

The National Council on the Aging
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Seniors Research Group,
An alliance between The National Council on the Aging
and Market Strategies Inc.

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The Consequences of Untreated Hearing Loss in Older Persons

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Table of Contents

| | |
|--|----------|
| Background | 1 |
| Scope of Hearing Problem among Older Americans | |
| The NCOA Study | |
| Results..... | 2 |
| Consequences of Untreated Hearing Loss | |
| Sadness, Depression | |
| Worry, Anxiety | |
| Less Social Activity | |
| Paranoia | |
| Emotional Turmoil and Insecurity | |
| Benefits of Treatment | |
| Barriers to Treatment | |
| Implications..... | 8 |
| Understanding the Effects on Individuals | |
| Increasing Family Awareness | |
| Raising Awareness among Healthcare Professionals | |
| Method..... | 9 |
| Sample | |
| Other Studies | |

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Hearing loss is one of the most prevalent chronic conditions in the United States. More than nine million Americans over the age of 65 have a hearing loss. More than 10 million middle-aged Americans (between the ages of 45 and 64) have a hearing loss. (Between 1971 and 1990, hearing loss in this age group increased by 26 percent, according to the National Health Interview Survey.) Six out of seven middle-aged Americans with hearing loss do not use hearing aids. About three out of five older Americans with hearing loss don't use hearing aids.

Despite the prevalence of hearing loss among older Americans, relatively little is known about the effect of hearing loss and the impact of treatment (i.e. using a hearing aid) on the quality of their lives.

About the NCOA Study

A review of previous studies pointed to the need for a large-scale, national survey to document the effect of hearing loss and lack of treatment among older Americans with hearing impairments. NCOA commissioned the Seniors Research Group (an alliance between NCOA and Market Strategies Inc.) to conduct a large-scale, national survey of older Americans that would quantify the social, psychological, and functional effects of hearing loss.

The goal of the study was to assess the effects of hearing loss on quality of life and compare these effects for those who wear hearing aids and those who do not. Respondents in the survey included hearing aid users, hearing-impaired seniors who do not use hearing aids (nonusers), and significant others (spouse, close family member, or best friend of the hearing-impaired respondent). A total of 2,304 hearing impaired people responded and an additional 2,090 family members or close friends responded to a parallel questionnaire that asked about the hearing impaired person. The National Council on the Aging (NCOA) received an unrestricted grant from the Hearing Industries Association to conduct this research.

Some of the specific objectives for the survey include the following:

- Measure the effect of untreated hearing loss on quality of life among the hearing impaired;
- Compare perceptions of the hearing impaired with family members;
- Identify the reasons that those with hearing impairments do not seek treatment;
- Assess the impact of using hearing aids on the quality of life of users.

Results

Older people with hearing impairments that go untreated suffer many negative effects. Compared to older, hearing-impaired people who use hearing aids, those who do not use hearing aids are more likely to report

- sadness and depression;
- worry and anxiety;
- paranoia;
- less social activity;
- emotional turmoil and insecurity.

These difference remains when controlling for other factors such as the respondent's age, gender, and income.

On the other hand, seniors whose hearing loss is treated often report benefits that include

- better relationships with their families;
- better feelings about themselves;
- improved mental health;
- greater independence and security.

How Data Is Reported

This summary report divides the survey responses by several categories. First, it divides the older, hearing-impaired respondents into users and nonusers of hearing aids. This summary also divides respondents into two levels of hearing loss—"milder" and "more severe." The study rated respondents' severity of hearing loss based on their answers to a modified version of the five-minute hearing test developed by the American Academy of Otolaryngology, which measures self-reported responses to such statements as "I miss hearing some common sounds like the phone or doorbell ring." Using the resulting severity scores, respondents were divided into five equally sized groups (quintiles) ranging from least to most severe. To simplify the results, this summary of the data collapsed the responses into just two severity levels: "milder" and "more severe." The "milder" level was created by combining the lowest two quintiles, which represent the least hearing loss severity. The "more severe" level was created by combining the top three quintiles for hearing loss severity.

Sadness, Depression

Respondents who do not use hearing aids were more likely than hearing aid users to report that there had been a period of two weeks or more in the past year during which they felt “sad, blue, or depressed.” This difference remains when controlling for other factors such as the respondents’ age and income. The percentage of those reporting depression increases with the severity of their hearing loss (see Figure 1).

Figure 1

Felt Sad or Depressed for Two or More Weeks during Past Year

| Level of Hearing Loss | Use Hearing Aid | Don’t Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Milder | 14% | 23% |
| More severe | 22 | 30 |

Question 22

Worry, Anxiety

Examining responses to several questions about worry and anxiety, the study found that respondents who do not use hearing aids were more likely to report these feelings than users. For example, nonusers were more likely to say there had been a period lasting a month or longer during the past year when they felt worried, tense, or anxious (see Figure 2).

Figure 2

Felt Worried, Tense, Anxious for Month or More During the Past Year

| Level of Hearing Loss | Use Hearing Aid | Don’t Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Milder | 7% | 12% |
| More severe | 12 | 17 |

Question 26

Less Social Activity

Social isolation is a serious problem for many older people who gradually lose vital contacts with their family, friends, and neighbors. The study shows that hearing-impaired seniors who don’t use hearing aids participated significantly less in organized social activity, compared to users. Among those with milder hearing loss, non-users were more than 20 percent less likely than users to regularly participate in social activities. Among respondents with more severe hearing loss, nonusers were more than 24 percent less likely to participate in social activities (see Figure 3). Nonusers were also less likely to participate in senior center activities (see Figure 4).

Figure 3

Participate Regularly in Social Activities

| Level of Hearing Loss | Use Hearing Aid | Don't Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Milder | 47% | 37% |
| More severe | 42 | 32 |

Question 1-7

Figure 4

Participate in Senior Center Activities

| Level of Hearing Loss | Use Hearing Aid | Don't Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Mild | 24% | 15% |
| More severe | 21 | 16 |

Question 1-8

Paranoia

Another measure of an emotional distress is the perception that “other people get angry at me for no reason,” which psychologists often identify as an indicator of paranoia. People with untreated hearing problems may well sense anger directed at them “for no reason” as they misinterpret what they hear or as have to ask people to repeat what they are saying. As Figure 5 shows, those who do not use hearing aids were nearly twice likely to agree that “people get angry with me for no reason.” Among those with more severe hearing loss, the difference between users and non-users is even greater (14 percent of users agreed, vs. 36 of non-users agreed with the statement).

Figure 5

People Get Angry with Me Usually for No Reason
(percent who agreed)

| Level of Hearing Loss | Use Hearing Aid | Don't Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Mild | 13% | 24% |
| More severe | 14 | 36 |

Question 12-5

Emotional Turmoil

Seniors with untreated hearing loss also reported a greater tendency to describe themselves as feeling insecure, irritable, fearful, or tense—especially those with more severe levels of hearing loss. Among more seniors with more severe hearing loss, 11 percent of hearing aid users said the word “insecure” describes them, compared to 17 percent of nonusers (Figure 6).

Figure 6

The Term “Insecure” Describes Me
(percentage who agreed)

| Level of Hearing Loss | Use Hearing Aid | Don't Use Hearing Aid |
|------------------------------|------------------------|------------------------------|
| Mild | 8% | 10% |
| More severe | 11 | 17 |

Question 16-9

Benefits of Treatment

On the other hand, most users of hearing aids reported significant improvements in the quality of their lives since they began to use hearing aids. Half or more reported better relationships at home and improved feelings about themselves. Many also reported improvements in their confidence, independence, relations with children and grandchildren, and view about life overall (Figure 7).

Along every dimension, family members of the hearing-impaired person were even more likely to report improvements. The majority of family respondents reported that use of hearing aids had resulted in improvements in terms of relations at home, feelings about themselves, life overall, and relations with children or grandchildren.

Figure 7

Percentage of Users and Family Members Reporting *Improvements* from Using Hearing Aids

| Improvement | Fam. | All | All | Milder Loss | More Severe | | |
|--|------|-------|--------|-------------|-------------|-------|-----|
| | | Users | Family | Users | Fam. | Users | |
| Relationships at home | | 56% | 66% | 44% | 59% | 60% | 68% |
| Feelings about myself | | 50 | 60 | 40 | 54 | 53 | 61 |
| Life overall | | 48 | 62 | 33 | 53 | 53 | 64 |
| Mental health | | 36 | 39 | 29 | 37 | 38 | 39 |
| Self-confidence | | 39 | 46 | 28 | 35 | 42 | 48 |
| Relationships w/ children, grandchildren | | 40 | 52 | 28 | 44 | 43 | 53 |
| Willing to participate in group activities | | 34 | 44 | 23 | 33 | 37 | 47 |
| Sense of independence | | 34 | 39 | 27 | 30 | 36 | 41 |
| Sense of safety | | 34 | 37 | 25 | 32 | 37 | 38 |
| Ability to play card/board games | | 31 | 47 | 25 | 39 | 33 | 49 |
| Social life | | 34 | 41 | 27 | 28 | 36 | 45 |
| Physical health | | 21 | 24 | 21 | 21 | 21 | 25 |
| Dependence on others | | 22 | 31 | 17 | 26 | 24 | 32 |
| Relationships at work | | 26 | 43 | 19 | 37 | 28 | 45 |
| Ability to play sports | | 7 | 10 | 8 | 11 | 7 | 9 |
| Sex life | | 8 | NA | 4 | NA | 9 | NA |

Barriers to Treatment

Denial and Cost

Why would someone with hearing loss not use a hearing aid or not seek medical advice? Among nonusers, the most common reason cited for not using a hearing aid was their belief that they do not need hearing aids (see Figure 8). Even among those nonusers who characterized their hearing loss as severe or profound, more than half denied needing hearing aids. Others cited the expense, their belief that hearing aids do not work, lack of confidence in professionals who treat hearing loss, and the stigma of wearing hearing aids.

Figure 8
Reasons for Not Using Hearing Aids
(percentage of respondents)

| | All | More Severe | Milder Loss |
|---|-----|-------------|-------------|
| Denial | | | |
| My hearing isn't bad enough. | 69% | 64% | 73% |
| I can get along without one. | 68 | 55 | 78 |
| Consumer Concerns | | | |
| They are too expensive. | 55 | 64 | 48 |
| They won't help my specific problem. | 33 | 36 | 31 |
| I've heard they don't work well. | 28 | 31 | 26 |
| I don't trust hearing specialists. | 25 | 29 | 22 |
| I tried one and it didn't work. | 17 | 20 | 15 |
| Stigma/Vanity | | | |
| It would make me feel old. | 20 | 22 | 18 |
| I don't like the way they look. | 19 | 21 | 18 |
| I'm too embarrassed to wear one. | 18 | 21 | 16 |
| I don't like what others will think about me. | 16 | 19 | 15 |

Implications

Understand the Effects on Individuals

Untreated hearing loss among older persons is a serious and prevalent problem. The study found that from the mildest to the most severe hearing loss level, hearing-impaired older persons who do not wear hearing aids are more likely to experience depression, anxiety, paranoia and emotional turmoil, compared to people who wear hearing aids.

On the other hand, hearing-impaired older persons who do use hearing aids are more likely than non-users to be involved socially in their neighborhoods, in organized social activities, and at senior centers. Most hearing aid users report significant benefits from the aids—in family relationships, mental health, and other areas that affect the quality of their lives. In all categories, family members observe even greater benefits from the use of hearing aids than do the users themselves.

Denial is the most important barrier to hearing aid use. Most hearing-impaired older persons who don't use hearing aids think they don't need them or can get by without them. Cost considerations and vanity are also significant barriers for many older persons.

Increase Family Awareness

Hearing loss affects not only the hearing-impaired person, but often their families as well. Families should be aware of and alert to the potential consequences of untreated hearing loss as well as the benefits of using hearing aids. Family members who suspect that a relative has a hearing loss should actively encourage the person to seek appropriate screening, diagnosis, and treatment.

Raise Awareness among Healthcare Professionals

Because of the potential negative consequences of untreated hearing loss on a person's quality of life and family relationships, hearing loss should be a routine topic of discussion for older persons and their doctors. Physicians and other allied health professionals should encourage older people who are suspected of having a hearing loss to seek appropriate screening, diagnosis, and treatment. Health professionals should also be aware that many older adults with significant hearing impairments tend to deny the extent of their hearing loss and to believe that they do not need treatment. A simple five-minute questionnaire administered to patients could help identify patients in need of referral to a hearing specialist.

Method

In 1998, The National Council on the Aging (NCOA) commissioned the Seniors Research Group to conduct a survey of Americans age 50 and older to determine the effects of hearing loss in their lives. A total of 2,304 hearing-impaired people age 50 and older responded to the mail questionnaire—a response rate of more than 75 percent of the 3,000 persons contacted.

The survey is unique in several respects. It is the largest survey of its kind; it is national in scope and profile; and it systematically includes middle-aged and older men and women who have both treated and untreated hearing loss. Also, this study is the first large hearing-loss study to directly measure attitudes and perceptions of other family members. Each hearing-impaired respondent was asked to have a family member respond to a set of questions that parallels the questionnaire filled out by the hearing-impaired person. A total of 2,090 family respondents returned the questionnaire.

The sample of 3,000 hearing-impaired respondents age 50 and older was drawn from the Knowles Electronics 1997-1998 MarkeTrak IV Survey database, conducted using the National Family Opinion Consumer Household Sample.

Other Studies

There have been several small-scale studies that documented negative social and emotional effects that result from lack of treatment for hearing loss. Lack of treatment has been linked to a reduction in effective social functioning (Weinstein & Ventry, 1982), diminished psychological well-being (Thomas & Herbst, 1980; Dye & Peak, 1983), lower self-esteem (Harless & McConnell, 1982), and a reduction in general quality of life (Mulrow, Aguilar, Endicott, et al., 1990; Carabellese, Appollonio, Rozzini, et al., 1993; Bridges & Bender, 1998).

However, the sample sizes in these studies were relatively small, ranging in size from 20 to 251. Some studies looked at matched groups of participants, one group with hearing aids and one without to measure effects. Others were longitudinal studies based on an experimental intervention design with treated and untreated groups followed over time.