

Factors that Determine Hearing Aid Adoption and Non Adoption: A Systematic Review



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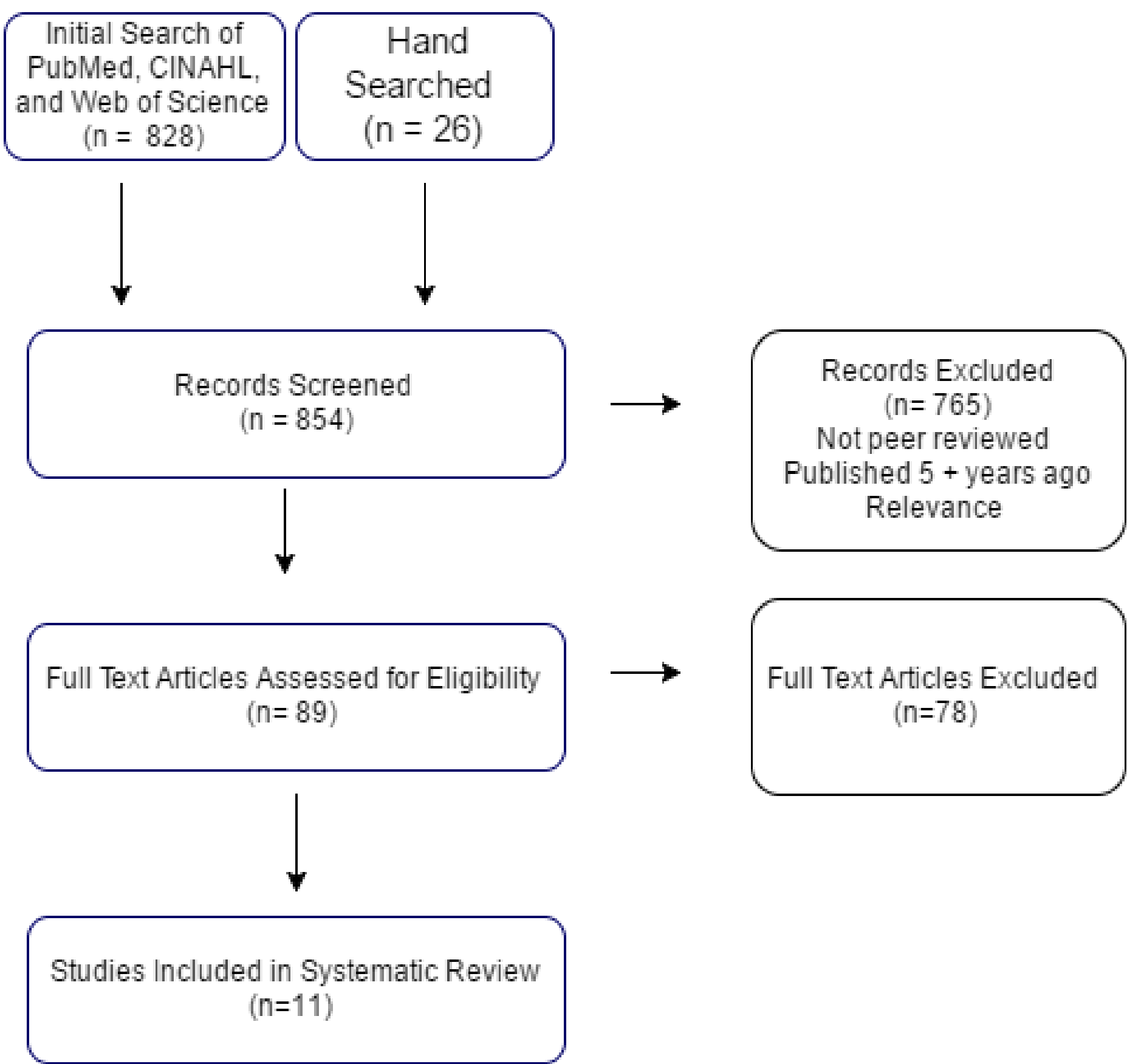
Background

Hearing loss is a significant disability that affects many older adults. About 25% of adults aged 65 to 74 and 50% of adults 75 and older have hearing loss (Yueh et al., 2003). Presbycusis, which is defined as age related hearing loss, is most likely to affect this population. This type of hearing loss usually results in progressive, bilateral symmetric hearing loss in the high frequencies. As the aging process continues, presbycusis generally worsens. In this population, we can expect to see reduced sensitivity to sound, reduced clarity in word understanding, and poorer sound localization. Research has consistently shown that hearing loss causes many problems outside of the communication domain. Hearing loss can cause cognitive, social and emotional problems not limited to depression and social withdrawal. The most common treatment for hearing loss is traditional hearing aids. However, despite the far reaching effects hearing loss can cause, only a small number of adults who are hearing aid candidates actually pursue amplification. This research attempts to explore the most prevalent reasons adults identify for not treating their hearing loss with hearing aids.

Methods

A systematic search strategy was employed using the PICO format. The research question was: “What are the factors that determine adoption and non-adoption of hearing aids by older adults that have hearing loss?” A two step search strategy was employed to identify the pertinent literature. In February and March of 2016, a search of PubMed, CINAHL, and Web of Science was conducted. Only studies that were peer reviewed during the last five years were included. 854 articles were identified. The flow chart below exhibits how articles were excluded.

Literature Search Strategy



References & Acknowledgements

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Article	Number of Participants/Studies Included	Main Findings	Level of Research
Ng et al., 2012	22 Studies 77% of the study participants were over the age of 65	1. Higher education 2. Perception of hearing difficulty 3. Severity of hearing loss 4. Socioeconomic status 5. Support from significant others	1b Lesser Quality Systematic Review
Fischer et al., 2011	718 Participants with hearing loss	1. Education 2. Higher income 3. Perceived hearing ability 4. Self perceived hearing loss and family & friends who think the person has a HL 5. Family history 6. Degree of handicap related to hearing loss: 7. Higher PTA 8. Cost 9. Inconvenience of wearing the aid 10. Poor hearing aid experience of others	2b good quality prospective cohort study
Meyer et al., 2015	307 Individuals, 60 years or older with HL	1. Positive attitude towards hearing aid 2. Perceived benefit of hearing aid 3. Perceived ability to manage the basic functions of a hearing aid 4. Pension status 5. Perceived support of significant other 6. Hearing related activity limitations 7. Hearing loss 8. Better health 9. Employment Status	4a Good Quality Descriptive Study
Meyer et al., 2012	22 Articles	1. Increased age 2. Education 3. Employment 4. Minority groups 5. Living alone 6. Perceived severity of hearing loss 7. Individuals perception of more benefits from getting a HA vs. limitations 8. Cost 9. Stigma 10. Family and friends attitude 11. Personality traits 12. Coping strategies	4b Lesser Quality Descriptive Study
Ridgway et al.,2015	252 Adults who sought info about HL	1. Autonomous motivation 2. Perceived hearing difficulty 3. 4 frequency average hearing loss:	2b Lesser Quality Prospective Cohort Study
Knudsen et al., 2010	39 Articles	1. Age of onset of HL 2. Amount of social interaction 3. Costs 4. Duration of HL 5. General health attitude 6. Married 7. Attitudes toward HAs 8. Educational level 9. Type of clinic (private vs. public)	1b Lesser Quality Systematic Review
Poost-Foroosh,L et al., 2011	13 Clients, 10 Audiologists	1. ensuring client comfort, 2. understanding and meeting client needs, 3. client centered traits and actions, 4. acknowledging client as an individual, 5. imposing undue pressure and discomfort, 6. conveying device information by clinician, 7. supporting choices and shared decision making, 8. factors in client readiness.	2a Higher Quality Qualitative Study
Poost-Foroosh,L et al., 2014	13 Clients, 10 Audiologists	Clients reported having more information about the hearing aid was more value in making the decision to adopt hearing aids, and the clinicians reported this factor of least concern in the process.	2a Higher Quality Qualitative Study
Amlani, A. et al, 2011	120 Participants 3 groups of 40 with bilateral symmetrical mild to moderately severe hearing loss	1. Mean price willing to pay was \$1,367, 2. Participants were willing to pay more than average for unbundled services and professional fees than in bundled format 3. Experienced HA users willing to pay more for technology than inexperienced users	4b Lesser Quality Case Control
Almani, A & Taylor, B., 2012	Expert Opinion	1. There needs to be a more precise estimate of the market that needs hearing aids 2. Technology has not increased adoption rate because technology isn’t presented in a manner using laymen’s terms that demonstrate evidence based benefit 3. Retail price isn’t the most important factor, hearing aid costs are statistically the same as previous years 4. Unbundling is better than bundled pricing strategy	5a Higher Quality Expert Opinion

Conclusions

Hearing aids are commonly chosen as a treatment option for adults with hearing loss. However, many adults do not pursue amplification. A review of the current literature over the last five years identified eleven relevant studies on the non adoption of hearing aids. These studies identified five main factors in the patient’s decision to adopt or not adopt hearing aids: financial concerns, severity of hearing loss, support from family members, education, and perceived hearing handicap. Clinically, this research has several implications. Knowing the many reasons why adults do not adopt hearing aids can alter the clinician’s counseling approach and better patient centered care. Further research should explore the role of the audiologist/PCP, motivational factors, and personality traits.