

# Determining the awareness of surgical nurses regarding frail patients: a cross-sectional study

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## ABSTRACT

**Objectives:** The objective of this study is to determine the knowledge level and awareness of surgical nurses about fragile patients.

**Method:** Obtained through Introductory Information Survey Form created by the researchers and Fragile Patient Information Evaluation Form methods.

**Results:** The average age of the surgical nurses participating in the study was 28±5.01 years, the average professional experience was 5±5.09 years, and the average experience in the service they worked in was 3±2.83 years. The rate of those who heard the term 'frailty' for the first time is 63%. It was stated that 92.7% of the 110 surgical nurses participating in the study did not receive any training on fragility; It was stated that 50.9% of them think of the most vulnerable and weak patient when they think of a fragile patient. While 50% of them stated that when they suspected frailty in the patient, they evaluated involuntary weight loss, slowness (slowness in walking, muscle weakness), and fatigue; 70% stated that the biggest risk factor for frailty is being depressed or using antidepressant medication.

**Conclusions:** According to the results of the study, it can be said that the awareness of surgical nurses about the "fragile patient" should be increased. In the light of the data obtained, it can be suggested to organize trainings on "fragile patients" for surgical nurses. 'Fragile patient' education should be included in pre-graduation education and in-service training.

**Keywords:** Fragility, surgical nursing, fragile patient, awareness

The average human lifespan is increasing due to the increase in the quality of medical care in parallel with technological developments around the world [1]. According to the estimates of the World Health Organization, the number of people aged 60 and over is expected to reach two billion people in 2050, and the majority of this population is expected

to be in the middle and lower income group [2]. Increasing elderly population brings with it increasing health expenditures, the need for infrastructure regulation and problems. The adaptation process to the increasing elderly population is challenging, especially for economically underdeveloped and developing countries, and it is of great importance to identify the

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problems correctly and produce solutions quickly and feasibly [3].

With the aging of the population, the concept of 'fragility' gains importance. 'Fragility', also referred to as fragility, is a condition that negatively affects life satisfaction [4, 5]. Frailty is a syndrome that can occur in a wide range of areas, from mild physical inactivity to immobility, in patients over the age of 65, and can also affect cognitive disorders at certain levels [6]. General symptoms; slowness in walking, unconscious weight loss, decrease in appetite, decrease in Body Mass Index (BMI), gradual loss of muscle strength, feeling of inadequacy when performing physical movements, weakness, fatigue, deterioration in cognitive functions and memory loss [7].

Surgical patients are physically and psychologically vulnerable due to perioperative stress. This sensitivity accompanied by frailty syndrome can further increase the negative effects of the perioperative process in elderly patients. It is thought that evaluation of preoperative and postoperative frailty in surgical patients will provide useful additional information about postoperative morbidity, mortality, prognostic status and discharge [8].

In the care of fragile elderly people, the nurse, together with the healthcare team, should be able to detect complications that may develop in the elderly at an early stage, take the necessary precautions and provide treatment or rehabilitation services as needed [9]. For this reason, it is recommended that nurses have knowledge about frail elderly characteristics, frailty symptoms and risk factors [10].

It has been evaluated that surgical nurses' awareness of the fragility of patients, their awareness of this syndrome, and planning nursing care for fragile patients can contribute positively to the recovery of these patients. No study has been found in Turkey investigating the vulnerability awareness of surgical nurses in patients. In addition to determining the knowledge of surgical nurses about frailty and creating awareness on this issue; this study was planned with the idea that it could form a basis for future studies and that the data obtained could be used in planning the education of nurses.

In this study, it was aimed to determine the awareness of nurses working in surgical clinics about the frailty of elderly or adult surgical patients and their awareness of frail patients.

## METHODS

### *Population and Sample of the Research*

This research is a descriptive and cross-sectional study conducted to determine surgical nurses' recognition and awareness of fragile patients. The research was conducted in the surgical services of a public hospital in Turkey between September and October 2022. The universe of the research; There were 150 nurses working in surgical services. Nurses who have been actively working for at least one year in surgical clinics who voluntarily agreed to participate in the study. In the study, it was aimed to reach the whole universe. Before starting the research, Ethics Committee approval (dated 14.06.2022 and no: 2022-042) and institutional permission were obtained from the institution where the research will be conducted. During the data collection process, the researcher (İÖ) first visited the surgery clinics and gave verbal and written information about the research and distributed the survey forms to the volunteer nurses to participate in the study. After approximately 30 minutes, he visited the clinics and collected the forms again. 110 nurses participated in the study voluntarily and filled out the data collection forms completely and gave them to the researcher. In order to determine the adequacy of the sample size, it was determined that the sample number should be at least 54 in the sample calculation made with 0.5 effect size, 95% power and 0.05 margin of error using the G\*Power 3.1.9.7 (Franz Faul, Universität Kiel, Germany) program. In this case, since 110 nurses participated in the study, it was concluded that sufficient sampling was achieved. Of the 40 nurses who were not included in the study, 28 did not agree to participate in the study, and 12 were determined to be nurses who were not actively working at the time the study was conducted.

### *Data Collection Forms*

In order to obtain the data of the study, the "Introductory Information Survey Form" created by the researchers and the "Fragile Patient Information Evaluation Form" created based on the literature [11, 12] were used.

### *Introductory Information Survey Form*

Descriptive characteristics of nurses (age, education level, years of experience in the profession, the

**Table 1. Distribution of surgical nurses according to their descriptive characteristics (n=110)**

Introductory features	Mean±SD	Min.-Max.
Age (year)	28±5.01	22-46
Duration of Professional Experience (years)	5±5.09	1-28
Duration of working in the service you work in (years)	3 ±2.83	1-19
	<b>n</b>	<b>%</b>
<b>Age group (years)</b>		
20-26 years	40	36.4
26-32 years	46	41.8
32-46 years	24	21.8
<b>Educational status</b>		
Health vocational high school + associate degree	13	11.8
License and Above	97	88.2
<b>Job description in the service you work for</b>		
Service/clinic nurse	95	86.4
Training nurse	1	0.9
Service responsible nurse	4	3.6
Intensive care nurse	10	9.1
<b>How to work in the service you work for</b>		
Daytime shift only (08.00-16.00)	17	15.5
Day shift + Seizure	41	37.3
Variable shift (alternating triple shift system)	11	10
Fixed shift (in a fixed shift segment on a triple shift)	3	2.7
Night shift only (16.00-24.00 or 24.00-08.00)	38	33.5

length of time you have worked in the ward you work in, your job description in the ward you work in, the way you work in the ward you work in), the status of receiving training on frail patients, the first expression that comes to mind when talking about frail patients, what do you evaluate when you suspect frailty in a patient? , what are the risk factors for frailty, do you evaluate the patients you care for in terms of frailty, do you prepare a care plan for the frail patient when you detect a frail patient, what is the impact of the frail patient on the hospital cost in surgical clinics, do you consider the concept of frailty as a risk factor for the surgical patient, Is being a frail patient an independent risk factor for hospital stay and delayed discharge? Have you used a frail patient scale in the ward you work in? Do you feel competent in the nursing management of frail patients? Is frailty seen only in elderly patients? Have you heard the terms physical frailty and

cognitive frailty before? A 21-question survey form was used, which included questions such as "When you identify a fragile patient, would you share this information with your teammates?" and "Is multidisciplinary care and treatment necessary for a fragile patient?"

### Statistical Analysis

The research data were transferred to the SPSS for Windows V-23.0 program and number (n), percentage (%), mean ±standard deviation values were calculated as descriptive statistics.

## RESULTS

The distribution of the nurses participating in the study according to their descriptive characteristics is given

in the table. According to this; the average age of nurses is  $28 \pm 5.01$  years, their average professional experience is  $5 \pm 5.09$  years, and their average experience in the ward they work in is  $3 \pm 2.83$  years. While 41.8% of the nurses participating in the study were between the ages of 26-32; 88.2% had a bachelor's degree or above; The job description in the ward where 86.4% worked was ward/clinic nurse; It was determined that the working style of 37.3% of them was Day + duty (Table 1).

It was stated that 92.7% of the 110 surgical nurses participating in the study did not receive any training

on fragility; It was stated that 50.9% of the patients, the most vulnerable and weak patient comes to mind first when the fragile patient is mentioned. When they suspect frailty in a patient, 50% of them state that they evaluate involuntary weight loss, slowness (slowness in walking speed, muscle weakness), and weakness; 70% stated that frailty is the biggest risk factor being depressed or using antidepressant medication (Table 2).

Table 3 shows the distribution (n=110) of the answers given to the questions asked to the nurses about the 'fragile patient'. According to the Table, the nurses

**Table 2. Distribution of nurses according to their answers, what they evaluate when they suspect, the first thing that comes to mind when they think of 'fragile patient' education and vulnerability**

	n	%
<b>1. Have you received any training about the fragile patient?</b>		
Yes	8	7.3
No	102	92.7
<b>2. What is the first phrase that comes to your mind when you say frail patient?</b>		
The most vulnerable and weakest patient	56	50.9
Patients who are stressed and at increased risk of becoming stressed	40	36.4
Patient with low physical activity	9	8.2
Tired patient	1	0.9
weak patient	2	1.8
Patient with weight loss	2	1.8
<b>3. Which ones do you evaluate when you suspect frailty in a patient?</b>		
Involuntary weight loss	6	5.5
Slow movement	19	17.3
Exhaustion	7	6.4
All	55	50
None	4	3.6
No idea	19	17.3
<b>4. Which of the following is among the risk factors for frailty*?</b>		
Advanced age	48	43.6
Low level of education	27	24.5
Continuing smoking and alcohol consumption in old age	26	23.6
Being on hormone therapy after menopause	21	19.1
Be operated	28	25.5
Not being married	12	10.9
Being depressed or taking antidepressant medication	78	70.9

\*This is the answer of 110 people, it has been multiplied by n since more than one option can be marked.

**Table 3. Distribution of the answers given to the questions asked to the nurses about the 'fragile patient' (n=110)**

QUESTIONS	Yes	No	I am not aware of such a concept
	n (%)	n (%)	n (%)
1. When planning treatment and care for a fragile patient, is it important to provide treatment and care to the individual and her family with a holistic approach?	100 (90.9)	10 (9.1)	0
2. When you identify the fragile patient, would you share it with your teammates?	53 (48.2)	12 (10.9)	45 (40.9)
3. Is multidisciplinary care and treatment necessary for a fragile patient?	53 (48.2)	3 (2.7)	54 (49.1)
4. Is being a frail patient an independent risk factor for hospital stay and delayed discharge?	53 (48.2)	12 (10.9)	45 (40.9)
5. Do you consider the concept of frailty as a risk factor for the surgical patient?	52 (47.3)	11 (10.0)	47 (42.7)
6. Do you assess the patients you care for frailty?	31 (28.2)	61 (55.4)	18 (16.4)
7. Do frail patients increase hospital costs in surgical clinics?	31 (28.2)	16 (14.5)	63 (57.3)
8. Have you heard the terms physical frailty and cognitive frailty before?	24 (21.8)	86 (78.2)	0
9. When you detect a frail patient, do you prepare a care plan for the frail patient?	20 (18.2)	38 (34.5)	52 (47.3)
10. Do you feel competent in fragile patient management?	11 (10)	43 (39.1)	56 (50.9)
11. Have you used a frail patient scale in the service you work in?	3 (2.7)	107 (97.3)	0
12. Is the fragile patient seen only in geriatric patients?	2 (1.8)	48 (43.6)	60 (54.5)

were asked to answer the questions asked as yes, no and I am not aware of such a concept. The answers given are combined and given in Table 3. Do you assess the patients you care for frailty? While 61% answered no to the question; 52% when you detect a frail patient, do you prepare a care plan for the frail patient? He answered the question, "I am not aware of such a concept." 63%: Do frail patients increase hospital costs in surgical clinics? He answered his question as "I am not aware of such a concept."

## DISCUSSION

Frailty in the patient can be listed as slowness in walking, weight loss, decrease in appetite, decrease in body

mass index, weakness and fatigue due to decrease in muscle strength, and deterioration in cognitive functions [12]. Frailty is also defined as the disorder of several interrelated physiological systems [11].

Distinguishing frail from non-frail older persons should be an essential part of the assessment in any healthcare encounter that may or may potentially result in an invasive procedure; harmful medicine allows doctors to weigh benefits, risks, and patients to make informed choices. The potential failure to detect frailty exposes patients to interventions from which they may not benefit and may actually be harmed [12].

In a study conducted by Çakmur *et al.* [13] in rural areas of Kars, the frailty level in individuals over the age of 65 was determined as 7.1%, while the pre-frailty period rate was determined as 47.3%. In their



study by O'Caoimh *et al.* [14] it was determined that the lowest overall frailty rate in Europe over the age of 65 was 3.7% (Norway); the highest rate was determined as 41.5% (Ireland). In Turkey, these values were determined to be mildly frail, 10% moderately frail, and 13.1% severely frail, among individuals over the age of 65[15].

In the study conducted by Akturan *et al.* [11] the frailty survey form was applied to 58 family physicians, and the rate of those who answered correctly to the question of the first word that comes to mind when 'Fragility' was mentioned was 12.1%. In the same study, 38.2% answered yes to the question whether they evaluated patients in terms of frailty; In this study applied to family physicians, 5.2% of physicians stated that they had no idea what to do when they suspected frailty. In our study, it was stated in the survey applied to nurses that 50.9% of them said that when they say fragile patient, the first thing that comes to mind is the most vulnerable and weak patient; In the study, 39% of the nurses surveyed answered yes to the question of whether they evaluate patients for frailty; 17.3% of nurses stated that they had no idea what to do when they suspected frailty. Looking at these data, while our study and the study conducted by Akturan determined similar values in terms of evaluating the patient in terms of frailty, it was determined that the rate of nurses not knowing what to do when a frail patient is suspected was higher. Additionally, looking at the data of our study, the fact that only 10% of nurses feel competent in managing fragile patients' reveals the gravity of the situation.

When we make a general evaluation of the results of our study, the most striking finding is that the majority of nurses have insufficient awareness of the 'frail patient'. In addition, the fact that 92.7% of 110 surgical nurses stated that they did not receive any training on frailty reveals the lack of education. This situation also creates a deficiency in understanding the importance of the multidisciplinary approach, the treatment and care of frail patients, and its relationship with hospital stay and cost.

Although there are many studies on frail patients in the literature, there are no studies that measure nurses' frailty knowledge and experience levels. For this reason, it is anticipated that this study will be the source of many studies.

## CONCLUSION

Our study provides insight into how surgical nurses conceptualize the frail patient. Additionally, it was revealed that surgical nurses' level of knowledge about frailty patients was not sufficient. In the light of the data obtained, it can be said that in-service training on 'frail patient' and 'frailty patient assessment' should be organized for surgical nurses and that these trainings should be increased. There is a need for comprehensive, multicenter studies on the awareness, knowledge levels and practices of primary healthcare professionals about 'frail patients'.

### Authors' Contribution

Study Conception: İÖ, AY, BÇ; Study Design: İÖ, AY, BÇ; Supervision: İÖ, AY, BÇ; Funding: İÖ, AY, BÇ; Materials: İÖ, AY, BÇ; Data Collection and/or Processing: İÖ, AY, BÇ; Statistical Analysis and/or Data Interpretation: İÖ, AY, BÇ; Literature Review: İÖ, AY, BÇ; Manuscript Preparation: İÖ, AY, BÇ and Critical Review: İÖ, AY, BÇ.

### Conflict of interest

The authors disclosed no conflict of interest during the preparation or publication of this manuscript.

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