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The Role of Online Education in the Expansion of Audiological Services in Ethiopia

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Abstract

Introduction: Ethiopia is the most populous landlocked country in the world and the second-most populous nation on the African continent. Hearing impairment is one of the most common reported disabilities in Ethiopia, a country also characterized by a severe shortage of ENT and audiological services and resources. Development of online learning programs is making it possible for many people across Africa to engage in educational opportunities that previously would have been impossible.

Methodology: The purpose of this study therefore was to determine whether medical professionals consider online education as a viable means to expand audiological service delivery in Ethiopia. A survey research design was implemented to determine if medical professionals, who are currently working in Ethiopia, consider online training in the field of audiology as a method to expand hearing health care services in Ethiopia.

Results: Results indicate that although reliable internet connection might be a challenge, the majority of participants are confident that an online training program in audiology will benefit service delivery and expand audiological services in Ethiopia. An ongoing, online training program is also considered as a means of addressing the need for sustainable service delivery and a manner in which the level of knowledge and skills of current professionals can be expanded. Although most of the participants are positive regarding online audiological training, they do feel that online training alone would not be sufficient and that such a program should incorporate a practical component as well.

Conclusion: Online education in hearing health care can assist with the expansion of audiological service delivery in Ethiopia and further research should be performed to determine the components of such a program.

Keywords: Ethiopia; Hearing loss; Online training; Online education; Audiological service

Introduction

Ethiopia is the most populous landlocked country in the world and the second-most populous nation on the African continent. Hearing impairment is one of the most common reported disabilities in Ethiopia, a country also characterised by a severe shortage of ENT and audiological services and resources [1]. Many medical professionals are involved in various humanitarian projects in Ethiopia but the challenge with this is that services and resources are not sustainable and continuously available. Development of online learning programs is making it possible for many people across Africa to engage in educational opportunities that previously would have been impossible [2].

Globally, online learning is growing at an enormous pace - the industry is projected to double over the next two years [3]. The highest growth rates in online learning are expected in Africa and Asia. It is estimated that by 2025 roughly half of all college classes will be online learning based. Corporations are also finding online learning to be highly efficient, reporting significant cost savings and instruction time. Although there is a severe lack of physical higher education institutions in developing countries internet connectivity is available to most persons living in developing countries. Development of online learning programs is making it possible for many people across Africa to engage in educational opportunities that previously would have been impossible [4]. This leads us to believe that the only way to catch up with the growing need for audiology services is to deploy learning online, especially in developing countries.

The need for research that encompasses the feasibility of such online programs and what it should entail are necessary [4] and therefore the question arises if an online training program in hearing health care will be a viable means to expand audiological service delivery in Ethiopia?

Method

Aim

The aim of this study was to determine whether medical professionals consider online education as a viable means to expand audiological service delivery in Ethiopia.

Study design

A survey research design was implemented to determine if medical professionals, who are currently working in Ethiopia, consider online training in the field of audiology as a method to expand hearing health care services in Ethiopia. A self-developed questionnaire (Appendix A) was distributed among participants and they were asked to complete the questionnaire in the presence of an Eduplex Training Institute (ETI) member. This procedure ensured personal contact and subsequent higher response rates [5].

Participants

A purposive sampling method was implemented where participants (n=19) were chosen because they were representative to the topic of interest. They met the following criteria:

- Medical professionals working in various medical fields in Ethiopia
- English language proficiency and literacy

All the participants were enrolled for an online Hearing Aid Acoustician program at the time of the study and included 11 males and 8 females. Participants' ages ranged between 18 and 40 years with most of the participants (68%) being between 25-30 years of age. Participants worked in the following medical fields:

- Nurse [6]
- Resident in ENT [5]
- Hearing aid assistant [3]
- Special needs therapist [2]
- Medical laboratory assistant [1]
- Speech therapist [1]
- General practitioner resident [1]

All of the participants' native language was Amharic but they were proficient in English as an additional language as they were all enrolled in an English online Hearing Aid Acoustician program.

Material

Participants were asked to complete a questionnaire in order to obtain background information and information about their perceptions of hearing health care and online education in Ethiopia.

Procedure

An appointment was arranged with participants on a time that was suitable to them. The ETI representative explained the purpose of the study and provided each participant with a letter of informed consent. After participants agreed to take part in the study, they were provided with the questionnaire and they were asked to complete the questionnaire in the presence of the ETI representative before the end of the appointment. Participation in the study was entirely voluntarily and participants could withdraw from the study at any time if they chose to do so.

Data Recording

Data from the questionnaires were coded into a Microsoft Excel worksheet.

Results and Discussion

The main reasons according to participants, for the lack of hearing health care services in Ethiopia, is displayed in Figure 1.
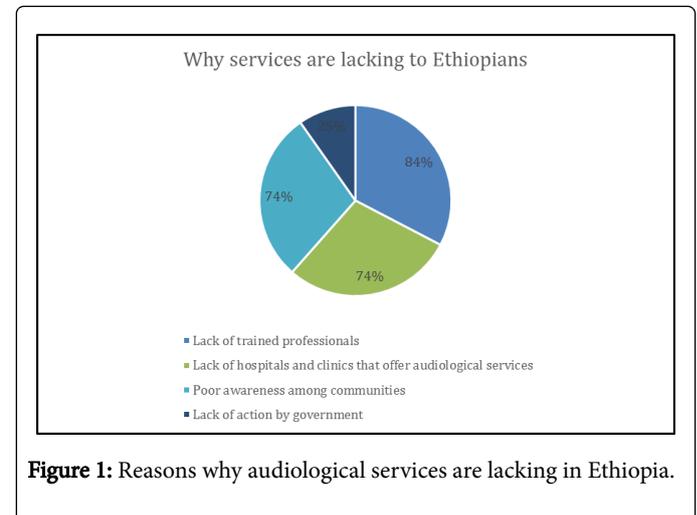

Figure 1: Reasons why audiological services are lacking in Ethiopia.

According to participants in this study, the main reason for the lack of audiological services in Ethiopia is because of a lack of trained professionals (84%) followed by a lack of hospitals and clinics that offer audiological services (74%) and poor awareness among communities (74%). Research done by Malwafu and colleagues [6] indicated that although there was a slight increase in the number of Ear, Nose and Throat (ENT) surgeons in Ethiopia from 2009 to 2015 (increased from 11 to 22), there was no increase in the amount of audiologists and speech therapists in Ethiopia during this time. At the end of 2015, Ethiopia only had the services of one audiologist and one speech therapist [6]. Clearly it is impossible for these professionals to serve a population of almost 100 million people [7]. Twenty five percent (25%) of participants indicated that this shortage is also due to a lack of action taken by government to improve hearing health awareness and service delivery in Ethiopia. At the time of this study, none of the universities in Ethiopia presented an audiology or hearing aid acoustician program. The Addis Ababa University only presents a program for teachers to obtain a BA degree in Ethiopian Sign Language and Deaf Culture [8].

When asked about the access they have to internet, 53% of participants indicated that they do not have access to fast and reliable internet at their home or place of work while 47% of participants indicated the opposite. Internet penetration in Africa increased drastically during the last five years but the proportion of African people online is however still far behind the global average. Major infrastructure expansions are under way in Africa to keep up with the rising demand for bandwidth, which include upgrading and installing of submarine cables and backbone networks to various experiments to get rural and peri-urban Africa online [9].

In Figure 2, one can see that the majority of the participants (84%) access the internet from their place of work with only a small percentage of participants that access the internet from their cellular phone (11%) and their home (5%).
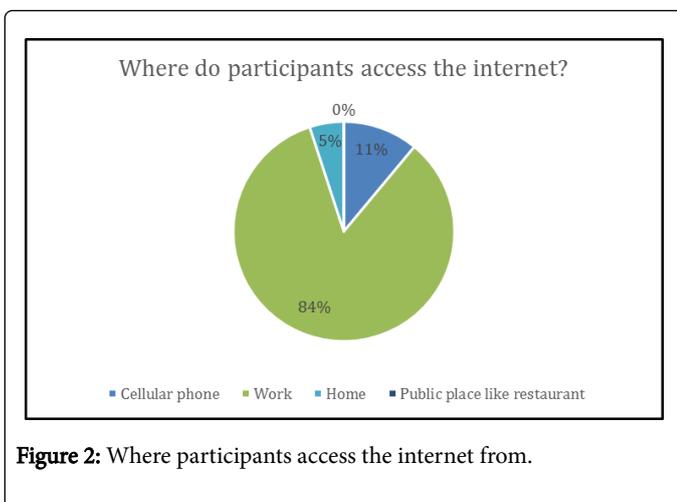
Figure 2: Where participants access the internet from.

When asked if participants thought that an online training program can be an effective way to train professionals on how to do hearing tests and hearing aid fittings, 84% replied yes and 16% responded no. All the participants that indicated no, did however state that they do feel such a program cannot be online only but should include a practical component to be effective. It is not uncommon in audiology distance learning programs to include hands-on, face-to-face workshops or sessions to give students the opportunity to practice what was learnt in the theory. Most of the audiology distance programs presented by Salus University in the USA also include these practical components [10].

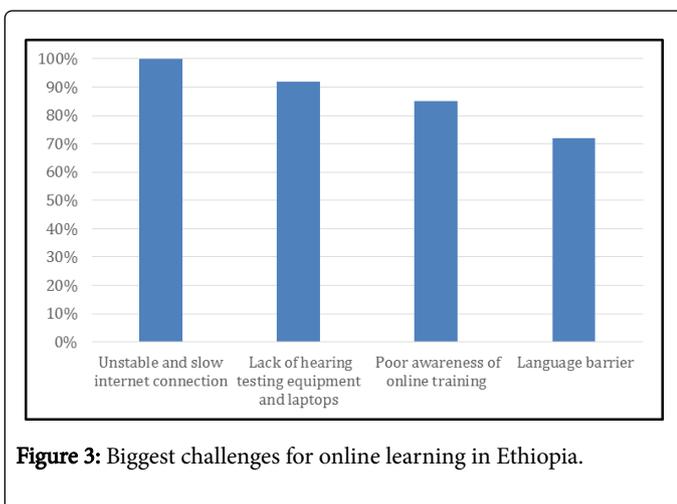Figure 3 displays the biggest challenges that were identified for online learning in Ethiopia.

Figure 3: Biggest challenges for online learning in Ethiopia.

From the figure above it is evident that the main challenge for online learning, as indicated by all the participants, is an unstable and slow internet connection. Poor and unstable internet connectivity is seen as one of the biggest challenges for online learning in most developing countries [11]. According to the Ethiopian Telecommunication Authority the internet network in Ethiopia is relatively stable, with most faults being due to power interruptions [12]. In Addis Abeba the power network is down about once a week, while the situation is more difficult in the countryside. However, interruptions are usually brief and the rate of failure not dissimilar from that of neighbouring countries [12]. Ninety two percent (92%) of participants felt that the second most challenging condition is a lack of hearing testing equipment and laptops followed by poor awareness of online training (85%). Language barrier is also considered as a challenge for online learning as 72% of participants highlighted this. The national language in Ethiopia is Amharic [13] which differ substantially from the English language in terms of grammar and speech.

Conclusion

Results of this study indicate that although reliable internet connection might be the major challenge in Ethiopia, the majority of participants are confident that an online training program in audiology will benefit service delivery and expand audiological services in Ethiopia. An ongoing, online training program is also considered as a means of addressing the need for sustainable service delivery and a manner in which the level of knowledge and skills of current professionals can be expanded. Although most of the participants are positive regarding online audiological training, they do feel that online training alone would not be sufficient and that such a program should incorporate a practical component as well.

To conclude, online education in hearing health care can therefore assist with the expansion of audiological service delivery in Ethiopia and further research should be performed to determine the components of such a program.

Declaration of Interest

The authors alone are responsible for the content and writing of the paper.

Acknowledgement

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