HEARING CARE FOR ALL

Pilot Project Report

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MINISTRY FOR INCLUSION
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Hearing Care for All - Report

Introduction

Hearing Care for All was a pilot project that originated following a lunch debate organised by the World Hearing Forum in conjunction with the World Health Organistion and the European Association of Hearing Aid Professionals(AEA) to celebrate World Hearing Day on the 3rd of March 2021 at the European Parliament in Brussels. The urgency to address the issue of untreated hearing loss was discussed and the importance of screening to improve early detection of hearing loss was also highlighted. MEP Alex Aguis Saliba one of Malta's representatives to the European Union hosted this lunch debate and this is were the idea to organise a pilot project to screen 700 people in Malta for hearing impairment was discussed together with the Minister for Inclusion the and Social Wellbeing, who also spoke during the lunch debate, and the Malta Association of Audiologists, who are full members of the AEA.

The Screening sessions were held over 4 weekends in June and July, and over 2 consecutive weekends in September and October. Tests were carried out or supervised by locally registered and liscensed Audiologists in 4 locations that were choosen to serve as test centres for surrounding locations. These centres where in Safi, Dingli, Birzebbugia and Mtarfa.

Test Method

The tests were carried out in large rooms, that were identified beforehand in each location, and checked for low ambient noise, Each room was divided into 4 test stations that were set up with a calibrated Audiometer, an otoscope and disposables and consumables to reduce the spread of infections. Covid prevention measures were strictly observed at all times. Whenever possible due to the availability of extra staff, a 5th station was setup to take a quick history and to do an ear examination to reduce time at the testing stations and ensure a steady flow of participants.

Age, home town, history of noise exposure, history of Tinnitus were recorded and the Presence of wax or other ear medical condition was noted during the ear examination and details of conditions found were explained to the participants.

The screening audiogram was performed using BSA recommended proceedures for Puretone Audiometry. For our pilot project only air conduction thresholds were obtained and due to background noise of around 45-55 dB the threshold range was set to 30dbHL as the lowest and 100 dBHL as the highest possible value. The frequencies tested were 500, 1000,2000,3000,4000,6000 and 8000hz.

Each Participant's History data and test results were recorded on an Audiogram form and given to the person to take home with him/her or to use in case they need further medical or audiological management. For the purpose of collecting data a google form was created to record the data obtained however personal identification details were not recorded so that each set of data was anonomous.

Results were explained to every participant and whenever there were issues with hearing loss and tinnitus they were given professional advice on how to proceed to improve their situation. Those with tinnitus were also counselled on how to reduce or cope with the perception of this phantom sound. Participants with wax were adviced not to use cotton buds but to seek professional medical advice especially if there was any outer ear condition that needed medical attention.

Basic Descriptive Analysis of the Data Collected

In all 700 participants were tested, however, 515 responces were sucessfully recorded on the google form. The reason for missing records could have been due to issues with internet connectivity and therefore some of the tests might not have been recorded for various reasons.

Locality

Altough there were 4 different locations participants came from various localities as shown in the table below.

Localities	No of Participants
Birżebbuġa (BBĠ)	139
Żurrieq (ŻRQ)	89
Rabat, Malta (RBT)	59
Mqabba (MQB)	48
Dingli (DGL)	47
Mtarfa (MTF)	31
Safi (SFI)	29
Kirkop (KKP)	21
Qrendi (QRD)	9
Luqa (LQA)	6
Mġarr (MĠR)	5
Għaxaq (GXQ)	5
Siġġiewi (SĠW)	4
St. Paul's Bay (San Pawl il-Baħar) (SPB)	4
Sliema (SLM)	3
Attard (ATD)	3
Mosta (MST)	3
Żejtun (ŻTN)	2
Żabbar (ŻBR)	2
Żebbuġ (Malta) (ŻBĠ)	2
Birkirkara (BKR)	1
Birgu (Vittoriosa) (BRG)	1
Marsaskala (MSK)	1
Santa Luċija (SLĊ)	1
Grand Total	**515**

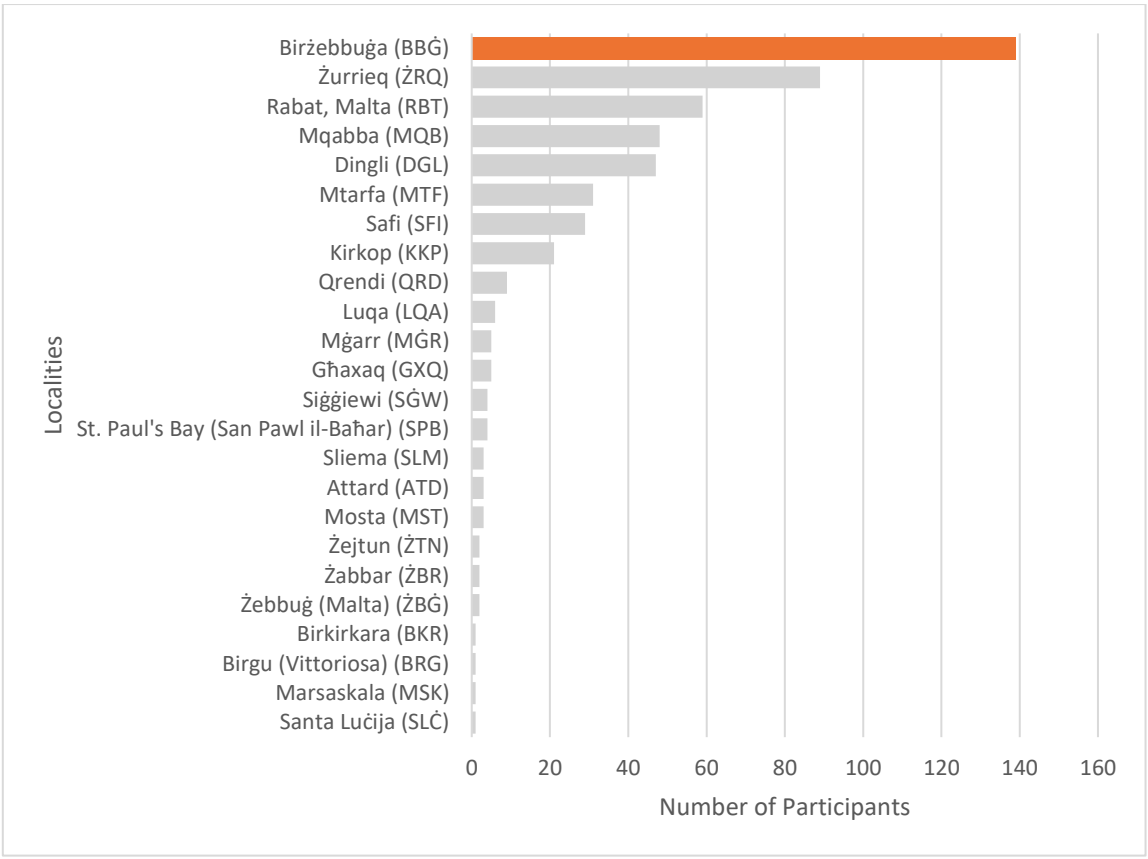

Figure 1 No of Participants per locality

Gender

51.1% of the participants were female and 48.7% male.

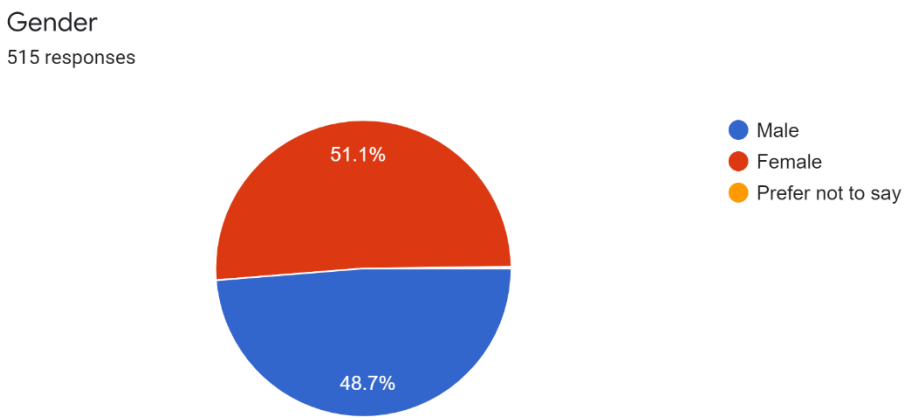

Figure 2 Gender

Age

The mean age of our participants was between 60-70 and had the highest number of participants.

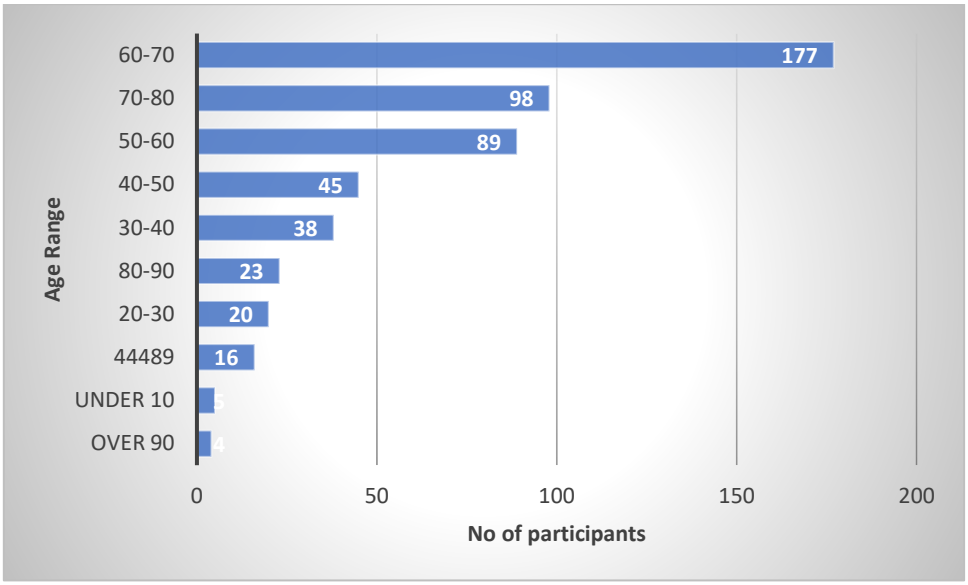

Figure 3 Age of Participants

Noise Exposure

244 participants were exposed to noise, mainly occupational noise. Those still working in noise were advised to wear ear protection to prevent hearing loss.

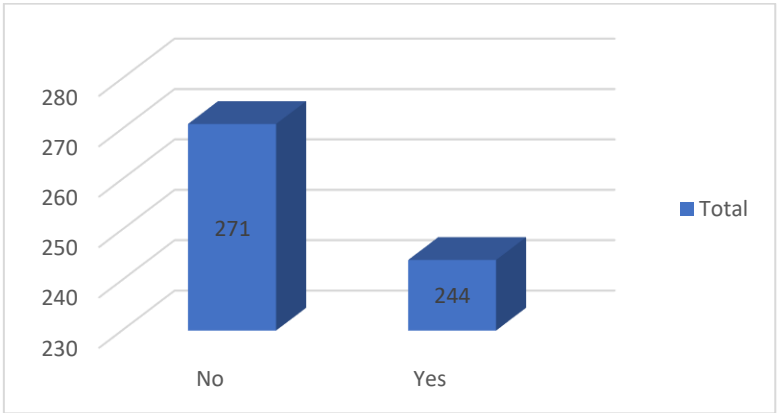

Figure 4 Noise Exposure

Ear Examination

All participants had their ears examined with an otoscope. The external auditory canal and ear drum was checked for wax, abnormalities or infections. 367 participants had no ear problems, 127 had wax either blocking one ear or both ears and 21 persons had other medical conditions such as fungal infections, perforations, dry skin or trauma caused by excessive cleaning.

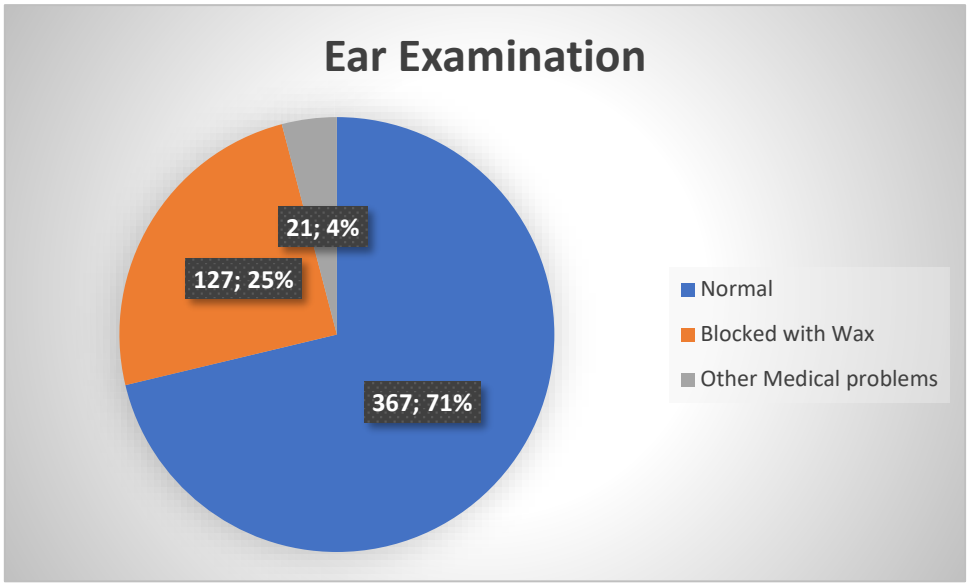

Figure 5 Otoscopy

Tinnitus

All participants were asked if they hear sounds like ringing, waves crashing , crickets or any other sound and were given tips on how to manage their tinnitus or seek further help or rehabilitation. 188 of the 515 participants suffer from tinnitus.

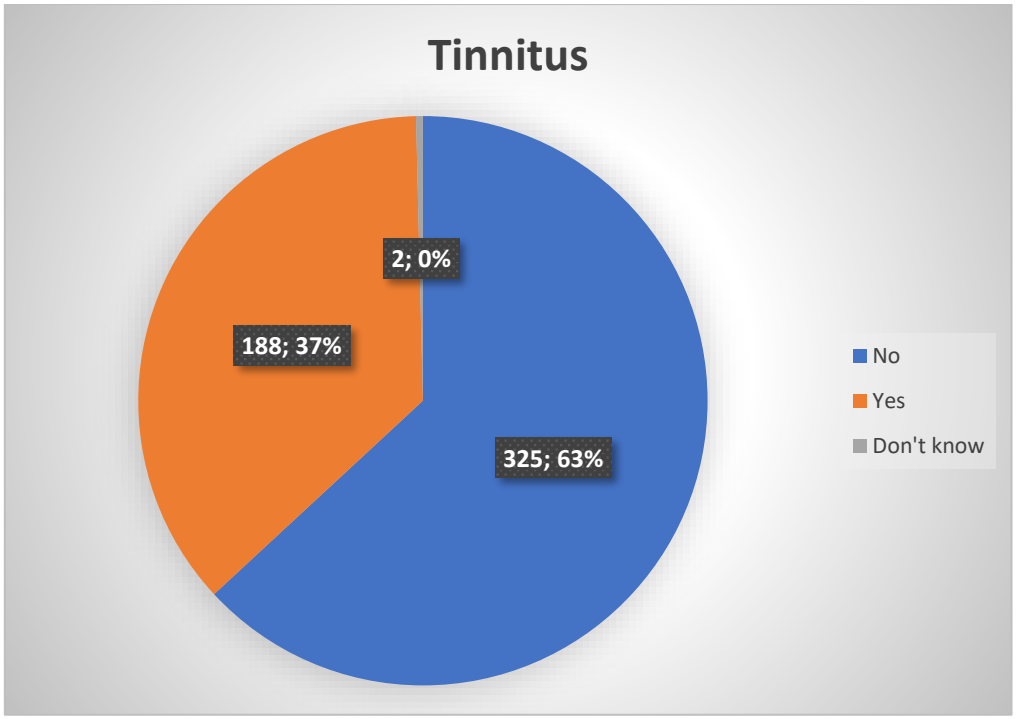

Figure 6 Tinnitus

Hearing test thresholds.

Preliminary analysis of audiogram data was done as follows. The average hearing thresholds was calculated across 500, 1000,2000,3000,4000,6000Hz per ear and then the average thresholds in both ears were calculated. It is possible to analyse these results in further detail but for the purpose of obtaining a general indication on the current trend of hearing impairment in Malta the average hearing thresholds in both ears were used.

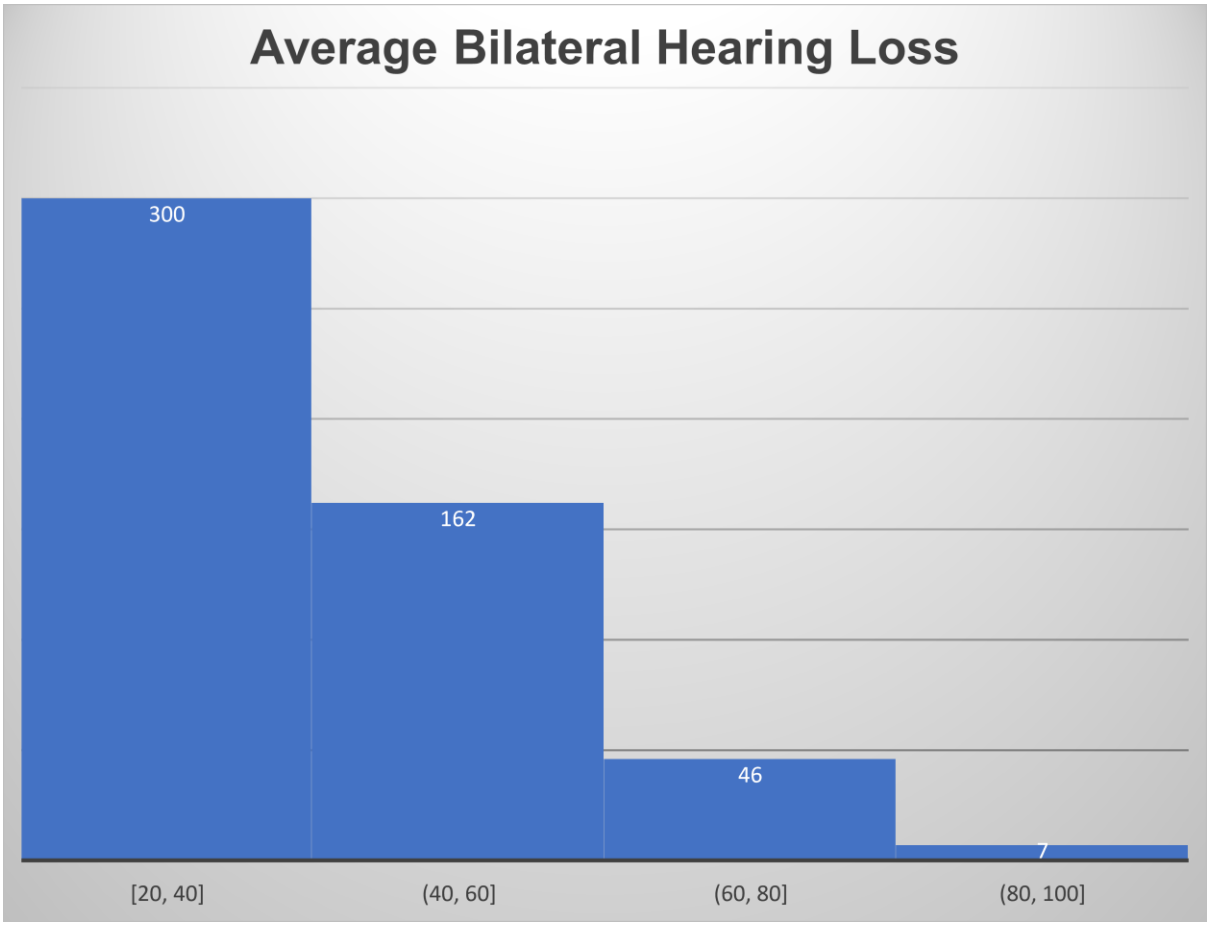

Figure 7 Average Hearing Thresholds

Using WHOs Grades of hearing impairment (Bull World Health Organ 2019;97:725–728| doi: http://dx.doi.org/10.2471/BLT.19.230367), hearing thresholds of 26- 40dBHL indicates that there is a slight hearing impairment, 41-60dB a moderate hearing impairment, 61-80dB a severe hearing impairment and 81dBHL and over, a profound hearing impairment.

Figure 7, shows the average hearing thresholds obtained in both ears. The threshold ranges are close to WHO's Classification. Approximately 300 participants had a normal to a mild hearing impairment due to having 25-30dBHL as the minimal thresholds. These are the ones that have a mild problem and need to screen their hearing every now and then to monitor any progress. However, those that are closer to 30 to 40 dB might need further testing and if the mild hearing loss is affecting their quality of life, they could seek advice on the use of amplification. 162 participants are in the moderate range which means that they will have issues with understanding speech especially in a

challenging environment. These people need to consider using amplification to improve communication. At this stage adaptation to a hearing device will be easier as the brain would not have been deprived from sound stimulation for a long time. 46 Participants fall in the severe category and 7 in the profound category. These are the people that must be fitted with amplification devices as early as possible as they are the most vulnerable population. These people generally have a good chance of ending up alone and isolated which in turn can increase the chance of cognitive issues and possibly dementia. It is important to advise these people on taking adequate measures to deal with their hearing loss and on the other hand, decision makers need to make sure that devices are also available and affordable for people in this category with possible refund schemes.

Conclusion

This pilot project as shown that 215 out of the 515, approximately 41% of the participants have a considerable hearing impairment and therefore need some form of help in the form of education and the use of amplification devices. The data collected during this project needs to be analysed in more detail to look at hearing loss by age, gender, possibly location, unilateral versus bilateral hearing loss and the relationship of hearing loss with tinnitus, and hearing loss with noise exposure.