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OCCUPATIONAL HEARING LOSS

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INTERPRETATION OF PURE-TONE AUDIOGRAMS IN TERMS OF SOCIAL ADEQUACY

By

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There is in Dundee and district a female population employed as weavers in the jute industry, who have long and uninterrupted exposure to weaving noise at 100 dBA for periods up to 50 years. This study presents some results from 96 weavers and 96 age-matched non-noise exposed female controls. Only weavers over 40 years of age and with 20 or more years weaving were accepted, and retired weavers were of principal interest. Subjects with defective hearing other than due to noise and age (weavers) and age alone (controls) were rejected. All subjects who volunteered were brought to Dundee for test.

Pure-tone hearing levels (re. B.S. 2497) were measured, and speech audiograms with a 60 dBA noise background, and with headphones. Social impairment and medical history were obtained by questionnaire and a clinical otological examination performed.

RESULTS

Of the 190 weavers and 218 controls who were approached, 75% (weavers) and 72% (controls) were tested. Of these, 96 weavers fulfilled the criteria and from the 121 accepted controls, 96 were selected for comparison on an age-matched basis. The mean age of the two groups was 64.7 years (weavers) and 64.5 years (controls) and the mean exposure to weaving noise was 41.6 years.

A large difference in mean hearing level between the two groups was found and reflected in figures for "3 average" hearing level (500 Hz, 1 kHz and 2 kHz) and "4 average" hearing level (500 Hz, 1 kHz, 2 kHz and 3 kHz). There was also a clear difference in hearing ability:-

<u>Social Effects</u>	<u>Weavers</u>	<u>Controls</u>
Difficulty in understanding family/friends	77%	15%
Difficulty in understanding strangers	80%	10%
Difficulty in use of telephone	64%	5%
Difficulty at public meetings, church	72%	6%
Own estimate of hearing below normal	81%	5%

There was a very low ownership of telephones amongst the weavers (8%) compared with controls (58%) and 21% of weavers did not watch television compared with 2% of controls. Only 9% of weavers had a hearing aid and only 5% used one regularly; an astonishingly low figure. Only 3% of weavers had ceased church attendance, but many heard little of sermons, addresses and announcements.

Preliminary analysis of data shows that the "4 average" method of assessment of impairment from the audiogram rates social difficulty more clearly than "3 average" for subjects reporting difficulty. For subjects admitting no difficulty, there was a large range of both "3" and "4" average scores.