Depressive symptoms in elderly living only or accompanied: the impact of hearing protection

Abstract

**Objective:** To determine the impact of hearing protection on a group of elderly people with depressive signs, whether they live alone or accompanied.

**Method:** This is an exploratory descriptive study carried out with 80 elderly users of hearing aids and with signs of depression. WHOQOL-Bref and Geriatric Depression Scale were applied before and after adapting to the hearing aid. All subjects were audiologically evaluated. Sample was divided into two groups, those who live alone and those who live accompanied.

**Results:** Depressive signs were recorded in both groups; Most of the samples reported having a good quality of life, and there was no significant change in this result after adapting to the hearing aid. Despite this, qualitative data analysis showed improvement in quality of life (10%) and better mood (15%); Living alone or accompanied did not significantly influence the results.

**Conclusion:** The presence of depressive signs was important, regardless of subjects living alone or accompanied. The use of hearing aids did not significantly influence the quality of life of the studied group.

**Keywords:** elderly, hearing, deafness, depression, hearing assistants, quality of life

Introduction

According to the World Health Organization, the high and increasing prevalence of depression in different populations all over the world as well as the impact it produces, configure the disease as one of the most serious public health problems in the early twenty-first century.1

The prevalence of depression is distributed unevenly in the population.2 However, there are reports in the literature that indicate that there is a significant association between depression and aging2–6 depression and chronic diseases; and depression and hearing loss.7 It is known that aging occurs naturally, a decrease in the functional capacity of various organs and tissues, increasing the risks of onset of chronic-degenerative diseases. Among these diseases, it has been accompanied by the presence of presbycusis, or the decrease or loss of hearing acuity in older people.3,8

Hearing loss caused by presbycusis, if not adequately treated, can contribute considerably to the isolation and loss of social relationships, since hearing difficulties and restricted access to oral language distract the elderly from their friends and family, restricting their interactions socio-verbal.9 It is known to interact with others is essential to ensure quality of life and well-being of older people, in this sense, the use of hearing aids can benefit the autonomy and independence of the elderly with hearing loss.10

According to the National Health Policy for the Elderly11 the entire population segment with more than 60 years, which has functional dependencies, need to gain visibility in the various levels of health care. Thus, it states that it is necessary to create physical, social and attitudinal environments capable of improving the health of older people with difficulties or disabilities, in order to increase their participation in the communities in which they are inserted.

Considering these assumptions, the objective of this study was to determine the impact of hearing protection in a group of elderly people with depressive signs, considering the fact that they live alone.

Materials and methods

This descriptive study is part of longitudinal research, approved by the Ethics Committee under number UTP-027/2008. All participants were individually given the Free and Informed Consent Form, containing information about the nature of the study, the voluntary nature of their participation and the complete privacy of their identity. Data collection occurred between August 2013 and August 2014. The subjects of this research, in the total of 40 elderly people who were accompanied and 40 who lived alone, were randomly selected in a Clinic of Speech-Language Pathology and Audiology accredited by SUS to provide service in the area of hearing health, in the city of Curitiba-PR.

We included individuals over 60 years of age, with hearing loss, effective users of hearing aids for at least six months. Subjects who did not understand the terms of the study were excluded from the study.

All participants underwent 3 phases of the research: Phase 1-application of protocol for identification data and threshold audiometry examination, performed at the initial consultation. Phase 2 - quality of life WHOQOL-Bref12 and inventory survey of depressive signs Geriatric Depression Scale (GDS)13 (1999) held in the query to test hearing aids. Phase 3 - reapplication of WHOQOL-Bref and GDS in the semi-annual consultation of monitoring and verification of the hearing aid in the service.

The results of the audiometry were analyzed according to the type, degree, and configuration of hearing loss.14 The GDS results were summed, categorized and analyzed according to the following...
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The predominant hearing loss was bilateral (80%), sensorineural type (93%), moderate degree (85%) and descending configuration (83%), characteristic of presbycusis. The majority of the sample used prosthesis in both ears (85%) retroauricular type (60%). The presence of depressive signs was verified in the sample studied. Table 2 presents the GDS results comparing the period before and after the adaptation of the hearing aid. Through the difference-of-proportions test, comparing the groups Vive solo and Vive accompanied, at a significance level of 0.05, it was verified that there was no significant difference in any of the cases. In the before and after comparison of the prosthesis there were also no significant differences.

Table 2 Comparison of total GDS results

| Depressive symptomatology | Live alone (N = 40) | Lives together (N = 40) | P  |
|---------------------------|--------------------|------------------------|----|
|                           | N  | %  | N  | %  |    |
| Before the prosthetic     |    |    |    |    |    |
| 0 to 5 points - no signs of depression | 22 | 55 | 27 | 67.5 | 0.5733 |
| 6 to 11 - depressive signs | 16 | 40 | 10 | 25  | 0.4831 |
| Above 11 - severe depression | 2  | 5  | 3  | 7.5 | NSA  |
| After the prosthetic      |    |    |    |    |    |
| 0 to 5 points - no signs of depression | 28 | 70 | 32 | 80  | 0.6119 |
| 6 to 11 - depressive signs | 11 | 27.5 | 7 | 17.5 | 0.5989 |
| Above 11 - severe depression | 1  | 2.5 | 1 | 2.5 | NSA  |

The quality of life of the two groups studied was investigated and the results obtained through the WHOQOL-Bref are presented in Table 3. Through the difference-of-proportions test, comparing the groups Vive solo and Vive accompanied at the level of significance of 0.05, there was a significant difference in the mean response in both cases. For the test application three categories of responses were considered: Very bad + Bad, Medium and Good + Very good. Before and after the prosthesi, there were no significant differences.

Table 3 Comparison of total WHOQOL-Bref results

| Quality of life | Live alone (N = 40) | Lives together (N = 40) | P  |
|----------------|--------------------|------------------------|----|
|                | N  | %  | N  | %  |    |
| Before the prosthetic |    |    |    |    |    |
| Too bad        | 2  | 5 | 1 | 2.5 | 0.5778 |
| Bad            | 7  | 17.5 | 6 | 15  | 0.0422*|
| Medium         | 6  | 15 | 14 | 35  | 0.0353*|
| Good           | 16 | 40 | 11 | 27.5|    |
| Very good      | 9  | 22.5 | 8 | 20  | 0.1814 |
| After the prosthetic |    |    |    |    |    |
| Too bad        | 1  | 5 | 1 | 5 | 10,000 |
| Bad            | 5  | 12.5 | 5 | 12.5|    |
| Medium         | 5  | 12.5 | 13 | 32.5|    |
| Good           | 14 | 35 | 9 | 22.5|    |
| Very good      | 15 | 37.5 | 12 | 30 | 0.0685 |

*There was a statistically significant difference, since p<0.05%
Discussion

Advancing age brings in its wake some sensory and physical limitations, capable of damaging the old ability to remain independent. Among these limitations is presbycusis characterized by bilateral hearing loss sensorineural and downlink configuration table audiological characterized our sample.

Thanks to the technological advancement of science, people have at their disposal electronic devices such as hearing aids, which help and minimize the consequences of hearing loss of which lack of communication and social isolation that can lead to a depression.

Currently, the elderly living in Brazil can purchase these devices in the private network or via the Unified Health System, in services accredited to the Hearing Health Program. This government program seeks to secure with hearing loss, universal and equal access to actions and services for the promotion, protection and prevention of health.

The sample that participated in this study was characterized by being predominantly female, 66 to 70 years old, having a primary education degree and retired. These results are consistent with other studies on hearing health services. Although 85% of the sample had unilateral hearing loss, only 60% used a hearing aid in both ears. Adapt both devices is optimized therapy but in the elderly is common to choose only one ear due to aesthetic issues and handling device. In this study 90% of the sample used retroucular prostheses, that is, the model that is adapted behind the auditory pavilion. The BTE aids, although larger and less aesthetic are the most suitable for the elderly to facilitate the handling.

The presence of depressive signs in the GDS was important in both groups surveyed in agreement with the literature, which claims to be a common sign depression in old age, people with chronic diseases and people with hearing loss. It is noteworthy that hearing loss impacts not only the deaf individual, but affects the family that welcomes generating communication difficulties and important relationship.

A qualitative analysis of table 2 reveals that there was improvement of depressive signs in about 15% in the group that lives alone and 13% in the one that lives accompanied, after adaptation to the prosthesis, however this improvement was not significant. It is known that the prosthesis has proved to be a great ally in the auditory rehabilitation of the elderly. The literature states that the hearing aid helps in the recovery of hearing thresholds, improves communication condition favoring auditory discrimination, which interferes positively in the social relations of the elderly, their independence and promotes psychological issues.

Most of the subjects surveyed, in both groups, reported having a good or very good quality of life. As is common society face old age as something bad and depressing it is also common to the elderly themselves conform disabilities inherent in the process believing that the loss of some skills is normal. They claim that “considering my age, my life is very good”. This insight is embedded in the idea that being old is having a poor quality of life. Thus, if the elderly are in a slightly better condition than their contemporaries (many of whom have died), it is natural to feel that they have an excellent quality of life. It is also common to the elderly as something bad and depressing.

The fact that the elderly live alone or accompanied did not significantly influence the results of the research. However, it is known that the family, because it is the natural habitat of the human person, gives the elderly an important reference nucleus since in the extremes of life, whether in childhood or in old age, it is possible to have greater social limitation of the individual, becomes dependent on the society that surrounds.

Finally, it is important that geriatric depression should be seen as a heterogeneous condition resulting from several factors: social, emotional, physical, sensory, etc. This clinical entity, regardless of the cause, should be investigated because it interferes greatly in the quality of life of the individual point of view. Presbycusis, chronic hearing loss can cause depression or aggravate it and deserves special attention from health professionals. It is essential to value the human being in order to provide him with a successful aging.

Conclusion

The presence of depressive signs was important in the sample studied, regardless of the fact that the subjects lived alone or accompanied the use of hearing aids did not significantly influence the quality of life of the group studied.

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Conflict of interest

Authors declare there is no conflict of interest in composing this manuscript.

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