سامية محمد مصطفى

شبكة المعلومات الجامعية

بسم الله الرحمن الرحيم

سامية محمد مصطفى

شبكة المعلومات الجامعية

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التوثيق الالكتروني والميكروفيلم

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جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

سامية محمد مصطفى

شبكة المعلومات الجامعية

بعض الوثائق الأصلية تالفة

سامية محمد مصطفى

بالرسالة صفحات لم ترد بالأصل

Hearing Profile of a Population In Menoufia Governorate

Thesis for partial fulfillment of MD degree

By

Hossam Sanyelbhaa Talaat
MBBCH, MS (Audiology)

Supervised By

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Professor and Chairman of ENT, Menoufia University

Prof. Dr. Salah Soliman

Professor of Audiology, Ain Shams University

Menoufia – 2000

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INTRODUCTION

Introduction and Rationale

Audition provides the primary source of acquisition of language, speech and cognitive skills of the individual with normal hearing. Hearing loss would lead to many problems as mental retardation, learning disability and emotional problems. The earlier the hearing loss the more debilitative effect **(Yoshinaga & Appuzo, 1998)**.

Gravel and Wallace (1998) reported that children with recurrent otitis media have lower cognitive and academic performance.

Samoilova and Lysenko (1998) reported that patient with sensorineural hearing loss may develop neurosis and neurosis like condition. They reported that these changes are provoked not only by premorbid personality trait but also by exogenic psychotraumatic factors.

Medical epidemiological studies are essential tool in the determination of the magnitude of health problems and they are important prerequisite for its proper management.

In Egypt, there is still no national screening program to detect hearing loss among the population. Though the proper identification of the prevalence of hearing loss is essential intervention programs. Almost every attempt at community interaction starts off with the question " how many deaf people are there in the community?", e.g. schools of the deaf would not be able to justify their expansion if they do not have accurate estimation of the number of the children who will need the school in 4 – 5 years **(Onsi et. al., 1982)**.

Epidemiological studies have great privilege in evaluating the current medical service and support. Even in the developed countries there appears to be many defects in the medical service.

In USA, it was found that many residents lack adequate audiological services despite a high prevalence of hearing loss (**Lubiniski et al., 1993**).

Davis (1998) reported that only 4% of the British population uses hearing aid, while 6.8% of the population need to be fitted.

Thus the present study was undertaken to fill a needed gap in the knowledge of prevalence of hearing loss in Egypt.

REVIEW OF THE LITERATURE

Hearing sensitivity assessment

A) Pure Tone Audiometry: Air Conduction

Pure tone audiometry is the standard behavioral procedure for describing auditory sensitivity. The comparison of air and bone conduction thresholds provide fundamental index of auditory function **(Yantis, 1994)**

Hearing threshold is the minimum effective sound pressure level of an acoustic signal producing an auditory sensation in 50% of trials **(American National Standards Institute ANSI, 1973)**

Conventional threshold audiometry involves manual control of the signal parameters by the examiner. Tones are presented in a way that is likely to result in a consistent response observed from the listener. Typically the threshold is obtained for signals that are presented through head worn earphones, although threshold may be established using loudspeakers in a sound field. All wide range audiometers provide at least the frequencies in octave multiples between 0.25 and 8 kHz. as well as the intermediate frequencies of 0.75, 1.5, 3, 6 kHz with maximum hearing level range from 100 to 120 dB HTL depending on the specified frequency **(Yantis, 1994)**.

Shortly after the commercial introduction of vacuum tubes audiometers in the 1920s, various methods were suggested by different investigators for obtaining pure tone threshold. American Speech and Hearing Association and British Society of Audiology both developed their guidelines in 1978. The following are factors worthy of consideration in maintaining reliability during threshold testing with cooperative listeners. They are found in the guidelines mentioned above.

I- Guidelines before test starts:

1- ***Calibration check:***

The examiner should be satisfied that :

- Instrumental procedures are conducted periodically to verify that the audiometer and associated transducers produce signals meeting calibration standards **(American National Standards Institute ANSI, 1969)**

- A listening check has confirmed that signals are reaching the earphones to which they are directed

- The environmental conditions conform to permissible ambient noise levels as defined by the ANSI for the levels anticipated during audiometric testing **(American National Standards Institute ANSI, 1991)**. Their importance to audiometric accuracy can not be overstressed. Table (1) shows these permissible levels.

Table (1): Accepted noise levels (in dB SPL for Octave bands) in audiometric when testing is expected to reach "0" dB HL

Frequency (Hz)	Under Earphone	Sound field or Bone conduction
125	34.5	28.0
250	22.5	18.5
500	19.5	14.5
1000	26.5	14.0
2000	28.5	8.5
4000	34.5	9.0
8000	43.5	20.5

2- ***Ear canal examination:***

This aims to confirm that the ear canal is not occluded with debris, wax or cotton. Also it aims to exclude the possible impact of collapsed ear canal on the threshold.