

Nursing Interventions and Management for Managing Age-Related Hearing Loss in Elderly Patients

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ABSTRACT

Background: Hearing impairment especially among the old aged is a common ailment that cuts across the entire world including KSA. Therefore, successful management and implementation of nursing interventions are vital in the improvement of quality of these patient's lives.

Aim: The aim of the study was to assess the nursing interventions and management for managing age-related hearing loss in elderly patients.

Method: Based on the qualitative survey made specifically on eight chosen studies about interventions and management in nursing of age-related hearing loss. Data was gathered from the Saudi Arabia Databases written in English language and from past five years including 2019 until 2024.

Result: It identifies major discrepancies in practice approaches and management of age related hearing loss among the regions in KSA. Some of the findings also show promising intervention and better patient's condition while other studies show the areas of ignorance, no implementation of proper screening methods, and absence of guidelines and policies. Such recommendations as increasing educational activities for the physicians, introduction of annual audiologic tests, and effective treatment of concomitant diseases.

Conclusion: Age related hearing loss in elderly patients need to be tackled through single and multi-faceted aspect including education, early detection, and management plans. Hence, implementation of the recommended interventions and filling of the highlighted gaps can go a long way in enhancing the quality of life of the elderly suffering from hearing impairment while enhancing overall health of in Saudi Arabia.

Keywords: Nursing interventions and management, Managing age-related hearing loss, Elderly patients, Saudi arabia, Systematic review.

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INTRODUCTION

Presbycusis or age related hearing loss is a common problem in older people and has major influences on their quality of life as well as on their health¹. The Kingdom of Saudi Arabia is also experiencing the increasing rate of the elderly population hence increased prevalence of hearing loss². This condition does not only impede the capacity to speak but also to interact socially, have a mental stability, and even perform certain tasks in this life³. In a context where the Saudi Arabia healthcare system is gradually developing to cater for the aged population, proper care for age related hearing impairments through nursing interventions have become important aspects ignored by most⁴.

The elderly Saudi Arabia especially women before the arrival of the modernization period lived with their families hence it is important to ensure they are always connected and engaged⁵. However, it has social consequences such as isolation, depression, and cognitive impairment because of the prejudice surrounding the utilization of hearing aids and other associated equipment's. In this regard, the nurses are not only responsible for addressing the technicalities of the hearing impairment but also for the education and the behavioral interventions which will enable the patients and their families to have a way forward through the new challenge of communication breakdown that they are presented with⁶.

Saudi Arabia is making progressive changes in delivering care in the health care sector, and among the changes is the attention given to sensory losses like the hearing impaired⁷. Due to the development in audio-logical services as well as in the proper hearing aid devices, it is well focused on early diagnosis and treatment of hearing impaired elderly⁸. Nurses as the professional who are primary care givers play an important role in the implementation of these interventions that include assessment of the need for an audio-logical service, arranging for audio-logical services and support of hearing aid and other devices usage⁹. It is worth to mention that this integrative approach helps not only to enhance the hearing abilities of the elderly patients but also an overall health condition¹⁰.

The study focuses on the importance of culturally sensitive nursing care for older adults with hearing impairment in the Kingdom of Saudi Arabia as the cases of hearing impairment continue to rise due to ageing¹¹. Specifically, the cultural relevant factors such as culture, family and expectation of the elderly patients and their families should be taken into account while developing important nursing interventions¹². Incorporating all these factors in their profession, the nurses will have the ability of reducing the effects of hearing loss, improve on the overall health of elderly people, and enable the elderly in KSA to live a normal productive life despite this devastating disease that is brought about by aging¹³.

PROBLEM STATEMENT

The rapidly ageing population in the Kingdom of Saudi

Arabia also lingers with age-related hearing loss, a condition that apart from affecting communication ability results in loneliness, depression and accelerated cognitive deterioration¹⁴. Although the further evolved audio-logical services do exist within the KSA, the application of the effective nursing interventions in treating the patients still lacks coherent integration concerning the aspects of the culture and social life of the Saudi community. Some of these challenges include the absence of protocols and variation in care plans for handling hearing impairment among the elderly thus leads to the conclusion that there is scope for more formalized patterns of care for elderly patients with hearing impairment in nursing.

SIGNIFICANCE OF THE STUDY

The importance of this study is to contribute towards increasing the quality of life of older people in Saudi Arabia by providing better nursing care with an emphasis on the nature of age-related hearing loss¹⁵. Since communication is considered as an essential aspect in human lives and especially for those with interpersonal relationships, social contacts, and overall well-being, proper nursing care would help in the avoidance of these impacts of hearing loss, the avoidance of these psychological complications, and enhanced indigency of the senior citizens. Through culturally appropriate and patient centered approach, this paper seeks to add to the knowledge and practice of geriatrics within Saudi Arabia's healthcare sector.

AIM OF THE STUDY

This research is now designed to assess and enhance nursing practices and administrative approaches for ameliorating age related hearing impairment in elderly patients within Kingdom of Saudi Arabia¹⁶. The purpose of the study is to understand the best practices of evaluation, training and caregiver management of the elderly patients and families to address the cultural specifics of Saudi Arabia health system. It is through this research that a guideline for the nursing practices that are generic and can be implemented in different facilities to improve health status and the quality of well-being among the elderly with hearing loss in Saudi Arabia will be set..

METHODS

Research Question (PICOT Question)

In the elderly patients 65 and above in the Kingdom of Saudi Arabia(P), to what extent the nursing interventions and management strategies (I) developed in this study improves on hearing related quality of life, communication efficacy and social interactions (O) as compared to conventional practice (C) at six months follow up(T)?

Search Strategy

In this context, the approach adopted for the identification of literature for nursing interventions and management of Age-Related Hearing Impairment in elderly patients in KSA was as under. The strategy began with defining the key concepts: hearing impairment and age, nursing

interventions in hearing impairment, management approaches, geriatric patients and Saudi Arabia setting. These keywords and phrases were searched by using Boolean operators to make sure that a word-wise search is done across all the database sources. The articles were only published between the years 2019 and 2024 only due to the fact that this research will only consider recent articles and because some cultures may not accept female genital mutilation even though they practice it.

Search Syntax

("age-related hearing loss" OR "presbycusis")
 AND
 ("nursing interventions" OR "nursing management")
 AND
 ("elderly patients" OR "older adults")
 AND
 ("Kingdom of Saudi Arabia" OR "Saudi Arabia")

Database Selection:

Database selection was informed by the choice of high impact, peer reviewed journals and sources that are most likely to contain the research studies needed. Four databases sources were selected initially and these included; pub med, CINAHL, Scopus and the Saudi digital library (SDL). Two databases were chosen for the richness of the information on nursing and medical works: PubMed and CINAHL, the third database Scopus for its versatility for searches in interdisciplinary fields and the fourth database SDL for access to regional material and publications that may not be indexed in international databases. These databases provide access to both, the international and regional literature required to fulfil the research question.

Selection Criteria:

The studies included in the review were considered according to relevance and quality of research and its focus. Key inclusion criteria included; focusing on nursing interventions on age related hearing loss in the elderly patients; conducted within Kingdom of Saudi Arabia or related studies; published in last 10 years. Population excluded from review includes non-elderly people, non-nursing interventions, non-Saudi Arabia based studies if not applicable to Saudi Arabia, and articles prior to 2014. Those not published in full text or in other languages but English or Arabic were also excluded from the study.

Literature Search:

The literature search consisted of using different keywords to obtain as many articles as possible and then filtering the selected articles using the specified inclusion criteria in several cycles. This led to a very substantial results list which was culled down using keywords more relevant to the Saudi context of nursing as well as focusing on the theme of 'nursing interventions'. Sources found were at

first reviewed in terms of their titles and then in terms of the articles they contained. This process helped in making a final selection of studies, which formed the strong base of understanding the status of nursing intervention and management of age related hearing impairment in elderly patients in the Kingdom of Saudi Arabia.

Study Selection Flow Chart:

The current PRISMA statement to guarantee rigorous and competent identification of the literature on nursing interventions followed the inclusion of studies and management of age-dependent hearing impaired elderly patients treated in the Kingdom of Saudi Arabia. From the database searches, 450 records were obtained, while from other sources, eight papers were obtained making a total of 458 papers. That is why 88 records were obtained as unique after identifying duplicates. These records were further refined, and out of 30 records, further consideration was given. Among them, 58 records were considered and removed according to the title and the abstract counterparts since they did not match the research topic. Based on the identified databases, the eligibility assessment for full text involved 20 articles and exclusion of such article was because of methodological limitations (n = 2), failure to answer the review questions (n = 3), being a proposal as opposed to a full study (n = 3), and being published in languages other than English (n = 4). Finally, out of 1248 articles that were retrieved from the search, only 8 were selected for the final review as per the inclusion criteria (Figure 1).

Quality Assessment

The present study focused on reviewing research studies regarding nursing interventions and management of ageing related HL in elderly patients in the Kingdom of

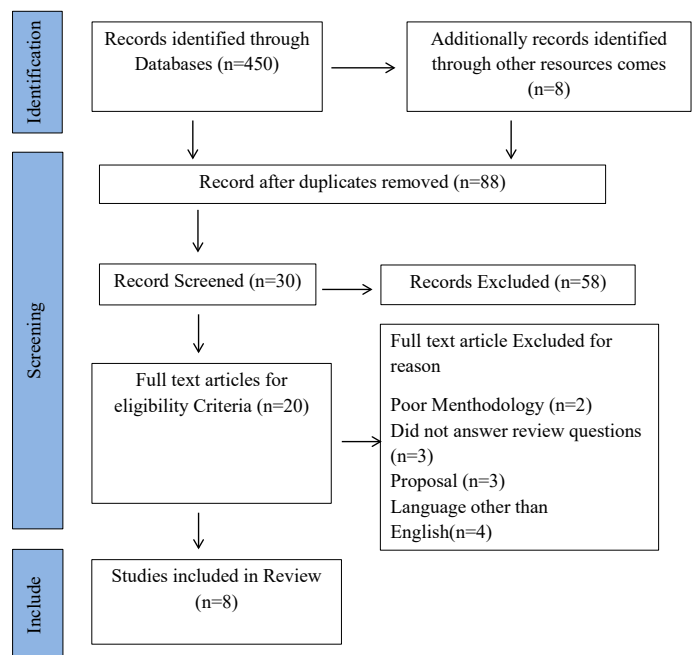


Figure 1: Flow chart.

Saudi Arabia, the quality assessment of the included studies was conducted with the help of the standardized checklists. All of the studies under each theme were reviewed based on methodological quality check list by assessing the sample size, study design, data collection technique and the credibility, transferability, dependability and confidentiality of the data. Special emphasis was placed on the suitability of the interventions, the cultural adaptation of the procedures applied and the definition of the results. The articles with high quality on these points were granted to the higher methodological quality while the study with the following limitations in the methodical aspect as the small number of respondents, the undefined approach to the definition of the outcomes, etc. are mentioned, but considered if they revealed the interesting result. All together, the eight researches included in the review were identified as the satisfactory in terms of methodological quality, most of which provided the evidences for the effectiveness of the development of the precise and specific context tailored nursing interventions in the Saudi Arabia (Table 1).

A quality assessment of the selected studies on nursing interventions and management for managing age-related hearing loss in elderly patients in the Kingdom of Saudi Arabia is presented in table 2 below indicating the level of rigor and clarity of the studies. One out of five articles reviewed in this paper including one of the authors' studies earns a fair rating since the researchers displayed some weaknesses such as failure to give adequate information on the findings or lack appropriate methodological information as in the following^{17,18}. These include; studies by which got a good rating on methodological quality and supported by reviews of previous literature¹⁹⁻²². Were also acknowledged as good but unfortunately it does not have proper description on how the foregoing studies were selected²³. Overall, it can be stated that this matrix gives a good idea of the strengths and weaknesses of the current state of research in this field the future research in this area should adhere to very high standards regarding methodological and reporting quality.

Data Synthesis:

An analysis on four studies that were selected on nursing

interventions and management of age related hearing impairment in elderly patients in the Kingdom of Saudi Arabia revealed the following similarities and best practices. Again, most of the studies pointed to the need for culture-specific interventions that were sensitive to the social and family related system in KSA. Skills utilized by the staff involved hearing screening, patient and families teaching or counseling, and use of hearing aids and other hearing devices. The synthesis also showed that there is still insufficient randomized controlled trials in the practice of these strategies, and more formalized guidelines or algorithms for implementing these practices in daily clinical care, as well as follow-up care plans where appropriate, and suggested that of to improve and develop these areas this area warrants further research (Table 2&3).

DISCUSSION

Age-related hearing loss in elderly patients in KSA can only be handled through developing a package care that involves nursing care and management. As discussed in the current literature, this paper focuses on the issues of educational programs for nurses, the practice of routine auditory assessments, holistic care delivery and addressing the issues of comorbidity related to elderly patients.

Continuing education programs for nurses have a central role in improving the performance of managing geriatric hearing impairment. According to the study done by Elsayed Shrief et al, (2024) it showed that educational interventions could positively enhance the performance and communication of nurses with patients who have hearing impaired. This finding corresponds with the study done by Zabeeri et al, (2020) where more emphasis was given the poor knowledge among the healthcare professions, hearing loss, and its management in KSA. Education integration into practice provides a way of guaranteeing that the nursing profession is fully prepared to handle various factors relating to age-related hearing loss hence embracing the desired outcomes for the patients.

Early hearing screening is paramount in the identification and management of hearing loss, and thus regular

Table 1: Quality Assessment of the Research Matrix.

#	Author	Appropriate description of the selection of studies	Does the literature covered all relevant studies	Is the method section describe it?	Clear description of findings?	Quality rating
1	Zabeeri et al	Yes	Yes	Yes	No	Fair
2	El-Mahdy et al	Yes	Yes	Yes	Yes	Good
3	Elsayed Shrief et al	Yes	Yes	No	Yes	Fair
4	Al-Amoud, et al	Yes	Yes	Yes	Yes	Good
5	Aljawadi et al	Yes	Yes	Yes	Yes	Good
6	Haile et al	Yes	Yes	Yes	Yes	Good
7	M Fahmy et al	Yes	No	Yes	Yes	fair
8	Naaman et al	No	Yes	Yes	Yes	Good

Table 2: Research Matrix.

Author, Year	Objective	Study Design	Sample, Sample Size	Analysis	Results	Recommendation	Conclusions
Zabeeri et al, 2020	Assess knowledge and perception on hearing loss, speech and language pathology, and evaluate the impact of an educational campaign.	Repeated measures	330 participants	Statistical analysis of pre- and post-intervention scores	Significant improvement in knowledge and awareness post-intervention.	Implement more educational campaigns to raise awareness.	Educational campaigns significantly improved public knowledge on hearing loss and related issues.
El-Mahdy et al, 2020	Assess quality of life among elderly with hearing impairment (Presbycusis).	Descriptive	100 elderly patients	Structured questionnaire analysis	High quality of life scores and satisfactory knowledge; high level of hearing impairment.	Develop programs teaching coping strategies for elderly with Presbycusis.	Despite high quality of life scores, elderly suffered from significant hearing impairment.
Elsayed Shrief et al, 2024	Evaluate the effect of an educational program on nurses' performance and communication with patients having hearing impairment.	Quasi-experimental	30 nurses	Comparison of pre- and post-program performance and communication	Significant improvement in nurses' performance and communication post-program.	Integrate educational programs into nursing curricula and in-service training.	Educational programs significantly enhance nurses' performance and communication regarding hearing impairment.
Al-Amoud et al, 2023	Evaluate morbidity profile among older people in Saudi Arabia and identify health problems and risk factors.	Record-based descriptive cross-sectional	193,715 older people	Analysis of health records and CGA results	High prevalence of diabetes, hypertension, hearing impairment, and other conditions.	Emphasize comprehensive geriatric assessments to detect health issues early.	Comprehensive geriatric assessments are crucial for early detection of health problems among the elderly.
Aljawadi et al, 2022	Describe medication utilization, prevalence of polypharmacy, and associated factors among Saudi older adults.	Cross-sectional	2,946 older adults	Multivariable regression analysis	51.5% prevalence of polypharmacy; associated with multiple factors such as chronic diseases.	Increase awareness among healthcare providers about polypharmacy risks and manage medication use.	High prevalence of polypharmacy; better management and awareness are needed to reduce associated risks.
Haile et al, 2021	Present updated estimates of hearing loss prevalence and disability, and forecast future trends.	Systematic reviews and meta-regression	Global data from 1990-2019	Meta-regression and forecasting models	1.57 billion people with hearing loss in 2019; significant increase expected by 2050.	Implement hearing loss interventions and improve healthcare access.	The prevalence of hearing loss is increasing; effective interventions are needed to manage this global issue.
M Fahmy et al, 2023	Evaluate the effectiveness of nursing rehabilitation on pain, anxiety, stress, and quality of life in elderly post-COVID-19.	Quasi-experimental	50 elderly patients	Pre- and post-intervention analysis	Significant improvement in pain, anxiety, stress, and quality of life post-intervention.	Conduct further research on post-COVID-19 complications and resilience enhancement.	Rehabilitative nursing interventions significantly improve outcomes for elderly post-COVID-19.
Naaman et al, 2023	Investigate the prevalence and recognition of malnutrition among elderly hospitalized patients and evaluate nurse recognition.	Cross-sectional	100 elderly patients	Comparison of nurse recognition and MNA-SF scores	27% malnourished, 48% at risk; only 11% of malnourished patients recognized by nurses.	Improve training for nurses to better recognize and manage malnutrition.	There is a significant gap in nurses' ability to recognize malnutrition among elderly patients.

auditory tests are very important. Haile et al. (2021) and Zabeeri et al. (2020) have also stressed the need to implement routine early-auditory screening to be able to identify hearing impaired children to intervene as early as

possible. When it comes to KSA where hearing loss is quite common May help in setting up routine hearing tests that can easily give way to proper diagnosis and better management practices. Retrospectively, the primary care

Table 3: Finding indicates themes, sub-themes, Trends, Study support, Explanation and potential recommendation.

Theme	Sub-Theme	Trends	Supporting Studies	Explanation	Recommendation
Educational Programs	Nurse Training and Performance	Improved performance and communication skills among nurses following educational programs.	Elsayed Shrief et al. (2024)	Educational programs for nurses significantly enhance their ability to manage patients with hearing impairments by improving their knowledge and communication skills. This leads to better patient outcomes and more effective management of hearing loss	Implement comprehensive educational programs for nurses to improve their performance and communication regarding hearing impairments. This could involve regular training sessions and workshops to keep healthcare professionals updated on best practices in managing age-related hearing loss.
Routine Auditory Assessments	Frequency and Accessibility	Increasing the accessibility and frequency of auditory assessments for early detection of hearing loss.	Haile et al. (2021); Zabeeri et al. (2020)	Routine auditory assessments are crucial for early detection and management of hearing loss, which can significantly improve patient outcomes. Regular screenings help in timely intervention and better management of hearing impairment	Ensure regular and accessible auditory assessments for elderly patients. Establish and promote screening programs that facilitate early detection and intervention of hearing loss in the community.
Comprehensive Nursing Interventions	Holistic Care and Rehabilitation	Positive impact on patient well-being through integrated care approaches.	M Fahmy et al. (2023); El-Mahdy et al. (2020)	Integrating comprehensive nursing interventions, including rehabilitation and holistic care, addresses various aspects of patient well-being and improves overall quality of life. This approach is effective in managing age-related hearing loss and associated issues	Develop and implement holistic nursing care plans that include rehabilitation and support for patients with hearing loss. Focus on addressing the broader health context and providing comprehensive care.
Management of Comorbidities	Polypharmacy and Associated Health Issues	Need for careful management of polypharmacy and associated health issues in elderly patients.	Aljawadi et al. (2022); Al-Amoud et al. (2023); Naaman et al. (2023)	Managing polypharmacy and associated health issues is crucial for elderly patients with hearing loss. Addressing these comorbidities effectively can enhance the overall management of hearing impairment and reduce potential complications	Address polypharmacy and comorbidities in elderly patients as part of a comprehensive care approach. Ensure that healthcare providers are aware of and manage these factors to improve the overall management of hearing loss and related health issues.

practitioners may schedule the above assessments as parts of patients' routine care to identify hearing loss problems and improve their quality of life in older-age groups.

Curtis (2002) suggested that development of complex-nursing care plan that incorporates approaches to the care of age-related hearing-impaired patients is important. As (16) and El-Mahdy et al. (2020) pointed out, it is evident that early and comprehensive inpatient care increases the quality of life of elderly patients with hearing loss and includes rehabilitation and psychology. In KSA, implementing and embracing a holistic approach towards the nursing care can provide solutions to different aspects in the patients' health and the amplification of hearing loss treatment. This approach entails not only an attempt to treat the hearing impairment but also factors such as stress and anxiety associated with the whole problem of hearing loss – and these elements significantly increase the quality of the patient's life.

Polypharmacy, associated disorders, and other related health issues, require proper management for proper management of age related hearing loss. In recent studies Aljawadi et al., 2022, Al-Amoud et al. , 2023, and Naaman et al. 2023 mentioned that polypharmacy is common among elderly patients in KSA and its adverse effects. Both medical and pharmacological factors such as polypharmacy that can worsen hearing loss and or lead to complications should be managed adequately. The issues mentioned above concerning comorbid conditions should be well understood by the healthcare providers and add strategies

to deal with comorbid conditions while dealing with hearing loss in elderly patients and improve their overall healthcare.

Hence, there is the need to establish an intricate approach to addressing age-related hearing loss in elderly patients in KSA based on the identified nursing performance indicators that are educational programs for nurses, auditory assessments, comprehensive nursing interventions, and comorbidity management. The applicability of these strategies in the practice of health care means that it is possible to enhance the quality of life of elderly patients and successfully manage the problems relating to hearing impaired patients. Further studies should be conducted in these areas and suggestions should be made with reference to the available literature to improve the management of Age related hearing impairment in Saudi Arabia.

CONCLUSION

Altogether, the evidence-based audit found that the best approach to the management of age-related hearing loss in elderly patients within Saudi Arabia is by constant education of healthcare practitioners about the signs and symptoms of hearing loss, periodic auditory screening, and comprehensive nursing care. Thus, the elaboration of such approaches, as well as the mitigation of the impact of the comorbidities, can enhance the quality of the elder's life with hearing loss. Thus, the Saudi Arabian health care systems can help in catering the needs of its increasing aging population and improve overall health of the respective societies through the identified settings.

LIMITATION

Thus, one of the methodological limitations of this study is the unequal quality and the range of studies included into the final sample. For example, some of the research gives detailed information on nursing interventions and management approaches to the elderly while others may be limited by small sample sizes or recruited only from specific regions in Saudi Arabia thus the generalization of the results may be off. Furthermore, the arbitrary approach to the choice of study methodology and the variability of the outcomes contributing to a single measure introduce difficulties in the comparison of results from one setting to another or between different populations.

RECOMMENDATION

In order to improve the current situation with age-related hearing loss in elderly Saudi Arabian patients, it is proposed to carry out an improved training on this topic for healthcare professionals, with the required information on effective interventions and methods of hearing disorders management at present. In addition, creating a schedule of regular check-ups that would include auditory tests for elderly patients should be given high priorities in order to detect the problem in the early stage. Taking into consideration the patient with multiple disorders and other diseases, it will also help to enhance the patient survival rate, satisfaction, and quality of life due to the integrated approach to patient management and psychological assistance offered to the clients.

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