ijlpr 2020; doi 10.22376/ijpbs/lpr.2021.11.1.L268-272

International Journal of Life science and Pharma Research

Research Article

Psychology for curing mental health

# Impact of Hearing Impairment on Marital Adjustment In Elderly Couples

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**Abstract**: This present study was conducted to determine the relationship of marital adjustment with loss of hearing in elderly couples. To carry out the study, the subjects were audiologically tested and the marital adjustment questionnaire (MAQ) was administered along with hearing handicap inventory (HHI). The audiological assessment consisted of pure tonal audiometry (PTA), which was carried out in a sound treated room by air conduction (from 250 Hz to 8000 Hz) and the bone conduction (500 Hz to 4000 Hz). Hearing threshold was calculated by using the MAICO brand Audiometer (MA-42). The sample was 30 elderly couples without hearing aids. Among them, 15 couples having B/L severe hearing loss in male partner and female partner with normal hearing were placed in experimental group, while other 15 couples having no hearing loss placed in control group. Data analysis was carried out with the help of IBM-SPSS software. For statistical analysis, the Pearson correlation was used among pure tone average, marital adjustment and hearing handicap inventory. To see the difference in mean adjustment score of experimental and control group, t-test was applied. Pearson correlation showed negative significant correlation between HHI and Marital adjustment, between PTA and Marital adjustment. HHI and PTA revealed high positive correlation. The results show a strong connection between hearing loss in elderly couples and poor adjustment.

**Keywords:** Hearing loss (HL), MAQ (Marital adjustment questionnaire) Scale, Pure tone Audiometry (PTA), Air-conduction (AC), Bone conduction (BC), HHI (Hearing handicap inventory).

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**Recieved On** 01 December 2020
**Revised On** 23 December 2020
**Accepted On** 20 January 2021
**Published On** 21 January 2021

**Funding** This Research did not receive any specific grant from any funding agencies in the public, commercial or not for profit sectors.

**Citation** Vivek Kumar Jha, Rajbir Singh , Impact of Hearing Impairment on Marital Adjustment In Elderly Couples.(2021).Int. J. Life Sci. Pharma Res.11(1), 268-272 http://dx.doi.org/10.22376/ijpbs/lpr.2021.11.1.L268-272

## 1. INTRODUCTION

Hearing impairment is a total or partial loss of one or both ear's hearing capacity. If the hearing threshold is 26 dB or greater then it is known as mild or worse hearing impairment. The hearing threshold is calculated with the average of threshold value at frequencies 0.5, 1, 2, 4 kHz. (WHO, 2005). Disabled hearing impairment means that the ear is mild or worse[1,2]. The WHO (2005) has reported hearing impairment in 250 million people worldwide (moderate or worse hearing impairment in the better ear). In developed countries, two-thirds of these people work. Half of the total hearing damage and hypertension are preventable. Among the world's leading causes of the global burden of illness (15th largest) is the early hearing loss. As per WHO (1980), the hearing loss can be categorized from normal to profound on the basis of loudness required of a stimulus to audible (Table-1).

**Table 1 : WHO classification of hearing loss(1980)[1,2]**

| Degree of hearing loss | Hearing loss range (dB HL) |
|---|---|
| Normal | -10 to 25 |
| Mild | 26-40 |
| Moderate | 41-55 |
| Moderately severe | 56-70 |
| Severe | 71-90 |
| Profound | >91 |

As per the classification beyond 70 dB, the hearing loss is considered as severe. In the present study this criterion has been followed to categorized subject as hearing impaired when it is with both ears. Some signs of hearing impairment include certain noises that are too loud, difficult to hear in noisy environments. Ringing in the ears, turning up the television or radio volume louder than usual, telling people not to understand conversations on the phone.

### *1.1. Hearing loss and Marital Adjustment*

### *1.2. Marital adjustment*

The fundamental and basic society of mankind, marriage is a social institution Landis (1975)[3]. Two people of different sexes have a mysterious force of instinct and loving attracted each other and are committing themselves openly and completely to creating a diverse artistic unit, a micro-community known as the family. A 2013 IPSOS survey found that 74 percent of young Indians (18-35 years old) prefer an arranged marriage over a free-choice one because of low divorce rates. (Dholakia, 2015)[4]. A partner's acquired hearing impairment may lead to the development of negative feelings within a marriage (Govender et al., 2014)[5]. JE. Preminger et al., (2010)[6], identified spouse with hearing loss and their significance, perceptions of hearing-loss related quality of life is highly correlated with negative mood scores. Incongruence in hearing-loss related quality of life scores reported by members of a couple were highly correlated with negative affect measured within each individual. Hearing loss can profoundly affect a person's ability to interact with his or her surroundings. This is likely to have consequences both in and out of the workplace and may ultimately have economic implications for people affected with hearing loss and their families. Furthermore, hearing-impaired workers experience higher levels of stress, expend increased efforts in listening at work, and tend to take more sick days as a result of stress-related complaints (Hasson et al., 2011; Kramer et al., 2006) [7,8]. According to Mick et al., (2014)[9], greater hearing loss is associated with increased odds of being social isolated in a nationally representative sample of women aged 60 to 69 years. Piercy et.al (2007) explored a couple relationship in which one partner had a hearing disability, through eight semi-structured interviews. Audiograms and couple studies measured hearing loss levels, stated that they encounter/gradually embarrassment. This method was helped by understanding how the hearing loss happened. When one spouse acquires hearing loss later in life, especially after relationship patterns have become established, the couple may experience anger, anxiety, depression, resentment, guilt and withdrawal (Alpiner et al., 2000)[11]. This may be because of communication difficulties between the couple being misinterpreted as a lack of concentration or unwillingness to communicate, rather than being attributed to the hearing loss (Donalds et al., 2004)[12]. Perceived social support mediated the relationships between two indicators of personality (openness and conscientiousness) and marital adjustment, but social support did not mediate other relationships (between the degree of hearing loss, sudden versus gradual loss, agreeableness, emotional stability, extraversion, and marital adjustment (Mills)[13]. In addition, a spouse may experience a range of emotions in connection with his or her partner's hearing loss, including loss, confusion, sadness, irritation, frustration and embarrassment (Brooks et al., 2001)[14]. Wallhagen et.al (2004)[19] reported that hearing loss was found to be more widespread among older people and was negatively related to health and wellness. However, its effect on partners is poorly examined. Five years later, this research investigated the correlation between a wife's auto-evaluated loss of hearing and her partner's physical, mental and social well-being. Mills LE, (2014)[13] studied that there is no comprehensive data available into how hearing loss affects the intimate relationships between spouses or friends. The purpose of this study was to find how hearing loss adversely affects the adjustment of the marriage among partner and testing a model for the conceptual relations between hearing loss, the personality of the wife, social support and martial adaptation. Survey data were collected from 82 couples in which participants performed the surveys individually; only data were used for the study from spouses. Hearing loss was examined by pure tone audiometry, word discrimination and loss suddenness. Besides this, it requires the use of assistive technology as a moderator in the relationship between hearing loss and spousal marital adjustment. Daily life consequences of hearing loss, health conditions and general life satisfaction are closely related. findings indicate that health factors and psychosocial aspects should be emphasized as a natural part of audiological rehabilitation ( Solheim et al., 2011). Hearing loss affected both people with hearing loss and communication partners. Hearing aids resulted in positive effects; however, these were often outnumbered by negative effects. Non-use of hearing aids was often influenced

by stigma. Coping strategies used were related to how the person with hearing loss perceived their self and how the communication partner perceived the relationship. Aligned coping strategies appeared to have a positive effect (Barker et al., 2017) [17]. The impact of hearing loss can have collateral psychosocial effects on communication partners (CPs), which have been defined as spouses, partners, close family members, or caregivers (Kamil & Lin, 2015)[15]. CPs may also see the person differently as a result of the hearing loss (Wallhagen, 2010)[19]. The review suggests that well designed study is warranted to understand the impact of male partner's impairment, who is playing a dominant role in Indian family system, upon marital adjustment when they are not using hearing aids. Therefore, the study aims to determine the role of hearing impairment in marital adjustment in elderly couples.

### 1.3. The objectives of the present study were

1. To study the effect of hearing loss in a partner on marital adjustment.
2. To assess the relationship among subjective complaints/symptoms, objective hearing loss and marital adjustment.

### 1.4. Accordingly, two empirical directional hypotheses were framed

1.The marital adjustment of couples having hearing loss in a partner shall be poorer than couples with intact hearing.

2.There shall be significant negative correlation between marital adjustment and scores on hearing handicap inventory as well loudness level on Pure tone audiometry.

## 2. METHODOLOGY

### 2.1. SAMPLE

Total Sample size was 30 couples (N=60), who reported for checking of their hearing evaluation owing to subjective complaints or general routine check-ups. The age range opted between 60-80 yrs. Among 15 couples, male partner had B/L Severe Sensorineural hearing loss and their female partner had normal hearing. Remaining 15 couples were having no hearing loss on either partner. All the subjects were self-selected. None of them were using hearing aid.

### 2.2. DESIGN

The dependent variable was marital adjustment. A two-group design was followed, where independent variable was hearing loss. In experimental group there was bilateral hearing loss in one (male) partner, while in control group, all the subjects are having normal hearing (Table-2). Group A: Experimental Group- I: The 15 males diagnosed B/L severe hearing loss and their female partner had normal hearing, selected in group A. Group B: Control Group- II: Having 15 couples where none of the subject is having hearing loss.

**Table 2 : Control Group and Experimental Group (N=60)**

| Group / Sex | Control-Group-B | Experimental Group-A |
|---|---|---|
| **Male** | 15 (No hearing impairment) | 15 (B/L Severe hearing loss) |
| **Female** | 15 (No hearing impairment) | 15 (No hearing impairments) |

**Thus, the design was two group.**

### 2.3. TOOLS USED IN THE STUDY

1. Marital Adjustment Questionnaire Revised (MAQ) by Kumar and Rohatgi. (2018); There are 25 questions based on personal relations and adjustment. The response is recorded as always, sometimes and never. More score shows high adjustment and less score shows low adjustment. The score range starts minimum at zero and maximum score goes up to 50. The original MAQ was published in 1999.The reliability index of MAQ was 0.84. The MAQ showed high positive correlations with Spanier's (1976) DAS as 0.95 for wives and 0.96 for husbands, with Lock and Wallace's (1959) as 0.77 for wives and 0.57 for husbands.
2. Hearing Handicap Inventory (HHI) by Ventry I, Weinstein B. (1983); There are 10 questions based on hearing loss related issues. How a hearing-impaired person can respond for different situation that is recorded as response in terms of yes, sometimes and no. Based on score obtained by hearing impaired person, the handicaps are characterized as no handicap, mild to moderate handicap and severe handicap. As per scoring, the yes response was given 4, thus range could be zero to 40.
3. PTA (Pure Tone Audiometry): Pure tone audiometry is the main hearing test used to identify hearing threshold level of an individual. It also helps us to determine type, degree and configuration of a hearing loss. It indicates the softest sound audible to an individual at least 50% of the times. Hearing sensitivity is plotted on an Audiogram, which is a graphical representation of hearing threshold as a function of frequency. This is the non-invasive procedure to estimate the threshold of hearing. The human can perceive the frequency range from 20 Hz TO 20,000 Hz. The audible range of intensity for normal hearing human being are from -10 to 120 dBHL.

### 2.4. PROCEDURE

The subject between 60 to 80 years came for ENT/Audiological evaluation was contacted in OPD at SGT Medical College Hospital & Research Institute, Gurugram, Haryana. To meet the objectives of the present study,30 couples were selected of which 15 couples (male partner with hearing loss and their female partners with normal hearing) was selected as experimental group. On the other hand ,15 couples where both the partners with normal hearing were selected as control group. All the 60 subjects (30 males and 30 females) were requested for consent to fill up MAQ and HHI. They filled up questionnaires individually in OPD. After, they were thanked for their participations.

## 3. STATISTICAL ANALYSIS

The scores of each subject were obtained by using author's manual of marital adjustment. Similarly, HHI score was also calculated as per subject's responses. The third was the Pure tone average (PTA) done as per standard procedure and dB level was determined. The data obtained were analyzed with the help of IBM-SPSS (21) Software. At first marital adjustment was compared with the help of independent sample t-test. Pearson-r was used to see the relationship among PTA (Pure tone audiometry), Hearing handicap inventory (HHI), and marital adjustment of couples.

## 4. RESULTS AND DISCUSSION

In order to test the hypothesis that hearing loss of one partner shall have poor marital adjustment than those having normal hearing, t-test was applied (Table-3).

**Table 3: comparison of marital adjustment and hearing impairment**

| Variable | Experimental group(n=30) | | Control group(n=30) | | t | df | p< |
|---|---|---|---|---|---|---|---|
| | M | SD | M | SD | | | |
| Marital Adjustment | 23.33 | 9.59 | 33.93 | 3.99 | 9.53 | 58 | 0.0001 |

The mean of impaired group was 23.33 (SD=9.59) than the mean of control group as 33.93 (SD=3.99). The t values for mean differences were 9.53 which was significant beyond 0.001 level of probability. Thus, the hypothesis was verified in the sense that male partner's hearing loss resulted into poor marital adjustment in couples. Although, the experimental and control group were made on the basis of pure tone audiometry with 70 dB criterion, however there were scores on audiometry as well HHI. Audiometry is taken as an objective measure used globally (WHO,1980), whereas HHI reports were subjective complaints/symptoms. The correlation between the two was computed which was very high, i.e.,0.98 almost perfect (Table-4)

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**Table-4: Pearson's-r among three variables.**

| Variable | PTA | HHI | Marital Adjustment |
|---|---|---|---|
| PTA | - | 0.98** | - 0.773** |
| HHI | | - | - 0.751** |
| Marital Adjustment | | | - |

p>0.001

It revealed that with minor subjective feeling of hearing problems one must report for objective testing with an Audiologist so that remedial action can be suggested. The correlation between PTA and marital adjustment was -0.773, which was significant. It revealed that higher was the PTA, lower was the marital adjustment. Similar findings were also obtained when HHI score was correlated with marital adjustment score, the r was -0. 775.It again signified the important role of hearing in marital adjustment. When one partner suffers from hearing problems in life, especially after relationship patterns have become established, the couple may experience anger, anxiety, depression, resentment, guilt and withdrawal (Alpiner et al., 2000)[11]. The negative effects of hearing loss are not difficult to understand if they are considered within the context of social relationships and verbal communication. Individuals are embedded in a social and cultural context that includes meaningful relationships and shared understandings. In Indian patriarchal society, males play a pivotal role in the family, therefore for couple adjustment soon the hearing loss is felt, hearing aid should be used.

## 5. SUMMARY AND CONCLUSION

The present study demonstrates an important correlation in patients with hearing loss, hearing handicap inventory and adjustment. A lot of communication or verbal exchange between partner's is dependent upon hearing capacity of both. It is the limitation of the present study that there were not such couples having hearing loss in female partner. In further studies, it can be explored whose hearing loss, husband or wife is more harmful for marital adjustment. A dearth of marital adjustment studies and their symptoms have been documented in this research. It has also been concluded that there was a clear correlation between the loss of hearing and marital adjustment. Elderly couples can take part in familiar and social gathering, may understand themselves through their feelings or by audiological diagnosis (hearing problem). Early to use hearing aid can eradicate the differences in marital life.

## 2.5. ETHICAL CONSIDERATION

Consent had been taken from the subject for MAQ. Briefing and debriefing had been done. The project for Ph.D. has been approved by the bodies of SGT University, Gurugram to the Mr. Vivek Kumar Jha under the supervision of Prof. (Dr) Rajbir Singh (2nd Author).

## 6. ACKNOWLEDGEMENTS

This work was peer reviewed by Dr. Vikas Punia (Assistant Professor, Clinical Psychology, Faculty of Behavioral Sciences, SGT University, Gurugram, Haryana). The authors are thankful to the faculty and staff of Audiology/ENT department of SGT Hospital, Gurugram, Haryana.

## 7. AUTHORS CONTRIBUTION STATEMENT

Mr. Vivek Kumar Jha collected the data, perceived the idea with the help of the guide Prof. (Dr) Rajbir Singh (Guide) helped in statistical analysis and reviewed the manuscript.

## 8. CONFLICT OF INTEREST

Conflict of interest declared none.

## 9. REFERENCES


1. World Health Organization. International Classification of Impairments, Disabilities, and Handicaps: a manual of classification relating to the consequences of disease. Geneva: World Health Organization; [Albany, NY: sold by WHO Publications Centre USA]; 1980. https://apps.who.int/iris/handle/10665/41003.
2. World Health Organization. International Classification of Functioning, Disability, and Health: Children & Youth Version: ICF-CY. World Health Organization; 2007. https://books.google.co.in/books?hl=en&lr=&id=SWFQDXyUrcC&oi=fnd&pg=PR5&dq=2.%09World+Health+Organization.+International+Classification+of+Functioning,+Disability,+and+Health:+Children+%26+Youth+Version:+ICFCY.+World+Health+Organization%3B+2007.&ots=G9IQpwwGy&sig=a0ykUPU0ziB91IPo1QaL6xFvNyQ&redir_esc=y#v=onepage&q=2.%09World%20Health%20Organization.%20International%20Classification%20of%20Functioning%2C%20Disability%2C%20and%20Health%3A%20Children%20%26%20Youth%20Version%3A%20ICFCY.%20World%20Health%20Organization%3B%202007.&f=false
3. Landis IT, Landis MG. Personal adjustment, marriage and family living. Prentice Hall; 1975.Availablefrom:https://books.google.co.in/books/about/Personal_adjustment_marriage_and_family.html?id=yDg9AAAAYAAJ&redir_esc=y
4. Dholakia U. Why are so many Indian arranged marriages successful. Psychology Today. 2015 Nov 24. https://www.psychologytoday.com/us/blog/the-science-behind-behavior/201511/why-are-so-many-indian-arranged-marriages-successful?page=1#:~:text=A%202013%20IPSOS%20survey%20found,all%20Indian%20marriages%20are%20arranged.
5. Govender NG, Maistry N, Soomar N, Paken I. Hearing loss within a marriage: perceptions of the spouse with normal hearing. South African Family Practice. 2014 Jan 1;56(1):50-6. https://doi.org/10.1080/20786204.2014.10844583
6. Preminger JE, Meeks S. The influence of mood on the perception of hearing-loss related quality of life in people with hearing loss and their significant others. International Journal of Audiology. 2010 Jan 1;49(4):263-71. doi: 10.3109/14992020903311396.
7. Hasson D, Theorell T, Wallén MB, Leineweber C, Canlon B. Stress and prevalence of hearing problems in the Swedish working population. BMC public health. 2011 Dec 1;11(1):130. doi: 10.1186/1471-2458-11-130.
8. Kramer SE, Kapteyn TS, Houtgast T. Occupational performance: Comparing normally-hearing and hearing-impaired employees using the Amsterdam Checklist for Hearing and Work: International journal of audiology. 2006 Jan 1;45(9):503-12. doi: 10.1080/14992020600754583.
9. Mick P, Kawachi I, Lin FR. The association between hearing loss and social isolation in older adults. Otolaryngology–Head and Neck Surgery. 2014 Mar;150(3):378-84. doi: 10.1177/0194599813518021.
10. Yorgason JB, Piercy FP, Piercy SK. Acquired hearing impairment in older couple relationships: An exploration of couple resilience processes. Journal of Aging Studies. 2007 Aug 1;21(3):215-28. Available from: https://doi.org/10.1016/j.jaging.2006.10.002
11. Alpiner JG, Hansen EM, Kaufman KJ. Philosophy and service provision. In: Alpiner JG, McCarthy PA, editors. Rehabilitative audiology: children and adults. 3rd ed. Philadelpia: Lippincott, Williams and Wilkins; 2000.
12. Donaldson N, Worrall L, Hickson L. Older people with hearing impairment: A literature review of the spouse is perspective. Australian and New Zealand Journal of Audiology, The. 2004 May;26(1):30.
13. Mills LI. Effects of Acquired Hearing Loss on Spouses' Perceived Marital Adjustment. https://fsu.digital.flvc.org/islandora/object/fsu%3A254475/datastream/PDF/view
14. Brooks DN, Hallam RS, Mellor PA. The effects on significant others of providing a hearing aid to the hearing-impaired partner. British journal of audiology. 2001 Jun 1;35(3):165-71.
15. Kamil RJ, Lin FR. The effects of hearing impairment in older adults on communication partners: a systematic review. Journal of the American Academy of Audiology. 2015 Feb 1;26(2):155-82. doi: 10.3766/jaaa.26.2.6.
16. Bhuvaneswari M, Immanuel S. Psychological Issues Among Hearing Impaired Adolescents. Education Sciences & Psychology. 2013 Jul 1;24(2). Available from: https://web.a.ebscohost.com/abstract?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=15121801&AN=98951979&h=OEvPoclilEsp8D0tvh6sBxNUn3YX7AjlYf6lAGfTzhkbaQ%2blxF5oTC5WF6vyNVga1vVCDZfY4XndqQlTAx7sKA%3d%3d&crl=c&resultNs=AdminWebAuth&resultLocal=ErrCrlNotAuth&crlhashurl=login.aspx%3fdirect%3dtrue%26profile%3dehost%26scope%3dsite%26authtype%3dcrawler%26jrnl%3d15121801%26AN%3d98951979
17. Barker AB, Leighton P, Ferguson MA. Coping together with hearing loss: a qualitative meta-synthesis of the psychosocial experiences of people with hearing loss and their communication partners. International Journal of Audiology. 2017 May 4;56(5):297-305. 10.1080/14992027.2017.1286695
18. Ask H, Krog NH, Tambs K. Impact of hearing impairment on spousal mental health: the Nord-Trondelag Health Study. European journal of public health. 2010 Jun 1;20(3):271-5.
19. Wallhagen MI. The stigma of hearing loss. The Gerontologist. 2010 Feb 1;50(1):66-75. doi: 10.1093/geront/gnp107