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Audiometric Assessment amongst Physicians in Rivers State

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Abstract

***Background*:** Hearing loss is an exceptionally common medical condition, progressing in incidence and severity with age (Cruickshanks, *et al.*, 2023; Isaacson, 2010). The affected population is enormous, including neonates, young people and elderly persons. Hearing loss may be conductive, sensorineural, or mixed (Zahnert, 2011). Audiologic analysis using pure tone audiometer is performed to assess hearing thresholds across the range of frequencies that are important for human communication (Cunningham and Tucci, 2017). The aim of this study is to ascertain the hearing status of Physicians in Rivers State. ***Methods*:** This was a prospective study done in the ENT Surgery department of the Rivers State University Teaching Hospital Port Harcourt between August to September, 2024. One hundred and forty four medical doctors (64males and 80 females), were recruited for the study. Otoscopy was done on all the subjects and thereafter pure tone audiometry (PTA) was performed on them. ***Results*:** Data were analyzed and the result revealed that 95 persons (66%) had normal PTA findings, 26 (18%) had mild SNHL and 23 (16%) had mild CHL. ***Conclusion*:** It was observed from this present study that most of the doctors have normal hearing status. This is important because a doctor with hearing impairment may not be able to adequately hear and understand presenting complaint (s) from patient, may not also be able to use the stethoscope and mercury sphygmomanometer to check the blood pressure of a patient and also listen to abnormal heart and chest sounds. This may adversely affect the management of the patient. Therefore, it is recommended that doctors should do routine hearing assessment.

Keywords: Audiometric Assessment, Hearing Loss, Physicians, Pure Tone Audiometry.

INTRODUCTION

Hearing loss is an exceptionally common medical condition, progressing in incidence and severity with age (Cruickshanks, *et al.*, 2023; Isaacson, 2010). According to the World Health Organization, hearing loss is said to occur when an individual is unable to hear at a threshold of 20dB. Hearing loss is common medical condition, progressing in incidence and severity with age (Cruickshanks, *et al.*, 2023; Isaacson, 2010). The affected population is enormous, including neonates, young people and elderly persons. Hearing loss may be conductive, sensorineural, or mixed (Zahnert, 2011). Conductive hearing loss results from blockade or disease condition of the outer or middle ear that prevents transmission of sound energy to the inner ear. The causes of conductive hearing loss range from cerumen impaction and otitis media to fixation of one or more of the middle-ear bones, mainly fixation of the stapes due to otosclerosis. Medical or surgical treatment of most types of conductive hearing loss often results in full restoration of hearing. Pure tone Audiometry (PTA) is a form of assessing hearing function, using pure tone audiometer. Audiologic analysis using pure tone audiometer is performed to assess hearing thresholds across the range of frequencies that are important for human communication (Cunningham and Tucci, 2017). Auditory thresholds are classically measured for air- and bone-conducted pure-tone stimuli in order to distinguish conductive from sensorineural hearing loss and to describe the pattern of hearing loss at various frequencies

(Lisa and Debara, 2017). Hearing loss in adults has a number of causative factors, including age, genetics, noise exposure, and chronic systemic disease such as diabetes, hypertension and chronic kidney disease. Age-related hearing loss or presbycusis is commonly a slow, progressive hearing loss that affects both ears equally. As physicians grow older, they face potential challenges of hearing loss on their professional duties. Clinicians must effectively communicate with patients, staff, and colleagues, irrespective of background noise. Hearing loss will interfere with the daily activities of clinicians, the ability to auscultate a patient's heart and lungs using a stethoscope remains the simple occupational skillfulness for physicians who could be affected by hearing loss. The aim of this study is to ascertain the hearing status of Physicians in Rivers State.

METHODS

It was a prospective study done in the ENT Surgery department of the Rivers State University Teaching Hospital Port Harcourt between August to September, 2024. One hundred and forty- four medical doctors (64 males and 80 females), were recruited for the study. Questionnaires were administered to the participants, otoscopy was carried out on the subjects. Individuals with wax impaction were excluded from the study. Thereafter pure tone audiometry (PTA) was performed on physicians whose external auditory canals were clear and free from wax impaction. Data was analysed using excel and presented in charts.

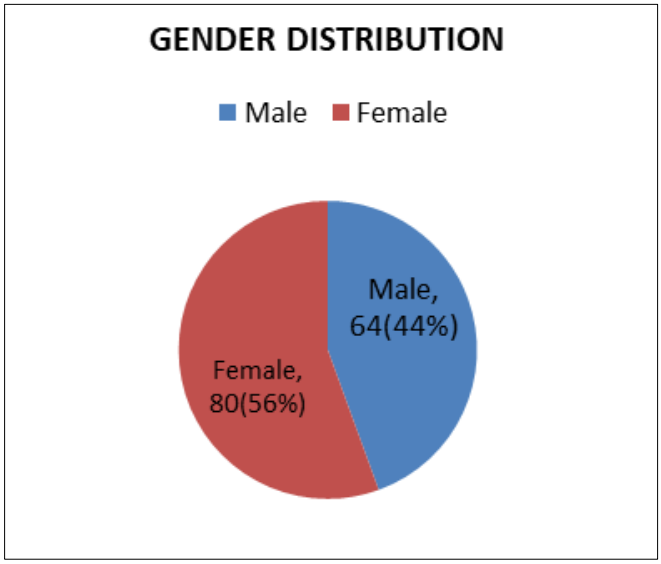


Fig. 1: shows the sex distribution of the studied population, 56% (80) were females; whereas 44% (64) were males.

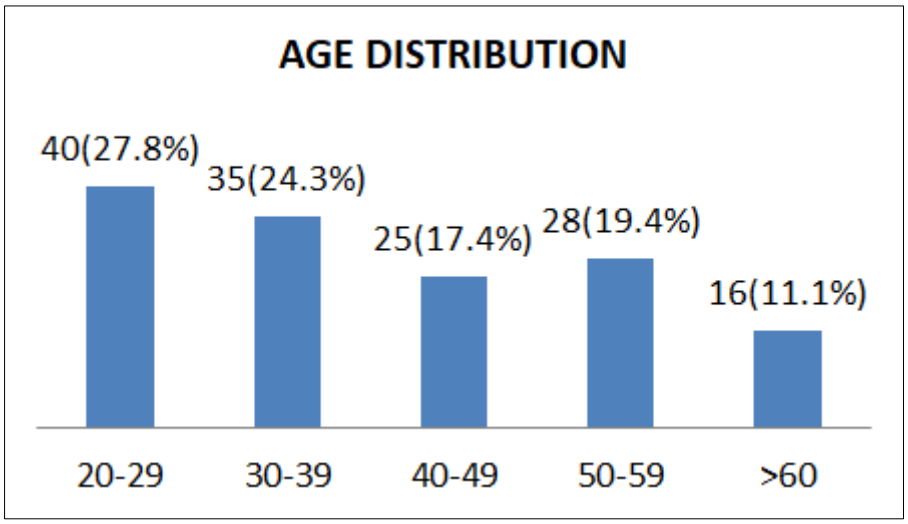
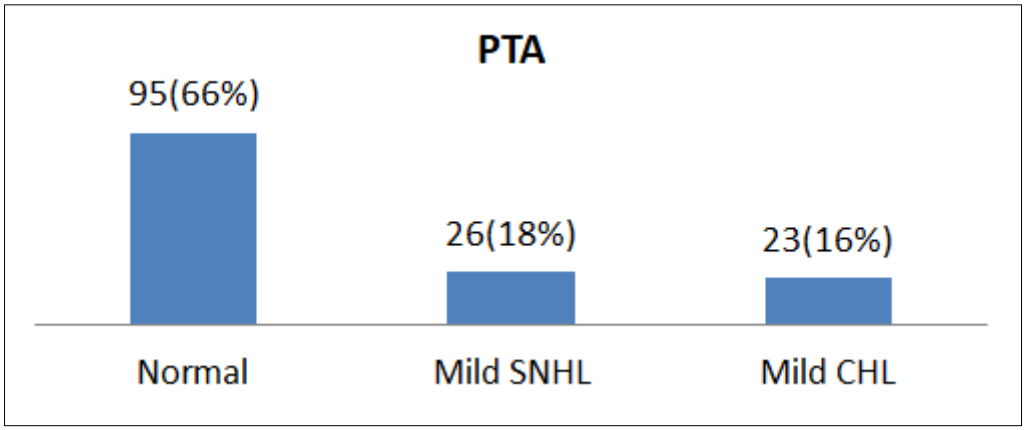


Fig. 2: Shows the age distribution of the studied population.



SNHL=sensorineural hearing loss
CHL= conductive hearing loss

Fig. 3: Shows there pattern of hearing among the studied population, 66% (95) of the Studied population have normal hearing, 18% (26) have mild SNHL and 23(16%) Have mild CHL.

DISCUSSION

The ear (hearing) is an important sense organ for physicians, making the use of stetoscope and communication very effective in medical practice. Most physicians may not know their hearing status and this can affect their practice, as inappropriate blood pressure readings with stetoscope will be recorded. From this study, most of the medical doctors were found to have normal hearing.

However, 18% (26) persons had mild SNHL, possibly due to increasing age, systemic diseases like hypertension and diabetes, meniere's disease and certain medications. Previous studies done showed that the proportion of medical doctors with hearing loss increased with age (Rabinowitz, *et al*., 2006). Furthermore, 23(16%) had CHL, this may be due to eustachian tube dysfunction, ear wax. Hearing assessment is not usually done for physicians in Nigeria, this is very important.

Hearing screening is very important for physicians because it will help identify hearing loss early, which will prompt early treatment lead to better treatment outcomes.

CONCLUSION

It was observed from this present study that most of the doctors have normal hearing status. This is important because a doctor with hearing impairment may not be able to adequately hear and understand presenting complaint (s) from patient, may not also be able to use the stethoscope and mercury sphygmomanometer to check the blood pressure of a patient and also listen to abnormal heart and chest sounds. This may adversely affect the management of the patient. Therefore it is recommended that doctors should do routine hearing assessment.

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