IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 26, Issue 11, Series 4 (November. 2021) 51-73
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Evaluation of Resources and Procedures Used In Assessment of Children with Communication Disorders from Culturally and Linguistically Diverse Backgrounds, Nairobi City County, Kenya

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Abstract: The purpose of the current study was to evaluate the resources and procedures used in assessment of children with communication disorders from culturally and linguistically diverse backgrounds. The objectives of the study was to determine the assessment tools, materials and procedures used by speech and language therapists in the evaluation of children with communication disorders from CLD in Nairobi City County Kenya. The study adopted the descriptive survey research design. The target population for the study was twelve Speech-Language therapists working in private hospitals and private consultation clinics. Using purposive sampling and snowballing sampling techniques nine Speech–language therapists were sampled. To collect the data a Speech– Language therapist questionnaire was used alongside an observational schedule and document analysis schedule. Peabody Picture Vocabulary Tests 3rd Edition (PPVT-III), Spoken Language Analysis Profile –Revised Edition (SLAP-R) and Initial consultation forms were analyzed to ascertain their relevance in the evaluation of communication disorders in children from culturally and linguistically diverse backgrounds. The qualitative data was analyzed using thematic approaches the qualitative data was presented as frequencies and graphs. Major research findings of the study were; a very comprehensive list of assessment tools used by the clinicians in assessment of communication disorders was provided. Secondly, there was a great need to develop assessment tools and resources that are relevant and normed with the local Kenyan population. The available tools and resources although largely used as the only available alternative are biased against children from CLD backgrounds. The study recommended development of the assessment tools and resources and adoption of assessment procedures that would ensure nondiscriminatory assessments and diagnosis of children from CLD population.

Keywords: Communication Disorders, Culturally and Linguistically Diverse, Peabody Picture Vocabulary Tests 3rd Edition, Spoken Language Analysis Profile –Revised Edition

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Date of Submission: 05-11-2021 Date of Acceptance: 20-11-2021

I. INTRODUCTION

1.1 Background of the study

Speech and Language assessment is a complex process. It involves measurement of person's communication skills. Speech and language assessment is done by a speech and language therapist (SLT) to find out if a communication disorder exists. During the assessment, the clinician may collect data on the clients Health history, developmental history, family history, speech and language behaviors and educational history. According Columbus speech & hearing center (1988) speech and language assessment may aim to evaluate the child's: comprehension, vocabulary acquisition and application, correct use of words in correctly formed sentences, use of language for different purposes, articulation of speech sounds, physical ability to produce speech, voice quality and fluency or smooth flow of speech. Accurate assessment of a child's communicative ability plays an essential role in diagnosis and informs therapy so that intervention strategies meet the child's needs. According to [40], The Cultural and Linguistic Diversity (CLD) associated with communication difficulties results in a more complex assessment procedure. It is more difficult to carry out an accurate assessment of children from culturally and linguistically diverse backgrounds due to a perceived lack of appropriate tools.
According to [21], the use of standardized assessments was noted to be problematic particularly when used with clients from diverse cultural and linguistic backgrounds and English as their second language.

According to [13], there have been challenges in psycho-education assessment among children from minority group in the United States of America (USA). The challenges were blamed on the psychological assessment process and on the persons doing the test. Intelligence Quotient (IQ) tests were found not to be culturally and linguistically fit for evaluation of children from the minority population. According to [13] the assessors were administering inappropriate tests and there were no efforts made in developing culturally and linguistically appropriate tests.

[1] acknowledged that America is a multicultural and multilingual society. Therefore professional speech and language therapists (SLTs) must make efforts to provide services that are responsive to the cultural and linguistic diversity of the American people. ASHA was of the opinion that in America every SLT just like their clients had a unique culture, speaks at least one dialect of English and perhaps dialects from other languages. These made it difficult to match the clinicians to the clients based upon cultural and linguistic influence. Therefore, provision of speech and language services should be culturally and linguistically sensitive [1].

So as to ensure informed practice clinician must consider how Communication Disorders (CD) might be manifested, identified or described in CLD population. The clinician will therefore be able to make informed decision in regards to assessment procedures, diagnostic criteria, treatment plan and treatment discharge.

[41] in a conference held in Ghana to discuss Autism Spectrum Disorders (ASD) observed that almost all the tools identified for use in diagnosis of autism in Africa were developed and validated in the United States and Western Europe. Some of these measures were noted to be inappropriate for use in Africa due to the cultural and linguistic diversities for instance the unfamiliarity of tasks and stimuli materials.

According [12] there were prevalence studies of ASD in Sub Saharan Africa and specifically in South Africa. There were no standardized screening and diagnostic tools validated for use with the African populations. These scholars reported lack of validated screening and assessment tools for detecting ASD in the young IsiZulu children.

According to [43], East Africa is considered a multilingual and multicultural society, since it is common for classroom teachers to use three or more languages, particularly in Tanzania, Uganda and Kenya. In some areas, special education teachers use local languages in their classroom if the children are all from the same region. While in some areas, especially where children are from CLD backgrounds, the teacher may not even speak a child's mother tongue. This complicates the assessment programs, hence a need to develop assessment tools that would cater to these diversities.

According to [23], SLTs working in East Africa ought to be very sensitive about cultural issues. They have to strike the balance between obeying cultural taboos and providing effective therapy. One of the cultural dilemmas Jochmann faced while working in Uganda was male dominance, where male figures made therapy decisions about female counterparts. According to [23], African men feared that Jochmann being a white woman would teach the African women and girls bad manners, and thus encourage them to rebel against the African men. Jochmann also noted that giving therapy requiring physical contact to a male Muslim patient was a challenge because women were not supposed to have physical contact with their male counterparts; this would affect the assessment of oral motor functioning, which requires close examination and possibly some oral massage at some point to improve the oral motor functioning. For instance, she reports that a Muslim imam who had his larynx removed (laryngectomy) could not continue with therapy simply because the clinician was a white non-Muslim woman.

[46] addresses issues on disability. In Chapter 4, Article 27 Paragraphs 4, it states that;

"The state shall not discriminate directly or indirectly against any person on any ground including race, sex, pregnancy, marital status, health status, ethnic or social origin, colour, age, disability, religion, conscience, belief, culture, dress, language or birth"

Further, article 54 of the Constitution places specific emphasis on the Rights of Persons with Disability (PWDs) to enhance inclusivity. These include;

"Dignity, access to education, access to places, communication and access to materials and devices"

Accurate assessment of any disability including communication disorders is a constitutional right and all the children with language disorders must be assessed properly using culturally and linguistically sensitive tools. Cartel et al., (2005) in their research found that Kenyan children had difficulties interpreting pictorial representations and that they confused items of similar or had never interacted with the items presented.

This was because items used regularly differed from one community to another, for instance, cooking utensils and food items. These observations show that there is no single assessment tool that can be universally used in diagnosis of speech – language disorders, as the situation varies regionally.

The [38], noted cultural and linguistic diversity as a major hindrance in the provision of special needs education (SNE) in Kenya. The report acknowledged the lack of appropriate tools and skills for early identification and assessment of Children with Disabilities (CWD) within a CLD population, including speech and language disorders.

[32] noted that there exist a cultural association between beliefs, language and speech disorders. They challenged clinicians to provide services that are culturally fair, effective and acceptable. The services must consider the client's gender preference, culturally appropriate communication patterns and use collaborative therapy.

SLTs need to develop assessment and intervention tools and programmes that are tailored to the needs of local people of Kenya and East Africa as a whole [17, 23]. They asserted that most of the therapy materials are from western countries and are not useful in the East African context. Clinicians in Kenya have an ethical, legal and professional duty to meet the needs of all children that they serve. This calls for accurate assessment and provision of interventional services by using appropriate assessment tests, approaches and resources.

As the field of SLT develops in Kenya, professional SLTs should be prepared to provide services that acknowledge and respect the existing proficiencies of all clients. The assessments must consider cultural heritage and histories based on the best available evidence. This informed the reasons to research to evaluate the assessment processes and resources used by the SLTs in the assessment and diagnosis of CD in CLD to inform the intervention processes.

1.2 Statement of the problem

Although much research has been done in developed countries like the USA and the UK on assessment, diagnosis and intervention of communication disorders in CLD, relatively little research has been conducted in developing countries such as Kenya in East Africa [11, 23, 32 17]. Although speech and language services have existed in some parts of Kenya for some years now, not much is known about the services provided by the speech and language therapist. Much is still not known about the assessment and diagnosis of communication disorders; the existing research in speech and language therapy services is still dominated by expatriates with very scanty knowledge about the local cultures and finally very little is known about the assessment tools and procedures used in the assessment of CLD by the clinicians, [31]. This information is important to help evaluate and determine the quality of services offered to children with CD from CLD population and assuring the implementation of evidence-based practices. This research will seek to fill in the knowledge gap by identifying the available assessment tools and procedures and inform on the correct protocols of assessment of children with CD to avoid misdiagnosis and misplacement of children with CD. The research will also seek to fill in the gaps identified in the available literature on the assessment and diagnosis of culturally and linguistically diverse population by evaluating the efficacy of the available tools and procedures for assessment of CD in CLD in Nairobi City County.

1.3 Objectives of the study

The objective of the study was to determine the assessment tools, materials and procedures used by speech and language therapists in the evaluation of children with communication disorders from CLD in Nairobi City County Kenya.

1.4 Significance of the study

The study may provide the clinicians with evidence-based information that can help improve their service delivery to the CLD population. The research may also highlight the main gaps in the field of SLT in Kenya and hence provide a guideline to the SLTs on the future research that can help in the improvement of the field. The research may inform policymakers such as the Ministry of Health (MOH) and other line ministries about the trends in the rehabilitation of people with communication disorders, citing the challenges by people with communication disorders during assessment and intervention processes. The individuals with communication disorders and their families who are the primary caregivers may benefit from the research findings, as they will be able to receive services that are sensitive to their cultural and linguistic backgrounds. The findings could help fill the knowledge gaps in the field of speech and language therapy and rehabilitation of people with communication disorders and identify gaps that can be evaluated in future research. It may also guide the development of new resources that are appropriate for use with Kenya's CLD population.

II. Methodology

2.1 Area of study

The study was conducted in private consultancy clinics and private hospitals within Nairobi City County. The hospitals included Gertrude Children's Hospital in Muthaiga and Nairobi Hospital. The locales were purposively selected and in consideration of the limiting factor, that speech therapist working in Nairobi City County works either as private consultants owning private clinics or as consultants working in major private hospitals within Nairobi City County.

2.2 Research design

The study applied descriptive survey design where the SLTs were required to give their opinion about the research topic. According to [29], a descriptive study focuses on naturalistic settings drawn on multiple methods that respect the humanity and is grounded in their own social identities and how these shape the study. The design was suitable for this study because it helped in understanding the importance of cultural and linguistic diversity in the assessment of communication in children with suspected CD because it gave an in-depth explanation. A qualitative research method was used to collect and analyze the data.

2.3 Population and Sampling design

The current study targeted a total population of 12 SLTs who were practicing in private hospitals and private clinics within Nairobi City County. SLT assistants were not involved in this research because they are not allowed to assess CDs as per the SLTs' code of ethics [3].

The choice of the techniques was informed by the nature of the target population. The population size was small; hence, the researcher targeted all the accessible population of the SLTs from Nairobi City County. The snowballing technique was used to locate SLTs by using a list provided by the ASLTK [7]. The researcher then used the known SLTs to refer him to the other SLTs who are not members of the association and provided possible contacts of the SLTs known to them.

According to the Australian Bureau of Statistics, (n.d.) a census allows the study of every unit in a population and provides a true measure of the population, hence avoiding sampling errors. [30] state that snowballing techniques allows the researcher to get referrals from a subject with the desired characteristics. When identified purposefully, the identified subjects name others that they know have the desired characteristics, until the researcher gets the number of the cases he/she requires.

[6] recommended sampling of the whole group with similar characteristics when the group size is very small. In this study, 12 SLTs practicing in private clinics and hospitals were sampled. However, three SLTs did not return their questionnaires. It is important to note that most SLTs working in the major Private hospitals within the city also own private clinics. Majority of the SLTs preferred to participate in the study from their private clinics other than the hospital set up.

2.4 Data collection

By triangulating data, the researcher attempts to provide a confluence of evidence that breeds credibility (Eisner, 1991).Questionnaires for SLTs, document analysis schedule and observation checklists were used to collect data. The questionnaires were given to all the SLTs, the researcher gave the instructions to the SLTs in order to fill in the questionnaires properly. The document reviews were designed to check the appropriateness of the available assessment resources for use with CLD population.

The researcher used the observation checklist to ascertain the assessment procedures by checking the conditions and strategies used by SLTs and materials available in the assessment centers. This took one month. Confidentiality and anonymity were addressed by assuring the respondent that the research was for educational study only and nothing else before conducting the study.

2.5 Data analysis

This study used simple descriptive statistics approaches to analyze data. According to [49], the best content analytic studies utilize both qualitative and quantitative operations on text, including the calculation of frequencies and percentage frequencies of comments coded in each category. The quantitative data was coded and analyzed using frequencies and percentages. These enabled the researcher to describe the SLTs' responses using a few numbers and charts.

A thematic approach to data analysis was adopted to analyze and interpret the qualitative data that was obtained from the SLTs. Emerging themes were identified and coded. The qualitative data was presented in a narrative form.

III. Data Analysis and Discussions

3.1 Available Tools and Materials Used for the Assessment of Communication Disorders.

3.1.1 Assessment Tools routinely used in the Evaluation and Diagnosis of CD

The SLTs provided a much-diversified list of standardized and informal tools used in assessment of CD. Table 4.2 shows a list of all tools used in assessment and diagnosis of CD. The list of tools provided indicated that they were mainly borrowed from Western countries, including the USA and the UK, Germany and from India. According to [47], to date most studies have been done in high-income countries although a few have been conducted in Sub-Saharan African hence limited data from Africa including assessment resource as only one tool was listed but rarely used by the local SLTs.

The list provided will guide the SLTs and other interested stakeholders including the EARC officers on the available assessment resources and batteries for use in diagnosis of Communication disorder. The finding would respond to the recent studies and concerns about the lack of information on the available resources for use in the assessment of CD in Kenya as noted by [31] in their study of the assessment at the EARC in the 47 counties in Kenya. However, it is important to note that there exists a huge need to develop the assessment tools and resources by local SLTs and researcher to address the African needs of the assessment tools and resources as all the available tools are borrowed from other counties. Table 3.1 shows a list of assessment tools available and used by the clinicians in the assessment of CD.

Table 3.1: List of Assessment Tools Used

	Tool		**Origin**
1.	Peabody Picture Vocabulary Test Kit Third Edition	PPVT-IIIA	USA
2.	Peabody Picture Vocabulary Test Kit Third Edition	PPVT-IIIB	
3.	Western Aphasia Battery	WAB	
4.	Quick Aphasia Battery (Non-standardized)	QAT	
5.	Frenchay's Dysarthria Assessment	FDA	
6.	Swallowing Assessment & Function Evaluation	SAFE	
7.	Apraxia Battery in Adults	ABA	
8.	Manipal Manual of Swallowing Assessment	MMSA	INDIA
9.	Bilingual Aphasia Test (Hindi-English)	BAT	
10.	Stuttering Severity Instrument	SSI	USA
11.	Hodson Assessment of Phonological Processes	HAPP	
12.	Goldman-Fristoe Test of Articulation	GTF	
13.	Photo Articulation Test		
14.	Receptive & Expressive Language Scale	REELS	USA
15.	Childhood Autism Rating Scale	CARS	
16.	Intelligibility Scales (Non-standardized)		
17.	Aston Index Revised (A classroom test for screening and diagnosis of language difficulties 5-14 years)		UK
18.	Pre School Language Scale 4th Edition		
19.	Western Aphasia Battery		
20.	Nfer Nelson Understanding Potential Assessment Of Comprehension And Expression		UK
21.	Clinical Evaluation Of Language Fundamentals	CLEF-P2/5	USA
22.	Expressive Vocabulary Test 2nd Edition		USA
23.	M-CHAT screening tool for ASD		Germany
24.	Frenchay aphasia screening test	FAST	UK
25.	Fluency Screener For Children And Adults		USA
26.	Grade, Rough, Breathiness, Asthenia And Strain Scale	GRBAS	USA
27.	Test for Reception of Grammar(Pearson Assessment)	TROG-2	UK
28.	Workbook Of Activities For Language And Cognitive APHASIA Rehab	WALC-1	USA
29.	The Spoken Language Assessment Profile for use in Sub Saharan Africa'	SLAP-R	Africa

3.1.2 Assessment Tools Routinely Used by SLTs in Diagnosis of CD in CLD

There were no specific tools listed for use with the culturally and linguistically diverse population [13, 17, 23, 32]. Speech therapists were divided in almost half and had varied answers on whether the listed tools were considered linguistically and culturally appropriate for use in Kenya. The available tools mainly validated from western population were adapted, adopted or expanded before they were used in the local context as noted by one SLT…

"…...*Taking the basis from the standard foreign test, adapt, change, and translate it for use".*

The SLTs acknowledged that although not the best practice as it was not evidence based it was the best possible with the available tools. Such assessments that were well validated in one context but not appropriately adapted for another context may not maintain their properties and may perform unrealistically [36]. The most preferred and commonly used tools for assessment as listed by the respondents are as listed in Table 3.2.

Table 3.2: Assessment Tools Routinely in Assessment of CD in CLD

Tool Routinely used by SLTs
Receptive and Expressive Language Scale REELS
Goldman Fristoe Test of Articulation GTFA
Clinical evaluation of language fundamentals CELF-P2/5
Peabody Picture Vocabulary Test Kit Third Edition PPVT-IIIA
Peabody Picture Vocabulary Test Kit Third Edition PPVT-IIIB
Western Aphasia Battery WAB
M-CHAT screening tool for ASD

According to Table 3.2 above the SLTs listed the tests as the most preferred for use with CLD due to several factors. Some of the reasons given by the clinicians included that they were the readily available tests that were easy to administer. However, they were used with many adjustments to fit the purpose. According to [2], translation of standardized assessment invalidates the results. Hence, standard scores cannot be reported when the assessment has been translated. Other reasons included the underlying cultural and linguistic base, logistical issues including the cost of the test, potential for adaption to specific client, time taken to administer the test, the suspected disorder and the age of the client. Apart from the M-CHAT that was validated in Germany the rest were from the USA. None of the tests was from any of the African countries despite their usage with the local population. The SLTs reported that they use a combination of standardized tools and informal methods of assessment noted by the one respondent to carry out the diagnosis of CD in CLD.

The use of borrowed tools to assess children from CLD population is inappropriate and would lead to discrimination against the client [18]. This means that the test could lead to misdiagnosis that eventually translates to incorrect or inappropriate treatment of children from culturally and linguistically diverse backgrounds. Although the SLTs are justified by the fact that these are the only available resources available for use, little efforts are being put to ensure availability of nondiscriminatory and fair assessment tools. In addition, it is unethical and illegal to consciously use inappropriate tools and procedures to assess and diagnose communication disorders as noted by respondent three. The respondent noted that taking the basis from the standard, foreign tests. Adapt, change, translate, it before use and carrying out informal assessment based on knowledge /experience and then use it to test various parameters of CD was not the best practice and definitely not evidence based. This could lead to serious legal implications not to mention the uninformed intervention that will never treat the child communicative needs.

3.1.3 Factors Considered by SLTs When Selecting the Assessment Tools for Use in Evaluation of CD

Out of the total sampled population, 28% of the SLTs considered the underlying cultural and linguistic base and logistical factors for instance price and availability of the assessment tools the important aspect to be considered when selecting the assessment instruments. The 44% of the respondents considered the underlying cultural and linguistic base as the most important aspect when selecting the assessment tool.

While 28% of the respondent considered the duration taken to administer the test, age of the client and the type of the suspected disorder was considered. As shown on Figure 3.1.

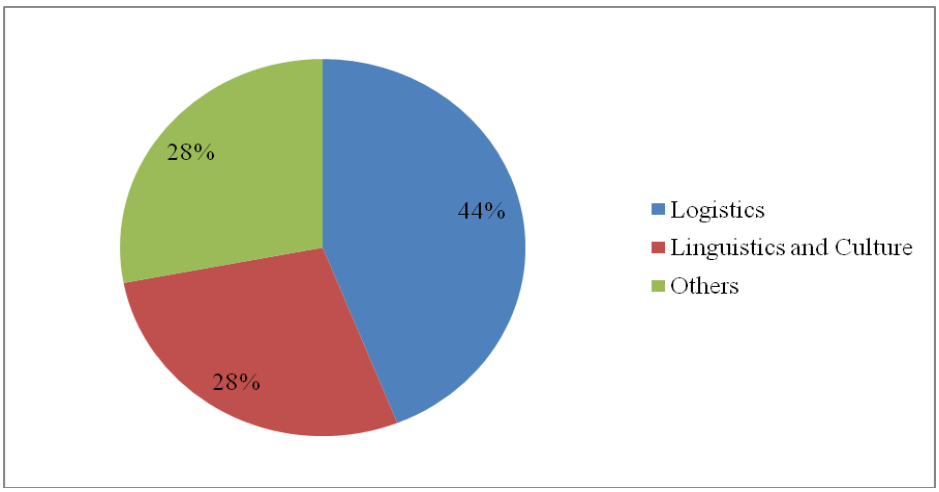

Figure 3.1: Factors Considered when selecting Assessment Tools

According to Figure 3.1 majority of the SLTs considered the linguistic and cultural aspects as important when selecting assessment tools for use in evaluation of CD. However, the triangulation of the methods indicated that most of the clinicians were not keen to assess the linguistic and cultural diversity of their clients as noted during the observation of the assessment process and analysis of the documents. None of the available client initial consultation forms sought information about the client's cultural needs before the assessment.

Although the clinicians sought to know the clients first language and language spoken at home, the assessment process was predominantly conducted in English with the clinicians trying code switching occasionally to accommodate the caregiver and the child.

The choice of the correct assessment tools and resources and manipulation of other variables including correct assessment approaches SLTs training and expertise leads to an effective assessment and diagnosis of CD in CLD. The clinicians must ensure that they use the correct tools and resources to ensure an accurate assessment of the clients from CLD backgrounds.

3.2 Procedures Used by SLTs in Assessment of CD in Children from CLD background

3.2.1 Approaches Used in Evaluation of CD in Children from CLD Background

The SLTs used different assessment approaches to assess CD. The assessment procedures used can be divided into two basic categories, standardized or formal procedures and non-standardized or alternative assessment methods [9]. The SLTs preferred and used both standardized assessment approaches alongside the informal assessment approaches. The third respondent for instance responding to the question on the assessment approaches they mainly used in evaluating CD in CLD observed that;

"… *Taking the basis from the standard, foreign tests. Adapt, change, translate, it before use...…I also carry out an informal assessment based on knowledge /experience and then use it to test various parameters of CD.*"

According to the SLT, that was not the best practice and definitely not evidence based but it was the best possible approach to use with the available resources. The assessment was conducted in a strictly one on one setting in a hospital ward, separate room, clinic or in a separate classroom depending on the environment where the assessment was conducted. According to the SLTs, such environments worked best for them because they were free from noise and distraction.

Use of translators or interpreters was another approach used by the SLT during the assessment of CD in CLD. Apart from the translation of the assessment resources and tests, the SLTs used the translator to be able to carry out an assessment. A translator was used when the clinician and the client used different languages.

A detailed interview with the parents/caregiver or the client was used by different clinicians in assessment of the communication skills. Parents/caregivers were given an opportunity to participate in a one on one session where they gave a detailed response concerning the communication behaviors of the clients. Caregivers filled in a very comprehensive initial consultation form that was used by the clinician in assessment and making the treatment decisions.

Assessment approaches should allow flexibility and individualization of the services provided to children with suspected communication disorders. Use of inappropriate assessment procedures may result to misdiagnoses, misidentification and misplacement of children from CLD backgrounds. According to the available data collected through questionnaires and observations SLTs working with children with CD, it was evident and commendable that the clinicians tried to use different assessment procedures. Parents and caregivers were highly involved in the assessment process as the primary caregivers who had very essential background information about their children. [45]. Pena, (1992) observed that use of multidimensional approaches allowed involvement of family members and people who are familiar with child across a variety of contexts. Despite the many challenges facing the SLTs in the country including the high workload, inadequate resources among many other challenges the, the SLTs were able to allow the use of dynamic assessment approaches that allowed modification of the assessment processes.

The use of collaborative assessments was evident as many clients were referred from other medical professionals. However, the information from the teachers was not factored in during assessment process. Although the SLTs could not visit the child in school, the data collected through the teachers could help and enrich the clinician's evaluation process before making major decisions. The records obtained from the teachers and the school could be a very rich source of data that could minimize the biases in the evaluation and diagnoses of the communication disorders [34].

[34] proposed use of nondiscriminatory assessment processes with the use of authentic and alternative procedures.

According to the nondiscriminatory assessment model, the assessment process must involve the evaluation of the learning ecology, evaluation of educationally relevant cultural and linguistic factors and reduce biases in traditional testing practices. Although the clinicians made efforts to minimize the biases during the

assessment, the process was noted not to fit the assessment of children from CLD. the choice of the assessment did not cater for the child's other related needs that could affect the assessment results.

3.2.2 The Preferred Settings Used By SLTs When Assessing Clients with CD

The study sought to identify the settings preferred by SLTs when carrying out the assessment and why they preferred the settings. Their choices of settings depended on where the SLT worked. Each respondent gave a different environment including schools, therapy center's/room, private clinics or hospital wards. The educational setting was preferred mainly for school going children and if the CD affected learning, literacy and social phenomena of a client. The clinical setting was the most preferred setting with 67% of the respondents preferring the setting. A medical set up was preferred when the disability affected the client's general health, social economic base and quality of life.

The clinicians preferred to use a quiet room where there were fewer distractions and to minimize attention shifting. A strictly one on one setting was preferred. A parent /caregiver was allowed to be present and participate in the assessment process by filling in an initial consultation form and answering interview questions about the child's communication behavior. For those clinicians doing home based therapy, they did the assessment at the clients' home.

The assessment that was strictly conducted in enclosed therapy rooms or classes denied the child an opportunity to explore different communicative opportunities that could otherwise occur in a natural environment that the child was familiar with and well exposed. According to Pena (1992), the clinicians must strive to use non-biased assessment approaches that meets the child's cultural and linguistic needs the use of embedded approaches that provide opportunities for children to demonstrate their communicative abilities in a natural context would well inform the clinician's perspective and support their conclusion via data and multiple indicators before labelling the conditions.

3.3 Relevance of Assessment Tests for CLD

With regard to the relevance of assessment tests for CLD, this research established that no tests have been developed in Kenya, only one was developed for use in the Sub-Saharan Africa and it can only be used as an assessment guideline but not a standardized tool. The literature reviewed identified the ongoing efforts to localize assessment tests. For instance, [10] tried to adapt a western tool for use with the KiGiryama a Bantu Language from the coastal Kenya. The study finding reported potential to adapt the borrowed tools to be used in countries with few assessment resources. However, [14] warned against the use of translated and adapted versions of speech and language tests. Finally, the research identified that the current efforts to localize the assessment resource were left predominately in the hands of expatriate therapists and researchers working in Kenya and other East African countries.

Table 3.3 assessment tools used by the SLTs in assessment of communication disorders, over 95% of the available tools were borrowed from the Western countries with a few from the India. According to [23], such assessment and therapy materials from Western countries were not useful to the East African contexts. Although [10], illustrate the potential to adapt the western tools for use in Kenya; Crawley (2003) disputed the use of such tools and termed it as dangerous because it poses even greater problems than the lack of the assessment tools. The use of such tools could be misleading due to the difference in the normative group that was used to validate the tests and the receiving group from Kenya (Crawley, 2003).

Responding to the same question on the relevance of the available assessment tools, SLT 9 reported that there were a few assessment resources developed for use in Kenya. The SLT alluded to a Kiswahili articulation test that is available although they have never used it for assessment of articulation disorders. The SLT also listed SLAP-R [25] as the only available assessment tool developed to evaluate ESL in Sub Saharan Africa. However, the authors of the tool cautioned against the use of the tool as a standardized test and calls for further research to enhance the tool and develop it for use in assessment of Spoken language in Sub Saharan Africa. The tool is not standardized and hence the scores cannot be related to general norms yet and can only be used as guidelines as noted by SLTs 2 said;

….the available assessment tools are appropriate as a guideline for classification in place of diagnosis because personally I alter words/ phrases hence it is no longer standardized.

Secondly, the tool lacks reference materials so far [25]. Responding to the same question over 90% of the SLTs agreed that the available tools were not effective enough to be used in assessment of CD in children from CLD backgrounds. The SLTs expressed an urgent need to develop assessment tests that were linguistically and culturally fair to the Kenyan population for instance respondent 4 asserted that;

"The tools were effective enough to get a fair picture of the basic deficits the client may have in terms of speech and language. However, to gauge specific deficits in terms of semantics syntax, phonology, articulation, we need tests standardized for use in Kenya"

These findings were in agreement with the available literature that reported a general lack of relevant assessment resources for use with the CLD diverse population in African Countries, [28, 42, 41]

With the current trends of increased standardization of assessment and lack of relevant assessment tools and resources, persons with disabilities shall continue to be misdiagnosed and misplaced [31] due to the use of inaccurate assessment tools and procedures. The available assessment tests are typically based on the white middle class and formative data, so they are inevitably biased against children from the CLD backgrounds in Kenya and Africa at large. A great burden lies on the shoulders of the local clinicians and researchers to develop tests that are accurate for use and meet the needs of the population that they serve. According to [17], the assessment and intervention programs must be tailored to the needs of the local population.

The continued use of such borrowed tools on the Kenyan dynamic population continues to expose more children with communication disorders to unfair labelling, misdiagnosis mistreatment of their conditions and misplacement in the special schools and special needs units [31]. The available resources must be used with a lot of caution to reduce biases in the traditional testing practices [34]. As noted by the SLTs the available tools can only give fair results pertaining CD, fairness can never be good enough to determine the health of a patient seeking treatment of their communication disorders in the hospitals and clinics. All the treatments must be good enough as informed by the nondiscriminatory assessment processes.

3.3.1 Place of service for SLTs

To guide the researcher and all the interested parties on where to find the SLTs, Question 2 sought to know the specific places where the respondent worked. It was evident that all the respondents who are practicing SLTs either worked as private practice therapists or worked in major private hospitals within Nairobi City County. It is important to note that most of the SLTs doubled as private practice consultants as well as consultants in the private Hospital clinics. Some therapists also did home and school therapy as per the need basis.

These findings well explain behind the higher cost of the speech and language services in Kenya. It was evident that none of the sampled clinicians worked in any of the public hospitals or facilities in the country. It is important to note that the majority of the people seeking medical services in the private hospitals and clinics are the small percentage middle and upper class population as compared to the bigger national population who seek medical services in the public hospitals. The places of work and services delivery would have a direct impact on the assessment and intervention process of the children from CLD backgrounds. For instance, it was evident during the observation that parents from the higher socio-economic backgrounds were able to book for the assessment and book for more than one therapy session per week to treat the communication disorders. Many of these clients visiting the private hospitals and clinics mainly used English as their first language and Kiswahili was learnt as the second language.

Through an informal interaction with parents and caregivers from the Eastland's Nairobi, it was evident that majority of them were not aware of any speech and language therapist working in Nairobi. Majority of parents who reported delayed communication in their children were either referred to Mama Lucy Kibaki Hospital, Mbangathi Hospital or Kenyatta National Hospital for specialized treatment. The parents were not able to tell what the treatment entailed. On admission, the parents were not able to attend the therapy appointments as scheduled due to many challenges faced. Some reported that they were discouraged because of the irregular appointments; they complained that they were booked once in a month or after two months and no improvement was noted on their clients. From the observation, it was evident that there was a great need to decentralize the SLT services mainly to the public hospitals and schools where majority of Kenyan children attend and quality of service is assured in line with the [46].

3.3.2 Length of service as an SLT

The research sought to know how long the respondents have worked in Kenya and other countries. By doing so, it would inform more about their experience and expertise in working with the diverse cultures and linguistic clients both locally and internationally. The length of service directly affects the quality of the assessment results. The long serving clinicians felt more adequate and had enough experience to administer, analyze and give results on the CD that also led to informed setting of smart goals for interventions. The less experienced and recently graduated SLTs experienced faced many challenges that needed close guidance from the other SLTs or through research.

Majority of the SLTs have mainly worked in Kenya. Two clinicians had slightly below ten years of working experience locally. Two clinicians have worked in other countries other than Kenyan. According to the data collected, the majority of the SLTs working in Kenya had below five years of experience in clinical speech therapy. It is important to note that clinicians' expertise in assessment directly affects the test outcome [4].

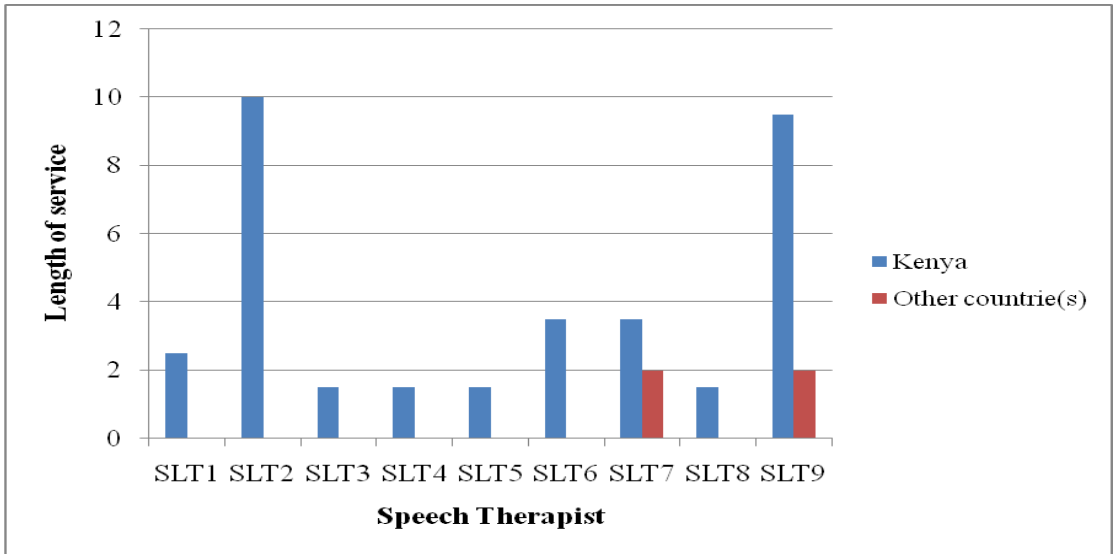

Figure 3.2: SLTs Length of Service

The figure 3.2 shows the experiences of the SLTs working in Kenya. As noted earlier on the Conceptual Frameworks, the SLTs expertise in dealing with CLD would directly affect the quality of the results as also noted by [3]. It is therefore important for the SLTs to work closely together so that the well experience SLTs can mentor and guide the recently graduated SLTs.

In service, continuous education trainings, establishment and or empowerment of the existing professional bodies for instance ASLTK to monitor and empower the SLTs would ensure that clients receive quality services from well-experienced clinicians.

3.3.3 Appropriateness of the Available Assessment Tools for Assessment of Culturally Diverse Backgrounds

Regarding the cultural appropriateness of the available standardized assessment test, the respondent had divided opinions on the subject. The study established that the SLTs had different opinions regarding the available tests, 43% of the respondent felt that the available tools were not appropriate for use with the Kenyan population while 57% felt that the tools were appropriate for evaluation of the culturally diverse population as shown in figure 3.3.

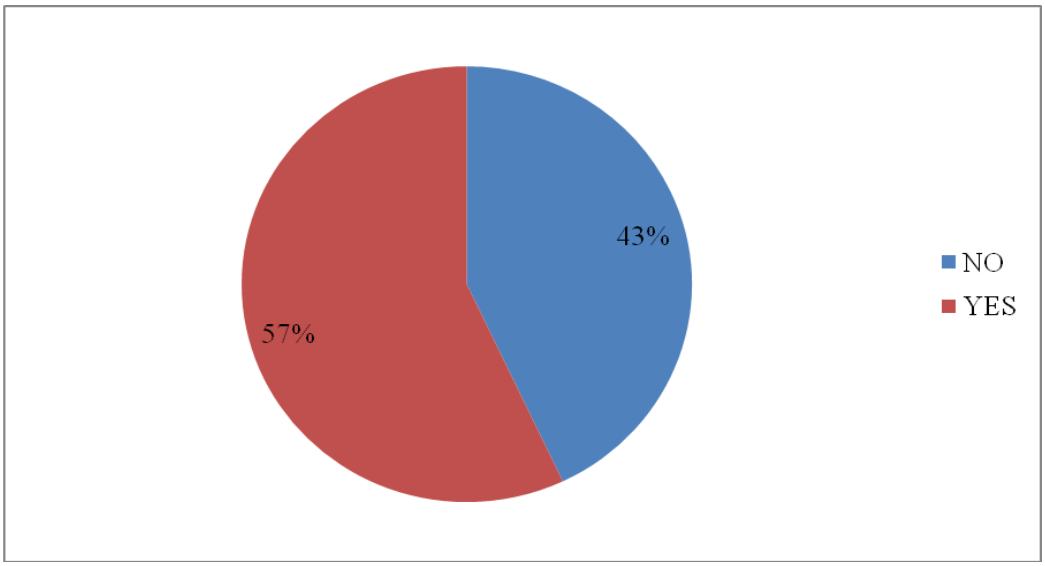

Figure 3.3: Cultural Appropriateness of the Assessment Tools

Figure 3.3 above shows that nearly 50% of the SLTs who argued against use of such tools, with the Kenyan population observed that test items in the standardized assessment tools are not culturally appropriate for use in Kenya because the norm population has a different culture from the multicultural Kenyan population.

The Kenyan cultures were not taken into consideration when the tools were developed. The stimuli used in the available tools could not be culturally responsive to the children from Kenya. The SLT 3 responding to the question of culturally appropriateness of the available tools said;

The tools that are standardized in any other country are not culturally appropriate for use in Kenya. For example a swallowing test even though it can be used in evaluation of swallowing disorder, certain parameters cannot be applied to the Kenyan context for instance eating a 'cookie' is not common in Kenya but a Kenyan client would best understand eating 'Ugali' a Kenyan staple food which is respective food consistency"

The SLT further noted that, a picture of a police officer from a country like UK or US would be different from the Kenya police who wear a very different uniform hence a need to develop assessment tools that will be culturally acceptable and would not penalize a child due to their different cultural exposure.

Although 57% of the responded considered the assessment tools available as culturally appropriate, they cautioned against the pick and use of the same tools on the CLD population. They were of the opinion that the clinician must change a few words and phrases before using the tools. The modified tools should serve the purpose of rating degree of the disorders or disability and as a guideline for treatment plan.

According to the document analysis report where two assessment tools and an initial consultation form were review, it was evident that the available tools and resources were not sensitive to the local population. The findings confirmed the challenges that were noted by the SLTs. The assessment resources available were normed and developed in foreign countries with very different cultures and cultural experiences. For instance, the results from PPVT-III [15] indicated that the tools used pictures and vocabularies that seemed culturally biased to children from Kenya as shown on figure 3.3 and figure 3.4.

The results indicated that, what was taught from home, school and society was very different from what was expected of them from the test. The examinees gave the names of different targeted vocabularies as per their background but not as expected by the test. These led to the tests scoring their responses as errors or forced the SLTs to change the vocabulary to suit the child and this equaled to tempering with the validity and reliability of the test. Use of trucks instead of school buses, tricycle, coins and dollars currencies, pictures of white people, electric trains, types of animals given as decoy, air balloons, digging with a shovel instead of a jembe were some notable vocabularies and activities that were not common in Kenya. Vocabularies are culturally specific and the entire assessment test must not penalize the client due to the cultural difference.

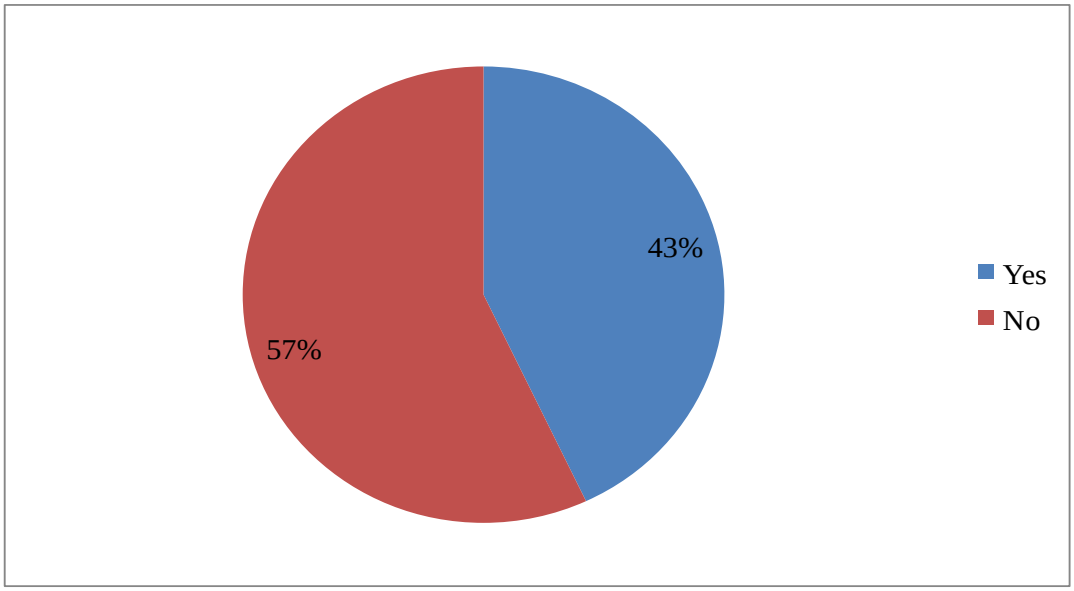

Figure 3.4: Linguistic Appropriateness of the Assessment Tools

Referring to figure 3.4, the majority of the respondents (57%) disagreed with the statement that the available standardized assessment resources were linguistically appropriate for use in Kenya. According to the respondent one they said,

'I mostly rely on materials standardized abroad. Very few tools are linguistically and culturally appropriate for the Kenyan context'.

This shows that there is a need to develop assessment resources that are linguistically appropriate for use in Kenya. For the fact that (43%) of the respondents agreed that the resources are appropriate this shows that they modified the assessment materials to use which is not clinically appropriate [34]; Crawley 2003).

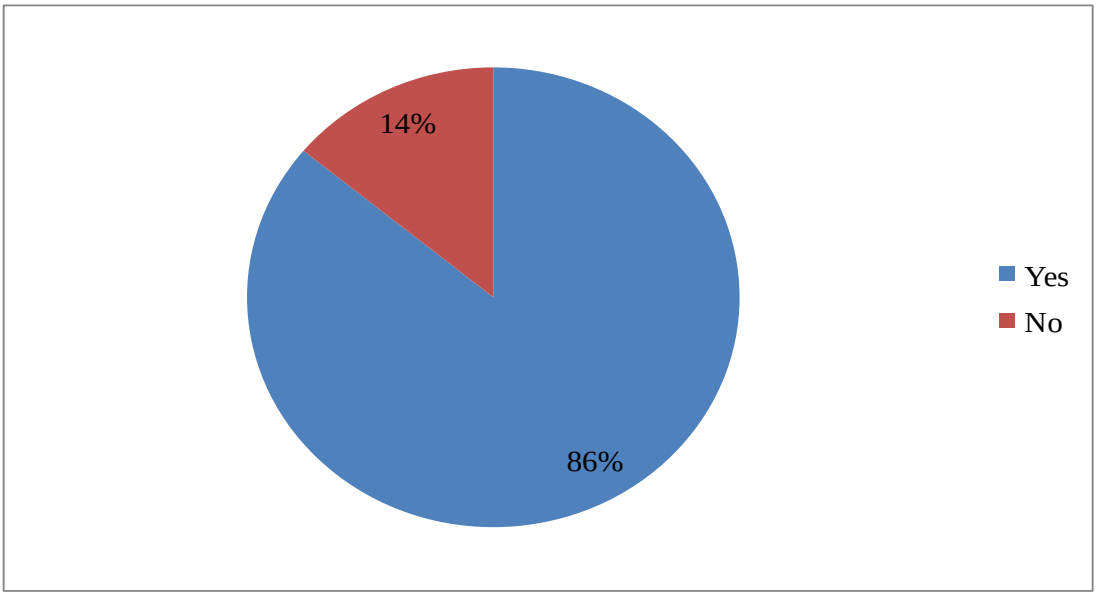

Figure 3.5: Acquisition of Assessment Resources for use with CLD

When asked whether they easily acquired suitable assessment materials for use with the CLD population, 86% of the respondents disagreed with the statement. This shows that there is general lack of assessment resources for use specifically with children from CLD population in Kenya as complained by respondent three;

'….*No. I have tried to find assessment materials for use here in Kenya but am not aware of any. From the 2-3 I have come across none is standardized and are more informal.*

Respondent nine asked this question said,

….each CLD population is different and unique thus very difficult to standardize assessment tools. Once standardized on particular population it would still need to be adapted for use on another population and then standardized again

Even though 14% of the respondents observed that, they easily got the tools needed for assessment of communication disorders they further explained that they highly depended on donations from SLTs from western countries who visited Kenya. The clinicians bought and imported the assessment resources online and it was reported that the tools were very expensive to purchase and ship to Kenya.

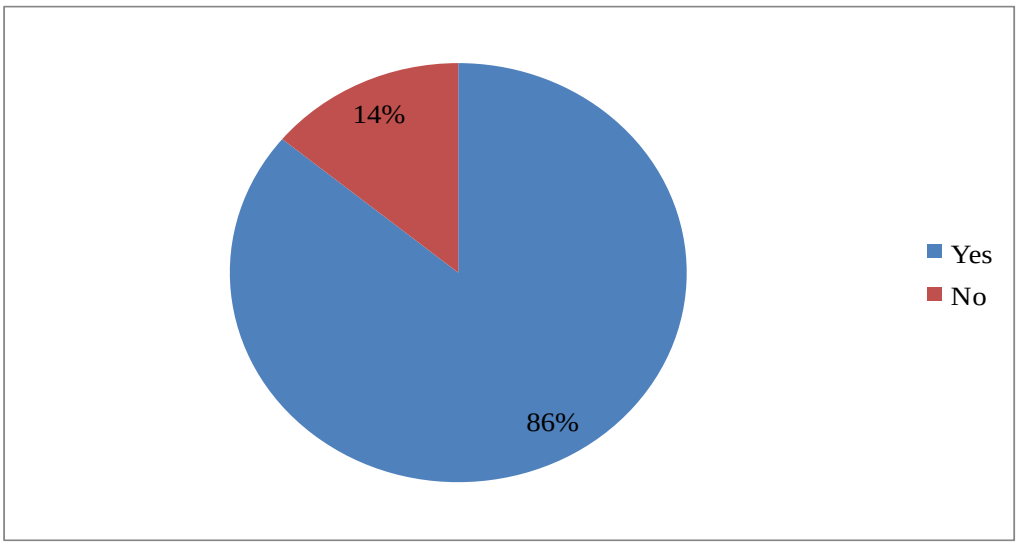

Figure 3.6: Modification of Available Assessment Tools used in Kenya

Referring to the pie chart above, the majority of the SLT 65% strongly recommended modification of the locally available tools and resources before they are adopted for use with the Kenyan population. Respondent two for instance observed that,

'Absolutely yes. It is very important for us to have tools specific to our language and culture, in order for the use to be able to maintain best practices and accurate and valid results'.
The only tools they used were borrowed from the western countries and the modification of such tools and resources would help in mitigation of communication challenges on the local basis. The respondents recommended the modification to be adaptive to both cultural and environmental conditions. These observations and recommendations were in agreement with the literature reviewed in this study.

3.3.4 Recommended Language(s) for Assessment Tools and Resources
The study sought to identify the most preferred language(s) that the SLTs recommended for development of the assessment tools and resources for use with the CLD population in Kenya. From the responses obtained, the majority (100%) of the SLTs recommended that the assessment tools and resources be developed in English and Kiswahili, while 43 % of the respondents recommended that the resources be developed in other ethnic languages. Respondent two responding to the question stated that;
…English is the language of instruction in Kenya and is used in learning institutions including schools and universities and used in offices as an official language hence a need to develop assessment tools in English to meet the needs of that big population.
The SLT further recommended development of assessment resources in Kenyan sign language to be used in assessment of hearing impaired. English and Kiswahili are the main official and national languages [46]. Development of the assessment tools and resources will a foundation and proper basis to the SLTs before adapting them to the other ethnic groups. Development of the resources in Kiswahili specifically will enable assessment of the majority of Kenyan children regardless of their ethnic background because majority of Kenyan children use Mother tongue or Kiswahili as their primary language even before they start school [22] where English is adapted as the language of instruction.

3.3.5 Languages Spoken and Preferred by SLTs in of Assessment of CD
The researcher sought to identify the language(s) spoken by the SLTs and the language(s) of preference for doing assessment of communication disorders. Linguistic diversity affects the way in which SLTs conduct their assessment and intervention According to Americans with Disabilities Act (1990) requires that services to individuals who use a language other than English be delivered in the language most appropriate to the client, student, and patient or family. Kenya just like the USA and other western countries is a multi-linguistic and multicultural society, hence the need to understand the languages spoken and preferred by SLTs and their impact to the assessment of CD in CLD. According to the questionnaires provided all the SLTs speak or understand more than one language. Majority of the SLTs had English and Kiswahili as their main languages although they felt more comfortable to speak, write, assess and do interventions in English as noted by the following respondents.
Respondent two who had three languages reported that;
'Am comfortable speaking in English and feel that I can get the best/ appropriate information in English'
According to Respondent three who spoke four different languages noted that;
'*…English as compared to the other 3 languages. I do not feel fluent enough in other languages to be able to complete a detailed assessment*
Respondent nine also observed that;
More standardized assessment tools available are in English. …my own proficiency in speaking and writing in English compared to other languages I speak
The graph below shows the languages spoken by the SLTs.

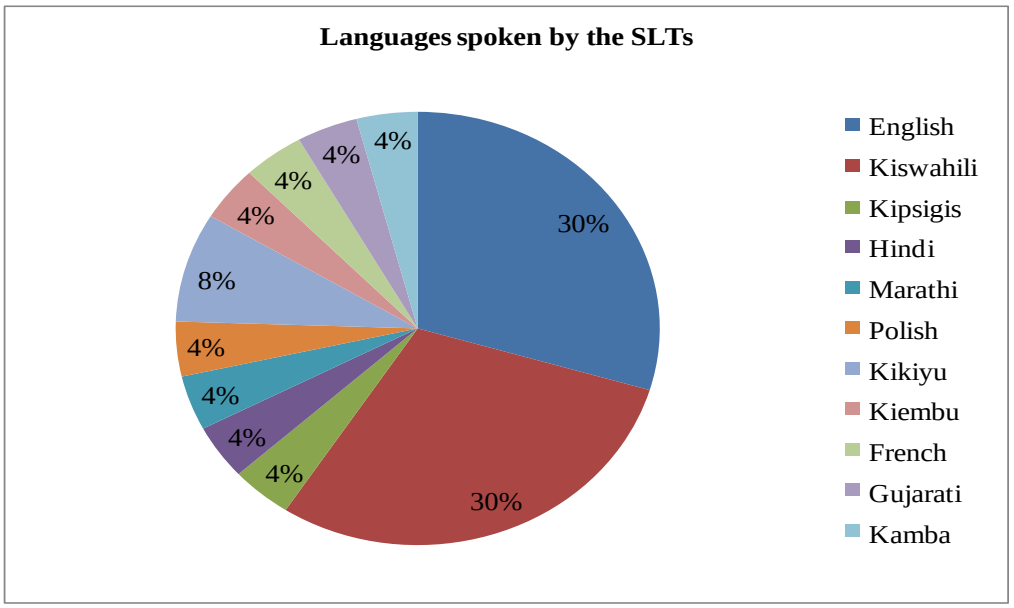

Figure 3.7: Languages Spoken by the SLTs

The most preferred languages were of assessment were English, Kiswahili, Kikuyu and Kipsigis. A majority of the SLTs preferred use of English to all the other languages. Although the entire respondent spoke more than one language, they all had varied reasons as to why they preferred using a specific language(s) in the assessment of CD. 85% of the respondents preferred using English when assessing children. Some of the reasons as to why SLTs choose English as compared to other languages included but not limited to; most of the assessment tools are in English, majority of the clients are conversant with English as it is the Language mainly used in school as observed by the first responder who also used Kiswahili when forced by the circumstances. Another respondent observed that English is a universal language and because there were no formal assessments tailored for use in the region then they chose English as the only optional language of use. Another respondent observed that they were more fluent in English than all the other languages they spoke. The respondent felt comfortable speaking in English thus felt comfortable to carry out the assessment in the same language because they would be able to get more information in English than any other language. A majority of the clients used in English as compared to other languages.

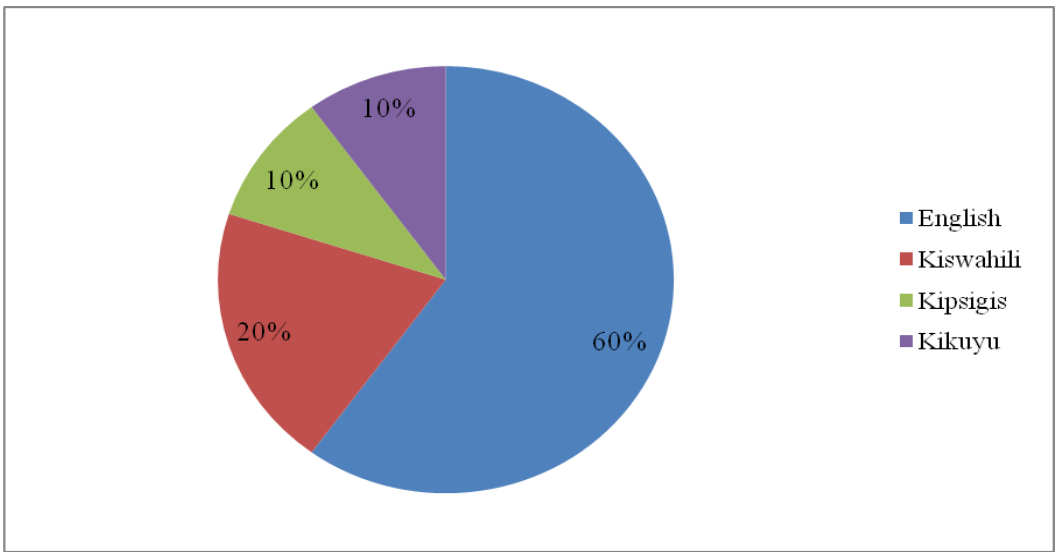

Figure 3.8: The Most Preferred Language

According to RCSLT (2005), assessment and intervention should be provided in the child's dominant language after discussion with the parent, the services should be provided in the child's first language whenever possible. A keen analysis of the questionnaires and the observation of the assessment sessions in different clinics

and hospitals indicated otherwise. Most of the SLTs working with children from CLD had much experience in assessment of children in English. The SLTs preferred using English to all the other language due to diverse reasons as observed by SLTs 2, 3 and 9 above. A strict use of English as the main language of preference was noted with a lot of concern. The choice of the assessment language as per the clinicians comfort was seen to be discriminative in nature. The approach was not fair to the clients because possible relevant information and data regarding the child could easily be missed out. The use of the interpreter was a good effort by the SLTs to remediate the language barrier. According to [5], professional speech therapist must not try to match the clients cultural and linguistic needs to his/ hers, rather they should be prepared to provide services that are responsive to the cultural and linguistic diversity of the people they serve. Just like every client, all the SLTs have diverse cultural and linguistic needs, provision of speech and language services should be sensitive to the needs of both parties to ensure a nondiscriminatory services provision [34]

3.3.6 Analysis of Documents to Determine their Relevance in Assessment of CD in CLD

The Study employed a multi-method approach to data collection, encompassing questionnaires, non-participant observation and document analysis. The documents took form of standardized assessment tools and clinical forms. Observation of SLTs carry out assessment of communication disorders was included to help determine what was being done , how and what was used by the SLTs in the assessment process. The documents analysis and observation were complementary data collection procedures in support of triangulation.

The methodical search of relevant documents proved fruitful. Three documents were placed in context as per the study objectives and coded them for analysis. Only a few documents were made available at the research sites. Copies of the following documents and forms were made available to the researcher for analysis; The Peabody Picture Vocabulary Tests third Edition (PPVT-III), SLT new patient information forms (Initial Consultation Forms) and Spoken Language Assessment Profile – Revised Edition (SLAP-R) were analyzed to support the findings from other methods of data collection.

3.3.7 Analysis of Peabody Picture Vocabulary Tests 3rd Edition (PPVT-III) To Determine the Appropriateness in Evaluation of CD in CLD

The Peabody Picture Vocabulary Tests third Edition (PPVT-III) is one of the most commonly used standardized tests (Springer Science, 2011). The PPVT test was first published in 1959 with subsequent revisions in 1981 and again in 1997 with updated norms and illustrations. The tool is an individual administered test of hearing vocabulary. The test is untimed, norm referenced, wide range test, available in two parallel forms designated as Form IIIA and Form IIIB. Each form comprises of 4 practice items and 204 test items. Items are arranged in order difficulty in 17 sets of 12 in each. Each test item contains four sample black and white illustrations. The examiner says a word and the examinee's task is to select the corresponding picture that they considered best illustrates the meaning of the stimulus word presented [15].

The PPVT-III is a standardized test that provides only of this individuals hearing vocabulary in Standard English, as compared with the cross section of U.S.A. persons of the same age. This test is used to screen verbal ability of the client [15]. In addition, assesses receptive vocabulary knowledge and comprehension of spoken English. The aim of the current study was to evaluate the appropriateness of the PPVT-III test in measuring receptive vocabulary and or screening test of verbal ability [15] in children from CLD background in Nairobi City County.

3.3.8 Evaluation of Culturally and Linguistic Appropriateness of PPVT-III

The study sought to identify if PPVT-III was a culturally and linguistically appropriate tool for use with the CLD population in Nairobi City County, Kenya. The study sought to identify whether the test considered the child's first language in assessment. The study sought to check whether the test penalized the child's dialect variations, the use of non-culturally appropriate pictures and finally the use of vocabulary that was suitable to children with English as the second language.

The study established that PPVT-III had included a large representative of the minority children within the winder norm group hence considered appropriate test for use with the CLD population [15, 48]. However, other similar studies found the tool unfit and biased against African-American population but mainly favoring the European American children [39, 50, 37]. The local clinicians felt that the use of PPVT-III and other assessment tests borrowed for use in Kenya was not the best practice as they are not culturally and linguistically matched with the local client's backgrounds among other shortfalls, as noted by respondent one;

"….I use the assessments in 8 above and keep in mind that they are not linguistically and culturally matched for my clients"

Respondent three noted that they were highly challenged on how to use a standard test like PPVT-III with a client who spoke dominantly Kiswahili or a local ethnic language

According to Reese and Read (2004) PPVT-III is a useful tool for measuring language ability in children from diverse cultural and linguistic backgrounds. In their study to measure the reliability of the PPVT-III for use amongst a mixed ethnicity sample of New Zealand children, the study established that the test-retest reliability of the PPVT-III closely matched the American norm reference group (Reese & Read, 2000). Philips et al., 2004 noted that PPVT-III provided a valid measure of oral vocabulary skills in the Maori children. The difference found between pre and post intervention scores on the PPVT-III was cited to be as a result of a success of the intervention (Philips et al., 2004).

Given the recommendations and acceptance of use of the PPVT-III by the clinicians and researchers, Springer Science, (2011) it seemed important to evaluate the suitability of the tests in assessment of children from CLD backgrounds Nairobi City County and in Kenya at large. It is important to note that a later edition, the PPVT-4, which may have further addressed any issues related to bias, has now superseded the PPVT-III. During the research, PPVT-III was the only available version in local clinics and hospitals visited. The findings indicated the importance of the PPVT-III as an assessment tool readily available by the local SLTs in the assessment of receptive language.

3.3.9 Cultural Biases in PPVT-III

To check the reliability and validity of the test [15] recommended the need to consider the impact of the test content, test materials and test conditions in an attempt to minimize the effects of cultural biases. The PPVT-III according to the developer is claimed to be a culturally valid test due to the inclusion of minority children within the wider norm group of the representative U.S.A sample. [15, 44]

On review of available literature, a few empirical studies has been conducted to systematically investigate the use of PPVT-III with the CLD. Despite the efforts put by the developers to reduce biases, some researchers observed that mere inclusion of an ethnic minority norm group does not a test qualify as unbiased. Such tests must seek to measure culturally appropriate knowledge and utilize methods of testing suitable from different cultural backgrounds [35].

The PPVT-III as earlier mentioned was normed and standardized with a U.S. population. Despite its attempts to minimize the cultural biases, the study found that the developers used some pictures that are only known by the norm population. [11] in their study reported that children from Kenyan experienced difficulties interpreting pictorial representations that they had no experience with. PPVT-III use pictures that the client is required to look at and name or choose the correct one among the four given pictures. Some of the pictures used differed greatly from the regularly used in Kenya.

The use of trucks as school buses, tricycle, coins and dollars with foreign portraits, pictures of all white people, electric trains, and the types of animals, air balloons, digging using a shovel instead of a jembe was found not to be culturally fit. The test destructors used in the test to confuse the examinee could be misleading to children from CLD backgrounds mainly from African contexts specifically Kenya.

This is because these children have not been stimulated or exposed to the items as they are only used in the test developer's country.

Haitan *et. al.,* (2010) in their study on cultural biases of PPVT-III observed that children from New Zealand performed poorly to the concepts or images that were not frequently encountered in the country. When administering the test with Kenyan children, some items may have posed difficulties due to the inclusion of culturally biased concepts or images that would not have been apparent when administered with an American sample. With further study, adjustments may be made to improve the familiarity and cultural appropriateness of PPVT-III content for use with Kenyan children.

Although additional research is needed to determine the impact of adding new PPVT-III test items, some preliminary adjustments to items that represent culturally biased words and images could be made, such as replacing some existing PPVT-III words and images with equivalent concepts that are more familiar to Kenyan children. Several things currently exhibit depictions of animals not commonly seen in Kenya. For example, pictures and names of animals that Kenyan children are likely to encounter could be substituted for item 29 (target word Porcupine) and item 44 (target word Raccoon).

For example, while the target word Porcupine may be substitute with the word Lion, while Raccoon could be replaced the word Cheetah. Following an analysis of the responses to many wrongly recognized items, a list of alternative phrases characterizing the target image was generated. When displaying the identical images to Kenyan children, alternative terms that are more acceptable could be used.

Item #63 (target word, Luggage) for example, caused confusion for a number of clients, with bag offering a closer representation of closer terminology. Most clients used the term traffic lights to describe the target image illustrated by item #68(target word Signal.

When working with Kenyan children, future amendments to the PPVT-III could utilize the term Lights instead of Signal. Alternative words for items #82 (target word Camcorder), #84 (target word Wrench), and #93(target word Pitcher) were also given. Wrench was more typically connected with the phrase Spanner, and

Pitcher was characterized as a Jug, while the image showing the target word Camcorder was described as a Video camera. Aside from the difficulties posed by new words, certain items had high mistake rates due to their depiction of imagery not usually encountered in the Kenyan setting. Item #65 (target term Hydrant) showed an image of an American steel fire hydrant, whereas the target for item #68 was an image of vegetable squash not commonly seen in Kenyan grocery stores. The image of item 69 (target word Squash) was labelled as a butternut when it was re-administered to the subjects.

To substitute items 65 and 69 in future modifications of the PPVT-III for use with Kenyan children, more recognizable alternative terminology and visuals, such as Post-office/Huduma Centre and Pumpkin, could be used. Following a study of participant responses to PPVT-III questions with significant error rates, it became clear that not all target and decoy pictures were functioning effectively. Decoy pictures were designed to act as neutral distracters, according to PPVT-III test researchers, with no particular decoy planned to be more or less attractive or misleading than others. Items 88 (target word Surprised) and 89 (target word Canoe) may also be improved to be used with Kenyan clients by developing another set of picture plates. Close investigation of participant responses revealed that a lot of children who responded incorrectly to items 88 and 89, had chosen the identical decoy images.

This indicates that the decoy images made it difficult for clients to distinguish between correct and incorrect selections. Future versions of the PPVT-III may update the picture plates in order to increase their general relevancy and visual appeal, in addition to enhancing the precision of target and decoy images. After re-administering erroneously identified items and reviewing the reasons for participant errors, it appears that the majority of participant errors were in reaction to items that they were unfamiliar with. The reasons for the participants' unfamiliarity with these items are unknown, and more research is needed to determine whether PPVT-III items are currently arranged in a difficulty hierarchy that matches the experience of Kenyan children.

The vocabularies used to refer to different items are culturally specific. Though the picture could be well known by a client from African context, the vocabulary used to label the object was very different from what was given by the children from CLD. The examinee gave the names as per their background that if not carefully observed and scored could lead to the examiner recording it as an error that could lead to underscore of the CLD clients. This could lead to the danger of misdiagnosis and uninformed intervention plans.

Table 3.3: Response given by Examinees on Different Test Items

Item #	Word	Response
68	Signal	Traffic light
94	Reptile	Crocodile
110	Citrus	lemon
119	Garment	dress
127	Feline	cat
130	Appliance	iron box
147	Ladle	mwiko/cooking stick

3.3.10 Linguistic Use in PPVT-III

The study sought to identify if the PPVT-III was an appropriate test for use with the CLD population from Nairobi City County. According to [20] assessment and evaluation materials should be provided and administered in the child's native language or other mode of communication and in the form most likely to yield accurate information on what the child knows and can do academically, developmentally and functionally, unless it is clearly not feasible to do so provided or administered. In many African countries, such as Kenya, it is common that individuals speak a local, a regional and an international official language (Baker 2011).

Kenya has over forty indigenous languages. The majority of the languages are included in the Bantu family [16]. Kiswahili is one of the Bantu languages and together with English; Kiswahili is an official Language [27]. Both languages have a legal status and serve as languages of administration and education. This implies that many children have two expressive languages before they start school and English becomes third language [22]. Sure and Ongechi (2009) indicated that the majority of the Kenyan children enter school without any English competence. [26] in her study SLAP-R- A Language Assessment For Use In Anglophone Africa And Its Kenyan Data, recommended children be allowed to respond to assessment questions in their first language other than English only because first language would provide needed insight to general language proficiency.

So as to find out the relevance of the Vocabulary used in PPVT- III for assessment of CD in CLD from the Kenyan background, Forms IIIA were carefully analyzed with the help of an SLT who is an experienced examiner and uses PPVT-III in their clinic as a vocabulary test. Form IIIA is an official and confidential document containing the abbreviated instructions and sets of test item stimulus words. In Form IIIA, the examiner uses numerals to record the test takers response to each item in the blank response column and indicate errors by drawing an oblique line through the E in the last column.

According to the SLT, the test is carefully used as a baseline for classification in place of diagnosis. The examiners were forced to alter words that they felt were inappropriate in order for the test to suit a particular client. In addition, the child's background was noted as a major challenge when administering the PPVT-III.

According to the SLT, what is taught at home, school, and in the curriculum was totally different from what was in the standardized test PPVT-III. Each setting appeared to have different vocabulary and styles of teaching depending on the simulations provided and by whom.

According to the SLT PPVT-III is an appropriate tool for use with CLD [15] and it does serve the purpose of rating degree of disorders and as a guideline for the treatment plan. The SLT also noted that the PPVT-III was most appropriate for use with children with formal education mainly from a background whose English was a used as a first language or as a child's home language a fact that was confirmed by [15].

Linguistically PPVT-III was not a favorable test to children from culturally and linguistically diverse backgrounds. According to [26], a child cannot learn well if instruction is entirely taught in, a language that is that is not understood. The test discriminated against children whom English was not their first language who forms the majority of the Kenyan population. The nondiscriminatory assessment frameworks principle 4 calls for the entire examiner to assess the client's language proficiency and reduce the biases in traditional testing practices by evaluating, revising and retesting the hypotheses [34].

3.3.11 Does the PPVT-III Test the Child's First Language?

According to the data collected through the questionnaires, most clients seeking SLTs services were reported to be multilingual and used English as an additional language. Kenya has over forty indigenous languages [16]. Due to different interactions and backgrounds most children did not use Standard English but instead they used Kenyan English [8] and Kiswahili. This implies that many children have more than two expressive languages [22].

Standardized tests should be culturally and linguistically appropriate, it is important to consider the language spoken by the child before selecting a standardized assessment [2]. According to [20] assessment and evaluation, materials should be provided and administered in the child's native language or other mode of communication. In addition, in the form most likely to yield accurate information on what the child knows and can do academically, developmentally and functionally. The PPVT-III is a standardized tool written in Standard American English and as such, PPVT-III might not accurately assess speech -language and communication functioning (strength and weaknesses) in an individual whose first language L1 is not Standard American English.

According to [37], using standard cut off scores, the PPVT-III identified more African American children as having language delays than did other measures of language abilities. Those socio-economic factors were related to PPVT-III scores, maternal education level, marital status and number of children in the family was uniquely associated with children's performance on the PPVT-III.

According to [8], the Kenya National Examination Council (KNEC) penalizes the Kenyan English (KenE) meanings as errors and yet they are used by the teachers of English and English curriculum developers as speakers of KenE for everyday communication. [8] asserts that the students should not be penalized for it is likely that they emulate the use of KenE from their teachers, local dailies and other models. The PPVT-III although it included a minority norm group, it was purely normed with a monolingual population whose first language was Standard English.

Use of such tests does not reflect the divergences in the regional varieties as far as meaning is concerned. The authors caution that although the PPVT-III is appealing in its simplicity this also can be misused if results are over generalized in interpretation of overall linguistic ability [15]. Use of PPVT-III if strictly scored as [15] proposes then it would lead to misdiagnosis of language disorders because the validation norm group does not march the multilingual local population. [15], on the limitation of the PPVT-III noted that

"Users must keep in mind that the PPVT-III standardization sample did not include persons who showed evidence of uncorrected vision or hearing loss, or who had limited proficiency in English"

3.3.12 Penalized the Child's Dialect Variations

According to [15], PPVT-III is a test of listening comprehension for the spoken word in Standard English. It is designed as a measure of an examinee's receptive (hearing) vocabulary that is Vocabulary acquisition and as a Screening test of verbal ability. [15] cautions that the tool can only be used as a screener with clients whose English is the language of the examinee's home, community and school.

As noted by [8], Kenyan children use KenE, which is characterized by errors that are learnt from their models including teachers, media and peers. According to [39] PPVT-III has a greater potential to place African American children and children whose mothers have low education levels for being at risk for being unfairly

identified as presenting with a potential language disorder. Students are penalized due to the different variations of English in Kenya.

However, [15] warns against the use of the PPVT-III as a screener of children whose English is not their first Language. [39] in their study proposed that the clinicians should use alternative methods such as nonstandard and dynamic assessments to test children's vocabulary skills. PPVT-III should be used with a lot of caution in interpreting test results as evidence of vocabulary problem in CLD children.

According to [5], Bilingual assessment services must include identification of language use that is, the language the individual speaks or is exposed most of the time and language proficiency that is the degree of ability in each language. In addition, assessment addresses potential impairment, associated activity and participation, limitation and context barriers and facilitators. The Assessment tools used in Kenya must consider the variety of the Kenyan English and all the ingenious languages including Kiswahili for it to be considered valid for use with the CLD population. Relying entirely on international tests like PPVT-III in assessing vocabulary is misleading, [11, 23, 32, 38].

3.4 Analysis of Speech and Language Therapy New Patient Information Forms

The study analyzed four initial consultation forms that are filled in by the clients in their first appointment with the speech and language therapists. The main objectives of the analysis were to find out if the forms collected the initial data of clients from CLD. Secondly, find out the perception of the clinicians on the importance of evaluation of CLD in the clients they assessed at their clinics and hospital clinic and finally analyze the clinical assessment process to determine if the clinicians considered CLD as an important aspect that can affect the assessment outcome. Four new patients' data information forms from different therapists and a hospital clinic were analyzed. The data was collected and recorded through the written document assessment resources checklist and the observational checklist.

The questions asked on the initial consultation forms were meant to help the SLTs understand their client's communication problem. The forms used detailed open and closed ended questions. The parent or guardian was supposed to fill in the patient's information during their first appointment at the clinic. Then the speech and language therapist analyzed the answers provided to come up with an individualized assessment plan. Each patient was given at least one-hour clinical evaluation sessions.

The new patient information forms were divided into several important sections with questions asking specific questions about the patients' strengths and/or weakness in the specific domains. The first section sought to collect the biographic data of the client including the names, date of birth and specific age, gender of the client, address, parent's information including their names, contacts, date of birth and occupation. The form also sought to know the person who referred the child for speech and language therapy assessment, the diagnosis from the pediatricians or any other doctor, school attended by the child and finally the emergency contacts. The form also sought to collect the client's confidential case history. The case history included; prenatal and birth history, medical history, hearing history, developmental history, speech and language background and general information and finally the educational history of the client.

3.4.1 Appropriateness of SLT New Patient Information Forms for Use with CLD

The forms provided a well-detailed section specifically seeking to understand the child's speech and language background. The clinicians allowed the parents and guardians to respond to questions about their children's language(s). There was a general agreement on the questions asked by the clinicians about the patient's speech and language information. According to the forms analyzed in this study, the entire clinicians asked specific questions about the child's first language or primary language spoken by the child and the main language(s) spoken at home.

The questionnaire also asked about the other languages spoken by the child. It was observed that over 70% of the clients seeking speech and language services in both private clinics and hospitals are bilingual and multicultural. Most children spoke more than one language Kiswahili being the primary language in most homes and the most spoken language. There were less than 30% clients with English as their primary language. However all the forms were written in English despite the fact that there were more Swahili speakers than English speakers seeking the SLT services in the local clinics and hospitals. None of the forms was available for use with those clients that could not be able to answer the English questionnaires.

[25] developed a questionnaire for use with the multilingual population. SLAP_R_QOM_Kiswahili is a translated version for use with children who acquire English as a second language (ESL) for use in Sub- Saharan Africa (Appendix IV).

Clinicians could adapt or sample it out to be able to develop their own forms that would cater for linguistically diverse population seeking services from their clinics.

Although the SLTs tried to interpret, the questions to Kiswahili there were no specific questions that aimed to understand the child's cultural and linguistic needs. The assessment sessions were predominantly

conducted in English where 60% of the SLTs preferred conducting the assessment in English as compared to all the other languages. Although most SLTs listed linguistic and cultural aspects as the most important factor to be considered during the assessment, (Figure 4.3) the situation was found to be different on the ground due to an ever-increasing linguistic and cultural diversity population.

According to [33], SLTs can no longer use English language to assess the communication competence of those from other cultural backgrounds. Although SLTs are faced with challenging issues as the variables that affect communication are intensified, they must ensure that the materials presented will allow participants to make decisions with greater confidence and expertise when working with children and specifically from CLD. A keen observation of the SLTs recommendations and management plans set to address different clients speech and language deficits confirmed that there were no goals or considerations set to address patients with Cultural and Linguistic differences.

3.5 Analysis of SLAP-R (Spoken Language Assessment Profile – Revised Edition) an Assessment Tool Developed For Use in Sub Saharan African

According to [25], Spoken Language Assessment Profile – Revised Edition (SLAP-R) is an instrument to assess the language development of children who acquire English as a Second Language (ESL) for use in Sub-Saharan Africa. SLAP-R can be used with all children who have been exposed to the English language for at least 18 months. The profile is a screening to find out about the strength and possible weaknesses in all basic elements of spoken language. SLTs and professionals working in the field of Special Needs Education can administer it. It is not meant to be administered by parents at home.

The profile was originally developed by Hartley in 1984 (SLAP), it was then revised by [26] (SLAP-R). For the original material, a study was conducted including 50 Nigerian children. The revised edition was later based on a study conducted with 15 children in Uganda using the original assessment material [25, 26, 19]. The primary objective of the SLAP-R was to provide assessment that is culturally sensitive and economically easy administered and profiles a child's language acquisition for all SLTs working in SSA.

In 2015, an empirical study was conducted in Western Kenya to investigate the English Second Language aimed at validating SLAP-R as a relevant instrument to assess the second language acquisition and gather normative data [24]. The study of 68 participants was conducted to investigate how the language proficiency in phonology, semantic, grammar and spontaneous language between groups across factors of age, grade and exposure to English measured with the subtests in SLAP-R.

According to [24, 26] the overall results indicated that SLAP-R captures all elements of spoken language pronunciations, vocabulary and the early and late acquired morphemes.

SLAP-R was said to be a valid instrument to provide individual language profiling. In addition to individual profiling use [24], observed that;

"SLAP-R is a qualified instrument to collect normative data for determination of multilingual language development in Sub-Saharan Africa"

3.5.1 Subtest of the SLAP-R

The SLAP-R is divided into five sections; phonology, semantics grammar, Ultimate Expressive Language Skills (UELS) and Questions on Multilingualism [25]. The questionnaire on multilingual is written in English with a Kiswahili version. The questionnaire is an integral part of the assessment process and needs to be administered at the beginning of the assessment. It is intended to be used in an interview format with the legal guardians giving key information including the child's general language acquisition as well as age of onset and amount of exposure time to English [25]. There are twenty items in each of the first three sections. Ten of the items in each section are receptive and ten are expressive. This makes a total of 60 items, plus the Ultimate Expressive Language Skill (UELS) section and the Questions on Multilingualism [25].

Although SLAP-R was considered a culturally viable tool, it cannot be generalized to all the children in Africa [24]. The normed population was originally from Nigeria and later revised in Uganda. Using such a tool although a good guideline on what should be done in Kenya might not give accurate results and could be misleading due to difference between the normed group and the receiving Kenyan population. Kenya is believed to have over forty ethnic groups with different cultural and linguistic practices.

The instrument provides answers only in English. Allowing children to respond in their languages for instance Kiswahili would provide needed insight to general language proficiency. For the Legal guardians to provide an enhanced quality of response [24] proposed translation of the subtest questions on multilinguality into corresponding first languages, which could ensure comprehension.

The SLAP-R also lacks reference materials so far [25]. According to the authors of the assessment tool, for holistic view, all the assessment results need to be contextualized with the living environment of the child. Other factors such as familial, social, educational, cultural, linguistic and intellectual ability need to be amended

by observing the child in different situations and with different interaction partners. [25] hence the need to improve the profile as called for by the authors that;

"All the users of the profile to contribute to the improvement and enlargement of the SLAP-R."

Since there is a general lack of speech and language assessment tools in Africa and Kenya in particular, [10, 11, 23, 24]. SLAP-R is a good beginning towards filling in the gap. It gives the examiner a quick overview of the child's knowledge regarding expressive and receptive language. Another advantage of the tool is that it is a free and convenient material to carry around and the SLTs and other Special needs professionals need this free access in Kenya due to the high cost of acquiring the tools and resources as earlier reported by the SLTs.

IV. Conclusions and Recommendations

4.1 Conclusions

A more practical approach to assessment of communication abilities for culturally and linguistically diverse is to recognize the various sources of potential bias and use systematic procedures that will reduce as much as possible. Assessment can provide fair and equitable evaluation of any individual regardless of the background. Assessment of communication disorders in CLD should not be a use of a single tool or procedure in isolation but to consider individual differences experiences and development. Assessment of CLD should involve a collection of activities brought together in a comprehensive fashion and used in a systematic way to address a variety of issues related to bias or discrimination.

Nondiscriminatory assessment should include a wide variety of data generated from review of records, interviews, observations, standardized tests and authentic methods. Bias in any test is not a function of technical or psychometric deficiencies in tests but rather differences in experience between an individual taking the test and the individuals on whom the test was normed.

Clinical approaches, tools and techniques that are appropriate for one individual may not be appropriate for another. It is therefore important for clinicians to note that the unique influence of an individual cultural and linguistic background may change overtime-necessitating adjustment in clinical approaches. To ease the inherent tension between the desires to employ widely used, well-validated measures and need to adapt items to local context. Clinician must put more effort to develop resources that are locally accepted and validated in adherence of local cultural and linguistic competences. This will minimize the misuse of biases that may lead to wrong judgments on an individual's communicative abilities and this can lead to a misdiagnosis of communication disorders in CLD.

4.2 Recommendations

The study recommends the following based on the findings.

i). The SLTs should work to develop non-biased guidelines, assessment tools materials and procedures that adhere to culturally and linguistically relevant communication patterns of the diverse Kenyan population.

ii). Assessment of CLD should involve a collection of activities brought together in a comprehensive fashion and used in a systematic way to address a variety of issues related to bias or discrimination of children from CLD backgrounds. The SLTs should adopt the dynamic assessment approaches compared to the traditional assessment approaches [34] to minimize misdiagnosis and misplacement of children with communication disorder.

iii). As the field of SLT develop and grow in Kenya, Local universities like Kenyatta University must emphasize on the training of and research on assessment and intervention of the CD in CLD. Continues Education units for in service therapist is highly recommended.

iv). The assessment SLT tools should be developed and validated in the two national and official languages English and Kiswahili before being adapted for use with other ethnic groups in Kenya.

v). The study recommend that the SLT services be decentralized from the big private hospitals and private clinics to the public health facilities and schools and train the officers at the assessment centres to be able to cater for children with CD from CLD.

V. Recommendations for Further Research

Further research should be conducted to evaluate the available assessment tools, resources and approaches used by the professionals at the assessment centres in Kenya to determine their relevance in evaluation, diagnosis and placement of children with other disabilities from culturally and linguistically diverse backgrounds. A further study is recommended to find out the applicability of the examinees feedback and analyze the validity of the PPVT-III by replacing or adding the most appropriate test items that would be considered appropriate for use with the culturally diverse population from Nairobi City County and in Kenya at large.

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