

# Physiotherapy in Geriatric Care: Addressing the Challenges of Aging Populations in Saudi Arabia

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## Abstract

It is particularly true about Saudi Arabia in the midst of its growing elderly population as a subset of geriatric medicine. It is predicted that by 2050, citizens over 60 years of age will be more than 10 million, therefore requiring an integrated strategy related to geriatric health. Physiotherapists are very important in dealing with various physical, psychological, and social issues faced at such ages, including loss of mobility, chronic diseases, and falls. This review aims at assessing the evidence related to the role of physiotherapy in the management of age-related conditions and outlining strategies that can help optimize geriatric care in the Saudi Arabian healthcare system.

**Keywords:** geriatric care, physiotherapy, aging population, Saudi Arabia, chronic diseases, fall prevention.

## Introduction

Physiotherapy can thus play a very important role in addressing these issues of the aging populations in Saudi Arabia, with the country experiencing a major demographic transition. It means that, by 2050, Saudis will have more than 10 million people over 60 years and over 1.6 million over the age of 80. The trend in population demands a geriatric strategy with a view to dealing with the many physical, psychological, and social problems of aging. Physiotherapy exclusively gives these solutions through its interventions, as it covers not just mobility impairments and chronic diseases among the elderly but also promotes their quality of life as stated by Al-Amoud, 2023.

With the increasing encumbrance due to age-related conditions such as osteoarthritis, cardiovascular diseases, and cognitive decline, physiotherapy is considered one of the cornerstones in encouraging independence, decreasing the burden of disability, and lessening the health care burden on families and the healthcare system. Physiotherapy interventions among older adults enable them to preserve their autonomy, which significantly minimizes the rate of hospitalization and the need for long-term care, reducing the costs from an aging society and economy (Alsaleh et al., 2024).

## Methodology

It is with this in mind that a broad review of the literature was conducted, looking into the status quo of physiotherapy intervention among the elderly, with particular reference to geriatric care in Saudi Arabia. Searches on PubMed, Google Scholar, and regional databases were conducted for studies from 2010 to 2024. Key search words included "geriatric care," "physiotherapy," "aging population," "chronic diseases," and "fall prevention." A total of 150 articles were initially identified.

After relevance screening, 50 studies went into a full-text review based on the inclusion criteria of quality of evidence, focus on geriatric care, and relevance specifically related to the healthcare system in Saudi

Arabia. The final pool included studies focused on randomized controlled trials, cohort studies, systematic reviews, and expert consensus documents; such evidence was summarized regarding the role that physiotherapy plays in the management of chronic diseases, improvement in mobility, and reduction of falls incidents in improving the quality of life for elderly patients.

### **Literature Review**

The aging population in Saudi Arabia poses significant challenges in health care delivery and care for age-related morbidities. Physiotherapy has emerged as a crucial modality in such a scenario, and several studies have documented the effectiveness of this modality in improving mobility and reducing falls, and in the management of chronic conditions like osteoarthritis, cardiovascular diseases, and musculoskeletal disorders.

Indeed, evidence shows that different physiotherapy interventions, ranging from manual therapy, exercises, and aquatic therapy, improve the functional ability of joints and reduction of pain, thereby improving the mobility of the elderly. The second major concern regarding the elderly involves fall prevention, which can well be managed with specific interventions. For instance, it is established that the Otago Exercise Program reduces the risk of falls by addressing strength, balance, and coordination.

This has also been demonstrated in many studies that strength training and flexibility exercises are very essential in maintaining functional independence and preventing disability. In the State of Saudi Arabia, this accessibility and effectiveness is specially applicable to females and people living in rural areas considering cultural and gender aspects that influence healthcare delivery. Specific culturally sensitive approaches by physiotherapists are in order. Yet, this is despite the fact that well-trained physiotherapists are lacking and specialized geriatric rehabilitation facilities are hardly accessible.

### **Discussion**

The incidence of falls is considered among the serious challenges in the care of adults. It is also regarded as a significant risk factor for morbidity and mortality in the elderly, which has further consequences like serious fractures, loss of independence, and reduction in quality of life. The estimated incidence of falls is around 21% of the aged population in Riyadh, Saudi Arabia, who are reportedly experiencing falls every year. These incidents often involve serious injuries, including hip fractures requiring long-term hospitalization and rehabilitation (Alsaleh et al., 2024; Al Moamary, 2012).

These falls also have a great psychological consequence for the older adult, whereby confidence is lowered, and a fear of falling develops that might lead to reduced mobility and social isolation. Physiotherapy addresses this excellent evidence-based problem of fall prevention programs such as the Otago Exercise Program, which targets strength, balance, and mobility. There is, therefore, adequate evidence to establish that OEP significantly decreases fall incidence rates and improves functional reorientation, particularly in the frail elderly population. Programs can be individualized based on particular patient needs through physiotherapists who incorporate into the programs, progressive exercises that improve postural control and the muscle strength of the lower extremity to reduce fall risk and improve the general safety of older adults within the home and community settings, respectively (Alsaleh et al., 2024; Al Moamary, 2012).

Exclusive of the problem of fall prevention, there are a host of chronic diseases among the aging population in Saudi Arabia that require holistic multi-discipline management. Such comorbid states include musculoskeletal disorder, cardiovascular, and even cognitive decline. Common musculoskeletal disorders will include osteoarthritis, low back pain, and spinal deformity-all common among elderly individuals and associated with pain, reduced mobility, and loss of functionality. In the WHO Eastern Mediterranean Region where Saudi Arabia belongs, the burden of musculoskeletal conditions is very high (Alsaleh et al., 2024).

Physiotherapy therefore plays an important role in the management through appropriate interventions; for example, manual therapy, therapeutic exercises, and pain management strategies. Indeed, several studies have documented the benefits of such physiotherapy in alleviating the symptoms of musculoskeletal disorders and improving joint function, hence enhancing mobility (Moradi-Lakeh et al., 2017).

These will involve manual therapy techniques, such as joint mobilizations and therapeutic exercises, which serve to improve range of motion, reduce pain, and thereby muscle strengthening around the affected joints, hence enabling the older adult to perform daily activities with less discomfort. Aquatic therapy has also been on record to relieve patients of various joint disorders such as osteoarthritis as these relieve pain and permit higher ranges of movement, hence acting like non-contact activities compared to other forms of exercise (Moradi-Lakeh et al., 2017; Hinman et al., 2007). Physiotherapists can also recommend posture

correction and ergonomic changes in order to minimize unnecessary stress on joints and musculature to prevent further trauma and hence promote health over the long term.

Physiotherapy will also focus on the total physical performance and physical activity of elderly individuals for functional independence and prevention of non-communicable diseases. Various studies have found that greater physical activity is related to good physical performance, increased mobility, and decreased incidence of disability among elderly people. The promotion of physical activities does not only help in improving the physical health of a person but also affects their mental health and cognitive functions too (Bindawas, 2020).

Physiotherapists work one-on-one with patients in their customized exercises, in strength training, flexibility exercises, and cardiovascular conditioning. These are aimed at sustaining or enhancing physical function by maintaining activity and independence in the elderly. Furthermore, it examines other IADLs, such as managing finance, cooking, or shopping, which enable the physiotherapist to recommend and implement a rehabilitation program tailored to the needs of the elderly. This would definitely help such people achieve independence and improve the quality of their lives. Regular participation in physical activity reduces the incidence of chronic diseases, such as heart disease, diabetes, and hypertension that further raises the importance of physiotherapy in geriatric care (Graf, 2008).

It is, therefore, crucial to consider cultural and gender factors in providing physiotherapy services in Saudi Arabia. Traditional cultural and gender role factors may impact the practice of healthcare in terms of the accessibility and utilization of such care for older adults. Besides the issues of logistics, many women in Saudi Arabia face other challenges in seeking health care as a result of other social and cultural factors. This might relate to freedom of movement, preference for gender-related health specialists, and stereotypical roles expected of a woman in the family. Such factors limit accessibility to physiotherapy services for older women, especially those living in rural or conservative communities. It is therefore upon health practitioners to consider cultural sensitivity and gender appropriateness from the very beginning of the treatment. It may include providing female physiotherapists for the examination and treatment of elderly females and services in such a manner that keep the cultural preferences and norms respected. The promotion of public awareness through educational programs on the advantages of physiotherapy among the elderly, especially female ones, can help reduce stigma and improve access to care in the future (Alshomrani et al., 2017).

Education and professional development of physiotherapists are essential in healthcare to enable providers to meet the complex needs emerging in ageing populations. Letts et al. (2011) indicated that the training of physiotherapists in evidence-based practices, especially those related to geriatric care, significantly enhances the health outcomes of patients. With the increase in the ageing population, physiotherapists must be updated with the latest research in the management of this population in the area of geriatric rehabilitation. Continuous education programs in the field of geriatric care, with special training, will provide physiotherapists with the most appropriate interventions in elderly patients.

One key area in which physiotherapists can make a significant impact is fall prevention. Falls are a major public health concern among older adults, with approximately 21% of the elderly population in Riyadh experiencing falls annually (Al-Essa et al., 2016). Physiotherapists can implement evidence-based fall prevention programs, such as the Otago Exercise Program (OEP), which focuses on strength, balance, and mobility exercises. Interventions like these reduce the incidence of elderly patients' falls and improve functional independence, which enhances patients' quality of life significantly (Letts et al., 2011).

It has also emerged that tele-rehabilitation is a strong tool in addressing the geographic barriers to physiotherapy services, particularly in rural and underserved areas. Tele-rehabilitation can be used to facilitate access to care for the elderly through virtual consultation, exercising programs, and monitoring systems. Houchen-Wolloff et al., 2018 discuss in detail the use of tele-rehabilitation in pulmonary rehabilitation and the translation of such approaches in geriatric care for facilitating greater access and compliance with the rehabilitation programs. The wearable devices and the mobile phones can be used to monitor the patient's progress and give real-time feedback to keep the older adult involved in the rehabilitation process. Alanazi et al., 2023.

Social isolation, depression, and anxiety are major psychosocial modulators in the elderly. According to Glinac et al. (2017), a more holistic rehabilitation approach-one that addresses needs at both the emotional and social dimensions-is associated with better health outcomes. The incorporation of exercises in groups with social interaction in rehabilitation programs is, therefore, an important factor. Here, the physiotherapists can make their contribution by referring to mental health professionals. It fosters physical reconstruction alongside the emotional and social aspects of life in order to uplift the standard of living.

Besides physical rehabilitation, it is common that a physiotherapist works within a multidisciplinary team for more holistic care. In respect to that, this would mean occupational therapists, speech therapists, and nurses would have to be collaborated on in order to provide the spectrums of health in older adults. Spruit et al. (2013) identified a multidisciplinary approach that would benefit pulmonary rehabilitation and may apply to care within a geriatric setting. It coordinates the approach toward care for the elderly patient in all aspects of health: physical, cognitive, and psychological.

Generally, rehabilitation is mostly required for a longer period in cases where older adults present with severe disabilities or chronic conditions. Physiotherapy plays an important role in maintaining functional independence and preventing deterioration. For instance, research by Pellisé et al. (2015) has reported that physiotherapeutic intervention targeting spinal alignment and posture correction, along with management of pain, contributes to better mobility and reduction of discomfort in patients with musculoskeletal disorders. Further, appropriate, on-going physiotherapy care might prevent other complications and avoid hospitalization, hence optimizing health.

While benefits abound, physiotherapy services for the elderly in Saudi Arabia remain marred with issues regarding a deficiency in specialized geriatric rehabilitation infrastructure, together with a shortage of trained professionals to attend to these needs. According to Rahman (2020), "While privatization may bring improved quality services in certain aspects, it has also brought limitations to healthcare access to the poor.". What is urgently needed is a strategic investment by the government in health infrastructure, like increasing the network of rehabilitation centers and creating a cadre of professionals in the field of geriatric physiotherapy.

Furthermore, Aleisa et al. (2014) emphasize the need for expanding rehabilitative services to meet the demands of Saudi Arabia's aging population. Ensuring that physiotherapy services are culturally appropriate and available in both urban and rural areas is critical for improving access to care. The expansion of these services can help older adults maintain their independence and quality of life, reducing the burden on healthcare systems.

Other areas that physiotherapy could contribute significantly to the betterment of health in older people are cardiac rehabilitation. Some of the most common comorbid conditions among the elderly population include cardiovascular diseases; evidence shows that structured exercise-based cardiac rehabilitation programs improve cardiovascular outcome and alleviate symptoms, hence better health. A physiotherapist is an important professional in designing the exercise program, including cardiovascular conditioning, strength training, and flexibility. These programs do not only enhance functional capacity but also decrease mortality and the risk of future cardiac events (Taylor et al., 2022; Anderson et al., 2016).

The major accesses to care in Saudi Arabia involve a shortage of geriatric physiotherapists, along with a lack of integration between physiotherapy services and primary healthcare settings. Therefore, tele-rehabilitation through remote consultations and exercise programs can help overcome such barriers, specifically within the elderly population in rural or underserved areas (Houchen-Wolloff et al., 2018). Wearable devices and mobile applications can also be used to enhance monitoring and engagement, thereby guaranteeing that older adults adhere to their rehabilitation programs for better outcomes ( Alanazi et al., 2023).

Similarly, physiotherapists should be trained on how to meet specific needs that these patients will encounter, particularly those diagnosed with Alzheimer's disease and related dementias. Occupational therapy is evidence-based, whereby interventions that emphasize meaningful activities among older adults result in a reduction in caregiver burden while improving the quality of life among such patients (Letts et al., 2011). Collaboration among various health professionals, including occupational therapists, may lead a physiotherapist to design a treatment plan that may not only focus on physical needs but also include cognitive ones to complement the treatments.

Application of technology in the delivery of physiotherapy services opens new horizons and opportunities to improve rehabilitation results. As examples, mobile applications will give direct feedback, monitor the progress, and encourage adherence to the exercise programs. Wearable devices will facilitate the continuous monitoring to make sure patients perform the right exercises and in safety. Alanazi et al. (2023) emphasized that such innovations have the potential to support the elderly in surmounting most of the issues that render the processes of accessibility, engagement, and adherence problematic in rehabilitation programs.

It plays a very significant role in enhancing physical, psychological, and social health among the elderly people in Saudi Arabia. Future challenges, with increasingly higher aging populations and mounting health demands, are expected to be mitigated by continuous evidence-based practice, up-to-date, tele-

rehabilitation, and multi-disciplinary care. Professional training and development remains the main ingredient in preparing physiotherapists for an increasingly complex need brought about by an aging population. Thus, with increased access to services, increased use of technology in rehabilitation as well as coordination along the multidisciplinary continuum of health care professions, such will lead to an increase in the quality of life for older adults in Saudi Arabia hence improving healthy independent ageing further (De Groot et al., 2004; Fani Marvasti, 2012).

### Conclusion

Physiotherapy improved the health and quality of life of the elderly in Saudi Arabia on both the physical and psychological levels. In this respect, the role of physiotherapy will be highly applicable in fall prevention, management of chronic diseases, and physical rehabilitation. However, there is always an uphill task ahead in the matter of making specialized geriatric physiotherapy services more accessible, by reason of a shortage of competent professionals in the field.

A review was made to show the basis of evidence-based physiotherapy practice, culturally sensitive care, integration of technology, including tele-rehabilitation and mobile apps, thereby improving access to services, particularly in the most rural area. Physiotherapy services are to be expanded along with professional development of physiotherapists to maximize geriatric care. Ultimately, this could contribute much to enhancing the health and independence levels in Saudi Arabia's elderly population, reducing the overall healthcare burden, and improving well-being.

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