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Healthy aging; Health promotion; Institutionalized older adults; Nursing educational interventions; Quality of life.

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Nursing Educational Interventions for Health Promotion Among Institutionalized Older Adults

Abstract
Population aging has led to a growing number of older adults residing in long-term care facilities, where they often experience chronic diseases, functional decline, psychological challenges, and social isolation. Nursing educational interventions have emerged as important strategies for promoting health, preventing complications, and enhancing quality of life (QOL) among institutionalized older adults. This narrative review aimed to examine the role and effectiveness of nursing educational interventions in promoting health and healthy aging among institutionalized older adults. A narrative review approach was employed to synthesize evidence from published studies addressing nursing-led educational interventions in long-term care settings. The reviewed literature focused on health promotion strategies related to physical activity, nutrition, oral health, self-care, mental health, social participation, and technology-assisted interventions. The evidence indicates that nursing educational interventions contribute to improvements in physical functioning, balance, mobility, psychological well-being, self-care behaviors, medication management, social engagement, and overall QOL. Interventions such as health education programs, exercise promotion, mental health support, oral health education, and technology-based approaches demonstrated positive outcomes. However, barriers including cognitive impairment, institutional constraints, and workforce challenges may limit intervention effectiveness. Facilitating factors include individualized care, interdisciplinary collaboration, supportive environments, and resident-centered program design. Nursing educational interventions are essential components of health promotion in long-term care facilities. By addressing the multidimensional needs of institutionalized older adults, these interventions support healthy aging, improve well-being, and enhance QOL. Future research should focus on personalized, technology-assisted, and culturally responsive approaches to strengthen intervention effectiveness.

INTRODUCTION

Population aging is one of the most significant demographic changes of modern times. Improvements in health services, disease prevention measures, sanitation, nutrition, and socioeconomic conditions have increased life expectancy around the world. This has led to an increase in the number of older people worldwide, in both developed and developing countries. Although increased longevity represents a public health success, it also places significant pressure on healthcare systems, which must cope with health problems associated with old age while helping older people maintain independent functioning. Promoting healthy lifestyles in later life is therefore an important goal in geriatric healthcare. Current data show that healthy behaviors such as regular physical activity, healthy eating, disease prevention, and socialization have a significant impact on the health and well-being of older adults (Alineghad et al., 2015).

The need for long-term care has contributed to an increase in the number of older adults living in nursing homes and residential care facilities. Institutionalization tends to occur when a person becomes physically frail, cognitively impaired, chronically ill, or lacks the social support needed to live independently. Long-term care facilities offer structured healthcare services and round-the-clock care, but institutionalization can also be associated with emotional, social, and functional challenges. A systematic review and meta-analysis indicated that institutionalized older adults might have reduced quality of life (QOL) across various domains compared with community-dwelling older adults, underscoring the importance of interventions that support autonomy, engagement, and overall health in these settings (de Medeiros et al., 2020). Therefore, the importance of health promotion interventions in institutional settings, where older adults may experience multiple vulnerabilities and dependencies, has grown.

Chronic diseases that require ongoing monitoring and management often develop with aging. Diseases such as hypertension, diabetes mellitus, cardiovascular disease, musculoskeletal disorders, and cognitive impairment are significant contributors to morbidity, disability, and healthcare utilization among older people. In institutional settings, these health problems may be exacerbated by inactivity, dependency, and social isolation. Oral health problems are also important because they can negatively affect nutrition, communication, and comfort, in addition to their potential association with systemic illness. The benefits of health education as a preventive measure in geriatric care were recently supported by a systematic review showing that oral health education interventions among older people can improve preventive behaviors and lead to better health outcomes (Bashirian et al., 2023). Healthy aging is not just about being free from disease; it also involves maintaining functional capacity, independence, and QOL as one gets older. Health promotion strategies aim to empower people to take control of their health, make informed choices, and engage in healthy behaviors. Educational interventions are especially useful because they facilitate the acquisition of knowledge, support self-care practices, and promote behavior change. An integrative review of educational strategies for older people showed that structured health education positively affects health-promoting behaviors and improves physical and psychosocial outcomes (Carvalho et al., 2018). In addition, educational programs that take an empowering approach have the potential to empower nursing-home residents to participate in decisions about their health and strengthen their sense of autonomy (Schoberer et al., 2016). All of these findings point to the value of educational interventions as an integral part of health promotion for older people.

Nurses are a key group in supporting the health of institutionalized older residents because of their constant presence in long-term care and their involvement in resident care. In addition to their clinical duties, nurses act as teachers, advocates, counselors, and facilitators of behavior change. They are uniquely positioned to influence physical, psychological, and social health outcomes through their ability to provide personalized and group-based educational interventions. A nurse-led approach to encouraging healthy aging, together with comprehensive nursing interventions to increase physical activity and health-promoting behaviors among older adults, was shown to be effective in a randomized controlled trial (Saçıkara & Cingil, 2024). Nursing interventions have also proved successful in promoting psychological well-being. A social-cognitive intervention was implemented for residents of a nursing home and resulted in significant changes in mental health variables, indicating that educational and behavioral strategies can be used to improve emotional resilience and psychological adaptation in old age (Abusalehi et al., 2021). Likewise, innovative strategies using virtual reality technology and aromatherapy have been developed for older adults in institutional settings, where nurses increasingly incorporate technology into health-promotion practice, with some success in enhancing psychological health (Cheng et al., 2020). Furthermore, nursing education is effective not only for residents themselves. Caregiver educational programs have been linked to enhanced caregiving knowledge, attitudes, and practices, as well as improved quality of care in institutional environments (Moreira et al., 2018).

As the number of older adults living in institutions continues to rise and the complexity of their healthcare needs continues to increase, there is a need for effective strategies to promote health, independence, and QOL among them. While many studies have examined educational interventions for different aspects of health promotion, the literature is fragmented with respect to intervention type, setting, and outcomes measured. An overview of this literature is therefore required to gain a better understanding of the impact of nursing education interventions in long-term care settings. This narrative review aims to explore and consolidate existing research on how nursing education can be used for health promotion among older adults in institutional settings, particularly in relation to physical health, psychological well-being, self-care behaviors, and QOL. This review seeks to bring together available evidence and findings to support nursing practice, evidence-based health

promotion efforts, and future research in gerontological nursing.

2. Health Promotion and Healthy Aging

It is important to note that health promotion and the concept of healthy aging are closely related and form the theoretical underpinning for nursing interventions to promote the well-being of institutionalized older adults. Health promotion has been defined as enabling people to take positive actions to improve and sustain their health, while health in later life has been defined in terms of healthy aging, which involves maintaining functional ability, independence, and QOL. Pender's Health Promotion Model also helps to clarify the effects of personal, social, and environmental factors on health-related behaviors. Figure 1 shows a conceptual framework of the relationship between health promotion, key health-promoting behaviors, and healthy aging among institutionalized older adults.

Figure 1. Conceptual Framework of Health Promotion and Healthy Aging Among Institutionalized Older Adults

Healthy aging is a complex process that can be supported by various health-promoting behaviors such as nutrition, physical activity, self-care, mental health, and social engagement, as shown in Figure 1.

2.1 Concept of Health Promotion

Health promotion is a continuing process that empowers people and communities to take control of and improve their health and well-being. Health promotion is about more than just the avoidance of illness—in the context of older adulthood, it also includes measures to maintain functional capacity, independence, psychological resilience, and meaningful social interaction. Healthcare systems face the challenge of meeting the complex needs of aging populations as a result of increasing life expectancy worldwide. As a result, health promotion becomes a key approach to maximizing QOL and limiting the impact of health problems that occur with aging. Health promotion is of particular significance within institutional settings, as older adults frequently have various vulnerabilities related to chronic diseases, functional limitations, and social isolation. Thus, health promotion activities should aim to build physical, psychological, and social capacities to help older people maintain purpose, autonomy, and a sense of well-being as they age.

2.2 Healthy Aging Framework

Healthy aging is a multifaceted concept based on the importance of maintaining functional ability and quality of life in later years. The healthy aging framework is based on the concept that health is not simply the absence of disease; it also includes physical functioning, cognitive health, emotional stability, and social participation. This approach recognizes that older people can still lead full and enjoyable lives, even when they have a long-term health condition, if they are supported through appropriate environments, social contact, and healthcare provision.

Long-term care settings provide interventions that address physical and psychological aspects of health to support healthy aging. Several innovative approaches have proven effective in meeting these objectives. For instance, Lin et al. (2020) found that a three-dimensional virtual reality experience combined with horticultural therapy had positive effects on the physical and mental health of older people residing in care homes. These findings highlight the importance of comprehensive approaches that can activate cognition, stimulate emotions, and promote physical activity. Healthy aging policies and systems, in turn, call for comprehensive approaches that help older people function at their maximum potential and sustain life satisfaction.

2.3 Active Aging

Active aging is about making the best use of opportunities for health, participation, and security to optimize QOL during the aging process. It encourages ongoing participation in social, cultural, recreational, and community activities despite age or health restrictions. Active aging offers a different way of viewing older adults—as more active, less passive, and more involved in society and in their own lives.

Opportunities for participation in institutional settings can have a significant impact on residents' psychological and social well-being. Interactivity and involvement in programs have been linked to increased motivation and participation in activities. Sung et al. (2015) showed that robot-assisted therapy improved social interaction and participation in activities among older adults living in institutions. These findings indicate that innovative interventions can contribute to active aging by developing opportunities for meaningful engagement and social connection. Facilitating active aging in long-term care settings therefore requires environments that allow people to remain active, independent, and engaged in personally meaningful activities.

2.4 Health-Promoting Behaviors

Health-promoting behaviors are behaviors that older people engage in as practical means of maintaining and enhancing their overall health and well-being. These behaviors include multiple domains that support healthy and active aging.

Proper nutrition is important for maintaining normal functioning, muscle mass, and immune response and for preventing malnutrition among older adults. As people age, their metabolism, appetite, sensory perceptions, and oral health may affect the amount and types of food consumed and their nutritional status. Therefore, a crucial step in promoting healthy aging and minimizing disease progression and functional decline is the implementation of balanced dietary practices.

Exercise is an important factor in physical functioning, cardiovascular health, mobility, balance, and muscular strength. Participation in exercise and movement-based activities can decrease the risk of disability, increase independence, and improve QOL. In addition, exercise has been linked to various psychological benefits, such as stress reduction and enhanced mood. Thus, physical activity is one of the most important lifestyle factors promoting health in older adults.

Self-care is a person's capacity to perform activities that improve or sustain health, prevent health problems, and manage health conditions. For older people, self-care can include taking medications, monitoring their health, and participating in health-related decisions. By promoting self-care practices, autonomy is supported and people are empowered to remain engaged in their health management in the face of increasing age-related difficulties.

Good mental health plays a crucial role in healthy aging. Emotional issues related to health decline, dependency, social isolation, and cognitive loss are potential concerns for institutionalized older adults. Thus, psychological health-promoting interventions are crucial. Siverová and Bužgová (2018) reported that reminiscence therapy positively affected QOL, created more positive attitudes toward aging, and decreased depressive symptoms in institutionalized older adults with cognitive impairment. These findings underscore the need for psychological interventions aimed at encouraging emotional expression, personal reflection, and social interaction to promote mental well-being.

Social participation involves interpersonal relationships, community activities, and social networks that promote a sense of belonging and connectedness. Active social engagement has been linked to better mental well-being, lower levels of loneliness, and higher QOL in aging. Social isolation, on the other hand, may negatively affect physical and mental well-being. Cohen-Mansfield and Perach (2015) highlighted in a critical review the importance of interventions to reduce loneliness and enhance emotional well-being and social connectedness among older people. Hence, fostering opportunities for social interaction remains an important aspect of health promotion in institutionalized environments.

2.5 Pender’s Health Promotion Model

Pender's Health Promotion Model (HPM) is a useful theory for explaining and facilitating health behaviors. The model suggests that health-promoting behaviors are influenced and mediated by personal experiences, perceived benefits and barriers, self-efficacy, interpersonal relationships, and the environment. The model assumes that people are more likely to engage in behaviors they perceive as beneficial and achievable within a supportive social and institutional environment.

Supportive environments, behavioral motivation, and empowerment are important issues in gerontological nursing that make the application of Pender's model highly relevant. In the long-term care setting, the model can be used to facilitate interventions that boost confidence, increase participation, and reinforce healthy behaviors among residents. Furthermore, residents' willingness and ability to undertake health-promoting activities may be related to the quality of care received from healthcare workers. Pérez et al. (2022) reported that implementing mindfulness-based interventions in nurse caregivers of institutionalized older adults with dementia led to a reduction in burnout and compassion fatigue among nurse caregivers.

3. Health Status and Needs of Institutionalized Older Adults

Older adults living in institutions are a group with multifaceted health and care needs. Physiological, psychological, and social changes often occur with age and may affect functional independence and well-being. In long-term care settings, these problems can also be exacerbated by chronic health issues, physical limitations, cognitive deficits, and decreased social interaction. Consequently, comprehensive approaches to the care of institutionalized older people are necessary and should consider medical conditions, functional capacity, emotional health, and QOL. The major health challenges faced by institutionalized older adults, their possible consequences, and the implications for nursing care are summarized in Table 1.

Table 1. Major Health Needs of Institutionalized Older Adults

Health Domain	Key Challenges	Consequences	Nursing Implications	Supporting Reference
Chronic Diseases	Multiple chronic illnesses and poor oral health	Dependency, polypharmacy, reduced QOL	Disease management, preventive care, caregiver education	Khanagar et al. (2015)
Functional Limitations	Impaired mobility, balance, and strength	Falls, disability, loss of independence	Exercise, balance training, rehabilitation	Espejo-Antúnez et al. (2020); Cordes et al. (2019)
Mental Health Problems	Depression, anxiety, cognitive decline	Poor well-being and social withdrawal	Psychological support and cognitive stimulation	Reviewed literature
Social Isolation and Loneliness	Limited social interaction and reduced family contact	Loneliness, depression, reduced QOL	Social and recreational engagement programs	Fernández-Mayoralas et al. (2015)
QOL Concerns	Reduced autonomy and social support	Lower life satisfaction and well-being	Health education and resident-centered care	Lee & Oh (2020)

As can be seen in Table 1, the health problems facing institutionalized older adults are not only multiple but also interrelated—there is more involved than just the care of chronic diseases. Functional decline, psychological distress, social isolation, and reduced QOL all affect residents' overall well-being and successful aging.

3.1 Chronic Diseases

Chronic diseases are common among institutionalized older adults and are among the main factors affecting their health status. Common diseases such as cardiovascular disease, diabetes mellitus, arthritis, osteoporosis, neurological disease, and oral health problems often coexist and contribute to a significant burden of morbidity. Multiple chronic conditions are associated with greater dependency, polypharmacy, and increased use of healthcare resources. Furthermore, long-term diseases may negatively affect nutrition, mobility, communication, and social inclusion.

Oral health is a key and often overlooked component of chronic disease management among populations living in institutions. Non-optimal oral care can be associated with pain, difficulty chewing, nutrient deficiencies, and decreased QOL. A randomized controlled trial showed that an educational program focusing on caregivers resulted in significant improvements in oral hygiene and oral health outcomes among institutionalized older adults, highlighting the role of preventive measures and regular monitoring of oral health in such institutions (Khanagar et al., 2015). Therefore, care for chronic health problems must be multidisciplinary and preventive in nature to help maintain physical health and functional independence.

3.2 Functional Limitations

Older people living in institutional settings are frequently functionally impaired, usually as a result of the combined effects of aging, chronic disease, and decreased physical activity. Loss of muscle strength, balance, coordination, flexibility, and mobility can decrease independence in activities of daily living. These impairments can lead to falls, injuries, disability, and increased reliance on health services, all of which affect an individual's health and healthcare needs.

Physical function is an important factor in successful aging and maintaining independence. As a result, it is important to have interventions in place that support or enhance functional capacity in institutional settings. Espejo-Antúnez et al. (2020) found that proprioceptive exercise programs were effective in improving balance and physical function among institutionalized older adults, indicating the potential of targeted physical interventions to improve mobility and reduce functional decline in this population. Likewise, the PROCARE project emphasized the need for multicomponent exercise interventions to enhance the physical, cognitive, and psychosocial functioning of nursing home residents, confirming the benefits of structured physical activity for functional health in later life (Cordes et al., 2019). These results indicate that maintaining physical functioning should continue to be a key goal of health promotion interventions for institutionalized older adults.

3.3 Mental Health Problems

Mental health problems are very common among institutionalized older adults and often occur in combination with physical diseases and disabilities. Some of the most frequently reported concerns are depression, anxiety, cognitive decline, and emotional distress, all of which can have a detrimental impact on overall health and QOL. The move into institutional care can also contribute to loss, dependency, and diminished personal control, making an individual more susceptible to psychological complications.

Psychiatric conditions can affect not only emotional health but also motivation, treatment adherence, participation in social life, and engagement in activities of daily living. Cognitive impairment and dementia are of particular concern because they can impair communication skills, decision-making ability, and independence. Hence, in institutional care, interventions that facilitate emotional well-being, cognitive stimulation, and engagement in daily activities should be integrated. In order to develop person-centered care strategies that support emotional stability and enhance residents' health outcomes, a deep understanding of residents' psychological needs is essential.

3.4 Social Isolation and Loneliness

Social isolation and loneliness are major concerns among institutionalized older adults and are emerging as key determinants of health. Many residents experience reduced engagement with family members, loss of lifelong social roles, and a lack of meaningful interpersonal interactions. These situations can lead to a sense of isolation, reduced self-esteem, and emotional distress. Social isolation is linked to poor physical and mental health, including depression, poorer cognitive functioning, reduced functional ability, and higher mortality risk.

However, whether the institutional environment helps or hinders social well-being depends on opportunities for participation and interaction. Providing opportunities for recreational, cultural, and social interaction can help sustain interpersonal relationships and a sense of belonging among residents. A study on active aging among residents of institutional facilities for older people revealed that participation in leisure activities was related to QOL, irrespective of dementia status, underscoring the need for opportunities for continued social engagement to promote healthy aging (Fernández-Mayoralas et al., 2015). The results indicate that social engagement should be seen as an integral part of comprehensive care for long-term care residents.

3.5 QOL Concerns

QOL is a multidimensional measure that includes physical health, psychological functioning, social interaction, functional ability, and life satisfaction. For institutionalized older adults, the factors affecting QOL are broad and include health status, independence, cognitive functioning, social support, and opportunities for meaningful activity. Long-term care facilities offer crucial support services, but residents often face issues related to independence, social interaction, and personal satisfaction that could affect their QOL.

There is evidence that QOL is highly related to health literacy, self-efficacy, social support, and participation in health-promoting behaviors. Senior citizens who have greater confidence in self-management and sufficient social support are more likely to have positive health perceptions and higher levels of well-being (Lee & Oh, 2020). The results highlight the need for education, supportive care settings, and opportunities for active involvement in health-related decision-making to empower residents. To improve QOL, a comprehensive approach is needed that takes into account psychological, social, and behavioral factors affecting well-being, as well as physical health.

4. Nursing Educational Interventions for Health Promotion

Nursing education is a basic component of health promotion for institutionalized older adults. These interventions are designed to improve knowledge and self-management skills, promote healthy behaviors, and increase QOL. Educational interventions led by nurses are particularly important for promoting healthy aging and preventing further decline in older people's health, as they may have several physical, psychological, and social problems. Educational programs can focus on a wide range of areas, such as disease prevention, physical activity, nutrition, oral health, mental health, and social skills, to foster a comprehensive approach to care. The key nursing educational interventions identified in the literature are presented in Figure 2.

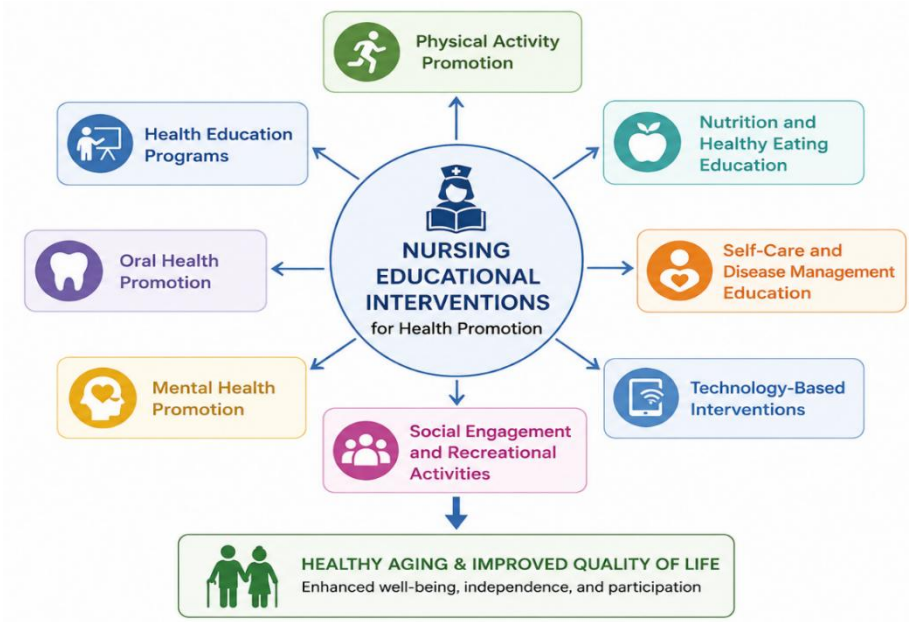

Figure 2. Major Nursing Educational Interventions for Health Promotion Among Institutionalized Older Adults

Figure 2 shows the main types of nursing educational interventions applied to promote health among institutionalized older adults. Together, these interventions encompass aspects of physical, behavioral, psychological, and social health, and each plays a role in healthy aging and enhanced QOL.

4.1 Health Education Programs

Among the nursing interventions most commonly used in long-term care settings are health education programs. These programs aim to raise health awareness, promote preventive healthcare, and encourage positive health behaviors. Educational activities can include one-to-one counseling, group sessions, workshops, and organized health promotion campaigns. Nurse-led educational programs have the potential to positively affect health-promoting behaviors among older people. For instance, Chan et al. (2015) showed that a short nurse-led educational program was effective in increasing pneumococcal vaccination uptake among older people with chronic diseases, providing an example of how targeted health education programs can encourage disease prevention.

4.2 Physical Activity Promotion

For older people who live in institutions, it is important to promote physical activity to ensure mobility, independence, and good health. Common nursing interventions include exercise programs, balance training, fall-prevention strategies, and mobility-enhancement activities that focus on maintaining physical function and minimizing frailty. Regular physical activity can boost muscular strength, coordination, cardiovascular fitness, and functional ability while decreasing the likelihood of disability. Apóstolo et al. (2018) carried out a systematic review that showed that interventions for the prevention of frailty and progression from pre-frailty to frailty in older adults were associated with improvements in physical functioning and health outcomes, highlighting the need to include exercise-based interventions in long-term care programs for older adults.

4.3 Nutrition and Healthy Eating Education

Nutrition education is an important component of health promotion because a proper diet helps maintain immune function and physical performance and manage diseases. Support for healthy eating is generally educational in nature and focuses on healthy eating, hydration, meal planning, and avoiding malnutrition. Food insecurity is a significant constraint on good nutrition in older people and may be associated with adverse health outcomes. Goldberg and Mawn (2015) identified a number of factors associated with food insecurity among older adults and emphasized the need for educational and supportive strategies to promote nutritional adequacy and minimize vulnerability to diet-related health issues.

4.4 Oral Health Promotion

Oral health promotion is an important aspect of geriatric care that is often overlooked. Poor oral hygiene can negatively affect nutrition, communication, and comfort. Nursing educational interventions often involve caregiver training, oral hygiene education, and preventive oral health programs that help ensure good oral health among residents in institutional settings. In an attempt to improve oral health status among institutionalized older adults, Portella et al. (2015) found that educational initiatives focusing on caregivers were effective, indicating that interventions directed at caregivers can help improve oral hygiene practices and promote better oral health status.

4.5 Self-Care and Disease Management Education

The goal of self-care and disease management education is to enable older people to become active partners in maintaining their own health and managing chronic diseases. These interventions usually involve aspects of personal hygiene, medication adherence, symptom monitoring, and other measures to prevent disease complications. Teaching strategies that promote self-management can positively affect independence and health outcomes. Educating caregivers of older adults with dementia also led to better oral health among those with dementia (Zenthöfer et al., 2016), demonstrating how education can complement care to enhance the management of health-related needs among vulnerable populations.

4.6 Mental Health Promotion

The psychological issues targeted by mental health promotion interventions include problems prevalent among institutionalized older adults, such as depression, anxiety, emotional distress, and low psychological resilience. Nursing interventions can include psychological support, such as mindfulness techniques, reminiscence therapy, and counseling, to help improve emotional well-being and coping skills. Acceptance and Commitment Therapy (ACT) has been used to treat psychological problems in institutionalized older adults who suffer from chronic pain and emotional distress. The use of ACT-based interventions was associated with psychological adaptation and well-being, as reported by Alonso-Fernández et al. (2016), and therefore evidence-based psychological interventions are recommended in geriatric care.

4.7 Technology-Based Interventions

Incorporating technological innovations into nursing interventions to improve health promotion among older adults is becoming more common. These include virtual reality applications, exergames, telehealth programs, and other technology-based programs that support physical, cognitive, and emotional functioning. As technological interventions continue to develop, they should be based on individual needs, cognitive capacity, and accessibility. As older adults face an increasing array of issues and vulnerabilities—such as depression and cognitive decline—when living in institutional settings, there is a need to develop solutions that can address multiple dimensions of well-being.

4.8 Social Engagement and Recreational Activities

Social engagement and recreational activities are key aspects of health promotion because they promote interpersonal interaction, emotional well-being, and a sense of belonging. Group activities, creative programs, recreational therapies, and community-building activities that promote participation and minimize social isolation are often incorporated into nursing interventions. Recreational activities can not only stimulate the mind but also provide opportunities for meaningful engagement and contribute to emotional well-being. In addition, evidence regarding the oral health and oral healthcare needs of older people highlights the need for holistic care strategies that focus on social and behavioral determinants

of health in addition to clinical aspects (Ástvaldsdóttir et al., 2018). Thus, it is imperative to encourage active engagement in recreational and social activities as a way of improving QOL.

5. Outcomes of Nursing Educational Interventions

Nursing educational interventions have great potential to enhance several aspects of health among institutionalized older adults. The results presented indicate that nursing educational interventions provide benefits across several aspects of health and well-being, ranging from physical function and psychological wellness to social participation, health behaviors, and QOL. The main findings regarding nursing educational interventions and evidence from the reviewed literature are summarized in Table 2.

Table 2. Outcomes of Nursing Educational Interventions Among Institutionalized Older Adults

Outcome Domain	Key Benefits	Supporting Evidence
Physical Outcomes	Improved balance, mobility, strength, and functional independence	Lam et al. (2018)
Psychological Outcomes	Enhanced cognitive function, motivation, self-confidence, and emotional well-being	Monteiro-Junior et al. (2016)
Social Outcomes	Increased social interaction, communication, and person-centered relationships	López-Hernández et al. (2021)
Behavioral Outcomes	Better medication management, self-care, and health-promoting behaviors	da Costa et al. (2016)
QOL Outcomes	Improved well-being, patient satisfaction, and overall QOL	Morilla-Herrera et al. (2016)

Abbreviation: QoL = QOL.

Table 2 illustrates that nursing education interventions have a positive impact on a wide range of outcomes among institutionalized older adults. Overall, these findings indicate the multiple benefits of nursing-led health promotion programs.

5.1 Physical Outcomes

Physical health outcomes are among the most common outcomes reported as beneficial following nursing educational interventions. Exercise training, mobility-enhancing strategies, and fall-prevention programs within educational programs can have a positive impact on balance, strength, coordination, and functional independence. Better physical function not only slows the progression toward disability but can also help older people remain more independent in their daily activities. Evidence from a randomized controlled trial suggested that whole-body vibration intervention was effective in improving balance and mobility in institutionalized older people; thus, structured physical activity programs can play a role in enhancing physical performance and preventing functional decline (Lam et al., 2018). These results emphasize the need to incorporate movement-based education interventions into long-term care settings to maintain physical well-being and independence.

5.2 Psychological Outcomes

Psychological well-being is another outcome of interest for nursing educational interventions. As older people move into institutional settings, they are likely to face emotional issues associated with old age, disability, illness, and cognitive loss. Educational and therapeutic approaches that stimulate cognitive function and encourage engagement can help build emotional resilience and support mental health. New methods such as exergames have been gaining popularity because they integrate physical exercise and mental engagement. Monteiro-Junior et al. (2016) suggested that this type of intervention could help improve cognition not only through neuroplasticity but also by improving physical functioning. These interventions can help enhance motivation, self-confidence, cognitive functioning, and psychological health among institutionalized older adults.

5.3 Social Outcomes

Positive social outcomes can also be achieved through nursing educational interventions, which encourage communication, collaboration, and interpersonal engagement. Educational activities can provide opportunities for socialization, peer support, and quality relationships between residents and healthcare workers. Social connectedness can contribute to reducing the sense of isolation and enhancing the sense of belonging among residents in institutional settings. Moreover, healthcare workers' attitudes and skills have a significant impact on the quality of interpersonal relationships with older adults. The attitudes of nursing students toward aging are important, as highlighted by López-Hernández et al. (2021), who showed that positive attitudes toward older people are linked with a more supportive and person-centered approach to care. Thus, by improving healthcare professionals' understanding of aging, educational programs can indirectly contribute to improving the social experiences and relational outcomes of institutionalized older adults.

5.4 Behavioral Outcomes

For many nursing education interventions, a major goal is to change behaviors through the adoption of healthy practices. Educational interventions can improve knowledge, self-efficacy, and motivation, which may lead to healthier behaviors and better health outcomes.

5.5 QOL Outcomes

QOL is recognized as a key measure of effective health promotion interventions. Nursing education programs can work toward QOL by addressing all aspects of physical, emotional, social and functional independence in one go. Enhancements in these interrelated areas help older people feel more fulfilled in their lives and more independent and purposeful. The results of one systematic review on the effectiveness of advanced practice nursing for older adults indicated positive results in various aspects of care such as health status, satisfaction with care and overall well-being (Morilla-Herrera et al., 2016). The results confirm the importance of nursing interventions in promoting all-round health results and enhancing the overall QOL of institutionalized older adults. Based on the available evidence, overall, the results of nursing educational interventions have benefits that are more than just knowledge acquisition. These interventions can improve physical function, psychological well-being, social relationships, positive health behaviors and QOL and are an essential part of health promotion for institutionalized older adults. Their impact is multifaceted, highlighting the important role that nursing professionals play in promoting healthy aging and maximizing outcomes for long-term care.

6. Barriers and Facilitators

Many individual, organizational, and professional factors are needed for the successful implementation of nursing educational interventions among institutionalized older adults. While there have been significant benefits of educational programs for positive health outcomes, there may be barriers that affect participation, engagement, and sustainability. Barriers include residents' physical and cognitive status, institutional limitations, and workforce issues. At the same time, there are a number of facilitating factors that can improve the likelihood of intervention success, such as participation, motivation, and supportive care environments. Understanding these barriers and facilitators is important for developing interventions that can maximize health promotion outcomes for older adults in institutional settings.

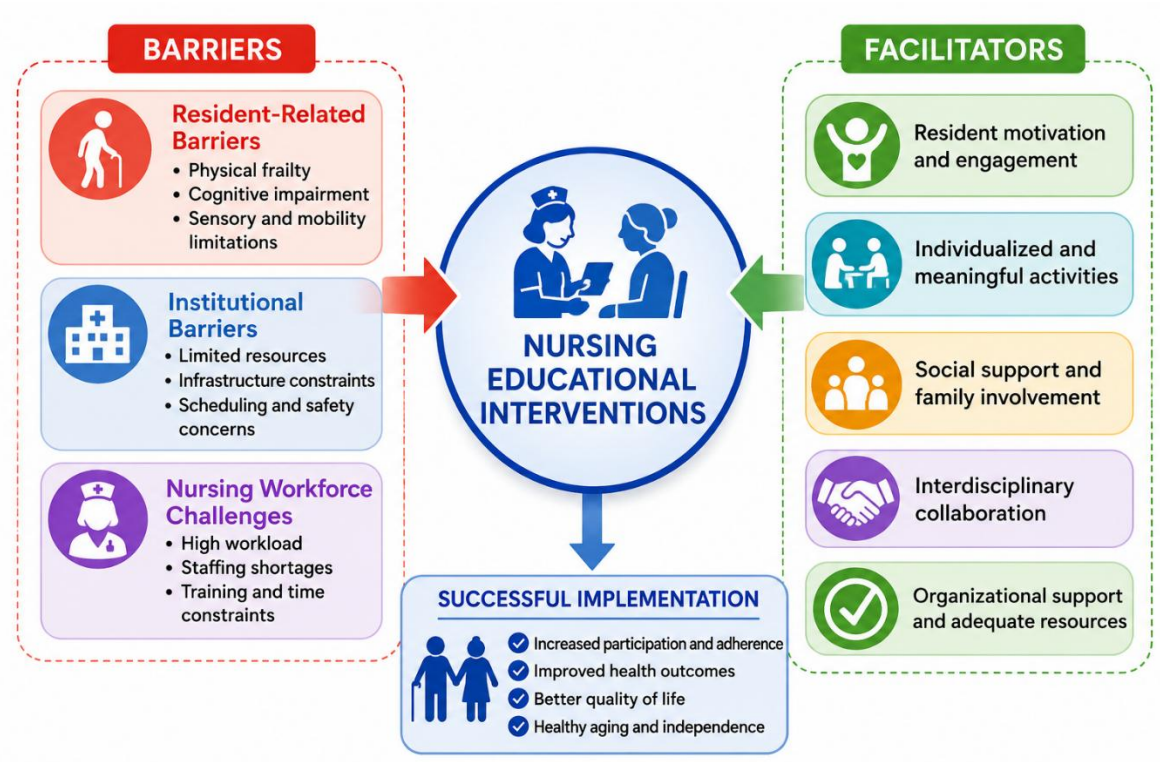

Figure 3. Barriers and Facilitators Influencing the Implementation of Nursing Educational Interventions Among Institutionalized Older Adults

The dynamics of barriers and facilitators at multiple levels influence the successful implementation of nursing educational interventions, as illustrated in Figure 3.

6.1 Resident-Related Barriers

One of the most important obstacles to the successful implementation of health promotion interventions in long-term care is related to residents. A wide range of older adults who live in institutions are physically frail, suffer from chronic diseases, have sensory deficits, limited mobility, or cognitive impairment, all of which can make it difficult for them to actively engage in educational and health promotion activities. In particular, cognitive impairment can affect understanding, retention of information, and adherence to health advice. Furthermore, low physical fitness levels can make it more difficult to engage in exercise-based interventions and can raise safety and fatigue concerns. According to Marmeleira et al. (2017), cognitively impaired nursing home residents are frequently less physically active and physically

unfit, presenting challenges when conducting health promotion programs with this population. Interventions therefore need to be tailored to people's functional abilities and specific needs to promote meaningful involvement and engagement.

6.2 Institutional Barriers

Institution-related factors may play an important role in the implementation and effectiveness of nursing educational interventions. Competing organizational priorities, limited resources, inadequate infrastructure, and restricted access to specialized equipment may make it difficult to deliver comprehensive health-promotion programs. Safety, scheduling, and limited opportunities for individual interventions may also affect participation among residents. Structured protocols for implementation and supervision, as well as appropriate facilities, are necessary for exercise-based programs, for example. Sitjà-Rabert et al. (2015) showed the potential benefits of whole-body vibration exercise interventions for institutionalized older adults; however, successful implementation of such interventions may depend on equipment, trained staff, and organizational support. Thus, institutional commitment and resource allocation are key factors affecting the feasibility and sustainability of interventions.

6.3 Nursing Workforce Challenges

The nursing workforce is a key component of delivering educational interventions, but a number of workforce issues may affect program effectiveness. High workloads, limited staffing, time pressure, and the increasing complexity of resident care may prevent nurses from performing regular health promotion activities. In addition, successful educational interventions require specific knowledge, communication skills, and continuous professional development. The added pressures experienced by nursing staff may result from the need to balance caring and teaching roles. Adequate staffing, ongoing training, and multidisciplinary cooperation are therefore crucial for improving the implementation of health-promotion activities in institutional settings. Addressing workforce issues can positively affect intervention delivery and the quality and continuity of resident-centered care.

Although there are barriers to the successful implementation of nursing educational interventions, many factors can support these interventions. Factors linked to participation and positive health outcomes include resident motivation, supportive care environments, interdisciplinary collaboration with other healthcare providers, family involvement, and meaningful activity engagement. Activities that are socially engaging and personally relevant can boost motivation and encourage engagement with health promotion programs. Older adults can be encouraged to participate more when creative approaches are used that involve enjoyable and purposeful experiences. Cantu and Fleuriet (2018) described the importance of creative arts as health promotion practices for older adults to increase engagement, personal expression, and well-being. This evidence indicates that interventions should be tailored to the interests, preferences, and abilities of residents. Adapting programs to individual needs and abilities is another key facilitator. Vseteckova et al. conducted a systematic review of adherence to group exercise programs among institutionalized older adults with dementia and found that social support, program design (individualization), positive encouragement, and activities suitable for participants' functional abilities were all facilitators (Vseteckova et al., 2018). These factors lead to increased participation, better adherence, and better intervention outcomes. A combination of resident-centered planning, organizational support, and professional commitment to the learning environment is therefore essential for successful nursing educational interventions and for creating a setting that promotes active participation and sustained behavior change.
Although there are barriers to successful implementation of nursing educational interventions, there are many factors that can support the interventions. Factors that have been linked to participation and positive health outcomes include resident motivation, supportive care environments, interdisciplinary collaboration with other healthcare providers, family involvement, and meaningful activity engagement. Activities that are socially engaging and personally relevant can boost motivation and lead to engagement with health promotion programs. Older adults can be encouraged to participate more if creative approaches are used that involve enjoyable and purposeful experiences. Cantu and Fleuriet (2018) described the importance of the creative arts as health promotion practices for older adults to increase engagement, personal expression and well-being. This type of information indicates that interventions should be tailored to the interests, preferences, and abilities of the residents. Adapting programs to individual needs and abilities is another key facilitator. Vseteckova et al. conducted a systematic review on adherence to group exercise program in institutionalized older adults with dementia, and found that social support, program design (individualization), positive encouragement, and activities suitable to their functional ability were all facilitators (Vseteckova et al., 2018). These factors lead to increased participation, better adherence and better outcome of the intervention. A blend of resident-centered planning, organizational support, and professional commitment to the learning environment is therefore essential to successful nursing educational interventions to create a setting that promotes active participation and sustained behavior change.

7. Implications for Nursing Practice

The literature on nursing educational interventions is increasing and indicates that these interventions have a strong role to play in promoting health and well-being among institutionalized older people. The results presented in this review suggest that educational interventions may have beneficial effects on physical health, psychological functioning, social participation, health-related behaviors, and overall QOL. These outcomes are significant for nursing practice at various levels, including clinical practice, professional education, leadership, and health policy. Nurses should embrace evidence-based practices to meet the needs of older people who live in long-term care facilities, as this population continues to

grow and their needs are becoming increasingly complex and multidimensional. The major implications for nursing practice identified in this review are summarized in Table 3.

Table 3. Implications of Nursing Educational Interventions for Nursing Practice

Domain	Key Implications	Expected Benefits	Supporting Reference
Clinical Practice	Integrate health promotion, medication safety, and resident-centered care into routine practice	Improved health outcomes, reduced medication-related problems, enhanced quality of care	Alldred et al. (2016)
Education	Strengthen gerontological nursing education, health-promotion training, and resident empowerment strategies	Improved nursing competencies and health-promoting behaviors among older adults	Malekafzali et al. (2010)
Leadership	Promote interdisciplinary collaboration, staff development, and evidence-based health-promotion programs	Better implementation of interventions and improved resident outcomes	Sampaio et al. (2019)
Policy	Support funding, workforce development, and resident-centered health-promotion initiatives	Increased access to preventive care and improved long-term care quality	Kim et al. (2006)

The implications of nursing educational interventions are manyfold, as illustrated in Table 3, for healthcare delivery. The four elements of effective implementation are embedding health-promotion principles in clinical practice, ongoing professional education, enabling leadership, and evidence-based policymaking.

The results of this review highlight the need to embed the principles of health promotion in the everyday practice of long-term care settings. Nursing care should not only focus on the management of acute and chronic diseases but should also include proactive measures to maintain functional independence, prevent complications, and improve quality of life. Educational interventions offer nurses an opportunity to empower older people by enhancing their knowledge, self-management skills, and involvement in health-related decision-making. In light of the high prevalence of polypharmacy among institutionalized older adults, clinical practice should also focus on medication safety and appropriate prescribing practices. Medication-related problems can lead to negative health outcomes, increased hospitalization, and lower QOL. Alldred et al. (2016) carried out a Cochrane review of interventions aimed at optimizing prescribing in care homes for older people and concluded that multidisciplinary collaboration and medication review processes were important. Therefore, nurses have an important role in monitoring medication use, assessing potential risks, and assisting with safe and effective pharmacological management.

The literature examined highlights the importance of education in supporting healthy aging and enhancing health outcomes for older people living in institutions. This means that educational interventions should continue to be a key part of nursing practice and professional development. Nurses need the knowledge and skills to plan, deliver, and assess learning that meets the physical, psychological, and social needs of older adults. Preparing nurses in education should also enable them to encourage health-promoting behaviors and resident participation in prevention activities. Previous studies have shown that educational interventions are effective in increasing health-promotion behaviors among older people and that structured educational interventions are beneficial in geriatric care (Malekafzali et al., 2010). Thus, evidence-based health-promotion strategies, gerontological nursing concepts, and communication methods that allow for effective resident education and empowerment should be included in nursing curricula and continuing education programs.

For successful implementation of health-promotion interventions in long-term care facilities, nursing leadership is key. Nurse leaders play a crucial role in promoting a culture of resident-centered care, evidence-based practice, and continuous quality improvement. Good leadership helps support interprofessional collaboration, distribute resources appropriately, and involve staff in health promotion activities. Leaders also help promote innovative programs that respond to the specific needs of institutionalized older adults. Multicomponent exercise interventions have also been shown to be beneficial for both physical and cognitive outcomes in residents with Alzheimer's disease, providing a clear example of the importance of comprehensive and coordinated health promotion interventions in long-term care settings (Sampaio et al., 2019). Nurse leaders can facilitate the implementation of such interventions by providing adequate staffing, opportunities for professional development, and organizational support for health promotion objectives.

The results of this review have significant policy implications for healthcare and the promotion of health among institutionalized older people. Policymakers should consider health promotion an integral part of long-term care and should provide funding for education, prevention, and resident-led care approaches. Policies that promote interdisciplinary collaboration, workforce development, and evidence-based practice can help enhance health outcomes and improve quality of care. Policy initiatives should also take into account differences in the health-enhancing behaviors of older people across various care settings. Studies have found that institutionalized older adults have lower levels of health promotion behaviors than their community-dwelling peers (Kim et al., 2006), indicating that specific interventions are needed in residential care facilities. Thus, healthcare policies should focus on programs that could improve physical activity, health education, social involvement, and self-management among

institutionalized populations. As the population of older people grows, the health promotion role of nurses will become increasingly vital in helping older adults attain the greatest possible level of health and well-being and in enabling society to respond to the greater demand for healthcare.

8. Future Research Directions

Although there is an increasing amount of evidence that nursing educational interventions are effective in promoting health among institutionalized older adults, some gaps in the literature remain. Novel approaches are needed to improve the effectiveness, accessibility, and sustainability of health-promotion activities in the face of rapid technological advances, demographic shifts, and changing healthcare needs. Future studies should focus on new technologies, individualized care models, long-term intervention outcomes, and culturally responsive nursing practice. These areas will help develop a more complete understanding of the role of nursing interventions in enhancing health and QOL among institutionalized older adults.

AI-Assisted Interventions: AI can help personalize health promotion assessments, support early risk detection, provide predictive health monitoring, and assist with individualized intervention planning in long-term care. AI-powered systems can help healthcare providers identify individuals at risk of functional decline, cognitive decline, malnutrition, and social isolation, facilitating timely and targeted interventions. The potential for incorporating AI technologies into nursing education and health promotion efforts merits further exploration, including evaluation of feasibility, effectiveness, and ethical considerations. These studies could prove invaluable in understanding how intelligent systems could be used to complement nursing care, improve resident outcomes, and increase healthcare efficiency.

Telehealth: Telehealth is another promising area for future research. Digital communication technologies provide opportunities to improve access to healthcare, enable specialist consultation, and provide remote health education. For institutionalized older adults who need ongoing care involving multiple disciplines, telehealth services could be helpful. Future research should examine the potential for educational interventions using telehealth to enhance health literacy, facilitate self-management, and promote preventive healthcare practices among residents. Furthermore, studies should assess the effectiveness and acceptability of telehealth platforms in facilitating ongoing communication among healthcare providers, residents, and family members.

Personalized Health Promotion: Health promotion programs of the future need to be more personalized, taking into consideration individual differences in health status, cognitive function, cultural background, preferences, and personal goals. Older adult residents in institutional settings are a very diverse population with different needs and capabilities. Interventions using standardized models may therefore not be sufficient to address individual needs. Previous studies of educational workshops involving institutionalized older women showed positive potential for structured health promotion activities adapted to participant characteristics, which can enhance engagement and outcomes (de Oliveira et al., 2013). Further research is needed to investigate the efficacy of personalized educational programs in maximizing participation, adherence, and long-term health effects for different populations of institutionalized older adults.

Longitudinal Intervention Studies: A major problem with previous research is that most studies are short-term. While many educational and health-promotion programs have reported positive effects, comparatively few studies of long-term effectiveness and sustainability exist. Future studies should focus on longitudinal designs that test the sustainability of intervention effects over longer periods. Particularly important are long-term studies that determine whether improvements in health behaviors, functional capacity, psychological well-being, and QOL are maintained. In addition, longitudinal studies may help determine which factors contribute to successful aging and help avoid unnecessary dependency on institutions. Brown and Abdelhafiz (2011) stressed the need to understand the factors associated with institutionalization and its prevention and to gather long-term evidence that can be used to develop effective preventive and supportive care strategies.

Cross-Cultural Nursing Interventions: Most current research has been conducted within specific cultures and healthcare systems and may not be applicable to other populations. Cultural beliefs, healthcare systems, social norms, and caregiving systems can affect the effectiveness and acceptability of nursing educational interventions. For this reason, research should consider the future application of health-promotion programs in other countries, cultures, and institutional settings. Comparative studies may help determine culturally sensitive interventions that increase resident engagement and improve intervention outcomes. However, recent evidence from health promotion programs in the context of oral health among institutionalized older people has shown a continued need for context-specific strategies that better suit the needs of the population and care setting (Pereira et al., 2025). Increased cross-cultural research will thus help create more universal and flexible nursing interventions that can support healthy aging across the globe.

9. Conclusion

Nursing educational interventions are an important way to promote health and healthy aging among institutionalized older adults. The current narrative review underscores that these interventions may contribute to enhancing physical functioning, psychological well-being, self-care practices, social participation, and QOL. Chronic diseases, functional limitations, mental health problems, and social isolation are common among older adults living in long-term care facilities; a holistic approach to health promotion for older adults in residential care, focusing on the person and their unique needs, should be used to address these challenges. Education on physical activity, nutrition, oral health, safe medication use, mental health, and social engagement can help residents become more empowered and independent. Nurses are at the heart of this process, as they are responsible for ongoing care, education, motivation, and monitoring in institutional

settings. However, successful implementation will require adequate staffing, institutional support, individual planning, and interdisciplinary collaboration. Future studies should address technology-based interventions, telehealth, AI-supported interventions, culturally adapted interventions, and long-term outcomes. In general, nursing educational interventions play a key role in the quality of nursing care and the dignity of older people and thus contribute to active and meaningful aging in institutional settings.

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