents with various demographic features had an equal probability of participating in the study because of the systematic random sampling procedure. There are 200 parents who have enrolled with UPIA. Parents were given numbers one through three by the researcher. A random member was chosen to take part in the study every third member. 60 parents were chosen for the study as a result. Every third participant was chosen for the study, and occupational therapists underwent the same procedure. 20 occupational therapists took part in the study as a result. There were 127 people in the sample as a whole.

Table 1 Sampling Matrix

Category	Total Population	Sampling Procedure	Sample	Percentage Representation
Parents	200	Systematic Random Sampling	60	30%
Occupational Therapists	60	Systematic Sampling	20	33.33%
Children with ASDs	120	Random Sampling	40	33.33%
<b>Total</b>	<b>380</b>		<b>127</b>	

#### ➤ *Data Storage, Analysis and Interpretation*

Descriptive statistical analysis was utilised for evaluating the quantitative data from the questionnaires and observation guide from the Likert scale. Frequencies, which displayed the proportions of respondents at each Likert scale level, averages, and standard deviations for each question, as well as the maximum possible score, were all part of the descriptive statistics. The researcher computed the means and standard deviation that were pertinent to the research study using the Statistical Packages for Social Sciences (SPSS) computer application, standard version 20, in order to produce verifiable results.

#### ➤ *Ethics Approval*

Participant written informed consent was obtained. The fact that participation in the study was entirely voluntary and that withdrawal or refusal would have no negative effects was underlined. The participants received guarantees that no one would have access to the information they provided. By citing all of the information's sources, even those from other authors and researchers, plagiarism was avoided. When delivering research findings, the researcher took care to not leave out any crucial information supplied by the respondents or to fabricate participant data to support their preconceived notions or predetermined results.

**V. RESULTS**

➤ *Demographic information of Study Participants*

In Mombasa County, Kenya, 60 parents who were registered with the UPIA organisation provided the data. Results indicate that 23 men and 37 women, or 61.7% and 38.3% respectively, made up the majority of the respondents who were parents. The results were shown in Figure 1.

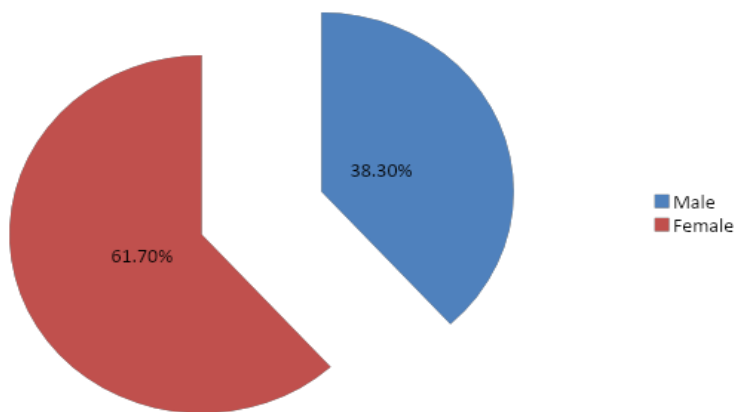


Fig 1 Parents Respondent Gender

The age ranged from below 30 to above 60. Parents who responded in nearly equal numbers were between the ages of 31 and 39, 22 (36.7%), and 40 and 49, 21 (35.0%). The majority of respondents were younger than 30. The findings were presented in Figure 2.

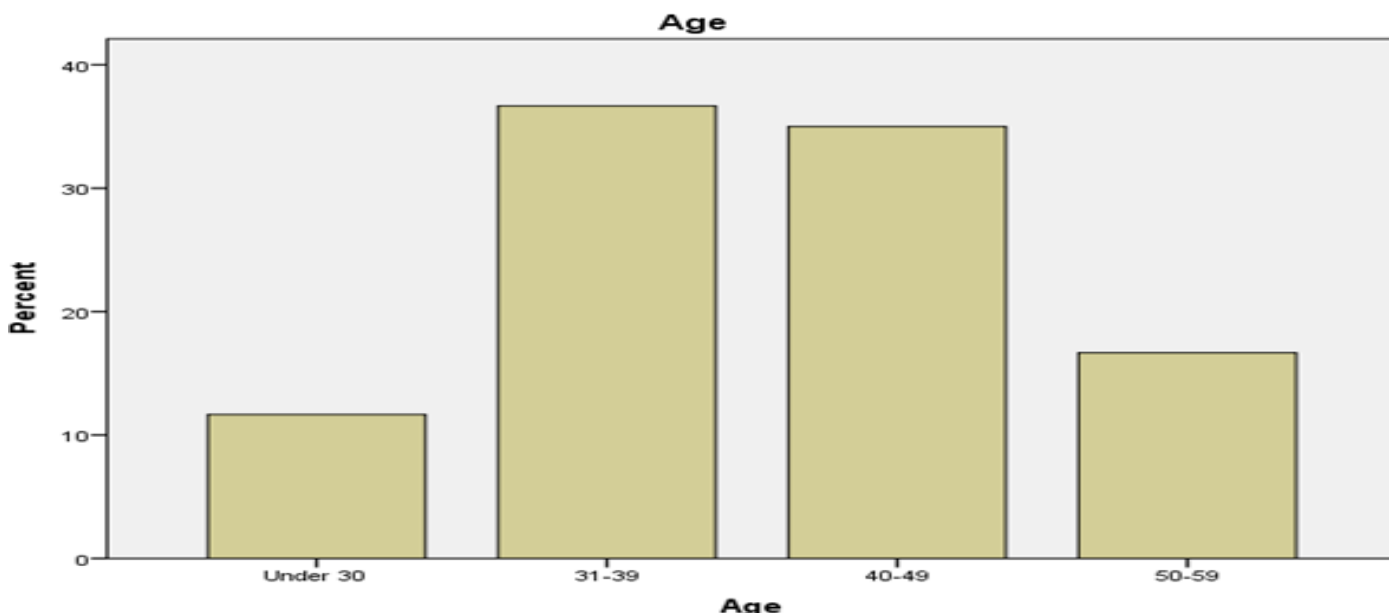


Fig 2 Respondents' Age

Table 2 Gender of Child with ASD

Gender	Frequency	Valid Percent
Male	25	62.5
Female	15	37.5
Total	40	100.0

Children with ASDs ranged in age from older than three to older than twenty. Only 1 (1.5%) of the 37 children (or 56.1%) were older than 20 years old. The majority of the children were between the ages of 11 and 15.

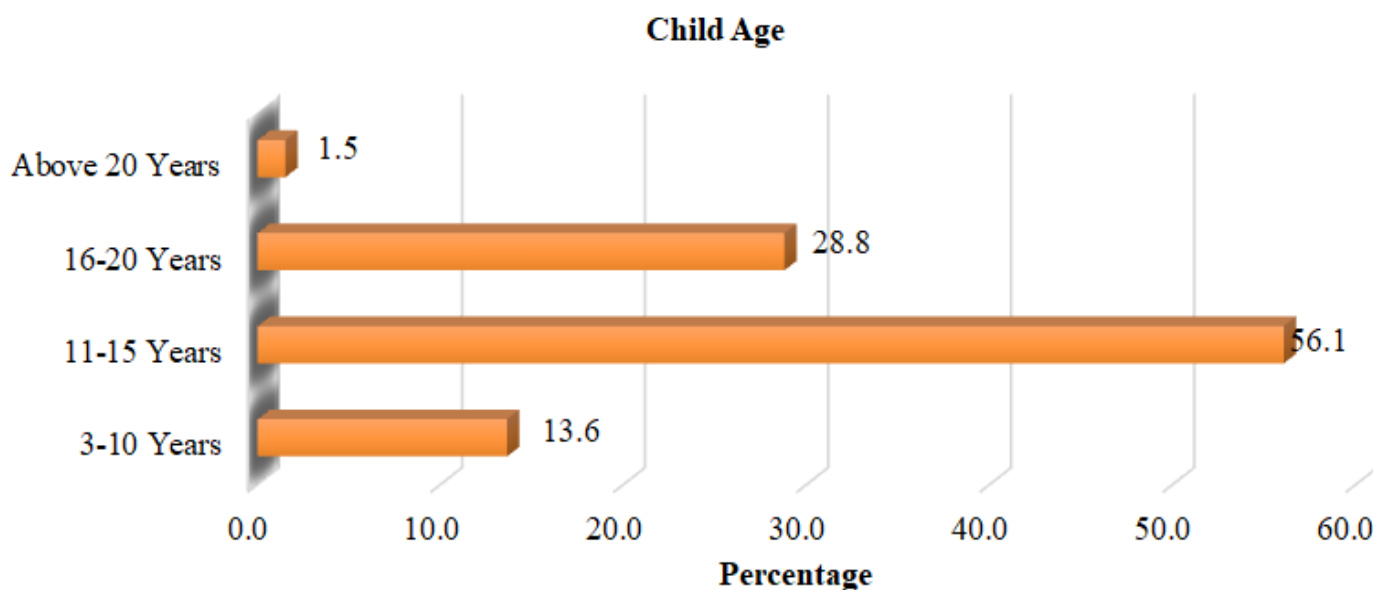


Fig 3 Age of the Child with ASD

Table 3 Gender of Occupational Therapist

Gender	Percentage	Frequency
Male	68.4%	13
Female	31.5%	6
Total	100	19

The occupational therapist's ages ranged from under 30 to over 60. Eight occupational therapist responses (42.1%) were primarily in the 20–29 age range. The majority of respondents were between the ages of 40 and 59.

Table 4 Ages of Occupational Therapists

Age	Percentage	Frequency
20-29	42.1%	8
30-39	36.8%	7
40-59	21.1%	4
Total	100	19

14 (73.7%) of the occupational therapists who responded possessed a diploma, while 5 (26.3%) had a bachelor's degree.

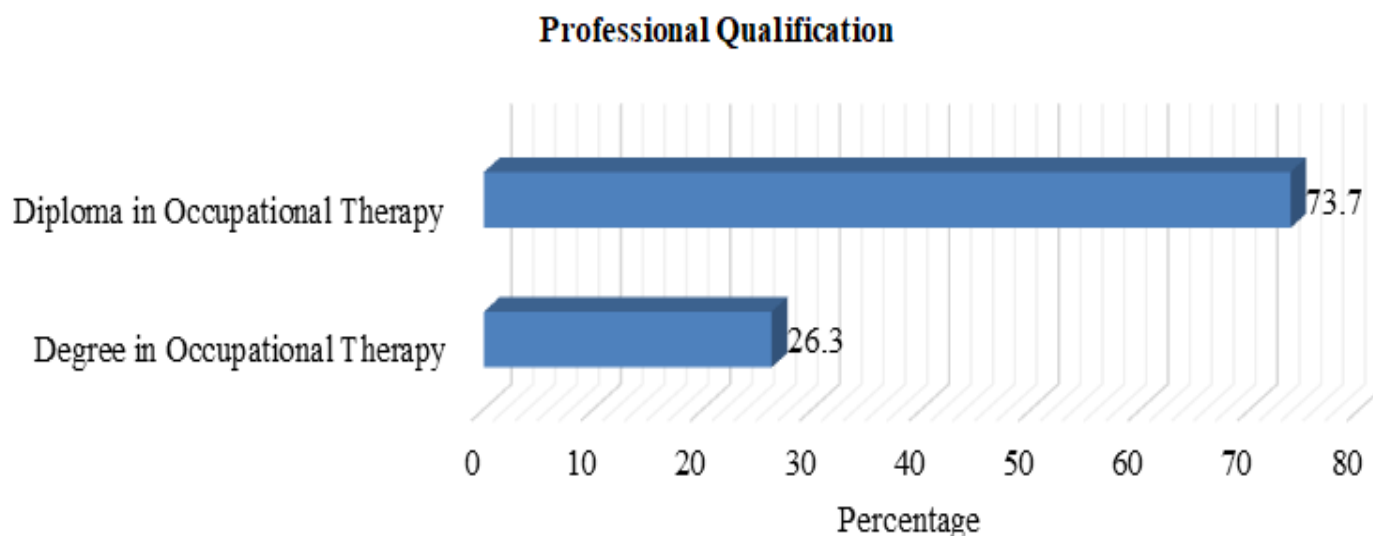


Fig 3 Professional Qualification of Occupational Therapists

➤ *Objective One*

Table 5 Behaviours Characteristics Exhibited by Children with Autism Spectrum Disorders

Behaviour	N	Mean	Standard Deviation	Skewness	Kurtosis
<b>SOCIAL &amp; COMMUNICATION BEHAVIOURS</b>					
Wanders aimlessly without purposeful play or exploration	40	3.3000	1.01779	-1.266	.355
Needs adult guidance and/or supervision to play (Difficulty playing with peers)	39	3.3333	.86855	-1.232	.876
Lack eye contact	40	3.5000	.78446	-1.510	1.612
Fidgets and squirms in their seats	39	3.4872	.68333	-.995	-.166
Lack of expressive language skills (Difficulty articulating and speaking clearly)	40	3.6000	.87119	-2.283	4.288
Difficult in following direction	39	3.3846	.78188	-.814	-.852
Share his/her belongings	39	2.4359	.99459	.017	-.995
Does not respond to verbal cues or to name being called	40	2.8500	.94868	-.445	-.631
Resistant to change	38	3.1579	.88612	-.570	-.866
Repetitive speech patterns (repeating words or phrases after others)	40	3.2250	1.07387	-1.129	-.100
<b>DISRUPTIVE BEHAVIOURS</b>					
Often interrupt conversations of others	40	3.2250	.94699	-.860	-.470
Distracting other during classroom activities	40	3.4500	.95943	-1.593	1.292
Hyperactivity of the child	40	3.6750	.57233	-1.608	1.754
Concentration Span	39	3.1795	1.04810	-.957	-.407
Dash around touching or playing with everything in sight	40	3.4750	.67889	-.940	-.240
Physically Aggressive	39	2.5897	1.06914	-.042	-1.224
<b>STEREOTYPIC BEHAVIOURS</b>					
Sensitive to bright lights, will squint, cover eyes, cry and/or get headaches	40	2.9000	.92819	-.401	-.698
Repetitive movement such weaving a hand in front of their face	40	3.0000	1.06217	-.676	-.802
Arranging object like toys on a specific way (on a straight line)	39	3.1795	.91398	-.593	-1.020
Hand Flapping	40	2.8500	1.05125	-.383	-1.084
Head rolling	40	2.5000	1.26085	.000	-1.677
Body rocking	40	2.8500	1.12204	-.607	-.976
Biting one-self	39	2.4872	1.29517	-.085	-1.751
Head Banging	39	2.3077	1.17325	.182	-1.481
Cries without reason	39	2.4872	1.12090	-.144	-1.358

• *Descriptive Analysis*

The behaviours were divided into three categories: disruptive, stereotyped, and social and communication. Also, among 40 students, the researcher noted the frequency of behaviours displayed by CWAD. 35 minutes were spent watching the students in a classroom and outside at recess. The means of the behaviours within each category were calculated to determine the average prevalence of each type of behaviour. Calculations were made for the means, standard deviations, skewness, and kurtosis. The results were displayed in Table 4. The three categories of behaviours have a very high prevalence, according to Table 4's findings. According to the reported behavioural traits, lack of eye contact, repetitive behaviour, aimless roaming, and a lack of expressive language abilities were the most problematic social and communication issues. Moreover, the most

disruptive behaviours included interrupting others' conversations, being very active, and rushing about while touching everything. The stereotypical behaviours with the highest rankings included body swaying, hand flapping, and hypersensitivity to light. Resistant to Change 38, with a skewness of  $-.570$ , received the fewest citations. The results were presented in table 5.

• *Qualitative Analysis*

Interviews with parents of children with autism spectrum disorders focused on the frequency of behaviours that their ASD-diagnosed children exhibited. It was clear that the great majority of parents had noticed that their children exhibited stereotypical communication, social, and behaviour. Or, as some parents put it:

"Most of our children have trouble expressing themselves; they can't tell you what they want." To convey their needs and desires, they try to employ signs and gestures. Also, the majority of our children report apprehension about playing with their friends since they lack the skills to start games and prefer to remain by themselves. As a result, individuals start to exhibit stereotypical behaviours like teeth-grinding, rocking, and self-destructive behaviours like punching and biting themselves when furious. If an integrated strategy is brought closer to them, all of these can be managed.

➤ *Objective Two*

• *Therapeutic Strategies used for Children with Autism Spectrum Disorders*

The purpose of the study was to determine how ASDs are identified in children before they are enrolled in therapy programs. About the process used to diagnose autism, information from 19 occupational therapist respondents was gathered. In terms of diagnosis, nearly two-thirds of the occupational therapist respondents shared the same opinion.

The study discovered that the process of diagnosing begins with an evaluation during which the parent consults their child's prenatal, perinatal, and postnatal medical histories. This came after a screening to identify the condition and following enrolment in a formal program. A comment from an occupational therapist read:

"Screening often involves a general assessment of several domains, including vestibular, speech, language, psychomotor, visual and auditory perception, and fine and gross motor skills. It can take two to three days to finalise and further determine the condition for suggestion and subsequent placement because it's a thorough process."

The objective of this research was to determine the child's level prior to enrolling in an integrated therapeutic method. 66 parents whose children with ASD provided information, which was gathered. The results showed that 31 (47%) of the children were mostly at a moderate level, while only 14 (21.2%) were at a mild level. The results are shown in table 6.

Table 6 Level of ASD of the child

	Frequency	Percentage
<b>Mild</b>	3	7.5%
<b>Moderate</b>	7	17.5%
<b>Severe</b>	30	75%
<b>Total</b>	40	100.0

Table 7 Techniques Used to Offer Integrated therapy

Techniques/Equipment	Frequently		Rarely	
	Frequency (n)	Percentage	Frequency (n)	Percentage
Sensory Tooth Brush	14	73.7	5	26.3
Weights	10	55.6	8	44.4
Wedge	7	41.2	10	58.8
Models	7	41.2	10	58.8
Mirrors	13	68.4	6	31.6
Picture Exchange Communication Systems	16	84.2	3	15.8
Puzzle	14	82.4	3	17.6
Swings	18	94.7	1	5.3
Pool Ball	12	75	4	25
Scooter	10	58.8	7	41.2
Trampoline	16	84.2	3	15.8
Vestibular	14	77.8	4	22.5

Table 7's results reveal that the majority of occupational therapists who responded used swings, trampolines, and Picture Exchange Communication System (PECS) during therapy sessions for children with ASDs. Among the respondents, 18 (94.7%), 16 (84.2%), and 16 (84.2%) did so.

**VI. DISCUSSION**

According to this study's findings, social and communication, disruptive, and stereotypical behaviours were negatively skewed, which means that the vast majority of respondents indicated that these behaviours were highly prevalent among children with autism spectrum disorder. These findings go against those of Doherty (2013), who claimed that 83% of children with autism have sleep

disorders as a result of low levels of the neurotransmitters serotonin, dopamine, GABA, glutamate, and norepinephrine, which regulate sleep. The majority of children with autism spectrum disorder struggle to express themselves, which is a significant finding. This result is consistent with that of Tager-flusberg (2011), who discovered that the majority of children with Asperger syndrome struggle with pragmatism, which impairs their ability to communicate in social situations. According to the



study, the majority of autistic kids exhibited disruptive behaviours. This result is consistent with that of Whiteman (2004), who claimed that children with autism exhibited stereotypical behaviours like flapping hands, rocking back and forth, spinning objects, and tiptoe walking, all of which tend to be disruptive.

Furthermore, the results are consistent with those of the 2013 Diagnostic and Statistical Manual of Mental Disorders (DSM-V-TR) edition, which identified three categories of behaviour: social-behavioural, nonverbal communication, and stereotypical behaviours. The majority of occupational therapists use swings, trampolines, and Picture Exchange Communication Systems as an integrated therapy technique, according to important study findings. These results go against those of Wolde (2017), who discovered that using creative art as a strategy helped ASD-diagnosed children improve their social and communication skills. The results also go against those of Taylor et al. (2004), who discovered that Mothers to Toddlers (MTT) was gaining popularity as a training method for autistic children. Since Applied Behaviour Analysis (ABA) was found to be more beneficial when working with children with ASDs, the findings contend with those of Abdulkarim's (2006) study conducted at the Joy Centre for Children with Autism and Related Development Disorders, Nehemiah Autism Centre, and Ryan Autism Centre. The majority of the children began therapies between the ages of 4 and 10 years, which is a significant finding. This finding is consistent with DSM V, which determined that a child must be three years old to be diagnosed with autism. Two-thirds of children with ASD diagnoses did not participate in an integrated therapy approach, which was a key finding. These results counter Gutstein's (2001) observation that individuals with ASDs are introduced to early support services through a program called Relationship Development Intervention (RDI). According to the study, only 1% of the parents were aware of the tailored therapy approach through autism newsletters. This suggests that there was still a very low level of awareness of ASDs.

## VII. IMPLICATIONS

Research on how to support special needs education institutions and better equip teachers to aid in the teaching and learning processes for students with ASD could be conducted in the interest of educating children with ASD. How can regular teachers' attitudes and abilities be modified so that they can be more beneficial and successful in teaching students with ASD? Is it through the integration of special needs education into their university courses? In order to produce teachers who are qualified to work with children who have ASD, the government, in particular the Ministry of Education, should place more of an emphasis on bolstering Special Needs Education programs in teacher training institutions. In addition, there should be an increase in the supply of qualified personnel and appropriate materials to schools and other educational institutions. As teachers' attitudes toward inclusion are impacted by the strategy, it is also important to emphasise the use of resources, inter-sectoral development, working with

partners, utilising the available national expertise, collaboration and cooperation between the concerned ministers, governmental and nongovernmental organisations, civil societies, etc. in order to address the behavioural strategic issues displayed by children with ASD in special needs education. It would also be interesting to see if the involvement of parents of autistic children differs in a public school setting, where special needs services are not provided to every child and autistic children are mixed with their typically developing peers in classrooms. In general, it would be interesting to investigate how occupational therapy services differ in a public school setting and see if this has any bearing on the standard of care given to kids with autism.

## VIII. LIMITATIONS

The findings of this study may not necessarily apply to all schools that serve children with disabilities because occupational therapy services generally may function differently in other school settings. Participants in occupational therapy were not questioned regarding their years of practice or experience working with children specifically. The ability to further investigate the relationship between years of experience and the likelihood of receiving training in the designated interventions would have benefited from having this information. Few occupational therapy assistants (OTAs) responded to the survey, and none attended the research study. There were missed opportunities to look at how OTAs used these practices differently from OTs because of how frequently OTAs work in school settings.

## IX. CONCLUSION

Following the participation of occupational therapists from the chosen schools in Mombasa, Kenya, it was discovered that key components of occupational therapists' treatment strategies for autistic children in school settings include working with coworkers and families, adapting to individual needs, problem-solving, flexibility, and their training. In order to properly implement treatment plans for their students, the respondents emphasised the importance of collaboration with school staff and parents. This allows them to gain a comprehensive understanding of the strengths, weaknesses, and goals of the child they are working with. Additionally, it was discovered that their method of treatment required flexibility and adaptation to individual needs because every autistic child has unique communicative, sensory, and behavioural needs. There are several techniques that occupational therapists employed when working with autistic children. However, the primary methods employed by the majority of occupational therapists included the use of swings, trampolines, and Picture Exchange Communication System. In conclusion, the study findings offer hope that previously unidentified issues relating to the research problem have been uncovered and that the study will serve as a solid foundation for addressing issues pertaining to tailored therapy approaches for children with autism spectrum disorder. Modern state-of-the-art therapy encourages integrated therapy that is

incorporated into regular daily activities and routines in typical school, home, and community settings. Therapy goals can be infused and embedded in meaningful settings and activities, such as physical education settings, art classes, lunchtime routines, classrooms, etc., through collaborative teamwork closely with special education and general education teachers. To ensure that appropriate positioning and therapy services are offered consistently rather than only when a therapist has a small block of time to work with students, a "role release" approach is used to impact the expertise between the therapist and those teachers who work most closely with students throughout the day.

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