Status Of Utilization Of Hearing Aids (Ha) By Learners With Hearing Impairment In Kenya

Masayi Delilah¹, Bunyasi Beatrice²

¹Masters Student, Department of Early Childhood & Special Needs, Kenyatta University, Box 43844-00100, Nairobi, Kenya, dellymasayi@gmail.com
²Senior Lecturer, Department of Early Childhood & Special Needs, Kenyatta University, Box 43844-00100, Nairobi, Kenya. bawori@yahoo.com

ABSTRACT

This study intended to establish the status of utilization of HA among learners in primary schools for Deaf learners and to explore the problems encountered by these learners while utilizing hearing aids. The study was carried out in two primary schools in Kenya and adopted descriptive survey research design approach. Purposive sampling technique was used to select the two schools that the study was carried out in. A sample of learners with hearing impairment and a headteacher from each school were selected purposively. Stratified random sampling was then used to select the learners. Two strata were established, one stratum had learners with Has while the other had learners who were not utilizing HA. Simple random sampling was then used to select the sample population from the two strata. Data was collected from students using questionnaires and reviewing documents while interviews were conducted on the head teachers. Quantitative data was analyzed using SPSS and inferential statistics were done to establish the relationships between variables while qualitative data from interviews was edited and arranged into themes.

Keywords – Hearing Aids, Hearing Impairment, Technology, Challenges.

1. INTRODUCTION

The sense of hearing is one of the gateways through which one acquires knowledge. It is natural for the ear to be the channel through which one learns to talk and therefor, any impairment in the hearing hinders normal development of speech. Hearing impairment closes the door through which one would normally acquire knowledge of [1]. Therefore, for a person with hearing impairment to acquire speech as well as perceive sound, assistive hearing technology and by extension, HA should be used. Deaf learners use a variety of assistive hearing devices as a strategy to extenuate, impede and make up for life strains originating from hearing loss, [2]. However, when such devices became a challenge to them rather than beneficial, it causes a huge challenge to their utilization and academic achievement. Prior studies indicate that 95% of deaf students born to hearing parents face several difficulties [3] which cause developmental delays. These delays are related to their experience in language rather than intelligence quotient. Language access depends on degree of hearing loss, age at onset and the audiological intervention’s quality and timing [4]

II. LITERATURE REVIEW

The benefits of amplification are undeniable as deaf learners utilize diverse hearing devices as a tactic to extenuate, impede and make up for life strains originating from hearing loss. [2]. HA have developed significantly over the years thus giving learners with hearing impairment revolutionary satisfactory auditory gain [5]. According to [6], regardless of the level of the hearing loss, all learners with hearing impairment need HA. The only difference is that at minimal to severe hearing loss, the learners tent to benefit more from these devices which ensures acquisition of information in the classroom while at moderately severe to profound, the devices may only help to detect sound in the environment. The level of hearing impairment predicts usage or non-usage of hearing aids [7] & [8] as children who have a profound or mild impairment use HA less frequently compared to those with moderate to severe hearing impairment [9] & [10]. [11] found a strong relationship between degree of hearing loss and HA utilization. They discovered that the lower the degree of hearing loss, the lesser they used hearing aids and the higher the degree of hearing loss, the more they used HA. The age at onset of a hearing loss may also influence the learners need for assistive hearing technological devices. Frequent wearing of HA later in life may be promoted by early intervention [12]. A child who develops hearing loss early in life finds it more difficult to develop language thus the child to develop the language of the hearing society (e.g. English) and thus the child may need the technology to access sound within his environment on the other hand, children who become deaf after acquiring language may equally
need the assistive hearing technology to be able to develop on the vocabularies that they had acquired before becoming deaf. The terms pre-lingual deafness for children born deaf and post-lingual deafness for children who get hearing impaired after birth have been used by professionals frequently [13]. [2] Established that utilization of HA is associated with better outcomes in terms of the learners’ psychosocial impact thus endorsing the use of this hearing. Similar findings were cited by [8] stated that HA leads to higher satisfaction level, improved quality life and greater self-esteem while [14] reported that Assistive technology enhances self-efficacy. Even with such benefits derived from hearing aids, studies report that the abandonment rate of hearing aids is at 78%. For instance [2] reported that within a period of one year, 25 students had abandoned HA. A study by [15] acknowledged the fact that deaf people get help from HA. However, many participants revealed that HA come with many more problems at times as some individuals see it as a “cure all” for their hearing impairment when it is not. HA may amplify sound but there are still issues with clarity. The respondents further revealed that HA sometimes take away their choice of whether or not they want to disclose about their hearing impairment. Some respondents described how they faced ridicule and stigma because of their HA and eventually quit wearing them. In the USA [16] indicated that the greatest concern of hearing impaired children what their peers perceived them while in New Zealand deaf learners were found to prefer smaller and less visible in-the-canal aids since others were not able to notice them. Others reported that teasing from other student from wearing large aids made them remove them to cope [17]. [18] conducted a study on reasons for non-use of hearing aids. They found that there were problems like speech clarity, fit and comfort, device factors or situation factors. [19] States that one of the key barriers is the cost of hearing aids and thus reducing their uptake especially in developing countries when they should be affordable. Such a challenge may need to be determined in according to the country of the users through transparent ways founded on the economic data. Concerted efforts may need to be made to make sure that bulk purchases are favourably priced from manufacturers and to ensure state policies do not inflate the user costs. [20], reported that 48.3% of the learners could not afford a HA since they were too expensive and hard to maintain, some did not benefit from them as they were totally deaf while 41.7% did not want to be associated with HA as they develop a stigma and don’t like to be labelled, 6.7% had HA but did not use them. Only 3.3 % of students had HA but did not want to use them. Only 3.3% of students had their HA on and were well maintained. As much as many studies have been done in the area of hearing technology and hearing aids, most of them were done in developed worlds and the few that were done in developing countries focussed on secondary and tertiary institutions. The current study intended to fill the gap of knowledge by providing information of the status of utilization of HA in Kenya among learners in primary schools and the challenges that these learners encounter while utilizing HA.

III. METHODOLOGY

The research was carried out in two primary schools for the deaf in Kenya. Descriptive research design approach was adopted. Questionnaires, interview schedule and documentations were the main data collection tools. The target population consisted of 300 learners with hearing impairment and two head teachers. Purposive sampling technique was used to select two schools. A sample of learners with hearing impairment and the two head teachers was selected purposively and stratified random sampling was used to select the learners. Two strata were established. One stratum consisted of learners with HA while the other had learners without HA. Simple random sampling was then used to select the sample population from the two strata. A sample size included all learners between class five and eight and the two head teachers. The learners were selected between class five and eight because a majority of them have the ability to read and write. Data was collected from students using questionnaires and reviewing documents while interviews were conducted on the head teachers. Quantitative data was analyzed using SPSS and inferential statistics were done to establish the relationships between variables while qualitative data from interviews was edited and arranged into themes.

IV. RESULTS AND DISCUSSION

1. STATUS OF UTILIZATION OF HA IN PRIMARY SCHOOLS IN KENYA

To establish the status of utilization of HA in primary schools in Kenya, various variables were analyzed;

Age at onset of hearing impairment
To establish the age at which the learners developed hearing impairment, a question was included in the questionnaire requiring the respondent to write the age at which they developed a hearing impairment. The responses were summarized in two categories; those that developed hearing impairment between the age of 0-6 or 7 years and above. The responses were summarized in figure 1.

![Figure 1. Age at onset of hearing loss.](image1)

This research therefore revealed that a majority (54%) of the learners lost their hearing after age 7 while 46% became deaf before acquiring language at age 0-6 years. This finding further reveals that majority of the learners acquired deafness after acquiring spoken language. With the fact that this learners lost their ability of hearing after having had an experience of the same, if given an opportunity to hear again, they would take it gladly. This finding further implies that if the learners utilize AT, it can help them to build on the spoken language that they had earlier learnt.

**Severity of hearing loss**

The data on degree of hearing loss from reviewed documents was summarized into two categories, learners who are hard of hearing and those who are totally deaf as shown in figure 2.

![Figure 2: Severity of hearing loss](image2)

The study revealed that a majority of learners in schools for learners with hearing impairment are hard of hearing and so can fully benefit from HA since they have residual hearing which can be enhanced through the use of HA. Only few learners do not need HA since they are totally deaf. This finding deviates from the finding of the research done by [21] in Kenya who found out that majority (63%) of the learners were totally deaf while (37%) were hard of hearing. The teachers stated that if the hard of hearing learners are given assistive hearing technology, they would benefit highly from them. One of the head teachers however pointed out the fact that despite the learners being able to benefit from such technology, most of them always want to identify themselves fully with the deaf community.
They wouldn’t wish anyone to discover that they can at least hear some noise within their surroundings. [22], states that the hearing loss of the hard of hearing is not severe and they can use HA which can help them to maximize the use of residual hearing which enables them to hear and understand spoken language, especially if the HA is used.

**Relationship between age of acquiring deafness and the utilization of HA**

To establish the relationship that exists between the age of acquiring deafness and the use of HA, a chi square test was run and results were summarized in a table 1:

| Table 1. Relationship between age at onset of deafness and utilization of HA |
|------------------|--------|-----------------|-----------------|-----------------|
|                  | Value  | Df   | Asymp. Sig. (2-sided) | Exact Sig. (2-sided) | Exact Sig. (1-sided) |
| Pearson Chi-Square | 5.006  | 3.905 | .025                       | .048                        |
| Continuity Correction | 3.905 | 1     | .025                       | .048                        |

The finding revealed that there is a significant relationship between age of acquiring deafness and the use of HA. Learners who become deaf early in life before the age of seven tend to use HA more than those who become deaf later in life after the age of six. This finding could be due to the fact that learners who become deaf early in life are fitted with the HA early thus they get used to them as compared to those who become deaf later in life. This claim is supported by [23] who suggests that learners fitted with HA early in life appreciated their use more than those who are fitted with HA later on.

**Relationship between gender of the learners and utilization of HA**

A chi-square correlation test was carried out to compare between male and female learners in relation to utilization of HA. The findings revealed that more female than male learners utilize HA as shown in table 2:

| Table 2. Relationship between gender and utilization of HA |
|-------------------|-----------------|----------------|
| Gender of the learner | Do you use your HA? | Total |
|                    | Yes  | No  |        |
| Male               | 7.1% | 40.0% | 47.1% |
| Female             | 15.3% | 37.6% | 52.9% |
| Total              | 22.4% | 77.6% | 100.0% |

This finding is supported by the findings of research done by [23] which established that despite the fact boys tended to be more positive about HA than girls, the girls seemed to use HA to a greater extent than boys.

**Relationship between age of the learner and utilization of HA**

To establish the relationship between age of the learner and utilization of HA, a Chi-Square test was done and the results revealed that young learners tend to use HA more than the older learners as shown on table 3.
Table 3. Relationship between age of the learner and utilization of HA

<table>
<thead>
<tr>
<th>Age of the learner</th>
<th>Do you use HA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>12-14 years</td>
<td>10.6%</td>
<td>17.6%</td>
</tr>
<tr>
<td>15-17 years</td>
<td>10.6%</td>
<td>40.0%</td>
</tr>
<tr>
<td>18 and above</td>
<td>1.2%</td>
<td>20.0%</td>
</tr>
</tbody>
</table>

This finding is in line with the findings of research done by [24] who revealed that there was progressive decline in the use of HA starting from elementary school and continuing through high school. This should be associated to the fact that as children with hearing impairment grow, they tend to acquire other ways of acquiring information from the environment for example, they learn to lip read thus they tend to be comfortable with the information they get.

PROBLEMS ENCOUNTERED BY LEARNERS WHILE UTILIZING HA

With an intention of investigating the problems encountered by learners while using HA, an open ended question was included in the questionnaire which needed the learners to list the problems they encounter. The listed problems were analyzed and presented in figure 3;
Figure 3. Problems encountered by learners with hearing impairment while utilizing HA

A majority of the respondents revealed that the main challenge they encounter while using hearing aids is the fact that hearing aids are noisy, second to this group revealed that they hate hearing aids because there is no technicians in the two schools to fix the aids as well as fine tune them. The hearing aids being noisy can be attributed to the fact that there are no technicians in the schools to fine tune the aids. Most of the learners don’t have knowledge in fine tuning hearing aids that is why in the United States of America, each school also has an audiologist who monitors the hearing levels of the learners and a technician who makes sure that all HA are in good condition. When the two head teachers were asked whether there is a technician in the school, they both revealed that there are no technicians in the schools and they attributed this to the fact that there is no money to pay them. “Technicians are very few and very expensive. Which vote head will the school use to pay them?” one of the head teachers asked. When asked whether teachers have knowledge on fine tuning the aids, both head teachers replied that they have very little knowledge and cannot even be able to detect whether the hearing aids are in good conditions or not. The third group cited the fact that hearing aids are very expensive and their parents are poor thus can’t afford them. The studies further showed that majority of the aids are sourced by parents this finding further concurs with the finding of [20] who established that 48.3% of the learners could not afford a HA since the HA were too expensive and hard to maintain. The fourth most popular response was that hearing aids advertise deafness and makes all people to know that they have a hearing impairment. To add on this, equal number of respondents cited the fact that hearing aids calls for unnecessary attention and that they don’t want to be seen with hearing aids. This finding matches with the findings of [15] who revealed that many participants acknowledged the fact that they got help from HA. However, many revealed that HA come with many other complications at times as some individuals see it as a “cure all” for their hearing impairment when it is not. HA may amplify sound but it still comes with issues in clarity. The respondents further revealed that HA sometimes take away their choice of whether or not they want to disclose about their hearing impairment. Some respondents described how they faced ridicule and stigma because of their HA and eventually quit wearing them. A few respondents cited the fact that they don’t want to be seen with hearing aids and the fact that hearing aids breaks.

V. SUMMARY OF FINDINGS

Status of utilization of HA

A majority of the learners lost their hearing after age 6 while few became deaf between age 0-6. This means that majority of the learners acquired deafness after acquiring spoken and so can be built on by use of HA. Most of them are hard of hearing and so can fully benefit from HA since they have residual hearing which can be enhanced through the use of HA. Only few learners do not need assistive hearing technology since they are totally deaf. The study revealed that there is a significant relationship between age of acquisition of deafness and the use of HA as learners who become deaf early in life before the age of 6 tend to use HA more than those who acquire deafness later in life after the age of 6. It was also revealed that young learners tend to use HA more than the older learners.

Challenges faced by learners with hearing impairment while using HA

Majority of the respondents revealed that the main challenge they encounter while using hearing aids is the fact that hearing aids are noisy, second to this group revealed that they hate hearing aids because there is no technicians in the two schools to fix the aids as well as fine tune them. The third group cited the fact that hearing aids are very expensive and their parents are poor thus can’t afford them. The fourth most popular response was that hearing aids advertise their deafness and makes all people to know that they have a hearing impairment and an equal number of respondents cited the fact that hearing aids calls for unnecessary attention and that they don’t want to be seen with hearing aids. Few respondents revealed that HA sometimes take away their choice of whether or not they want to disclose about their hearing impairment. Some respondents described how they face ridicule and stigma because of their HA and eventually quit wearing them while a few respondents cited the fact that they don’t want to be seen with HA and the fact that HA break.
REFERENCES


5. Holt


11. Lin


15. Lash


17. Kent, B., & Smith, S., They only see it when the sun shines in my ears: Exploring perceptions of adolescent hearing aid users. Journal of Deaf Studies and Deaf Education. 2006. 11, 461–476.


