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Integrated therapy approach for children with autism spectrum disorder: case of Mombasa County, Kenya

By

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Abstract

The focus of this study was integrated therapy approach for children with autism spectrum disorder. Autism spectrum disorder is a critical issue in as far as its diagnoses and management are concerned. Lack of early diagnoses and intervention makes a mockery of the stated developmental milestones that the children with autism are supposed to achieve. Therefore, the purpose of this study was to investigate integrated therapy approach for children with autism spectrum disorder in Mombasa County, Kenya. The sample size comprised 60 parents of children with autism spectrum disorder, 40 children with autism spectrum disorder and 20 occupational therapists. The total sample was one hundred (120) participants. The sample size was determined using specific random sampling methods. Data collected was done using questionnaires, an observation guide. Questionnaires were distributed to parents of children with autism spectrum disorder who are also members of Unleashing Potential in Autism (UPIA) whereas the observation guide was used to check the frequency of behaviours. Data collected was analyzed using descriptive and inferential statistics. SPSS was used in analyzing quantitative data. The qualitative data was informative in explaining and clarifying the quantitative data from questionnaires. Results of data analysis were presented using frequency distribution tables, bar graphs, and pie charts. The study established that social and communication, disruptive and stereotypic behaviours were the most prevalent behaviour among children with autism spectrum disorder. Stigmatization and discrimination from the community were found to be the major factors leading to low perception of parents with children with autism. There was emphasis on the use of swings, trampoline and Picture Exchange Communication System as an integrated therapy technique. Lack of support from the government, financial constraints and adequate equipment were the main challenges faced in implementation of integrated therapy approach. The study recommends that Ministry of Education Science & Technology in collaboration with Ministry of Health to conduct an awareness campaign on integrated therapy approach, community based rehabilitation programs should be initiated. A transformational approach should be implemented to make sure that all stakeholders in various special needs centres (occupational therapist, physiotherapist, psychologists, counsellors and speech and language practitioners) are fully involved in setting and reviewing policy guideline on integrated therapy approach for children with special needs.

Key Words: Kenya, Mombasa, Autism Spectrum disorder, Integrated, Therapy

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Background

Autism is a neurodevelopmental disorder that adversely affects social skills, communication, self-help, behaviour and constructive play. It typically presents itself within the first three years of a child's life (Scott & Gillis, 2010). Autism is placed on a spectrum from mild to severe according to the variance in characteristics and degree of symptoms (Grunker, 2007; Wall, 2004). The term Autism and Autism Spectrum Disorders (ASDs) will be interchangeably in this study. Autism Disorder has been diagnosed using the diagnostic Statistical Manual-IV Edition Text Revision, this is a manual with diagnosis categories approved by the American Psychological Association and International Statistical Classification of Diseases and Related Health Problem, tenth revision (ICD-10) published by the World Health Organization (WHO). In 1994, when the fourth edition of DSM was published, five categories appeared under the Pervasive Developmental Disorders (PDD) heading: Autism, PDD-NOS, Asperger's Syndrome, Retts Syndrome, and Childhood Disintegrative Disorders. PDD is an umbrella term for disorders that involve impairment in reciprocal social interaction skills and communication skills, and the presence of stereotypical behaviours, interests and activities. The term Autistic Spectrum Disorders is used to represent the facts that while these individuals share common characteristics, how these characteristics are manifested will differ with each individual. As a result, no two individuals are the same. The question is how are children with ASDs identified and classified in Mombasa County. The present study will seek to fill this gap.

In western countries, the community is more aware about autism because of increased media coverage and an expanding body of knowledge published in professional journals (Johnson & Myers, 2007). It is still not clear whether Kenyan communities have information regarding ASDs. When parents learn that their child has been diagnosed with autism, they express many emotions. At this stage, the parents go through many different psychological emotions, societal rejection and interactions with various healthcare professionals (Taylor, Wall, Liebow, Sabatino, Timberlake & Farber, 2005). Initially, parents may feel isolated and alone, and not know where to begin their search for information, assistance and understanding as well as support (McGill Smith, 2003). Relatively insufficient attention has been given to autism in Sub-Saharan Africa particularly in Kenya. Although a few documented studies have examined the relationship between autistic impairments and the stress on mothers, there is virtually very little on this subject in Sub-Saharan Africa more specifically in Kenya (Bello-Mojeed Omigbodun, Ogun, Adewuya & Adedokun, 2013). It is from this view that the present

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study will seek to establish parents' perception on diagnosis of their children with ASDs in Mombasa County, Kenya.

Integrated therapy is designed to for children with disabilities who have significant difficulty processing sensory information, which restricts participation in daily life activities. The goal of integrated therapy is to improve the ability to process and integrate sensory information and to provide a basis for improved independence and participation in daily life activities, play, and school tasks (Smith-Roley and Spitzer, 2001). In addition, it enhances sensory integration which in turn explicates potential relationships between the neural processes of receiving, modulating, and integrating sensory input and the resulting output: adaptive behaviour. Integrated therapy provides opportunities for engagement in sensory motor activities rich in tactile, vestibular, and proprioceptive sensations. The therapeutic environment is designed to tap into the child's inner drive to play. The therapist uses keen observation skills to observe and interpret the child's behaviours and interests and then creates a playful environment in which the child actively pursues achievable challenges (Bundy et al., 2002; Kimball, 1993; Schaaf and Smith-Roley, in press).

The background information available points out to the deficient efforts to identify and classify children with ASD, and gaps in management programs available for children diagnosed with ASDs. Against this background the present study will seek to investigate integrated therapy approach in the dimensions of behavioural characteristics, parental perceptions towards diagnosis of their children with ASDs, integrated therapy strategies used for children with ASDs and finally the challenges in implementation of integrated therapy approach in Mombasa County, Kenya.

Problem Statement

Current state of the art practice supports integrated therapy that takes place in the context of daily activities and routines in typical school, home, and community environments. Through collaborative teamwork closely with special education and general education teachers to infuse and embed therapy goals in meaningful settings and activities, such as physical education settings, art classes, lunch time routines, classrooms etc. A "role release" approach is used to impact expertise between therapist and those teachers who work most closely with students throughout the day so that appropriate positioning and therapy services can be provided consistently, rather than only when a therapist has small block of time to work with students.

A recent base line survey by Educational Assessment and Research Centre (EARC, 2017) in Mombasa County, revealed that most of the children with Autism Spectrum Disorders (ASDs) lack the ability to function independently in as far as the human occupations, fine motor, gross motor and oral motor skills are concerned. This calls for the need to have them been trained in human occupation skills. Lack of these skills may have negative effects on adult outcome and occupational achievement for learners with ASDs. According to EARC (2017) only 3% of the children living with autism spectrum disorders receive an integrated therapy. Unfortunately, most learners with ASDs fail to achieve their basic development milestones due to lack of integrated therapy. It is from this back drop that the current study seeks to investigate integrated therapy for children with autism spectrum disorders in Mombasa County, Kenya.

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Research Objectives

- 1) Identify the behaviours characteristics exhibited by children with Autism Spectrum Disorder in Mombasa County
- 2) To investigate parent perceptions towards the diagnosis of a child with Autism with Spectrum Disorders
- 3) To examine the integrated therapy strategies used for children with Autism Spectrum Disorders
- 4) To find out challenges faced in implementation of integrated therapy for children with Autism Spectrum Disorder.

Literature Review

For the purpose of this study, ASD will be defined by using the DSM-V-TR diagnostic criteria. According to the American Psychiatric Association DSM-5 (2013, pp. 5–25) to be diagnosed on autism a child should show the following criteria clearly atypical and they must be presented across multiple contexts: Deficits in social-emotional reciprocity; ranging from abnormal social approach and failure of normal back and forth conversation through reduced sharing of interests, emotions, and affect and response to total lack of initiation of socialization.

Deficits in non-verbal communicative behaviors used for social interaction; ranging from poorly integrated, verbal and non-verbal communication, through abnormalities in eye contact and body-language, or deficits in understanding and use of nonverbal communication, to total lack of facial expression or gestures. Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers); ranging from difficulties adjusting behavior to suit different social contexts through difficulties in sharing imaginative play and in making friends to an apparent absence of interest in people. Stereotyped or repetitive speech, motor movements, or use of objects; (such as simple motor stereotypes, echolalia, repetitive use of objects, or idiosyncratic phrases).

Excessive adherence to routines, ritualized patterns of verbal or non-verbal behaviour or excessive resistance to change such as motoric rituals, insistence on same route or food, repetitive questioning or extreme distress at small changes. Highly restricted, fixated interests those are abnormal in intensity or focus (such as strong attachment to or preoccupation with unusual objects, excessively circumscribed interests). Hyper or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment; (such as apparent indifference to pain/heat/cold, adverse response to specific sounds or textures, excessive smelling or touching of objects, fascination with lights or spinning objects).C. Symptoms must be present in early childhood (but may not become fully manifest until social demands exceed limited capacities). Symptoms must together limit and impair everyday functioning (American Psychiatric Association (DSM-5), 2013).Despite the guideline provided by DSM V, it is not clear what guidelines are used by professional in diagnosis of children suspected to have ASD in Mombasa County, Kenya. The present study sought to fill this gap.

About 68% to 74% of children with autism have been found to exhibit ritualistic activities at varying severity depending on the cognitive functioning level of the child (Whitman, 2004). Some of the ritualistic behaviours include flapping hands, rocking forth and backwards,

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spinning objects not designed for spinning, walking tiptoes, arranging and banging toys. A study by Hsu (2009) reported that 92% of children with ASDs have problem with following rules and taking turns in play and other activities that required flexibility. These present challenges in the learning environment and in therapy sessions since children are expected to follow rules and regulations. Hsu (2009) agrees with Whitman (2004) that the level of stereotyped behaviour depends on severity of autism and the level of cognitive function. The researcher compared these findings with those of children diagnosed with ASD in Mombasa County, Kenya.

In contrast, Whitman (2004) reported that stereotyped behaviours like flapping hands and rocking are purposeless while Hsu (2009) found the rituals to serve a purpose and they are exhibited differently in different environments and also controlled by the child's emotions. For example, rigidity was found in 9.9% of children with mild autism, 24.6% of those with difficulty and 42.3% of children with severe autism. Gut related issues such as poor digestion, stomach cramps, leaky gut and chronic diarrhoea has been reported in many children with autism. For example, a study by Horvath and Perman (2002) found that 76% of children with autism had Gastro Intestinal (GI) distress which persisted until adulthood compared to 30% of the healthy siblings. The research also reported that 48% of children with autism delayed significantly in toilet training, and they were not fully toilet trained by 4 years compared to 2% of their typical siblings. Another research by Doherty (2013) found that 90% of children with autism had a problem with intestinal flora and problem with digestion which are linked to the GI distress described earlier by Horvath et al (2002).

Other characteristics commonly exhibited by children with autism include impairments in sensory modulation (Cranowitz and Miller, 2006). Sensory modulation impairment may range from hypersensitivity to hyposensitivity to certain sensory stimuli such as sound, touch and smell (Mortimer et al, 2005). A child who is hypersensitive to high pitched sounds may close his ears or cry when someone shouts while a child who is hyposensitive to touch may crave for hugging and squeezing people. Some children may have tactile hypersensitivity and refuse a hug, shaking hands and other close contact. They may also refuse to wear certain types of clothes. Other sensory integration difficulty that has been observed include; sensitivity to certain smell, taste of food, temperature and vestibule sensitivity. Children with autism have also been found to have erratic sleep patterns and sleep disorders.

In a survey based study conducted in the United States by Bayat (2007), with 175 parents of children with ASDs the participants reported initially experiencing depression when they found their child is diagnosed with autism. Similarly, in Altieri's study (2006), many of American parents experienced despair, sadness, denial, confusion, and anger when they discovered that their child had autism. In this study the mothers were more likely to quickly overcome these feelings and organize their resources to find help for their child than the fathers. Likewise, in Scotland, a phenomenological research by Kristen (2008), revealed that some parents found receiving a diagnosis as a significant and stressful life event. To the parents in this study, the diagnosis meant a sudden loss of the potential for their child to achieve all the things they take for granted, such as living independently, getting married and having children. In addition, despite the fact that diagnosis brought answers to explain why things happened, most of these participants reported it brought more questions and confusion. With regard to how this lack

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of knowledge and stigma impacts treatment and education, many families report difficulty with accessing inclusive education for their child. Many parents of children with this disorder find it difficult to attain educational provision or help with their children compared to those who have children with other disabilities (Tiffany, 2010). The present research compared these findings with those that will be obtained in Mombasa County, Kenya context.

A recent study conducted by Bilgin and Kucuk (2010) which involved informal interviews with mothers in Turkey surrounding their experiences raising a child on the spectrum found similar reactions to the diagnosis. The 43 mothers were recruited from the Education Center for Autistic Children where their children, ranging in age from 6 to 17 years old (average age 9 years), attended daily. When asked specifically about their experience raising a child on the spectrum, answers ranged from grief (19%), shock, pessimism, denial when diagnosed, then acceptance with devotion (14%), emotional breakdown (12%), worry (9%), and hopelessness (9%). One mother commented “Sometimes I think that my child is not mine. But then I say to myself that she must have a mother. She is always my child.” Despite the fact that the above study shows parental experience in diagnosis of their children with ASDs, it was done in Turkey. Therefore, its findings may only be generalized to parents in areas with similar characteristics.

In a similar study by Madlala (2012) to explore South African parents’ experiences in relation to having an atypically developing child who is eventually diagnosed with ASD, a qualitative approach was adopted in this study, so that the researcher could gain a “rich” description of the participants’ experiences of raising a child with ASD. The pathways and steps taken to arrive at this diagnosis and their reactions to the diagnosis were a central aspect of this research. Eight black South African parents (mothers and fathers) of children who have been diagnosed with ASD, were interviewed to ascertain their understanding of their both typical developmental patterns and their child’s atypical development, the experience of getting the diagnosis and the experience of how raising a child with ASD has been and is for them as African parents. The data obtained was analyzed using thematic analysis. The results suggested that African parents experience and understanding of ASD is largely influenced by their frames of reference. Further, the parents turned to their traditional beliefs when faced with challenges. However, other interventions such as religion and finally the western practices were explored by the parents. This study concluded that the African parents understanding and experiences of raising a child with ASD is initially influenced by the parents’ cultural frame of reference and later by western exposure. The findings from this study imply that parents face different kinds of experience after diagnosis of their children with ASD. The current study compared these findings with those found in the Kenyan context.

Wolde (2017) conducted a study to examined one approach to enhance social skills of children with autism: creative art therapy. The researcher carried out experiment on the effectiveness of creative art therapy and suggested the need for inclusive solutions that combines social and behavioral approaches to this complex problem and developed the treatment package in social skills and implemented the treatment package for three months. The recorded outcome variables on social skills included; eye contact, turn taking and imitation, recognizing self, following instruction and engaging in social interaction. The study used experiment multiple-single subject experimental design is used. The literature reviewed had all supported the idea that

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creative art therapy could be used to help children with autism in developing their social skills. A study was then conducted in which a group of six students with Autism engaged in creative art therapy activities and their social skill development were tracked, supporting the idea that creative art therapy can be used to help these students. The finding answered the research hypothesis: creative art interventions have a positive effect on eye contact, turn taking, imitation, recognizing self, following instruction and engaging in social interaction the results indicate that by engaging a child with autism in creative art therapy intervention was an effective way to improving the social skills of children with autism spectrum disorder. Based on the findings of this study, creative art therapy could be used to enhance the social and communication skills of children with autism spectrum disorder. The researcher compared the findings of this study with the management provided to children with ASDs in the Kenyan Context.

Sensory integration is usually given by occupational therapist to learners with autism disorder. According to Grandin (1995), sensory integration is the neurological process that organizes sensation from one's own body and from the environment and makes it possible to use the body effectively within the environment. Sensory integration is often recommended for learners who engage in inappropriate responses to sensory stimuli for instance, tapping and body rocking. According to Richman (2005), fine arts therapies have been shown to be calming, and have helped learners with autism disorder with motor coordination difficulties and emotional issues. Such therapies can also be effective in reducing difficult behaviour from autistic learners on a short term basis. The question is whether sensory integration is used as a management intervention to children with ASDs in Mombasa County, Kenya. The present study sought to fill this gap.

A qualitative study (Abdulhakim, 2016) was conducted to examine issues related with multiculturalism to effectively intervene with autistic children found in care centers of autism. The study focused on three autism centers namely Joy center for children with autism and related developmental disorders, Nehemiah autism center and Ryan autism center. This study had essentially examined those interventions that are helpful when working with multicultural children diagnosed with autism spectrum disorder the clandestine affecting such interventions. Data was collected through nine semi-structured interviews with professionals who work with these autistic children inside the three autism treatment centers.

Additionally, 22 open ended questioners were distributed to practitioners in the treatment centers with the rational of maximizing acquired data. Grounded theory methods and open coding were used in this study to analyze codes in the data and recorded common themes from the collected data. Findings of this study produced themes separated into three categories: language, accessibility and culture as barriers affecting multicultural intervention. Additionally in terms of helpful interventions for multicultural children, participants of this study recommended interventions developed under the model of Applied Behavioral Analysis (ABA) to be more helpful while treating these autistic children with diverse background applying individualistic treatments depending on specific needs using speech therapy, occupational therapy, social interaction enhancement therapy, and picture exchange therapy while teaching them self-help skills like toilet training. The above study was conducted in and among practitioners managing children with ASD. Given the geographical, cultural and study

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population differences, it is difficult to generalize the results to the whole world. The current study focused on practitioners managing children with ASDs in Mombasa County, Kenya.

Methodology

The study will adopt a descriptive survey design involving both qualitative and quantitative approaches. The use of both qualitative and quantitative approaches can also be said to be triangulation as noted by (Creswell & Plano Clark, 2011). The target population for this study will be made of 25 special needs centres, 200 parents of UPIA, 60 registered occupational therapists with Kenya Occupational Therapists Association, and 120 children with ASDs in special needs centres. The total target population for the study will be 380 participants.

Study Location

The present study was conducted in Mombasa County. It is the smallest County in Kenya covering an area of 229.7 Km exceeding 65Km of water mass. The County is situated in the South Eastern part of the former Coast Province. It borders Kilifi County to the North, Kwale County to the South West and the Indian Ocean to the East. The County has six Sub-counties namely Jomvu, Changamwe, Mvita, Likoni, Nyali, Kisauni. In addition it is the only county within the Kenyan Coast having an organization Unleashing Potential in Autism (UPIA) for parents of children living with ASDs.

Study Participants, sampling criteria and sample size

The study used random sampling to get the respondents. There are 23 special centres. The researcher arranged the special units and code them with numerical. All odd numbered special units were picked for the study. Random sampling was also be used to select children with ASDs in special needs centres from 120 identified to be observed during the study. 40 children were selected from various centres to be observed. Systematic random sampling method was used to select parents from UPIA organization as well as occupational therapist. Systematic random sampling will be used because this technique increases the likelihood of all parents in the UPIA organization as well as occupational therapists to be involved in the study. Moreover, through systematic random sampling method parents of different demographic characteristics had an equal chance of being involved in the study. There are 200 registered parents with UPIA. The researcher gave the parents numbers one to three. Every third member was picked to participate in the study. Therefore 67 parents were picked for the study. The same procedure was done to occupational therapist and every third member was picked for the study. Therefore, 20 occupational therapists participated in the study. The total sample was 127 participants.

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Table 1: Sampling Matrix

Category	Total Population	Sampling Procedure	Sample	Percentage Representation
Parents	200	Systematic Random Sampling	67	33.5%
Occupational Therapists	60	Systematic Sampling	20	33.33%
Children with ASDs	120	Random Sampling	40	33.33%
Total	380		127	

Source: Field Data by Author (2019)

Data Storage, Analysis and Interpretation

The quantitative data from the questionnaires and observation guide from Likert scale were analyzed using descriptive statistical analysis. Included in the descriptive statistics were frequencies which showed the number of respondents that reported at each level of the Likert scale, the percentages of respondent in each item and the maximum possible score in the form of means and standard deviation. The researcher using Statistical Packages for Social Sciences (SPSS) computer programme, standard version 20 calculated the means and standard deviation which were relevant to the research study so as to compute verifiable findings.

Ethics Approval

Written informed consent was attained from the participants. It was emphasized that participation in the study was voluntary and there were no subsequent consequences for refusal or withdrawal. The participants were assured that the information they gave would not be made available to anyone. Plagiarism was avoided by acknowledging all source of information solicited from various researchers and authors. In reporting of research findings, the researcher made sure not to omit any important information provided by the respondents nor falsify the participants' information to suit the researcher's opinion or pre-empted outcome.

Study Results

The results section of this study describes integrated therapy approach for children with autism spectrum disorder in Mombasa County, Kenya.

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Table 2: Demographic information of Study Participants
Gender of Child with ASD

	Frequency	Valid Percent
Male	45	68.2
Female	20	30.3
Total	66	100.0

Source: Field Data by Author (2019)

The age of children with ASDs ranged from above 3 years to above 20. Majority of the children 37 (56.1%) were between the age of 11-15 with only 1 (1.5%) above the age of 20 years.

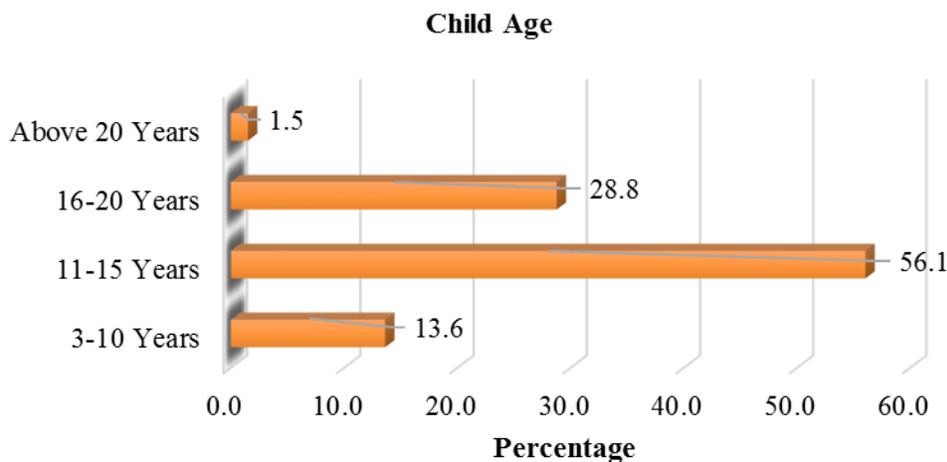


Figure 1: Age of the Child with ASD

Source: Field Data by Author (2019)

Data was collected from 66 parents of children with ASD in Mombasa County, Kenya on the special programs that children diagnosed with ASD attend. The findings revealed that majority 33 (50.0%) attended special classroom within mainstream schools with only 1 (1.5%) attending community pre-schools. The findings are presented in Table 4.3 and Figure 4.3. Additionally the study sought to find out the number of times children diagnosed with ASD attend the special programs. The findings revealed that 35 (53.0%) attended the current setting between 3-10 years with only three (4.5%) having attended between 11-15 years.

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Table 3: Gender of Occupational Therapist

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

Source: Field Data by Author (2019)

The age ranged from below 30 to above 60. Majority of occupational therapist respondents 8 (42.1%) were aged 20-29. Respondents between the ages 40-59 were in the minority.

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

Source: Field Data by Author (2019)

More than half of the occupational therapists respondents 14 (73.7%) held Diploma qualifications, 5 (26.3%) had bachelor's qualifications.



Figure 2: Professional Qualification of Occupational Therapists
Objective One

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Table 5: Behaviours Characteristics Exhibited by Children with Autism Spectrum Disorders

BEHAVIOUR	N	MEAN	STANDARD DEVIATION	SKEWNESS	KURTOSIS
SOCIAL & COMMUNICATION BEHAVIOURS					
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
DISRUPTIVE BEHAVIOURS					
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
STEREOTYPIC BEHAVIOURS					
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

Source: Field Data by Author (2019)

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a. Descriptive Analysis

The behaviours were classified into social and communication, disruptive and stereotypical behaviours. Further, the researcher recorded the frequency of behaviours exhibited by children with autism spectrum disorder among 40 pupils. The pupils were observed for a period of 35 minutes in a classroom and outside during break time. To find the average prevalence of each category of behaviour exhibited, the means of the behaviours within each category were computed. Means, standard deviations, skewness and kurtosis were calculated. The results were presented in Table 4.9. Findings from Table 4.9 show a very high prevalence of the three types of behaviours. Specifically, social and communication challenges of lack of eye contact, having repetitive behaviours, wandering aimlessly and lack of expressive language skills ranked highest in behavioural characteristics reported. Additionally, interruption of conversation, hyperactiveness and dashing while touching every object were ranked highest in disruptive behaviours. Hypersensitivity to light, hand flapping and body rocking were among the highest ranked in Stereotypical behaviours. The least cited was resistant to change 38 with a skewness of -.570. The findings were presented in table 4.9

b. Qualitative Analysis

Parents of children with autism spectrum disorders were interviewed on the prevalence of behaviours their children diagnosed with ASDs. It was evident that the vast majority of parents noted that their children exhibit communication, social and stereotypic behaviours. In other words parents A said:

Most of our children face a challenge in expression they can't let you know what they want. They use sign and gestures in trying to communicate whatever they needs want. Additionally, majority of our children express fear of engaging in play with their peers they lack the ability to initiate play and refer being alone. In the process they develop stereotypical behaviours such as rocking, grinding of teeth and self-injurious behaviour liking hitting themselves and biting themselves when angry. All these can be managed if integrated approach is brought closer to them.

Discussion of the findings

This study found out that social and communication, disruptive and stereotypic behaviours were negatively skewed meaning majority of the respondents indicated the three were highly prevalent among children with autism spectrum disorder. These findings contradicts those of Doherty (2013) who reported that about 83% of the cases of children with autism have sleep disorders due to low level of serotonin, dopamine, GABA, glutamate and norepinephrine which are neurotransmitters that regulate sleep. A significant finding was that most of the children diagnosed with autism spectrum disorder have challenges with expressing themselves. This finding concurs with those of Tager-flusberg (2011) who found out that majority of the children with Asperger syndrome have problems with pragmatic which affects their social communication. The study found that majority of the children with autism had disruptive behaviours. This finding concurs with those of Whiteman (2004) who reported that children with autism had stereotypic behaviours such as flapping hands, rocking forth and backwards, spinning

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objects, walking tiptoes to which all tend to cause disturbance. Further, the finding concurs with those of Diagnostic Statistical Manual for Mental Disorders (DSM-V-TR) edition (2013) which identified criteria of behaviour: social-behavioural, non-verbal communication and stereotypic behaviours.

Objective Two

Perception that Parents have towards their children being diagnosed with ASDs

Qualitative Analysis

Data was collected from 66 parents of children with Autism Spectrum Disorders. The findings established a web of responses towards parents' perception on ASDs. Parents were grouped and identified with given serial letters A, B, C and D. Majority of the parents indicated that they had very difficult time in understanding what autism is all about. However to them the behaviour characteristics assisted in identification of their children's condition. Parent from group B commented:

I was devastated when I watched my child running up and down aimlessly, touching this and leaving. Additionally, he could not express himself. I didn't understand him at all. I felt like killing myself since I became so frustrated and stressed. I lost weight that I was not able to do the simplest task. This was extremely a psychological stress.

Further, almost two-thirds of the parents in group D reported that they experienced challenging and/or difficult experience towards diagnosis of their children living with ASDs.

It was difficult explaining how I internalized the condition my child was undergoing. It took me years to accept that my girl had autism spectrum. I had to undergo psychotherapy to cope with the situation. The situation went worse when I had to resign my job to take care of my daughter. This was the hardest point I have ever had in my life.

Additionally, the study sought to find out the perception of the community toward parents of children diagnosed with ASDs. Almost two-thirds of the parents' respondents from group C strongly agreed that the community lacked awareness of the condition as result they were discriminated and segregated from the members of their kinships. One parent commented:

I faced stigmatization and discrimination when the members of my family and the community at large realized that my children had been diagnosed by autism. This was due to the fact that a lot of adjustments had to be done in terms of diet and therapies to make my child attain to his best. I called an outcast with members of my clan for such a child had not been experienced in the clan and the community at large. This led to divorce between me and my husband. It was had to bear.

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The study further noted that an equal number of parents' respondents presumed that autism had been as result of genetically and/or inheritance from the clan due to other cases of disability experienced within the community. A parent A reported:

In our clan, there are causes of other family members exhibiting some cases of special needs and/or disability. Therefore, to me, I think disability is a hereditary issue and the case of my child is hereditary too.

Discussion

The study found out that parents face challenging and/or difficult times in as far as diagnose of their children with ASDs. Additionally, the communities still stigmatize parents with their children living with ASDs. This findings support those of SamadiMcConkey and Kelly (2012) in Teh'ran who reported that most parents are mentally disturbed once they discover that their children have been diagnosed with Autism Spectrum Disorder. It also supports those of Bilgin and Kucuk (2010) in Turkey who found out that majority of parents in Turkey faced grief immediately their children are diagnosed with autism. Consequently, the findings concurs with those of Bayat (2007) in United States who reported that majority of the parents usually experience depression when they found their children diagnosed with autism spectrum disorder. A significant finding was that parents of children with autism had changed their perception towards the condition and thus were looking at it from a positive side of view. This finding contradicts those of Kristen (2008) in Scotland who reported that some parents found receiving a diagnosis as a significant stressful life event

Objective Three

Integrated Therapy Strategies used for Children with Autism Spectrum Disorders

The study sought to find out how children suspected of having ASDs are diagnosed before being enrolled into the integrated therapy approach. Data was collected from 19 occupational therapist respondents on the procedure used to diagnose autism. Almost two-thirds of the occupational therapist respondents had the same view in as far as diagnosis is concerned. The study found that diagnosis starts with assessment in which the parent rely the medical history from the prenatal, peri-natal and post-natal periods. This followed screening for identification of the condition and further placement into a structured program. One occupational therapist commented:

Screening usually entails an overview of various domains such as fine and gross motor skills, psychomotor skills, visual and auditory perception skills, sensory screening, vestibular, speech and language. Since it's an in-depth process, it may take two to three days to finalize and further identify the condition for recommendation and further placement.

The study sought to find the level of the child before enrolled into an integrated therapy approach. Data was collected from 66 parents of children with ASD. The findings revealed that majority of the children 31 (47%) were at moderate level while only 14 (21.2%) were mild. The findings are presented in table 6.

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Table 6: Level of ASD of the child

	Frequency	Percentage
Mild	14	21.2%
Moderate	31	47.0%
Severe	21	31.8%
Total	66	100.0

Source: Field Data by Author (2019).

Table 7: Techniques used to offer Integrated Therapy

<i>Techniques/Equipment</i>	<i>Frequently</i>		<i>Rarely</i>	
	<i>Frequency (n)</i>	<i>Percentage</i>	<i>Frequency (n)</i>	<i>Percentage</i>
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 Communications 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
Vestibulator	14	77.8	4	22.2

Source: Field Data by Author (2019)

The findings from table 6 show that majority of the occupational therapists respondents 18(94.7%), 16 (84.2%) and 16 (84.2%) use swings, trampoline and Picture Exchange Communication System (PECS) during therapy sessions for children diagnosed with ASDs.

Discussion of Findings

Significant findings of this study indicated that majority of occupational therapists use swings, trampoline and Picture Exchange Communication System as an integrated therapy technique. These findings contradict those of Wolde (2017) who found out that out that creative art as a strategy that enhanced social and communication skills of children diagnosed with ASDs. Additionally, the findings contradict those of Taylor et al (2004) who found out that Mothers to Toddlers (MTT) had become popular as an intervention towards training children with autism. Consequently, the findings contradict those of Abdulkarim (2006) study at Joy Centre for Children with Autism and related development disorders, Nehemiah Autism Centre and Ryan

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Autism Centre who found out that Applied Behaviour Analysis (ABA) was more helpful while linking with children with ASDs. A significant finding found out that majority of the children started integrated therapy approach between the ages 4-10 years. This finding concurs with DSM V which established that the age at which autism is diagnosed as 3 years. One major significant finding was that two-thirds of children diagnosed with ASDs had not attended to integrated therapy approach. These findings contradict those of Gutstein (2001) who noted that when are diagnosed with ASDs, they are introduced to early support services through a programme called Relationship Development Intervention (RDI). The study found that only 1% of the parents had knowledge concerning integrated therapy approach via autism newsletters. This implies that awareness is towards ASDs was still a very low level.

Objective Four **Challenges Faced in Implementing Integrated Therapy** **Descriptive Analysis**

Occupational therapists respondents were asked to indicate their level of agreement with a number of statements describing challenges. Occupational therapists' responses were then compressed into 3 categories; strongly disagree, not sure and strongly agree for ease of interpretation. The findings were presented in Table 7.

Table 7 Challenges Faced in Implementing Integrated Therapy

<i>Challenges</i>	<i>Strongly Agree</i>		<i>Not Sure</i>		<i>Strongly Disagree</i>	
	<i>Frequenc y (n)</i>	<i>Percentag e</i>	<i>Frequenc y (n)</i>	<i>Percentag e</i>	<i>Frequenc y (n)</i>	<i>Percentag e</i>
Equipment	17	94.4%	1	5.6%		
Qualified Staff	10	52.6%	7	36.8%	2	10.5%
Financial Constraints	17	89.5%	2	10.5%		
In Service Training	9	47.4%	10	52.6%		
Stereotypic Believes	9	47.4%	7	36.8%	2	10.5%
Enough Space	11	57.9%	8	42.1%		
Support from Government Agencies	16	84.2%	1	5.3%	2	10.5%

Source: Field Data by Author (2019)

The findings from table 4.16 and figure 4.16 show that almost equal number of respondents 17 (94.4%) and 16 (84.2%) had lack of equipment and support from the government agencies as a common challenge facing implementation of integrated therapy respectively. A significant

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finding indicated only 2 (10.5%) strongly disagreed that qualified staff and stereotypic believes were the challenges facing integrated therapy approach. Data was collected from 66 parents of children diagnose with ASDs on the challenges they encounter in enrolling their children in an integrated therapy approach. Respondents were asked to indicate their level of agreement with a number of statements describing challenges. Parents’ responses were then categorized into 5 categories; strongly disagree, disagree, undecided, agree and strongly agree for ease of interpretation. The findings were presented in Table 8.

Table 8: Challenges Facing Parents in Admitting their Children with ASD in Integrated Therapy

		Cultural Believes	Distance from the Centers	Financial Constraints	Nature of Disability	Lack of Centers
Strongly Disagree	Frequency (n)	12	3		25	1
	Percentage	18.2%	4.5%		38.5%	1.5%
Disagree	Frequency (n)	9	3		20	5
	Percentage	13.6%	4.5%		30.8%	7.7%
Undecided	Frequency (n)	16	20	2	12	21
	Percentage	24.2%	30.3%	3.1%	18.5%	32.3%
Agree	Frequency (n)	14	9	10	4	16
	Percentage	21.2%	13.6%	15.4%	6.2%	24.6%
Strongly agree	Frequency (n)	15	31	53	4	22
	Percentage	22.7%	47%	81.5%	6.2%	33.8%

Source: Field Data by Author (2019)

The findings from table 4.17 and figure 4.17 show that nature of disability 4(6.4%) was the least challenge which parent experience in enrolling their children towards integrated therapy approach. However, majority 53 (81.5%) faced financial constrain in as far as enrolling their children into integrated therapy is concerned.

Discussion of the Finding

Significant finding from this study, which the study reported were lack of support from the government, financial constrain as well as adequate equipment as challenges facing implementation of integrated therapy approach. Further the study also established that parents face discrimination from the communities they came from on their diagnoses of their children

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with ASDs. The study also revealed that the nature of disability was not an issues to influence integrated therapy approach.

Study implications and recommendations

Practitioners: Occupational therapists, physiotherapists', speech and language pathologist as well as special needs educators should organize various workshops, seminars, and conferences pertaining to integrated therapy approach. A transformational approach should be implemented to make sure that all stakeholders in various special needs centres (occupational therapist, physiotherapist, psychologists, counsellors and speech and language practitioners) are fully involved in setting and reviewing policy guideline on integrated therapy approach for children with special needs. Ministry of Health in collaboration with Ministry of Education Science and Technology should set up on an awareness campaign on integrated therapy approach for children with special needs There is need for Community Based Rehabilitation Program to be initiated to take the services such as occupational therapy and physiotherapy to children who may not be in a position to reach the integrated therapy in special needs centres.

Conclusion

The research findings reveal that the challenges facing implementation of integrated therapy approach for children diagnosed with autism have now been identified. Parents had positive perception towards their children with autism once the condition had been diagnosed. Various strategies used by occupational therapists towards children diagnosed with autism have been identified. However, use of swings, trampoline and Picture Exchange Communication System were the main strategies used by majority of occupational therapists. The challenges that occupational therapists as well as parents face in managing children with autism spectrum disorders have been shown to be diverse. However, the study revealed that majority of the special needs centres face economic and/or financial challenges and lack of government support. In summary, the study findings bring hope that the hitherto unknown issues concerning the research problem have been unearthed and that the study will form a firm basis for dealing with issues of integrated therapy approach for children diagnosed with autism spectrum disorder.

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