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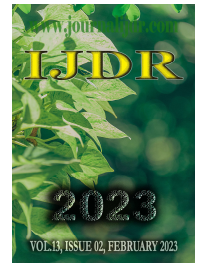
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RESEARCH ARTICLE

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## EXPLORING THE PRACTICES THAT OCCUPATIONAL HEALTH NURSE PRACTITIONERS USE WHEN IMPLEMENTING THE HEARING CONSERVATION PROGRAM IN SELECTED MANUFACTURING AND MINING INDUSTRIES IN GAUTENG

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### ABSTRACT

**Background:** The Hearing Conservation Program (HCP) has been reported to be effective in protecting the hearing of South African workers who are exposed to occupational noise. In order to reduce noise-induced hearing loss (NIHL) among employees, a multi-disciplinary team approach that includes the Occupational Health Nurse Practitioners (OHNPs) during implementation of the hearing conservation program is needed. **Objectives:** To observe the practices of occupational health nurse practitioners when implementing the hearing conservation program; and to describe the practices employed by occupational health nurse practitioners when implementing the hearing conservation program through interviews. **Research Method:** A qualitative research using a focused ethnography research design was followed to explore the practices of OHNPs. A purposive sampling method was used, and data was collected by means of observations and unstructured face to face interviews. Data was analyzed using the framework as outlined by Roper and Shapira. **Findings:** The four main themes that were revealed were: hearing conservation as an element of occupational health surveillance, using an audio/hearing booth, artefacts that are used in conducting a hearing conservation program, and people involved in the hearing conservation program. With regards to hearing conservation, findings revealed that despite the occupational health and safety legislation and programs that are in place, workers in the manufacturing and mining industries are still facing continuous and substantial risk for occupational hearing loss. For HCP to be successful, OHNPs should work with administration to develop and implement the HCP by assisting management towards incorporating the program within the company goals. **Conclusion:** Despite the few changes that the world is seeing in terms of hearing conservation effectiveness, it is still the employer's duty and obligation to provide and maintain as far as reasonably practical a work environment that is safe and without risk to the health and safety of employees. The occupational health practice at large together with the employer must ensure that the workplace is free of hazardous ergonomics and substances which may cause injury or occupational health-related illnesses.

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## INTRODUCTION

Employees in the manufacturing and mining industries contract various occupational health related conditions, with occupational health noise-induced hearing loss (ONHL) being one of them (reviewed in S A Journal of Commun Disord, 2020). This condition presents as a permanent hearing loss as a consequence of exposure to excessive levels of noise during the performance of one's occupational duties.

Occupational Safety and Health Administration asserts that noise or unwanted sound is one of the most pervasive occupational health problems worldwide including South Africa (OSHA 2013:26). This view is supported by Copley and Frederichs (2010) as well as Hermanus who argue that permanent disabling hearing loss is a major contributor to the global burden of disease for individuals and families therefore occupational Safety and Health Administration were developed to assure safe and healthful working conditions for employees by setting and enforcing health standards (Chen, Meza & Hudson 2017:1).

## RESEARCH DESIGN AND METHODOLOGY

A qualitative research was conducted using focused ethnography design. The researcher conducted 10 participants' observations on how the Occupational health Nurse Practitioners was implementing the hearing conservation program in their clinics on every day settings. After observing the participants the researcher invited 10 participants for interviews. The researcher used purposive sampling to select the participants. Participants' observations and ethnographic interviews were used by the researcher to obtain information from the participants. The study was underpinned by the constructivist interpretivist paradigm, which indicates that human beings construct meanings as they live in the world (Creswell 2013:9). The researcher captured the field notes during the same period in which interviews were conducted and used demographic data in the study for statistical purposes. This study obtained ethical clearance from the Faculty of Health Science ethics committee of the University of Pretoria (567/2019). Permission was also requested from the researcher's employer, the South African Society for Occupational Health Practitioners (SASOHN) and from institutions where research was conducted.

## RESULTS

The research question for this study was: "What are the practices that occupational health nurse practitioners use when implementing the hearing conservation program in selected manufacturing and mining industries in Gauteng?"

Findings revealed that despite the occupational health and safety legislation and the HCP that is in place, workers in the manufacturing and mining industries are still facing continuous and substantial risk for occupational hearing loss in South Africa, however the mining industry still being considered one of the influential backbones supporting the country's economy and also considered the major employer, therefore it has an impact beyond the affected employee, and hence the importance of hearing conservation program.

**Demographic data of the participants:** Statistical data was collected about the characteristics of the population, e.g. age, gender, sex, employment location and level of education (Kusumaningtyas & Suwanto, 2015: 296-302).

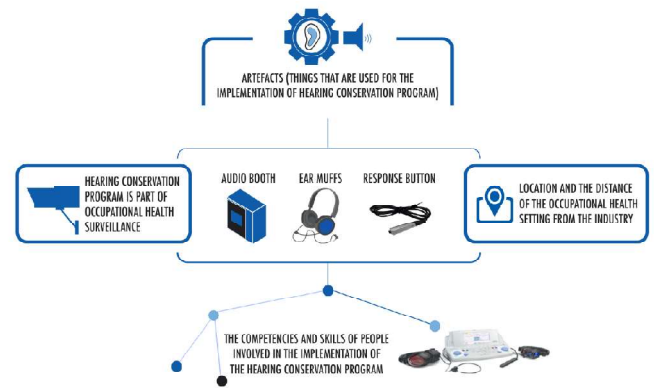
**Table 1.**

		Number of Participants
Gender	Males	2
	Females	08
Age	20 – 30	03
	> 30	07
Highest Grade Passed	Grade 12	10
Occupational Health qualified	All	10
Years of experience	< 5	03
	5 -20	07

The following view/s were expressed by participants regarding the medical examinations, this was supported by what was observed by the researcher:

*"The Occupational Health and Safety Act want us to make sure that when people come into the organization healthy, they also leave healthy. Hence we do it every year so that we can measure where they are in terms of hearing loss. We don't want them to lose hearing with us anyway, and then we do people's hearing, audiometry screening when they leave the company." (P 10)*

*Representation of the findings about the implementation of the Hearing Conservation Program f*



**Figure 1.**

Apart from all procedures being followed by OHNPs in implementing the hearing conservation program, the findings showed that high levels of occupational noise remain a problem in all regions of the world (WHO, 2001:1). Although noise is associated with almost every work activity, some activities are associated with handling certain types of material and it is evident that occupations at highest risk for NIHL include those in manufacturing, transportation, mining and construction.

## DISCUSSION OF THE FINDINGS

The findings indicate that HCP is one of the key components of occupational health surveillance. Similarly, in the health surveillance article, it is shown that occupational health surveillance is targeted at high-risk employees, in this case, occupations that have at least twice the national rate of total reportable injuries and illnesses and who are usually defined by job titles including potential exposures to noise (Apostolopoulos et al 2010:285). Comparatively, in this study employees from the manufacturing and mining industries constitute high-risk in terms of exposure to noise environments at work. This research also highlighted the daily activities that the OHNPs render to the employer and the employees, at which one focuses on daily audiometric testing through the implementation of three elements of medical surveillance being a clear indication of occupational health surveillance and safety program to foster a safe and healthy work environment. However, there is a need for South African Society of Occupational Health Nurse Practitioners (SASOHN) to review the hearing conservation guidelines within the occupational health arena at least every second year and also focus on implementation of the program by occupational health nurses. The study was conducted in the chosen manufacturing and mining industries in Gauteng Province. Other clinics in the same sectors were not included therefore the findings could not be generalized to all manufacturing and mining industries. Based on the findings, the study recommends that Occupational Health Nurse Practitioners need to understand the HCP steps as stipulated in the HCP guidelines and to be in par with the current terminology in use of occupational health surveillance as outlined by the International Commission of Occupational Health.

## CONCLUSION

Because of the increasing levels of NIHL in SA versus OHNPs contribution in the prevention of NIHL within the manufacturing and mining industries, careful consideration of implementation of Hearing Conservation Program as a platform to maintain its effectiveness is required. Hearing loss can be prevented and general feeling of well-being of workers might improve. Furthermore, it is concluded that occupational health services provided at the workplace to address the health care needs of working populations is identified as an important component to safeguards the welfare of those in employment. Further research is recommended to fully understand the role of OHNPs as the driving force behind occupational health services in the workplace

to ensure compliance and protecting employees from accidents also taking into account that researcher wrote reports of interviews and observations in a manner that portrays the real perceptions of participants. Trustworthiness was considered based on the assessment conducted through the criteria of credibility, dependability, conformability, and authenticity (Polit & Beck 2012:745) which is explained by Polit and Beck (2012:585) as the degree to which the researcher truthfully and justly displays various ranges of reality.

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**Declaration:** The authors declare that this is their own work; all the sources used in this paper have been duly acknowledged and there are no conflicts of interest.

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