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Attitudes toward hearing aid use in the general adult Jordanian population

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ABSTRACT

Background: Despite the rising global prevalence of hearing loss, hearing aid adoption remains low, often due to stigma and misconceptions. Understanding public perceptions is critical to improving hearing health outcomes.

Methods: This cross-sectional study surveyed 678 adults in Jordan between October 2024 and February 2025. Participants were recruited from universities, hospitals, and public areas across the country. An Arabic-language questionnaire adapted from validated tools was used to assess awareness, attitudes, and social stigma toward hearing aids. Demographic variables

included age, gender, education, and income.

Results: The sample included 46.9% males and 53.1% females, with most aged 18–75 years and a majority having a college-level education. Overall awareness of hearing aids was high and increased with age and income. While most participants had a positive attitude toward hearing aid use, some negative views persisted—particularly among women who prioritized appearance and men who reported lower willingness to wear hearing aids. Misconceptions were more common in lower-income groups. Social stigma was generally low but higher among younger and lower-income individuals. All observed associations were statistically significant ($p < 0.05$).

Conclusion: While awareness and attitudes toward hearing aids are generally positive in Jordan, notable misconceptions and stigma remain among specific demographic groups. Targeted public health campaigns and educational initiatives are essential to reduce stigma and improve access and acceptance of hearing aids.

Keywords: *Hearing aids, Attitudes, Awareness, Social stigma, Jordan*

1. INTRODUCTION

Attitudes towards hearing aid use among the general population play an important role in hearing help-seeking and hearing aid uptake .[1]. Attitudes toward hearing aids usage refer to individuals' opinions, beliefs, and emotional responses related to the use of hearing aids. Global epidemiological data show that an estimated 1.57 billion people all around the world had hearing loss in 2019, approximately 62% of them were older than 50 years, and by the year 2050, the estimates suggest that nearly 2.5 billion individuals will have varying degrees of hearing loss, and a minimum of 700 million individuals will need hearing rehabilitation .[2]. A recent study in Jordan found that 63 per 1,000 Jordanians experience hearing loss.[3]. Globally, over 400 million individuals could benefit from hearing aids; however, only approximately 68 million utilize them, with this gap being even more pronounced in our region .[4]. In Jordan, hearing-impaired adults experience significant psychological distress, including depression, anxiety, and social discomfort .[5], Global findings also indicates that untreated hearing loss is associated with increased dementia risk and decreased cognitive function .[6].

Hearing aids are the primary rehabilitation method for people with hearing loss, they can relieve the challenges caused by hearing loss .[7]. Despite their proven effectiveness, the utilization of hearing aids remains notably low .[4]. Also, it is well recognized that individuals, including those with life-threatening medical conditions, often avoid seeking medical attention, even when they suspect that it might be necessary to do so .[8]. Attitudes are often linked to outcomes such as help-seeking, hearing aid uptake, and satisfaction with hearing aid use .[9]. A considerable body of research has highlighted individual attitudes and perceptions regarding hearing aids, positioning the topic as a central theme in clinical audiology; however, these discussions have largely emphasized the viewpoints of individuals with hearing loss. .[10]. Moreover, societal attitudes and opinions from peers, family, colleagues, and healthcare professionals play a vital role in the decision-making process of individuals with hearing loss regarding intervention and hearing aid use .[11]. Given these facts, we need to study the attitudes of the general population as well as people suffering from hearing loss. Population-based studies have highlighted substantial discrepancies in help-seeking behaviors and hearing aid adoption across countries; however, the existing literature lacks well-designed investigations into the cross-cultural factors underlying these variations. .[12]. And while existing literature has explored the attitudes in various countries outside our region, there remains a gap in understanding what attitudes the general population of Jordan have toward hearing aids. A recent systematic review identified social pressure, perceived benefit of amplification, and awareness of device function as key predictors of help-seeking and hearing aid uptake.[1]. Another research reported that people are probably more likely to start the hearing aid uptake evaluation if they had positive attitudes from people around them towards hearing aid use.[13]. Also, that those who sought help were affected positively by the Theory of Planned Behavior constructs “attitude toward behavior” and “behavioral control” .[9]. Research has consistently shown that stigma is the leading barrier to hearing aid use, while secondary factors such as bulkiness, conspicuousness, and societal associations with aging and cognitive impairment further hinder acceptance..[14, 15]. Prior studies used cross-sectional survey methods, aligning with our approach.[9, 16].

The rationale for undertaking this study lies in the recognition that understanding these attitudes is crucial for developing targeted interventions, raising awareness, and ultimately improving the acceptance and utilization of hearing aids. especially in our region where social attitudes play a vital role in the uptake of hearing aids.

The research question: What are the attitudes of adult Jordanians towards hearing aid use?

Objectives: This research aims to answer our research question by investigating the general public's opinions and attitudes toward the use of hearing aids in the adult Jordanian population, considering multiple demographic factors, and how these factors affect the attitudes.

2. METHODOLOGY

Study Type

We are using a survey-based cross-sectional study to capture attitudes toward hearing aids use in Jordanian adults providing a snapshot of the population's characteristics.

Study Site

The research was conducted across North, Central, and South Jordan. Data was collected at Al-Balqa Applied University in Al-Salt, and around Prince Hashim Hospital in Az-Zarqa, Queen Alia Hospital in Amman, and in addition participants from the general Jordanian population.

Study Population

This study included adults aged 18 and above from the Jordanian population who aren't hearing aid users regardless of their hearing function status, and Participants with severe cognitive impairments or any condition that may hinder their ability to provide meaningful responses were excluded.

Ethical considerations

Ethical approval was obtained from Al-Balqa Applied University (BAU) Ref: 35/2024/47ط. Informed consent was secured before participation.

Study Sampling: method and size

We used Convenience sampling, and using Sample Size Calculator .[17], The least recommended sample size is 385 adults using these values: a margin of error of 5%, a confidence level of 95%, Population size of 5200000 .[18], and a response distribution of 50%.

Questionnaire

The questionnaire used in this study was adapted based on the key factors identified in the introduction and literature, along with components from the Hearing Attitudes in Rehabilitation Questionnaire (HARQ).[19]and the Attitudes Toward Loss of Hearing Questionnaire (ALHQ).[20], and from a public-focused survey structure proposed by Aravinda & Thejaswini .[16], which aligned thematically with psychosocial frameworks established in (HARQ).[19]. These instruments cover key domains such as stigma, general knowledge, and social pressure towards hearing aids use all of which are relevant to hearing aid perception and uptake in the general population.

The final adapted questionnaire consisted of 19 Yes/No items divided into three domains: general awareness (5 items), personal attitudes (7 items), and social stigma toward hearing aid users (7 items). Items were selected to reflect relevant psychosocial constructs in the hearing aids use and to suit the Jordanian population. The questions were translated and written in Arabic and underwent expert review by bilingual professionals in public health and audiology. and A forward–backward translation check was used to ensure clarity and alignment with source constructs.

Data collection method

The researchers collected data from sites that were accessible and convenient for our team and participants. The data was collected by direct survey (self-administered questionnaire). To minimize response bias, participants were assured of anonymity, and most of them were selected randomly.

Data entry and analysis

Upon completion of data collection, responses were entered into a structured Microsoft Excel database. Answers were recorded in binary format (1 = Yes, 0 = No) and cleaned to address inconsistencies and missing values. Key variables were categorized as follows: region (North, Central, South), gender (Male, Female), education level (High School or below, College [Diploma/Bachelor], Higher Education [Master/Doctorate]), age group (18–30, 31–50, 51+), and income level (<350 JOD, 350–1600 JOD, >1600 JOD) based on .[21]. Perception of hearing loss was also recorded. Descriptive statistics were used to calculate frequencies and percentages. Using Excel formulas, domain scores were computed: General Knowledge (Q1–Q5), Personal Attitude (Q6–Q12), and Social Stigma (Q13–Q19). Participants were classified as Good (≥3) or Poor (<3) for Knowledge; Positive (≥4) or Negative (<4) for Attitude; and Low (≥4) or High (<4) for Stigma.

Given the categorical nature of the data, non-parametric statistical analysis was conducted using Pearson's chi-square test to examine associations between demographics and survey responses. Statistical significance was set at $p < 0.05$. Results are reported with chi-square values and p-values. No post-hoc tests or corrections for multiple comparisons were applied. Analyses were performed using SPSS version 27.

3. RESULTS

Demographic Data.

The study included 678 participants with a balanced gender distribution (Male: 46.9%, Female: 53.1%). Ages ranged from

18 to 75 years, with a median of 28.7 years. Most participants were 18-30 years (55.9%), followed by 31-50 years (27.3%) and 51+ years (16.8%). Education levels varied, with (73.0%) having a college degree, (17.6%) a high school education or below, and (9.4%) a higher education degree. Income, (55.9%) were middle-income, (36.9%) low-income, and (7.2%) high-income, and most participants were from the central region of Jordan (75.4%), (13%) from northern region, and (11.7%) from southern region, and only (4.3%) had perception of hearing loss.

Table 1. Demographic Data

Category	Subcategory	Number (Percentage)
Gender	Male	n=318 (46.9%)
	Female	n=360 (53.1%)
Age Group	18–30	n=379 (55.9%)
	31–50	n=185 (27.3%)
	51+	n=114 (16.8%)
Education Level	High school or below	n=119 (17.6%)
	College education (Diploma, Bachelor's)	n=495 (73.0%)
	Higher education (Master's degree, Doctorate)	n=64 (9.4%)
Income Level	Low income	n=250 (36.9%)
	Middle income	n=379 (55.9%)
	High income	n=49 (7.2%)
Geographical Location	North	n=88 (13%)
	Central	n=511 (75.4%)
	South	n=79 (11.7%)
Perception of Hearing Loss	Yes	n=29 (4.3%)

Percentage-Based Breakdown of Knowledge, Attitude, and Stigma.

To further classify our participants based on the majority of their answers on each domain. We found that (91.45%) (n=620) of participants the majority demonstrated good general knowledge, while only (8.55%) (n=57) had poor knowledge. In terms of attitude, (66.81%) (n=452) showed a positive attitude, whereas (33.19%) (n=225) had a negative attitude. Regarding social stigma, (69.03%) (n=468) of respondents demonstrated low Stigma, while (30.97%) (n=209) were classified as having high Stigma.

Statistical Analysis

Awareness and Exposure to Hearing Aids (Q1-Q5)

Awareness of the purpose of hearing aids (Q1) varied significantly by age (χ^2 (2) = 6.297, p = 0.043) and income (χ^2 (2) = 8.286, p = 0.016), with the highest awareness in individuals aged 51+ (94.7%) and the lowest in those aged 18-30 (86.0%). Awareness also increased with income, as low-income respondents (83.2%) reported lower familiarity compared to middle-income (90.8%) and high-income (89.8%) groups.

Regarding family members using hearing aids (Q3), statistically significant differences were observed in income (χ^2 (2) = 6.632, p = 0.036) and region (χ^2 (2) = 6.597, p = 0.037). Hearing aid use was more common in high-income families (22.4%) than in low-income ones (10.8%), and it was more frequently reported in central regions (17.0%) compared to northern (10.2%) and southern (7.6%) areas.

Awareness of different hearing aid styles (Q5) showed statistically significant differences by age (χ^2 (2) = 11.003, p = 0.004) and income (χ^2 (2) = 12.106, p = 0.002), increasing with age from (86.0%) in the 18-30 group to (95.6%) in those aged 51+, and with income, where low-income respondents (84.0%) were less informed than middle-income (92.6%) and high-income

(91.8%) groups. No statistically significant differences were found for Q2 and Q4.

Personal Attitudes Towards Hearing Aid Use (Q6-Q12)

The importance of hearing aid size (Q6) varied significantly by gender (χ^2 (1) = 6.545, p = 0.011), with more females (75.3%) than males (66.4%) considering size a factor.

Willingness to wear a hearing aid despite cosmetic concerns (Q7) was also statistically significant by gender (χ^2 (1) = 9.072, p = 0.003), as males (61.6%) were significantly less willing to wear hearing aids despite cosmetic concerns than females (72.5%).

Misconceptions about hearing aids amplifying all sounds rather than improving hearing (Q8) were statistically significant by income (χ^2 (2) = 6.955, p = 0.031), with more low-income respondents (49.2%) believing this compared to middle-income (38.8%) and high-income (46.9%) groups.

Discomfort with hearing aids (Q9) was statistically significant by gender (χ^2 (1) = 14.208, p = 0.000) and age (χ^2 (2) = 8.461, p = 0.015), with more males (63.8%) than females (49.4%) finding them uncomfortable, and discomfort increasing with age (67.5% in 51+, 54.2% in 31-50, and 42.7% in 18-30).

Managing a hearing aid (Q10) was perceived as difficult with statistically significant differences by gender (p = 0.041), age (p = 0.030), education (p = 0.048), and income (p = 0.001). with females (31.90%) finding it more difficult than males (24.80%), and within each age group, (30.9%) of younger adults (18-30), (30.3%) of middle-aged adults (31-50), and (18.4%) of older adults (51+) reported difficulty managing a hearing aid. Similarly, within education levels, difficulty was reported by (23.5%) of those with lower education, (31.1%) of college-educated participants, and (18.8%) of those with higher education. Regarding income, (35.2%) of low-income participants, (23.0%) of middle-income participants, and (38.8%) of high-income participants found managing hearing aids challenging.

Feeling embarrassed to wear a hearing aid (Q11) was statistically significant by age (χ^2 (2) = 6.639, p = 0.036) and income (χ^2 (2) = 6.990, p = 0.030), with the highest embarrassment reported among 18-30-year-olds (41.2%) and low-income respondents (47.6%). No statistically significant differences were found for Q12.

Social Stigma and Acceptance of Hearing Aid Users (Q13-Q19)

Accepting hearing aid users in social gatherings (Q13) was significantly associated with gender (χ^2 (1) = 9.289, p = 0.002), with more females (97.5%) than males (92.5%) expressing acceptance. Perceiving different social reactions when someone wears a hearing aid (Q14) was also statistically significant by gender (χ^2 (1) = 9.839, p = 0.002), with more females (61.7%) than males (49.7%) noticing reactions.

The perception that hearing aid users face psychosocial pressure (Q15) showed statistically significant differences by gender (p = 0.000), age (p = 0.002), and income (p = 0.021). Females (62.3%) reported higher perceived pressure than males (48.9%), and younger individuals (60.5% in 18-30) felt more pressure than older age groups (53.7% in 31-50, 41.8% in 51+). Low-income respondents (64.2%) also perceived more pressure compared to middle-income (55.4%) and high-income (43.6%) groups. The belief that hearing aids isolate users (Q16) was statistically significant by age (χ^2 (2) = 8.119, p = 0.017), with the highest perception of isolation among 51+ individuals (50.2%).

Preference for alternative treatments over hearing aids (Q17) was statistically significant by education (χ^2 (2) = 10.384, p = 0.001), where lower-education individuals (42.8%) favored alternative treatments more than highly educated respondents (36.4%).

Recommending a hearing aid to a friend (Q18) was statistically significant by gender (χ^2 (1) = 18.620, p = 0.000), with more females (85.0%) than males (71.4%) willing to recommend them. No statistically significant differences were found for Q19.

Internal consistency

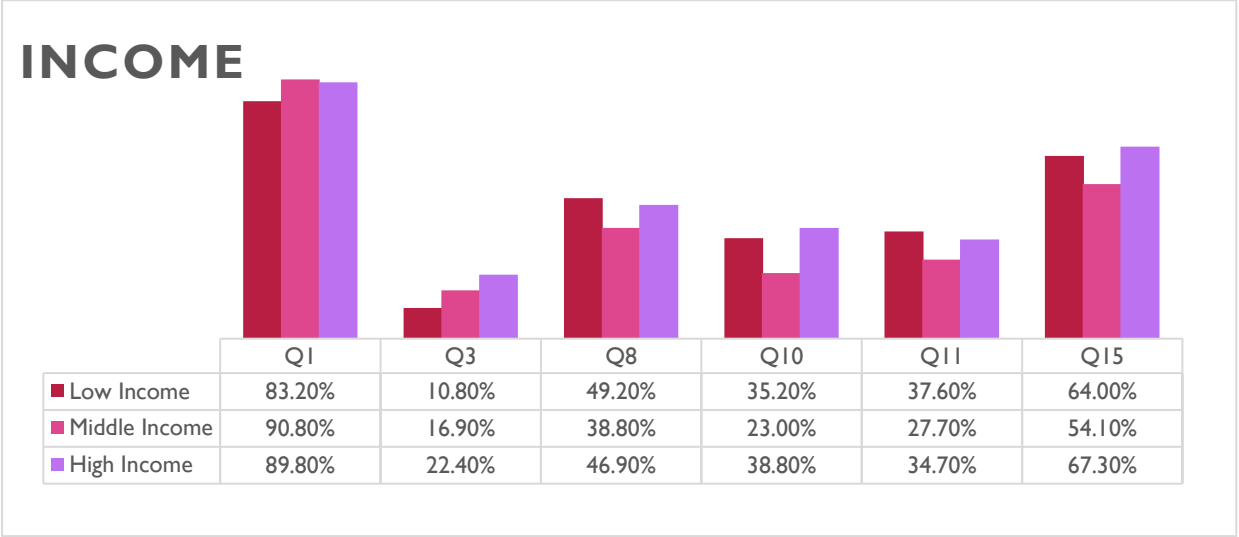
our questionnaire showed strong internal consistency with Cronbach's $\alpha = 0.81$.

Table 2. Summary of the significant statistical findings

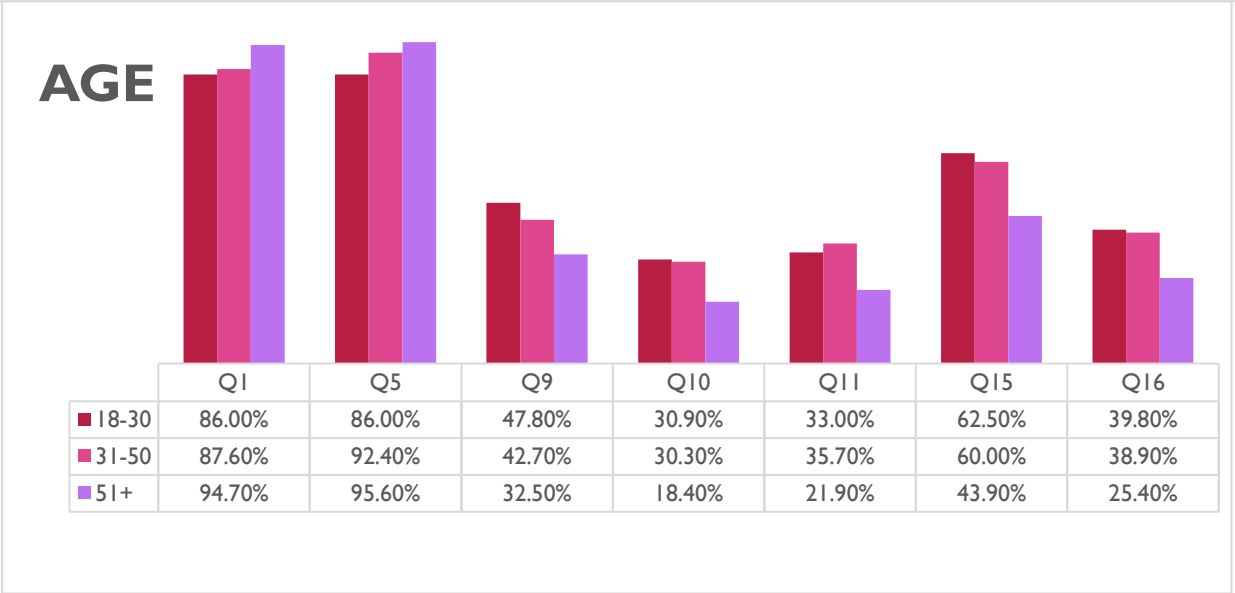
Question	Variable	p-value
Q1	Age, Income	0.043, 0.016
Q3	Income, Region	0.036, 0.037
Q5	Age, Income	0.004, 0.002
Q6	Gender	0.011

Q7	Gender	0.003
Q8	Income	0.031
Q9	Gender, Age	0.000, 0.015
Q10	Gender, Age, Education, Income	0.041, 0.030, 0.048, 0.001
Q11	Age, Income	0.036, 0.030
Q13	Gender	0.002
Q14	Gender	0.002
Q15	Gender, Age, Income	0.000, 0.002, 0.021
Q16	Age	0.017
Q17	Education	0.001
Q18	Gender	0.000

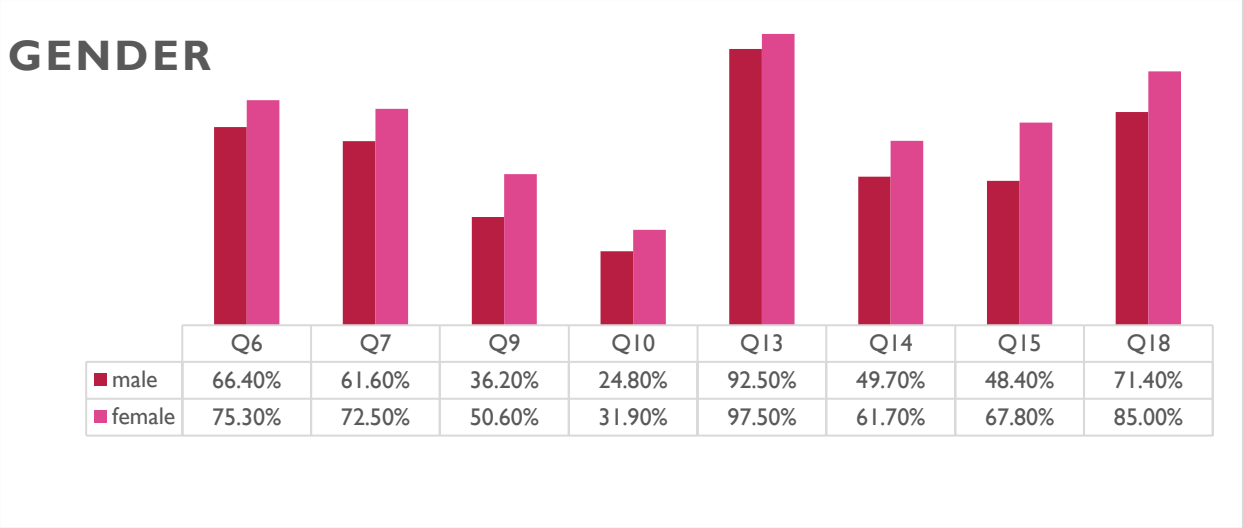
Bar charts for Percentage of Yes answers within: Income, Age and Gender



	Q1	Q3	Q8	Q10	Q11	Q15
Low Income	83.20%	10.80%	49.20%	35.20%	37.60%	64.00%
Middle Income	90.80%	16.90%	38.80%	23.00%	27.70%	54.10%
High Income	89.80%	22.40%	46.90%	38.80%	34.70%	67.30%



	Q1	Q5	Q9	Q10	Q11	Q15	Q16
18-30	86.00%	86.00%	47.80%	30.90%	33.00%	62.50%	39.80%
31-50	87.60%	92.40%	42.70%	30.30%	35.70%	60.00%	38.90%
51+	94.70%	95.60%	32.50%	18.40%	21.90%	43.90%	25.40%



	Q6	Q7	Q9	Q10	Q13	Q14	Q15	Q18
male	66.40%	61.60%	36.20%	24.80%	92.50%	49.70%	48.40%	71.40%
female	75.30%	72.50%	50.60%	31.90%	97.50%	61.70%	67.80%	85.00%

4. DISCUSSION

This research examined how adults in Jordan perceive hearing aids, revealing generally positive attitudes with distinct variations based on age, income, and geographic location. Awareness of hearing aids was widespread, but older adults and those from higher-income brackets demonstrated greater understanding and acceptance. This pattern may indicate improved access to resources, greater health literacy, and increased exposure to hearing care services, consistent with previous evidence that demographic variables, including age and income, play a significant role in influencing hearing aid adoption.[1, 10]. Regional disparities were also evident, as participants from central Jordan reported higher awareness and usage of hearing aids. This may reflect differences in healthcare accessibility and infrastructure, with urban centers typically offering more comprehensive audiological services .[1].

Gender played a meaningful role in shaping attitudes. Female respondents expressed more concern about the size and appearance of hearing aids, which has been shown to influence reluctance in adoption, particularly among women .[11]. In contrast, male participants were less willing to use hearing aids, despite cosmetic concerns. This may indicate that social identity and perceptions of self-image influence men's attitudes differently, as previous research has suggested that stigma can affect individuals in gender-specific ways .[14].

Misconceptions about hearing aids were more prevalent among lower-income individuals. Many believed that hearing aids simply amplify all sounds rather than improve speech clarity. This misconception has been widely reported and is considered a common barrier to hearing aid use .[1]. Additionally, discomfort with hearing aids was more frequently reported by men and older adults, a finding that aligns with studies highlighting issues such as poor fit and physical discomfort as obstacles to adoption, particularly in older populations .[22].

Social stigma also emerged as an important factor. Women were more accepting of people who use hearing aids, whereas men reported experiencing greater psychosocial pressure, potentially discouraging their use. This is consistent with studies indicating that stigma can be internalized differently depending on gender and age .[13]. Younger and lower-income participants were more likely to report embarrassment about wearing a hearing aid, often due to concerns about being judged or seen as impaired .[15].

Older adults in the study were also more likely to perceive hearing aid users as socially isolated. This possibly reflecting generational perceptions and stereotypes about aging and disability .[14]. Educational background also shaped attitudes, with participants of lower educational attainment exhibiting a stronger preference for alternative or non-medical solutions over hearing aids. This observation is consistent with prior research indicating that lower education is linked to reduced health literacy and delays in seeking appropriate audiological care .[1, 12].

Compared with findings from India.[16], this study suggests more favorable perceptions in Jordan, particularly among older adults and women. The Indian study reported higher resistance and stigma, possibly tied to cultural attitudes and unequal access to healthcare.

Within Jordan, another research.[5] found that adults with hearing loss, particularly older individuals, often experience emotional distress, including depression and social withdrawal. This matches our findings that older participants tended to associate hearing aid use with social isolation .[6]. Interestingly, in another study in Jordan some hearing aid users reported more stigma than non-users, likely due to negative social or workplace reactions.[23]. This supports the conclusion that public perception can play an equally, if not more important, role than personal need in shaping hearing aid adoption.

The relatively positive attitudes in our sample may also be attributed to greater visibility of hearing aid users in healthcare settings, academic institutions, and public spaces, and many studies show how direct exposure tends to reduce stigma.[7, 11].

Limitations: As with all research, this study has its limitations. The use of convenience sampling restricts the generalizability of our findings to the broader Jordanian population. Moreover, bias in participants responds as they may have responded in a socially desirable way, and the reliance on self-reported data also introduces potential for recall bias.

5. CONCLUSION

This study suggests that while awareness and attitudes toward hearing aids in Jordan are generally positive, important differences still exist based on age, gender, income, and education. The Jordanian population shows strong awareness that increases with age and income, and most people have a positive view of hearing aids. However, some negative attitudes remain, females prioritized appearance, males were less willing to use hearing aids, and misunderstandings were more common in lower-income groups. Although overall stigma was low, it was higher among younger and low-income individuals, showing that social and cultural pressures still affect how hearing aids are viewed. These results show the need for educational campaigns to address these concerns and encourage greater acceptance and use hearing aids. Future research should include a wider sample and focus on ways to improve access and understanding for all groups in Jordan

REFERENCES

[1] Knoetze M, Manchaiah V, Mothemela B, Swanepoel DW. Factors Influencing Hearing Help-Seeking and Hearing Aid Uptake in Adults: A Systematic Review of the Past Decade. Trends in Hearing. 2023;27:23312165231157255.

[2] Haile LM, Kamenov K, Briant PS, Orji AU, Steinmetz JD, Abdoli A, et al. Hearing loss prevalence and years lived with disability, 1990–2019: findings from the Global Burden of Disease Study 2019. The Lancet. 2021;397(10278):996-1009.

[3] Alqudah S, Zuriekat M, Hassan S, Mahafdeh H, Alqudah Z, Shatarah A, et al. The prevalence and patterns of hearing loss in Jordan: A cross-sectional study. PLOS ONE. 2024;19(8):e0304125.

[4] WHO. World report on hearing: World Health Organization; 2021.

[5] Alqudah S, Zuriekat M, Shatarah A. Impact of hearing impairment on the mental status of adults and older adults in Jordanian society. PLOS ONE. 2024;19(3):e0298616.

[6] Brewster KK, Hu M-C, Zilcha-Mano S, Stein A, Brown PJ, Wall MM, et al. Age-Related Hearing Loss, Late-Life Depression, and Risk for Incident Dementia in Older Adults. The Journals of Gerontology: Series A. 2020;76(5):827-34.

[7] Ferguson MA, Kitterick PT, Chong LY, Edmondson-Jones M, Barker F, Hoare DJ. Hearing aids for mild to moderate hearing loss in adults. Cochrane Database of Systematic Reviews. 2017(9):CD012023.

[8] Taber JM, Leyva B, Persoskie A. Why do people avoid medical care? A qualitative study using national data. Journal of General Internal Medicine. 2015;30(3):290-7.

[9] Meister H, Grugel L, Meis M. Intention to use hearing aids: a survey based on the theory of planned behavior. Patient Preference and Adherence. 2014;8:1265-75.

[10] Knudsen LV, Oberg M, Nielsen C, Naylor G, Kramer SE. Factors influencing help seeking, hearing aid uptake, hearing aid use and satisfaction with hearing aids: a review of the literature. Trends in Amplification. 2010;14(3):127-54.

[11] Manchaiah VKC, Stephens D, Meredith R. The patient journey of adults with hearing impairment: the patients' views. Clinical Otolaryngology. 2011;36(3):227-34.

[12] Zhao F, Manchaiah V, St. Claire L, Danermark B, Jones L, Brandreth M, et al. Exploring the influence of culture on hearing help-seeking and hearing-aid uptake. International Journal of Audiology. 2015;54(7):435-43.

[13] Pronk M, Deeg DJH, Versfeld NJ, Heymans MW, Naylor G, Kramer SE. Predictors of Entering a Hearing Aid Evaluation Period: A Prospective Study in Older Hearing-Help Seekers. Trends in Hearing. 2017;21:2331216517744915.

[14] Ruusuvuori JE, Aaltonen T, Koskela I, Ranta J, Lonka E, Salmenlinna I, et al. Studies on stigma regarding hearing impairment and hearing aid use among adults of working age: a scoping review. Disability and Rehabilitation. 2021;43(3):436-46.

[15] Warner-Czyz AD, Loy BA, Evans C, Wetsel A, Tobey EA. Self-esteem in children and adolescents with hearing

loss. Trends in Hearing. 2015;19.

[16] Aravinda HR, Thejaswini MR. Attitude of general public towards usage of hearing aids: A survey-based study. PARIPEX – Indian Journal of Research. 2023;12(3):7-12.

[17] Raosoft I. Sample Size Calculator 2004 [Available from: http://www.raosoft.com/samplesize.html.]

[18] DoS-JO. Department of Statistics, Statistical YearBook of Jordan 2023.2024.

[19] Hallam RS, Brooks DN. Development of the Hearing Attitudes in Rehabilitation Questionnaire (HARQ). British Journal of Audiology. 1996;30(3):199-213.

[20] Saunders GH, Cienkowski KM. Refinement and psychometric evaluation of the Attitudes Toward Loss of Hearing Questionnaire. Ear and Hearing. 1996;17(6):505-19.

[21] DoS-JO. Jordan in Figures 2022. Amman; 2022.

[22] Meyer C, Hickson L. What factors influence help-seeking for hearing impairment and hearing aid adoption in older adults? International Journal of Audiology. 2012;51(2):66-74.

[23] Zuriekat M, Alfuqaha OA, Alqudah S, Uchiyama A, Alfar M, Masadeh N, et al. Exploring attitudes towards hearing aid use among middle-aged adults with hearing loss: A quantitative and validation study. Journal of Laryngology & Otology. 2025:1-7.