The Effectiveness of Kinaesthetic Mobilization Techniques in Enhancing Mobility and Well-Being of Geriatric Patients: A Literature Analysis in Nursing Practice

Training as a Nursing Specialist

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1. Introduction

The escalating demographic trend towards an aging populace is recognized as a paramount healthcare challenge in the 21st century. Projections indicate that by 2050, approximately 22% of individuals will be over the age of 60, with a considerable number residing in low- and middle-income regions. Concurrent with this demographic shift is an increase in age-related health issues, such as sarcopenia, osteoporosis, and functional decline. Mobility impairment, reduced independence, and diminished quality of life for older adults are attributable to these factors, which also place heightened demands on healthcare systems and caregivers. Consequently, the preservation and enhancement of mobility in geriatric patients have risen to prominence in nursing practice, particularly due to mobility loss frequently leading to increased vulnerability and the necessity for institutional or long-term care.

Within this framework, interventions such as kinaesthetic mobilization techniques are notable for their ability to address the intricate mobility needs of the elderly. Anchored in kinaesthetics theory, with its emphasis on understanding natural human movement patterns, these interventions prioritize functional mobility, autonomy, and efficiency. Kinaesthetic mobilization gains particular importance in geriatric care environments, where patients commonly face exacerbated mobility limitations stemming from chronic conditions, frailty, and geriatric syndromes like falls, incontinence, and functional loss. Through an emphasis on patient engagement and active participation in movement, nurses are offered a means to facilitate recovery and foster independence, potentially mitigating complications like pressure ulcers and deconditioning, and thereby improving quality of life. This subject's relevance is found in its capacity to contribute to better patient outcomes and reduce strain on healthcare systems through the advancement of prevention-oriented geriatric care.

It is the central objective of this thesis to assess the effectiveness of kinaesthetic mobilization techniques in promoting mobility and enhancing the well-being of geriatric patients in nursing practice. The guiding research question is: How effective are kinaesthetic mobilization techniques in promoting the mobility and well-being of geriatric patients in nursing practice? According to existing literature, sustained and early mobility interventions have the potential to improve strength, balance, and self-efficacy, as well as to decrease healthcare-associated complications. However, several factors, including organizational structures, resource constraints, and the requirement for specialized staff training, impede implementation in routine practice. By providing evidence-based insights and

recommendations for the integration of kinaesthetic mobilization into routine nursing care, this paper seeks to bridge the divide between research and practical application.

A literature-based methodology, incorporating critical analysis of academic studies, clinical trials, and qualitative research pertaining to kinaesthetic mobilization in geriatric care, is employed in this thesis to address the research question. The paper examines and synthesizes research findings in order to explore the advantages and challenges of applying these techniques in diverse care settings. Physical, psychological, and systemic outcomes are included in the analysis, and consideration is given to the influence of staff, organizational context, and resource management on successful implementation.

To conclude the introduction, an overview of the paper's structure is presented: The theoretical foundations and historical progression of kinaesthetic mobilization in nursing are outlined in Chapter 2. The mobility challenges encountered by the geriatric population, including age-related changes and their impact on quality of life, are reviewed in Chapter 3. Assessment, implementation, and monitoring strategies for kinaesthetic mobilization are presented in Chapter 4. An effectiveness analysis, encompassing physical and psychological outcomes as well as effects on the healthcare system, is offered in Chapter 5. Challenges pertaining to implementation, such as organizational obstacles, staff training requirements, and quality assurance, are discussed in Chapter 6, alongside potential solutions. A summary of the key findings, an answer to the research question, an evaluation of strengths and limitations, and perspectives for future research and nursing practice are provided in the conclusion.

2. Fundamentals of Kinaesthetics in Nursing Practice

This section delves into the key principles and theoretical foundations of kinaesthetics and their significance for the implementation of active and patient-centered mobility in nursing. The goal is to highlight the essential components which form the basis of kinaesthetic approaches, which underpin the novel nursing care concepts explored in this thesis.

2.1 Theoretical Framework and Principles

Kinaesthetics is used as a conceptual tool in mobility promotion. In relation to older people, the concepts are used as guidelines by nursing professionals to plan their interventions according to functional human movement, mobility, and self-efficacy. Unlike older techniques, this method aims to have the older people actively participate in the mobilization process and utilizes their retained capabilities (Jensen et al., 2019, p. 1). These two benefits contribute towards autonomy and prevent learned helplessness, helping older people improve functional strength and reduce the possibility of mobility deterioration (Jensen et al., 2019, p. 1). Similarly, the positive effect on recovery and progress has improved patients' experiences during intervention. The possible benefits of kinaesthetic mobilization on autonomy and independence of older people underline the importance of observational and communication training for caregivers to accurately perceive the older adults' capabilities and needs during interventions.

Sensory and cognitive elements during mobilization is a crucial component in kinaesthetic interventions. This means that during the interventions, the sensory organs, such as touch, smell, taste, sight, and hearing, receive input. For older people with diminished sensory or neurodegenerative capabilities, these components allow for safe and effective mobility strategies (Barbosa et al., 2023, p. 8). By being allowed to anticipate and plan movements, older adults also learn quicker and have neuroplastic effects. By having continuous real-time feedback during interventions, learning and retention are increased. Besides sensory information, kinaesthetic mobilization also utilizes anticipatory and reflective cognitive skills to promote motor learning and more efficient movement strategies.

In training for motor rehabilitation, kinaesthetics has a significantly positive impact on patients' outcomes. For instance, patients show improvement in balance, as well as functional performance scores, measured with scores such as the UPDRS III and BESTest, for those with Parkinson's. There is also evidence that it has a positive impact on indicators of quality of life (Barbosa et al., 2023, p. 8). By having sensory and cognitive components during the mobilization process, it opens up an ability to be sensitive to all the patients' needs and adapt for the wide range of different impairments that are common among the elderly. This is particularly important since the research in kinaesthetics is also reflected in the educational field of study (Dickson & Stephens, 2014, p. 2).

Relational and environmental context during the intervention is also a critical element. The relational context refers to the nature of the nurse/older people's interactions. This aspect

plays a crucial role during the implementation of kinesethic mobilization. As stated earlier, the active engagement and ability of the elderly to take risks during the mobilization process depends on factors such as trust between nursing staff and patients, mutual respect, and shared decision-making in treatment plans. These are the main indicators of relational justice, and, as stated by Stenman et al. (2020, p. 8), relational justice has been identified as "one of the most highly appraised concepts" by elderly patients when they are the receivers of care. Additionally, nursing staff under high job demands and low job control often seek to work in care contexts where they have better interactions and relationships with patients (Stenman et al., 2020, p. 8). The care environment must also be conducive for the patient to receive mobilization through kinaesthetics. This includes appropriate resources, such as beds, patient lifts, and assistive devices. Moreover, it needs to have minimal hazards and obstacles to help patients safely ambulate. This is crucial, as falls and injuries are common in older adults and may impair their capability to effectively perform a particular movement during the mobilization process. The environmental context also includes appropriate seating. In the field of kinaesthetics, seated positions are classified in two categories: sitting-standing and sitting-lying. The former, used for eating and interacting, includes low chairs, while the latter, used for resting, consists of beds, sofas, etc. Therefore, the care environment during kinesethic mobilization should promote the patient's ability to sit according to their physical and functional condition.

This then opens up the context of organizational management in nursing homes. In this context, the extent of the staff turnover rate, access to specific equipment and courses for kinesethic mobilization, and having good teamwork will have an important impact. Research shows that nursing homes that promote high relational justice and teamwork are more apt to implement kinaesthetic mobilization to its full potential, even if the staff works under high job demands and low job control (Stenman et al., 2020, p. 8). Even more so, having one or two staff trained in kinesethic mobilization and having high relational justice improves safety and is much more efficient compared to others trained with less skills or having low relational justice (Stenman et al., 2020, p. 8). It is crucial to analyze nursing and residential care environments on many aspects, taking the patient's psychosocial condition, as well as the environment that they are in, into consideration.

Aside from addressing issues of age-related decline, the purpose of kinaesthetic mobilization also lies in addressing the issue of inequality in mobility. Mobility is not solely defined by physical attributes; it is also comprised of social, environmental, and technological resources and restrictions. Parviainen (2021, p. 12) states that the imbalance in these aspects leads to a significant effect on social isolation and psychological health (Parviainen, 2021, p. 12). The

assessment of kinesethic mobilization is individualized to provide the most appropriate type of mobilization intervention for each patient. This is vital in improving the patients' health and avoiding further harm because the standard mobility assessment and mobilization does not consider that each patient is diverse with regards to their personal conditions, such as physical ability or environmental barriers. Therefore, for healthcare staff, it is important to consider the lived experiences and contexts of each patient. In the aspect of nursing care, this consists of social factors, such as economic inequality, cultural beliefs, lack of access to technology, and physical infrastructure in the community. To appropriately utilize kinesethic mobilization ethically, one must be able to understand a patient's circumstances and address them using mobilization as a tool to support health equity and mobility.

The final aspect of the purpose of the use of kinaesthetic mobilization lies in its underlying principles that align with other care and learning settings. This goes back to the initial statement of kinesethic mobilization being an art, skill, and science. Dickson and Stephens (2014, p. 2) suggest that in terms of instruction, an active, hands-on approach is more likely to deliver higher levels of participant satisfaction and result in more learning benefits and success compared to the alternative of passive learning (Dickson & Stephens, 2014, p. 2). These principles and techniques allow the intervention to be adaptable for different needs and contexts. The effectiveness of the application in varying settings lies in the elements of real-time feedback, participation, and individualization. The shared elements in these situations is that people want to enjoy participation and be satisfied with their individual experiences.

In summation, kinaesthetic mobilization is an effective mobilization method to utilize in patients suffering from mobility decline due to old age and comorbidities. With its basis as an art, skill, and science, it provides the elderly a technique in which they actively participate in the process of mobilization. Moreover, it has several contributing factors that help in the outcome of recovery, such as sensory and cognitive elements, context of the surrounding environment and relations, as well as the organizational management of each ward.

2.2 Historical Development and Current Applications

The historical development and current applications of kinaesthetic mobilization techniques demonstrate a progression from historical care models to more functional and patient-oriented techniques. This progress is rooted in holistic care models that emphasized

the interactions between individuals, care personnel, and their surroundings. In countries such as Austria, the initial concept of kinaesthetic mobilization was included as part of basal stimulation and psychobiographic care. These initial concepts were centered around the concept of considering the interactions between individuals and the surrounding care setting, according to Waldsbergerová and Treslova (2016, p. 7). The purpose of this practice was to improve patient-centered care through individualized strategies that improved functional outcomes. This system was initially implemented by providing patient-centered care, by considering the interaction between individuals, nurses, and the surrounding care setting. With further advancements in patient participation, and improvements to address the physiological and psychological factors influencing mobility, this technique became based on patients' resources to promote functional ability while simultaneously taking into consideration the surrounding care environment. These techniques have been considered a key foundation of kinaesthetic practices that are still currently used for mobility interventions.

During the early 2000s, movement-based concepts became commonly integrated into nursing curriculum and practices in European nations. This represented an ideal patient-centered approach that enabled individuals to become more independent and resource-oriented. As emphasized by Waldsbergerová and Treslova (2016, pp. 3-4), the implementation of the concepts of kinaesthetic mobilization in European countries during the 2000s has also expanded to most parts of the world. Nursing professionals were learning and integrating these practices into their daily nursing roles. This required caregivers to develop communication and observation skills for individual patients, as well as a greater ability to implement dynamic mobilization approaches. These methods encouraged individual patients to become actively involved in their own mobility strategies.

This progress was supported by formal training programs for nurses, which enhanced both clinical and collaboration practices. Jensen et al. (2019, p. 1, p. 6) observed improvements in the speed and quality of mobilization of patients in the ICU following four days of kinaesthetic training. By promoting the involvement of patients and considering their participation as a means to encourage mobilization, they found that patients became actively engaged in their rehabilitation and recovery. This intervention emphasized a patient-centered approach, and 88% of the participants responded that interprofessional support was essential in achieving mobilization goals in their patients. Although it is important to consider the overall improvement of functional ability from kinaesthetic mobilization techniques, the authors of this study also highlighted the need to recognize the surrounding care environment. Training programs also proved successful, as 81% of nurses felt that they received good and very good training. When observing the attitudes of both trained and untrained nurses toward the

practice of kinaesthetic mobilization, a considerable difference was found. Training programs were an important aspect of promoting patient-centered care through the improvement of functional ability.

Studies of kinaesthetic mobilization use within geriatric nursing homes suggest an improved quality of patient care. Hantikainen et al. (2010, p. 4) observed an enhanced nurse-patient relationship, increased safety, and improved physical comfort and ability of patients when provided with these techniques in nursing homes. During the use of the SOPMAS© method to assess the progress made by patients using kinaesthetic mobilization techniques, researchers determined an improved quality of posture, movement, and use of environmental aids, when compared to the control group. It can be inferred that these improvements have promoted independence for geriatric patients within care settings. Furthermore, it can be assumed that this intervention allowed individuals to feel more in control of their movements and more in touch with their bodies. These assumptions were later confirmed with the finding that elderly patients within care settings using the intervention group claimed to feel more comfortable and safer. When comparing before and after assessments of patient interaction during activities of daily living, the active patient involvement score of the SOPMAS© method resulted in an increase in the intervention group, suggesting improved patient involvement in their care. With regard to physical strain on nurses, the Borg CR10 scale demonstrated decreased exertion during tasks performed by nurses in the intervention group. These studies demonstrate the positive outcomes from using kinaesthetic mobilization techniques on elderly individuals, while taking into consideration the surrounding care setting.

The application of kinaesthetic mobilization has also shown to improve rehabilitation strategies for progressive neurodegenerative diseases. Barbosa et al. (2023, pp. 8-9) found that motor training with kinaesthetic mobilization techniques demonstrated significant improvements for individuals with Parkinson’s disease in relation to balance, functional ability, and quality of life. The study utilized various therapeutic approaches, which ranged from dance therapy interventions to virtual reality computer-based exercises. For example, virtual reality programs utilized visual and audio elements to guide patients in the appropriate postural alignment and movements. As an intervention approach, kinaesthetic techniques have shown beneficial and sustainable outcomes in these interventions. With improved technology practices in current rehabilitation techniques, it can be predicted that kinaesthetic techniques will be seen as a standard approach in future rehabilitation interventions. To further integrate these practices into contemporary practices and to develop novel approaches, there needs to be a critical analysis of available resources and technology

practices.

Although the concept of kinaesthetic mobilization has been around since the 1970s, a barrier identified within the current system in adopting this practice is the impact from long-standing traditions that have greatly influenced the ideology of care. As suggested by Waldsbergerová and Treslova (2016, p. 4), traditionally, individuals have been passive recipients of care and do not commonly participate in planning and decision-making regarding their care needs. This highlights the limitations of the traditional and medicalized concept of care, as previously described. Organizational and environmental factors, such as resources and time, are also potential barriers. Jensen et al. (2019, p. 6) highlighted the limited impact of the implementation of kinaesthetic mobilization practices. They suggest that this is due to organizational factors, such as limited resources and staff training, making it hard to consistently and optimally implement these strategies. In order to further promote patient-centered care in the delivery of health practices through the use of kinaesthetic mobilization, an analysis and critical appraisal of the practices and applications in relation to these resources will be important. Furthermore, there needs to be ongoing evaluation and improvements to the education and promotion of this practice. As described by Waldsbergerová and Treslova (2016, p. 4), there is a great difference in the attitudes and application of these strategies depending on whether healthcare professionals have been trained or not.

2.3 Key Components of Kinaesthetic Mobilization

Kinaesthetic mobilization techniques utilize movement awareness and active patient participation, distinguishing them from the standard passive approach used in mobilization practice in nursing. Movement awareness focuses on an individual's awareness in how they perform physical movements and how their movements will achieve safety, efficiency, and meaning for each of their movements. Jensen et al. (2019, p. 1) found that, by movement awareness-oriented techniques, older people become the center of care, making them more active. Furthermore, patients' psychological well-being is dependent upon whether or not they have movement awareness. This can determine independence and self-esteem, which commonly decreases during the aging process. Empirical studies have shown that active involvement has a positive correlation with a speedy and dynamic recovery and rehabilitation in patients. Jensen et al. (2019, p. 1) stated that registered nurses utilize kinaesthetics-oriented techniques that allow patients to achieve faster mobilization, faster

improvement, and a long-term outcome than conventional mobilization. Jensen et al. (2019, p. 1) highlighted the fact that paternalistic care is still dominantly used and that kinesiological care promotes a more dignified and autonomous way of care, rather than a more directive type of care. Moreover, 88% of nurses trained in kinaesthetics utilize colleagues' experiences as knowledge to improve and create a movement awareness environment (Jensen et al., 2019, p. 6).

Systematic observation skills for patient transfers is another technique included in kinaesthetic mobilization, in which nurses need to be skilled in, in order to ensure the care provided will be effective, safe, and comfortable for the patient. Using the SOPMAS© instrument to ensure high-quality transfers can rate patient involvement, posture of the caregiver, and the usage of any environmental support materials during transfers (Hantikainen et al., 2010, p. 4). Empirical evidence from nursing home settings suggests that the SOPMAS© assessment instrument allows nurses to improve their skills in assessing patient transfers. Furthermore, kinaesthetics skills of observing and performing correct patient transfers in nursing homes can improve the comfort and safety of patients and enable active participation of patients in mobilization activity, which are essential characteristics of mobilization (Hantikainen et al., 2010, p. 4). Regular observation of their skills will help to enhance competency and provide areas of improvement as it provides immediate and accurate feedback. Patient transfers have a high risk of falls; therefore, the observation will ensure the care is implemented with safety. Furthermore, systematic observation of patient transfers with SOPMAS© will allow nurses to identify inadequate resources, such as assistive devices and environments which cannot implement transfers. This also highlights how important the technique of systematic observation skills can also provide improvements not only to patient transfers but for patients themselves and healthcare institutions and/or environments. In addition, systematic and regular observation skills ensure that nurses will pick up psychological barriers in patients. It is important for nurses to ensure their patients are not feeling anxious, scared, or upset, but if they are, then they can adapt care or reassure patients more frequently.

Cues and feedback are another essential technique of kinaesthetic mobilization that helps facilitate improved functional outcome and learning abilities of patients. Cues are commonly the input of verbal, tactile, or visual input by the caregiver to facilitate efficient movement patterns during mobilization. Barbosa et al. (2023, p. 8) explained how cues and feedback can improve the efficacy and enhance functional outcomes and how people may acquire motor skills quicker when being aided with cues. In fact, when combining cues with motor training for people with neurological impairment, significant improvement has been shown for

the functional performance, balance, and the quality of life in those with Parkinson's disease (Barbosa et al., 2023, pp. 8-9). Therefore, this reveals that when using kinaesthetic techniques and cues, the improvement of functional outcomes will be prolonged, which is critical when assisting geriatric patients with long-term mobility abilities. As well as cues improving functional outcomes, real-time feedback allows older adults to adjust and develop their movements and balance independently, ultimately improving the safety and efficacy of the movement pattern. Particularly in those with cognitive and proprioceptive deficit, this feedback is important as it improves confidence in their balance and motor control. In addition, feedback allows for the prevention of the patient performing abnormal movement patterns, thus avoiding a safety and mobility risk during mobility and rehabilitation. The application of cues helps to support the integration of theoretical knowledge into the practice of mobilization to enable patients to apply the learned movements into daily life tasks and routines, ultimately promoting improved independence with mobilization.

An important component that should be considered when mobilizing older adults is the fragility they experience, which is an essential consideration and component of kinaesthetic mobilization. This focuses on adapting mobilization interventions to suit the elderly population to ensure safety and effectiveness (Hertz & Santy-Tomlinson, 2018, p. 20). Older adults are particularly at risk for fragility fractures, musculoskeletal deterioration, and chronic diseases, making them more fragile; thus, it is crucial interventions are modified and individualized. Following hip fractures, it has been recorded that 40% of patients lose independent walking ability, and 80% require assistance with daily activities (Hertz & Santy-Tomlinson, 2018, p. 20). Therefore, these statistics highlight the importance of adapting mobilization techniques, focusing on early intervention, to prevent long-term immobility risks of patients. Individualized techniques include considering all physical conditions, limitations, and comorbidities. The consideration is adapted on an individual level rather than relying on generic care that is standardized. The patients' personal preferences and capabilities are considered, and the external resources are tailored for individuals to support the independence, ease, and the efficiency of the movement required to mobilize themselves. Kinaesthetics is against standardization and argues for a more biopsychosocial model of care for frail older adults, where all aspects, not just physical, are taken into consideration and adapted for individualized patient mobility and function.

The main purpose of the components of kinaesthetic mobilization is the importance of early intervention, to reduce risk of falls and injury, and to increase patient autonomy and confidence for improved mobility and psychological well-being. Studies found that integrating kinesiological mobilization into care may be effective for patients to regain mobility;

furthermore, early intervention to patient mobilization can improve patient outcomes and recovery (Tan et al., 2001, p. 3). Implementing the principles of kinaesthetic mobilization into mobilization practices can also help to minimize the risks when providing mobility to older adults. For example, identifying risks of pain, fall risk, or other equipment needs may need consideration for ensuring safe mobility. Not only that, by educating patients on this technique it allows them to take ownership of the care process and to increase their sense of control and empowerment during mobility. This also provides patients with a heightened sense of confidence and independence, minimizing their feelings of helplessness. The key to applying kinaesthetic mobilization is to ensure a systematic approach to both minimize risk for the patient and provide safe, effective, and autonomous care to the patient. By implementing the components of kinaesthetic mobilization, this illustrates the application of early intervention to patients who can improve safety and encourage improved functional mobility to improve the well-being of the individual.

In summary, these are the techniques incorporated in kinesiological mobilization that improve safety and facilitate improved patient mobility.

3. Geriatric Population and Mobility Challenges

Aging inevitably brings physical changes that strongly affect mobility and independence. In this section, the major physiological changes, common mobility impairments, and their impact on the quality of life are discussed. Interventions to improve mobility and independence are movement-focused interventions. This chapter helps to understand the need for active patient-centered care, and to understand how to improve mobility in geriatric adults.

3.1 Age-Related Physical Changes

The aging process brings inevitable physical changes in the human body. Bone loss is a factor that reduces mobility in the elderly. This decrease occurs slowly after the age of 40 and is a risk factor for osteoporosis and fragility fractures that impact mobility. The progressive loss compromises the skeletal system by causing fractures, particularly in the hip, wrist, and vertebrae, which are common among the elderly (Hertz & Santy-Tomlinson,

2018, p. 20). Loss of bone density is higher in women than in men. Murakami (2019, p. 11) notes that women make up 80% of all cases. It is also estimated that one out of two women aged 50 or older is likely to have a broken bone due to osteoporosis. More studies are required on the interventions that could be used in women and men with risks of osteoporosis to reduce the incidence rates.

Sarcopenia occurs with aging, leading to physical function decline. Sarcopenia is a loss of muscle mass and strength as age increases, which is a major factor in physical decline in the elderly. The rate of sarcopenia acceleration occurs after the age of 50. By age 80, a 50–60% decline occurs in muscle mass and strength. People who are inactive also lose muscle mass at a rate of 3–5% every decade after age 30 (Murakami, 2019, p. 12). The lack of muscle mass also impairs balance and independence when doing day-to-day activities such as climbing stairs, walking, and sitting, and leads to disability and falls (Murakami, 2019, p. 17). It is also noted that in adults after the age of 60, the grip strength declines by 60%, a measure of strength in muscles that decreases an individual's independence (Murakami, 2019, p. 18). More research is required regarding interventions in order to combat this loss of muscle mass and strength in the elderly in order to allow them to be independent.

Sarcopenia affects more women than men, which causes weakness, functional dependence, and undernutrition. According to Velázquez Alva et al. (2013, p. 2), sarcopenia in women is reported in 41.1% and undernutrition is reported in 15.5%. They also suggest that the individuals with sarcopenia in their studies have less mobility scores and more dependence performing activities of daily living. These deficits, and others caused by sarcopenia, may limit the physical ability to function normally, therefore increasing a person's risk of immobility. Future research should explore if targeted nutrition strategies can improve sarcopenia in women.

A deterioration of skeletal muscle is associated with pain and increased risk of falls. Muscle weakness and deterioration can decrease the capability of function to do daily tasks, thus increasing falls and chronic pain. After age 80, muscle strength decreases approximately by 30–40%. This contributes to physical inactivity and leads to chronic musculoskeletal pain. In a study done by İnal and Subaşı (2014, pp. 4, 15) on older women with a disability, 94.9% were reported to experience chronic pain. This would limit mobility due to pain during physical activities, also contributing to physical disability.

The inability of older women with chronic pain to engage in interventions requires more

research to alleviate chronic pain. Nursing research should explore interventions such as gradual balance and mobility to help diminish pain, falls, and physical disability. The elderly who have chronic pain need more targeted interventions, such as gradual balance and strengthening exercises to maintain mobility and functionality.

Fragility fractures also negatively impact older women's physical function. On a worldwide scale, one out of three women and one out of five men older than 50 years of age can expect to suffer a fracture as a result of fragile bones and risk of falls (Hertz & Santy-Tomlinson, 2018, p. 20). A hip fracture leaves only 60% of the patients with the ability to independently walk again, and 80% cannot go shopping independently again after their injury (Hertz & Santy-Tomlinson, 2018, p. 20).

It has also been noted that hip fractures are more prominent in older women with white skin color than older women who have other skin tones. Therefore, hip fractures greatly affect the mobility and the functional independence in older women.

Loss of balance can also cause immobility, increasing falls and the risk for bone fractures. Flexibility, balance, and proprioception decrease with age, creating immobility. Decreased flexibility leads to joint pain and stiffness. These conditions also impede coordination in activities of daily living. Balance, balance confidence, and functional gait stability can decrease mobility as age progresses (Min, 2023, p. 1). Balance exercises have been recommended and have been found to reduce falls, improve quality of life, and have a positive impact on the musculoskeletal system. More research regarding flexibility exercises is needed and has been shown to increase range of motion and reduce stiffness.

These changes caused by aging greatly impact mobility and require various interventions and treatments from healthcare providers to assist the elderly, especially women, in order to maintain their independent mobility.

Humanized Version in English:

3.2 Common Mobility Issues in Elderly Patients

Musculoskeletal decline, inherent in the aging process, gives rise to the multifaceted mobility challenges encountered by older adults. Commencing around the age of 40, the irreversible

loss of bone mass emerges as a notable concern, significantly predisposing elderly individuals to falls and fractures. This deterioration becomes increasingly evident in later years, exacerbated by age-related reductions in both muscle mass and strength. It has been found that by the age of 60, older adults might experience a grip strength reduction of up to 60%, directly compromising their capacity to execute essential daily activities (Murakami, 2019, pp. 11-12, 18). Functional dependency risk is increased because of these physical limitations, necessitating mobility strategies that address preventative and rehabilitative measures early in the aging process. The mitigation of the cumulative effects of progressive musculoskeletal decline often lacks sufficient emphasis in existing interventions, resulting in gaps in care for this vulnerable demographic.

Reductions in bone mass and muscle strength occur because of the natural aging process, and external factors, including physical inactivity, chronic illness, and nutritional deficits, serve to intensify these challenges. Loss of muscle mass is accelerated by physical inactivity, with sedentary individuals potentially losing an additional 3–5% per decade following the age of 30 (Murakami, 2019, pp. 12-13). Furthermore, older adults are disproportionately affected by chronic disease and poor nutrition, which compound the functional decline resulting from age-related changes. Interventions that target only one area are insufficient to halt or reverse mobility decline, according to the interplay between these factors. Although frequently underutilized in routine geriatric care, comprehensive programs that combine physical activity, nutritional guidance, and chronic disease management are required. The current healthcare practices, therefore, have a critical gap, with further research being necessary to investigate integrative models that address the interconnected nature of these contributing factors.

Sarcopenia, a defining feature of age-related physical decline, is characterized by muscle mass values falling below two standard deviations of young adult averages. It has been found that sarcopenia affects 8% of men and 10% of women in older demographics and is closely associated with decreased mobility and overall functional decline (İnal & Subaşı, 2014, p. 15). Many elderly populations see an exacerbation of this condition because of physical inactivity and chronic undernutrition. Falls are made more likely, and the ability to perform basic tasks independently is limited, because the loss of muscle mass directly impairs strength and balance. The interventions addressing this issue often remain reactive rather than preventive, despite the well-documented relationship between sarcopenia and reduced mobility. Programs promoting physical activity and resistance training show promise, even though their effectiveness could potentially be enhanced through the incorporation of nutritional strategies and early screening efforts designed to identify

individuals at risk of sarcopenia before substantial functional deficits manifest.

Mobility barriers are created by the physiological changes associated with aging, most notably through the combined effects of diminished muscle power, impaired balance, and declining grip strength. The capacity of older adults to sustain independence and actively participate in daily life activities is significantly limited as a result of these deficits (Murakami, 2019, pp. 11-12, 18; İnal & Subaşı, 2014, p. 15). Simple everyday activities can be impeded by grip strength reductions alone, such as opening containers or preserving stability during transfers. The need for early identification of mobility challenges and the implementation of individualized support strategies is emphasized by the fact that these issues are frequently overlooked or inadequately addressed within healthcare settings. The potential of kinaesthetic mobilization to enhance functional capacity and reduce dependency is highlighted by current research, yet further evidence is necessary to create tailored interventions that cater to the particular needs of older adults grappling with these compounded impairments.

Multifactorial interventions are necessitated by the correlation between age-related declines in musculoskeletal health and the heightened risk of falls and fractures. Given that weakened muscles, compromised balance, and reduced bone strength elevate vulnerability to injury, falls are directly associated with mobility challenges (Murakami, 2019, p. 11). Considering these interdependencies, care practices must broaden beyond movement support to encompass strategies that promote strength, tend to bone health, and facilitate safe activity routines. In mitigating the incidence of falls and fractures, a holistic approach is critical; nevertheless, numerous interventions remain siloed, concentrating on a solitary aspect of mobility decline without giving due consideration to the wider context of health and functional ability.

Falls remain a pervasive mobility issue among older adults, notably among residents of nursing homes. Research indicates that a minimum of two falls are experienced by between 40% and 90% of ambulatory nursing home residents within a span of six months (İnal & Subaşı, 2014, p. 14). Physical injuries result from these repeated incidents, which also lead to psychological consequences, for example, fear of falling and diminished confidence, which discourage mobility and exacerbate frailty. Comprehensive prevention strategies must address physical and contextual factors, because environmental hazards, pre-existing disabilities, and musculoskeletal weaknesses contribute to fall risk. Interdisciplinary teamwork and proactive fall-prevention measures, which includes kinaesthetic mobilization, are crucial to the creation of safer care environments. The high frequency of falls within

nursing home populations suggests that these approaches are not yet widely integrated into routine practice, indicating that there is room for improvement in the geriatric care sector.

Rather than existing as isolated incidents, falls frequently act as harbingers of a series of adverse effects on psychosocial well-being. The fear of falling, which is strongly linked to repeated falls, curtails activity levels, engendering a feedback loop characterized by diminished mobility, heightened frailty, and increased dependency on caregivers (İnal & Subaşı, 2014, p. 14). It is of great importance that recovery strategies encompass elements that rebuild confidence and promote activity engagement, because this cycle underscores the importance of addressing the psychological and physical repercussions of falls. Current practices frequently overlook the emotional aftermath of falls, focusing on physical rehabilitation while neglecting the psychological dimensions. Intervention models in the future should concentrate on the restoration of physical function and mental resilience to interrupt this cycle of immobility.

Because persistent musculoskeletal pain has the potential to exacerbate frailty and elevate fall risk, it plays a pivotal role in addressing mobility challenges. Older adults, especially women, are disproportionately affected by pain, which frequently curtails their inclination or capacity to participate in mobilization activities (İnal & Subaşı, 2014, p. 4). Multidisciplinary approaches to pain management should be incorporated into comprehensive mobility strategies, combining pharmacological treatments with movement-based interventions. Furthermore, the gendered elements of pain prevalence and management remain underexplored within current research, implying that further investigation is warranted to guarantee equitable and effective care for all individuals.

Because falls frequently recur among older adults, individualized risk assessments must be integrated into daily care routines, as well as the incorporation of kinaesthetic mobilization techniques. Future falls can be prevented, and recovery can be supported following an incident through targeted mobility interventions customized to the particular needs of each patient (İnal & Subaşı, 2014, p. 14). The resources or trained personnel necessary to deliver such personalized care are frequently lacking in existing healthcare systems, underscoring the significance of ongoing staff training and resource allocation. By furnishing caregivers with the requisite skills and resources, healthcare facilities are better equipped to address the needs of their elderly patients and alleviate the overall burden of falls on the healthcare system.

Acute medical events, such as cardiac surgery, contribute to extended periods of immobility,

which exacerbates mobility challenges in older adults and increase the risk of complications and prolonged recovery times. As an illustration, it has been found that post-operative elderly patients in acute care settings required almost 12 hours before their initial mobilization, significantly delaying ambulation and restricting functional recovery (Ryan, 2023, p. 11). Hospital stays have been shown to be reduced and recovery outcomes improved through the use of early mobilization protocols, which incorporate kinaesthetic principles like systematic movement training and patient participation. Despite these advantages, compliance with early mobilization remains inconsistent, underscoring the necessity for continuous staff education and standardized protocols to facilitate the effective implementation of evidence-based practices.

While holding promise, technological mobility aids present opportunities and challenges for addressing functional impairments in older adults. When compared to conventional methods, gait and functional performance have been shown to be improved by high-tech devices, for instance, robot-assisted training tools (Tzafestas et al., 2015, p. 7). Given the complexity of these devices, some users experience increased cognitive load or slower performance, which means that these benefits are not universal. In contrast, non-motorized, low-tech equipment frequently yields better results regarding walking speed and efficiency, underscoring the necessity of tailoring mobility interventions to individual capabilities and preferences. Future research ought to explore how to optimize the implementation and design of assistive technologies to maximize their effectiveness and usability for diverse patient populations.

Another factor that indirectly affects mobility is constipation, a common but frequently overlooked problem. Constipation can physically impede movement, reduce motivation for activity, and lead to further complications; it affects about one-third of elderly individuals (Hassan Abd El-Fatah et al., 2021, p. 5). Its severity has been demonstrated to be significantly reduced, and more active participation in mobility exercises has been encouraged through nursing interventions that address this issue, for example, structured mobilization programs and dietary adjustments. It is important that gastrointestinal health management is integrated into broader care strategies, as the bidirectional relationship between constipation and mobility underscores that physiological barriers to movement are addressed alongside physical impairments.

In conclusion, mobility challenges in older adults arise from a combination of external factors, contextual barriers, and age-related physiological changes. Efforts to enhance mobility must also account for the particular needs of each individual, fostering inclusive and

comprehensive care strategies that preserve independence and enhance quality of life; and a holistic approach that integrates movement-based interventions, psychosocial support, environmental safety, and pain management is needed to address these challenges.

3.3 Impact on Quality of Life and Well-being

Mobility restrictions in older adults are linked to reduced quality of life as this leads to loneliness, depressive symptoms, and isolation. These factors often reinforce one another to negatively affect quality of life (Parviainen, 2021, p. 12). Parviainen (2021, p. 12) also argues that these limitations affect physical activity levels in relation to psychological wellbeing such as a sense of not being able to fully participate in life or in their community due to physical disabilities. Physical disabilities and poor environment can be barriers to communal participation due to restricted mobility to access certain settings such as spaces that facilitate communal engagements. This amplifies mental health difficulties and depressive symptoms for older adults due to increased levels of loneliness. This shows how restricted mobility poses threats not only to physical health but also to the social and psychological status of the elderly.

The relationship between reduced mobility and the development of psychological difficulties such as depression and loneliness is reported by Parviainen (2021, p. 12) due to the development of physical limitations. These limitations create further difficulties such as social isolation, resulting in a decline of mental health. The psychological decline leads to avoidance and reduced engagement in physical activity, resulting in increased mobility difficulties and other chronic conditions. These issues need to be addressed in order to improve physical functioning in older adults, while improving psychological and social factors that maintain immobility difficulties. Support in this area is often overlooked by nursing practitioners due to poor awareness of the implications on physical status, but it remains a vital aspect of care.

Mobility decline leads to a lack of motivation to actively remain mobile, initiating a cycle of psychological decline that limits the level of activity, resulting in a spiral of increasing dependency and functional losses. This reinforces the need to provide mobility interventions and prevent negative physical and mental health consequences as a result of alienation in older adults. Parviainen (2021, p. 9) argues that a psychological decline in well-being as a result of restricted mobility acts as a negative cycle and decreases motivation to participate

in activities in order to maintain mobility. This can be addressed with nursing interventions to support engagement and motivation in physical exercise and mobilization activities that support psychological status.

Limitations within external settings such as the lack of seating areas in public settings can cause limited physical activity in older adults due to a lack of a place to rest when engaging in activities such as grocery shopping, contributing to restricted mobility. This shows the significance of integrating spaces that promote activity and social interaction in external settings to support physical functioning in older adults. This is highlighted by Parviainen (2021, p. 3) who argues that poorly designed environment, especially concerning the lack of rest spaces, act as a barrier to engagement with social and physical events, resulting in isolation and loneliness in older adults. The level of accessibility to public places can either promote or prevent the involvement of older adults, emphasizing the importance of the accessibility to public places and facilities in urban planning.

Mobility, mental, and social status are interlinked in the context of care delivered to older adults as immobility has been established as a risk factor in mental and physical health problems. This needs to be addressed in holistic strategies aimed at maintaining physical activity through mobilization and movement-based activities. Parviainen (2021, p. 12) suggests that interventions and prevention of mobility difficulties will not be efficient if not paired with interventions addressing loneliness and mental wellbeing as psychological decline and lack of motivation act as barriers to the improvement of physical health status. In this case, nurses could implement programs to improve psychological status and physical activity, such as the establishment of community support groups that deliver group exercise. Although these programs have been proven to be beneficial, they are not well-integrated into standard nursing care (Parviainen, 2021, p. 12).

Kinaesthetic mobilization interventions for older adults are significant in the improvement of mobility capabilities as well as in reducing risks and consequences such as injuries due to falls. Vancea et al. (2024, p. 1) have established that such interventions improve scores in motor ability, decrease pain intensity, and decrease risks of falls in older adults. This provides a significant impact on overall well-being and allows for a sense of improved freedom to perform daily activities. Vancea et al. (2024, p. 10) argue that this can be supported by mean values in FIM scores to identify a significant increase of motor ability ($p = 0.002$) and VAS scores, indicating a significant decrease of pain intensity ($p = 0.001$). This signifies improved levels of motor ability and pain perception, improving the ability of older adults to be as independent as possible in order to improve overall well-being. However,

these interventions do not focus on other aspects of mental health well-being, such as enjoyment from engagement with activity, satisfaction with intervention, and so on. Although physical status and overall mood may improve, other factors of psychological well-being may not change despite interventions.

A decline in falls among older adults who had a high level of falls risk on admittance highlights the importance of interventions targeting movement capabilities in the prevention of injury as a result of falls. This is evidenced by Vancea et al. (2024, p. 1) in the reduction of STRATIFY (St Thomas Risk Assessment Tool In Falling Elderly inpatients) scores on admittance and on discharge. They argue that these interventions contribute to improved care and overall health status, preventing future adverse outcomes such as injuries caused by falls. However, due to time constraints, care professionals were limited in their ability to provide support and follow-up during and following discharge of patients from healthcare settings.

Enhancements in mobility levels are a source of increased self-worth and independence in older adults, which improve psychological wellbeing and contribute to holistic health. Vancea et al. (2024, p. 10) claim that improved levels of motor ability improved an older adult's capability to perform daily activities and increase social interaction, resulting in overall improvements of health status and physical activity in life outside of the care environment. This improves dignity as older adults can improve and preserve self-care behaviors. However, it is necessary to consider whether the benefits of intervention are maintained and sustained following discharge of older adults, which may require further strategies to increase independence in the longer term.

The results show the effectiveness of interventions targeting physical status, psychological, and emotional wellbeing that are implemented into older adult patients within standard care routines. Vancea et al. (2024, p. 1) argue that well-integrated interventions into care routines may benefit older adults and improve quality of life. Despite this argument, further research and guidelines are necessary to improve application and promotion of kinaesthetic mobilisation techniques for older adults. Further improvement and support with kinaesthetic intervention need to be developed, particularly to improve the standards and delivery of this practice and increase its implementation as a standard practice among care delivery facilities for older adults.

Geriatric physical therapy techniques, such as strength, balance, and flexibility training, can support mobility levels in older adults, leading to psychological well-being. Min (2023, p. 1)

claims that through these strategies, levels of mobility are sustained through maintenance of range of motion and strength in muscles to alleviate discomfort and pain that can restrict activity. It also allows for the ability to engage in day-to-day activities without limitation, improving psychological health and the quality of life of older adults. Although beneficial, these techniques can only be applied based on the presence and availability of resources to carry them out effectively. Min (2023, p. 1) provides evidence that interventions can only be effective for mobility levels, and thereby impact psychological well-being, if there are the resources to do so in a healthcare facility for example, or the availability of social spaces that facilitate mobility activities and engagement with others, improving psychological well-being by means of social activity levels.

Resistance exercises may counteract the muscle strength decline associated with age-related physical activity loss. It also provides improved endurance, thus leading to greater independence to engage in activities independently and improve overall well-being. Min (2023, p. 1) argues that resistance exercises have been shown to decrease frailty and prevent falls in older adults due to maintenance and improvement of strength and balance, enhancing physical activity and overall activity levels. Although evidence shows it to be highly effective, the challenges involve the ability of older adults with poor mobility levels or suffering with chronic conditions to carry out resistance exercises. Individualized and motivational factors may influence the older adults' compliance to the program of resistance exercises.

Balance, coordination, and proprioceptive exercises, in conjunction with physical strength enhancement programs, also improve overall mobility and decrease falls rates in older adults, leading to psychological and social well-being. Min (2023, p. 1) provides evidence that improvement and maintenance of balance decreases the fall risk in older adults, resulting in overall health status and psychological benefits due to increased comfort and lack of anxiety to participate in activities. Improvement or maintenance in flexibility is beneficial in the enhancement of mobility levels and activity engagement due to increased motion without increased discomfort, resulting in improved psychological status as older adults feel more willing and able to engage with physical activity and interact socially. The interventions can also improve their satisfaction in these activities, benefiting overall well-being levels, although evidence is not available in relation to the overall benefits of these strategies on social or activity satisfaction of older adults. There are many older adults who are below poverty levels who may not be able to afford to use certain facilities to improve balance, proprioception, and strength.

Reduced depressive and anxious symptoms are psychological benefits that can be achieved through maintenance and improvement of mobility and physical activity levels. Min (2023, p. 1) argues that in order to support mental health among the elderly, physical activity and mobility levels need to be considered within interventions. Therefore, if physical activity is enhanced or maintained, psychological health such as depressive symptoms, level of engagement, interest, and pleasure may also improve, as this leads to engagement in activities that may lead to reduced stress and improved satisfaction in physical activities and relationships. In order for patients to feel involved in rehabilitation and care in order to achieve best holistic outcomes, patients should be allowed to communicate their needs and be involved in setting their goals for physical therapy, ensuring that both mobility and psychological support levels are integrated into planning and strategies during care.

Many kinaesthetic mobilisation programs report that such interventions reduce fall risks in older adults, with Montgomery et al. (2017, p. 7) reporting that 79% of patients felt that they were capable of doing more for themselves physically in a range of activities due to improvements in kinaesthetic mobilisation. The psychological impact of this on an individual can influence motivation to engage with care routines. This highlights an opportunity to further explore the psychological and subjective benefits to holistic health that kinaesthetic mobilization achieves on older adults within care programs.

Evidence gained from the quality of life health survey instrument called the SF-36v2® shows there to be a significant improvement in vitality ($p = .026$) and general health ($p = .029$), which are benefits in physical activity, following kinaesthetic mobilization interventions for frail older adult inpatients (Montgomery et al., 2017, p. 4). Therefore, there is an opportunity to evaluate improvements in quality of life holistically by integrating the SF-36v2® into an evaluation instrument that can provide valuable data for physical status as well as psychological benefits in order to meet the needs of holistic care (Montgomery et al., 2017, p. 7).

Montgomery et al. (2017, pp. 4-5) identify through a pre-post functional test measurement system that participants demonstrate statistically significant improvement following kinaesthetic mobilizations, specifically in the 360° Turn Test and 20-Second Step Test which measure dynamic balance and balance as well as speed capabilities. By integrating such tools, nurses can gain additional evidence regarding balance benefits in order to highlight the improvement made by these interventions for functional balance abilities. Improvements in function and balance indicate improved capability to perform tasks such as moving through crowded spaces as well as improvement of physical fitness which enables the frail

older adults to go about their day with an improved fitness and endurance, without an increased sense of being breathless during activity. Despite all of the improvements that kinaesthetic mobilization brings, it does not account for psychological and subjective improvements which cannot be identified using a functional or statistical measurement instrument. In order to achieve the benefits that have been identified by Montgomery et al. (2017) through the application of mobilization techniques, resources such as available equipment are necessary to increase participation and ensure the best benefit can be obtained by older adults.

The level of motivation during rehabilitation is a key indicator for best outcomes. In most situations, patients are often encouraged by the presence of their family. However, this is often not available. Kothiyal and Chatterjee (2024, p. 3) argue that with improved independence, motivation to continue intervention is enhanced, leading to increased self-confidence and ability to continue with care routines due to a psychological improvement in confidence and mood. In order for patients to continue engaging in rehabilitation, it is necessary for them to acknowledge the benefits they are making on a physical and psychological level. Patients who show the capability to perform mobility and everyday activities alone or independently may display an increased overall wellbeing, increased motivation to continue mobilization activities as well as increased self-confidence to perform such tasks alone, due to less stress, risk, and fatigue. Patients who require increased mobilization intervention due to poor ability to perform mobilization activities independently may not receive the motivation they need due to having to actively rely on others.

Fragility fractures can result in significant morbidity and mortality in older adults, restricting their physical, functional, and social qualities of life. Hertz and Santy-Tomlinson (2018, p. 20) argue that early intervention, individually tailored, helps to manage these outcomes as well as increase the speed to which mobilization can be achieved. However, due to the complexities of frailty, the provision of this is limited due to resource and staffing issues.

4. Kinaesthetic Mobilization Techniques

Kinaesthetic mobilization techniques are fundamental for the patient-centered approach of movement in geriatric nursing. They actively promote, systematically assess, and holistically support movement processes. Practical methods such as patient evaluation, transfer, positioning, and observation of the patient will be shown. Embedded in individualized,

holistic care, these techniques serve for the better physical as well as the psychological health of the geriatric patient.

4.1 Assessment and Planning

Effective assessment and planning are pivotal to customizing kinaesthetic mobilization for geriatric patients. Therefore, this section explores systematic patient evaluation, safety concerns, and the significance of individualized care for optimal implementation of kinaesthetic mobilization interventions, thus supporting the patient's overall nursing experience.

4.1.1 Patient Evaluation Methods

The evaluation of the patient is the key for an effective implementation of the kinaesthetic mobilization, so the assessment must consider all the potential barriers that might be encountered when moving the patients (Jensen et al., 2019, p. 1). The application of the SOPMAS© Instrument for evaluating participation of the patient in mobility tasks and level of the skills of the nursing staff for performing the mobilization can objectively assess intervention outcomes (Hantikainen et al., 2010, p. 4). The parameters evaluated and scored from 1 to 5 are the interaction with the patient, the nurse and the patient movement, and also the application of auxiliary tools, etc. by the evaluator during the activity. Even if the use of the instrument in itself guarantees a well-conducted evaluation of mobilization quality outcomes, the staff training and the institutions' willingness to embrace it are crucial for bridging gaps in technique (Hantikainen et al., 2010, p. 4).

Patient perception evaluation is valuable to assess the level of patient comfort, safety, participation, and strain during kinaesthetic mobilization by using the Borg CR10 scale, or scales that are focused to determine the effectiveness and acceptability of the approach on the subjective physical strain, for example (Hantikainen et al., 2010, p. 4). These evaluations have the power to actively engage the patient in the rehab process by addressing how safe and secure they are, how comfortable they feel, if they are free from pain and if they are free from anxiety. The intervention, therefore, will be enhanced. When patients feel safer and more comfortable during the procedure, they tend to follow instructions better. Furthermore, by listening carefully to the patient and encouraging them to answer questions honestly, we

can improve communication in all levels in general. The patients can then offer insights regarding what may or may not be working for them, thus informing subsequent interventions. However, since these evaluations rely on feedback from the patient, some individuals might be less inclined to be honest if they feel uncomfortable or afraid of being a burden to the nurses. Also, depending on the age or health level, certain patients might not be able to verbalize appropriately or be clear with the feelings and emotions during the process.

Feedback and communication must also be considered during evaluation and it must be included in the care and treatment procedures. Feedback needs to be collected so that changes can be quickly identified and adapted. If there are complaints of discomfort or pain, the therapist or nurse is alerted so that changes can be made to the activity to minimize pain and risk (Hantikainen et al., 2010, p. 4). It is important to note that this concept goes hand-in-hand with patient-centered approaches to treatment. However, care must be given so that such valuable insights do not slip out of memory; they need to be recorded for future consideration. The care plan must be adjusted appropriately based on observations, and feedback must be documented for future consideration.

Care should be taken to have nursing professionals with kinaesthetic formation to accurately interpret functional assessment and promote earlier and more effective mobilization (Jensen et al., 2019, p. 1). Nurses that have formal training in kinaesthetic mobilization can more readily recognize warning signals and signs of decreased activity tolerance than those who are less trained. Skilled nurses are able to intervene and support early and safe mobility and prevent potential complications related to the lack of patient activity, especially if in an acute care scenario (Jensen et al., 2019, p. 6). The availability of nurses with sufficient skills and expertise is not always a reality in many institutions, and because of this, the quality of patient care may vary. Nursing specialists need to be available not only to treat but also to share skills to their less trained colleagues.

Evaluation must also consider the kinaesthetic cues in order to enhance the motor performance of the patients (Barbosa et al., 2023, p. 8). In individuals with motor or cognitive disabilities, the application of kinaesthetic cues such as tactile, visual, or auditory stimuli tends to augment the motor performance by triggering neuroplasticity mechanisms (Barbosa et al., 2023, p. 8). For example, the utilization of repetitive verbal and tactile cues for Parkinson patients can generate substantial functional improvements and an increase in quality of life (Barbosa et al., 2023, p. 8). This can be extrapolated and utilized in a wider geriatric population. Moreover, kinaesthetic strategies can be used effectively to enhance

engagement and promote long-term rehabilitation outcomes. The training and knowledge of how these techniques must be applied is time intensive and might present a hurdle to wider and common application for the elderly in the mobilization process.

The feedback from patients is a continuous process that not only boosts autonomy and learning opportunities, but it also aids in refining functional evaluations. The ability to adapt an activity or movement strategy as feedback is being supplied supports participation in mobilization and contributes to the overall rehabilitation outcome. It is important to know that several older adults have kinaesthetic ways to learn and communicate (Sanchez et al., 2019, p. 4). Considering the way that people think and learn improves assessment and ensures that individuals are being assessed in a comfortable environment that accurately represents their functional abilities. By doing this, participants can understand how to use their senses and bodies appropriately to facilitate mobilization. However, time should be given so that this more participatory approach can be done successfully.

In order to evaluate the patient, the individual's vulnerability to diseases based on physiological and gender differences should be considered. For example, women are more prone to develop chronic musculoskeletal pain, which can further influence mobility level. Women also present a greater risk of falls, because of several differences when compared with men, such as less balance, increased bone fragility, decreased bone density and increased muscle mass (İnal & Subaşı, 2014, p. 4).

It is also important to mention sarcopenia, defined as the decrease of the muscle's strength and quality, and sarcopenic obesity, which is characterized by diminished muscle mass, followed by adiposity. Both sarcopenia and sarcopenic obesity will reduce activity level. Sarcopenia in the elderly can be brought on by the decline of muscle volume, mass and function. However, the patient must have all this accounted for and understood by the nurse or therapist. The elderly also have a tendency to have chronic diseases, such as cardiovascular diseases, lung diseases, cancer, arthritis and/or osteoporosis, and endocrine or metabolic abnormalities. They all have a great potential to hinder one's activity level or ability (İnal & Subaşı, 2014, p. 4). It must be remembered that the geriatric patient has multiple physiological and social factors that can affect one's ability to participate in a mobilization (İnal & Subaşı, 2014, p. 15).

Also, some potential risks need to be considered at each stage of patient evaluation. In these, the nurse and therapist must consider how the patient will react, and assess and adapt the situation appropriately. When one mobilizes a patient to the toilet, one must be

extremely careful and cautious of the risks involved for the patient, particularly one's cardiovascular integrity and stability, one's blood pressure regulation or postural control and level of awareness and consciousness. The nurse or therapist also needs to be able to foresee any unexpected changes during mobilization. Therefore, any risks need to be constantly monitored, with plans in place in case of emergency.

In the first few weeks, nutritional assessments will also need to be done and documented in patient charts. These patients may have poor eating habits at home that would then translate into undernourishment or malnutrition. Therefore, nutrition must be monitored. Moreover, patient psychological state needs to be considered. Does the patient have stress, depression, or anxiety? By carefully considering these potential situations, these factors do not come as surprises that might hinder a patient's recovery. In addition, patients are asked what they were like at home with their activity level, the past, previous mobility problems and abilities, if they used walkers or cane, etc. Therefore, if there were past illnesses or complications that altered one's ability, that should be noted during patient evaluation.

Overall, patient evaluation methods are of utmost importance when attempting kinaesthetic mobilization for the elderly.

4.1.2 Risk Assessment and Safety Considerations

Risk assessment and safety are important for effective kinaesthetic mobilization techniques in geriatric patients. A comprehensive assessment of risk should be done pre-intervention via a standardized risk assessment tool like SOPMAS©. SOPMAS© examines patient/caregiver interaction quality, patient movements, patient posture/nurse mobilization techniques, and environmental aid. By using SOPMAS©, one can formulate an individualized kinaesthetic mobilization plan based on older adult physical limitations and safety needs (Hantikainen et al., 2010, p. 4). However, SOPMAS© requires the institution to consistently train nurses, and it could be costly. Lack of attention to external environmental factors such as lack of resting spaces, Parviainen (2021, p. 3) reports that not having adequate resting spaces such as benches every 50–100 m, will inhibit elderly patients from going far away from home. Thus, lack of resting places is an extrinsic hindrance for kinaesthetic mobility for elders and is critical when assessing for risks.

The use of the SOPMAS© Instrument has the capability of providing precise baseline

results, helping nurses to discover “hidden risks” associated with older patients, such as communication styles, patient environment, and patient physical restrictions, among others. The SOPMAS© Instrument utilizes standard assessment approaches in mobilization by identifying at-risk factors that are associated with risk during a mobilization procedure, assisting healthcare practitioners to prevent unforeseen harm by optimizing care (Hantikainen et al., 2010, p. 4). The SOPMAS© Instrument is a systematic and standardized approach that assists the assessment of risk, but its benefits are only fully realized if the tool is incorporated into multidisciplinary teams that also include the contributions of occupational therapy, physiotherapy, and nurses working towards a common care plan, as well as risk aversion. For example, consider the cascade of negative health consequences observed with geriatric inpatients that have remained immobile for an extended length of stay. According to Hudson (2020, p. 10), geriatric patients who remain immobile for approximately 95% of their inpatient stay are vulnerable to a functional decline as well as adverse medical events, and even higher readmission rates following hospitalization. It would benefit healthcare providers to evaluate geriatric patient status in an efficient and effective means to promote the prevention of these factors.

Older adult perception of safety and comfort is an imperative consideration when assessing risk factors in mobilization. To ensure the safety and comfort of older adults, they should be rated on a 0–5 scale for both comfort and safety prior, during, and after mobilization interventions, alerting nurses to signs of anxiety, pain, and discomfort, to prevent risks (Hantikainen et al., 2010, p. 4). The addition of rating scales offers a preventative care plan to avoid risks and ensure safe patient outcomes. However, subjectivity from patients during assessments may prove to be inconsistent and unreliable as those living with Alzheimer’s, other dementia types, or other cognitive impairments might have issues reporting accurately (Hantikainen et al., 2010, p. 3). Furthermore, external influences, as Parviainen (2021, p. 12) mentions that patients are more likely to experience social isolation, feelings of depression, and feelings of loneliness in restricted mobility environments. They explain that such conditions can lead to “the vicious circle of lack of mobility → decreased psychological well-being → decreased interest to move.” It is thus imperative that healthcare professionals also assess any external barriers or risks influencing the client.

Having confidence and assurance throughout the mobilization process promotes adherence to the kinaesthetic mobilization regimen for the geriatric patient. Older adults who have perceived safety throughout the mobilization experience are more likely to participate appropriately with techniques. Additionally, the subjective ratings are written to improve the care plan, patient satisfaction, and safe care. All the ratings for one patient can be examined

to help reveal areas with high-risk factors, such as recurring discomfort ratings in the middle of mobilization or high levels of fear before mobilizations. Identifying these themes in subjective patient ratings could assist in building evidence-based kinaesthetic mobility programs to reduce high-risk factors in patients. It would be beneficial for care providers to collect subjective ratings consistently on older adults; however, it might be difficult for an institution to do this systematically if there are not protocols regarding quality control, which might lead to inconsistencies in subjective data reporting.

Having nursing staff formally educated and trained in kinaesthetic mobilization helps to ensure that the mobilization process is completed safely and accurately. Staff who are not trained in kinaesthetic mobilization are more likely to “over or underestimate patients’ functional capacity,” thus contributing to an increased risk of functional decline during mobilizations. These techniques should be performed in high-risk settings like “ICU or postsurgical settings” (Jensen et al., 2019, p. 1). Trained professionals can aid in the prevention of risk in mobilization by helping other colleagues understand proper techniques in the field, where 88% of all participants felt that their colleagues helped them deliver safer care (Jensen et al., 2019, p. 6). Since kinaesthetic training is not always offered to staff within some institutions, this creates inequalities in the effectiveness of care for all older adults. Additionally, Hallaj (2017, p. 6) also demonstrates that an intervention of regular positioning and Braden Scale scores throughout admission helped to reduce the risk of pressure ulcers by “47% to 0% over a 10-year period." This information can demonstrate to other institutions to consistently educate staff and incorporate regular assessments as intervention plans.

The use of kinaesthetic cues improves motor function and neuroplasticity. The term kinaesthetic cues is often used interchangeably to include all forms of cues such as tactile, auditory, and visual prompts that have been shown to increase patients’ ability to move their arms. In neurological or impaired patients, the use of cueing results in improvements in motor function, as shown by individuals diagnosed with Parkinson’s disease who exhibited functional abilities in everyday activities, higher QOL scores, and improved motor functions as compared to the “control group.” While most interventions focus on patients who have significant physical impairment from neurological conditions, some studies may also show that similar techniques could be implemented to help geriatric patients, as cueing interventions help to promote better cognition and performance of various tasks. In this way, it can be recommended that more nurses are equipped to facilitate these types of interventions with patients, and with continued research, may be able to improve functional abilities of elderly patients. However, this poses as a risk because current healthcare

settings do not typically allocate funds or time resources for education to take place, which ultimately minimizes the effects of rehabilitation in elderly populations.

Providing feedback during kinaesthetic mobilization facilitates a greater response to the movement for both nurse and patient. Healthcare providers can change their motions according to verbal cues provided from patients to ensure a more positive experience as well as an optimized intervention response. Furthermore, studies suggest that older adults are inclined to be kinaesthetic learners by utilizing touch when mobilizing, thus maximizing assessment responses in these cases, as (Sanchez et al., 2019, p. 4) found that most people fall into the kinaesthetic learning style and require direct engagement during assessments and evaluations.

Evaluation of risk also requires healthcare professionals to assess for physiological and gender-specific risks during kinaesthetic mobilization. During mobilization of older adult patients, women have higher fall risks and chronic musculoskeletal pain as compared to men, and this is essential to be aware of to implement proper interventions (İnal & Subaşı, 2014, p. 4). Risk factors in older adults can also be attributed to sarcopenia and many comorbidities, leading to increased risks during mobilization (İnal & Subaşı, 2014, p. 4, 15). To ensure safer and effective kinaesthetic mobilization in the elderly patient population, healthcare providers must implement comprehensive plans to assess for psychological risk factors, adequate nutrition, and mobility history and requirements.

4.2 Implementation Strategies

To effectively implement kinaesthetic mobilization in daily geriatric nursing care, it's necessary to identify strategies focusing on basic movement patterns, transfer techniques, positioning methods, and monitoring techniques. In an effort to increase care quality and reduce organizational barriers, several useful approaches can be used in practice.

4.2.1 Basic Movement Patterns

Basic movement patterns are necessary in order to use kinaesthetic mobilization in care settings to effectively support geriatric patients to mobilize safely. Movements such as rolling in bed, sitting up, and standing are vital elements used to successfully carry out a

mobilization technique. Through evidence-based research, it has been found that with training in kinaesthetic techniques, a nurse is able to get patients mobilized quicker than without training, by using basic movements for each mobilization (Jensen et al., 2019, p. 2). Nurses are able to guide patients to initiate the desired movement on their own, while actively controlling it, which aids the patient's musculoskeletal system to adapt to these movements. It allows a patient to mobilize and control their own body with confidence, fostering motivation in wanting to mobilize, leading to an improvement in the patient's mobility, and dependence on a nurse for assistance (Jensen et al., 2019, p. 1; Hantikainen et al., 2010, p. 4).

Research explains that the use of basic movement patterns reduces fall risk in care settings. This is highly important in care settings due to the high incidence of falls among patients, with research indicating that people's strength and agility decline between 30% and 40% by the age of 80 (İnal & Subaşı, 2014, p. 15). With reduced strength and agility, it increases the risk of falls and fractures. The techniques used in kinaesthetic mobilization reduce fall risk, as low-energy movement patterns such as transfers, controlled turns, and weight shifting allow a patient to utilize residual strength to actively participate in mobilization, preventing the patient's body from adapting to passive movements from the nurse. This allows the patient to initiate the movement themselves. As a result of not relying on the nurse for the mobilization, the patient is less likely to fall due to feelings of learned helplessness. A benefit of using basic movement patterns in kinaesthetic mobilization is that it stimulates proprioceptive nerves in the body, which causes stimulation feedback to the patient's sense of balance, allowing patients to relearn their balance patterns by being actively mobilized (Hantikainen et al., 2010, p. 4). This will only be beneficial if these techniques are performed frequently and with proper form by the nursing staff.

These movements address muscle wasting and sarcopenia, which have been found to have a great influence on falls and hip fractures in the elderly (Falaschi & Marsh, 2021, p. 31). With nearly 95% of hip fractures in geriatric patients due to a fall, kinaesthetic mobilization aims to reduce the effects that sarcopenia and frailty can have on an elderly patient. When using basic movement patterns, patients are still carrying out purposeful activities, such as moving, which is vital to their musculoskeletal system and also for the stimulation of proprioceptors in the body, helping with balance and muscle endurance. If patients participate in regular physical movement, this encourages more involvement in rehabilitation programs (Jensen et al., 2019, p. 6). As patients become more involved and move more often, it improves their confidence, psychological well-being, and allows them to partake in more complex mobilization activities.

SOPMAS© (Standardized Observational Posture and Movement Assessment System) is an instrument created to evaluate nursing practices when implementing kinaesthetic mobilization. By using this assessment in care settings, this instrument can help to make sure a patient's mobilization experiences have benefits such as patient interaction, patient comfort, and to optimize nurse posture (Hantikainen et al., 2010, p. 4). Each patient has their own needs and this instrument helps nurses deliver individualized care by providing nurses with specific data for each patient. The benefits of SOPMAS© are evident, as through research it has been discovered that nurses' scores in the instrument post training significantly improved due to the increased knowledge from the training, providing better and more appropriate care to patients (Hantikainen et al., 2010, p. 4). The SOPMAS© instrument has been known to focus on more aspects than just a nurse and patient in an interaction; it can be implemented in care settings between multidisciplinary teams to ensure consistent implementation of kinaesthetic techniques. It also ensures that patients are being moved in a more gentle way to improve their comfort, ultimately promoting the continuous improvement of quality mobilization care for geriatric patients. However, for the effective implementation of SOPMAS©, a care setting must support its nursing staff to maintain continuity.

The use of basic movement patterns addresses patient fears in rehabilitation programs. One of the main reasons that older adults resist or choose not to mobilize is the fear of falls and injuries. Studies in orthogeriatrics have found that early mobilization helps to stop the progression of inactivity, which is common in long-term care patients, and encourages a continuous cycle of activity throughout their care, improving their ability to mobilize at a high level (Falaschi & Marsh, 2021, p. 31). The simple act of having an older adult use a basic movement pattern in mobilization exercises improves their psychological well-being, in that it reduces fears associated with mobilizing (Hantikainen et al., 2010, p. 4). This is achieved through repeating simple and functional movements, giving patients the freedom to control their bodies and increase their confidence in mobilizing independently.

Through incorporating basic movement patterns, kinaesthetic mobilization techniques are adaptable, helping improve balance and functional outcomes. It has been shown through research in a study of patients experiencing chronic non-specific low back pain that, through mobilization to correct abnormal posture, functional outcomes greatly improve in these patients. Correcting posture deficits is important as it can cause secondary diagnoses such as pain, falls, and abnormal balance. Techniques like mobilization with movement, muscle energy techniques, and trunk stabilization can correct abnormal posture through a multitude of low-resistance exercises and activities (Kaliyaperumal et al., 2023, p. 10). These postural

interventions can be adjusted and applied to geriatric patients, assisting the improvement in their ability to control balance and coordination while walking. The ability for elderly individuals to be more confident with their gait aids them in preventing falls due to dizziness and uncoordinated movements.

Due to the repetition and complexity of kinaesthetic mobilizations, staff and caregivers can learn from one another through continuous feedback and support. Studies show that 88% of nurses with experience with kinesthetic mobilization consider colleagues knowledgeable with kinesthetic methods to be extremely important during mobilization of elderly patients (Jensen et al., 2019, p. 6). Having knowledgeable coworkers aids in on-the-job education and helps with challenging patient mobilization situations. These benefits of being surrounded by co-workers educated in kinesthic mobilization techniques can alleviate stress for coworkers, improve adherence rates of nursing staff with kinesthic mobilization, and allow nursing staff to communicate with each other on kinesthic tips and tricks. This collaborative aspect increases the ease of use of kinesthic mobilization throughout a care setting (Jensen et al., 2019, p. 6).

4.2.2 Transfer Techniques

Transfer techniques are also very important while performing the kinaesthetic mobilization technique to elderly patients to encourage patient involvement, security, and efficiency. According to a recent research conducted by nurses and researchers, nurse competency in kinaesthetic techniques to promote safe and effective patient transfers led to enhanced quality of care. For example, in a four-day kinaesthetic nursing course for ICU nurses (n=41), 88% of participants stated that colleagues with knowledge of kinaesthetic mobilization in transfers resulted in improved safety in transfers for both patients and colleagues (Jensen et al., 2019, p. 1). This indicates that enhancing nursing staff's competency is imperative to ensure patient safety during mobilization activities with kinaesthetic techniques. However, there is a disparity in kinaesthetic mobilization transfer methods in terms of the availability of specialized and trained healthcare providers. Not all hospitals possess trained staff to perform kinaesthetic techniques; therefore, the elderly patients who require this mobilization activity may not benefit.

The difference between active and passive mobilization is key to the success of kinaesthetic mobilization transfer techniques. This technique emphasizes the importance of active patient

participation, which results in a faster healing process for the patient because they are participating in mobilization. Unlike passive mobilization transfers where patients are completely dependent on someone to move them, kinaesthetic mobilization encourages patients to move, which in turn promotes neural activity (Jensen et al., 2019, p. 1). This improves patient independence as their mobility is now restored. However, with active mobilization, there is a tendency that this can be strenuous and takes a lot of the nurses' time to allow patients to be as independent as possible while mobilizing. Institutional support is critical in these cases to reduce the burden on healthcare staff due to this process.

Another influencing factor for patient safety in kinaesthetic transfer mobilization techniques is peer support. As stated previously, a collaborative approach is essential for this technique. Nurses are more likely to ensure patient safety and more effective transfers when using kinaesthetic mobilization techniques when supported by colleagues. A recent study showed that in the post-course survey, all staff emphasized that they benefited from peers and the collaborative approach and that the patient transfers are improved because of such partnership (Jensen et al., 2019, p. 6). It is critical that team members can support and encourage each other in the workplace to ensure that the correct mobilization protocols are performed, resulting in enhanced patient outcomes. It has also been found that there is a wide disparity in staff perceptions towards kinaesthetic mobilization transfer techniques. The trained staff were more receptive to the technique, while the untrained staff (69%) reported positive perceptions compared to the 88% of the trained staff who agreed that the kinaesthetic concept can improve mobilization techniques for patients (Jensen et al., 2019, p. 6). The variation in perceptions and lack of understanding amongst untrained staff is likely influenced by limited knowledge; hence, ongoing education and integration of all staff are extremely important to ensure that patient safety remains paramount.

Nursing staff competency and patient outcomes during mobilization transfers show a positive correlation because the improved and trained performance of nursing staff in kinaesthetic transfer mobilization techniques can enhance transfer skills and prevent risks of strain and occupational injuries. It is also essential that nurses are highly skilled in transfers because transfers are considered as an extremely strenuous activity to perform. There is strong evidence that supports cost-effectiveness when implementing educational programs to improve staff skills and prevent occupational injuries that may occur. These programs are cost-effective because the overall long-term costs and injuries can reduce due to the quality of service, and hence healthcare provider safety (Jensen et al., 2019, pp. 1, 6). However, as the studies demonstrated, after the educational course, healthcare providers tend to lose the skills they gained after 2-5 years, hence ongoing professional training and development is

essential to maintain appropriate and competent levels of skill in this practice.

Furthermore, assessment tools such as SOPMAS© are important to consider in the evaluation of kinaesthetic transfer techniques. The tool addresses many elements, for example, nursing posture, patient movement, patient interaction, and utilization of assistive devices (Hantikainen et al., 2010, p. 4). Also, for each component of the SOPMAS© tool, there are different levels that are characterized by specific and measurable descriptions with clear scores for each category to evaluate and monitor the care delivered. The purpose of this assessment tool is to measure performance to ensure consistent and adequate application of the kinaesthetic mobilization transfer techniques. This clinical observation tool offers an evaluation of the care provided and offers feedback, allowing nursing staff to modify their mobilization transfer skills in real-time to promote effective techniques and enhanced patient outcomes. The utilization of SOPMAS© also allows for accountability of nurses in the care they deliver. However, SOPMAS© focuses solely on clinical performance without considering patient perception. Therefore, this suggests that institutions need to have policies and procedures that promote consistency, which in return, encourages adherence.

The patient contribution score demonstrated that kinaesthetic mobilization transfer techniques can increase patient participation in the movement procedure to promote independence and autonomy. The SOPMAS© tools allow for an increased opportunity to measure levels of participation during the transfer, which further supports the notion of independence (Hantikainen et al., 2010, p. 4). Patient autonomy is paramount during mobilization activity, which can be easily assessed using SOPMAS©. If patients are independently actively contributing, they will have high scores, which provides nurses with clear insight regarding the progress of the patient's rehabilitation. Therefore, the evaluation of patient participation scores would be significantly affected and be low in instances where patients display pain and reduced independent contribution. Patients who have high participation may indicate increased trust and confidence in moving.

Physical strain for both staff and patients is greatly reduced with kinaesthetic mobilization transfer techniques. The results of physical strain ratings on the Borg CR10 scale indicate a statistically significant decrease between pre- and post-interventions, while scores on the Borg CR10 scale showed reduced physical strain after completion of the course for ICU staff who were trained in the transfer mobilization activities. Also, scores on safety ratings indicated significant increases for both patients and nursing staff (Hantikainen et al., 2010, p. 4). In short, kinaesthetic mobilization transfer techniques, compared to standard transfers,

can greatly reduce the physical strain associated with the transfer on the part of the patient and the health care provider, and increase their safety ratings.

Patient safety in transfer mobilization techniques in elderly patients can reduce if they are able to perceive that they are not only receiving patient-centered care but that the transfer is safe and comfortable. This leads to less resistance during transfers. Patients need to feel secure while being transferred as their lack of confidence can lead to an accident and subsequent discomfort (Hantikainen et al., 2010, p. 4). Also, if the patients are relaxed, safe, and comfortable with their transfers, they are less likely to be irritated and resist during transfers, resulting in further safety. A great way to accomplish safety, relaxation, and comfort during transfers is through patient feedback. The assessment tool allows patients to rate their safety, comfort, and relaxation throughout the transfer to ensure maximum comfort, efficiency, and patient-centered care. However, patients who lack cognitive abilities due to conditions such as dementia will not benefit in providing effective feedback.

When the elderly patients' participation progresses throughout transfers, the confidence and independence increase. This can lead to a reduced need for additional rehabilitative physiotherapy sessions because the patient will regain independence through transfers. It is also beneficial to encourage transfers within the daily activities, as this can reduce and/or eliminate the need for frequent rehabilitative sessions (Hantikainen et al., 2010, p. 4). However, because the progressive advancement of independence varies between patients, there is a need to constantly re-evaluate the patient's progression in transfer training, especially with the use of kinaesthetic transfer mobilization techniques.

Kinaesthetic transfer techniques include a wide perspective of geriatric nursing, focusing on health-related quality of life, quality of life, and care quality, while emphasizing the care receiver's perception of such quality during interactions with the care provider (Hantikainen et al., 2010, p. 4). As previously mentioned, it is important to use this kind of intervention because it focuses on a very broad range of parameters regarding an individual's wellness.

The consequences of immobility in geriatric patients who require mobilization for certain illnesses can result in many health alterations such as a significant increased risk of pneumonia, deep vein thrombosis, and decreased bowel and bladder function. Patients often have longer hospital stays as a result (Crawford & Harris, 2016, p. 5). Therefore, it is crucial that all patients are mobilized shortly after admission to promote rehabilitation and to minimize and/or eliminate the associated complications. The application of kinaesthetic techniques allows patients of all shapes and sizes to participate in the mobilization, transfer,

and other movement practices (Crawford & Harris, 2016, p. 4). However, to ensure kinaesthetic mobilization and transfer techniques are utilized, policies must be made, and there must be availability of a kinaesthetic team to aid hospital workers and all healthcare providers.

Early transfer practice is important to provide for all patients because it is essential to the mobilization interventions. The first few days of hospitalization in any care unit may mean increased immobility or periods of complete bed rest for patients. The complications associated with reduced patient activity levels can lead to significant changes in physiology. Therefore, the ability to be up and moving, even short periods of time on any day, is ideal (Crawford & Harris, 2016, p. 3). Even when appropriate, caution must be taken when getting patients up and out of bed and moving them because risks and injuries, if not managed, can increase. As cited in the case studies, kinaesthetic transfer techniques can be utilized effectively, but the application of these must follow careful guidelines so as to have a patient get out of bed and return to bed safely, as they may have underlying health-related issues that make getting up from the bed problematic.

Kinaesthetic transfer techniques can assist and contribute towards patients with impaired mobility due to neurological or muscular conditions, or in patients post-stroke. Many patients are unable to move and use parts of their bodies adequately due to diseases or disorders that impede mobility; however, with the implementation of kinaesthetic mobilization and transfer techniques, nurses will not have to force an impaired extremity into any type of action and simply offer movement and motion that the patient is comfortable with (Crawford & Harris, 2016, p. 4). In order to have good mobilization outcomes, it is necessary for the elderly patients to feel at ease and motivated during the intervention. The ability to use kinaesthetic mobilization and transfer techniques properly will depend entirely on nurses who are well-trained in the intervention techniques and are willing to apply them on an ongoing basis. If the nurses working with such patients are unable to do this, then there is a large burden on the healthcare system in which patients need additional treatment.

Additionally, according to the authors, a great influence on the sustainability of transfer techniques is the staff's motivation. The support and acknowledgement that colleagues give each other at the workplace greatly determines this (Stenman et al., 2020, p. 4). While there are many techniques used to transfer elderly patients, it does contribute to increased job demands. To decrease burnout within nursing staff, healthcare administrators must ensure that there is ongoing support at each level. The staff often feel that the workplace is fairer and more supportive if there is an excellent culture and atmosphere throughout the

workplace. This ultimately has been proven to reduce burnout and improve their well-being within the team. Furthermore, studies suggest that workplace culture and leadership are an extremely important factor in the sustainability of the transfer techniques, and in any work field.

This notion emphasizes that relational justice is essential for the sustainability of the implementation of kinaesthetic mobilization transfer techniques. Relational justice is defined as the fairness and respect that one experiences in relationships with their peers and healthcare providers (Stenman et al., 2020, p. 8). It is proven to be linked to overall wellbeing at the workplace, and it has to do with respect, fairness, and honesty. This is extremely important as the nurses have to work closely with the patients. There are instances when there may not be available assistive devices, and in these cases, staff must be able to mobilize patients properly and in a timely manner. As mentioned earlier, staff must understand the patient's condition and needs. Nursing staff must ensure they are utilizing proper transfer skills, which in turn will improve the patient's overall condition, as the nurse and patient can be more comfortable.

This has much greater meaning and value when patients are transferring and mobilizing within the clinical setting or even when completing daily living activities. Patients who do not have adequate transfers often experience greater pain and overall frustration (Karina, 2015, p. 7). While there are obvious physical benefits to this transfer technique, there is much more associated psychologically for the patient. Through active engagement, a patient feels valued as they are able to participate throughout the activity. In most cases, there has also been evidence demonstrating that the patient felt calmer and were more eager for engagement compared to other transfers because this method often decreased feelings of anxiety. In fact, patients were often eager to participate due to decreased anxiety and pain, which promoted the use of additional therapies and the rehabilitation progress (Karina, 2015, p. 7). When elderly patients are actively participating and engaged, it increases empathy among health professionals, promoting patient dignity. Therefore, it has been proven through research that effective, independent, and safe transfers can contribute towards a continuous positive impact that enhances not only the patient's mobility, but also physical, social, psychological, and emotional well-being for patients who require rehabilitation, care, and safety to reestablish their function.

4.2.3 Positioning Methods

Kinaesthetic positioning methods use patient-led techniques for comfort and safety. These methods are backed by research studies, which have demonstrated higher ergonomic scores amongst nurses (Hantikainen et al., 2010, p. 4). Patient-led care enhances the autonomy of geriatric patients, while simultaneously increasing comfort. Encouraging active engagement of patients while positioning can slow down the progression of musculoskeletal deterioration. Furthermore, it assists in keeping existing abilities intact (İnal & Subaşı, 2014, p. 15).

When kinaesthetics training is integrated into practice, 88% of nurses stated it was helpful to have team support to deliver the methods effectively and feel competent. This emphasizes the value of learning with and alongside peers and of sharing skills within a team to maintain competence when practicing in real situations. However, the success of these methods depends on understanding the patient's limitations and musculoskeletal abilities. Conditions like sarcopenia and reduced proprioception increase risks and the likelihood of adverse events, for example, the development of pressure ulcers and risk of falls. Careful planning, accounting for individual limitations, assists in providing safe care (İnal & Subaşı, 2014, p. 14).

Kinaesthetic methods address the dynamic risks of chronic pain, decreased flexibility, and sensory impairments that need to be considered. By applying a kinaesthetic method to provide positioning, nurses can individually assess patients and create a plan for care. By implementing a tool such as SOPMAS©, nurses can regularly evaluate and assess the participation level of the patient (Hantikainen et al., 2010, p. 4). This method allows nurses to assess each patient's response and appropriately respond to the patient's individual needs over time, by minimizing the risk of negative patient outcomes, for example, loss of skin integrity or contractures. This evidence opposes the more common practice of staff-led positioning maneuvers and challenges a standardized way of providing care.

The presence of at least one team member with knowledge and training in kinaesthetics is essential to increasing the safety and comfort of the patient during positional changes (Jensen et al., 2019, p. 6). The support and collaboration of others who are trained and skilled will aid the success of procedures in positioning and in ongoing education by way of role modeling and peer-to-peer education. With proper training, staff are equipped to handle more complicated cases involving patients with cognitive disorders or severe frailty by addressing individual limitations with customized and purposeful instructions, movements,

and tools to increase efficiency (Hantikainen et al., 2010, p. 4).

The implementation of kinaesthetic methods also demonstrates positive changes to subjective ratings of the staff's physical strain during and after positioning tasks. With training in kinaesthetics, the scores from the Borg CR10 increased from a mean of 3.49 to a mean of 4.88 (Hantikainen et al., 2010, p. 4). Likewise, following training, comfort levels amongst patients also improved from a score of 46.42 to 77.13 (Hantikainen et al., 2010, p. 4). Lower rates of subjective physical strain may contribute to workforce sustainability as a response to a physically strenuous job and can encourage participation amongst patients being positioned.

In other healthcare settings, tactile-kinesthetic techniques used in the neonatal intensive care unit effectively contributed to higher competence amongst nurses and their ability to use tactile and kinesthetic information within their professional practice (Fathi et al., 2022, p. 5). This result suggests a broad application of this training in adult and geriatric care for patients at risk of sensory impairments. By utilizing this information in various sectors of healthcare, protocol designs can become more streamlined and more adaptable to different patient populations and conditions.

It is essential to implement specific methods for frequent positioning as this mitigates the psychological impacts on geriatric patients, like anxiety, depression, and helplessness (Brown-O'Hara, 2014, p. 1). When patient engagement, positive sensory experiences, and purposeful activities are implemented with proper positioning practices, there will be lower rates of these harmful conditions. This positive outlook promotes the importance of considering the patient's physical and psychological well-being, which further substantiates the use of kinaesthetic techniques when delivering nursing care.

In more recent research, using kinaesthetic feedback and motor training in a virtual environment demonstrated significant improvements in both quality-of-life scores and motor function of older adults living with Parkinson's (Barbosa et al., 2023, pp. 8-9). Implementing kinaesthetic and tactile cues in other practices has proved to be successful, such as virtual reality, as it focuses on feedback of touch and feel and the overall process of human movement.

As described throughout this review, kinaesthetic positioning methods offer a multifaceted approach that addresses physiological, psychological, and social concerns, and the effectiveness of these methods lies in patient participation, interprofessional teamwork, and

skill competence amongst nursing staff.

4.3 Monitoring and Progress Evaluation

Continuous monitoring serves the dual purpose of evaluating patient progress and staff performance in the implementation of kinaesthetic mobilization techniques. Post-intervention surveys and observational tools can provide important insights for monitoring patient and staff progress in the delivery of kinaesthetic mobilization. In one study, Jensen et al. (2019, p. 6) indicated that 88% of the trained nurses agreed that they noticed improved patient outcomes post-training and that colleagues also agreed. Surveys should be carefully reviewed to capture both quantitative data, for example, mobility or functionality changes, and qualitative data, for example, patient satisfaction or nurse satisfaction, to determine the effectiveness of the post-intervention surveys for long-term intervention strategies.

Post-intervention surveys can be effective for directly monitoring and comparing mobility-related outcomes of the patients before and after implementing kinaesthetic mobilization strategies. This method can also provide insights regarding procedural efficacy and/or experiences from a nursing perspective to measure overall success (Jensen et al., 2019, p. 6). A critical examination of such post-intervention surveys is highly warranted to assess whether the data captured through these post-intervention surveys truly measure the efficacy of the intervention based on safety measures, comfort levels, patient engagement, and additional aspects.

An observation of patient mobility is one of the objective approaches (Hantikainen et al., 2010, p. 4), with clear-cut criteria. These criteria should be designed to measure and document items such as nurse posture, patient participation, and utilization of assistive devices. A reliable observational tool is necessary to accurately measure and record parameters relevant to kinaesthetic mobilization in the intervention protocol, allowing for monitoring and/or evaluating skill implementation and determining skill competency among the nurses. It may not always be possible for all care settings to implement observational tools, or they may have limitations that impact data collection and interpretation due to the lack of training of personnel for such specialized interventions and assessments, the amount of time available, and/or other factors related to organizational resources. Real-time feedback during the implementation of such observational tools is another strategy to support the ongoing development and implementation of skills that are not properly and

correctly used.

Peer observation and feedback can be a beneficial way of monitoring kinaesthetic mobilization delivery and supporting further learning (Jensen et al., 2019, p. 6) in the geriatric setting. This may be done on a consistent basis to increase confidence among nursing staff and to evaluate ongoing progress. This method assists with bridging the gap between learning and practical application of kinaesthetic mobilization interventions as well as addresses contextual challenges in care homes. To ensure the intervention of kinaesthetic mobilization is effective, peer assessment should be incorporated as part of the care provided during the work shift on a daily basis to ensure consistency in care delivery (Jensen et al., 2019, p. 6).

Patient and staff assessments enable a more comprehensive representation of outcomes of kinaesthetic mobilization strategies in the elderly (Hantikainen et al., 2010, p. 4). In this study, for example, it was found that patient feedback resulted in increased engagement and adherence (Hantikainen et al., 2010, p. 4). It may be beneficial to incorporate patient interviews during the implementation of the intervention strategy to monitor and assess perceived or actual differences in safety and comfort levels during and post-implementation. However, patients suffering from dementia or other disorders may be less reliable as their memories may not reflect a consistent evaluation of the care strategy delivered (Hantikainen et al., 2010, p. 4).

An objective measurement of the efficacy of a mobilization strategy requires the application of an assessment instrument of patient mobility outcomes. Examples of a tool that can be used for this purpose would include the Modified Elderly Mobility Scale (MEMS) and the Timed Up and Go (TUG) test. It has been determined that kinaesthetic interventions in the elderly can significantly improve gait, balance, and functional mobility compared to standard treatment alone (Crawford & Harris, 2016, p. 4; Harrison et al., 2024, p. 1). The MEMS offers many aspects of mobility and differentiates between functional and non-functional balance, therefore, aiding the nurse in evaluating the progression toward independence during functional mobility. Periodic testing during the duration of the intervention strategy enables monitoring of improvement or deterioration during treatment. In the application of these instruments, it is essential to be properly trained in these mobility instruments and maintain proper usage to ensure they are able to adequately evaluate the response of the patient over a period of time.

Timed performance testing, such as the TUG test, or the two-minute walk test, can provide

evidence-based criteria to monitor and address improvements in balance in older adults. Harrison et al. (2024, p. 1) have shown that small gains may represent clinically meaningful change that impacts rehabilitation. Further objective assessment may be required, as the quality of walking, stepping, and turning may not be completely captured in the TUG or two-minute walk test (Harrison et al., 2024, p. 1).

Ongoing assessment assists in modifying interventions as needed to increase intervention difficulty as progress is made to prevent plateau effects. It is beneficial to repeatedly perform evaluations regularly to determine when and how the interventions need to be modified (Crawford & Harris, 2016, p. 4). With this kind of ongoing data, care delivery can be modified to address patient challenges, for example, a decline in range of motion, gait velocity, or balance, by modifying interventions to incorporate functional weight-bearing activities and/or balance activities. In addition to care-plan modifications, ongoing progress assessments are also critical for providing measurable feedback to a multidisciplinary team, to effectively communicate progress, and to promote coordinated decision-making.

The effect of kinaesthetic mobilization can be quantitatively expressed through the objective parameters of fall rates or the overall quality of mobility of the patient. Harrison et al. (2024, p. 5) demonstrate that falls can be eliminated within study parameters of a 14-day intervention (Harrison et al., 2024, p. 5). By carefully monitoring and measuring these overall outcomes of fall rates, falls risk, and balance/mobility in the elderly population, in connection to particular techniques that reduce fall rates, healthcare providers can adapt their practice to improve quality.

This measurement of quality could encompass multiple, nuanced variables to determine the comprehensive influence of kinaesthetic interventions. Measuring variables such as stride consistency may be crucial in determining the degree to which the central nervous system has been able to make alterations to compensate for lost proprioception and/or function (Harrison et al., 2024, p. 4). This measure of stride consistency may reveal alterations to the nervous system that lead to the benefits observed and evaluated through standard assessment methods.

In addition to these quality parameters, utilizing self-reported quality of life and balance confidence tools provides another area of assessment for patients and caregivers (Harrison et al., 2024, p. 1). Harrison et al. (2024, p. 1) show that an increase in balance confidence correlates with improvements in measured and perceived walking stability (Harrison et al., 2024, p. 1).

These additional biochemical parameters, such as liver enzymes, can also be measured at regular intervals to track their progression or improvement. By measuring these elements in conjunction with patient outcomes, the impact of kinaesthetic interventions on physiological parameters can be evaluated. An example of this could be seen in Kothiyal and Chatterjee (2024, p. 3), where serum bilirubin levels decreased significantly over a period of 7 to 10 days in infants receiving tactile/kinaesthetic interventions (Kothiyal & Chatterjee, 2024, p. 3). Physiological parameters such as vital signs may be beneficial in assessing the progress of interventions in geriatric populations.

Monitoring physiological parameters over a period of time could allow for the recognition of deterioration that might require intervention at an earlier stage. Tracking and monitoring multiple physiological variables during treatment could be a significant method in geriatric interventions as it allows the healthcare team to take preventative and precautionary approaches as needed.

Patient self-report and staff satisfaction are other parameters for capturing outcomes of kinaesthetic mobilization programs (Jensen et al., 2019, p. 6). Post-intervention interviews enable the collection of patient feedback to allow the intervention team to determine the emotional and motivational impact of the program (Hantikainen et al., 2010, p. 4; Jensen et al., 2019, p. 6). Patients and nurses should be asked, through qualitative interviews, to express feelings, opinions, and suggestions. The vast majority of staff considered the kinaesthetic method of moving patients to be easier and less tiring, as well as leading to less back pain for both patient and nurse (Jensen et al., 2019, p. 6).

The use of this information-gathering process could reveal further areas for improvement in the provision of care regarding intervention implementation and the use of equipment, as well as revealing improvements to workflow management or training processes to be implemented with nursing staff. Additionally, it can influence staff morale regarding the implementation of kinaesthetic mobilization practices on a daily basis.

5. Effectiveness Analysis

This section examines the concrete results of kinaesthetic mobilization techniques. Evaluating clinical outcomes and patient experiences will highlight improvements in physical

functions and psychological well-being. In this way, the analysis of the benefits of these techniques in mobility, autonomy, and quality of life, will emphasize their value for patient-centered geriatric care and thus enhance the goal of nursing that encourages active engagement and long-term health.

5.1 Physical Benefits

Physical function is improved when promoting mobility and independence through kinaesthetic mobilization. In the following text, I will analyze how to improve physical function for improving balance, decreasing pain, and improving long-term rehabilitation.

5.1.1 Mobility Improvements

Kinaesthetic mobilization has shown efficacy in promoting both static and dynamic balance among individuals with mobility impairments. Research demonstrates significantly improved balance scores over a four-week intervention with the KAT 2000 (Kerim et al., 2019, p. 5). This improvement is especially important for the geriatric patient as they may be predisposed to falls and loss of function due to declines in muscle strength, proprioceptive sensitivity, and balance control with age (Min, 2023, p. 1). Improving both static and dynamic balance is imperative as the two components work hand in hand during mobility. This result alone proves the importance of kinaesthetic mobilization as the intervention leads to enhancement of mobility instead of simply maintaining existing physical abilities.

Pain reduction, another significant consequence of kinaesthetic mobilization, is crucial to enhance mobility among elderly patients. Studies document that participants show significant reductions in pain during movement, at rest, and at night based on self-reporting measured through VAS pain scores (Kerim et al., 2019, p. 5). This intervention creates a positive cycle, resulting in decreased pain during movement and increasing an elderly individual's desire to complete such activities.

When it comes to kinaesthetic mobilization in the field of nursing, it has been linked to early mobilization. Jensen et al. (2019) explains that in nurses trained in kinaesthetic mobilization, the process of early mobilization has been enhanced, which provides the elderly patient with benefits regarding their rehabilitation. According to the study, nurses utilizing kinaesthetic

principles are capable of performing interventions effectively to promote rehabilitation and to encourage patient autonomy and engagement. Ultimately, kinaesthetic mobilization training equips nurses to assist geriatric patients to recover their physical ability at a more advanced rate by utilizing patient-led and patient-centered rehabilitation protocols.

Kinaesthetic mobility techniques in physiotherapy and nursing care intervention can have major benefits on patients in complex cases. A study regarding kinaesthetic mobilization in Parkinson's disease patients evaluated outcomes through the Unified Parkinson's Disease Rating Scale part III (UPDRS III) and the Balance Evaluation Systems Test (BESTest), both subjective forms. All of the participants improved based on these objective measurements at discharge. According to Barbosa et al. (2023, pp. 8-9), participants followed up at 3 and 6 months maintained functional mobility at the improved baseline. This research showcases how the transfer of function through kinaesthetic mobilization is upheld throughout the follow-up periods and demonstrates the importance of kinaesthetic mobility techniques to improve the patient's physical function for everyday activity.

Strength-based and functional mobility are crucial elements of geriatric physiotherapy. Kinaesthetic mobilization can utilize these components of care to promote improvements of muscle mass, muscle flexibility, and ROM. According to Min (2023, p. 1), strengthening, balance training, and functional exercise are major focuses of a geriatric physiotherapy program to maintain or improve mobility. Literature supports the benefits of resistance exercise, stretching, and proprioception for reducing fall risks, improving functional mobility, and facilitating independent living among older adults. Physical activity programs utilizing these aspects can improve fitness factors critical to balance and functional mobility. Strength-based mobility strategies in conjunction with kinaesthetic mobilization can lead to significant improvements in functional ability of the geriatric patient.

Evidence suggests that kinaesthetic mobilization improves both qualitative and quantitative aspects of mobility. This sets kinaesthetic mobility apart from more conventional physiotherapy programs based on pure muscle training, as the inclusion of the sensory/perceptive component in kinesethetic mobilization provides enhanced quality of motion. According to Kerim et al. (2019, p. 5), there are statistically significant gains in static and dynamic balance, movement speed, and improvement in upper and lower limb coordination following kinaesthetic mobilization techniques. Based on functional outcome scores obtained from the UPDRS-III and BESTest in the study performed by Barbosa et al. (2023, p. 8), patients in complex medical cases, such as Parkinson's disease, exhibit gains in qualitative components of mobility, such as coordination. Overall, kinaesthetic mobilization

appears to provide better benefits regarding both the qualitative and quantitative components of mobility by incorporating functional, sensory, and cognitive interventions into the treatment paradigm.

In conclusion, the above evidence-based outcomes of incorporating kinaesthetic mobilization techniques as a mobility intervention demonstrate positive impacts with improvements in several crucial components that comprise physical functioning. By utilizing techniques for static and dynamic balance, decreasing pain during activity, providing improvements in time to mobilization and in qualitative versus quantitative mobility outcomes, kinaesthetic mobilization exhibits the ability to improve the overall physical functioning abilities of the geriatric population and should be utilized to promote and preserve mobility among elderly adults.

5.1.2 Functional Independence

Kinaesthetic mobilization techniques within geriatric care help improve and promote functional independence by addressing key physical components of independence such as muscle strength, flexibility and range of motion. Therefore, this allows elderly people to stand, walk, and transfer without or with minimal assistance of others. Also, resistance and functional training are both integrated within kinaesthetic mobilization, improving independence and minimizing dependence on care services for the aging population. The prevention of functional decline and the promotion of independence via kinaesthetic mobilization provide significant support for aging people being active (Min, 2023, p. 1).

Strengthening within kinaesthetic mobilization techniques not only addresses strength in the large muscle groups, but also supports improved fine motor abilities, which are both essential skills to effectively engage in daily activities. For example, getting dressed and moving from sitting to standing are both movements that require well-coordinated gross and fine motor movements. Strengthening within kinaesthetic mobilization techniques promotes an ability to move safely and efficiently in order to reduce the risk of care dependency and the potential for independent living.

Increased muscle strength and balance through kinaesthetic mobilization often reduce the fear of falls, resulting in the ability for elderly people to perform more functional activities, such as walking and climbing stairs. This expanded functional reach will help prevent the

limitations caused by decreased mobility. As mobility improves, the risk of negative psychological outcomes such as increased loneliness is reduced due to the ability to participate in social and functional activities.

Autonomy allows elders to maintain their strength in order to avoid further joint contractures, and in addition, will reduce the risk of falls. Reduced risk of falls would, in turn, decrease the frequency and extent of healthcare services for treatment. As a result, the burden on the health and social care sectors is reduced, indicating the importance of kinesthatic mobilization to promote independence in the aging population.

Various mobilizing strategies, such as the MOVE protocol, have been proven to improve functional independence, with increasing frequency of independent mobilization. For example, this protocol aimed to increase the number of independent out-of-bed mobilizations by all patients in the acute setting to 5 times daily. It was demonstrated in studies that those undergoing this protocol were able to be discharged from the hospital significantly faster due to their improved physical and functional well-being (Beam et al., 2022, p. 1).

Prolonged bed rest negatively impacts functional abilities in the hospital setting, potentially hindering progress towards independence. The MOVE protocol significantly increased the number of individuals able to mobilize without support, allowing faster rehabilitation and discharge from the hospital. It also has significantly reduced the total length of hospital stay, indicating an overall improvement of physical health.

By applying structured techniques in mobilization, we are standardizing how we support our patients with care. Consequently, nurses who are implementing this are likely to encourage independence and reduce dependence of patients. Moreover, with standardization in how we mobilize and assist our patients, this prevents inconsistency in what and how we are teaching them. As such, the emphasis should be on how we can encourage greater levels of physical activity within the care provided that is tailored to the specific patients' needs to optimize potential independence.

Moreover, advanced bed movement systems, such as MiS and MiS Activ, provide safer, more effective positioning and transferring assistance with minimal intervention from staff. The incorporation of these technological advancements to facilitate care improves functional independence as patients can transfer into a chair and are able to perform repositioning movements with limited assistance. As well, with MiS Activ providing automated off-loading and pressure relief on patients, skin integrity is sustained. Without any signs of skin integrity

breakdown and/or the presence of pressure ulcers, patients can continue their functional rehabilitation without having to interrupt the process (Timmons & Bertram, 2008, p. 3). Also, it provides the patients with comfort, which may affect a patient's motivation to mobilize, as well as their ability to engage in other therapeutic activities.

This independent capacity for movements to perform essential movements allows a person to participate in life and remain active within and outside of the care environment. Therefore, the goal is to promote a functional reach via autonomous moving skills, providing older adults with the ability to safely and functionally perform activities in their day to day living.

Kinaesthetic strategies often draw comparisons to training techniques for activities that require psychomotor skill development, for example, seamanship training. These types of training techniques are designed to cultivate self-movement capabilities, coordination, and adaptability for safe and effective performance of specific psychomotor tasks, which are qualities that are often addressed during rehabilitation in the aged. The development of self-movement abilities encourages critical thinking and fosters the learning of effective methods of moving to optimize a person's mobility (Dhankher, 2023, p. 9).

Therefore, nurses incorporating kinaesthetic training programs for care assistants can provide a more conducive atmosphere that allows patients to gain independence in bed and improve their mobility in terms of transfers. Nursing staff that are educated in kinesthatic skill development create care environments that promote participation.

Moreover, if we begin to see and think about functional independence and mobilize for our patients from their own perspective, we are able to effectively assess and mobilize them to support that independence, ultimately changing the culture of how patients are managed.

5.2 Psychological Impact

The emotional and psychological wellbeing of older adults influences the outcome of kinaesthetic mobilization and ultimately their overall recovery. Thus, it is important to consider how active movement strategies contribute to self-efficacy and independence in older adults.

5.2.1 Well-being and Self-efficacy

Kinaesthetic mobilization techniques have been proven to have a positive effect on the well-being and self-efficacy of older adults, because they can become independent again in the rehabilitation and everyday tasks. Nurses who had done the kinaesthetic training notice a behavioral change in the patient in terms of participation during mobilization. They feel more motivated and also do not lose confidence in themselves and their bodies during the recovery process (Jensen et al., 2019, p. 1).

Through the application of kinaesthetic methods, older people become active participants and no longer passive objects. This fact has a major impact on their autonomy, and they can influence their movements themselves. Their helplessness becomes insignificant (Jensen et al., 2019, p. 1).

The restoration of movement control allows patients to become stronger in the psychological sector. They can face aging challenges more effectively. This complies with the principle of autonomy and patient-centered care and promotes the independence from the medical staff.

It has been reported that the benefits were seen both by patients and nurses through the patient’s autonomy, psychological strength, and a positive impact on their recovery process (Jensen et al., 2019, p. 1).

Kinaesthetic mobilization can be applied within the daily care routines of nurses and can provide greater strength to patients. Both patients' motivation and nurses' confidence in their own ability have had a significant influence on the quality of life. Kinaesthetic mobilization can contribute to both health recovery and disease management of older adults (Jensen et al., 2019, p. 1).

From a psychological perspective, quantitative improvements in quality of life indices have been found as a result of kinaesthetic mobilization techniques. Compared to the control group, the clinical data from the intervention group, which was treated using kinaesthetic methods, yielded higher WHOQoL scores for the subjects. This shows the correlation between the increase in quality of life with kinaesthetic interventions and improvement in subjective satisfaction in these older patients (Imhof et al., 2015, p. 4).

Moreover, from a psychological dimension, the preservation of agency, personal dignity, and

psychological health is essential in the maintenance of quality of life among older adults (Imhof et al., 2015, p. 5). During the discharge in 2004 of a clinic's patients treated in both groups of this study, the dependency rate in the intervention group was 52.9% and in the control group was 80.6% (Imhof et al., 2015, p. 5).

In relation to the emotional element of psychological health, the intervention group reported high levels of satisfaction with care and participation, as mentioned above (Imhof et al., 2015, p. 4).

Studies on neurorehabilitation have shown that positive results can be obtained by the implementation of kinaesthetic methods. In most cases, patients who have been through this mobilization have had higher chances to retain functional abilities for a longer period and have had a stronger psychological strength in life (Barbosa et al., 2023, p. 8).

Also, when considering older patients, kinaesthetic imagery can be a beneficial tool to promote self-efficacy, because it stays relatively stable as age progresses, and it is most noticeable in persons aged between 30–69 (Passarello et al., 2022, p. 3). Additionally, for those patients of advanced age whose kinesthetic abilities might decline as age increases (for instance, due to dementia and cognitive decline), there are still many opportunities to promote self-efficacy through the incorporation of additional external cues (Passarello et al., 2022, p. 4).

Studies have identified health and functional autonomy as core values for older adults, therefore making older persons feel “useful” can play a vital role in improving their mood as well as help in diminishing health anxiety. Furthermore, in an investigation on health values, it was noted that 85% of those surveyed considered health a core value. These results support the concept that older adults consider kinaesthetic interventions and their resulting benefits to be useful and relevant (Ivankina & Ivanova, 2016, p. 4).

Moreover, the preservation of the self-worth of older adults by helping them participate in their environment through kinaesthetic methods improves psychological well-being, quality of life, and overall mood (Ivankina & Ivanova, 2016, p. 4).

For people suffering from Parkinson’s disease, intervention strategies with kinaesthetic cues, as well as other treatments for impaired motor movement (e.g. with a physiotherapist and in neurorehabilitation) were evaluated and gave remarkable psychological strength, as well as improved functional balance to subjects, after following up the effects for approximately half

a year (Barbosa et al., 2023, pp. 8-9).

Through the application of this tool of kinaesthetic mobilization and the improvements they can cause in a person’s physical status, nurses can promote not only physical but also emotional well-being, motivation, and self-efficacy, and that is a large part of what nursing is all about.

5.2.2 Patient Satisfaction

Patient perceived involvement and satisfaction are increased with well trained nursing staff on kinaesthetic mobilization techniques. Jensen et al. (2019, p. 6) explained that 59% rated that their kinaesthetic training was good and 22% rated it very good. This increases the confidence and effectiveness when mobilizing their patients. The nurses' confidence in mobilizing patients ensures safety and patient satisfaction for patient involvement in movement activities. However, there are numerous variables depending on where the nurse is trained; there needs to be consistency among nursing practices to obtain better overall results and satisfaction. In addition, the nurses must also be continuously updated to keep the techniques used at par with evidence.

Geriatric patient satisfaction comes with functional gains, more autonomy, quicker recovery, and greater self-esteem. For example, Tai Chi, a type of a movement group, has shown to decrease physiotherapy treatment requirements, according to Hallisy (2020, p. 1). This shows that movement programs can greatly enhance a geriatric patient's satisfaction. But this raises the question as to whether similar benefits can be had if a different program, or a combination of programs, is utilized to mobilize these patients. Perhaps a group-based strength program would yield the same level of results as Tai Chi.

Feedback from organizational staff and the patients themselves identified reasons as to why they were dissatisfied with their kinaesthetic mobilization techniques. As Mohamed et al. (2022, p. 7) cited in their study, reasons included, not adequately educated/trained staff, no available time, no available mobility equipment, and not supported by management. These reasons are significant issues because they show that the institution, as a whole, is not ready for this new practice. In order to rectify the gap that currently exists, hospitals and policies should advocate for more support and resources regarding staff education, as well as providing equipment and time-saving techniques. Moreover, improving workplace

organizational behavior will increase support among nursing staff and create consistency for providing quality patient care.

Strengthening and flexibility exercises are an important feature of kinaesthetic mobilization, thus contributing to increased patient-perceived satisfaction. Min (2023, p. 1) explains that patients participating in this intervention report a higher level of independence in daily activity performance, satisfaction, and less reliance on others. This strengthens the claim of the intervention to promote the patient's feelings of well-being and the patient's satisfaction with the nursing care. All of which further motivates the patient to participate in their personalized movement activities. These are very positive results, but it is important to ask, can the satisfaction scores and functional outcomes be improved by implementing a specifically prescribed exercise plan vs. a standard one?

Peer support amongst nurses, within the healthcare workplace setting, is a contributing factor to achieving positive results of kinaesthetic mobilization techniques in patients. The findings in Jensen et al.'s (2019, p. 6) study indicated that 88% of nurses, trained on kinaesthetic techniques, strongly agree to have a partner with similar education during movement and mobilization tasks. The reassurance of a trained partner in this task also increases the patient's satisfaction and safety levels, due to higher nurse effectiveness and confidence levels. Thus, teamwork in healthcare institutions greatly contributes to improved outcomes. This could, however, be difficult to achieve in healthcare organizations faced with under-staffing.

Kinaesthetic mobilization techniques, performed by nurses and nursing staff, is effective for providing geriatric patients with a high degree of patient-perceived satisfaction in movement. This can be achieved by ensuring all nurses are properly trained, the organization supports the process, equipment is readily available, there is a strong sense of teamwork and peer support, and that proper communication and education are provided to the patients. All these factors play a crucial role in the patients' feelings of physical and emotional well-being during nursing care for mobilization. As the evidence has suggested through Jensen et al. (2019, p. 6), Mohamed et al. (2022, p. 7), and Min (2023, p. 1), the overall geriatric care can be improved with consideration to these factors in all situations. The patients' satisfaction to the care will ensure the effectiveness of kinaesthetic mobilizations techniques.

5.3 Healthcare Outcomes

The purpose of this section is to focus on how kinaesthetic mobilization techniques can improve these key healthcare outcomes for older adults.

5.3.1 Hospital Stay Duration

The length of hospital stays for geriatric patients can be improved with the effective implementation of individualized kinaesthetic mobilization strategies early on in hospitalization. There is evidence to support that such interventions are greatly associated with minimized functional decline and with early mobilization, particularly within the 72-hour timeframes following transitions through critical care units and step-down units (Wald et al., 2018, p. 13). Use of the Johns Hopkins Mobility Goal Calculator tool assists nurses in setting daily, patient-specific goals to incorporate ambulation into nursing care to decrease length of stay and resulting disabilities from immobilization (Olson et al., 2022, p. 3).

Studies have proven that increased mobility episodes as well as decreased periods of bedrest in geriatric populations were a result of the intervention of consistent kinaesthetic mobilization strategies, which produced a 54.38% increase in mobility incidence and a 28% decrease in episodes of bedrest (Theado-Miller, 2017, pp. 54, 73). Although mobility and functional levels improved in the intervention group as a result, a trend of increased average length of hospital stay was noticed in a sample of 21 patients for the mobility protocol over the two-month trial with a non-significant effect for both LOS and patient turnover (Theado-Miller, 2017, pp. 56, 74). This could indicate that the long-term implementation of kinaesthetic mobilization programs such as this, systematically administered to all geriatric inpatients within the care setting, could in fact potentially lead to a greater decrease in patient turnover times, an area that should be explored more with further research.

Family or caregiver inclusion is proven to increase benefits related to mobility and decreased LOS (Olson et al., 2022, p. 3). A systematic review determined that increased caregiver involvement was related to an improvement of mobility benefits in elderly patients, as more opportunities for mobilization are provided in their ADLs (Olson et al., 2022, p. 3). This helps in maintaining pre-hospitalization functional levels to prevent new mobility deficits that could occur because of hospitalization, and therefore, to further lower the risk for prolonged LOS (Wald et al., 2018, p. 5).

Technology and additional care tools further enhance the practicality of kinaesthetic mobilization interventions, as well as improve comfort and function of the patient. Micro-stimulation (MiS) systems and the MiS Activ bed permit improved transfer and positioning in older adults in the hospital, minimizing discomfort, especially for patients who are in pain (Timmons & Bertram, 2008, p. 2). Mobility benefits associated with use of these technologies included decreased assistance requirements for transfer from bed to chair, as well as maintaining skin integrity through longer periods of hospitalization (Timmons & Bertram, 2008, p. 3). These adaptive tools are significant enablers to improve and sustain frequent mobilization for patients recovering in hospitals. However, adequate staff training with proper care team education is required prior to the effective use of these tools and technologies. The increased expenditure must also be considered, as the cost is not feasible for all institutions or is not easily implemented facility-wide.

The implementation of movement-based programs also improves mobilization in hospital facilities and shows promise in reduced length of patient stays. An example of a movement-based protocol is a dance intervention, which benefits older adults not only on the physical mobility level but also as a positive motivator, sustaining compliance with the program intervention (Barnstaple, 2020, p. 40). There is evidence that such interventions may exceed regular fitness programs for improving both brain structure and function involved in motor control and in areas that have the greatest change in aging (Barnstaple, 2020, p. 64). Therefore, they are of great importance in hospitals to permit better overall recovery.

Although there are positive outcomes in the successful utilization of mobilization strategies such as those described above, many barriers must be overcome to establish an intervention to decrease LOS in geriatric patients. System barriers are a hindrance to kinaesthetic mobilization (Wald et al., 2018, p. 13). Implementation of effective protocols requires hospital-wide organizational structure to enable improvement, education, support, and sustainability (Olson et al., 2022, p. 3; Wald et al., 2018, p. 13).

5.3.2 Complication Prevention

Kinaesthetic mobilization prevents various complications, for instance pressure ulcers, deconditioning and joint contractures, affecting the quality of life in geriatric patients. If there is no mobilization within the first two days, this can lead to severe deconditioning.

Consequently, it leads to a prolongation of the length of stay in hospitals, an increase of referrals to rehabilitation and an increased risk of institutionalization (American Academy of Nursing's Expert Panel on Acute and Critical Care, 2019, p. 1). Thus, kinaesthetic mobilization is essential to counteract this effect.

Patients are more likely to engage in movement due to the active part that is required to be performed. Active motion will reduce the rapid muscle atrophy. Furthermore, it addresses both the sensation and the physical part of movement, allowing the joints to remain flexible and maintaining elasticity in the muscles, which further reduces the risk of contracture formation (American Academy of Nursing's Expert Panel on Acute and Critical Care, 2019, p. 1; Jensen et al., 2019, p. 1). The patient's movement for repositioning reduces the risk of developing pressure ulcers by taking pressure off vulnerable spots such as the sacrum and heels. This reduces the time patients need to remain on rehabilitation services, the need for long-term care, and the incidence of pain in relation to pressure ulcers (Jensen et al., 2019, p. 1; American Academy of Nursing's Expert Panel on Acute and Critical Care, 2019, p. 1).

Improved mobilization may also lead to decreased complications through fall-related injuries, musculoskeletal injuries and decreased pressure ulcers in patients and nurses alike, which highlights the importance of early mobilization. The study by Jensen (2019) showed the improvement in nurses' ability to mobilize and transfer patients post the training of kinesics and patient safety mobilization. After gaining new knowledge, nurses could evaluate individual mobility problems more precisely and select suitable techniques to transfer and reposition patients in a comfortable and safer manner (Jensen et al., 2019, p. 1).

Peer support has also been observed as 88% of the nursing staff with training in kinesics and mobilization believed that they were more likely to mobilize patients more consistently with peer support (Jensen et al., 2019, p. 6). Through peer support and teamwork, staff members are more likely to implement mobilization protocols correctly with increased observation for patient safety and will rely on others to complete mobilization practices instead of completing it all by themselves. This not only promotes peer support but also eliminates or minimizes the burden of nursing staff to mobilize patients, therefore improving patient safety, satisfaction and overall experience.

The active engagement of patients when being mobilized significantly reduces patient falls, muscle strains, pressure ulcers, skin tear and complications from IV catheters, compared to the older practice of the nurses completing the tasks of mobility. This in turn reduces the likelihood that they will depend on external supports, as well as the need for rehabilitation

(Jensen et al., 2019, p. 1).

Kinaesthetic mobilization includes a combination of strength, balance and flexibility training, leading to reduced complications. Resistance training uses bands, weights and/or body weight to target all parts of the body, and promotes strength in the muscle tissues and tissues around the bones to help stand, walk, and climb. Balance exercises prevent the progression of poor balance, leading to falls. They further reduce the risk for falls and fractures, leading to a decrease in post-op and mortality (Min, 2023, p. 1). Flexibility exercises help prevent contractures. Contractures can lead to a decline in activity participation due to the loss in joint range of motion (Min, 2023, p. 1). All these exercise categories in kinaesthetic mobilization can significantly improve mobilization outcomes and prevent secondary complications, leading to decreased post-op and mortality, as well as reduced hospitalization and rehabilitation.

Since the implementation of kinesic mobilization into patient mobilization practices increases the workload for nursing staff and decreases patient autonomy, it is essential to examine if any factors can predict the probability of implementing mobilization practices. Results have suggested that relational justice and teamwork are both predictors that can reduce the risks of patient mobilization not being performed as well as increase mobilization techniques in acute care (Stenman et al., 2020, p. 4, 8). Relational justice is a term that describes fair and balanced interpersonal interaction. Teamwork is crucial because it affects the risk and complications post mobilization implementation.

High levels of relational justice are seen as indicators of high quality mobilization in hospital systems, such as reduced risk for pressure ulcers or patient falls (Stenman et al., 2020, p. 8). This reduces any patient or nurse burden during mobilization because of its ability to increase communication, increase risk monitoring, improve patient safety and eliminate or minimize inappropriate techniques.

Kinesic mobilization has been linked to promoting positive psychological adaptation, leading to reduced post-op mortality. By promoting patients to have an active role in mobilizing, this provides them with more control of themselves, thereby improving their positive mental health, such as motivation, self-esteem, self-image, etc. Patients are less likely to suffer from mobility-related complications when they mobilize with increased positive psychological adaptation. Studies have found a link between positive psychological adaptation and reduced distress symptoms, pain perception and poor physical outcomes. Additionally, in populations of cancer, post-op geriatric, chronic diseases and/or depression, kinesic

mobilization can improve levels of energy, vitality, comfort, self-image and motivation (Jensen et al., 2019, p. 6; Vargay, 2019, p. 14). In conjunction, the kinesic mobilization of pain perception can also predict post-op mortality (Jensen et al., 2019, p. 6). Patient satisfaction is the most important parameter of nursing care and can positively correlate with the outcome of preventing mobility-related complications (Jensen et al., 2019, p. 6).

6. Implementation Challenges and Solutions

Confronting the implementation challenges in kinaesthetic mobilization is critical to translating theoretical ideals into practical geriatric nursing care. Organizational barriers, staffing, resource allocation, and quality assurance are some of the key components to be addressed in creating a sustainable care environment where innovative movement concepts can be used effectively.

6.1 Organizational Barriers

The lack of continuous staff training in kinaesthetic mobilization has been highlighted as one of the most salient organizational barriers for effective implementation in geriatric nursing. According to Jensen et al. (2019, p. 6), just 61% of ICU nurses have completed a course on kinaesthetics, which reflects the lack of priority allocated to the acquisition of skills necessary for effective patient mobilization. A perceived absence of recognition of the significance of kinaesthetic knowledge, as it relates to mobilizing patients, can limit the consistent application of this intervention across nursing. To effectively mitigate this obstacle, staff training must be compulsory and routinely scheduled to facilitate patient mobility as a core nursing competency.

The presence of trained staff influences the safety and effectiveness of kinaesthetic mobilization. Nurses trained in kinaesthetics are more confident when mobilizing patients and can implement appropriate techniques that facilitate enhanced teamwork and safer care of elderly patients. According to Jensen et al. (2019, p. 6), 88% of nurses trained in kinaesthetics valued having a work colleague who also had received training in kinaesthetics. While healthcare organizations value the necessity of kinaesthetics, the appropriate workforce is not always available, meaning that patients are often mobilized

inappropriately. Thus, it becomes necessary for organizations to provide the consistent presence of staff with effective kinaesthetic training, thereby promoting team support and peer training during patient care.

In general, most organizations are resistant to change and tend to rely on paternalistic practices to effectively mobilize patients. In particular, non-participants often fail to recognize the need for kinaesthetic mobilization during routine patient care (Jensen et al., 2019, p. 6). Resistance to adopting new practice regimes means that staff are not implementing evidence-based mobilization techniques. To effectively promote change, health organizations must provide leadership which supports the use of kinaesthetics, integrating the philosophy into its care delivery system to effectively enhance patient outcomes.

The absence of quality assurance for the implementation of kinaesthetic mobilization techniques poses an organizational barrier, contributing to the inconsistency of implementation across settings and the absence of outcome-driven evaluations. The absence of strategies to assess the competence of staff using kinaesthetic skills prevents effective uptake of best-practice mobilization strategies. Furthermore, Jensen et al. (2019, p. 6) claim that it may decrease the motivation of staff to use appropriate mobilization techniques, as the absence of skill improvement through quality assurance measures means that feedback about performance is not implemented to enhance uptake or adherence. To adequately overcome this obstacle, it is vital to monitor and evaluate the implementation of effective mobilization programs. This is important in ensuring the ongoing growth and maintenance of staff skills, and to ensure effective and improved patient outcomes.

Due to limited resources allocated in some organizations, kinaesthetic mobilization is not prioritized and therefore other mobilization techniques, although less effective, can prevail. The absence of resources to support patient mobilization and care promotes quicker, less patient-focused techniques, increasing the risk of patient dissatisfaction with the mobilization program and a greater risk of harm to the patient. Jensen et al. (2019, p. 6) and Timmons and Bertram (2008, p. 2) report that the absence of time to implement effective strategies for mobilization leads to decreased patient participation, less job satisfaction and an increased risk of complications. To effectively implement kinaesthetic mobilization, organizations must allocate sufficient time, access to equipment and finances to improve staff skills and patient involvement during mobilization, promoting improved patient outcomes.

In particular, in geriatric care settings, where staff regularly mobilize patients who are dependent on their help, the introduction of kinaesthetics imposes challenges such as

increased job demands and increased effort required. The increased job demands may negatively impact the job control of staff. In a qualitative study, Stenman et al. (2020, p. 4) reported that most nurses stated their effort increased in both their work as a team and when interacting with patients since implementing kinaesthetic mobilization. Stenman et al. (2020, p. 4) highlighted the fact that the increased effort requirement after introducing a new mobilization program, combined with reduced job control, may lead to decreased job satisfaction among the nursing staff. However, although staff are likely to experience increased effort and decreased control when initially using kinaesthetic mobilization techniques, Stenman et al. (2020, p. 8) highlighted that a supporting workplace structure following a mobilization program intervention may increase perceived relational justice among the nursing staff, thereby reducing the risk of decreased job satisfaction.

Relational justice can promote positive uptake of a new mobilization intervention and therefore may serve as an effective protective factor for organizational barriers related to kinaesthetic mobilization. Relational justice can be defined as the extent of perceived fairness and mutual respect among staff (Stenman et al., 2020, p. 8). The perceptions of relational justice can influence staff compliance with mobilization policies. As such, health organizations need to focus on strategies that improve relational justice within the healthcare team to promote engagement, reduce resistance, increase mobilization policy adherence and increased reporting of patient risk among the nursing staff (Stenman et al., 2020, p. 8).

Further, the complexity of patients treated in geriatric settings can restrict the effectiveness of kinaesthetic mobilization. Due to frequent occurrences of cognitive impairment and depression of patients in geriatric settings, as described by Wong et al. (1998, p. 2), patient participation can be limited in mobilization programs. As patients with cognitive impairment and depression may be unable to mobilize as effectively using kinaesthetic techniques as those without these conditions, more resources, and varying techniques may be required by nurses for geriatric populations than other patient populations. As such, these circumstances may impact the uptake of this best-practice mobilization technique. Therefore, organizations must provide appropriate policies to implement appropriate patient participation to maximize the effects of kinaesthetic mobilization.

To address these barriers effectively, hospitals should implement continuous training, teamwork and supportive leadership. Furthermore, the hospital should use organizational policies based on best practices to manage change and promote staff uptake of best-practice mobilization techniques. The organization should implement quality assurance measures to ensure the consistent use of best-practice techniques for kinesiological

mobilization in geriatric nursing, ensuring effective patient and staff outcomes.

6.2 Staff Training Requirements

Staff training is a significant factor in implementing the effectiveness of kinaesthetic mobilization in geriatric nursing. Insufficient training impairs the feasibility of implementing kinaesthetic mobilization. According to Jensen et al. (2019, p. 6), 61% of ICU nurses have completed a kinaesthetics course. This implies that nursing staff require training in kinaesthetic mobilization because they undermine the value of kinaesthetic mobilization. The lack of this method in practice is affected because it is not valued due to the lack of understanding.

Workforce-wide kinaesthetics training facilitates the utilization of kinaesthetic mobilization during nursing. Jensen et al. (2019, p. 6) observed that 69% of nurses who had not participated in a kinaesthetics course viewed kinaesthetic mobilization knowledge as non-essential for mobilization tasks. A consequence of this is a continued utilization of techniques that do not utilize the participation of patients. Inadequate understanding, therefore, results in failure to implement this method because it is not valued.

Nurses who have not undergone kinaesthetics training, who mobilize patients relying on non-kinaesthetic methods, expose themselves and patients to injury. As revealed by Jensen et al. (2019, p. 6), this hinders systematic mobilization of patients by means of kinaesthetic mobilization.

Insufficient training of nursing staff in kinaesthetic mobilization, in addition to non-systematic application of mobilization methods, postpones early mobilization of patients (Jensen et al., 2019, p. 1). This interferes with adequate rehabilitation and compromises the patient's recovery process by increasing complications, such as pressure injuries and falls. Therefore, patient and caregiver risks need to be minimized in geriatric nursing through the implementation of kinaesthetic mobilization during the caregiving process.

Nurses with systematic training on the kinaesthetic mobilization technique are able to implement this method during the caregiving process in order to encourage the patients to be actively involved in their mobility by means of the kinaesthetic mobilization method. This, in return, improves the transferability and mobilization of geriatric patients, improves

participatory techniques, and minimizes pressure injuries and physical strain (Hantikainen et al., 2010, p. 4).

Staff training in kinaesthetic mobilization enhances the implementation of this method during the caregiving process. These programs reveal the positive impact that this method has on patient comfort. SOPMAS© scores showed statistically significant improvement in the post-testing results than the pre-testing results. This confirms the value of training regarding the proper implementation of kinaesthetic mobilization (Hantikainen et al., 2010, p. 4).

Staff training can improve the application of the method during mobilization activities in routine patient care. According to Hantikainen et al. (2010, p. 4), systematic training enhances the feasibility of the use of aids in patient care and increases the interaction quality of staff with patients during mobilization in relation to a controlled group (no systematic training).

The implementation of kinaesthetic mobilization into healthcare settings also requires a collaborative culture in nursing. Nurses with colleagues that have participated in kinaesthetic mobilization training perceive the practice environment as safer because they report that their colleagues assist with handling of the patients during mobilization tasks. As shown by Jensen et al. (2019, p. 6), 88% of nurses had coworkers that have completed a kinaesthetics course. Therefore, implementing this intervention requires the ability to collaborate and work effectively with team members.

Nursing staff with kinaesthetics training can reduce the experience of subjective and objective physical strain (Hantikainen et al., 2010, p. 4). Patients also report decreased discomfort during and post-mobilization activities (Hantikainen et al., 2010, p. 4).

An attitude that is positive in geriatric nursing positively influences the implementation of kinaesthetic mobilization. Nursing staff with post-basic geriatric courses scored higher in geriatric nursing competency than nurses with less than two years of experience in geriatric care (Kang & Jeong, 2018, p. 6).

Positivity regarding geriatric nursing is positively correlated to implementing more active movement methods (Ibrahim & Elsalam, 2020, p. 8).

Positivity in relation to geriatric nursing contributes to the implementation of participatory methods. According to Kang & Jeong (2018, p. 1), there is a difference in the mean value of

a friendly relationship between the caregiver and patient on geriatric care practices depending on high positivity or low positivity. This suggests that positivity is key for implementing kinaesthetic mobilization techniques during routine care.

On the other hand, implementation of kinaesthetic mobilization may increase demands on nurses (Stenman et al., 2020, p. 4) and negatively influence nursing autonomy. Findings indicate that a lack of resources may hinder the effectiveness of kinaesthetic mobilization due to inadequate implementation into the staff's routine (Stenman et al., 2020, p. 4).

Stenman et al. (2020, p. 8) found that high relational justice contributes positively to adherence to protocols and improved mobilization methods and outcomes. Therefore, an effective method of ensuring adherence is to focus on promoting a healthy workplace climate (Stenman et al., 2020, p. 8).

Promoting team involvement improves the effectiveness of kinaesthetic mobilization during nursing and care. According to Jensen et al. (2019, p. 6), programs that increase staff involvement will improve organizational cultures and support the implementation of mobilization protocols.

Stenman et al. (2020, p. 4) noted that the importance of kinaesthetic mobilization is recognized by nursing staff when there is continued focus and training for staff depending on the current challenges of care. This further clarifies that the training required to ensure the successful implementation of kinaesthetic mobilization differs from other interventions due to the complexity of the human body and the varying abilities of all individuals (Stenman et al., 2020, p. 4).

Formal instruction in geriatric care improves the positive view toward geriatric care in nursing students (Ibrahim & Elsalam, 2020, p. 5). In order to support the integration of kinaesthetic mobilization into the regular caregiving routine, it must first be implemented into training programs. Formal training must be developed on kinaesthetic mobilization in order to promote early integration into the regular nursing practice of nursing staff (Ibrahim & Elsalam, 2020, p. 5).

Kinaesthetic mobilization training, when added to nursing student education programs, improves the student’s opinion regarding geriatric care, with nearly all students finding that it is an integral part of nursing practice (98.7%) (Ibrahim & Elsalam, 2020, p. 5). This suggests that implementing kinaesthetic mobilization requires the incorporation of active movement by

the patient rather than physical care for the patient.

Movement-based activities, such as joint-mobilization, have improved outcomes regarding osteoarthritis-related pain, and increased willingness to participate. Rachmawaty & Sheilla (2018, p. 5) revealed a significant increase in the ability to participate in mobility practices post-mobilization interventions and a decrease in joint-pain experiences, which suggests the need to incorporate active movement interventions in the care and education of older adults.

Implementing kinaesthetic mobilization during the nursing and care of patients must entail providing a thorough explanation of this method and also actively instructing the patient. With a combination of active communication and instruction of proper form, a successful mobility intervention can be achieved through kinaesthetic mobilization and improve outcomes.

In conclusion, staff training in kinaesthetic mobilization is required to promote its feasibility for the elderly.

6.3 Resource Management

The allocation of resources in an efficient manner is deemed essential for both the successful implementation and sustained maintenance of kinaesthetic mobilization within the domain of geriatric nursing care. The quality and frequency of patient-centered mobilization practices are significantly influenced by the presence of staff members who have received training in kinaesthetic methods. It has been noted by Jensen et al. (2019, p. 6) that the inadequate availability of trained personnel frequently results in the inconsistent application of these strategies, thereby undermining both patient outcomes and the confidence of staff in their ability to deliver participatory movement interventions. In instances where staff members lack appropriate training, a tendency is observed to revert to traditional methods that are less effective. Such methods prioritize efficiency over individualized care. This inconsistency can also serve to diminish the trust that patients have in their caregivers, which reduces their willingness to actively participate in mobilization processes. The addressing of this challenge necessitates strategic workforce planning to ensure the consistent availability of trained personnel, thereby enabling the systematic and effective application of kinaesthetic principles across various care settings.

Investment in adaptive technologies and specialized equipment is representative of another critical facet of resource management. This investment directly impacts patient care outcomes in geriatric nursing. Advanced tools, which include micro-stimulation (MiS) beds, have demonstrated a capacity to enhance patient comfort and enable mobilization processes that are safer and more efficient, even when the assistance provided by caregivers is minimal (Timmons & Bertram, 2008, p. 2). Functional capabilities are improved among patients because of these innovations, and complications associated with immobility, such as the development of pressure ulcers, are reduced. The positive effects of these systems are confirmed by empirical evidence, with patients benefiting from increased independence, which supports their autonomy and leads to improvements in their quality of life (Timmons & Bertram, 2008, p. 3). However, the integration of these technologies also necessitates adequate training for caregivers to ensure that their therapeutic potential is maximized. The dual importance of resource allocation is highlighted by this, which dictates that healthcare institutions must not only invest in advanced equipment but also ensure that nursing staff are equipped with the knowledge and skills deemed necessary to utilize these resources effectively in clinical practice.

With particular regard to geriatric wards, where care requirements exhibit inherent complexity, the introduction of kinaesthetic mobilization techniques frequently results in an increase in the physical and mental demands placed on nursing staff. The implementation of these methods, as emphasized by Stenman et al. (2020, p. 4), necessitates a greater investment of time, an increase in the effort exerted, and meticulous attention to individualized care plans. If not adequately managed, this can exacerbate the pressures associated with workload. Staff members who are overburdened face a higher risk of experiencing burnout and reduced job satisfaction, which may translate to a compromise in the quality of care provided. In order to mitigate these challenges, healthcare organizations must employ proactive resource management strategies. This includes the regular assessment of workloads and the implementation of dynamic staffing plans that take into account the additional time and effort that are required for patient-centered mobilization. Structural and cultural barriers within healthcare settings, which impede the integration of such techniques into standard practice, must also be addressed by resource allocation strategies. Sustainability in both care delivery and staff well-being can be ensured by aligning staffing models with the demands of kinaesthetic mobilization.

Beyond tangible resources, such as staffing and equipment, the psychosocial and organizational aspects of resource management play a role that is equally critical in ensuring the success of kinaesthetic interventions. It has been demonstrated that structured

team-based approaches, in which trained staff provide continuous mentoring and peer support, improve both staff confidence and the safety of mobilization practices (Jensen et al., 2019, p. 6). A collaborative environment is fostered by the presence of colleagues who are adept in kinaesthetic techniques, thereby facilitating knowledge-sharing and active troubleshooting. As a result, the consistency and quality of patient care is enhanced. The importance of cultivating human capital and promoting an organizational culture that prioritizes continuous learning and interprofessional collaboration is underscored by these findings. Even the most technologically or materially advanced resources may fail to achieve their intended impact on patient outcomes in the absence of these psychosocial aspects. Consequently, resource management must encompass not only financial and physical assets but also the human and relational elements that are essential to effective nursing practice.

The incorporation of holistic assessment tools and well-being indices into the planning and allocation of resources further strengthens the connection between kinaesthetic mobilization and patient-centered care. As an example, the Spirituality Index of Well-Being (SIWB) provides insights that are valuable regarding the subjective needs and aspirations of geriatric patients. It offers a guiding framework for aligning resource allocation with broader quality-of-life goals (Daaleman et al., 2002, p. 1). By integrating such measures into care planning, healthcare professionals can ensure that resources—whether staff time, equipment, or therapeutic interventions—are deployed in a manner that addresses not only physical rehabilitation but also the emotional and psychological dimensions of patient care. The importance of viewing geriatric mobility as part of a comprehensive strategy for enhancing well-being is reinforced by this approach, which recognizes that the effective management of resources extends beyond logistical considerations to include a commitment to holistic patient outcomes.

In summation, the unlocking of the full potential of kinaesthetic mobilization techniques in geriatric nursing practice hinges on the presence of effective resource management. Healthcare organizations are presented with the ability to overcome existing barriers and foster an environment conducive to high-quality, patient-centered care through addressing staff training, technological investment, workload distribution, and psychosocial support. In equal measure, integrating holistic well-being measures into resource planning ensures that these interventions are aligned with the overarching goal of improving not only mobility but also the overall quality of life experienced by geriatric patients.

6.4 Quality Assurance

Quality assurance is crucial for successfully implementing kinaesthetic mobilization techniques in the geriatric population. Ongoing staff training, monitoring, and the use of assessment tools such as SOPMAS© allow monitoring and measuring of nursing interactions pertaining to ergonomics, patient safety, and active patient participation. This aids in the development of interventions geared toward improving nursing care practices to ensure that patient goals and care are effectively and efficiently achieved through the application of kinaesthetic mobilization principles.

Ongoing staff training facilitates the continuation of implementing kinaesthetic mobilization techniques and positive patient care outcomes. Nurses who are trained in kinaesthetic mobilization techniques improve patient mobilization practices by the application of the training to safe and effective patient movement (Jensen et al., 2019, p. 1). This allows nurses to develop confidence in this technique and apply it in various patient care environments. Ongoing nursing education on the utilization of kinesthastics allows current education and techniques to be applied to a variety of situations that require staff nurses to respond to the patients' mobility and mobilization needs.

The use of validated assessment instruments such as the SOPMAS© is a useful method in assessing interaction quality, patient activity, and nurse posture when utilizing kinaesthetic mobilization techniques to optimize patient and nurse mobilization. The use of valid and reliable assessment instruments ensures data-driven patient care and intervention strategies by assessing and measuring aspects that pertain to ensuring quality assessment when conducting mobility techniques (Hantikainen et al., 2010, p. 4). This in turn creates a feedback loop for the caregiver to improve upon nursing care.

The application of these methods to daily nursing routines creates continuous quality assurance. The ongoing refinement of care through the implementation of quality assurance measures allows continuous collaboration between nursing staff and the patients to ensure consistent care, and in turn improved patient safety and clinical outcomes. This ensures the continuous application of learned mobilization and mobilization techniques. Patients should be encouraged to engage and give feedback as to what mobilizations work and don't work and how it makes them feel as this will only improve patient safety and comfort.

The use of nurse and patient satisfaction feedback is a very important and useful aspect in measuring quality assurance in mobilization and mobility techniques. These measures serve as continuous feedback loops in assessing quality of patient care pertaining to care comfort and safety (Jensen et al., 2019, p. 6). Evaluation processes are essential for early detection of potential hazards and areas needing improvement, as well as increasing care effectiveness. Continuous evaluation processes support increased job satisfaction, and high staff satisfaction is strongly correlated with nursing confidence in moving patients. This allows for consistent care, as well as encourages additional educational efforts and improvements.

Another vital strategy is ongoing mentorship from staff nurses who are advanced in the application of kinaesthetic mobilization techniques to staff nurses who have never implemented or have limited application. By implementing mentors who are highly knowledgeable in the application of kinaesthetic mobilization techniques, this improves care and improves patient outcomes (Jensen et al., 2019, p. 6). Peer education decreases the sense of professional isolation and facilitates the incorporation of new and innovative mobility strategies, thereby increasing both the patient and nurse level of safety.

The application of resources such as micro-stimulation (MiS) systems, which are assistive devices utilized to support mobility and mobilization in bed-bound patients and those with decreased functionality, are an important factor when looking at the quality assurance of kinaesthetic mobilization techniques in the geriatric population. Studies found that there were fewer patients developing pressure ulcers and there was improved bed mobilization practices in patients who utilized MiS bed systems (Timmons & Bertram, 2008, p. 2). MiS bed systems improved patient comfort and independence, decreased pressure ulcers, and increased bed mobilization techniques. The implementation of resources such as MiS bed systems improves both the patient’s and nurse’s overall health and safety. Therefore, the use of resources and technology may increase the effectiveness and quality assurance of the implementation of kinaesthetic mobilization techniques.

Equipment and resources should be properly evaluated for availability and functionality to ensure that the patient and nursing staff are working in a care setting with the right equipment. Care setting-based equipment and resources allow the patient and the nurse to mobilize and provide care in a safe and supportive care setting.

In addition to this, other subjective outcome measures can be applied to improve the measurement of quality assurance to improve the implementation and application of

kinaesthetic mobilization in this population, such as using a subjective assessment tool like the World Health Organization Quality of Life-BREF (WHOQOL-BREF) questionnaire. Subjective outcome assessment scales enhance the improvement of kinaesthetic mobilization and quality assurance (Kelgane et al., 2020, p. 1).

The use of subjective outcome measures provides the healthcare team with the perception of quality of life and well-being, which can improve interventions that align with patient preferences and goals. When incorporating subjective assessment scores into a patient care protocol, interdisciplinary collaboration is improved and individualized plans for mobility and mobilization are developed.

To improve the delivery of care by implementation of kinaesthetic mobilization techniques in the geriatric population, it is important to implement evidence-based quality assurance frameworks to standardize the care (Snyder & Pelton, 2019, p. 25).

Utilizing system-wide frameworks to measure quality assurance allows a multitude of nurses within a healthcare system to benefit and improve practice through learning about the use of standardized protocols. For instance, the utilization of the 4M Age-Friendly Health System framework has the ability to be implemented throughout a whole health system to improve the implementation and application of evidence-based standards to create a better patient care outcome, such as the utilization of kinesthastics. Standardized frameworks ensure patient and nurse safety, as well as effective techniques to promote both nurse and patient well-being by improving the application of kinesthastics to clinical care.

In summary, the above-mentioned strategies can be utilized to promote and advance the implementation of kinesthastics to ensure quality assurance of the application of kinesthastics in geriatric nursing care.

7. Conclusion

The effectiveness of kinaesthetic mobilization techniques in improving the mobility and well-being of geriatric patients within nursing practice was the focus of this thesis. This objective was grounded in the awareness of a rapidly aging population and a corresponding increase in mobility-related impairments among older individuals, thereby presenting notable challenges for health systems worldwide. Through a systematic review of the theoretical

underpinnings, historical evolution, fundamental elements, and pragmatic implementation strategies of kinaesthetic mobilization, this work aimed to determine the extent to which these approaches contribute to improved functional outcomes, increased independence, enhanced psychological well-being, and improved healthcare indicators for elderly patients. Empirical evidence and practice-based insights were comprehensively analyzed to address the research question, which centered on the impact and utility of these techniques in geriatric nursing. A comprehensive exploration of both the advantages and disadvantages of kinaesthetic methods was ensured by the structured approach that was embraced in this investigation.

It is demonstrated by the central discoveries of the main body that kinaesthetic mobilization is a multifaceted strategy which regularly produces quantifiable advances in the mobility and overall well-being of geriatric patients. These methods stand apart from conventional, passive mobilization strategies due to the integration of movement awareness, active participation, and individualized adaptation. It has been demonstrated that kinaesthetic interventions result in considerable gains in static and dynamic balance, less pain, improved muscular strength, and a wider range of motion. Higher self-efficacy, an enhanced sense of autonomy, and an improved quality of life accompany these physical benefits. Engaging actively in mobility reduces learned helplessness and encourages good emotional states, which boosts patients' drive for rehabilitation. Furthermore, kinaesthetic approaches are linked to shorter hospital stays, quicker recovery, and fewer complication rates, including the prevention of pressure ulcers and falls. The degree to which nursing staff receive systematic training, the degree to which standardized assessment and evaluation tools are implemented, and the degree to which interdisciplinary teams are engaged in a supportive manner are all closely related to the effectiveness of these interventions. The successful and long-lasting implementation of kinaesthetic mobilization is greatly influenced by organizational variables such as resource allocation, staff education, and management support. While the advantages are obvious, problems still exist in ensuring consistent application across contexts, getting beyond ingrained traditional practices, and handling increased caregiver workload or complexity.

The results are placed within the larger research environment, which highlights both the confirmation and progression of current knowledge in patient-centered geriatric care. The findings of this thesis align with existing literature that emphasizes the importance of active engagement and individualized care for older people. By combining a variety of empirical data and current nursing procedures, this work emphasizes the significance of kinaesthetic approaches, demonstrating that they are not only technically effective but also adaptable to

the psychosocial realities experienced by geriatric populations. Significantly, the methodical investigation of organizational and staff-related impediments broadens the conversation on implementation science in nursing by providing practical advice on how to incorporate cutting-edge mobilization techniques into everyday care. The study's comprehensive viewpoint fills the gap between theoretical foundations and practical considerations, highlighting the necessity of thorough training and institutional support in order to achieve the best possible outcomes.

The methodology of this thesis, which is based on literature, and the heterogeneity of the studies that are currently available give rise to limitations. The generalizability of the findings may be limited due to the dominance of research conducted in particular geographic areas or healthcare settings, particularly with regard to a variety of cultural or systemic contexts. Furthermore, differences in patient populations, outcome measures, and intervention formats make direct comparisons and synthesis more challenging. Furthermore, the lack of large-scale, randomized controlled trials in some fields, as well as potential publication bias, limit the strength of causal inferences regarding the long-term effects of kinaesthetic mobilization. When extrapolating findings to larger populations, these limitations highlight the need for caution and emphasize the significance of developing more unified research paradigms in this area.

Looking ahead, further research should concentrate on rigorous, large-scale investigations that shed light on the underlying processes of the psychological and physical advantages of kinaesthetic mobilization. It is still necessary to create, validate, and disseminate standardized training protocols to guarantee consistent use and fidelity of kinaesthetic techniques across various care settings. Consideration should also be given to longitudinal assessments that evaluate the sustainability and practical integration of these treatments, as well as their adaptability to various models of geriatric care, such as community health and home-based settings. Investigating how technological advancements, such as assistive devices and digital feedback systems, interact with kinaesthetic principles may lead to the development of new, scalable, and customized mobility programs. Furthermore, policy recommendations ought to emphasize the institutionalization of staff training and the establishment of resource-rich environments that encourage ongoing professional growth in this field.

A greater awareness of the complexity involved in encouraging mobility and well-being among older persons has been fostered as a result of thoroughly examining both the theoretical and practical facets of kinaesthetic mobilization throughout this research. The

significance of comprehensive, person-centered care that respects each patient's autonomy and individuality has been reinforced throughout the process, as has the vital role of supportive structures and team-based approaches within healthcare organizations. The significance of interdisciplinary collaboration and ongoing professional development has been emphasized by the knowledge acquired from critically evaluating current evidence and taking into account its application into practice. A dedication to enhancing the quality of life for a population that is both vulnerable and frequently underrepresented served as a personal motivation for pursuing this subject. This work has also illuminated the profound impact that well-considered, evidence-based movement promotion can have in geriatric nursing practice.

In conclusion, this study confirms that kinaesthetic mobilization approaches, when consistently used and backed by sufficient training and organizational dedication, offer a holistic and efficient means of enhancing mobility, autonomy, psychological well-being, and healthcare outcomes for geriatric patients. Although significant obstacles still exist, particularly with regard to consistent adoption and resource allocation, the data supports the incorporation of these methods as a best-practice standard in nursing care. Thus, the thesis makes a significant contribution to the scholarly conversation and practical advancement of person-centered mobility promotion, while also laying the groundwork for more research and long-term improvements in the care of older persons.

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