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Gown versus town relationship in hearing health: Implication for international best practices in hearing health practices in Africa

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***Abstract*—** Africans are well-represented among the global population of persons with hearing impairment. Various initiatives have previously been implemented to curb the rise in the population of persons with hearing impairment. However, practice among hearing healthcare professionals according to international best standards in Africa remains a mirage. Adopting the literature review approach, this study established, among other factors, that the percentage of hearing healthcare professionals is lower than that of patients needing hearing care services. Hence, emphasis on practicing according to international best practices may be impossible. Therefore, this study advanced some recommendations that would foster hearing healthcare practice in Africa that is in tune with internationally acceptable standards of operation.

Keywords: Hearing Healthcare, Audiology, Hearing Impairment, Sub-Sahara Africa, International Best Practices

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I. INTRODUCTION

HEARING impairment is a condition used to describe difficulties in sound perception through the organs of hearing. Difficulties in sound perception could be a partial or total loss in sensitivity of sound stimulus (Oyewumi et al., 2015). Hearing impairment is an invisible disability and becomes evident only in contextual environments where auditory-verbal communication is needed. Globally, over 360 million individuals live with hearing impairment, with about 136 million from Africa (World Health Organisation [WHO], 2017). Africa may be described as an epicentre of hearing disability with an overrepresentation of children among the identified population. The World Report on Hearing (WHO, 2021) indicates that about 39.9 million Africans have moderate to profound hearing loss. A 2020 report by the African Academy of Sciences (2020) and Olusanya, Luxon, and Wirz (2005) aver that there are about 6 per 1,000 live births with congenital hearing impairment in Africa. Lamentably, the population of Africans with hearing impairment will rise to about 332 million by the year 2050 (WHO, 2021). Variations exist among Sub-Saharan African countries on the estimated population of individuals with hearing impairment (Adigun & Mngomezulu, 2021; Swanepoel, Olusanya, & Mars, 2010). However, the implication of hearing impairment on interpersonal communication, quality of life, and devastating consequences on economic independence remains the same among all individuals with hearing impairment in Sub-Sahara Africa (Adigun & Mngomezulu, 2021; Olusanya, Luxon & Wirz, 2005; Oyewumi et al., 2015). Regrettably, despite the negative implications of hearing impairment on individuals' wellbeing, there is generally low awareness about its causes and management protocols in Sub-Sahara Africa. Consequently, there is a perceived increase in recorded cases of hearing impairment among African populations.

Hearing healthcare in Africa

The estimated population of individuals with hearing impairment in Sub-Sahara Africa is a factor that should foster an increase in awareness about hearing loss and the provision of much-needed hearing care. Regrettably, access to hearing healthcare is impeded by a disproportionate ratio of hearing healthcare professionals to the actual population of Africans (Ratanjee-Vanmali, Swanepoel, & Laplante-Levesque, 2019; Swanepoel & Clark, 2018; WHO, 2013). According to WHO (2013), there is a reasonable concentration of human resources for adequate hearing healthcare in both high- and upper-middle-income countries. Swanepoel, et al. (2010) lamented the shortage of hearing healthcare professionals in Sub-Sahara Africa. Unfortunately, there is still a very low supply and availability of trained and qualified hearing healthcare professionals needed to serve a larger population of patients in dire need of hearing health in low-income countries, especially in Sub-Sahara Africa (Swanepoel & Clark, 2018).

As indicated by Goulios and Patuzzi (2008), unlike Audiology, the profession of otolaryngology has a relatively higher number of professionals who serve the population that seeks their services. In their 2008 report, Goulios and Patuzzi assert that there were about 250,000 otolaryngologists in Sub-Sahara Africa while audiologists were in their tenths. In other words, Goulios and Patuzzi (2008) indicated that there was less than the required ratio of hearing healthcare professionals to the population of patients who require professional attention for their organs of hearing. However, with the recent trends in awareness and advocacies, there is sufficient tendency to believe that there should have been an increase in the number of professionals in the field of Audiology and otolaryngology. However, one germane question would be whether the current population of audiologists and otolaryngologists in

Sub-Sahara Africa is sufficient to serve the teeming population of individuals seeking hearing healthcare?

The provision of plausible answer(s) to the afore-stated question in this paper has adopted the literature review approach.

Lamentably, despite the potential increase in the number of hearing healthcare professionals in Sub-Sahara Africa, there is a great lacuna in access to and provision of hearing health on the continent. Hence, limited opportunities exist for individuals needing hearing healthcare services in Sub-Sahara Africa. There is an inseparable association between the inadequacy of hearing healthcare professionals and hearing health services provided. Regrettably, the inadequate number of hearing healthcare professionals and issues of adopting international best practices have significantly influenced hearing disabilities and associated trauma experienced by individuals with hearing impairment and their families and friends. Research evidence has established the fact that individuals with hearing impairment, particularly in Africa, are not only faced with communication challenges but also experience challenges accessing required healthcare services, limited socioeconomic independence, reduced quality of life, and depressive symptoms (Adigun & Mngomezulu, 2021; Adigun & Vangerwua, 2020; Meador & Zazove, 2005). Significantly also, in recent times, there has been an upscale in the development of healthcare services and other services being rendered to persons with hearing impairment within and among Sub-Saharan African nations. However, progress in this regard varies across various nations and sub-regions of Sub-Saharan Africa.

Understanding current issues of hearing healthcare in Africa

For an adequate understanding of current hearing healthcare issues in Sub-Sahara Africa, the author has approached this segment by purposively sampling African countries. Kindly note that the countries were randomly sampled for this article and, therefore, may not represent the ideals of member countries of each region.

South Africa should be hold and other information thereafter should be drop down: For more than five decades, hearing healthcare issues vis-à-vis Audiology and Speech-language therapy have been a subject of ongoing discussion in South Africa. Pioneered by Professor Pienaar (1904-1978), Audiology and Speech-language therapy in South Africa has undergone various metamorphoses to reach a desirable platform for hearing healthcare. Interestingly, despite several challenges and lack of adequate funding, Swanepoel (2006) stated that Pienaar believed that aside from the fact that South Africa had faith and hope in her youthful idealism, the profession (Audiology and Speech-language therapy) was proud of the standards of training, research and therapeutics approaches to hearing healthcare in the country. However, Cilliers (1980) alluded that the profession still requires specific guidelines and policies to guide hearing healthcare professionals in the great task ahead regarding professionalism in serving the entire South African population who may need quality ear care services.

In her quest for excellent service delivery to South Africa, six institutions of higher learning (University of Pretoria; University of the Witwatersrand; University of Cape Town; University of KwaZulu-Natal, University of Stellenbosch, and Sefako Makgatho Health Sciences University) are currently training potential hearing health professionals through a four-year Bachelor's, Master's and Doctoral degrees (Swanepoel, 2006; Pillay, Tiwari, Kathard, & Chikte, 2020). A recent report showed that about 3266 Audiologists and Speech Therapists are practicing in South African public and private health institutions (Pillay et al., 2020). As further indicated by Pillay et al. (2020), there are more hearing healthcare professionals in the private sector than in the public sector.

Interestingly, through various health policies and the Health Professions Council of South Africa (HPCSA) activities, South Africa has established and promoted the practice of Audiology and Speech-Language therapy through international best practices. Hearing healthcare professionals registered with the HPCSA through various professional associations, such as the South African Speech-Language-Hearing Association (SASLHA) and South African Association of Audiologists (SAAA) are closely monitored and periodically evaluated. Members are encouraged to aspire to the highest standards of ethical conduct, and guidelines are for best practice in Audiology and Speech therapy.

Botswana

Botswana has about 2.3 million people (World Bank, 2021). Although the country is sparsely populated, incidences of hearing impairment, especially among newborns, cannot be underestimated. Based on a 2012 birth cohort of 47 700 live births report from Botswana, Banda et al. (2018) reported that at least 96 newborns in the country were born with prelingual hearing loss. Lamentably, Botswana is yet to enjoy the required number of hearing healthcare professionals needed to care for the hearing health needs of people in the country. In their report, Banda et al. (2018) noted that the country has only two publicly funded audiology clinics. An inquiry by the author into the current situation of hearing healthcare through the Botswana Audiology Association (BAudA) revealed that as of 30 March 2022, there were 17 practising hearing healthcare professionals (Audiologists and Speech-Language therapists) in Botswana. While it is a requirement for hearing healthcare professionals to register with the Botswana Health Professions Council, there are no training institutions for audiologists and Speech-Language therapists in the country. Hence, available Botswana professionals received their training from the United States of America, United Kingdom, Australia, and South Africa.

Kenya

Kenya is one of the countries in eastern Africa with a population of more than 47.6 million (Kenya National Bureau of Statistics, 2019). The country also accounts for more individuals with hearing impairment, especially children. In a mission to promote hearing health in Kenya, Rowden-Racette (2010) reported that 12 out of 100 children examined for hearing impairment at an orphanage had perforated eardrums, while most others reported having chronic otitis media. According to Rowden-Racette (2010), these children had good healthcare by Kenyan standards. Browne expressed amazement at the population of individuals with hearing loss in Kenya, especially in the remote areas. Opinya and Njama (2018) expressed displeasure about Kenya's lack of routine hearing screening because they believed that the increase in cases of hearing impairment went widely unchecked. Lamentably, the health system's capacity for hearing health in Kenya is disproportionately low for the entire country. In their study, Jayawardena et al. (2018) aver that Kenya has just a few otolaryngologists and audiologists, respectively. In other words, the country has extreme shortages of otolaryngology and audiology services, and early identification and treatment of otologic pathology remain challenging in Kenya.

Rowden-Racette (2010), Opinya and Njama (2018) allude that millions of Kenyans with hearing impairment are waiting for hearing healthcare services, especially in tertiary health institutions such as the Kenya National Hospital, but unfortunately, only a few can receive such attention. According to information available on https://kenyaentsociety.or.ke/membership/ as of 31 April 2022, there were less than 40 registered members of the Kenya Ear Nose and Throat (KENT) Association. The listed members comprised ENT surgeon in training, ENT Clinical officer, an audiologist, a Speech Therapist, and Nurses. This showed a great lacuna and potential lack of capacity in Kenya's health system to provide adequate hearing healthcare services to Kenyans.

Nigeria

Training of audiologists in Nigeria started in the 1970s. Until now, however, only two institutions of higher learning (the University of Ibadan, the University of Jos, the federal University of health sciences, Ila and the University of Medical Sciences, Ondo) offer comprehensive training in Audiology. There is no available data on the number of practicing audiologists and Speech-Language therapists in Nigeria. Based on the ratio of qualified hearing healthcare professionals to the population of citizens that require their services, hearing healthcare in

Nigeria is probably not different from what is obtainable in Botswana and Kenya. Hearing healthcare services in Nigeria are delivered both in public and private healthcare institutions. The public health institutions lack the required standard facilities and equipment for adequate hearing healthcare services compared to private services. One major factor differentiating public and private audiological practice is the cost of accessing hearing healthcare. Although services for hearing challenges are available at various private audiological centres, excessive queues and various appointment dates given to patients at publicly funded audiological centres in Nigeria can be frustrating. Hence, only a few Nigerians can afford the cost of accessing hearing healthcare services at private audiological centres, thus avoiding the queue and/or having an unnecessarily distant appointment date with a consultant audiologist.

The scope of audiology practice in Nigeria is within the purview of the Medical Rehabilitation Therapists Board of Nigeria (MRTB) and the Speech Pathologists and Audiologists Association of Nigeria (SPAAN). Both MRTB and SPAAN review policies of practices when necessary. Generally, in Nigeria, graduates of special education specializing in Audiology and Speech pathology are allowed to practice in hearing healthcare. Hearing healthcare practitioners with a Master's degree are registered as full members of SPAAN, while MRTB provides members with a practicing license. However, issues of international best practices in hearing healthcare services remain a concern.

Egypt

Egypt is a country in the North African sub-region with a population of approximately 105.7 million people (World Population Review, 2022). The country's population is not immune to hearing impairment as studies have shown that about 16% of the Egyptian population (Males: 60%; Females 40%) live with hearing impairment (Hamid et al., 2007). An updated report by Hamid et al. (2010) revealed that incidences of hearing impairment among Egyptian children were 14%. On the other hand, Taha et al. (2010) reported an estimate of 20.9% hearing loss among primary school children in the Shebin El-Kom District, Egypt. It is therefore evident that hearing impairment issues are evident in Egypt. However, the country has an appreciable number of hearing healthcare professionals and bodies of professionals that monitor professionals for adherence to ethics and guiding principles.

For instance, the Egyptian Society for Phoniatrics and Logopedics (ESPL), established in 1976, has been at the forefront of ensuring that its members (including Phoniatricians, Logopedists/Speech Pathologist, Physiotherapists, professionals in communicative sciences and disorders as well as Clinical Psychometrists) observed and adhered to the required international standards in their practices. El-Begermy et al. (2020) affirmed that hearing healthcare professionals in Egypt were exposed to ongoing in-service training on the management of otosclerosis with the classic endaural approach, hypo-tympanostomy with endoscopic assistance, facial nerve decompression and grafting as well as other audiological advancement training sessions that include pure tone audiometry, speech audiometry, and tympanometry and how to make surgical decisions based on the audiological evaluation.

Issues of international best practices in hearing healthcare practices in Africa

The organ of hearing is a very important sense organ for social inclusion and auditory-verbal communication. It is central to quality social interaction and perhaps a satisfactory quality of life. Hence, adequate care of the hearing mechanism/organ should be a priority. Until now, however, millions of individuals in Africa continue to face challenges with their organs of hearing. Thus, they are prevented from actively using the hearing organ for effective and efficient auditory-verbal exchange of information. While it has been established that many factors leading to hearing loss are preventable (Adigun & Vangerwua, 2020; Ratanjee-Vanmali et al., 2019; Swanepoel & Clark, 2018), large numbers of children in every nation of Africa have recorded annually with hearing impairment. However, one may be tempted to hypothesize that continued growth in the estimated figure of Africans with hearing impairment is directly proportional to the rapid population increase on the continent.

On another note, based on the estimated population of Africans, the continent should have more than enough well-trained and qualified healthcare professionals capable of providing needed hearing healthcare services to the teeming population of Africans. However, the reverse is the case in Africa compared to what is obtainable in Europe (Swanepoel & Clark, 2018; WHO, 2013). Lamentably, available hearing healthcare professionals in Africa are overwhelmed with the population of patients seeking their professional services. Hence, pressure from patients may substantially negatively affect the quality of work life (Ahmad, 2013) of hearing health professionals. While past studies have established that public health institutions in Africa are ill-equipped and overstretched (Banda et al., 2018; Pillay et al., 2020), private hearing healthcare facilities across the continent of Africa continue to attract patients with hearing impairment whom various public health institutions cannot accommodate for hearing healthcare services due to the limited capacities of such health institutions.

It can therefore be deduced that population remains a major determinant of the quality of hearing healthcare services provided by various hearing healthcare professionals in public or private hearing health institutions. In other words, due to the expansive population, there is a higher tendency to lower the standard of operations (SOPs) for hearing healthcare services and/or tendencies for bias against patients based on various factors, which include but are not limited to, financial capabilities (Falchetta et al., 2020), social strata, social capital (Oyekola et al., 2021) medical aid, geographical locations (Abera Abaerei, Ncayiyana, & Levin , 2017; Swanepoel & Clark, 2018), the severity of hearing loss to traumatising experiences among others. Thus, providing hearing healthcare services by international best practices in Sub-Saharan African countries may be difficult to attain.

Over the years, healthcare research and practices have highlighted issues relating to standard operating systems in hearing healthcare services by international best practices (WHO, 2021; El-Begermy et al., 2020). Regrettably, the concept of international best practices, especially in the healthcare sector in Sub-Sahara African nations, has been expanded in concept rather than practice. Although professional bodies and licencing bodies strive to ensure that members adhere strictly to ethical principles and dictates of professional practices, until now, international best practices in hearing healthcare among professionals may not have been fully achieved at a commensurate level as witnessed in the developed nations. Based on submissions of past studies (Abera Abaerei et al., 2017; Adigun & Vangerwua, 2020; Banda et al., 2018; Falchetta et al., 2020; Oyekola et al., 2021; Pillay et al., 2020; Swanepoel & Clark, 2018; Taha et al., 2010) and the current realities in hearing healthcare provisions in Sub-Sahara Africa, international best practices seem unachievable until proactive steps are taken to revamp processes and procedures of hearing healthcare.

II. CONCLUSION

Using a review of existing literature on international best practices in hearing healthcare practices in Africa, evidence retrieved from past literature revealed that achieving best practices in hearing health has been a mirage in Africa due to various factors, which include the uneven ratio of hearing healthcare professionals to the population of people who require the services of hearing health specialist, rural-urban dichotomy, financial implication, overstretched healthcare institutions as well as patients' social strata/capital. Hence, the factors above have negatively influenced the institutionalisation of international best practices in Sub-Sahara Africa.

To foster hearing health practices in line with international best standards and procedure, this study advanced that there is a dire need for quality formal education and training hearing healthcare professionals in Sub-Sahara Africa. Modalities such as awareness creation of various branches of hearing healthcare services among

potential entrants into various higher educational institutions should be instituted urgently. Such an approach may be included in career awareness and counselling in various high schools. High school learners should be made to understand the implications of the rapidly increasing menace of hearing impairment to an individual and society at large. This increased awareness would motivate new entrants into the hearing healthcare profession. It would boost the population of currently practicing hearing healthcare professionals to match the required patient-professional ratio standard. In addition, continuing professional development (CPD) programmes largely based on fostering and executing professional practice in line with international best practices must be enhanced. In other words, there is a need to modify existing continuing professional development (CPD) programmes in hearing healthcare to include issues and principles of hearing healthcare service delivery in line with international best practices.

Internationalization of practical experiences would immensely benefit pre-service and in-service hearing healthcare providers in Sub-Saharan Africa. This would involve academic and professional exchange programmes between African hearing health professionals and professionals within African nations, and with well-developed economies, international best practices are strictly adhered to. With such exchange programmes, professionals from the African region would not only see the concept of 'international best practices in hearing healthcare' from theoretical perspectives but also have first-hand experience of such during instituted academic and professional exchange programmes, which may or may not be for accumulating credits. Such programmes should cover different services, such as extracurricular programs to include an international and intercultural dimension tailored towards developing and adopting international best practices in hearing healthcare, greater recruitment, and internationalised curriculum for research and scholarly collaboration.

Ministries of Health across all African states must institute a unified Ear Care Policy, which is imperative to establishing and adopting international best practices in hearing healthcare in Africa. Such policy should be comprehensive to accommodate the provision of standardized and monitored neo-natal hearing screening for all newborn infants. A unified African Ear Care Policy should inform member states about the need for specialized funding for hearing health in urban and rural areas. This study further recommends the training and re-training hearing healthcare professionals and providing incentives for professionals in remote/rural areas.

It is important to emphasize that continuing professional development (CPD) programmes, training, and re-training of hearing healthcare providers must adopt approaches that require a shift in thinking and approach to providing hearing healthcare services. In other words, such training should involve critical thinking skills for adaptive behavioural approaches to responding to patients' ear care needs. More importantly, in the quest to achieve international best practices in hearing healthcare, services must be provided in a manner that is patient/people centred. Hearing health services provided in a patient/people-centred manner will promote holistic hearing health and expanded and timely prevention, diagnosis, treatment, management, rehabilitation, and palliative care services for individuals with hearing impairment. With a patient/people-centred approach to hearing healthcare, there is a higher potential for large-scale public awareness about ear care attitudes and a drastic reduction in reported cases of hearing impairment on the African continent.

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