ejpmr, 2017,4(03), 503-506

SJIF Impact Factor 4.161

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Research Article

ISSN 2394-3211

EJPMR

LEVEL OF PARANOIA AMONG TYPES OF HEARING IMPAIRMENT IN PATIENTS AT TERTIARY CARE ENT CLINIC

[1]*Dr. Muhammad Raza Memon, [2]Dr. Muhammad Rafique Kaimkhani, [3]Dr. Moin Ahmed Ansari and [4]Dr. Ghulam Shabir Shaikh

[1]MBBS, DPM (Pysch) Psychiatric Resident Department of Psychiatry Liaquat University of Medical Health Sciences, Jamshoro, Pakistan.

[2]MBBS, DLO, M.S (E.N.T) Otorhinologist Department of Otorhinolaryngology Liaquat University of Medical & Health Sciences, Jamshoro, Pakistan.

[3]MBBS, FCPS (Psych) Psychiatrist Department of Psychiatry Liaquat University of Medical & Health Sciences, Jamshoro, Pakistan.

[4]MBBS, DPM (Psych) Psychiatric Resident Department of Psychiatry Liaquat University of Medical & Health Sciences, Jamshoro, Pakistan.

***Corresponding Author: Dr. Muhammad Raza Memon**

MBBS, DPM (Pysch) Psychiatric Resident Department of Psychiatry Liaquat University of Medical Health Sciences, Jamshoro, Pakistan.

Article Received on 18/01/2017 **Article Revised on 08/02/2017** **Article Accepted on 01/03/2017**

ABSTRACT

Objective: This study aim to examine the level of paranoia among different types of hearing impaired patients. The presumptive hypothesis of that there is no association of increased level of paranoia with regards to its different types. **Method:** A cross-sectional study was conducted in an ENT clinic of tertiary care hospital. All the cases were thoroughly examined by using pure tone audiometry to differentiate between conductive, sensorineural and mixed hearing loss. They were interviewed and valid version of 20-item paranoia scale was administrated in local language; data were recorded on semi-structured proforma. **Results:** 103 hearing impaired patients who filled complete questionnaire were assessed. Conductive hearing loss (n=49) having greater paranoid ideation as compared to sensorineural hearing loss (n=45) and mixed hearing loss (n=9). The demographic results revealed that females, below 45 aged, urban locals and unemployed show increased paranoid ideation **Conclusion**: These findings suggest that conductive hearing loss which started in adulthood poses handicap on person's social life and irregular prospects of employment possibly lead to paranoia.

KEYWORDS: paranoia, hearing impairment, conductive hearing loss, sensorineural hearing loss, psychosis.

INTRODUCTION

Hearing impairment usually causes difficulty in understanding speech, a very important tool for communication. People with hearing impairment may undergo psychological, physical and social consequences which being burden on community; and makes its high prevalence worldwide.[1,2]

For many years, hearing impairments have an apparently causal effect on development and severity of psychosis. The Kraepelin (1905) was the first to describe the presence of paranoia and persecutory delusions in patients with hearing impaired individuals.[3] In this manuscript, the term paranoia is the psychotic phenomena on individual realizes that harm is against him or her and that the persecutor is having the intention to cause harm.[4] The mechanism that may underlie some possible causal associations between psychosis and hearing impairments includes sensory deprivation[5,6], social deafferentiation[7], misinterpretation of communication.[8-10] The association between the hearing impairment and late development of psychotic symptoms was described in a population-based study sample of hearing impairment originating in early life constituted an independent risk factor for development of psychotic experiences later in life.[11] A statistically significant association between people with early onset long-standing hearing impaired individual reports psychotic-like experiences in adulthood.[12] This association was replicated by another study where longer the duration of the hearing impairment, stronger the risk of developing psychotic symptoms.[13]

A few studies were conducted with regard to its types (i.e. conductive, sensorineural or mixed) of hearing impairment and association with the development of psychosis. Cooper et al. (1974) was the first to describe a significantly higher level of paranoid psychosis in patients with conductive hearing loss than patients with affective illness.[14] Other than this, it's just only two other studies have used a similar approach, by comparing the type of hearing impairment. Stein & Thienhaus

(1993) found similar results to those of Cooper but with very small sample sizes[15], where as Cole et al. (2002) study was to differentiate psychotic feature i-e auditory hallucination in conductive and sensorineural hearing impairments in the left and right ear but found no significant difference between groups.[16]

The presumption being that there is no association of increased level of paranoia with different types of hearing impairment i-e conductive, sensorineural hearing loss, how so ever this study screens the occurrence of paranoia in hearing impaired patients and can be useful for prevention of paranoia related psychiatric disorders, hence reduces the burden on community services.

METHODOLOGY

Participants & Procedure

A representative sample of patients who attended an ENT outpatient department at Liaquat University Hospital, Hyderabad, Pakistan was recruited. All patients were required to be able to read and write in national language Urdu. The study protocol was approved by the Research Ethics Committee. An informed consent was obtained from the participants. All patients having at least one-year history of unilateral or bilateral hearing impairment, which was confirmed on pure tone audiometry (PTA) under the guidance of otolaryngologist and differentiate into conductive hearing loss(CHL), sensorineural hearing loss(SNHL), mixed hearing loss(MHL). After obtaining demographic information and completing the hearing test, patients were present a questionnaire. The final sample comprised of 103 patients (n=103). Statistical Package for the Social Sciences for Windows software (SPSS 20. for Windows/SPSS) was used for statistical processing and analysis of the collected data.

Measure

The paranoia scale (PS; Fenigstein & Vanable, 1992) is a 20-item self-report scale[17] to measure paranoid thoughts on daily events and situations in a sub-clinical sample. Each item is scored on a 5-point Likert scale (1=not at all applicable, 2=slightly applicable, 3=moderately applicable, 4=very applicable, 5=extremely applicable). Higher scores implicate paranoid thoughts, with the scores ranging from 20 to 100. For the use in this study, the paranoia scale was translated into Urdu. We have found a good reliability of the scale (α=.84) and standardized on a culturally and linguistically diversified sample representing almost all of Pakistani subculture.[18]

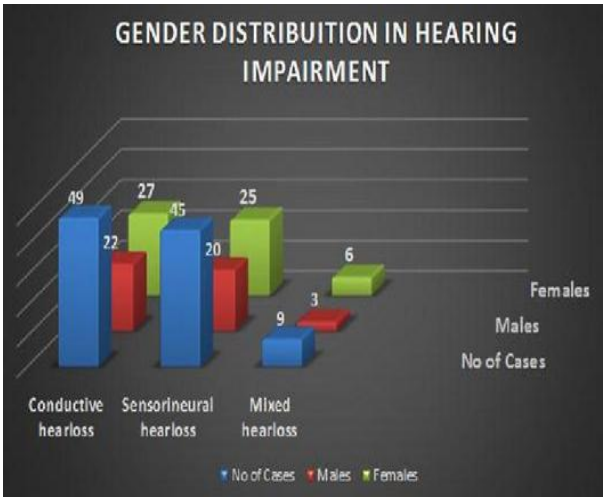
RESULTS

A total of 103 hearing impaired patients who filled complete questionnaire were assessed. Out of the patients, n=45(43.7%) were males and n=58(56.3) were females. Their age was categorized into two groups; age <45 years old n=53(51.5%) and age >45 years old n=50(48.5%). After PTA in all hearing impaired patients, there were n=49(47.6%) having CHL, n=45(43.7%) having SNHL and other having MHL n=9(8.7%) as and other variables characteristics has shown on Table.1 and Graph.1

Table: 1 Summary of general characteristics and other related variables

Variables		n (%)
Age groups	**<45 Years Old**	**53(51.5)**
>45 Years Old		50(48.5)
Gender	Male	45(43.7)
Female		58(56.3)
Marital status	Single	34(33.0)
Married		69(67.0)
Employment status	Unemployed	62(60.2)
Employed		41(39.8)
Geographic area	Rural	43(41.7)
Urban		60(58.3)
Hearing Impairment types	Conductive hearloss	49(47.6)
Sensorineural hearloss		45(43.7)
Mixed hearloss		9(8.7)

Note: n=103.



A one-way between subjects ANOVA was conducted to compare the hearing impairments on the level of paranoia in CHL, SNHL, and MHL. There was a significant difference on paranoia at the p<.05 level for the three conditions [F(2, 100) = 3.105, p = 0.049]. Post hoc comparisons using the Tukey HSD test indicated that the mean score for the CHL (M = 45.71, SD = 23.67) was significantly different than both SNHL (M = 36.31, SD = 13.66) and MHL (M = 37.00, SD = 9.00) conditions as shown on Table.2 & Graph.2. Taken together, these results suggest that CHL really does have a high level of paranoia as compared to SNHL loss and MHL.

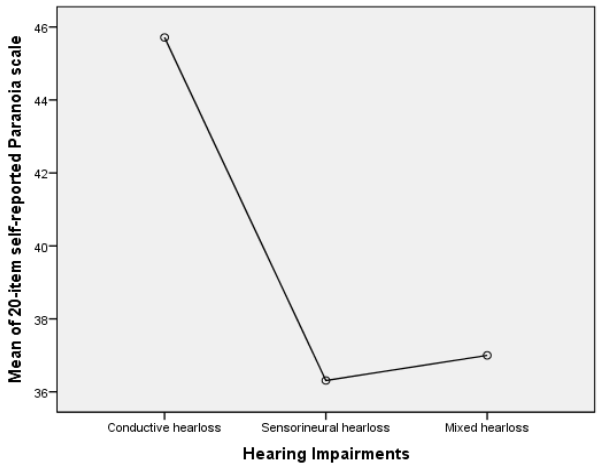
An independent-samples t-test was conducted to compare the level of paranoia by age group, gender, marital status, employment status and different geographic areas belongings. There was a significant

difference in the level of paranoia of age <45 years old group (M=45.25, SD=22.75) and age >45 years old group (M=36.18, SD=13.50) of hearing impaired patients; t (101)=2.44, p = 0.016. On difference in gender female (M=45.31, SD=20.07) are more prone to paranoia than male (M=35.09, SD=16.75) of hearing impaired patients; t (101)=2.75, p = 0.007. On geographic areas variance urban (M=44.07, SD=19.45) having high level of paranoia than rural (M=36.35, SD=18.29) of hearing impaired patients; t (101)=2.03, p = 0.045 as shown on Table.3 & 4. Unemployed (M=48.18, SD=19.03) having also increase the level of paranoia as compared to employed (M=35.80, SD=18.80) hearing impaired patients; t (101)=2.17, p = 0.030. But likely no difference were found on paranoia in married (M=41.28, SD=19.20) than unmarried (M=39.97, SD=19.72) hearing impaired patients; t (101)=0.32, p = 0.749. These results revealed that females, age group below 45 years old, urban locals and unemployed hearing impaired patient's shows increase paranoid ideation but no difference found in marital status only.

Table: 2. 20-item, self-reported Paranoia scale

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2219.87	2	1109.935	3.105	.049
Within Groups	35743.64	100	357.436		
Total	37963.51	102			

*. The mean difference is significant at the 0.05 level



Graph .2

Table: 3 Level of paranoia on Age

	mean	S.D	P-value
Age <45	45.25	22.75	0.016
Age >45	45.31	20.07	

Table: 4 Level of paranoia on Geographic Area

	mean	S.D	P-value
Urban	44.07	19.45	0.045
Rural	36.35	18.29	

DISCUSSION

We have estimated the association of different types of HI and paranoid thinking, found the greater level of paranoia in CHL as compared to SNHL and MHL in 103 sample size. These findings are similar to those Cooper et al.[14] (1974) and Stein and Thienhaus[15] (1993) studies and against the hypothesis which described earlier that there is no association of level of paranoia regards to its types. Furthermore, this result shows positive relationship between level of paranoia and development of HI before the age of 45 years, higher degree of urbanization, unemployment may relate to social isolation and feeling of loneliness and this may predict social deafferentiation.[7,19]

The association between hearing impairment and psychosis could play an important role in finding the most appropriate treatment. One of the best techniques to use of hearing rehabilitation through amplifying devices such as hearing aid can improve hearing capacity and several reports highlight the successful reducing psychotic symptoms.[20,21] Patients who develop hearing loss at a young age are at higher risk of psychotic symptoms but elderly people should also be considered to prevent the development of psychosis. So, early assessment, increased awareness, detection and consequent treatment of hearing impairment may prevent the occurrence of psychosis.

Limitation

This study neglects the relevant details about hearing impairment as their outcome including the severity of impairment, underlying etiology and age of onset.

CONCLUSION

It is concluded that conductive hearing loss which begins in early age are more prone to develop paranoia. Irregular prospects of employment, degree of urbanization might restrict person social life and possibly lead to becoming paranoid.

REFERENCES

1. Dalton DS, Cruickshanks KJ, Klein BE, et al. The impact of hearing loss on quality of life in older adults. Gerontologist, 2003; 43: 661–668.
2. Stevens G, Flaxman S, Brunskill E, Mascarenhas M, Mathers CD, Finucane M; Global Burden of Disease Hearing Loss Expert Group. Global and regional HI prevalence: an analysis of 42 studies in 29 countries. Eur. J. Public Health, 2013; 23: 146–152.
3. Kraepelin E. Psychiatrie, Barth Verlag, Leipzig, 1915; IV; 1441.
4. Freeman D, & Garety PA. Comments on content of persecutory delusions: does the definition need clarification? Br J Clin Psychol, 2000; 39: 407–414.

5. JP LEFF. Perceptual Phenomena and Personality in Sensory Deprivation. Br J Psychiatry. 1968; 114: 1499–1508.
6. Daniel C, Lovatt A, Mason OJ. Psychotic-like experiences and their cognitive appraisal under short-term sensory deprivation. Front Psychiatry, 2014; 5: 106
7. Hoffman RE. A social deafferentation hypothesis for induction of active schizophrenia. Schizophr. Bull, 2007; 33: 1066–1070.
8. Pronk M, Deeg DJ, Smits C, et al. Hearing loss in older persons: does the rate of decline affect psychosocial health? J. Aging Health. 2014; 26: 703–723
9. Arlinger S. Negative consequences of uncorrected hearing loss–a review. Int. J. Audiol, 2003; 42: 2S17–20.
10. Linszen MM, Brouwer RM, Heringa SM, Sommer IE. Increased risk of psychosis in patients with hearing impairment: Review and meta-analyses. Neurosci Biobehav Rev, 2016; 62: 1-20.
11. Thewissen V, Myin Germeys I, Bentall R, de Graaf R, Vollebergh W, van Os J. HI and psychosis revisited. Schizophr. Res., 2005; 76: 99–103.
12. Stefanis N, Thewissen V, Bakoula C, van Os J, Myin Germeys I. HI and psychosis: a replication in a cohort of young adults. Schizophr. Res., 2006; 85: 266–272.
13. van der Werf M, Thewissen V, Dominguez MD, Lieb R, Wittchen H, van Os J. Adolescent development of psychosis as an outcome of HI: a 10-yearlongitudinal study. Psychol. Med., 2011; 41: 477–485
14. Cooper AF, Curry AR, Kay DW, Garside RF, Roth M. Hearing loss in paranoid and affective psychoses of the elderly. Lancet, 1974; 2: 851–854.
15. Stein LM, Thienhaus OJ. HI and psychosis. Int. Psychogeriatr, 1993; 5: 49–56.
16. Cole MG, Dowson L, Dendukuri N, Belzile E. The prevalence and phenomenology of auditory hallucinations among elderly subjects attending an audiology clinic. Int. J. Geriatr. Psychiatry. 2002; 17: 444–452.
17. Fenigstein A, & Vanable PA. Paranoia and self-consciousness. J Pers Soc Psychol. 1992; 62: 129–138.
18. Kamrani F, Ali U. Urdu Translation and Adaptation of Fenigstein Paranoia Scale. International Journal of Business and Social Science, Sep 1; 2011; 2(16).
19. van der Werf M, van Winkel R, van Boxtel M, van Os J. Evidence that the impact of HI on psychosis risk is moderated by the level of complexity of the social environment. Schizophr. Res., 2010; 122: 193–198.
20. Coebergh JA, Lauw RF, Bots R, Sommer IE, Blom JD. Musical hallucinations: review of treatment effects. Front. Psychol, 2015; 6: 814.
21. Sommer IE, Roze CM, Linszen MM , Somers M, van Zanten GA. 2014. Hearingloss; the neglected risk factor for psychosis. Schizophr. Res., 2014; 158: 266-267.