

DEAFNESS AND DEPRESSION

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ABSTRACT

*Late diagnosis, late intervention, inconsistent follow-ups, inadequate maintenance of hearing aids and not so good outcome is something nobody amongst service providers in the field of ENT, audiology and also psychiatry wishes to come across. The fact that many factors, elements, people and physicians are involved in the equation of service provision and results / outcome, therefore, it is very difficult to predict or contemplate what one does will bring good results. The element of myth, physicians dealing with deafness rarely getting help from psychiatrists and psychologists. The age at diagnosis is one of the key element in this process. It marks the beginning of a long term process and is therefore considered a parameter of concern. With a view to determine seriously how we take the hearing problem. This study was conducted at Lahore Medical & Dental College, Ghurki Trust Teaching Hospital. The objective was to find the mean age of diagnosis, type and amount of deafness, associated problems with emphasis on related psychiatric problems in particular the element of depression. In a total of 200 patients between the ages of 10 years and 80 years over a period of five years from Jan 2003 to Jan 2008 were evaluated and investigated. They represent the major ethnic group of central Punjab. Every patient underwent a detailed clinical examination, any depressive or psychiatric symptoms and relevant audiological investigations. The cause of hearing loss could be found in 82% cases. Main causes were infections (31%), trauma (19%), presbycusis (8%) and genetic (5%). The cause of hearing loss could not be established in 18% cases. It was higher in males (58%) than females but noticeably higher in uneducated muslim patients. Late diagnosis was also related to financial background, family size and accessibility to the health facility. In **conclusion** the findings of the study are a cause for concern because the element of psychiatric disturbances was very high (60%) and it raises the questions about the importance the patients with hearing problems. It is also to be painful out that and how little importance clinicians give to associated psychiatric disturbance, in particular depressive episodes.*

INTRODUCTION

The importance of the age of diagnosis and the effect of early intervention has been widely studied and universally understood that hearing impairment if left unattended causes severe cognitive and development delays. Cognitive ability and behavioral adaptability are distinct, yet related, constructs that can impact childhood development.¹ The difficulties in language acquisition and its sequelae upon education, psyche, future and quality of life cannot be ignored. It is therefore essential to diagnose the hearing problem as soon as possible because early diagnosis leads to early intervention and offers better opportunities to deaf patients. Studies have found that deaf individuals have higher rate of psychiatric disorder than those who are hearing, whereas at the same time encountering difficulties in assessing mental health services.² By way of definition it must be well understood that any decrease in hearing is classified as deafness and the word deafness availability of better diagnostic facilities, management strategies, equipment and infrastructure, it is likely that more and

more deaf patients can be picked up early and with the involvement of proper psychiatric evaluation in a deaf patient, the consequent depression can be reduced. It is emphasized that it must be a team effort between ENT surgeons, audiologists, speech therapists, psychologists and psychiatrists. In the light of what has been stated, it is stressed that early diagnosis serves as a gold standard to verify seriousness and commitment of people involved in the rehabilitation of hearing impaired which, it is emphasized, must include a psychiatric at least at some stage. Individuals with disabilities encounter practical and social problems beyond those experienced by nondisabled individuals.³ In addition the amplification, type of hearing aid if used, its maintenance and sense of responsibility of all the relevant people can also be used as a parameter to gauge our attitude towards the hearing impaired.

OBJECTIVE

The objective of the study was to focus on the amount of hearing impairment, type and cause of deafness and its effects like depression, stress, inso-

mnia, loss of interest in life activities etc and any relationship to different age groups.

PATIENTS AND METHODS

This study was carried out at the departments of ENT, audiology and psychiatry at Ghurki Trust Teaching Hospital, Lahore Medical & Dental College, Lahore, Pakistan. Patients diagnosed to have ear disease with deafness were randomly selected for the study. They were evaluated with history, clinical examination and pure tone audio-metry and tympanometry (when required) was carried out as a routine in all patients. The equipments were regularly calibrated. Help was also sought from radiology and laboratory investigations whenever required to find out a possible cause of hearing impairment. The protocol designed by Newton⁴ was used when dealing with patients having sensorineural deafness. All patients were asked questions from a predesigned proforma to evaluate any depressive / psychiatric disturbances. They were divided into having none, mild, moderate or severe categories. The questions included any associated tinnitus, vertigo or hallucinations. Effects of deafness on daily life activities withdrawal from social activities, relationship with people, sleep disturbances, any agitation, anger or any depression, denial, adjustment, conduct disturbances. Questionnaire also included any fear, stress, suicidal thoughts, decreased concentration, restlessness, sweating or palpitations. Any despair, hopelessness, purposeless or inappropriate activity, distressing dreams and desire to recover was specifically included in the proforma / questionnaire. Multivariate logistic regression was used to assess the relationship between the dependent variable (mental distress) and the independent variable (hearing status) controlling for the effects of gender and age. The odds ratio (OR) with 95% confidence intervals (CIs) was used to indicate a significant association. (95% CI that exclude the value 1.0 is considered statistically significant.) Response categories for mental distress variables were dichotomised for the logistic regression analyses: not at all versus at least a little. The sum score for SCL-3 was also dichotomised: scores of 2.0 or over being indicative of "severe mental distress" and scores below 2.0 indicative of little or no mental distress.

RESULTS

Two hundred patients between the ages of 10 to 80 years were randomly selected over a period of five years. The cases were diagnosed to have sensorineural deafness (37%), conductive deafness (51%) and mixed deafness (12%) at our clinic. These cases represented the major ethnic group of central Punjab and included rural (62%) and urban (38%)

Table 1: Causes of Hearing Impairment (HI).

S.No	Cause of HI	Cases	%
1.	CSOM	62	31
2.	Trauma	38	19
3.	Presbycusis	16	08
4.	Genetic	10	5
5.	Otosclerosis	07	3.5
6.	Otomycosis	06	3
7.	Secretory otitis	06	3
8.	Tumours	05	2.5
9.	Vascular	04	2
10.	Meinier's disease	03	1.5
11.	Ototoxic drugs	03	1.5
12.	Metabolic disorders	02	1
13.	Radiation induced	01	0.5
14.	Meningitis	01	0.5
15.	Unknown	36	18
16.	Total known	164	82
17.	Total cases	200	100

populations, males (58%) and females (42%), educated (21%) – minimum upto matric / O-levels and uneducated (79%) people. On an average the income of the group was Rs 5000 per month (about 300 f). The cause of hearing loss could not be established in 18%, male preponderance was noted in most groups. Main hearing threshold level was 40 dBHL in right ear and 45 dBHL in left ear. The mean age of diagnosis of hearing impairment was approximately 30 years. Late diagnosis was seen to be related to financial background, family size and availability of resources. One patient (0.5%) had severe depressive symptoms with a history of attempt to commit suicide once due to intolerable tinnitus and deafness. Mean duration of development of depressive symptoms after deafness was six months. Associated element of depression was seen in 41% and in majority of this group

the deafness was noticeably less than 30 dBHL (mild deafness). 44.5% had mild depressive symptoms ranging from agitation to insomnia while 14% had evidence of moderate depressive symptoms. Possibly due to belief against or taboo against mental illness, over 90% of uneducated and 62% educated patients with an element of depression were advised to consult a psychiatrist and were surprisingly not willing to do so but were willing to consult a neurophysician or a neurosurgeon for deafness associated depressive complaints, which they equated to nervous system complaints and not psychiatric or psychological.

Table 2: *Type of Deafness.*

No.	Type of Deafness	Cases	%
1.	Conductive	102	51
2.	Sensorineural	74	37
3.	Mixed	24	22
4.	Total	200	100

Table 3: *Amount of Deafness (Audiogram).*

No.	Amount dB loss	Cases	%
1.	Mild (less than 30 dB loss)	98	49
2.	Moderate (30 to 45 dB loss)	52	26
3.	Severe (45 to 60 dB loss)	26	13
4.	Total (more than 60dB loss)	24	12

DISCUSSION

Deaf adults have disadvantage regarding the education and access to paid employment, particularly those with more advanced hearing loss. Those who have jobs may not enjoy the same level of career progression as those who can hear. Educational and employment disadvantage results in adverse economic position for deaf adults. Access to medical and rehabilitation services greatly enhanced the likelihood of deaf people retaining employment. The management of a case with hearing problems is a team work in which the medical professionals, audiologists, psychologists, psychiatrists and peers play an important role. The roles are well defined and everyone needs to fulfill their responsibilities with commitment and dedication². Studies have found that deaf individuals have higher rates of psychiatric disorder than those who

are hearing, while at the same time encountering difficulties in accessing mental health services. Very few studies focussed specifically on suicide in deaf populations. The studies included (n = 13) generally involved small and unrepresentative samples. These factors might increase the risk of suicide³. Hearing impairment and its associated problems can range from tinnitus to severe depression to social isolation and should be assessed with care, concern and faith. Intervention begins after the diagnosis of deafness has been made which is better if it begins sooner than later. Doctors in general and ENT specialists, audiologists and psychiatrists in particular are at the fore front who must identify those at risk and must get support of associated disciplines, specially psychiatry and this could only happen once they are fully aware of the magnitude of the problem and its consequences. Although the hearing aids have not been fully exploited in this study, in another study⁴ it was found that 44% were not aware about the hearing aids, particularly the children if they are working or not. In addition to finding the cause of deafness, it is imperative that an assessment of any drift in behaviour must be identified. The deafs believe that hearing people have more negative attitudes to deafness than hearing people actually have⁵. Difficult deaf infants display significantly more repetitive activity during the initial normal interaction and significantly more gaze aversion during the still-face episode, compared to easy deaf babies and both easy and difficult hearing babies⁶. As compared to hearing subjects deafs are less responsive to hypnosis when assessed behaviorally – UTHSS : D⁷. Peer relations are of great importance during adolescence. Belonging to a group and feelings of acceptance or rejection by other members are of paramount importance⁸. Harvey describes a couple and what he terms as the 'vicarious loss' of the non hearing impaired partner. From the hearing impaired man: 'I lost my hearing then I lost my wife. She doesn't realize what it is like for me' From his hearing wife: 'I sometimes get so angry with him. Sometimes just watching him makes me feel terrified and helpless, then I feel so alone'⁹. Deafness not only increases the person's vulnerability to mild levels of depression but also tends to augment one's tendency towards experiencing boredom¹⁰. Mild levels of depressive symptoms are more prevalent in the deaf than in hearing students but more severe depression is not, these are associated with socially dependent personality characteristics in the hearing sample only¹¹. One third of deaf persons demonstrate depressive symptoms and nearly two thirds suffer from insomnia¹². The analyses based on two separate Norwegian surveys revealed that the deaf respondents showed signi-

ificantly more symptoms of mental health problems than the hearing respondents pointing to the need for focussing more attention on the mental health of deaf children and adults. Society must be made aware of the special risks that deaf children and adults encounter with respect to mental health¹³. The results among Norwegian deaf adults are in line with the claim that the risk for clinically significant emotional distress 2 – 4 times higher among persons with chronic diseases or disabilities as compared to nondisabled persons¹⁴. Mothers of children with profound hearing impairments were more likely to select physical discipline in response to depicted child transgressions and more likely to escalate to physical discipline when the depicted child was described as persisting in the transgression¹⁵. The relationship between parental depression and communication subscale was moderated by intelligence for deaf children without neurological complications. The findings provide important implications for promoting family-centered interventions with early communication and language development¹⁶. Pakistan's population is expected to swell to 350 million by 2050, with a current growth rate of 2.2 plus. An exceptionally high population growth already has its impacts. With almost one third of population living in poverty, 54 million don't have access to safe drinking water, 55 million out of 149 million at present are living in one room dingy houses, 74 million have no sanitation facilities and 53.5 million illiterates. The population explosion has led to shortage of educational facilities, health services, housing, food, living, space, arable land, clean water and increase in attention towards treatable diseases of which psychiatric illnesses are beginning to stand out. In the light of what has been discussed above the medical community needs to scrutinize and question itself about its interest in the associated problems like depression occurring in hearing impaired people. It needs an urgent appraisal of the magnitude of the problem and changing the on ground realities for a better tomorrow.

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