

COMPARISON OF ANALOGUE AND DIGITAL HEARING AID USING SUBJECTIVE MEASUREMENTS

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The purpose of this study was to compare analogue and digital hearing aid (HA using subjective measurement. The subjective measurement involved sound quality rating, paired comparison, Abbreviated Profiles of Hearing Aid (APHAB) questionnaires and user preferences toward HA. Subjects were 18 sensorineural hearing impaired people with mild to severe loss in at least one ear. All of the subjects were fitted monaurally. HA used in this study were Siemens Signia, Phonak PPCL4+, Audinet C and Pico Forte. Experimental design study was used for sound quality rating, paired comparison and user preference toward the HA. For APHAB questionnaires, cross over study was used with 3 days trial for each analogue and digital HA. Data were analysed using Wilcoxon Signed Rank Test and paired t test. Descriptive analysis was also done for the calculations of percentages and mean values. The acoustic feedback was the only parameter outcome in sound quality rating which gave the significant difference between the HAs ($p=0.018$). Through paired comparison, for the dialogue in background noise, majority of the subjects (55.6%, $n=10$) chose digital HA as giving better performance than analogue HA. Digital HAs were also preferred more by subjects for listening to music (38.9%, $n=7$). For dialogue in quiet, the percentage of subjects who favored the digital and analogue HA was equal (33.34%, $n=6$). APHAB questionnaires showed significant difference between benefit received from analogue and digital HA only at one category which was aversiveness to sounds. In the end, 10 subjects preferred the digital HA, 6 preferred the analogue HA and 3 subjects were unsure as to the state of preference.

Amri, N. A. 2002. Comparison of Analogue and Digital Hearing Aid using Subjective Measurements. Bachelor of Audiology Thesis. Universiti Kebangsaan Malaysia.