

Scarce Health Human Resource Wastage: No work for South African Audiologists? A descriptive Survey Study.

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Research

Keywords: unemployment, human-resources, healthcare, audiology, economy

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Abstract

Background: In the last decade, there has been an increase in the number of unemployed health professionals in South Africa. Since the economic downfall following the international financial crisis in 2008, unemployment rates in South Africa have since been increasing and have to date reached 29.1%, the highest in the last 11 years. The current study sought to identify the challenges in obtaining and maintaining employment for audiologists in South Africa.

Methods: A descriptive online survey design was used. Participants were recruited online through professional association webpages using the snowball sampling technique. All qualified audiologists registered with the Health Professionals Council of South Africa were eligible to participate.

Results: A total of 219 audiologists responded to the survey however only 132 complete responses were collected. Only the results from the 132 completed questionnaires were included in the analysis. Majority of the participants (89%) were female, between the ages 25 to 34 (67%). In the first-year post-graduation, 16% of the participants were unemployed and this increased to 19% in the second-year post-graduation. In the majority (81%) of employed participants, it is worth noting that up to a fifth (19%) were working within non-audiology fields. Employment characteristics of those working in audiology fields (n=107) show that most participants were working within the public health sector (47%) and based in clinical settings (52%). The most common workplace challenges reported were remuneration (37%) followed by lack of resources (18%), workload (18%), work environment (10%), working hours (9%) and lastly, interprofessional relationships (8%).

Conclusion: In South Africa, up to 16% of audiologists are unemployed in their first-year post-graduation and this increases to 19% in the second-year post-graduation. This study's findings are the first to document the unemployment rate of newly graduated hearing healthcare professionals in South Africa. These findings have potential to influence critical discourse on hearing healthcare human resource policies and planning, hearing healthcare labour market needs and capacity as well as hearing healthcare context and potential for growth in the South African context.

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Background:

Unemployment is a socio-political challenge worldwide and a major challenge in South Africa where the current national unemployment rate is the highest in 11 years^[1-2]. Statistics South Africa (2019) reports a 29.1% official unemployment rate, which translates to approximately 6.7 million people who are able (skilled) to work and actively seeking jobs^[3]. The expanded unemployment rate which would include those who are not actively seeking jobs^[3] skilled or otherwise, is much higher and is up to 38.5% (10 million people)^[2]. Unemployment rates are especially high (55.2%) amongst the youth aged 35 and younger^[2].

More than 15 years ago, the growing unemployment crisis in South Africa was described then, as a 'beast', with an 'effect on economic welfare, erosion of human capital, crime and social instability'^[4]. In response to the annual increase in unemployment, the government has shown a wide range of policy efforts and interventions to curb the crisis and impact, especially among the youth^[1, 5]. One of the key interventions has been increasing access and quality of education with the aim of increasing the number skilled youth that would be more employable as per labour market skills demand/need^[1, 6].

In the last 20 years in post-apartheid South Africa, increasing access, quality and levels of education has been a key focus as research has shown that educated/skilled young people stand a better chance of finding employment, and of finding employment faster than their peers with lower levels of schooling^[5, 7-8]. However, there seems to still be a persistent case of unemployment even among skilled graduate professionals in South Africa to date, despite vast efforts invested in access and quality of education^[5]. Graduate unemployment is problematic, because it wastes scarce human capital which is detrimental to the economy in the long run^[9].

Currently, South Africa's labour market consists of formal and informal employment. Formal employment is defined as employment created by businesses or the government where an employee is hired under established working agreements^[3, 10]. In 2014, only 25% of South Africa's workforce were skilled workers with formal employment, this is including graduate health workers^[11]. In 2016, 405 000 South African citizens with tertiary level education including health professionals, were unemployed^[12]. Graduate unemployment is an important area of study because the South African economy experiences severe skills shortages however simultaneously unable to generate and sustain sufficient job opportunities for skilled labour^[13]. The issue of graduate unemployment therefore contradicts studies

suggesting that the higher a participant's education level, the higher the probability of finding employment, for example health professional graduates with specialized education are expected to be fully absorbed into the skills starved labour market [14-16].

The South African healthcare economy and setting is complex [17]. Research highlights that there is a rise in health human resource and service wastage through unemployment, low worker retention and low overall system efficiency as influenced by the macro socio-economic and political issues that are not unique to South Africa but are in most developing African countries [18]. The term wastage of health human resources is used by previous researchers in the field [18] to describe "the loss in utility of health workers/health professionals resulting from underuse or non-use of trained personnel, unemployment, retrenchment or the labour force's inability to absorb skilled graduates. Some researchers argue that many of the South African healthcare challenges are rooted in distinct features of the apartheid history, which sustained health inequity through its successive segregationist policies [19]. To date, there has been a recent increase of unemployed health professionals, including audiologists [20-22].

Audiologists are the primary hearing healthcare professionals involved in the identification, prevention and evaluation of auditory and balance disorders. In addition, audiologists are the single most important resources for non-medical habilitation or rehabilitation of hearing loss [23]. Audiology is a relatively young among other South African health professions and has been growing in the last half century from an adjunct to Speech Therapy to its own autonomous profession [24]. First training programs were introduced around 1937 as two-year diplomas and evolved to four-year degree programs by 1948 [24]. To date, audiology training as a singular, autonomous profession is available at some of the six higher education institutions offering the degree in South Africa with approximately 100-150 new graduates recorded annually [24-26]. It is worth noting that this is a low number of audiologists entering into healthcare system to meet the high need of hearing health services as influenced by the disease and disability burden, in South Africa [27]. Lower supplies of rehabilitation health professionals like audiologists is a common challenge in low- and middle-income countries, including many located in sub-Saharan Africa, where the need of rehabilitation professional skills tends to be greatest [28]. The Health Professions Council of South Africa 2019 register indicates approximately 845 singularly qualified audiologists and 3212 dually qualified speech therapists and audiologists, currently qualified to provide hearing healthcare services in the country of close to 60 million in population size.

Audiologists in South Africa are mostly employed and function in the public healthcare system [24,27]. The South African public healthcare system is unfortunately marred with several challenges including well-documented lack of skilled professionals, infrastructural constraints, limited well-functioning facilities, general lack of resources for the size of the population, risk versus benefit assessments predicaments as well as challenges with translating policies into practice [27,29-30]. These challenges affect mostly the already vulnerable parts of the population such as the poor with communication disabilities such as hearing loss [27,30-32].

Therefore, the current study sought to investigate and describe challenges in obtaining and maintaining employment of audiologists as scarce skilled health human resources in context of the rising unemployment rates in South Africa. Anticipated impact of the current study is to inform hearing healthcare human resource policies and planning, hearing healthcare labour market needs and capacity as well as hearing healthcare context and potential for growth in the South African context [18,20-21].

Methods:

i. Study aim:

To describe what are the challenges in obtaining and maintaining employment for Audiologists in South Africa. The current study sought to answer the study aim through the following objectives;

- Identify the un/employment rate of audiologists
- Describe un/employment characteristics in terms of
 - Unemployment:
 - Duration without work
 - Challenges obtaining work
 - Employment:
 - Demographics: Location, Sector, Work field, Contract type
 - Workplace Challenges

ii. Study design:

A descriptive cross-sectional online survey was used. A descriptive survey was chosen as both a research design and a tool for the data collection of the present study [33]. The study design was chosen based on its many advantages including its cost-effective nature as well as its ability to overcome geographical boundaries when seeking to collect data widely dispersed participants [33]. The sample size was calculated using an online calculator on the SurveyMonkey platform. An acceptable margin of error for survey studies is between 5–10% [34]. A lower margin of error increases the value of the sample, the accuracy of the value and reduces the risk of the sample not representing the population under investigation [35]. Using these parameters, 330 audiologists was calculated as the needed sample size. However, the response rate to previous South African research requiring audiologists to complete online surveys has been poor. In a recent South African study [36], only 45 responses were obtained from 1440 audiologist invited to complete the survey. Therefore, a sample size of 200 audiologists was targeted as the more feasible number to reach.

The snowball sampling technique was used to allow for recruited participants to recruit other eligible participants they had access to [37]. This method was appropriate based on the limited time and budget for this study. Employing this sampling method further increased the chances of having a diverse sample. Audiologists known by the researcher, were sent a formal email to invite them to participate in the research study. The email contained an informational letter with all details of the study and the link to the survey. Before completing the survey, participants were required to provide electronic informed consent. Within the email, a request was made to forward the email to other audiologists they were in contact with. Additionally, audiologists were recruited on various social media platforms including Facebook and WhatsApp. For inclusion into the study, participants had to be graduate audiologists registered with the Health Professions Council of South Africa.

iii. Study Setting:

The current study was facilitated online using the web based SurveyMonkey platform with target participants from the hearing healthcare sector that comprises of both public and privately practicing Audiologists. An online survey setting was chosen as it would enable target participants to have anonymity to share their responses to the research question openly and honestly [33].

iv. Data collection:

Data collection tool:

A 24-item questionnaire was designed for the study to collect data on 1) participant demographics, 2) education information and 3) un/employment status and details. The questionnaire response formats included closed sets like multiple choices and open-ended narratives. The questionnaire was piloted by the researcher to determine validity.

Face and content validity of data collection tool:

According to previous research using questionnaires, face and content validity were essential psychometric properties to measure when developing such instruments [38]. Face validity refers to whether the instrument appears to measure what it was intended to measure [38]. Content validity refers to whether the instrument covers all aspects of content related to the construct it being measured [39].

To ensure face and content validity, seven audiologists provided feedback on the 1) overall appearance (e.g. ease of response, response formats etc.), 2) content covered and 3) overall flow in the design of the questionnaire. Feedback from the seven audiologists included 1) changing some questions to be open ended to allow participants to give additional information and 2) in terms of overall design, there was a need to redirect participants to the next appropriate question and sections of the survey. Based on this feedback, the questionnaire was modified prior data collection commenced.

Data collection procedure:

Data was collected online using the SurveyMonkey platform where the questionnaire was administered. The online link to the questionnaire was open for six months and data was stored online on a password protected cloud which only the researcher had access to.

v. Data analysis:

Quantitative data: Descriptive statistical methods were used to analyse quantitative data. Categorical data was analysed using frequency tables and percentages. Numerical data was analysed using means and standard deviation.

Qualitative data: A thematic analysis was conducted for the qualitative data collected. The following steps were included in the thematic analysis:

- *Data familiarisation*- researcher read through the qualitative data collected and made notes to gain a better understanding of the data and to assist in a comprehensive analysis [40].
- *Coding*- the data was then reviewed to determine key characteristics that could be coded. Codes were determined by highlighting similarities across participant responses.
- *Categorization*- Similar codes were grouped together in themes. All codes within the themes were then reviewed to establish whether they were classified into the appropriate themes.

Results:

A total of 219 audiologists responded to the study questionnaire and 132 complete responses were collected. Only the results from the 132 completed questionnaires were included in the analysis.

i. Participant demographics:

Majority of the participants (89%) were female, South African citizens between the ages 25 to 34 (67%). See Table 1 for more participant demographic data.

ii. Un/Employment rate:

• First-year post-graduation:

- Of the 132 participants, majority (84%) were employed by the government in the public sector through the compulsory community service (CS) program*.
- Of the 16% unemployed participants, 9% experienced a delay (1-2 months on average) in their employment through the CS program placement, 7% were not employed at all (not placed in CS program at all) and 1% did not meet requirements for CS program employment as they were non-SA citizens.

*Community Service (CS) is a compulsory one-year in-service training program where South African audiology graduates are employed by the National Department of Health prior to being registered as an independent practitioner as per regulatory prerequisites by the Health Professions Council of South Africa [41–42]. The Health Professions Amendment Act No. 56 was signed into law in 1998, beginning the CS system for all health professionals in South Africa (Reid, 2018).

• Second-year post graduation:

- Of the 132 participants, the vast majority (81%) were employed. Important to note is that of the employed participants (19%) were working within non-audiology fields.
 - Employment characteristics of those working in audiology fields (n=107) show that most participants were employed within the public sector (47%) and in clinical settings (52%). See Table 2.
 - When asked to rate workplace challenges, most ratings (37%) were on remuneration followed by lack of resources (18%), workload (18%), work environment (10%), working hours (9%) and lastly, interprofessional relationships (8%).
- The number of unemployed graduates increased to 19% in the second-year post-graduation. See Table 3 on duration of unemployment and possible employment barriers. Challenges obtaining employment are reported as themes in Table 4.

Table 1
Participant demographic information.
(n = 132)

Characteristics	n	%
Sex		
Female	118	89
Male	14	11
Age Range		
18–24	13	10
25–34	88	67
35–44	27	20
45–54	2	2
> 55	2	1
Level of qualification		
Bachelors' degree	103	78
Masters' degree	25	19
Doctoral degree	4	3
South African citizen		
Yes	130	99
No	2	1

Table 2
 Employment demographics within audiology (n = 107).

Characteristics	n	%
Province		
Eastern Cape	3	3
Free State	2	2
Gauteng	38	35
KwaZulu-Natal	10	9
Limpopo	16	15
Mpumalanga	7	6
Northern Cape	3	3
North West	3	3
Western Cape	25	23
Sector		
Public	50	47
Private	42	39
Both	15	14
Employment contract		
Full-time	81	76
Part-time	12	11
> 20 hours per week	4	4
< 20 hours per week	8	7
Other	2	2
Area of practice: Participants ticked all that applied		
Clinical	90	52
Teaching	31	18
Sales and training	17	10
Research	15	9
Other	19	11

Table 3
Unemployed participants second-year post-graduation
(n = 25)

Characteristics	n	%
Duration of unemployment		
< 3 months	15	60
< 6 months	6	24
1 year or more	4	16
Reason for unemployment		
Current postgraduate student	3	12
Pending community service placement	1	4
Limited job opportunities	24	26
HPCSA suspension	0	0

Table 4
Challenges obtaining employment

Themes	Emerging codes
Limited job opportunities	Jobs far away from home
	Not enough jobs
	Not enough jobs in province of choice
	Not enough jobs in government
	Frozen job posts
	Post not funded
	Limited job advertisements
Discrimination	No available locum posts
	Private practice race issues
	Wearing head scarf not allowed
	Employer not wanting Indian employees
Language barrier	Racial discrimination
	Private practice wanting fluent Afrikaans speakers
	Afrikaans speaking audiologists required
Experience	Low remuneration for new graduates
	Don't have enough experience for private
	Not enough years of experience
	Not enough experience for private sector
Qualification preference	Jobs for dually qualified audiologists only
	Only dually qualified posts available in Gauteng

Discussion:

With the highest unemployment rate in 11 years and the increasing challenges in healthcare human resourcing in South Africa, the current study sought to describe challenges in obtaining and maintaining employment for audiologists^[2]. The current study's main findings indicate that 16% of audiologists are unemployed in their first-year post graduation and this increases to 19% in the second-year post-graduation. An unemployment rate between 16%-19% is very high in context of the estimated total annual number of audiology graduates from the six institutions that offer the audiology program in South Africa, which is approximately between 100 to 150 graduates^[24-26]. Thus, implying that an entire class of audiology graduates from one institution could possibly be unemployed in their first- and second-years post-graduation.

This is the first study to document and describe unemployment rates in audiology graduates in South Africa. A Similar study was done recently to describe human resource challenges in environmental health graduates in South Africa^[43]. Key findings from this study did not include unemployment rates however documented major problems regarding the decreasing number of employment posts for environmental health graduates^[43]. Other associated reports of unemployment of healthcare professionals as a whole have mainly been in various media outlets over the last five years in South Africa with headlines such as "SA can't give hundreds of its new doctors jobs"^[44].

Community Service Program

It is important to note that in the first- and second-years post-graduation, since 1998, all South African health professional graduates are mandated to work for the National Department of Health (NDoH) for community service (CS) in order to be certified by the Health Professions Council of South Africa (HPCSA) as qualified independent practitioners^[41, 43]. The intentions of the NDoH CS program were to combat the disparaging effects of the pre-1994 apartheid South African healthcare system that did not offer equal access to basic care outside metropolitan areas^[41]. Therefore, a 16%-19% unemployment rate for audiologists or any other health profession indicates that NDoH is failing to employ health professionals in line with their mandatory CS program.

The South African public healthcare system has been cited to be facing, among other challenges, constrained financial resources that have led to difficulties in absorbing, retaining and remunerating all health professionals in the public healthcare system^[19]. It is also worth noting that the overall healthcare industry may also be influenced by the vast inequalities in the macro socio-economic sphere as well as past and present political factors that are not unique to healthcare but are seen in all sectors in South Africa^[18-19, 45]. Furthermore, recent research indicates that the South African economy as a whole is not growing fast enough to absorb the rising annual number of jobseekers, skilled such as health professionals or otherwise^[45].

This state of affairs has debilitating implications for the public healthcare system as well as the CS program as a whole and pertinent to this study, CS for audiologists. Therefore, it is key to consider that moving forward, if the NDoH is unable to sustainably maintain and fund CS, it is fitting to interrogate 1) the mandatory nature of the CS program as it stands for South African health graduates and 2) the linking of CS program to the health regulator's, HPCSA, certification. Although well intentioned, the mandatory CS program, as shown by the current study findings, may be doubly disadvantaging health professional graduates as it not only cannot employ all graduates, but further denies the unemployed graduates an opportunity to obtain the necessary accreditation to enter and serve in the broader healthcare market outside the NDoH^[43]. Having any unemployed health professionals highlights a domino effect of negative ramifications that amount to a high loss of investment across multiple sectors. Some of the key affected sectors include 1) higher education considering the cost attached to producing scarce skills; 2) the department of health with "wastage in the health workforce" through unutilized critical skills and goals of healthcare access not be realised 26 years post-apartheid for those in need and 3) the economy with non-contributing skilled labour adding to the already high (55%) unemployed youth under 35 years of age.

Study Implications

Education and Skills do not equal employability?

In the last 20 years in post-apartheid South Africa, research proposed that increasing access, quality and levels of education will increase employability and benefit multiple sectors through skilled labour^[5, 7-8]. And through policy and action, the National Skills Development Strategy in line with the Skills Development Act of 1998 and Skills Development Levies Act of 1999, has seen South African tax revenue contribute financially to the goal of transforming access to and resourcing quality education and training over the last 20 years^[13]. However, the current study findings may be indicating that the relationship between education and employability is not necessarily linear. For health professional graduates specifically, there may need to be a thorough investigation and understanding of the healthcare labour market's capacity to absorb new graduates whilst retaining current workforce and growing in line with the healthcare consumer needs^[43]. In particular to specialized fields like audiology, there may be a need an interrogation into the unique influences in the hearing healthcare market that in turn affect employability.

The current study findings are key for affected sectors to consider career pathing for health professionals like audiologists in terms of considering alternative employment opportunities and options outside of the purely clinical sectors such as the NDoH. Globally there is a growing interest and proven value in using technology in healthcare. Telehealth may be a viable option to investigate in terms of skills matching and human resource gaps to curb the rising unemployment of health professionals.

Study Strengths & Limitations

This study is, to the knowledge of the researcher, the first to explore and document unemployment rates and challenges in audiologists in South Africa. This study's findings can be foundational to guide future research to expand investigations into the subject matter. A possible limitation of the study is in its cross-sectional design in that findings cannot be used to predict and or analyse unemployment over a period to time and the snapshot nature of the design means that findings may not be representative of the whole population of interest.

Conclusion:

Up to 16% of audiologists are unemployed in their first-year post-graduation and this increases to 19% in the second-year post-graduation. This study's findings are the first to document the unemployment rate of newly graduated hearing healthcare professionals in South Africa. These findings have potential to influence critical discourse on hearing healthcare human resource policies and planning, hearing healthcare labour market needs vs capacity as well as hearing healthcare context and potential for growth in the South African context.

Declarations

- **Ethics approval and consent to participate:** This research study was approved by the Human Research Ethics Committee of the Faculty of Health Sciences at the University of Cape Town before data collection commenced (Reference no.815/18).
- **Consent for publication:** Not applicable
- **Availability of data and materials:** The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
- **Competing interests:** The author declares that they have no competing interests.
- **Funding:** Not applicable.
- **Authors' contributions:** VH conceptualized the research question, study design, supervised data collection, analysed & interpreted results, wrote & finalized the manuscript.
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