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Knowledge of Clinical Frailty Scale among Intensive Care Nurses at Tertiary Care Hospital

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ABSTRACT

Clinical Frailty Scale (CFS) is an easy way to measure, all elderly ICU patients on a regular basis, especially when advanced care plans are involved. It ought to be applied when making decisions for family members and nurses as well. **Objective:** To determine the knowledge of the clinical frailty scale among intensive care nurses at Tertiary Care Hospital. **Method:** The cross-sectional study was conducted at Tertiary Care Hospital of Karachi from 1st January to 15th March 2024. Data were collected by a valid and reliable tool through the convenience sampling technique from ICU nurses having minimum of three months of experience, was included. Other nurses who were on leave during data collection and nursing students were excluded from the study. **Results:** A total of 65 respondents participated in the study, majority 39 (60%) of them were from the age group 25 to 35 years. More than half 36 (55.4%) had a B.S. nursing qualification. Most of the respondents had ≤ 5 years of total clinical experience in 55 (84.6%), and ICU experience in 62 (95.4%). Out of total participants, 60 (92%) of the respondents had poor knowledge, followed by fair 5 (8%) knowledge while 0 (0%) participants had good knowledge about CFS. **Conclusions:** It was concluded that the knowledge of nurses regarding clinical frailty scale was poor. Knowing more about the knowledge of clinical frailty scale among ICU nurses who frequently care for frail and older patients can help identify frailty and multidisciplinary care. Educating nurses more about frailty may promote nursing care strategies for frail patients.

INTRODUCTION

An indicator of physiological deterioration, frailty is a biological condition marked by diminished resistance and backup to shocks, which predisposes to unfavorable outcomes [1,2]. Numerous medical conditions that require additional care and constant observation can affect patients in the intensive care unit (ICU), such as respiratory failure, sepsis, cardiac arrhythmias, kidney failure, liver failure, and others. The concept of frailty is becoming more widely acknowledged as significant and having effects on older individuals' health [3]. Since Clinical Frailty Scale (CFS) is easy way to measure, all elderly ICU patients should have it done on a regular basis, especially when advanced care plans are involved. It ought to be applied when making decisions for family members and nurses as well [4]. Compared to other staff members, nurses spend more time with patients, and CFS supports nurses in making decisions regarding patients' care. [5] When evaluating the benefits and drawbacks of performing CPR on a vulnerable patient, nurses are essential in helping the patient's family understand the situation with the help of CFS [6]. After a quick interview and physical examination, a healthcare professional will usually offer the CFS to patients who have been admitted to the intensive care unit. [7]Nurses can keep a close eye out for indicators of frailty in patients, such as weakness, weariness, or changes in cognitive function, and they can communicate these findings to the medical team [8]. Healthcare personnel—especially nurses—must always exercise competence and caution when carrying out their procedures. [9]. Poor frailty and poor quality of life after hospital discharge have been reported to increase the requirement for organ support in older ICU patients with short-term mortality and to lengthen ICU and hospital stays. [10]. Educating nurses about frailty may promote the use of efficient caregiving

methods for fragile patients with complicated medical needs [11]. Manuel et al., study identifies the need for targeted education about frailty identification, reversibility, and management to improve frailty identification and management in hospitals. [12]. A qualitative study exploring the understanding of frailty among European healthcare policy makers reported a lack of awareness among general clinicians and AHPs. There is an imperative need for education and training of PHC professionals, recruitment and training of AHPs and interdisciplinary collaboration for the delivery of person-centred care for people with frailty [13]. In addition to teaching patients and families about prevention and management techniques for issues associated to frailty, nurses can also discuss frailty and its effects on recovery. Thus, in order to minimize patient harm, nurses' awareness of CFS is crucial.

This study aimed to assess the level of knowledge among nurses regarding the CFS in Tertiary Care Hospital, Karachi, Pakistan.

METHODS

A cross sectional study was conducted at Tertiary Care Hospital, Karachi from 1st January to 15th March, 2024. All the nurses working in critical care areas were the targeted population. All ICU nurses having minimum three months of ICU experience in tertiary care hospital was included. While nursing students and nursing interns were excluded from the study. The sample size was calculated by G* power software. There was a previous study done in 2020; taken as reference [1]. Effect size had been calculated through pre- and post-difference of average frailty index scale i.e., 0.75 and assumed standard deviation 2. In addition, the 95% confidence level and the 5% absolute precision were considered for sample size calculation and the 80% power of the test. The progression of sample size calculation by putting the above-mentioned values in the stated software and adding a 10 % non-response rate, the recommended Sample size was 65 [14]. Data were collected by using convenience sampling technique after the formal approval of selected Tertiary Care Hospital. The questionnaire, a valid and reliable tool, was adopted by the Dalhousie University which was an open-access questionnaire [15]. The tool was reviewed by five ICU experts and their feedback was incorporated into the tool. The final CVI of relevance was 0.93 and clarity was 0.97. The tool was divided into two sections. First, there are four questions about socio-demographic information and twelve questions about nurses' knowledge of the frailty scale. The tool comprises 12 items (1 point for each item). Those with a score of less than 6 (50%) were regarded to have poor knowledge, those with a score of 6 to 9 (50% to 75%) were considered to have fair knowledge, and those with a score of more than 9 points (75%) were considered to have good knowledge. Data were analyzed by SPSS version 21.0. Frequency and percentage were calculated for demographic characteristics of the participants and Fisher Exact Test was applied to check the association

between CFS knowledge level and demographic variables. Additionally, there was a reference to an Ethical Review Committee's permission letter number (8001123MRNUR), as well as to permission obtained from data collection sites in the reference number (ZU/2024/01/02). Written informed consent was taken from all the participants before the data collection. Additionally, the study participants were offered to withdraw at any time from the study if they were not willing to participate while confidentiality and anonymity were maintained.

RESULTS

The demographic characteristics of study participants. A total of 65 respondents participated in the study, 39 (60%) of them were from the age group 25 to 35 years, while 4 (6.2%) were aged between 35 to 50 years. There was almost equal participation of male and female, all were staff nurses, and more than half 36 (55.4%) had a B.S. Nursing qualification, with no one, who had MSN. Most of the respondents had ≤ 5 years of total clinical experience in 55 (84.6%), and ICU experience in 62 (95.4%). None of the participants had previous training in frailty (Table 1).

Table 1: Demographic Characteristics of the Participants

Characteristics	n (%)
Age	
18-24 Years	22 (33.8)
25-35 Years	39 (60.0)
35-50 Years	4 (6.2)
Gender	
Male	33 (50.8)
Female	32 (49.2)
Qualification	
Diploma	29 (44.6)
BSN	36 (55.4)
MSN	00 (0.0)
Total Clinical Experience	
≤ 5 Years	55 (84.6)
> 5 Years	10 (15.4)
ICU Experience	
≤ 5 Years	62 (95.4)
> 5 Years	3 (4.6)
Prior Frailty Training	
No	65 (100.0)
Yes	00 (0.0)

The level of knowledge about frailty among study participants' categories as poor, fair and good. 60 (92%) of the respondents had poor knowledge followed by fair in 5 (8%). None of the participant had good knowledge about frailty (Table 2).

Table 2: Level of Knowledge about Frailty

Level of Knowledge	n (%)
Poor knowledge	60 (92.3)
Fair knowledge	5 (7.7)
Good knowledge	0 (0.0)

The association of demographic characteristics with frailty knowledge levels was evaluated using Fisher Exact test. None of the variable was found in statistically significant association with level of knowledge about frailty (p-value > 0.05)(Table 3).

Table 3: Association of Demographic Characteristics with Frailty Knowledge

Characteristics	Poor n (%)	Fair n (%)	p-value~
Age			
18-24 Years	22 (100.0)	0 (0.0)	
25-35 Years	34 (87.2)	5 (12.8)	0.20
35-50 Years	04 (100.0)	0 (0.0)	
Gender			
Male	29 (87.9)	4 (12.1)	0.35
Female	31 (96.9)	1 (3.1)	
Qualification			
Diploma	27 (93.1)	2 (6.9)	1.00
BSN	33 (91.7)	3 (8.3)	
Total Clinical Experience			
≤5 Years	52 (94.5)	3 (5.5)	0.16
≤5 Years	8 (80.0)	2 (20.0)	
ICU Experience			
≤5 Years	57 (91.9)	5 (8.1)	1.00
≤5 Years	3 (100.0)	0 (0.0)	

~ Fisher Exact Test, Values are Presented as Count (Row %)

DISCUSSION

The elderly population, most at risk of negative outcomes such as falls, disabilities, hospital admissions, or the need for long-term care, is referred to as frailty in medicine. In this study, the level of knowledge of the clinical frailty scale (CFS) was assessed among nurses the respondents' overall level of knowledge regarding CFS was not satisfactory; only (8%) of participants had fair knowledge and 92% had poor knowledge about the CFS. On the contrary, in 2019, a mixed method analysis of providers' knowledge, attitude, and perception regarding frailty assessment revealed that 50% of respondents (76/151) stated that they considered frailty in their patients more than 50% of the time, based on the primary concepts of the Health Belief Model [16]. Henjani *et al.*, reported a 'good' (38%) or 'fair' (40%) understanding of frailty. Nearly a quarter of respondents reported that they were 'not at all' experienced in undertaking frailty assessment in their practice [17]. In the current study, the knowledge score regarding CFS among nurses was (8.1%) among those who have ICU experience of more than 5 years and those who have working experience of less than 5 years scored (0.00%). The findings consequently showed that knowledge levels regarding CFS increase with experience years and vice versa. In contrast, another study conducted in 2022 on the development and evaluation of an evidence-based, theory-grounded online Clinical Frailty Scale tutorial revealed that clinicians' (including nurses and physicians) knowledge regarding frailty assessment was

33% [18]. In the present study, surprisingly, (12.8%) of the participants scored fair who aged between 25–35 years and all other participants aged less than 25 and more than 35 years scored poor. Coker *et al.*, study found that all participants in their study expressed a desire for more training on frailty and the use of frailty screening tools [19]. Likewise, the clinical frailty scale is not in practice use in critical care units in the present context however the demographic variables and years of experience did not show any association with the level of knowledge regarding the clinical frailty scale. In contrast, one more study conducted in 2023 to assess the management and identifying frailty by health professionals revealed that the average age of the respondents who worked in clinical practice was 48 years [20]. In the current study, the male participants scored fair (12.1%) and female (3.1%) participants. Moloney *et al* reported that limited awareness of frailty screening tools was noted in the survey and is likely caused by resource pressures, knowledge, and training deficits among staff [21]. Many different aspects of physical, behavioral, and emotional health can have an impact on frailty in the elderly. The necessity for individualized multifactorial therapies has been brought to light by the recent realization that frailty is multidimensional [22].

CONCLUSIONS

This study sought to contribute in understanding the knowledge level of ICU nurses regarding clinical frailty scale. The quantitative findings put forward the fair and poor level of nurses and the large knowledge of nurses regarding the clinical frailty scale was poor. Knowing more about the knowledge of clinical frailty scale among ICU nurses who frequently care for frail and older patients can help identify frailty and multidisciplinary care. Educating nurses more about frailty may promote nursing care strategies for frail patients.

Authors Contribution

Conflicts of Interest

All the authors declare no conflict of interest.

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