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ORIGINAL

Knowledge, Attitudes, and Perceived Barriers of ICU Nurses Regarding Early Mobilization of Patients in South West Bank Hospitals: A Descriptive Cross-Sectional Study

Conocimientos, actitudes y barreras percibidas por las enfermeras de UCI con respecto a la movilización temprana de pacientes en hospitales del suroeste de la ribera: un estudio descriptivo transversal.

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ABSTRACT

Background: Early mobilization (EM) in intensive care units (ICUs) reduces complications including ICU-acquired weakness, delirium, prolonged mechanical ventilation, and functional decline. Despite its proven benefits, implementation remains inconsistent, particularly in resource-limited settings. Understanding nurses' knowledge, attitudes, and perceived barriers is essential to improve EM practice. Objective: To describe ICU nurses' knowledge, attitudes, and perceived barriers regarding early mobilization in hospitals in the South West Bank. Methods: A descriptive cross-sectional study was conducted among 151 ICU nurses from multiple hospitals in the Southern West Bank. Participants completed a self-administered questionnaire incorporating the Provider Barriers to Early Mobilization Scale. Descriptive statistics summarized participant responses, and barriers were ranked according to combined agreement. Results: The mean knowledge score was 76.26 (SD = 19.65), indicating generally adequate knowledge. The mean attitude score was 49.63 (SD = 8.66), reflecting moderate attitudinal barriers, while the mean perceived barrier score was 58.70 (SD = 11.46). The most frequently reported barrier was the perception that ICU patients were too critically ill to be mobilized (82.8%). Other common barriers included inadequate nurse-to-patient staffing (62.9%), the belief that physical or occupational therapists should primarily perform mobilization (63.6%), concerns about increased nursing workload (62.9%), and lack of confidence in safe mobilization practices (51.7%). Conclusion: ICU nurses demonstrated adequate theoretical knowledge but faced important attitudinal, organizational, and resource-related barriers that limited routine implementation of early mobilization. Educational interventions, standardized protocols, adequate staffing, improved access to equipment, and interdisciplinary collaboration are required to facilitate consistent early mobilization practices and improve patient outcomes.

Keywords: Early Mobilization, ICU Nurses, Knowledge, Attitudes, Perceived Barriers, Intensive Care Unit, West Bank, Critical Care Nursing

RESUMEN

Antecedentes: La movilización temprana (MT) en las unidades de cuidados intensivos (UCI) reduce complicaciones como la debilidad adquirida en la UCI, el delirio, la ventilación mecánica prolongada y el deterioro funcional. A pesar de sus beneficios demostrados, su implementación continúa siendo inconsistente, especialmente en entornos con recursos limitados. Comprender los conocimientos, las actitudes y las barreras percibidas por el personal de enfermería resulta fundamental para fortalecer esta práctica. Objetivo: Describir los conocimientos, las actitudes y las barreras percibidas por el personal de enfermería de UCI respecto a la movilización temprana en hospitales del suroeste de Cisjordania. Métodos: Se realizó un estudio descriptivo transversal en 151 enfermeros de UCI pertenecientes a varios hospitales del sur de Cisjordania. Los participantes completaron un cuestionario autoadministrado que incluyó la Escala de Barreras del Proveedor para la Movilización Temprana. Se utilizaron estadísticas descriptivas para resumir los datos y clasificar las barreras según el nivel de acuerdo. Resultados: La puntuación media de conocimientos fue de 76,26 (DE = 19,65), lo que indicó un nivel adecuado. La puntuación media de actitudes fue de 49,63 (DE = 8,66), reflejando barreras actitudinales moderadas, y la puntuación media de barreras percibidas fue de 58,70 (DE = 11,46). La principal barrera fue considerar que los pacientes estaban demasiado graves para movilizarse (82,8%). También destacaron la insuficiente dotación de personal, la percepción de que la movilización corresponde principalmente a fisioterapeutas y la falta de confianza para realizarla con seguridad. Conclusión: Aunque el personal mostró conocimientos adecuados, persisten barreras organizativas y actitudinales que requieren programas educativos, protocolos estandarizados, mejor dotación de recursos y colaboración interdisciplinaria para favorecer la movilización temprana rutinaria.

Palabras clave: movilización temprana; enfermeras de UCI; conocimientos; actitudes; barreras percibidas; unidad de cuidados intensivos; Cisjordania; enfermería de cuidados críticos.

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INTRODUCTION

Early mobilization (EM) in intensive care units (ICUs) refers to assisting critically ill patients to perform at least range-of-motion exercises as soon as clinically possible during their ICU stay(1). This evidence-based intervention significantly reduces complications associated with prolonged immobility, including ICU-acquired weakness, delirium, deep vein thrombosis, ventilator-associated pneumonia, and prolonged mechanical ventilation duration(2). EM programs have been associated with improved functional outcomes, reduced ICU and hospital length of stay, and decreased mortality rates among critically ill patients(3,4).

ICU nurses play a central role in EM implementation, as they are the primary healthcare providers responsible for continuous bedside assessment and daily care activities (5,6). Nursesâ€™ knowledge of EM encompasses the theoretical and practical understanding of mobilization principles, guidelines, benefits, safety criteria, and referral protocols (7). Studies consistently show that nurses with specialized training and higher knowledge levels exhibit more positive attitudes and are more likely to practice EM (8,9). In Palestinian critical care settings, knowledge gaps have been documented across essential procedures: only 16.1% of critical care nurses demonstrated good knowledge of clinical alarm management, and 60.6% had received no alarm-related training (10). These findings indicate that knowledge deficits and inadequate training are systemic across critical care nursing in Palestine, and are likely to affect early mobilization practice. These systemic barriers extend beyond mobilization; recent mixed-methods research in Southern West Bank ICUs revealed that inadequate staffing and workload challenges are the primary drivers of poor clinical alarm management practices, with over 65% of critical care nurses demonstrating poor compliance due to these structural deficits (11,12). Furthermore, broader infrastructural limitationsâ€”such as computer shortages, system crashes, and unreliable internetâ€”have been documented as significant barriers to nursing efficiency and documentation in Palestinian hospitals, directly competing with the time required for patient mobilization (13,14). These findings collectively indicate that knowledge deficits and infrastructural bottlenecks are systemic across critical care nursing in Palestine, heavily constraining time-intensive practices like early mobilization.

Attitudes toward EMâ€”encompassing thoughts, beliefs, and feelings about mobilization practicesâ€”are strongly associated with implementation likelihood. Negative or ambivalent attitudes, often driven by safety concerns, fear of patient harm, and perceived workload, constitute significant barriers(1,15). Perceived barriers are defined as the obstacles ICU nurses identify as hindrances to EM, encompassing organizational factors (staffing shortages, lack of equipment), patient-related factors (clinical instability, contraindications), and personal factors (lack of confidence, inadequate training)(16,17).

The Palestinian healthcare system operates under unique constraints, including restricted access to medical supplies, limited advanced training opportunities, high patient-to-nurse ratios, and movement barriers such as military checkpoints(7,18). Following the October 7th Gaza war, nurses reported high levels of post-traumatic stress symptoms (PTSS), with nearly half (49.2%) experiencing violence at Israeli checkpoints, which significantly reduced their quality of life(19,18). These compounded stressors likely reduce nursesâ€™ capacity to adopt new evidence-based practices such as early mobilization.

Internationally, numerous studies have documented gaps in EM implementation. In China, a multicenter survey of 512 ICU nurses revealed that only 2.5% demonstrated good EM knowledge, and merely 31.4% held positive attitudes(1). In Nepal, 40% of ICU nurses had poor knowledge, with inadequate nurse-to-patient ratios and lack of mobility protocols as primary barriers(20). In Iran, while 72% of nurses exhibited positive attitudes, major barriers included lack of skilled staff (76.6%) and patient-related factors(15). In Malaysia, although 97.9% practiced some mobilization, most activities were in-bed, with attitude-related barriers being most significant(22). In Ethiopia, 40.1% of clinicians had poor knowledge, with lack of training as a major concern(21).

Regionally, studies from the Middle East have revealed comparable challenges. In Saudi Arabia, ICU nurses demonstrated moderate levels of evidence-based practice knowledge, with knowledge and attitudes as predictors of EM implementation(6). In Egypt, the majority of ICU nurses had inadequate knowledge (63.3%) and negative attitudes (58.3%) before educational interventions(8), and ICU-related constraints, lack of training, and inadequate protocols were identified as major barriers(26).

In Palestine, Shalhout(23)found that only 35.1% of ICU nurses had knowledge about the ABCDEF bundle, suggesting that EM practices are neither systematic nor standardized, and that nurses face considerable barriers to translating knowledge into action.

The existing literature reveals several gaps. Most studies have described knowledge, attitudes, or barriers in isolation without comprehensively examining the pattern of these factors using validated instruments. Research from conflict-affected, resource-constrained settings such as Palestine is particularly scarce. Critically, no prior study in Palestine has systematically described the full profile of ICU nursesâ€™ knowledge, attitudes, and perceived barriers to early mobilization using a validated, multidimensional tool, nor has any study ranked the relative importance of attitudinal versus behavioral barriers in this context.

Study Objectives

The aim of this study is to describe the knowledge, attitudes, and perceived barriers of ICU nurses regarding early mobilization of patients in ICU settings in South West Bank hospitals.

METHODS

Research Design and Setting

This study employed a descriptive cross-sectional design to assess the knowledge, attitudes, and perceived barriers of ICU nurses regarding early mobilization. The descriptive cross-sectional approach was selected because it allows description of current knowledge, attitudes, and barriers at a single point in time without manipulating the study environmentâ€”appropriate for the research questions posed. The study was conducted in ICUs of both governmental and private hospitals in the Southern West Bank of Palestine.

Study Population and Sampling

The target population consisted of all registered nurses working in ICUs of the participating hospitals. According to hospital records, the total number of eligible ICU nurses across these facilities was 168. Slovinâ€™s formula was applied to determine the minimum required sample size: nâ€¯=â€¯Nâ€¯/â€¯(1â€¯+â€¯NeÂ²), where Nâ€¯=â€¯168 and eâ€¯=â€¯0.05 (95% confidence level), yielding a minimum required sample of 118 nurses. A convenience sampling method was used to facilitate access during shifts. A total of 151 ICU nurses met the inclusion criteria and agreed to participate, resulting in a response rate of 89.9%.

Inclusion criteria required that participants be currently employed as ICU staff nurses with a minimum of six months of ICU experience and willing to provide written informed consent. Nurses were excluded if they had less than six months of ICU experience, were student or volunteer nurses, or were on extended leave during the data collection period.

Instrumentation

Data were collected using a self-administered, structured questionnaire adapted from the Provider Barriers to Early Mobilization Scale originally developed and validated by Hoyer et al.(25). This instrument is based on the conceptual framework of Cabana et al.(24), which distinguishes three categories of barriers to following recommended clinical practice: barriers related to knowledge, attitudes, and behavior. The questionnaire was adapted to the Palestinian ICU context with minor wording modifications to ensure clarity and cultural relevance.

The final instrument comprised four sections:(1)Sociodemographic characteristics, including age, gender, years of nursing and ICU-specific experience, hospital type, working shift, and educational level;(2)Knowledge subscale (4 items) assessing training received, referral criteria for physical and occupational therapy, and patient education practices;(3)Attitudes subscale (9 items) measuring perceptions of patient sickness, mobilization safety, role responsibility, workload concerns, and clinical confidence; and(4)Perceived barriers and behaviors subscale (13 items) addressing equipment adequacy, interprofessional communication, staffing, contraindications, mobilization frequency, leadership support, injury risk, physician orders, patient resistance, family involvement, documentation, and time constraints. A 5-point Likert scale (1â€¯=â€¯Strongly Disagree to 5â€¯=â€¯Strongly Agree) was used for all items. Mobilizing patients was defined as getting a patient out of bed (sitting, standing, or ambulation), consistent with the original survey definition.

Validity and Reliability

Content validity was assessed by a panel of three nursing experts, including academic faculty from the College of Nursing and clinical specialists in intensive care. Based on their feedback, several items were reworded and one item was added to the barriers subscale to address local concerns about family involvement in mobilization. Face validity was evaluated through a pilot study with 25 ICU nurses not included in the main sample. Minor adjustments were made to three items based on their feedback.

Reliability was assessed using Cronbachâ€™s alpha. In the pilot study, the Knowledge Subscale yielded alphaâ€¯=â€¯0.82, the Attitudes Subscale alphaâ€¯=â€¯0.79, and the Perceived Barriers and Behaviors Subscale alphaâ€¯=â€¯0.85. In the main study, these values remained satisfactory: alphaâ€¯=â€¯0.84, 0.81, and 0.87, respectivelyâ€”all exceeding the accepted threshold of 0.70 for nursing research instruments.

Data Collection Process

Data collection began after obtaining ethical approval from the Institutional Review Board of Palestine Polytechnic Universityâ€™s College of Nursing and written permission from each hospitalâ€™s administration. The research team visited ICUs during morning, afternoon, and night shifts to ensure equal participation opportunity across shift patterns. Nurses who agreed to participate signed an informed consent form before receiving the questionnaire. Participants completed the questionnaire in a quiet area during their break or after their shift, taking approximately 15â€“20 minutes. Completed questionnaires were sealed in unmarked envelopes and deposited in a locked collection box to ensure confidentiality. Data collection was conducted over four consecutive weeks.

Data Analysis

Data were analyzed using SPSS version 25. Because study aims were purely descriptive, no inferential statistical tests were conducted. Sociodemographic variables were summarized using frequencies, percentages, means, and standard deviations. Responses to each subscale item were analyzed using frequencies and percentages, means, and standard deviations. Total subscale scores were transformed to a 0â€“100 scale by summing raw item scores and converting to a percentage of the maximum possible score.

To identify the most critical barriers, a ranking procedure was applied to items from the Attitudinal and Behavioral subscales. For directly stated barrier items, the combined percentage of participants selecting â€œAgreeâ€ or â€œStrongly Agreeâ€ was calculated. For complex perception items (e.g., the statement about patients being too sick), the combined percentage selecting â€œUndecided,â€ â€œAgree,â€ or â€œStrongly Agreeâ€ was used, as these responses all reflect clinical hesitation. Barriers were ranked from highest to lowest based on these percentages. Missing data were handled by excluding only the incomplete item from analysis.

Ethical Considerations

The study was conducted in full compliance with the Declaration of Helsinki. Ethical approval was obtained from the Institutional Review Board of Palestine Polytechnic Universityâ€™s College of Nursing. Informed consent was obtained from every participant, who received a detailed written information sheet explaining the studyâ€™s purpose, the voluntary nature of participation, and the right to withdraw at any time without consequence. Confidentiality and anonymity were rigorously protected: no questionnaires collected personal identifiers, and completed questionnaires were sealed before collection. All data were reported only in aggregate form. Electronic data were stored on a password-protected computer, and paper records were shredded after analysis completion.

RESULTS

Sociodemographic Characteristics

A total of 151 ICU nurses participated in the study. The sample was predominantly young (48.3% aged 20–30 years; 41.1% aged 31–40 years; mean age 31.87 ± 6.82 years) and male (67.5%). Approximately one-third had 1–5 years of general nursing experience, and nearly half (49.7%) had 1–5 years of ICU-specific experience, indicating a relatively early-career work-force. The majority worked in governmental hospitals (61.6%) and on rotating shifts (79.5%).

Most held a bachelor's degree in nursing (72.2%). Full sociodemographic data are presented in Table 1.

Table 1. Sociodemographic Characteristics of Participants (Nâ€¯=â€¯151)

Variable	Category	n	%
Age	20â€“30 years	73	48.3
	31â€“40 years	62	41.1
	41â€“50 years	13	8.6
	>50 years	3	2.0
	Mean ± SD	31.87	± 6.82
Sex	Male	102	67.5
	Female	49	32.5
General Nursing Experience	1â€“5 years	50	33.1
	6â€“10 years	48	31.8
	11â€“16 years	36	23.8
	>16 years	17	11.3
ICU-Specific Experience	1â€“5 years	75	49.7
	6â€“10 years	57	37.7
	11â€“16 years	6	4.0
	>16 years	13	8.0
Hospital Type	Governmental	93	61.6
	Private	58	38.4
Working Shift	Straight morning	31	20.5
	Rotating (morning/afternoon/night)	120	79.5
Educational Level	Diploma	26	17.2
	Bachelorâ€™s degree	109	72.2
	Masterâ€™s degree	12	7.9
	Doctoral degree	4	2.6

Note. SD=Standard Deviation.

Knowledge Regarding Early Mobilization

Nurses' responses on the Knowledge Subscale are presented in Table 2. The mean Knowledge Subscale score was 76.26 (SD = 19.65) on a 0–100 scale, reflecting generally adequate knowledge, though notable variability was observed. The majority of nurses reported receiving training in how to safely mobilize inpatients (70.2% agreed or strongly agreed; mean 3.73 ± 1.03) and indicated knowledge of appropriate referral criteria for physical therapy (78.2%; mean 3.98 ± 0.98). Slightly lower agreement was observed for occupational therapy referral (65.6%; mean 3.72 ± 1.00), suggesting a relative gap in awareness of occupational therapy's role in ICU rehabilitation. Most nurses also reported educating patients to exercise or increase physical activity in the absence of contraindications (67.5%; mean 3.79 ± 1.00).

Attitudes Toward Early Mobilization

Table 3 presents item-level responses for the Attitudes Subscale. The mean Attitudes Subscale score was 49.63 (SD = 8.66), indicating a moderate level of attitudinal barriers. A substantial proportion of nurses agreed or were undecided about whether their patients were too sick to mobilize (combined 82.8%), and approximately one-quarter (24.5%) agreed that mobilization could be harmful—suggesting residual safety concerns. More than half (63.6%) endorsed the view that physical or occupational therapists should be primarily responsible for patient mobi-lization, potentially reflecting role uncertainty. The most prevalent barrier was the perception that increased mobilization would add to nursing workload (62.9%; mean 3.58 ± 0.94). Confi-dence in the ability to safely mobilize patients was notably low, with 51.7% expressing uncer-tainty or lack of confidence (mean 2.67 ± 1.21).

Table 2. Knowledge Subscale: Item-Level Responses (Nâ€¯=â€¯151)

Item	SD	D	U	A	SA	Mean ± SD
Received training on safe inpatient mobilization.	0.7%	16.6%	11.9%	48.3%	21.9%	3.73 ± 1.03
Knows appropriate referral criteria for physical therapy.	2.6%	6.6%	12.6%	46.4%	31.8%	3.98 ± 0.98
Knows appropriate referral criteria for occupational therapy.	4.0%	6.6%	23.8%	44.4%	21.2%	3.72 ± 1.00
Educates patients to exercise unless contraindicated.	3.3%	6.6%	22.5%	43.0%	24.5%	3.79 ± 1.00
Knowledge Subscale Total (0â€“100 scale)						76.26 ± 19.65

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Mean ± SD values are on a 1–5 Likert scale. Knowledge Subscale Total is transformed to a 0–100 scale.

Table 3. Attitudes Subscale: Item-Level Responses (Nâ€¯=â€¯151)

Item	SD	D	U	A	SA	Mean ± SD
Inpatients are too sick to be mobilized.*	3.3%	13.9%	32.5%	39.7%	10.6%	3.40 ± 0.97
Increasing mobilization will be harmful.*	8.6%	15.9%	31.8%	27.2%	16.6%	3.27 ± 1.17
PT/OT should be primary mobilization provider.*	4.0%	11.9%	20.5%	40.4%	23.2%	3.67 ± 1.08
Increasing mobilization is more work for nurses.*	3.3%	9.9%	23.8%	51.0%	11.9%	3.58 ± 0.94
Increasing mobilization is more work for PT/OT.*	3.3%	11.9%	23.2%	43.7%	17.9%	3.61 ± 1.02
Patients mobilized â‰¥3Ã— daily will have better outcomes.	13.2%	15.9%	21.2%	37.7%	11.9%	3.19 ± 1.23
Uncertain when it is safe to mobilize.*	17.9%	29.1%	21.9%	24.5%	6.6%	2.73 ± 1.21
Not confident in ability to mobilize patients.*	21.9%	24.5%	23.2%	25.8%	4.6%	2.67 ± 1.21
Patients have time to be mobilized â‰¥3Ã— daily.	4.6%	6.6%	28.5%	51.0%	9.3%	3.54 ± 0.92
Attitudes Subscale Total (0â€“100 scale)						49.63 ± 8.66

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Mean ± SD values are on a 1–5 Likert scale. Attitudes Subscale Total is transformed to a 0–100 scale (higher = greater barriers). Items marked * were reverse-coded for scoring.

Behaviors Related to Early Mobilization

Nurses' responses on the Behaviors Subscale are shown in Table 4. The mean Behaviors Sub-scale score was 58.70 (SD = 11.46), reflecting moderate perceived behavioral barriers. Equipment inadequacy was identified as a barrier by 46.4% of respondents, and 62.9% felt that nurse-to-patient staffing was insufficient to support regular mobilization. Over half (51.7%) agreed that many patients had contraindications to mobilization. Despite these obstacles, most nurses reported mobilizing patients at least once per shift (59.1%; mean 3.52 ± 0.99) and regularly documenting functional status (60.3%; mean 3.74 ± 1.09). Strong departmental leadership support for mobilization was acknowledged by 73.5%, representing a key potential facilitator for practice improvement.

Table 4. Behaviors Subscale: Item-Level Responses (Nâ€¯=â€¯151)

Item	SD	D	U	A	SA	Mean ± SD
Lack of proper equipment/furnishings for mobilization.*	9.3%	15.9%	28.5%	33.8%	12.6%	3.25 ± 1.15
Physical functioning is regularly discussed by the team.	2.6%	11.9%	19.9%	43.7%	21.9%	3.70 ± 1.02
Staffing is adequate to mobilize patients.	2.6%	15.9%	18.5%	37.1%	25.8%	3.68 ± 1.10
Patients often have contraindications to mobilization.*	1.3%	13.2%	33.8%	41.1%	10.6%	3.46 ± 0.90
Unless contraindicated, patients mobilized ≥1× daily by nurses.	4.0%	7.9%	31.8%	42.4%	13.9%	3.54 ± 0.96
Departmental leadership is supportive of patient mobilization.	2.6%	4.6%	19.2%	52.3%	21.2%	3.85 ± 0.90
Increasing mobilization increases risk of nurse injury.*	2.0%	13.2%	34.4%	38.4%	11.9%	3.45 ± 0.94
Patients who can be mobilized have appropriate physician orders.	1.3%	13.2%	26.5%	42.4%	15.2%	3.54 ± 0.98
Patients are resistant to mobilization.*	6.6%	6.6%	41.7%	35.8%	9.3%	3.34 ± 0.97
Family members frequently interested in helping mobilize patients.	2.6%	9.9%	17.9%	42.4%	27.2%	3.81 ± 1.03
Documents physical functioning status during shift.	3.3%	9.3%	27.2%	30.5%	29.8%	3.74 ± 1.09
Does not have time to mobilize patients during shift.*	10.6%	23.8%	23.8%	35.1%	6.6%	3.03 ± 1.13
Unless contraindicated, mobilizes patients ≥1× during shift.	3.3%	12.6%	25.8%	45.0%	13.2%	3.52 ± 0.99
Behaviors Subscale Total (0–100 scale)						58.70 ± 11.46

Note. SD = Strongly Disagree; D = Disagree; U = Undecided; A = Agree; SA = Strongly Agree. Mean ± SD values are on a 1–5 Likert scale. Behaviors Subscale Total is transformed to a 0–100 scale (higher = greater barriers). Items marked * were reverse-coded for scoring.

Ranking of Primary Barriers to Early Mobilization

To identify the most critical impediments to early mobilization, individual items from the Attitudinal and Behavioral subscales were ranked based on the combined frequency of perceived obstacles. Results are presented in Table 5.

The primary barrier identified was attitudinal: 82.8% of nurses expressed agreement or uncertainty about whether ICU patients were too sick to be safely mobilized. This was closely followed by role attribution concerns, with 63.6% of respondents endorsing the belief that physical or occupational therapists should hold primary responsibility for patient mobilization, suggesting a cultural reliance on external rehabilitation specialists rather than nurse-led mobilization.

Workload and resource constraints formed the next tier of obstacles. Approximately 62.9% of nurses reported that current nurse-to-patient staffing levels were inadequate for regular mobilization, while an identical 62.9% noted that expanding mobilization would significantly strain nursing workloads. Similarly, 61.6% felt this would create excessive work for therapy staff. Clinical and structural barriers rounded out the profile: over half (51.7%) noted frequent patient contraindications, 51.7% reported lack of clinical confidence, and 46.4% cited inadequate equipment. Time constraints during shifts were identified by 41.7%.

DISCUSSION

This descriptive study assessed knowledge, attitudes, and perceived barriers toward early mobilization (EM) among 151 ICU nurses in South West Bank hospitals, revealing a clear knowledgeâ€“implementation gap. Nurses possess generally adequate theoretical knowledge of EM (mean 76.26/100) yet exhibit moderate attitudinal barriers (49.63/100) and behavioral/perceived barriers (58.70/100). The most critical barrier was the perception that patients are too sick to mobilize (82.8% agreed or undecided), followed by inadequate staffing (62.9%), role uncertainty regarding PT/OT responsibility (63.6%), and workload concerns (62.9%). These findings have important implications for practice, education, and policy in the Palestinian healthcare context.

Table 5. Ranking of Top Attitudinal and Behavioral Barriers to Early Mobilization (Nâ€¯=â€¯151)

Rank	Domain	Barrier Description	Agreement (%)	Mean ± SD
1	Attitude	Perception that ICU patients are too sick to be mobilized	82.8%	3.40 ± 0.97
2	Attitude	Belief that PT/OT should be the primary mobilization provider	63.6%	3.67 ± 1.08
3	Behavior	Inadequate nurse-to-patient staffing for regular mobilization	62.9%	3.68 ± 1.10
4	Attitude	Concern that mobilization significantly increases nursing workload	62.9%	3.58 ± 0.94
5	Attitude	Concern that mobilization increases PT/OT workload	61.6%	3.61 ± 1.02
6	Attitude/Safety	Uncertainty or lack of confidence in safe mobilization execution	51.7%	2.67 ± 1.21
7	Behavior	High frequency of clinical patient contraindications	51.7%	3.46 ± 0.90
8	Behavior	Shortage of proper mobilization equipment and furnishings	46.4%	3.25 ± 1.15
9	Behavior	Absolute lack of time during nursing shifts	41.7%	3.03 ± 1.13

Note. Percentages represent combined “Agree” and “Strongly Agree” responses for directly stated barrier items, or combined “Undecided/ Agree/Strongly Agree” for complex clinical per-ception items (e.g., patient sickness severity). PT/OT = Physical Therapy/Occupational Therapy.

The knowledge level observed in this sample is notably higher than reports from several low- and middle-income countries (LMICs). In China, only 2.5% of ICU nurses demonstrated good EM knowledge (1); in Ethiopia, 40.1% had poor knowledge (21); and in Nepal, 40% had poor baseline knowledge (20). This favorable finding may be attributed to the fact that 72.2% of participants held bachelor’s degrees, and 70.2% reported prior training in safe mobilization. However, the large standard deviation (SD = 19.65) indicates substantial variability across nurses, and the low-er agreement for occupational therapy referral (65.6% vs. 78.2% for physical therapy) signals a specific knowledge gap regarding OT’s role in ICU rehabilitation. Similar knowledge variability has been documented in Palestinian critical care nursing for other procedures—only 16.1% demonstrated good alarm management knowledge (10), and only 35.1% knew the ABCDEF bundle (23)—suggesting that inconsistent training is a systemic issue.

The finding that 82.8% of nurses either agreed or were undecided that patients are “too sick” to mobilize is striking and aligns with international literature where patient instability is consist-ently cited as the leading barrier (1,15). Critically, this attitudinal barrier ranked higher than all organizational barriers, including staffing, equipment, and time. This suggests that even if structural resources were improved, many nurses would still hesitate to mobilize patients due to safety concerns. The additional findings that 24.5% believed mobilization could be harmful and 51.7% lacked confidence further reinforce that psychological and cognitive barriers are at least as important as structural ones.

Role confusion was another significant attitudinal barrier: 63.6% believed PT/OT should be pri-marily responsible for mobilization. This mirrors reports from Malaysia (22) and Saudi Arabia (27) and indicates that many Palestinian ICU nurses do not view EM as a core nursing responsibility. This role uncertainty likely stems from lack of clear protocols, limited interprofessional collabo-ration, and historical patterns where mobilization was delegated to rehabilitation specialists.

Despite the identified obstacles, 59.1% of nurses reported mobilizing patients at least once per shift and 60.3% documented functional status, suggesting some EM occurs. However, as ob-served in Malaysia (22), most activities are likely limited to in-bed range-of-motion exercises rather than out-of-bed mobilization. Equipment inadequacy (46.4%), staffing shortages (62.9%), and time poverty (41.7%) are consistent with barriers reported across LMICs (21,16). Encouragingly, 73.5% of nurses acknowledged strong departmental leadership support for mobilization—a key facilitator that can be leveraged for quality improvement initiatives.

The unique stressors of the Palestinian healthcare system likely exacerbate the barriers identi-fied. High rates of post-traumatic stress symptoms, checkpoint violence exposure, and reduced quality of life have been documented among Palestinian nurses (28,18). These chronic stressors may increase risk-averse clinical behaviors and reduce cognitive bandwidth for adopting new practices.

Disaster management challenges—movement restrictions, damaged infrastructure, weak coordi-nation—further constrain ICU operations (12). Therefore, interventions to improve EM must be trauma-informed and context-sensitive, addressing the broader environment in which these nurses work.

While the barriers identified largely mirror those in international studies, the ranking of barriers provides a unique contribution to the literature: attitudinal factors (perceived patient sickness, role uncertainty) ranked higher than equipment and time barriers. This has important implica-tions for intervention design. Most prior EM implementation efforts have focused on resource provision and protocol development; the present findings suggest that equal emphasis must be placed on changing nurses' clinical judgment and risk perceptions, building confidence through simulation training, and clarifying professional roles through interprofessional educa-tion.

Limitations

This study has several limitations that should be considered when interpreting findings. First, the cross-sectional design captures data at a single time point and cannot establish causality or temporal relationships between variables. Second, convenience sampling from southern West Bank hospitals may introduce selection bias and limits generalizability to other Palestinian regions, particularly Gaza, where healthcare infrastructure and nurse experiences differ signifi-cantly. Third, self-reported data are subject to recall and social desirability bias; objective measures of knowledge (e.g., clinical vignettes) or direct observation of mobilization practices were not employed. Fourth, the purely descriptive design did not permit examination of asso-ciations between sociodemographic variables and outcomes, nor correlations among knowledge, attitudes, and barriers—analyses that would provide additional explanatory value. Fifth, potential unmeasured confounders, including prior adverse events during mobilization, unit culture, and the presence of specific EM protocols, were not assessed.

Recommendations and Implications

For Practice

ICUs should adopt standardized EM protocols with clear safety criteria and explicit role as-signments for nurses, physical therapists, and occupational therapists. Leadership should des-ignate EM champions, provide hands-on simulation training for mobilization of ventilated and clinically unstable patients, and integrate mobility goals into daily interprofessional rounds. Staffing shortages and equipment deficits must be addressed systematically, as these were identified as significant barriers by over half of the sample.

For Education

Nursing curricula should incorporate competency-based EM training, including simulation of real-world ICU scenarios. Continuing education should clarify the complementary roles of nurses, physical therapists, and occupational therapists in mobilization, and focus on building clinical confidence. Given documented high stress levels among Palestinian nurses, resilience and coping training should be integrated into professional development programs.

For Policy

The Ministry of Health should develop national EM guidelines for Palestinian ICUs, mandate standardized mobilization protocols, and allocate dedicated resources for ICU staffing and mobility equipment. Policies to protect healthcare workers' movement and mental health—including safe passage provisions and mental health support services—are urgently needed given the documented impact of conflict and checkpoint violence on nurses' wellbeing and clinical capacity.

For Research

Future studies should employ longitudinal and interventional designs, include participants from all Palestinian regions (particularly Gaza)and examine patient-centered outcomes such as ICU length of stay and functional status at discharge. Mixed-methods approaches incorpo-rating direct observation and qualitative interviews would add important depth to the under-standing of EM implementation in this context. The impact of psychological trauma on nurses' clinical risk tolerance and adoption of evidence-based practices warrants dedicated investigation.

CONCLUSION

ICU nurses in South West Bank hospitals possess adequate knowledge of early mobilization but demonstrate moderate attitudinal and behavioral barriers that substantially impede implementation. The most critical barriers are the perception that patients are too sick to mobilize, inadequate staffing, role uncertainty, and low clinical confidence. These findings reveal a clear knowledgeâ€“implementation gap that cannot be bridged by knowledge improvement alone. Improving EM practice requires integrated, multifaceted interventions targeting attitudes (confidence-building, role clarity), organizational resources (staffing, equipment), and the contextual stressors unique to Palestinian healthcare (workplace violence, trauma, resource limitations). Without such efforts, the well-established benefits of EMâ€”reduced ICU-acquired complications, shorter hospital stays, and improved long-term functional outcomesâ€”will remain unattainable for critically ill patients in the West Bank. This study provides an essential evidence base for the development of context-sensitive strategies in one of the worldâ€™s most challenging healthcare environments.

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CONFLICT OF INTEREST

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