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Orthopedic Nurses' Attitudes Towards Frailty and their Predictors

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ABSTRACT

The aim of this study was to determine orthopedic nurses' attitudes toward frailty and identify the factors influencing these attitudes. This descriptive, cross-sectional study was conducted in Turkey with a sample of 120 orthopedic nurses. Data were collected online via Google Forms using a Nurse Information Form and The Health Professionals' Frailty Attitude Scale. Descriptive statistics, correlation, and multiple linear regression analyses were employed to evaluate the data. The average age of the nurses was 31.85 ± 8.34 and 77.5% had a bachelor's degree education. The majority of orthopedic nurses did not have knowledge about the concept of frailty, its assessment, prevention and management. It was assessed that none of the orthopedic nurses assessed frailty in the patients they treated and cared for using a specific/validated measurement tool. It was determined that the concept of frailty was mostly associated with advanced age (12.5%), presence of chronic disease (11.6%) and limitation in physical activity (10.9%). The mean score of the Health Professionals' Frailty Attitude Scale was 68.46 ± 5.82 ; it was determined that they had a moderately positive attitude. Educational status and discussing about the frailty in practice with their colleagues are factors that statistically significant affect attitudes toward vulnerability. This study revealed that orthopedic nurses have a moderately positive attitude toward frailty and that their level of education and discussing about the concept of frailty with their colleagues in practice have an impact on attitudes. Understanding nurses' attitudes toward frailty is essential for improving the assessment and management of frailty in orthopedic patients.

Introduction

Population aging is occurring at an accelerated rate compared to the past. According to projections by the World Health Organization, by 2030, one in six individuals globally will be aged 60 years or older, and between 2015 and 2050, the proportion of the world's population aged 60 years and above is expected to increase from 12% to 22% (World Health Organization, 2024). These demographic changes, along with the increasing adverse health consequences of aging, contribute to individuals becoming more susceptible, frail, and weakened in response to stressors (Parish et al., 2019). The concept of frailty was introduced into the medical literature in the 1990s to explain the variability in health status observed among individuals of the same chronological age (Russ & Welstead, 2020). Since its definition, research on frailty has increased to explain its characteristics and outcomes. Frailty is primarily the result of physiological change associated with aging and is characterized by features such as weight loss, fatigue, muscle weakness, and reduced levels of physical activity (Clegg et al., 2013; Gleason et al., 2017). Moreover, it is recognized as a multidimensional syndrome that extends psychological and social domains. Psychological

components include conditions such as depression, anxiety, and cognitive impairment, while social components encompass factors like lack of social support, loneliness, and access to healthcare services (Buigues et al., 2015; Wleklik et al., 2020). These elements can adversely affect individuals' overall health status and quality of life, leading to various health issues (Zhang et al., 2019). It affects 70% of older adults living in the community (Zhang et al., 2020). The increasing number of frail older adults, along with the high prevalence of fatigue, weakness, multiple comorbidities, polypharmacy, reduced physical activity, and dependence in mobility within this population, has increased the demand for orthopedic surgeries (Greenstein & Gorczyca, 2019; Watt et al., 2018). Frailty researches have shown that frail older adults frequently experience orthopedic problems, particularly fractures (Cheng & Chang, 2017; Ravindrarajah et al., 2018). Frailty is associated with negative patient outcomes, including prolonged recovery, increased mortality risk, and complications (Cooper et al., 2016; Jones et al., 2024; Lemos et al., 2021). These adverse patient outcomes present a significant challenge for the healthcare team providing treatment and care to older patients. In older patients undergoing orthopedic surgery, the identification of frailty and the implementation of necessary interventions are crucial. Also, in this context, the role of orthopedic nurses extends beyond perioperative care; it also includes participation in comprehensive geriatric assessment, implementation of frailty screening, prevention falls, nutrition, assessment of cognitive status, prevention of delirium and coordination of multidisciplinary interventions (Uchmanowicz et al., 2018).

Preoperative identification of frail patients has become increasingly important for individualizing the patient care plan, predicting the risk of complications, and improving the management of the treatment process (Cooper et al., 2016; Gleason et al., 2017; Watt et al., 2018). Therefore, routine frailty assessment is recommended as part of the comprehensive assessment of patients scheduled for surgery (Lee et al., 2021; Yoltay & Korkmaz, 2021). Orthopedic nurses play a critical role in identifying signs of frailty, evaluating patient data, and contributing to the effective management of treatment and care. Through evidence-based nursing interventions, such as nutritional support, pain management, promotion of physical activity, and provision of psychological support, they can enhance patient outcomes and overall quality of care (Gobbens & Uchmanowicz, 2023; Uchmanowicz et al., 2018). A qualitative study investigating orthopedic nurses' views on frailty showed that the majority of nurses had heard the concept of frailty for the first time during the study and lacked sufficient knowledge on the topic (Canbolat Seyman & Sara, 2023). The quality of care and treatment for frail orthopedic patients is influenced by orthopedic nurses' knowledge, attitudes, and practices related to frailty. While attitudes cannot be directly observed, they are a significant factor that profoundly influences how individuals behave in specific situations. In this regard, evaluating attitudes, which play a crucial role in shaping behavior, is essential. A qualitative study focusing on orthopedic nurses' perspectives on frailty was conducted to gain deeper insights into their views (Canbolat Seyman & Sara, 2023). There is limited knowledge regarding the attitudes of orthopedic nurses, who frequently care for frail patients. This study aims to determine the attitudes of orthopedic nurses toward frailty, as well as the factors that are predictors of these attitudes. Unlike previous studies, this research employs a quantitative design with a reliable instrument for measuring attitudes.

Research questions

What are the attitudes of orthopedic nurses toward frailty?

What are the factors that predict orthopedic nurses' attitudes toward frailty?

Methods

Design

This study was conducted as a descriptive and cross-sectional design.

Participants

The study population consisted of nurses working as orthopedic nurses (in ward, outpatient clinic, and operating room) at any health institution (public or private) in the Turkey between 01.01.2024, and 31.05.2024, which represented the data collection period. Nurses who worked in orthopedics and traumatology wards, outpatient clinics, and operating rooms, and who volunteered to participate in the study, were included. The sample size was determined to be 111 nurses, calculated using a Daniel Soper sampling tool based on the number of independent variables, an effect size of 0.30, a significance value of 0.05, and a power of 90% (<https://www.danielsoper.com/statcalc/calculator.aspx?id=1>). This study completed 120 orthopedic nurses. Following the completion of the study, a post-hoc power analysis was performed using the G*Power 3.1.9.4 software, based on the difference in mean scores on the Frailty Attitude Scale between genders. Assuming an effect size of 0.80, a significance level of 0.05, and a sample size of 120, the statistical power of the study was calculated to be 0.92.

Data collection tools

The data collection tools were Nurse Information Form and The Health Professionals' Frailty Attitude Scale.

Nurse information form

The form prepared by the researchers includes 22 questions. The questions are related to the nurses' sociodemographic and work characteristics, such as age, gender, unit they work in, length of experience, etc., as well as their knowledge and practices on frailty.

The health professionals' frailty attitude scale (HPFAS)

The scale was developed by Yurttaş in 2022 to determine the attitudes of healthcare professionals toward frailty and consists of 21 questions. The sample of the scale development process consisted of 284 anesthesiology and reanimation physicians. It uses 5-liqert scoring system (Strongly agree = 5, Agree = 4, Undecided = 3, Disagree = 2 and Strongly disagree = 1). The scale contains 16 items containing positive (1, 2, 3, 4, 5, 6, 7, 12, 13, 15, 16, 17, 18, 19, 20, 21) and 5 items containing negative (8, 9, 10, 11, 14) attitudes. In scoring, positive items are scored from 5 to 1. Items containing negative statements are scored in reverse (from 1 to 5). The highest score obtained from the scale is 105, the lowest score is 21. The sum of the scores of each item in the scale constitutes the total score of the scale. A low score for the total scale indicates a negative attitude toward frailty and screening tests. Scale score averages can be used in the interpretation of the scores obtained from the scale. Cronbach Alpha value of the scale is 0.792. The scale consists of five sub-dimensions: Perception of Benefit (viewing the assessment of frail patients as a professional responsibility), Motivation (Activators) (willingness to implement treatment changes in frail patients), Self-Sufficiency (competence in using and evaluating frailty tests), Perception of Obstacle (challenges and obstacles in frailty assessment), Sensitivity/Seriousness (perception of the seriousness of frailty). Low scores from the sub-dimensions of the scale can be considered as a factor that negatively affects the individual's attitude (Yurttaş, 2022). In this study, the Cronbach alpha value of the scale was calculated as 0.853.

Data collection process

Data were collected using the snowball sampling method through Google Forms. Snowball sampling is a recognized and viable method of recruiting study participants not easily accessible or directly known to the researcher (Marcus et al., 2017; Parker et al., 2020). The survey link of the research was initially sent to 225 nurses registered with the Turkish Orthopedic and Traumatology Nurses Association. The nurses shared the online survey link with other orthopedic nurses. Participants were required to complete all items before submitting the form; therefore, no incomplete responses were recorded.

Statistical analysis

Statistical analyses were performed using IBM SPSS Statistics version 23.0 (released 2016; Armonk, NY: IBM Corp.). Descriptive data were evaluated with number, percentage, mean, and standard deviation. Skewness and kurtosis values (+2 and -2) were used to assess the normality of data distributions (George & Mallery, 2010). Pearson and Spearman correlation analyses were used to evaluate the relationships between variables. Multiple linear regression analysis was used to determine the factors affecting the attitudes of orthopedic nurses toward frailty. The significance level was accepted as $p < .05$.

Ethical considerations

The study procedures were approved by Balıkesir University Health Sciences Non-Interventional Research Ethics Committee (Date: 05.12.2023, No: 2023/134). In addition, permission was obtained from the Turkish Orthopedics and Traumatology Nurses Association to share the survey link to nurses registered with the association (Date: 01.01.2024, No: 128-2024). The research group consisted of nurses working in the Orthopedics and Traumatology Units at hospitals in the Turkey. Before the research questions began, information about the study was provided and a question was asked about their willingness to participate in the study. Those who answered yes to the question answered the research questions. In addition, the study was conducted in accordance with the Declaration of Helsinki.

Results

The average age of the orthopedic nurses participating in the study was 31.85 ± 8.34 ; 80.8% were female, 77.5% had a bachelor's degree, and 75% worked in a state hospital. It was determined that 65.8% of the nurses had been working in the orthopedics and traumatology clinic and 73.3% had been working as orthopedic nurses for 5 years or less (Table 1).

When asked about the first word that comes to mind upon hearing the term 'frailty,' 41.6% of nurses stated that they had 'no idea,' whereas 31.2% mentioned expressions related to psychological frailty (e.g., sensitivity, burnout, being hurt, hurting, touchiness, sadness, emotionality, intolerance) (Table 2).

Frailty has been most commonly associated with advanced age (12.5%), presence of chronic diseases (11.6%), and decreased physical activity (10.9%) (Figure 1).

It was determined that none of the nurses assessed frailty in the patients they treated and cared for; however, 45.8% reported discussing the concept of frailty with their colleagues in clinical practice. Additionally, 85.8% observed fatigue in their patients, while 97.5% stated that the patients had multiple chronic diseases and were on polypharmacy. Additionally, 55.8% of nurses reported assessing patients' weight loss over the past year, 80% evaluated their level of independence, 82.5% assessed their mood, and 77.5% evaluated the presence of urinary or fecal incontinence in their patients (Table 2).

Of the nurses, 59.2% responded 'I have no idea' to the question 'What are the strategies to prevent frailty?' Meanwhile, 14.1% stated that healthy nutrition, 10.6% indicated regular exercise, and 11.3% suggested providing psychological support as ways to prevent frailty (Figure 2).

The mean total score of the Orthopedic Nurses' HPFAS was determined to be 68.46 ± 5.82 . This score indicates a moderately positive attitude (Table 3).

A statistically significant, low-level positive correlation was identified between orthopedic nurses' perception toward frailty and their education level ($r = .238$) as well as their discussions of frailty with their colleagues in clinical practice ($r = .225$) (Table 4).

A multiple linear regression analysis was conducted to determine the contribution of factors associated with orthopedic nurses' attitudes toward frailty, and variables with significant correlations were included in the regression model. The model explained 10% of the total variance ($F = 8.150$,

Table 1. Characteristics of the orthopedic nurses (n = 120).

	n	%
Age (min-max/ $\bar{x} \pm SS$)	22–60	31.85 \pm 8.34
Gender	97	80.8
Female	23	19.2
Male		
Educational level	13	10.8
Health vocational high school/Associate degree	93	77.5
Bachelor's degree	14	11.7
Postgraduate		
Institution	118	98.3
Public hospital	2	1.7
Private hospital		
Department	79	65.8
Orthopedics and traumatology ward	37	30.8
Orthopedics and traumatology operating room	4	3.3
Orthopedics and traumatology outpatient clinic		
Work duration as a nurse (year)	65	54.2
0–5 year	14	11.7
6–10 year	16	13.3
11–15 year	8	6.7
16–20 year	17	14.2
21 year and above		
Work duration in orthopedic and traumatology units (year)	88	73.3
0–5 year	13	10.8
6–10 year	15	12.5
11–15 year	4	3.3
16 year and above		

$p < .001$). Among the independent variables included in the model, educational status ($\beta = 0.282$, $p = .002$) and discussions of frailty with their colleagues in clinical practice ($\beta = 0.183$, $p = .037$) were found to have a significant impact. These variables are statistically significant predictors of orthopedic nurses' attitudes toward frailty (Table 5).

Discussion

This study investigated the attitudes of orthopedic nurses toward frailty and the factors influencing these attitudes. It was found that the majority of orthopedic nurses lack knowledge regarding the concept of frailty, its assessment, prevention, and management. Moreover, it was observed that frailty is not assessed using a validated measurement tool in the institutions where these nurses work; however, they inquire about specific frailty-related characteristics in their patients. Frailty was most frequently associated with aging, chronic health conditions, and malnutrition. Furthermore, the study revealed that nurses hold a moderately positive attitude toward frailty, and that their educational level and professional discussions about frailty with colleagues significantly influence their attitudes.

Among the orthopedic nurses in our sample, 41.6% reported having no idea about the concept of frailty. This finding indicates that the concept of frailty is not adequately addressed in both nursing education and clinical practice. When asked what comes to mind when they hear the term of frailty, the majority of nurses mentioned psychological aspects (e.g., sensitivity, burnout, being hurt, being offended, irritability, sadness, emotionality, impatience) and physical aspects (e.g., decreased endurance, wear and tear, weakness, energy loss, fatigue, physical disability) of frailty. Nurses have defined frailty as a multidimensional condition with both physical and psychological components. Similarly, in a study conducted in Sweden, healthcare professionals also described frailty as a multidimensional concept, highlighting several interactive aspects. Furthermore, they identified physical weakness, illness, and dependence in daily activities as key characteristics of frailty (Gustafsson et al., 2012). In another study conducted with primary healthcare workers, it was found that the majority of participants had limited

Table 2. Nurses' knowledge and practices regarding frailty concept.

	n	%
Do you discuss frailty in clinical practice with your colleagues?	55	45.8
Yes	65	54.2
No		
Do you assess frailty in your patients?	0	0
Yes	120	100
No		
Do you observe fatigue in your patients?	103	85.8
Yes	17	14.2
No		
Do you detect multiple chronic disease in your patients?	117	97.5
Yes	3	2.5
No		
Do you observe polypharmacy in your patients?	117	97.5
Yes	3	2.5
No		
Do you evaluate your patients' weight loss in the last year?	67	55.8
Yes	53	44.2
No		
Do you assess the independence level of your patients?	96	80
Yes	24	20
No		
Do you assess the cognitive function of your patients?	99	82.5
Yes	21	17.5
No		
Do you assess the urinary or fecal incontinence of your patients?	93	77.5
Yes	27	22.5
No		
What is the first word that comes to your mind when you hear the word frailty?	52	41.6
I have no idea	39	31.2
Psychological frailty*	17	13.6
Physical frailty**	1	0.8
Risk of falling	13	10.4
Bone fragility***	3	2.4
Advanced age		
What is the source of the knowledge you have acquired on frailty?	52	28.1
Bachelor's education	10	5.4
Postgraduate education	18	9.7
Conference-symposium-webinar	43	23.2
Article-book	62	33.5
From colleagues		

*Sensitivity, burnout, hurt, being hurt, irritability, sadness, emotionality, intolerance.

**Decreased resilience, wear and tear, weakness, energy reduction, fatigue, physical disability.

***Osteoporosis, fracture, bone.

knowledge about frailty and defined frailty as synonymous with aging. Moreover, the concept of frailty was associated with the individual's biological age, wear and tear of the body, and the presence and accumulation of chronic health issues (Avgerinou et al., 2021). Frailty is a multidimensional and dynamic process that includes not only physical attributes but also social, psychological, and emotional dimensions (Rushton et al., 2023; Uchmanowicz et al., 2018; Zhao et al., 2023). A study conducted in Japan with older adults ($n = 4126$) in 2019 showed that the incidence of disability is associated with both physical and psychological frailty, and that individuals with psychological frailty have a higher risk of disability (Shimada et al., 2019). In another study conducted with older adults aged 75 and over, it was found that 8.6% of participants had physical frailty, 5.2% had cognitive frailty, 68.3% had mild cognitive impairment, and 7.8% had social frailty. The same study revealed that among the older adult who underwent psychological assessment, 25.7% had depressive mood and 5.2% were diagnosed with depression (Sugie et al., 2022). These findings support the multidimensional nature of frailty and align with the nurses' perspectives on frailty.

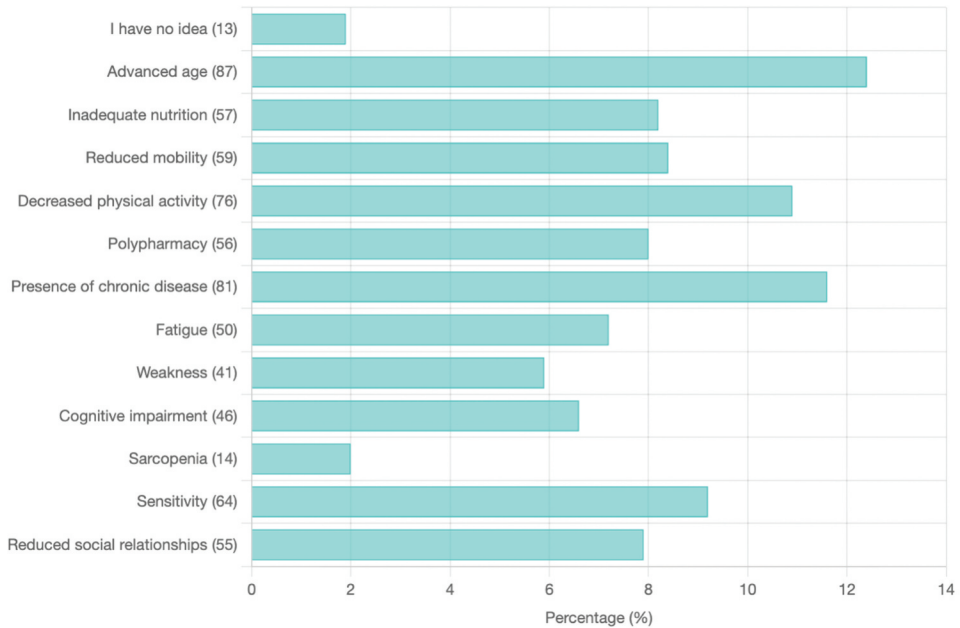


Figure 1. Factors associated with frailty.

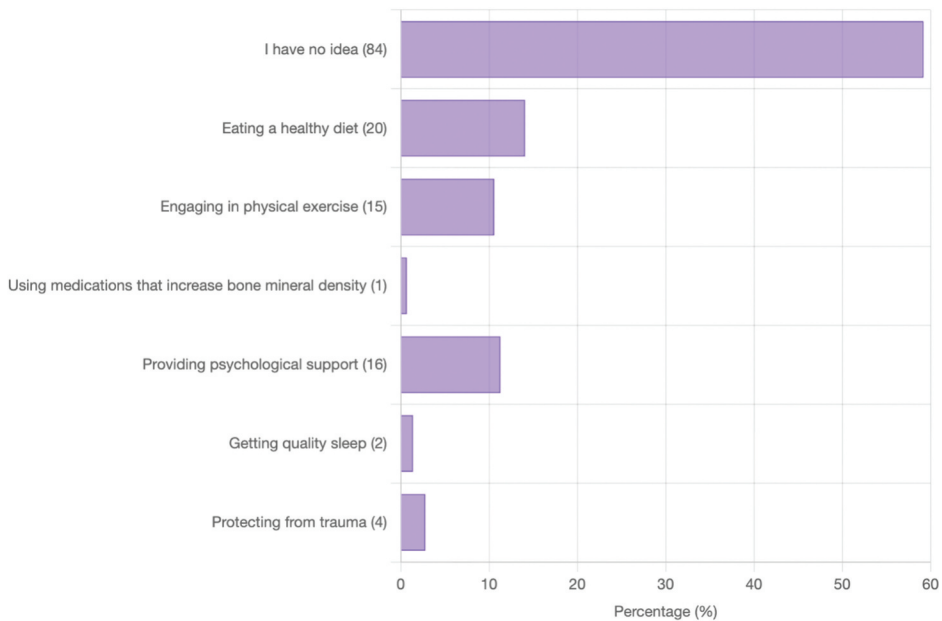


Figure 2. Strategies for preventing frailty.

In this study, orthopedic nurses most commonly associated the concept of frailty with advanced age, the presence of chronic diseases, limitations in physical activity, decreased mobility, inadequate/poor nutrition, and sensitivity. In a study by Gobbens et al., ($n = 251$), nurses associated frailty to physical deterioration, dementia, functional impairment, limitations in performing activities of daily living, and chronic diseases (Gobbens et al., 2022). The definition of frailty is still improving. However,

Table 3. Descriptive statistics of orthopedic nurses' scores for the Health professionals' frailty attitude scale ($n = 120$).

HPFAS	$\bar{x} \pm SS$	Nurses' scores		Scores that can be obtained from the scales	
		min	max	min	max
Perception of Benefit	26.65 \pm 4.35	8.00	35.00	7	35
Motivation	7.29 \pm 1.99	3.00	13.00	3	15
Self-efficacy	11.87 \pm 1.68	6.00	17.00	4	20
Perception of Obstacle	12.51 \pm 2.40	6.00	20.00	4	20
Sensitivity/Seriousness	10.13 \pm 2.01	3.00	15.00	3	15
Total Score	68.46 \pm 5.82	42.00	85.00	21	105

Table 4. Correlation matrix between orthopedic nurses' the Health professionals' frailty attitude scale scores and independent variables ($n = 120$).

		Characteristics of the Nurses						
		Age ^a	Gender ^a	Education status ^a	Work duration as a nurse ^a	Work duration as an orthopedic nurse ^a	Discussion of frailty with colleagues in clinical practice ^a	The evaluation of frailty in their patients ^a
HPFAS	r	.029	.167	.238**	.075	-.020	.225*	.038
	p	0.753	0.068	0.009	0.416	0.828	0.014	0.683

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).

^aSpearman coefficients.

Table 5. Factors affecting orthopedic nurses' attitudes toward frailty ($n = 120$).

Independent variables	β	T	p	Tolerance	VIF
Educational status	0.282	3.242	0.002*	0.992	1.008
Discussion of frailty with colleagues in clinical practice	0.183	2.106	0.037	0.992	1.008
Adjusted R2		.107			
F		8.150			
p		0.000			

* $p < .05$. Educational status (Health vocational high school/Associate degree = 1, Bachelor's degree = 2, Postgraduate = 3), Knowledge status about the concept of frailty (yes = 1, no = 0), Discussing about frailty in clinical practice with colleagues (yes = 1, no = 0).

there are several common characteristics shared by frail patients. These include weight loss in the past year, fatigue, low activity level, advanced age, slow walking, multiple comorbidities, and a decline in cognitive function (Rushton et al., 2023). The opinions of the nurses participating in our study are similar to these characteristics.

It was found that none of the orthopedic nurses in our sample assessed frailty in their patients using a valid and reliable measurement tool. This indicates a significant gap in patient evaluation in the orthopedic and traumatology departments of many hospitals in our country. The findings from studies in the literature suggest that frailty is a vital parameter for predicting surgical outcomes and recommend its routine assessment in the preoperative period (Jones et al., 2024; Lemos et al., 2021). However, frailty is a relatively new terminology for healthcare professionals in our country, and many centers do not incorporate frailty and its components in their patient evaluation parameters. On the other hand, the majority of orthopedic nurses reported frequently observing fatigue in their patients, along with high levels of chronic diseases and polypharmacy. Additionally, they stated that they inquire about their patients' cognitive status, level of independence, presence of fecal or urinary incontinence, and weight loss over the past year. Although the nurses do not assess frailty in their patients using a validated measurement tool, it is significant that they inquire about these parameters associated with frailty. This indicates that they are able to recognize many of the components of frailty. While this informal assessment reflects frailty awareness, the absence of

frailty assessment in formal protocols suggests the influence of systemic and institutional barriers, such as a lack of standardized guidelines, lack of integration of measurement tools into recording systems, time constraints, and conflicting clinical priorities. Furthermore, it remains unclear whether nurses use patient data to infer frailty and guide patient care. Interpreting these data as a whole, systematically assessing frailty, and using it to improve perioperative care quality is essential (Rushton et al., 2023; Uchmanowicz et al., 2018). However, they do not analyze this data to provide care specifically tailored to frail patients. Furthermore, the participants in this study expressed that they recognized the importance of frailty screening, but they did not utilize a validated measurement tool for screening frailty (Canbolat Seyman & Sara, 2023). In another qualitative study investigating nurses' views on frailty screening in hospitalized older adults, the majority of nurses stated that the clinical use of frailty assessment tools generates systematic data, and because this data is associated with patient outcomes such as falls and delirium, it is reflected in patient care (Warnier et al., 2021). The health outcomes of frail orthopedic patients can be improved with interventions tailored to their specific needs (such as nutritional support, early mobilization, pain management, prehabilitation, etc.). Therefore, determining the level of frailty and taking the necessary precautions should often be among the routine parameters followed by orthopedic nurses working with geriatric patients (Rushton et al., 2023).

Regarding frailty prevention practices, 59.2% of nurses responded with 'I don't know,' while 14.1% suggested healthy eating, 10.6% recommended exercise, and 11.3% indicated providing psychological support. In a study conducted with 251 nurses actively involved in patient care (2022), nearly all nurses emphasized the importance of screening for frailty prevention and supported frailty-preventive interventions. The most frequently mentioned frailty prevention practices included supporting patients through social networks (including caregivers and general practitioners) and promoting exercise and the performance of activities of daily living (Gobbens et al., 2022). Interventions that nurses can implement to prevent or mitigate frailty and its negative outcomes include maintaining healthy nutrition, managing polypharmacy, improving treatment adherence, assessing fall risk, preventing falls, promoting exercise, preserving mental health, and preventing cognitive decline (Uchmanowicz et al., 2018).

In another study examining nurses' perspectives on frailty, nearly all participants supported a preventive approach to frailty, 76.9% believed that the frailty process could be reversed, and 61% reported that frailty is assessed in the institution where they work (Gobbens et al., 2022). On the other hand, a qualitative study examining healthcare professionals' perceptions, attitudes, and educational needs regarding frailty highlighted that the concept of frailty is not sufficiently defined. It was also emphasized that barriers to the assessment and management of frailty are frequently associated with the healthcare system, including issues such as the lack of recognition of geriatrics as a specialty, gaps in professional education, and challenges related to staffing allied health professionals in community settings (Avgerinou et al., 2021). Considering factors such as the insufficient coverage of the concept of frailty in the nursing bachelor's curriculum and post-graduation education processes, the low participation rates in scientific activities due to economic reasons and the intensity of work life, and the lack of any implementation by the Ministry of Health country regarding the assessment and management of frailty, it is expected that orthopedic nurses in our study would have a moderately positive attitude toward frailty.

The majority of the nurses who participated in our study had bachelor's degree (77.5%) and postgraduate (11.7%) education. It was found that nurses' attitudes toward frailty were positively affected by increasing their level of education and sharing their knowledge and experiences with their colleagues. In the study by Avgerinou et al. emphasized that the lack of professional education constitutes a major barrier to the assessment and management of frailty (Avgerinou et al., 2021). In similar studies, it has been stated that there is a need for more information and education about frailty; it has been stated that training on frailty and frailty assessment tools and increasing interdisciplinary studies may enhance healthcare professionals' awareness (Britton, 2017; Coker et al., 2019).

Limitations of the research

The Health Professionals' Frailty Attitude Scale used in the study was originally developed for all healthcare professionals, and the sample during its development consisted of anesthesiologists and intensivists. The fact that this scale is not specifically designed for nurses and that a pilot application with nurses was not conducted in this study are considered limitations. Additionally, when interpreting the attitudes of orthopedic nurses toward frailty, the limited number of studies available in the literature on this subject should also be acknowledged as a limitation.

Conclusion

This study focused on understanding orthopedic nurses' attitudes toward frailty and the factors influencing these attitudes. The findings revealed that although nurses demonstrated moderately positive attitudes, most lacked knowledge and did not routinely assess frailty using validated tools. These results indicate that improving attitudes alone is not sufficient; attitudes need to be supported by evidence-based knowledge and standardized practices.

For clinical practice, integrating structured frailty assessment tools into orthopedic care protocols and providing targeted education on frailty could enhance both recognition and management of frail patients. For policy and training programs, prioritizing frailty education in nursing curricula and fostering interprofessional discussions about frailty may improve multidisciplinary care. Future research should explore the impact of such interventions on patient outcomes, thereby linking positive attitudes with effective clinical action.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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