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"The Awareness of High Educational Students of some Habits that can Lead to Hearing Loss"

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Introduction

Hearing loss refers to the total or partial inability to hear sounds. And also a damage to structure and/or nerve fibres in the inner ear that respond to sound. Hearing performs an important role in communication, speech and language development, and learning. And due to the emergence of Corona virus and the diversion of remote study, many students use headphones for more than 3 hours without paying attention to appropriate voice level eventually could cause serious problems on hearing ability. And also some chronic diseases which might be increased because of unhealthy lifestyle that can also affect our hearing. It is important to raise student's awareness and highlight such subject in order to avoid this kind of problems and reduce the number of adults who get affected with hearing loss for different reasons every year '17% of adults aged 20–69 years (approximately 26 million) have suffered permanent damage to their hearing from excessive exposure to noise' Niskar et al. (2001). Findings from my study may limit the occurrence of hearing loss problems in the future, and also will help students understand better how to protect their senses and their health overall. I am interested in researching this issue both as a parent and specialist of hearing loss. I have two children who are in the young adults' age group and they may experience similar problems.

This study aims to investigate the extent of high educational students' knowledge of hearing loss and its causes; furthermore, to find out how far they are aware of some diseases and habits which can lead to hearing loss. In order to increase the knowledge among students of causes, symptoms, some diseases, and behaviours to prevent some issues of hearing disability.

Methodology

The research study is an investigation into what extent students' awareness of hearing loss as an effect of specific diseases and some behaviours during remote study situations. This presented with both qualitative and quantitative data collection methods. These different approaches provided in order to the insight of different ways of planning investigation and enhance the understanding of the research better by supporting the numeral data with depth information (Bell 2017). A questionnaire and then interviews were conducted, which aimed to clarify how much the students have knowledge of hearing loss in general and show the correlation between some behaviours of remote study and its impact. The questionnaire contained closed and open-ended questions because the diversity in questions would provide more details in the way how or why the participant feels, to increase the stability between the researcher's thoughts and the participant's point of view on such subject. 'Qualitative research is very important in educational research as it addresses the "how" and "why" research questions and enables a deeper understanding of experiences, phenomena, and context. Qualitative research allows you to ask questions that cannot be easily put into numbers to understand human experience' Cleland JA. (2017). The sample of questionnaire targeted (16) participants defined by a purposive sampling of high educational students of the same age group (aged between 25 and 40), a mix between male and female from different nationalities. All were distributed via online forms at university of Nottingham. Each questionnaire had12 questions including the ethical part of the questionnaire with a consent form for the participant to fill in. After the inquiry of questionnaires an interview had chosen, it seems to be more suitable because the type of the questions could be sensitive and confidential. The type of questions was a semi structured style. Three participants who agreed to be interviewed were invite. For collecting more data related to their opinions, feelings and experiences of the study with more flexibility to tell extra

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details considering the type of open-ended questions, the meetings held remotely and recorded to extract the findings. Qualitative research can help enlarge and strengthen understanding of the findings obtained from measurable analysis Tenny et al. (2020).

A pilot study was done in order to ensure clarity of the questions, content, and face validity, the questionnaire piloted by 4 of high educational students before the real publishing. The feedback was beneficial and considered when the original survey published.

Results and Discussion

In order to investigate the extent of high educational students' knowledge of some causes of hearing loss. The data from the questionnaire and interviews were evaluated, including several questions targeting the awareness of hearing health and focusing on more than one angle such as the causes, symptoms, and chronic diseases that can affect the hearing ability.

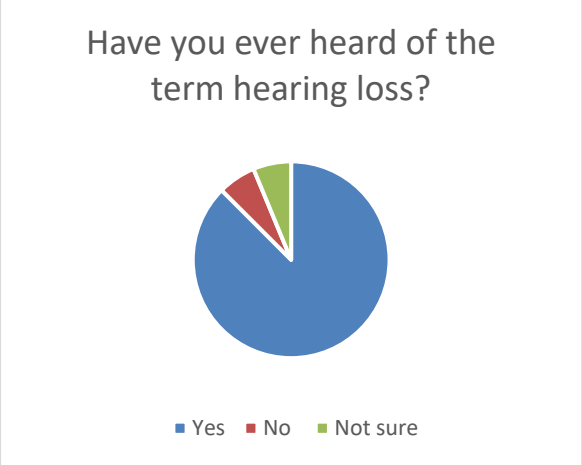

Figure 1 the percentage of high educational students awareness of hearing loss.

In figure 1 shows the percentage of high educational students' information who know the hearing loss term. In the responses to Q1 on the questionnaire, 88% of the participants heard of the term *hearing loss*. That possible because the sample is educated and some of them are parents, and they may have faced some situations with their teenage children regarding hearing impairment due to their tendency to listen to music and go to parties more than other age groups. For example, participant B said that "it is necessary to highlight such subject because a lot of students listen to the music for a long time and they go to parties which has a high level of loudness and noises and that can damage their hearing ability". This was supported by participant A who mentioned that "it is very important to know about hearing loss, that's because most of the people get affected with hearing loss according to our environment which surrounded with a lot of things could affect our hearing ability such as noise and getting exposure to the loud sound". This is also confirmed by Alnuman & Ghnimat (2019) 'Action to prevent noise-induced hearing loss is necessary, especially because many causes of permanent hearing loss are preventable'.

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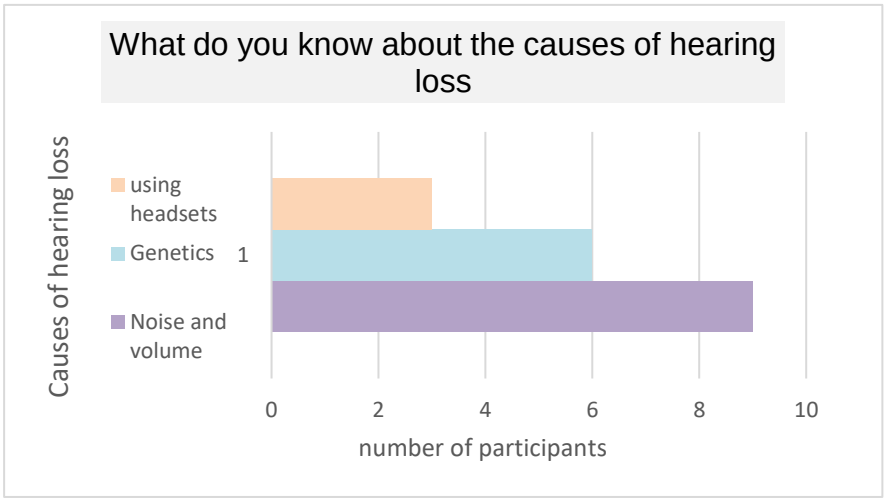
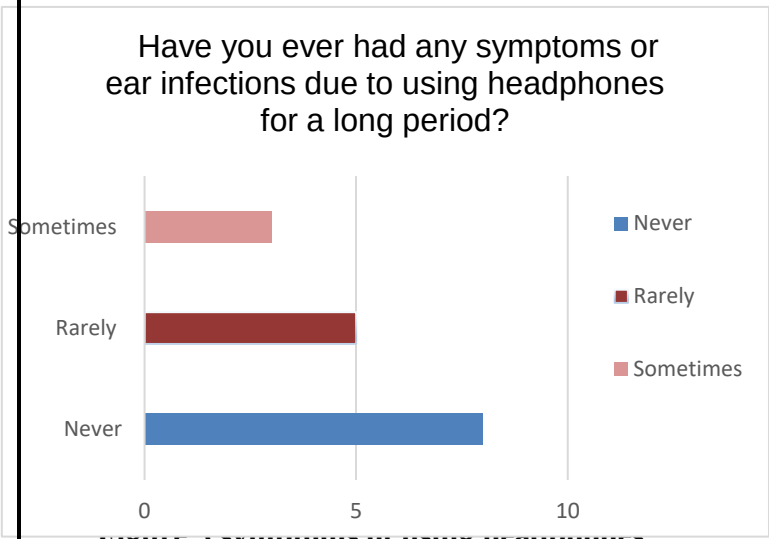


Figure 2 Causes of hearing loss identified by students

The participants were asked about possible causes of hearing loss. Figure 2 shows that 'noise and high volume' was identified by most participants, and genetics by 6 out of 16. The use of headsets was identified by 3 participants as having a negative impact on hearing, which will be discussed later in the following section that focused on symptoms of using headphones in detail. The data suggests that most students are aware of a correlation between noise and hearing impairment, and this is supported by their responses to Question 3 (Appendix 1) (questionnaire), where 14 out of 16 participants agreed that high volume and noise could cause hearing loss. During the interview, Participant C emphasized the damage that volume can cause stating "the loudness and very high level of volume can affect the small cells inside the ear because its very sensitive and if its damaged, it will not return back again". Research in this area provides further evidence that volume is a significant cause of hearing loss". That had supported by Alnuman & Ghnimat (2019) who said that "noise and high volume are stated to be an important reason leading to hearing loss".



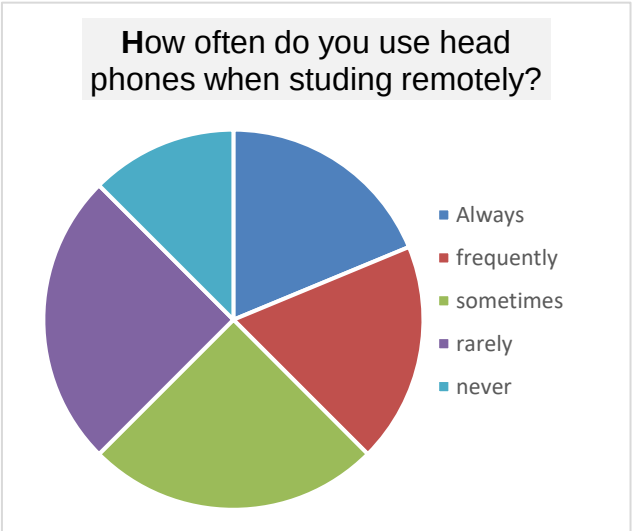


Figure 3 symptoms of using headphones

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Figure 3 identify the effects of some behaviours, with an emphasis on using headphones for a long time on hearing ability**.** High educational students who study remotely during the pandemic of COVID19 were asked if they used headsets while they study online, and if they felt any symptoms with the use of headsets. Over than 60% of them stated that they use headsets when they study or work (they were either *always, frequently and sometimes* in frequency), and one third of them had some symptoms such as headache, the ear pain and whistling in the ear with not hearing clearly (See Figure 3). This potentially reveals the presence of real risks of using headphones over a long period that may affect the sense of hearing. The results are consistent with some previous studies which demonstrate that there is possible damage from using some types of headphones.

For instance, participant A said that "she felt pain on her ears after using the headsets or if the volume was very loud". This idea can be supported by Alnuman & Ghnimat (2019) who stated that 'The most common hearing symptom found**...** was ear pain followed by tinnitus' (pain or ringing in the ears). In addition, participant B mentioned that "he used inner ear buds and sometimes he felt uncomfortable and not hearing clearly", this is also supported by Dobrucki, Kin and Kruk(2013) who-also claimed that the most risky type of headphones is the in-ear type which turn the threshold to higher shift level.

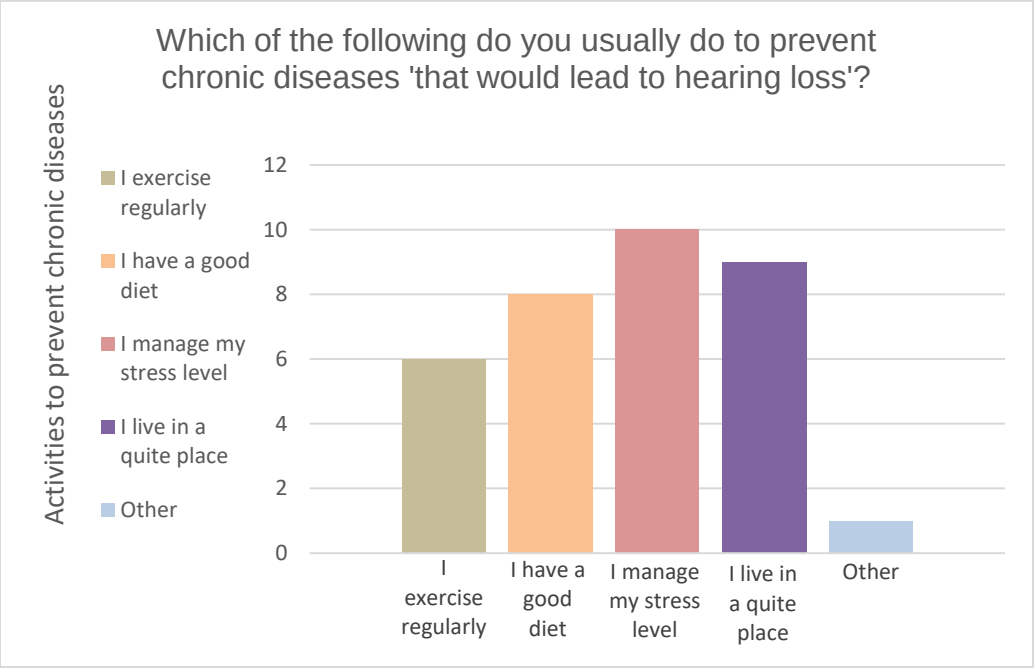

Figure 5 steps to prevent some chronic diseases that can lead to hearing loss

This part of the research explains the relationship between some chronic diseases and hearing loss, and also shows some steps to improve the lifestyle to prevent several chronic diseases which might affect our hearing ability. When asked in Q13 in the questionnaire if the participants agree on the statement 'Hearing loss could happen as an effect of diabetes or other diseases' nearly half of them (44%) agreed that diabetes can cause hearing loss. This seems to be a high percentage, possibly because diabetes one of the most common chronic diseases can be seen in families or friends and sometimes people can be exposed to it themselves. This is reinforced by participant A who said that "there is a very known disease that leading to the hearing loss call diabetes the reasons of that, that they have damaging the nerve as a result of the uncontrol of the blood Jellicoe". This idea can be strongly supported by (NIH, 2008) which

stated that 'diabetes may lead to hearing loss by damaging the nerves and blood vessels of the inner ear'. After that, (Q14) in the questionnaire focused on usual activities that could be practiced in order to prevent some chronic diseases, a large majority of participants responded that they manage their stress level and most of them have a good diet and exercise regularly (See figure 5). This likely suggests that participants are aware of the importance of the things that are needed for a good quality of life. As evidence to support this study confirmed that 'daily physical activity (PA) and exercise into one's lifestyle will reduce risk for chronic diseases' Anderson & Durstine (2019).

Limitations

When the results had carried out there were some limitations on the questionnaire. Q12 (How frequently do you use ear cleaning sticks?) was not strongly related to the research's main questions, and the participants' answers were invaluable and enriched the study. Because of the lack of time the questionnaire had not piloted enough. This had impacted the reliability of the questionnaire because inconsistent data had been collected**;** Therefor, this part had been avoided on the result section. And next time when doing study again, a questionnaire will be piloted more than one time to make it more reliable to the research questions.

Other limitations were about adding more focused questions on the questionnaire. For example, a question about the type of headphones that students would use while they study online should be added to get more specific information that can help the validity of the study. And this problem had been solved by asking this question on the interviews and it was beneficial for the study on way to demonstrate and support the idea of the negative impact of using headphones for long periods especially the inner-ear type.

Conclusion

This study has explored the knowledge of high educational students of hearing loss, with an emphasis on some habits and chronic diseases that can lead to it. The result has identified three key points. The first point is that both males' and females' awareness seems to be equal. They were likely to have an equivalent percentage which is limited. The second point is the negative impact of using headsets for long periods especially for students who study remotely during the pandemic without paying attention to the risks of using them. The last point is how to prevent chronic diseases by living a healthy lifestyle where a Minority of participants not aware of the effects of chronic diseases on hearing health and the importance of living a healthy lifestyle. However, this seems to be a serious matter that needs to be addressed in the future to have the ability to face a lot of unknown, new and dangerous diseases, and viruses. Despite the previous limitations, this study shows the need to increase the knowledge of hearing loss; Therefore, this recommends directing educational institutions to raise awareness among young students and their parents about hearing impairment and the risk of being exposed to high sound volume for long hours, to reduce the number of cases that suffer hearing problems because of similar situations.

References

1. Alnuman, N & Ghnimat, T. (2019) 'Awareness of Noise-Induced Hearing Loss and Use of Hearing Protection among Young Adults in Jordan'. *Department of Biomedical Engineering, School of Applied Medical Sciences, The German-Jordanian University* 16(16): 2961.
2. Anderson, E & Durstine, L. (2019) 'Physical activity, exercise, and chronic diseases'. *Sports Medicine and Health Science* 1 (1) 3-10.
3. Centers of Diseases Control and Prevention, 2020. *Preventing Noise-Induced Hearing loss* [online]. Available from: https://www.cdc.gov/ncbddd/hearingloss/noise.html [accessed 6 Mar 2021].
4. Dobrucki, A. B., Kin, M.J. and Kruk, B. (2013) 'Preliminary Study on the Influence of Headphones for Listening Music on Hearing Loss of Young People'. *Chair of Acoustics and Multimedia, Faculty of Electronics, Wrocław University of Technology* 38 (3) 383–387.
5. National Institution of Health, 2008. *Hearing Loss Is Common in People with Diabetes* [online]. Available from: https://www.nih.gov/news-events/news-releases/hearing-loss-common-people-diabetes#:~:text=Diabetes%20may%20lead%20to%20hearing,shown%20evidence%20of%20such%20damage. [accessed 2 Mar 2021].
6. Niskar, A. S. et al. (2001) 'Estimated prevalence of noise induced hearing threshold shifts among children 6 to 19 years of age'. *The third national health and nutritional examination survey. United States. Pediatrics* ;108:40–43.