Research Progress on Continuous Nursing Intervention for Sarcopenia Patients

Hanbin Zhang
Jiujiang University, Jiangxi, China

Abstract: This paper analyzes the research progress on continuous nursing intervention for sarcopenia patients at home and abroad in recent years, examines its theoretical basis, main contents, effect evaluation and future development direction, and provides evidence-based basis for clinical nursing. By systematically reviewing relevant literature, the pathogenesis of sarcopenia, the characteristics of high-risk populations, as well as the theoretical basis, intervention strategies and implementation effects of the continuous nursing model were summarized and generalized. Research suggests that continuous care, which is "patient-centered", through multi-dimensional interventions such as exercise, nutrition, psychology and informatization, helps improve muscle mass, enhance muscle strength, increase compliance and quality of life. Its theoretical basis includes the Health Behavior promotion model, transtheoretical model, FOCUS-PDCA and ORTCC, etc., providing framework support for the construction of intervention pathways. Despite achieving positive results, there are still deficiencies in standardization, teamwork, compliance maintenance and research design. In the future, efforts should be focused on evidence-based, intelligent and precise directions, establishing standardized nursing pathways, improving information platforms and promoting multi-disciplinary collaboration. Therefore, continuous care holds significant value in the management of sarcopenia patients, can significantly improve physiological functions and quality of life, and is an important direction for achieving innovation in elderly health management and nursing services.

Keywords: Sarcopenia; Continuous Care; Nursing Intervention; Elderly Care; Intelligent Health Management

1. Introduction

sarcopenia (sarcopenia) is a decrease in skeletal muscle mass, muscle strength drops and body hypofunction of progressive disease, characterized by its core pathological mechanism including muscle fiber atrophy, decreased muscle protein synthesis disorder and neuromuscular control. With the acceleration of the global aging process, the prevalence of sarcopenia has significantly increased and has become one of the important factors affecting the health outcomes of the elderly. Studies show that sarcopenia not only increases the risk of falls, fractures and disability, but is also closely related to the poor prognosis of chronic diseases such as heart failure, diabetes and chronic obstructive pulmonary disease (COPD) [1]. Continuous care, as a service model covering the entire process both inside and outside the hospital, emphasizes continuous support from disease treatment to rehabilitation management. It can delay the process of muscle atrophy and improve the quality of life through systematic health education, exercise intervention, nutritional guidance and psychological support. At present, nursing research for sarcopenia patients at home and abroad is gradually shifting from a single intervention to a comprehensive model. Nursing staff play a core role in disease early screening, risk management and long-term monitoring. In conclusion, systematically sorting out the research progress on the pathogenesis, high-risk characteristics and continuous nursing intervention of sarcopenia is of great significance for improving the management system of chronic diseases in the elderly and promoting the innovation of nursing models [2-3].

2. The Pathogenesis of Sarcopenia and the Characteristics of High-Risk Populations

The main physiological mechanism of physiological mechanism of muscle disease is less involved in protein synthesis disorder, chronic inflammation and oxidative stress. With the increase of age, the activity of skeletal

muscle satellite cells declines, and the rate of muscle protein synthesis significantly slows down, resulting in a continuous reduction in the number and cross-sectional area of muscle fibers, which is manifested as a decrease in muscle strength and endurance. Long-term activation of inflammatory pathways is the core pathological link of sarcopenia. Studies have shown that elevated levels of inflammatory factors such as IL-6 and TNF-α can inhibit the myoprotein synthesis pathway (mTOR signaling) and promote muscle disassembly mediated by the ubiquitin-proteasome system. In addition, increased oxidative stress and mitochondrial dysfunction lead to metabolic disorders and energy deficiency in muscle cells, which limits the regenerative capacity of muscles. The decline in hormone levels, the degeneration of nerve conduction and microcirculation disorders further weaken the muscle repair mechanism. For this pathological process, nursing work should strengthen the monitoring of patients' inflammation, nutritional support and exercise intervention, promote anabolism and antioxidant defense capabilities, and thereby delay muscle degeneration [2]. The main physiological mechanism of muscle disease is less involved in protein synthesis disorder, chronic inflammation and oxidative stress imbalances. With the increase of age, the activity of skeletal muscle satellite cells declines, and the rate of muscle protein synthesis significantly slows down, resulting in a continuous reduction in the number and cross-sectional area of muscle fibers, which is manifested as a decrease in muscle strength and endurance. Long-term activation of inflammatory pathways is the core pathological link of sarcopenia. Studies have shown that elevated levels of inflammatory factors such as IL-6 and TNF-α can inhibit the myoprotein synthesis pathway (mTOR signaling) and promote muscle disassembly mediated by the ubiquitin-proteasome system. In addition, increased oxidative stress and mitochondrial dysfunction lead to metabolic disorders and energy deficiency in muscle cells, which limits the regenerative capacity of muscles. The decline in hormone levels, the degeneration of nerve conduction and microcirculation disorders further weaken the muscle repair mechanism. For this pathological process, nursing work should strengthen the monitoring of patients' inflammation, nutritional support and exercise

Influencing factors of the onset of muscle less closely associated with a variety of variable risk factors, including malnutrition is thought to be one of the main causes. A long-term low-protein diet or insufficient energy intake can lead to a negative nitrogen balance, restricting the rate of muscle protein synthesis. Chronic diseases such as diabetes, heart failure, and chronic obstructive pulmonary disease promote muscle tissue breakdown through the inflammation-metabolic axis. Studies have shown that the detection rate of sarcopenia in patients with chronic diseases is generally higher than that in healthy people, and the inflammatory factors are significantly negatively correlated with muscle mass [4]. In addition, prolonged sitting and insufficient physical activity can reduce the mechanical stimulation of muscle fibers, leading to a decrease in muscle metabolic rate. Psychological problems such as depression and loneliness, by affecting appetite and the willingness to exercise, create a dual physical and mental burden, further accelerating muscle atrophy. Nursing staff should conduct a comprehensive assessment of patients' diet, exercise and emotional state, design feasible intervention strategies, and improve compliance and quality of life.

High-risk group portrait and risk assessment tools sarcopenia risk groups include age, malnutrition, chronic diseases and bed for a long time, its incidence increases significantly with age. Research has found that the prevalence of sarcopenia among people aged 65 and above in Asia ranges from 11% to 24%, and it is slightly higher in women than in men [5]. This group of people is often accompanied by low body mass index, chronic inflammation, reduced physical activity and insufficient social support. Nursing staff can use simple tools such as the SARC-F questionnaire, calf circumference measurement, grip strength test and gait speed assessment in risk screening to identify potential sarcopenia patients at an early stage. The Asian Sarcopenia Task Force (AWGS2019) standard proposes a comprehensive assessment that combines muscle mass, muscle strength and physical performance, which is conducive to improving the accuracy of diagnosis and the scientific nature of nursing decisions. Through the three-level management system of community, hospital and family, dynamic monitoring and early intervention of high-risk groups can be achieved, and the preventive function of continuous care can be strengthened.

3. The Theoretical Basis of Continuity of Care and Model Building

Theory model to support the implementation of the continuity of care should be based on scientific theory. Among them, the Health Behavior Promotion Model (HAPA) emphasizes the two stages of intention formation and action maintenance, advocating the internalization of health behaviors through enhancing self-efficacy and action planning [6]. This model was used in sarcopenia intervention to construct a dual management program of exercise and nutrition, which helps to enhance patients' active participation. The transtheoretical model (TTM) can start from the stages of behavioral change, divide patients into the preparation, action and maintenance stages, and implement differentiated guidance for different stages, which can significantly improve the compliance of nursing intervention. The FOCUS-PDCA model takes continuous improvement as its core and emphasizes a five-step cycle of "identifying problems-organizing teams-clarifying problems-understanding variations-selecting improvements", which is applicable to the improvement of nursing quality under multidisciplinary collaboration [7]. In addition, the ORTCC model (Goal-Rule-Training-Assessment-Culture) can strengthen patient behavioral training and cultural guidance by setting stage goals and behavioral norms, making nursing intervention more systematic and sustainable. The above theoretical framework jointly supports the scientific and standardized construction of continuous care for sarcopenia.

Continuity of care in sarcopenia management core concept and the structure of continuity of care to the patients as the center "is the core idea, pay attention to integration of inside and outside hospital management and the entire health support. Its structure consists of four core modules: health education, behavioral intervention, information follow-up and functional assessment. In the management of sarcopenia, this model achieves seamless connection between treatment and rehabilitation by establishing a closed-loop system of in-hospital assessment-discharge follow-up-community guidance-family support. In this process, nursing staff are both information transmitters and health promoters. They need to regularly track patients' exercise execution, nutritional intake and psychological state, and adjust the content of individualized intervention. Studies have shown that continuous care can significantly improve the muscle strength and physical condition of elderly patients, and reduce the readmission rate and complication rate [8]. At the same time, it emphasizes interdisciplinary cooperation and multi-channel communication, providing organizational and institutional guarantees for comprehensive intervention in sarcopenia.

Model building process and implementation continuity build follow systematic and evidence-based nursing mode and individualization principle, implementation process including needs assessment, design, implement and effect feedback intervention four links. Nursing staff need to assess patients' muscle function, nutritional risk and psychological state through scientific tools, and formulate phased goals and specific measures. The implementation stage should integrate sports rehabilitation, nutritional support and health education. The effect evaluation is comprehensively judged through quantitative indicators (such as grip strength and walking speed) and quality of life questionnaires. During the implementation process, the application of information technology is particularly crucial. Through electronic health records, remote monitoring and mobile platforms, real-time tracking and feedback can be achieved, enhancing the continuity of intervention. Multidisciplinary collaboration and dynamic evaluation mechanisms are the keys to ensuring the sustainable operation of the model.

4. The Main Content and Strategy of Continuous Nursing Intervention

Movement intervention intervention is continuity of care to promote muscle function recovery and the key measures to prevent further decline. Studies have shown that multi-component exercise programs (combining resistance training, aerobic training and balance training) can significantly improve the muscle strength and walking speed of elderly patients with sarcopenia, while reducing the risk of falls [9]. In continuous care, nursing staff not only play the role of exercise instructors but also act as supervisors of behavioral maintenance. By conducting individualized evaluations of muscle strength, joint range of motion and balance ability, and formulating progressive training programs, compliance can be effectively

enhanced. In patients with chronic diseases complicated with sarcopenia, such as those undergoing maintenance hemodialysis or diabetes, staged resistance training can significantly improve lower limb muscle mass and grip strength [10]. Furthermore, research indicates that the combination of home-based exercise and remote supervision can effectively make up for the insufficiency of rehabilitation resources outside the hospital, significantly enhancing the exercise execution rate and the level of functional improvement [11]. Therefore, in the continuous care system, exercise intervention should be incorporated into the long-term follow-up plan. Through scientific monitoring and feedback mechanisms, the safety and continuity of training should be ensured.

Nutritional intervention in nutrition support is sarcopenia in the continuity of care and exercise intervention in an important link in parallel. Clinical research has found that adequate intake of high-quality protein, vitamin D supplementation, and energy balance management are key to maintaining muscle anabolism [12]. Among perioperative patients, nursing staff should formulate individualized nutritional support plans based on the results of nutritional risk screening to improve the postoperative protein synthesis environment [13]. Meanwhile, in response to the dietary compliance issues of elderly patients, continuous care emphasizes family-based nutrition education and monitoring to promote the formation of stable dietary patterns among patients. In addition, through dynamic nutritional assessment, nursing staff can promptly identify issues such as insufficient energy intake or absorption disorders, adjust supplementation plans, and coordinate with physicians for individualized guidance.

The psychological and cognitive intervention of psychological and cognitive intervention in sarcopenia nursing management also has an important status. Research shows that depression, anxiety and cognitive decline are important psychological factors affecting the rehabilitation compliance of patients with sarcopenia [14]. Through psychological support and cognitive training in continuous nursing intervention, patients' self-efficacy can be effectively improved and the formation of positive and healthy behaviors can be promoted. For patients who have been bedridden for a long time or have chronic diseases, caregivers can adopt music therapy, mindfulness training and emotional counseling techniques to relieve anxiety and loneliness. In addition, the combination of cognitive training and exercise can promote brain-muscle coordination at the level of neural plasticity, enhance motor control ability and learning willingness. The nursing team should establish an emotional assessment-intervention-feedback mechanism to regularly monitor changes in emotional states and coping strategies, thereby maintaining long-term psychological balance and behavioral persistence.

Information with remote health care management information is an important extension means continuity of the nursing mode. With the development of digital technology, remote management systems based on the Internet and mobile terminals have gradually been applied to the long-term monitoring of sarcopenia patients. Research indicates that remote health management based on the WeChat platform can enhance the exercise compliance of elderly patients, improve their nutritional intake, and reduce the follow-up dropout rate [15]. In community and family settings, caregivers can use electronic health records to dynamically monitor muscle function, weight, and activity levels, and adjust intervention plans based on data feedback. Meanwhile, the remote sports guidance platform achieves real-time supervision through video teaching and online assessment, effectively enhancing the quality and safety of training [16]. Information-based intervention can also integrate multi-dimensional health data, providing quantitative basis for nursing decisions. Through artificial intelligence algorithms for risk early warning, the progression trend of sarcopenia can be identified in advance. The above-mentioned nursing innovations based on information technology can enable continuous intervention to break through the limitations of time and space, achieve precise, continuous and intelligent management, and significantly improve nursing efficiency and patient satisfaction.

5. Continuous Nursing Intervention Effect and the Research Progress

On muscle mass, strength, function and the improvement of life quality continuity of nursing intervention in patients with muscle disease less muscle mass, functional level, the quality of life and compliance were showed significant

improvement. Research shows that after implementing systematic and continuous care in elderly patients, their muscle mass, grip strength and walking speed all significantly improved compared with conventional care, while their daily activity ability was enhanced and the incidence of falls decreased [17]. Nursing intervention improves the balance of protein synthesis and metabolism by providing patients with phased exercise guidance and nutritional optimization, promoting muscle repair at the physiological level. In addition, continuous care can help patients form regular exercise and balanced dietary habits, thereby delaying the process of muscle atrophy [18].

For the promotion of compliance and self-management behavior in terms of compliance with self-management behavior, continuity of care provides structural support, can make the patient's health behavior more sustainable. Through interdisciplinary collaboration and the implementation of individualized programs, patients' compliance in exercise training, nutritional intake and medication management has been significantly improved. For instance, interventions based on planned education and follow-up can effectively enhance patients' initiative in performing exercise and protein supplementation, thereby maintaining long-term recovery after discharge. Research shows that after establishing a three-level continuous management system of "hospital-community-family", patients' understanding and implementation ability of nursing guidance have significantly improved, and their self-management scores have significantly increased compared with those before the intervention [19].

For adverse events and readmission rate affect the implementation of the continuity of care also significantly improve the patients' psychological status and quality of life. Systematic psychological support and health education can alleviate anxiety, enhance confidence, and make it easier for patients to develop a positive attitude towards rehabilitation. Some studies have pointed out that mood improvement is positively correlated with exercise compliance, that is, psychological intervention indirectly promotes the recovery of muscle function by enhancing self-efficacy. In addition, nursing intervention can enhance social participation and self-care ability, thereby improving overall well-being and social adaptability. The nursing team can promptly identify negative emotions and adjust intervention strategies by dynamically assessing psychological states, maintaining the stability of behavioral changes [20]. In terms of clinical outcomes, continuity of care effectively reduces muscle disease in patients with a lower readmission rate, incidence of adverse events and complications. Through standardized discharge follow-up and early risk monitoring, patients can receive timely intervention at the mild stage of symptoms to prevent the condition from worsening. The combination of nutrition and exercise intervention enables patients to recover their physical functions more quickly and shortens the postoperative rehabilitation period. The research found that under the guidance of continuous nursing, the Barthel index and SF-36 score of patients significantly increased, reflecting the comprehensive improvement of self-care ability and quality of life [21]. In addition, nursing staff regularly assess the functional status of patients and adjust the plans to make the intervention more individualized and flexible, thereby enhancing the long-term management effect.

6. Existing Problems and Future Directions

There is a lack of balance between standardization and personalization of interventions. Interventions lack of standardization and individualization balance though continuity care remarkable achievements were obtained in sarcopenia management, but in theory, implementing paths and methods still faces multiple challenges. The balance between standardization and individualization of nursing intervention has not yet been fully resolved. At present, different studies vary greatly in terms of intervention content, frequency and evaluation indicators, lacking a unified standard, which leads to insufficient comparability of research results. Although some institutions have established continuous nursing pathways, they lack evidence-based verification, which limits their clinical promotion [22]. Nursing staff rely more on empirical judgment during the implementation process and lack systematic guidance, which leads to fluctuations in the intervention effect. In the future, a unified standard and evaluation system based on evidence-based nursing should be established to ensure the scientificity and operability of continuous nursing in the management of sarcopenia.

The role of nursing staff in the interdisciplinary team fuzzy interdisciplinary teamwork and inadequate resources integration and restricted the implementation the depth of the continuity of care. The management of sarcopenia involves multiple dimensions such as nutrition, rehabilitation, psychological and social support, and requires close cooperation among nurses, rehabilitation therapists, nutritionists and social workers. However, in most primary and community medical institutions, the multi-disciplinary collaboration mechanism is not yet perfect, and information communication and responsibility division are not clear, resulting in discontinuity and repetition in nursing intervention [23]. In addition, nursing staff mostly take on executive roles in the team and have limited opportunities to participate in the formulation of plans and decision-making. In the future, the leading position of nurses in continuous care should be strengthened through institutionalized team collaboration mechanisms and training systems, and the comprehensive intervention effectiveness should be improved.

The continuity of the future research direction in future sarcopenia patients nursing research should be focused on evidence-based, intelligent and precise direction. Standardized nursing pathways and quality indicator systems should be constructed based on the concept of evidence-based nursing. High-quality evidence should be integrated to establish an integrated process of "assessment-intervention-evaluation", and the scientific nature should be enhanced through multi-center studies. With the development of artificial intelligence and mobile health, intelligent management tools can dynamically monitor muscle function and compliance, and achieve early intervention and individualized care plans through cloud platforms and algorithm analysis. Precision nursing will be based on the multi-dimensional health profile of patients, combined with genetic testing, metabolomics and psychosocial assessment to implement targeted intervention, and explore a multi-disease co-management model centered on sarcopenia, integrating nutrition, exercise and psychological support to form a collaborative nursing system [24]. At the same time, efforts should be made to promote the sustainable development of information-based nursing. A regional data platform should be established to facilitate information sharing between hospitals and communities. Policy supervision and digital health capability training for nurses should be strengthened. The level of remote monitoring and data interpretation should be enhanced. Technological empowerment and evidence-based support should be used to drive the continuous nursing of sarcopenia towards intelligence, systematization and sustainability [25].

7. Conclusion

To sum up, sarcopenia in the older population as a common and serious hazard of functional degenerative disease, its management needs not only medical treatment, but more need to continue to participate in nursing intervention and multidimensional integration. Continuous nursing is patient-centered. Through a full-process management model that runs both inside and outside the hospital, it organically combines exercise, nutrition, psychology and information-based intervention, significantly improving patients' muscle mass, physical condition, mental health and quality of life. A large number of studies have confirmed that this model can effectively enhance patient compliance, reduce readmission rates and the occurrence of adverse events, reflecting the core value of nursing work in chronic disease management. Meanwhile, continuous care has promoted the extension and professional transformation of nursing services, enabling nursing staff to play a more proactive and leading role in aspects such as assessment, intervention, and health education. In the future, efforts should continue to be made to promote the construction of the evidence-based nursing system, improve the standardized path and quality assessment system, strengthen multi-disciplinary team collaboration, and rely on information technology and intelligent technology to achieve precise and sustainable nursing management. Driven by both scientific research and clinical practice, continuous nursing will provide more solid theoretical support and practical basis for the prevention and treatment of sarcopenia, and offer a new direction for the innovation of elderly health management models and the high-quality development of the nursing discipline.

References

[1] Yang, Q. R., Bai, T. T., Jiang, Q. W., et al. (2025). Prognostic factors of sarcopenia in

elderly patients with heart failure with preserved ejection fraction. Internal Medicine Concepts and Practice, 20(3), 210–215.

[2] Wang, X. X., & Wei, N. (2020). Research progress on pathogenic factors and rehabilitation nursing of sarcopenia in the elderly. Nursing Practice and Research, 17(22), 18–20.

[3] Roquebert, Q., Sicsic, J., Santos-Eggimann, B., et al. (2021). Frailty, sarcopenia and long-term care utilization in older populations: A systematic review. Journal of Frailty & Aging, 10(3), 272–280.

[4] Yu, J. Y., Xu, C. Y., Li, Y., et al. (2025). Risk profiling and nursing recommendations for community-dwelling elderly at high risk of osteosarcopenia. Chinese Journal of Nursing, 60(14), 1757–1763.

[5] Guo, Z. X., Xu, H. P., Zhang, Y., et al. (2025). Comorbidity status and influencing factors of oral frailty and sarcopenia in hospitalized elderly patients. Chinese Journal of Nursing, 60(3), 281–287.

[6] Wan, M. J., Liu, Y. J., Shi, M. H., et al. (2025). Prevalence and influencing factors of preoperative sarcopenia in patients undergoing total hip arthroplasty. Chinese Nursing Management, 25(2), 299–304.

[7] Zeng, F., Lan, M. J., Gu, P. P., et al. (2025). Application of sarcopenia management program in patients awaiting lung transplantation. Chinese Journal of Nursing, 60(13), 1581–1587.

[8] Li, T., Zhang, W. H., Zhang, W., et al. (2025). Development and implementation of perioperative exercise program for gastrointestinal cancer patients with sarcopenia based on Health Action Process Approach model. Nursing Research, 39(1), 46–53.

[9] Liu, Y., Zhou, Y., Li, X., et al. (2024). Influences of trans-theoretical model-based diet nursing intervention on sarcopenia and quality of life in maintenance hemodialysis patients. Nutrición Hospitalaria, 41(2), 278–285.

[10] Jin, X. C., Shi, Z. Y., Zhou, Y. F., et al. (2025). Application of multicomponent exercise combined with cognitive training in elderly psychiatric patients with sarcopenia. Chinese Journal of Nursing, 60(3), 266–273.

[11] Li, X., Shan, Y., Jiang, T. T., et al. (2021). Research progress on application of resistance exercise in nursing of maintenance hemodialysis patients with sarcopenia. Nursing Research, 35(4), 643–647.

[12] Ji, C. H., Li, Y., Dong, Z. H., et al. (2024). Application of remote diet and exercise intervention in elderly patients with type 2 diabetes and sarcopenia. Chinese Journal of Nursing, 59(21), 2565–2571.

[13] Yi, R. N., Yin, X. Y., Liu, H. X., et al. (2025). Development and application of perioperative nutrition program for gastric cancer patients with sarcopenia. Journal of Nursing Science, 40(5), 1–5,10.DOI:CNKI:SUN:HLXZ.0.2025-05-001.

[14] Yu, T. Z., Lu, Z. Q., & Pan, Y. Q. (2025). Best evidence summary for nutritional management of cancer patients with sarcopenia. Chinese Journal of Practical Nursing, 41(16), 1253–1260.

[15] Wan, M. J., Liu, Y. J., Xu, H. P., et al. (2025). Life-space mobility and its influencing factors in elderly patients with knee osteoarthritis and sarcopenia. Nursing Research, 39(6), 919–924.

[16] Wang, N., Guo, C. H., Xu, X., et al. (2021). Application of WeChat-based extended nursing in elderly patients with type 2 diabetes and sarcopenia. Modern Journal of Integrated Traditional Chinese and Western Medicine, 30(8), 889–891,895.

[17] Yang, Y., Liao, H., Chen, Y., et al. (2025). Gender-specific sarcopenia screening in hemodialysis: Insights from lower limb strength and physiological indicators. BMC Nephrology, 26(1), 247.

[18] Chen, Y. X., Jing, Q. Q., Zhang, W. H., et al. (2024). Application of evidence-based precision nursing in total knee arthroplasty patients with sarcopenia. Chinese Journal of Modern Nursing, 30(30), 4181–4185.

[19] Liu, B. B. (2022). Effect of FOCUS-PDCA model nursing intervention on quality of life and daily activity ability in elderly sarcopenia patients. Modern Journal of Integrated Traditional Chinese and Western Medicine, 31(24), 3483–3486.

[20] Li, M. Y., & Zhang, S. P. (2024). Effect of ORTCC model combined with resistance training on grip strength, compliance and gait speed in maintenance hemodialysis patients with sarcopenia. Hebei Medical Journal, 46(24), 3745–3749.

[21] Wang, P. X., Li, D. D., You, M. M., et al. (2022). Application of multidisciplinary rehabilitation in patients with sarcopenia after total hip arthroplasty. Chinese Journal of Modern Nursing, 28(8), 992–996.

[22] Han, M., Huang, J. H., & Xu, B. (2023). Effect of periodic resistance training combined with rational diet on quality of life in hemodialysis patients with sarcopenia. Journal of Navy Medicine, 44(7), 706–710.

[23] Zhang, Y. Y., Bu, W. Q., & Xie, Y. P. (2021). Research progress on nursing care of chronic obstructive pulmonary disease complicated with sarcopenia. Nursing Research, 35(15), 2734–2737.

[24] Mo, Y., Chen, L., Zhou, Y., et al. (2024). Sarcopenia interventions in long-term care facilities targeting sedentary behaviour and physical inactivity: A systematic review. Journal of Cachexia, Sarcopenia and Muscle, 15(6), 2208–2233.

[25] Polo-Ferrero, L., Martín, M. J., Puente-González, A. S., et al. (2025). Efficacy of power training on sarcopenic obesity in community-dwelling older women: A 32-week randomized clinical trial. Nutrients, 17(11), 1822.

