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Frailty Syndrome: Nursing Interventions

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Abstract

Background: Frailty syndrome is now becoming a challenge for multidisciplinary teams. Frailty assessment in elderly patients is recommended due to the associated cascade of irreversible alterations that ultimately result in disability.

Aims: The purpose of this article is to identify interventions, which can be implemented and performed by nurses as part of a multidisciplinary plan. Nursing strategies related to nutrition, polypharmacy, adherence to treatment, falls, exercise, and mood and cognitive intervention are described.

Design: Discussion paper.

Data sources: Relevant and up-to-date literature from PubMed, MEDLINE, and Scopus databases regarding the selected issues, such as nutritional status, polypharmacy, falls, physical activity, and cognitive functions.

Conclusion: Frailty is considered preventable or even reversible with the appropriate interventions, which can help maintain or even restore physical abilities, cognitive function, or nutritional status in frail elderly patients. Hence, the nursing interventions are significant in clinical practice and should be implemented for frail patients.

Implications for nursing: Health-care providers, especially nurses, in their clinical practice should recognize not only elderly patients but also elderly patients with concurrent frailty, requiring intensified therapeutic interventions tailored to their individual needs. Frailty syndrome is undoubtedly a challenge for multidisciplinary teams providing health care for geriatric patients.

Keywords

Frailty syndrome, elderly patients, nursing interventions, nutrition in elderly, polypharmacy

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Introduction

Aging, an inevitable process, is commonly measured by chronological age and, as a convention, a person aged 65 years or more is often referred to as ''elderly.'' However, there are no concrete definitions of ''elderly'' that appropriately characterize this patient population in using the generic terms ''elderly'' and ''older persons'' (Singh & Bajorek, 2014). The term *frailty* is commonly used rather loosely to describe a range of conditions in older people, including general debility and cognitive impairment. However, growing old is not in itself a prerequisite to becoming frail (Lally & Crome, 2007).

Frailty is theoretically defined as a clinically recognizable state of increased vulnerability resulting from an aging-associated decline in reserve and function across multiple physiologic systems, such as the ability to cope with every day or acute stressors is comprised (Xue, 2011). Another definition describes frailty as a

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biological syndrome of decreased reserve and resistance to stressors, resulting from cumulative declines across multiple physiologic systems, causing vulnerability to adverse outcomes (Xue, 2011).

Frailty syndrome (FS) is considered highly prevalent in elderly patients and to confer high risk of adverse outcomes, including disability, lower quality of life, hospitalization, institutionalization, and mortality (Boyd, Xue, Simpson, Guralnik, & Fried, 2005; R. J. J. Gobbens & van Assen, 2014; Rockwood et al., 2005). However, there is currently still no consensus on how frailty should be defined. In fact, two different conceptual frailty approaches have been adopted. One of these approaches is strongly influenced by medicine and focuses only on how older people function physically, so-called physical frailty.

The other conceptual frailty approach is multidimensional by nature and in addition to physical frailty also includes the psychological and social functioning of older people, indicated with psychological frailty and social frailty, respectively. Definition of frailty by Gobbens, Luijkx, Wijnen-Sponselee, and Schols (2010a) expresses this multidimensional approach:

> Frailty is a dynamic state affecting an individual who experiences losses in one or more domains of human functioning (physical, psychological, social), which is caused by the influence of a range of variables and which increases the risk of adverse outcomes (p. 175).

Identification of frail older people is important as evidence suggests that frailty might be reversible using exercise programs or hormone treatment (Faber, Bosscher, Chin A Paw, & van Wieringen, 2006; Srinivas-Shankar et al., 2010). Recognizing frailty could be clinically useful for health-care (e.g., general practitioners, nurses, physical therapists) and welfare professionals in identifying older persons who may benefit from an intervention aimed at reducing frailty, as well as preventing or delaying adverse outcomes. In the last few years, several instruments aimed at identifying frail subjects have been developed.

Data Sources

A relevant and up-to-date literature from PubMed, MEDLINE, and Scopus databases were selected and collected after a computerized search strategy. Research keywords describing nursing interventions for patients with FS, such as nutritional status, polypharmacy, falls, physical activity, and cognitive functions were used. Only papers which have been published in peer-reviewed journals listed in the Journal Citation Reports, available with the full version of the manuscript and written in English only, were included. The literature search was performed in January 2017.

Discussion

Currently, five systematic reviews regarding frailty instruments have been published (Clegg, Rogers, & Young, 2015; de Vries et al., 2011; Drubbel et al., 2014; Sternberg, Wershof Schwartz, Karunananthan, Bergman, & Mark Clarfield, 2011; Sutton et al., 2016). These reviews differ greatly in their objectives. Sternberg et al. (2011) systematically reviewed the literature on the clinical definitions, screening tools, and severity measures of frailty used in community-dwelling older people aged 65 years and above, while Clegg et al. (2015) investigated the diagnostic test accuracy of simple instruments for identifying frailty in community-dwelling older people. Another systematic review aimed to explore whether the Frailty Index is a valid and adequate screening instrument for primary care and de Vries et al. (2011) performed a review on evaluative measures of frailty.

The most recent systematic review regarding frailty instruments was conducted by Sutton et al. (2016). The objective of this study was to identify existing multicomponent instruments to assess frailty in people aged $\geqslant 60$ years and to systematically and critically evaluate the reliability and validity of these instruments. As a result, they identified 38 frailty instruments, including the Cardiovascular Health Study (CHS) Phenotype Model and the Canadian Study of Health and Ageing Cumulative Deficit Model. The CHS Phenotype Model is developed by Fried et al. and suits the aforementioned definition of physical frailty (Malmstrom, Miller, & Morley, 2014). According to the CHS Phenotype Model, an individual is identified as frail if at least three of five of the following criteria are present: unintentional weight loss, weakness, poor endurance, slowness, and low physical activity. The Canadian Study of Health and Ageing Cumulative model assesses frailty via the Frailty Indicator, an index of age-related deficits, including diseases and disability. However, more and more researchers consider disability as an adverse outcome of frailty (Bergman et al., 2009; Gobbens, Luijkx, Wijnen-Sponselee, & Schols, 2010b). Although these two models are the most widely accepted, evidence for the reliability and validity of the original instruments is limited (Sutton et al., 2016). According to Sutton et al. (2016), the Tilburg Frailty Indicator, a self-report questionnaire developed from an integral approach of frailty, including physical, psychological, and social domains (Gobbens, van Assen, Luijkx, Wijnen-Sponselee, & Schols, 2010), has the most robust evidence of reliability and validity (Sutton et al., 2016).

Frailty Syndrome in Clinical Practice

FS is now becoming a challenge for multidisciplinary teams. Frailty assessment in elderly patients is recommended due to the associated cascade of irreversible alterations ultimately resulting in disability. In their clinical practice, health-care providers should recognize not only elderly patients but also elderly patients with concurrent frailty, requiring intensified therapeutic interventions tailored to their individual needs. Future development should, therefore, focus on frailty screening in risk groups, and including frailty in existing or new risk assessment models, especially with regard to perioperative risk. Furthermore, treatment strategies should be implemented to help prevent FS and minimize the adverse health outcomes in frail patients.

FS is undoubtedly a challenge for multidisciplinary teams providing health care for geriatric patients. In clinical practice, special attention should be paid to frail elderly patients, who should receive tailored treatment. Frailty is considered preventable or even reversible with the appropriate interventions, which can help maintain or even restore physical abilities, cognitive function, or nutritional status in frail elderly patients. Often when frail elderly patients come into contact with a whole series of different health-care professionals (e.g., geriatrician, occupational therapist, and physiotherapist), there is a risk that they will not receive an integrated care. Using their integral view of human functioning, nurses can act as a case manager for frail elderly patients and make a multidisciplinary plan in collaboration with involved health-care professionals.

The purpose of this article is to identify interventions, which can be implemented and performed by nurses as part of the multidisciplinary plan. Starting from a broad approach of frailty, including physical, psychological, and social domains, nurses are able to conduct a lot of interventions with the aim to prevent or diminish frailty and prevent or delay its adverse outcomes. In this article, the authors have chosen to focus on nursing strategies related to nutrition, polypharmacy, adherence to treatment, falls, exercise, and mood and cognitive intervention.

Aging and Nutritional Status

Maintenance of a healthy nutritional status is the key to healthy and active aging. However, malnutrition is increasingly diagnosed in the elderly. Elderly patients are classified in the high nutritional risk group due to numerous comorbidities, frequent hospitalizations, and pharmaceutical treatment, among other factors. Malnutrition contributes to functional disorders, increased hospitalization time, and lower quality of life. Research indicates that nearly 40% of geriatric patients undergo significant body weight loss (over 4.5 kg in 3 months), 83.9% have decreased walking speed, 53.8% have a sedentary lifestyle, and 57.7% experience decreased muscle strength. Moreover, screening identifies a nutritional risk in 23.5% of patients and malnutrition in 9%. One can thus conclude that the clinical determinants of frailty, which include weakness, low energy, psychomotor retardation, decreased physical activity, or weight loss, are significantly correlated with nutritional status in the elderly population (Guyonnet, Secher, Ghisolfi, Ritz, & Vellas, 2015).

In daily clinical practice, the routine nutritional assessment may significantly facilitate diagnosis as well as the planning of interventions tailored to the frail patient's needs. The screening tool recommended by the European Society of Parenteral and Enteral Nutrition, specifically designed for nutritional assessment in elderly patients, is the Mini Nutritional Assessment (MNA) questionnaire; 90% of patients found to be at high nutritional risk or malnourished based on the MNA are either frail or prefrail. The MNA is a sensitive screening tool, and also considers factors which may interfere with maintaining a healthy nutritional status in the elderly, that is, depression, motivation, dementia, fatigue, and mobility. Additionally, the MNA can be useful for planning educational activities and developing prevention programs for frail elderly patients (Bonilla-Palomas et al., 2011; Kagansky et al., 2005).

The causes of nutrient deficiency in elderly patients are multifaceted and include a range of intrinsic and extrinsic factors. One of the intrinsic factors is hormonal imbalance, and specifically, decreased secretion of the "hunger hormone" in the stomach, resulting in reduced appetite; 15% to 30% of elderly patients experience such an appetite decrease, which is strictly correlated with decreased physical activity, weight loss, and disability (Landi et al., 2010; Malafarina, Uriz-Otano, Gil-Guerrero, & Iniesta, 2013; Wilson et al., 2005). In a large European study aimed at identifying nutritional risk factors, malnourished patients ate more easily chewed foods (de Morais et al., 2013). These findings indicate that difficulty chewing is a clinical issue in elderly patients, contributing to decreased appetite and insufficient nutrient intake. Pharmaceutical treatment, dementia, depression, lack of social support, and social isolation have also been named as factors directly affecting appetite loss in elderly patients. There are still no gold standards for interventions contributing to improved appetite in the elderly population, and thus preventing or delaying the issue of poor nutritional status (von Haehling & Anker, 2014).

Patients with nutritional disorders are a heterogeneous group, due to the existence of multiple nutritional risk factors. Nutritional interventions should thus begin

with the identification of such nutritional risk factors and appropriate screening. On this basis, a tailored treatment plan should be implemented, considering the patient's preferences, resources, and needs. Research also indicates that nutritional education of medical personnel is correlated with the improved nutritional status of elderly patients (Figure 1).

Polypharmacy—General Knowledge

Polypharmacy is defined as the use of 4 or more medications, while severe polypharmacy is defined as the use of 10 or more medications (Zia, Kamaruzzaman, & Tan, 2015). One in 2 elderly patients is affected by polypharmacy and more than 1 in 10 by severe polypharmacy. This can be associated with self-medication and the use of over-the-counter drugs. Polypharmacy and multimorbidity form the so-called *illness and treatment spiral*, where an increasing number of comorbidities require treatment by multiple specialists, entailing the use of more medications, which in turn contributes to damage to subsequent organs (Agostini, Han, & Tinetti, 2004).

Adverse reactions occur more frequently in elderly patients, and the risk of their occurrence increases in proportion to the number of medications taken (10% per 1 drug). These reactions are typically nonspecific, difficult to diagnose, and viewed as a new clinical problem, which potentially results in a pharmacological cascade. In old age, multimorbidity and polypharmacy are associated with an increased risk of falls and decreased functional capacity (Wilson et al., 2011). Drugs typically associated with risk of falls include diuretics, hypotensives, antiarrhythmics, antidiabetics, antidepressants, and central nervous system agents (Woolcott et al., 2009).

Existing publications discuss the relationship between polypharmacy and fall risk (Weber, White, & McIlvried, 2008; Ziere et al., 2006). Some authors observe the correlation between polypharmacy and falls, which is stronger when elderly patients are prescribed at least one drug associated with fall risk: In such cases, the risk is much higher (Wilson et al., 2011). It seems that a more logical approach to fall risk assessment would take into account the appropriateness of medication rather than the number of drugs. This should include such factors as the type of drug, potential treatment benefits, and potential adverse effects (Brager & Sloand, 2005). The complex treatment protocols in polypharmacy can cause elderly patients to discontinue some medications or to skip doses, which can, in turn, lead to adverse effects (Basger, Chen, & Moles, 2008).

Polypharmacy should be monitored by a multidisciplinary team in cooperation with a hospital when it is necessary (Pulignano et al., 2010). Nurses providing care at the patient's home and on day wards should be especially involved. Interventions for reducing polypharmacy mainly include geriatric assessment and patient and family education provided by the prescribing physician (Chaudhry, Wang, Gill, & Krumholz, 2010).

Polypharmacy—Adherence Improvement Strategies

Patients' adherence to treatment is one of the essential criteria of treatment effectiveness. Interventions to

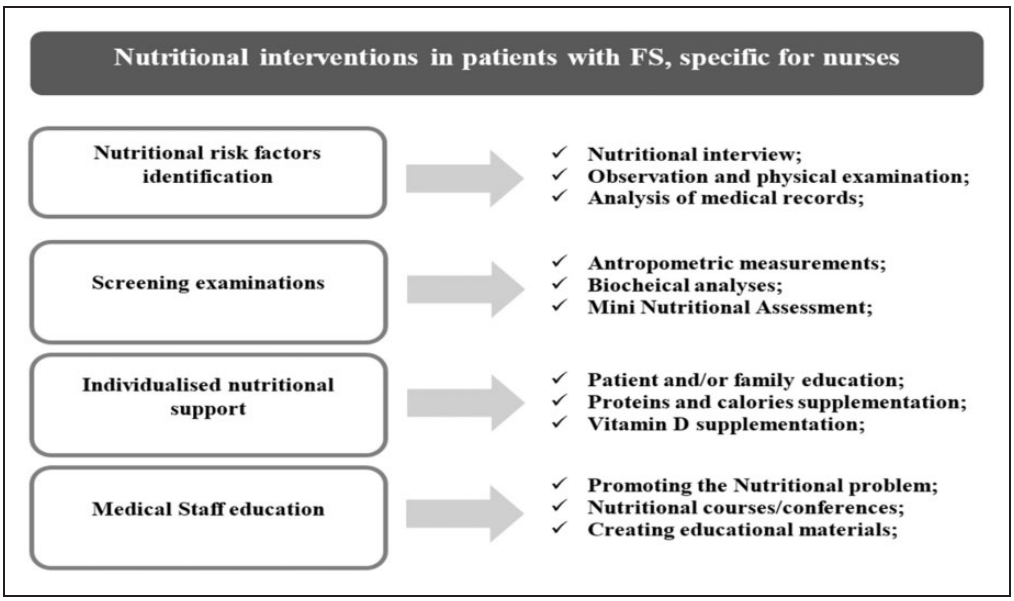

Figure 1. Nutritional intervention diagram.

improve adherence can be divided into four main categories:

1. Patient education;
2. Simplifying dosage regimens;
3. Facilitating consultations with a physician (extending office hours, especially in the evenings, reducing waiting times);
4. Improving communication between the patient and the members of the therapeutic team.

Educating the patient and their family is one of the most important areas of adherence-improving interventions (Jasińska, Kurczewska, & Orszulak-Michalak, 2009). Providing appropriately formulated information, monitoring the understanding and acceptance of recommendations on a regular basis, and including the patient in decisions regarding the choice of treatment methods, where possible, are fundamental to good adherence. The patient should be informed not only of the pharmaceutical and nonpharmaceutical recommendations but also on the impact of adherence on pharmaceutical treatment's effectiveness. One important aspect of intervention is ensuring support from the patient's family, friends, support groups, or social organizations (Jasińska et al., 2009).

One method significantly increasing adherence to pharmaceutical treatment is minimizing the number of medications administered, especially in elderly patients. This reduces the risk of pharmaceutical treatment discontinuation, as well as the risk of drug interactions and adverse effects. An important element in improving patient cooperation is replacing frequently dosed drugs with long-acting medication. Simplified dosage regimens and the use of combination drugs reduce the pill burden on the patient, simultaneously decreasing treatment costs and improving the safety profile of the pharmaceutical treatment used. Individual daily dose packaging systems with instructions for use and timing improve both patient comfort and treatment effectiveness. In all cases, factors to be considered include the benefits and risks of a given treatment for the particular patient, the patient's expectations and preferences, treatment safety and cost, and any possible alternatives. Reducing the pill burden may improve the patient's well-being and perceived health, changing the patient's attitude toward the chronic treatment (Nieuwenhuis, Jaarsma, van Veldhuisen, & van der Wal, 2012).

Another method for improving adherence is scheduling regular follow-up visits, including the monitoring of the number of pills taken. The analysis of the number of follow-ups and prescriptions is also of importance. Such follow-up visits should routinely involve including the patient as a partner in the decision-making process, providing simple and clear instructions, and highlighting the importance of regular medication-taking. Effective communication between the patient and the multidisciplinary team is the key to improving adherence (Jasińska et al., 2009). Reasons for nonadherence should be identified, and if necessary, alternative treatment plans should be sought together with the patient. Whenever the treatment plan changes, the patient should receive new instructions and schedules in writing.

For chronically ill patients, follow-up appointments should already be scheduled on their being discharged from the hospital. Monitoring and support can also be provided remotely, over the phone, or Internet (van der Wal & Jaarsma, 2008). Mobile applications improving adherence to treatment are increasingly popular. Such applications offer not only self-control journal functions but also enable the monitoring of medication-taking by family members.

Psychosocial support is a significant factor in improving adherence (Table 1). The inclusion of the patient's friends and family, as well as relating to other patients' experiences through Internet forums or patient groups, can be perceived better than factual information on the consequences of nontreatment.

Falls—Assessment, Prevention, and Rehabilitation

The risk of falls increases with age. More than half of patients above 80 years fall once a year, and those who have experienced a fall have a higher risk of subsequent falls. Risk factors for falling are living alone, sedentary lifestyle, polypharmacy, impaired cognitive function, impaired vision, malnutrition, and alcoholism (Sander, 2009). Falls contribute to disability and institutionalization in elderly patients and are the leading cause of mortality among elderly adults with traumatic brain injury (Fu, Fu, Jing, McFaull, & Cusimano, 2017; Taylor, Bell, Breiding, & Xu, 2017). Previous falls, hospitalization due

Table 1. Components of the Adherence-Improving Intervention Model (Gociong & Kardas, 2013).

Adherence-improving intervention - nursing interventions	Adherence-improving intervention - physician interventions
Monitoring adherence and correct medication-taking at each visit	Simplifying the treatment plan and Adjusting treatment to patient's current status
Evaluating acceptability of the treatment plan	Optimum treatment for comorbidities and monitoring treatment safety
Patient education since first visit and diagnosis	
Written treatment and management plan	
Discussing patient's preferences and goals in treatment decisions (number of drugs, frequency, cost)	

to falls, and visual impairment are considered the most significant risk factors for falling (Clemson, Mackenzie, Ballinger, Close, & Cumming, 2008). Therefore, the best method for assessing fall risk is to gather information on past falls and their circumstances (Al-Aama, 2011).

Patient assessment after a fall includes an examination of the nervous system and the musculoskeletal system, possible orthostatic hypotension, arrhythmias, infections, dehydration, and visual impairment. The examination must also include an assessment of motor fitness, specifically including an evaluation of balance and mobility in daily activities. The assessment of psychological state, cognitive function, possible depression, or anxiety due to falling risk is also of importance of the multidisciplinary teams (e.g., doctor and nurse; Bauman et al., 2014; Meuleners, Fraser, Bulsara, Chow, & Ng, 2016). The recommended interventions preventing or reducing the number of falls include improving safety in the patient's environment; identification and treatment of extant acute and chronic diseases and modification of pharmaceutical treatment, especially with psychotropic drugs and in cases of multimorbidity (Gillespie et al., 2003); providing assistive equipment; regular exercise to improve balance, posture, muscle strength, and joint mobility; and patient and family education on safe behaviors. The type of preventive interventions implemented depends on the patient's capabilities and independence (Bauman et al., 2014).

Nurses should focus on a safe patient environment which includes appropriate lighting in staircases and bathroom facilities adapted to the needs of the mobility-impaired patient. To prevent falls, measures such as raised toilets, shower seats, and grab rails can be used. Another important measure is placing shelves at an easily accessible height and providing chairs, which allow the patient to rest their feet comfortably on the ground while maintaining a 90° angle in knee joints. The elderly patient's bedroom should be in close proximity to the bathroom; thus, the patient can easily move between the two and should be fitted with a safety alarm or telephone for easy communication. It is also recommended to eliminate all unnecessary rugs, mats, and cables, which can impede mobility. Provision of assistive equipment and technical aids, as well as encouraging their use, also contributes to fewer falls (Clemson et al., 2008; Guo, Tsai, Liao, Tu, & Huang, 2014).

Rehabilitation plans should be comprehensive and should include measures to help maintain balance while walking and in other positions, as well as preparation for coping in case of a fall (El-Khoury, Cassou, Charles, & Dargent-Molina, 2013). One component of rehabilitation is gait improvement, comprising exercises in the proper posture prior to walking, raising and lowering the feet, and using appropriate walking aids. The most commonly used exercises include balance exercises while sitting, standing, and walking. Strength (resistance) exercises are gaining importance in elderly patient activity. Their primary purpose is to prevent the development of sarcopenia and the resulting functional impairment (Twardowska-Rajewska, 2006). Vitamin D supplementation in doses of 800 IU daily or higher has also been reported as a factor reducing the risk of falls, though this remains controversial; some authors report benefits from combined supplementation of vitamin D and calcium (Table 2; Stubbs, Brefka, & Denkinger, 2015).

Exercise Interventions

Aging is associated with a decrease in voluntary physical activity, which nonetheless is a significant preventive strategy, as it improves muscle strength, endurance, and maximum aerobic power, and reduces fatigability in elderly patients (Walston et al., 2006). Exercise interventions are considered a key factor to prevent, delay, reverse, or reduce the severity of frailty, or reduce the risk of adverse outcomes in irreversibly frail patients (Theou et al., 2011). In nursing care, the decision to start multicomponent exercise must be based on a careful consideration of all training components to form a

Table 2. Components of Patient History Useful in Fall Risk Assessment (Bauman et al., 2014).

Fall risk assessment	Interventions preventing falls
Physical examination, functional and cognitive status	Providing education and information
History of past falls	Supplementing vitamin D
Balance capabilities and muscle strength	Implementing individual exercise programs
Heart function and rhythm	Treating arrhythmias
Orthostatic hypotension	Preventing orthostatic hypotension
Medication and possible adverse effects	Deprescribing
Vision impairment	Treating visual impairment
Feet and footwear examination	Preventing walking difficulties
Environmental hazards	Adjusting the home environment

consistent program. Thus, the following factors must be considered:

- *Training frequency*. Determining the duration of the exercise intervention program is important for frailty management. A typical recommendation is performing the prescribed exercises three times weekly, for at least 3 months. The frequency recommendations vary between two and five sessions a week. In many studies, the duration of the program ranged from 1 to 18 months (Sihvonen, Sipilä, Taskinen, & Era, 2004); nonetheless, the most common intervention period was 3 months (Rosendahl et al., 2006).
- *Duration*. The optimum duration of a single training session is between 30 and 45 minutes, while some authors recommend sessions of up to 60 minutes. For frail patients, the session duration should be shorter than recommended for healthy populations. This is due to the fact that frail patients may be significantly more fatigable.
- *Intensity*. Intensity can be determined using a perceived exertion scale (Penko, Barkley, Koop, & Alberts, 2017). Nonetheless, interventions incorporating a resistance training program define the intensity as three sets of eight repetitions at approximately 80% of the individual's one repetition maximum. The ability to maintain higher exercise intensity positively affects the improvement in muscle strength and endurance (Sullivan et al., 2005; Sullivan, Roberson, Smith, Price, & Bopp, 2007).
- *Type of exercise*. Most researchers emphasize the benefits of multicomponent exercise interventions, comprising resistance, balance, aerobic, endurance, and flexibility training (Rejeski et al., 2008; Timonen et al., 2006).
- *Compliance with exercise sessions*. Compliance with the exercise program is an important measure of intervention effectiveness. It was shoved that mean compliance of 74% (McPhate, Simek, & Haines, 2013) is higher than has previously been reported for compliance to home exercise programs for falls prevention (Simek, McPhate, & Haines, 2012). Despite satisfactory outcomes, compliance should be evaluated in all interventions. Older patients are at risk of cognitive impairment, low mood, or even depression, which predisposes to affect the motivation in participating actively in the interventions, and may cause noncompliance by impairing abilities in planning, organizing, and executing tasks (Smith et al., 2017; Valiengo, Stella, & Forlenza, 2016).
- *Assessment and risk of adverse events*. The implementation of the training program should also be based on the assessed risk of any adverse events. In previous studies, no adverse events were observed during the exercise interventions. However, despite the lack of adverse events, attention should be paid to patient-reported back or knee pain or any musculoskeletal injuries, as well as the elderly response to exercise training (e.g., strength training; Latham & Liu, 2010).

Multicomponent training positively affects frail patients, and therefore should be included in the management of frailty (Theou et al., 2011). Moreover, multicomponent exercise interventions have been identified as the only type of intervention, which consistently improves frail patients' condition in terms of physical and functional fitness, gait, balance, strength, cognitive function, mood, and overall well-being (Landi et al., 2010). No consensus has yet been achieved as to the optimum training program, hence the need for further studies aiming to determine the best exercise intervention model (Table 3).

Mood and Cognitive Function

Cognitive functions include a number of intellectual processes, such as short-term memory, long-term memory, language processes (writing, reading, speech), visual and spatial processes, abstract thinking, and perceiving external stimuli. Overall, full cognitive function enables normal everyday bio-psychosocial functioning. Physiologically, aging processes involve age-associated memory impairment or age-related cognitive decline (Ishizaki et al., 2005). Prevention of cognitive decline is essential as well as nursing interventions for recovering or slowing cognitive deterioration in people who become frail. The International Consensus Group on "Cognitive Frailty" provides the first definition of a Cognitive Frailty condition in older adults. Cognition has already been considered as a component of frailty. Worse cognitive performance is dependently associated with higher mortality, even more than twice (Kelaiditi et al., 2013).

It is explained by problems in recognizing symptoms of diseases, worse adherence to therapeutically

Table 3. The Benefits of Exercise Interventions (de Labra, Guimaraes-Pinheiro, Maseda, Lorenzo, & Millán-Calenti, 2015).

Health benefits of exercise interventions
Increased mobility and flexibility
Improved gait
Improved motor control and coordination
Improved balance
Increased bone mineral density
Lower fall risk
Maintenance of functional independence in activities of daily living
Improved general well-being
Increased mobility and flexibility
Improved gait

interventions, and lack of the healthy lifestyle behaviors (van der Wardt et al., 2017). The interventions, which may be taken by nurses are (Gluhm et al., 2013) as follows:

1. Screening for cognitive decline using available tests: for example, Mini-Mental State Examination;
2. Stimulation exercises that result in an improvement in memory (memory training programs), for example, activities including learning strategies used to recall verbal and visual information, tasks such as categorical naming, ''spot the differences,'' and coding used to enhance attention and processing speed and also matrix reasoning exercises, and tangram-like games aimed at enhancing reasoning and problem-solving abilities;
3. Utilization of external memory aids such as notes, calendars, or other resources;
4. Strategies to improve episodic memory (list recall, face-name association, and text memory);
5. Training in self-assertiveness;
6. Creating an educational and training plan;
7. Creating linkages between the health-care system and the communities (Reichman, Fiocco, & Rose, 2010; Willis et al., 2006).

Conclusion

FS is a serious problem in the elderly population; therefore, managing frailty involves maintaining the balance between assets and deficits. It should be noted that FS is not synonymous with either comorbidity or disability, but comorbidity is an etiologic risk factor for FS and disability is an outcome of FS. Frailty is also a complex problem and it has a multidimensional nature; therefore, multiple interventions can be necessary to preserve this balance. Because of this nature, complex interventions integrating several components (e.g., nutrition, rehabilitation, and exercises) are more likely to be effective than simple, individual interventions.

Implications for Nursing

This article shows that nurses can play an important role in frailty management. Nursing teams may implement their own strategies to take care of elderly frail patients. Care strategies should be aimed at maintaining this homeostatic balance. To be able to meet the needs of frail elderly patients collaboration among health-care professionals is essential; and interventions should be coordinated. This requires collaborative skills of the health-care professionals and also demands a willingness of professionals to look beyond the borders of their own disciplines.

Author's note

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Author Contributions

All the authors made a substantial contribution to the concept or design of the work or acquisition, analysis, or interpretation of data; drafted the article or revised it critically for important intellectual content; and approved the version to be published. Each author has participated sufficiently in the work to take public responsibility for appropriate portions of the content.

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