

## Improving Nurses Knowledge and Attitude regarding Early Mobilization of Post-Operative Patients

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### **Abstract**

#### **Introduction:**

Nurse is the first member of the healthcare team to begin mobilizing the patient. There was little knowledge about nursing decisions on whether to ambulate, how they ambulate, and when they ambulate older hospitalized patients and also lack of knowledge and training. The most important change to improve time starts their first postoperative activity. Dangling the client the of surgery day to enhance the benefits of the early mobility and have to decreased the time from 16.8 to 6 hours with no side effects of client consequences.

#### **Methods:**

An experimental study which was conducted in a tertiary care hospital about improving nurses knowledge and attitude regarding early mobilization of post-operative patients in Lahore, Pakistan. This was a quality improvement project utilized a pre-survey, educational intervention, post survey design. The educational intervention integrated knowledge obtained from the review of literature in the form of a 25 minute Power Point presentation. Pre and post-survey included knowledge-based questions and opinion-based questions.

#### **Results:**

The data was collected from 109 participants from different surgical department's nurses. It was consist into 2 section pre and post survey, eight multiple choice question knowledge based and five opinion-based statements answered by marking a visual analogue scale. The gander of the surgical nurses all were female and age group was up to 20 years, education of surgical nurses in general nursing was 50.5%, BS Nursing (Generic) was 4.6%, BS Nursing ( Post RN) was 26.6%, Specialization was 18.3%. Marital status of surgical nurses those who married was 54.1% and unmarried was 44.9%. Nursing experience of surgical Nurses was more than 6 months and Department of surgical Nurses in general surgery was 28.4%, ICU was 33.0%, urology was 16.5%, Gynae was 20.2% and neurosurgery was 5.5%.

#### **Conclusions:**

All nurses was correctly responded in both the pre-survey and post-survey to questions regarding the complications of immobility and the positive effect of early mobilization of the postoperative patient. An evaluation piece such as chart reviews at a future date was provided the opportunity to ensure change had embedded into practice, becoming the new status quo. The Advanced Practice Nurse was the ability to devise, implement, and evaluate such initiatives with the purpose of achieving integration of evidence based knowledge into practice and improving patient outcomes.

**Keywords:** Knowledge, Nurses, Early, Mobilization, Post-Operative, Attitude, Patients

### **INTRODUCTION**

Ambulation is a crucial element in the results of postoperative patients. Early mobilization is an intercession is the most crucial popular nursing degree within the avoid complication. Current research have investigate and reveals less the complication rates, introduced torment and period of stay while early ambulation is started. In spite of this evidence, early mobilization as a great practice preferred is actualized conflictingly (Chatterley, 2017).

Early mobilization of the post-operative patient is associated with reduction in incidence of post-operative complications. Lewis, Dirksen, Heitkemper, and Bucher (2014) defined that early mobility is most important in general nursing measure to prevent post-operative complications (Lewis, Bucher, Heitkemper, & Dirksen, 2014). Patients in acute care settings are at a greater risk for immobility. Bed rest is a hazard of hospitalization that may predispose an already vulnerable population to an even more significant loss of physical function. For many older people, admission to a hospital is often accompanied by a decline in physical function and full mobility not always restored by the time of discharge or by the next period of a hospital stay. Unwarranted bed-rest during a hospital stay has been associated with pressure ulcers, falls with injuries, and iatrogenic infections (Boltz, Resnick, Capezuti, Shuluk, & Secic, 2012).

### **Globalize concept**

A study carried out in Canada assessed current expertise, perceptions and practices of Canadian physicians and physiotherapists with respect to early mobilization in adults in the ICU. The look at found out that physiotherapists have been much more likely than physicians and nurses to believe that early mobilization is essential or very essential ( $p = 0.006$ ) (Koo et al., 2016).

Higher American Society of Anesthesiologists described that physical status scores, extremes of age, immobility, emergencies, perioperative adverse events and postoperative intensive care unit admission were identified as a major risk factors of mortality among patients There is an apparent connection between adverse consequences of immobilization concerning non-elective re-hospitalizations and an increase in the length of hospital stay (Koo et al., 2016).

A examine posted in 2017 in British journal of anesthesia regarding early mobilization improve bodily ability of sufferers. The end result assist that an early postoperative mobilization application based on supervised exercises seems to be safe and viable and improves useful capability in sufferers undergoing fundamental non-obligatory stomach oncology surgery. However, its impact on clinical outcomes continues to be doubtful (De Almeida et al., 2017).

### **National concept**

A study was carried out at department of orthopedics Pakistan Railway General Hospital Rawalpindi, from August 2010 to July 2012. To determine effects of early mobilization in reducing post-operative wound infection after lower extremity orthopedic surgeries and concluded that after lower extremity orthopedic surgeries, early mobilization is needed, as it significantly ( $P=0.08$ ) reduces the postoperative wound infection rates, and early mobility is achieved. The conclusion of this study is that early mobilization is needed as it significantly reduces the post-operative wound infection rate (Shakil-ur-Rehman et al., 2015).

### **Clinical Issue**

The mobilization of hospitalized adult patients is an often-overlooked aspect of nursing care. Frequently, nurses are relying on a physician to attribute direct responsibility of an alternative discipline even though it's solely within the nursing domain of practice (Kneafsey, Clifford, & Greenfield, 2013).

Studies have found that nurses are not consistently ambulating patients, but are often rather waiting for the physician order or referring it to a physical therapist(Law et al., 2013).

### **Potential Harms**

The post-operative period following many challenges to the patient in recovery progress and discharge from the ICU approaches which include functional decline, impaired mobility, Delirium, pressure ulcer, hospital-acquired infections. Organizational outcomes have longer hospital stay, higher 30-day readmission rate and hospital patient and family satisfaction with the hospital stay (Havey, Herriman, & O'Brien, 2013)

Caesarean section has been used effectively throughout the 20th century and among the major abdominal surgeries. Thought the indicated and timely cesarean section has tremendous advantages for mother and baby and although CS is a comparatively risk free procedure, it is not without problems for anesthetists, obstetricians, midwives and physiotherapists and most important of all- for the woman herself. The role of nurse midwife is to act in the best interest of patient and newborn and make the patient independent in carrying out the activities of daily living as soon as possible. This can indirectly help in reducing the complications and morbidity associated with post-operative prolonged bed rest and can improve the maternal newborn bonding (Chatterley, 2017).

Patient-related barriers were generally perceived as having the greatest influence on the mobilization of ICU patients, followed closely by institutional-related barriers. The factors that were perceived as most frequently preventing mobilization were hemodynamic instability, reduced level of consciousness, sedation, agitation, impending medical procedure, staff availability, and time constraints (Nydahl et al., 2017).

Nurses play a critical position as a patient advocator, collaborator and managers in nursing practice for ventilated patient over 24 hours in a day. As a collaborator, nurse desires to be knowledgeable, communicate and advocate smartly for client's want (Leong et al., 2017).

### **AIMS OF STUDY**

Assess and improve nurse's knowledge and attitudes of early mobilization of postoperative patients in a tertiary care hospital of Lahore, Pakistan.

## ***SIGNIFICANCE OF THE STUDY***

Nurses were working in the front line of a health care organization and provide direct care to patient. This study provided the base line information regarding the current knowledge and attitude about early mobilization among nurses in tertiary care hospital. Moreover, the knowledge and attitude was enhanced through the teaching section conducted by researcher. In addition this management was also utilize this data for future planning for educational services. Early mobilization was the most significant general nursing intervention in the prevention of post- operative complications hence, management can utilize the finding in enhancing the quality of patient care and reduction in the morbidity and mortality rates among patients. In addition to this, management can utilize the data for the improvement of nursing care to their patients.

The result of this study will facilitate the policy maker and mobility protocols may developed according to prepare policy and orientation programmed. Development of an ambulation program to educate nurses can positively impact nurses' understanding related to the risks of immobility and benefits of mobility can create wonderful patient effects via increased mobility.

## **LITERATURE SEARCH**

A 2013 review of 36 studies that examined the outcomes of mobilizing hospitalized adults, 16 of which sampled postoperative patients, revealed benefits in not only physical outcomes but also emotional and social well-being (Kalisch, Dabney, & Lee, 2013).

Current nursing textbooks advocate, "Early ambulation is the most significant general nursing measure to prevent postoperative complications" (Nicholson et al., 2014).

Early mobilization of the postoperative patient reduces the catabolic effects of surgery on skeletal muscle, improves pulmonary functions and circulation through increased oxygen delivery to tissues and reduces the risk of venous thromboembolism. Postoperative ambulation promotes the return of gut function assisting in the prevention of postoperative ileus (Majumdar & Saleh, 2012).

Decrease in pain and length of stay in hospitals and increase in functional ability and patient satisfaction are results of early mobilization of the postoperative patient (Kalisch et al., 2013).

The percentage of surgical thoracic patients in the ICU who exhibited adherence to the early mobilization protocol was 77.5% of the total population. The results indicated that both the length of hospital stay ( $p = .04$ ) and length of ICU stay ( $p = .01$ ) were significantly different between patients who were adherent and those who were not. Regression analysis shows that independent variables such as gender ( $p > .99$ ), age ( $p = .90$ ), number of co-morbidities ( $p = .60$ ) and diagnosis ( $p = .40$ ) did not show statistical significance in relation to adherence of the mobilization protocol (Chatterjee & Laxminarayan, 2013).

Prolonged bed rest in hospitalized patients leads to functional decline, impaired mobility, and the likelihood of longer hospital stay. All of these factors reflect the need for nursing care. Findings from this study imply that patients whose function deteriorates throughout hospitalization have a higher need for additional contact with professional nursing care staff, and consequently, report greater satisfaction with specific aspects of nursing care (Zisberg et al., 2011).

Bed rest and immobilization can often benefit an acutely affected part of the body by conserving metabolic resources for healing and recovery, but when prolonged, bed rest can adversely affect the rest of the body through inhibition of the beneficial effects of physical activity. The average adult will spend 16 hours upright and eight to nine hours in a supine position for rest. Since the time of Hippocrates, prolonged periods of bed rest have been prescribed and believed to assist recuperation and promote healing (Truong, Fan, Brower, & Needham, 2009).

A prospective cohort study by Sweetland et al., (2009) followed 947,454 middle aged women and examined the magnitude of thromboembolism risk postoperatively. Over a six-year period (1996-2001), there were 239,614 admissions for surgery and 5419 admissions for thromboembolism. Compared with not having surgery, women were 70 times more likely to be admitted for thromboembolism following an inpatient operation. Thromboembolism has been shown to be a risk factor of both prolonged bed rest and postoperative status separately (Sweetland et al., 2009).

The supine patient is unable to sufficiently contract ventilator muscles required for full inspiration which leads to decrease in lung volume. Seventy eight percent of the tidal volume is achieved through ribcage movement. When supine, ribcage movement is restricted, decreasing tidal volume by an estimated thirty-two percent (Zhang, Zhang, Cui, Hong, & Zhang, 2018).

Altered endocrine and renal functions are consequences of bed rest and immobilization. A decrease in basal metabolic rate can be seen in as little as 10 hours of immobility and can progressively drop metabolism by 6.9% after 10-24 hours of bed rest. Insulin resistance and glucose intolerance is often an overlooked complication of

bed rest. Studies have shown, in healthy subjects confined to bed rest, an increase in fasting blood glucose and blood insulin levels as compared to those with normal physical activity (Chatterley, 2017).

Bed rest negatively affects the gastrointestinal system and the musculoskeletal system. Anorexia and constipation are results of immobilization. Disuse, decreased colonic peristalsis, and increased water absorption all lead to constipation. Opioid analgesics used for postoperative pain further slow gut motility compounding the problem of constipation. Decrease in muscle strength, loss of endurance and bone demineralization all result from immobility (Chatterley, 2017).

Immobilization and bed rest have negative psychological effects on patients. Increased levels of stress and anxiety are partly due to loss of personal control. Lack of control can result from the loss of activities that are normally taken for granted, such as walking to the bathroom and the ability to stretch one's legs. A patient's loss of control over their environment has been linked to increased release of stress hormones, such as corticosteroids. Stress has been shown to directly influence physiologic changes (Pelle, Denollet, Zwisler, & Pedersen, 2009).

In 2009, Chandrasekaran, Ariaretnam, Tsung, and Dickison investigated the effects of early mobilization on the incidence of DVT in patients undergoing total knee replacements. A sample of 100 patients was divided evenly into an experimental group and a control group. The experimental group patients were mobilized within 24 hours of surgery compared to the control group that began mobilization on postoperative day two. Mobilization was defined by sitting out of bed or walking for at least 15-30 minutes twice a day. Results demonstrated a statistically significant reduction ( $p=0.03$ ) in thromboembolism complications in the experimental group (Chandrasekaran, Ariaretnam, Tsung, & Dickison, 2009).

Anesthetics, oxygen concentration, surgical positioning and co morbidities all increase the risk of atelectasis and postoperative pneumonia (Canet et al., 2010). Mobilization promotes movement of secretions and stimulates coughing and deep breathing and assists in full expansion of the lungs, minimizing hypoventilation in the postoperative patient (Pusey-Reid, 2014).

The early mobilization group began walking on day of surgery as compared to the control group that had delayed ambulation. Postoperative complications, such as pneumonia and urinary tract infection, were observed in 24 (26.4%) in the Delayed mobilization group and 11 (12.1%) in the Early Mobilization group ( $p < 0.05$ ). The results suggest that early mobility after one burr-hole surgery prevents postoperative complications (Pusey-Reid, 2014).

A quasi-experimental study of 80 women evaluated the effectiveness of early ambulation of post-caesarean delivery women. The experimental and control groups were divided evenly. Early ambulation was defined as six hours postoperatively and was noted to improve return of bowel function as evidenced by earlier passing of flatus and shorten initiation of oral fluids. Bowel function as evident by the first passing of flatus was improved within the experimental group (62.5% versus 10%) within one hour of ambulation. The start of oral intake within one hour of ambulation occurred in 80% of the experimental group compared to only 4% in the control group (Kaur, Kaur, & Sikka, 2015).

In a study of 50 women after cesarean delivery, ambulation was evaluated with pain intensity and analgesia requirements. The experimental group received physiotherapy with early mobilization. Incisional pain was rated and showed consistency in pain levels between both groups. A significant difference was noted in the amount of analgesia required. The amount of analgesic/anti-inflammatory medications needed in addition to the standard pain control delivered was  $5.04 \pm 0.96$  in the study group compared to  $5.79 \pm 0.78$  in the control group ( $t = -3.034$ ,  $p = 0.004$ ). The experimental group needed less analgesia for pain control. (Karakaya et al., 2012).

### **CONCEPTUAL FRAMEWORK**

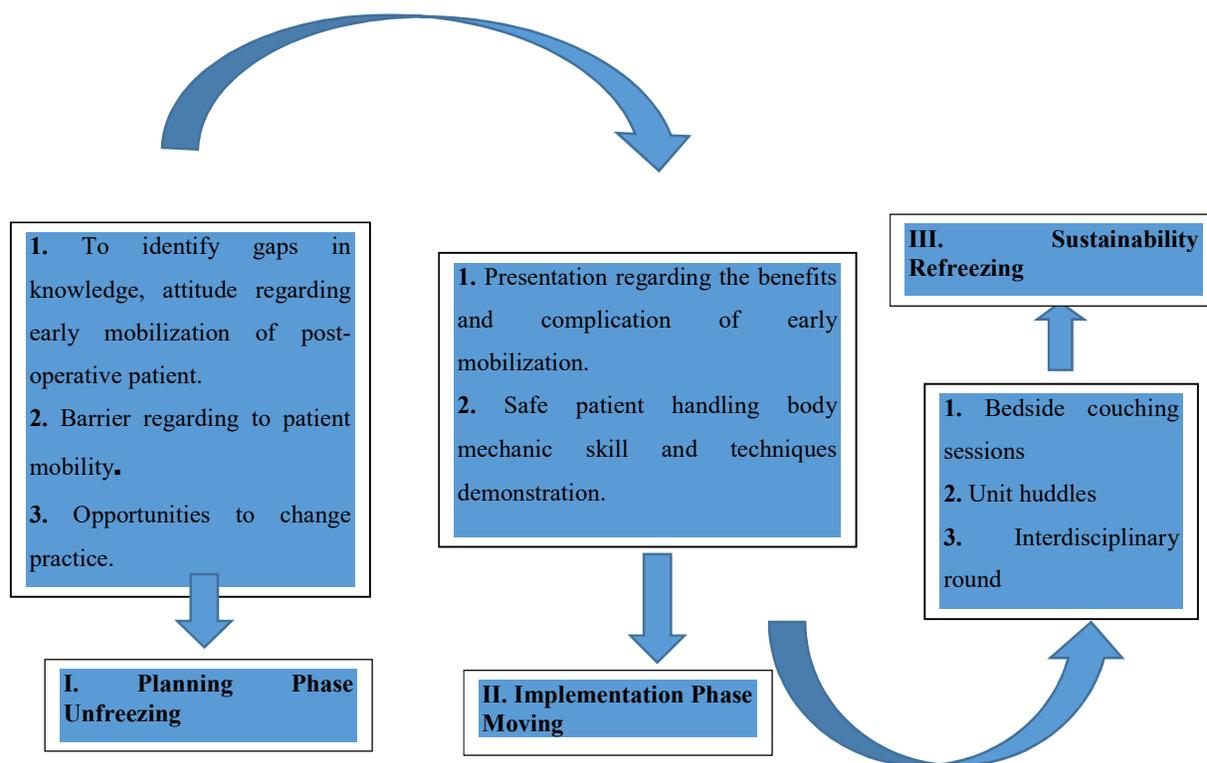
The early mobility practice change was developed and implemented utilizing the driving forces of Kurt Lewin's Theory of Change (1951). The Lewin believes that driving forces facilitate transformation because they push followers in the desired direction.

Change is crucial to success associated with the culture transformation into action. The Kurt Lewin's change theory embraces three different phases known as unfreezing, moving and refreezing. The unfreezing stage is about assessing readiness and convincing people toward motivation for change (Jones, 2007)

The unfreezing stage of the early mobility initiative was the driving force of team empowerment and distinguished determinant of needed actions. Staff motivation was the key to behavioral change in respect of attitude and positive culture transformation. This stage opened an opportunity to elevate awareness of gaps in practice through the communication to the frontline staff to embrace new ways of practice.

The second, moving stage was an implementation stage that shifted the project into a new paradigm. This is the stage that allowed to achieve new behaviors, values, and attitudes through educational sessions to address evidence-based guidelines for early mobility.

The last, refreezing stage occurred after the change has been implemented. According to Lewin, the final step in the platform of changing behavior is an integration of new values to stabilize the new equilibrium emerging from the modification by supporting both the driving and restraining forces.



## METHODS

### **SETTING**

Study setting area was tertiary care hospital in Lahore, Pakistan

### **RESEARCH DESIGN**

Quasi experimental study design applied.

### **POPULATION**

The study population of surgical nurses were those who working in pre, intra and post-surgical wards, also registered nurses, willing to participate, age group upto 20 years and worked experience more than 6 months in pre, intra and post-surgical wards at tertiary care hospital in Lahore, Pakistan.

### **SAMPLING**

The data was collected through convenient sampling techniques.

### **RESEARCH INSTRUMENT AND DATA GATHERING PROCEDURE**

The research instrument was consisted of two sections. Section-A was comprised of socio-demographic data. First consist of demographics, second was knowledge and attitude of nurses regarding early mobilization of post-operative patients.

Demographics includes gender, age, education, marital status, nursing experience and department.

A questionnaire had been used to take opinion from participants. The pre and post test was used to collect data from surgical, ICU, urology nurses after taking teaching section in tertiary care hospital, Lahore. The nurses was require to indicating their opinions by circle the answer with each of the statements about the early mobilization of post-operative patient.

#### *METHODS USED TO ANALYZE DATA*

Data will be analyzed on SPSS version 21. Descriptive statistics mean, median, mode and standard deviation will be applied on individual item. T-test will be used to determine the relationship between demographics, knowledge and attitude of nurses. For the analysis of improvement in the knowledge and attitude of the nurses paired T- test will be applied on the pre and post session date.

#### *STUDY TIMELINE*

The duration of 4 months was require to conduct this study on improving nurses knowledge and attitude regarding early mobilization of post-operative patients in a tertiary care hospital of Lahore, Pakistan.

#### *ETHICAL CONSIDERATION*

- Written permission will be taken from Ethical committee of Lahore School Nursing department
- Participant was informed about the purpose of study. Complete information of research will be provided.
  - Personal information of the participants will be confidential.
- All surgical staff nurses had open opportunity to participate in research without forcing.
  - Informed consent will be taken from the participants.

### **RESULTS**

Data collected from the tertiary care hospital of Lahore to assess and evaluate the improvement in nurses knowledge and attitude regarding early mobilization of post-operative patients. An experimental study interviewed 150 nurses those related or worked in surgical departments in a tertiary care hospital.

All registered nurses, willing to participate, age group upto 20 years, should have working experience more than 6 months in pre, intra and post-surgical wards.

The quality improvement project utilized a pre-survey, educational intervention, post survey design. The educational intervention integrated knowledge obtained from the review of literature in the form of a 25 minute Power Point presentation. Pre and post-survey included knowledge-based questions and opinion-based questions.

#### *PROFILE OF THE RESPONDENTS*

##### Section 1- Demographic data analysis.

Gander	Frequency	Percent
Female	109	100.0
Age	n	109
	Mean	31.36
	Median	30.00
	Std. Deviation	7.499
	Minimum	20
Education		
Diploma Nursing	55	50.5
BS Nursing(Generic)	5	4.6
BS Nursing( Post RN)	29	26.6
Specialization	20	18.3
Marital status		
Married	59	54.1
Unmarried	50	45.9
Nursing experience	n	109
	Mean	6.87
	Minimum	1
	Maximum	25
Department		
General Surgery	27	24.8
ICU	36	33.0
Urology	18	16.5
Gynae	22	20.2
Neurosurgery	6	5.5

In table 1 demographic data collected from 109 participants from different surgical department's nurses. It is consist into 2 section pre and post survey, eight multiple choice question knowledge based and five opinion-

based statements answered by marking a visual analogue scale. Separately, every section will be analyzed and discussed. The gender of the surgical nurses all were female and age group are up to 60 years, education of surgical nurses in general nursing was 50.5%, BS Nursing (Generic) was 4.6%, BS Nursing ( Post RN) was 26.6%, Specialization was 18.3%. Marital status of surgical nurses those who married was 54.1% and unmarried was 44.9%. Nursing experience of surgical Nurses was more than 6 months and Department of surgical Nurses in general surgery was 28.4%, ICU was 33.0%, urology was 16.5%, Gynae was 20.2% and neurosurgery was 5.5%.

**Table 2**  
**Frequency table of pre-survey independent variable**

	Frequency	Percent
The benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population.		
True	61	56.0
False	48	44.0
The complications of immobility for the postoperative patient include...		
Increase risk of thromboembolism	17	15.6
Increase risk of pneumonia	26	23.9
Decrease in metabolic rate	27	24.8
Constipation	14	12.8
All of the above	25	22.9
Research shows that early mobilization of post cesarean mothers has this effect on pain control.		
Patients will have an increase in pain with early mobilization	23	21.1
Patients will require less pain medication to achieve satisfactory pain relief.	32	29.4
Patients will require more pain medication to achieve satisfactory pain relief.	26	23.9
Early mobilization has no effect on pain management.	28	25.7
Early mobilization has a positive effect on post cesarean mother's ability to void after indwelling catheter removal.		
True	62	56.9
False	47	43.1
Bed-rest during the hospital stay is important for maintaining functional ability in older adults.		
True	66	60.6
False	43	39.4
I understand which in patients are appropriate to refer to physical therapy.		
True	64	58.7
False	45	41.3
Bed-rest can heighten the risk for hospital-associated complications such as falls, delirium and pressure ulcers.		
True	64	58.7
False	45	41.3
Unless there is a contraindication, I educate the patients to exercise or increase their physical activity.		
True	63	57.8
False	46	42.2
Mobilization is as important compared to other aspects of care.		

Strongly Disagree	58	53.2
Strongly Agree	51	46.8
There is adequate inter-disciplinary communication regarding which patients need to mobilize, how they should be done.		
Strongly Disagree	58	53.2
Strongly Agree	51	46.8
There is adequate time to mobilize of my patients.		
Strongly Disagree	62	56.9
Strongly Agree	47	43.1
Patients' pain/discomfort/fatigue prevent mobilization of my patients.		
Strongly Disagree	55	50.5
Strongly Agree	54	49.5
I am confident in where I should document and what I should communicate regarding Mobilization of post-operative patients on the Women 'Care Unit.		
Strongly Disagree	45	41.3
Strongly Agree	64	58.7

Table 2 shows the percentage of pre-survey knowledge based question score and through it noticed that in pre-survey the knowledge of surgical nurses about the benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population was 44.5% in correct answer and in 2<sup>nd</sup> question the complications of immobility for the postoperative patient include... shows the correct answer results was 22.9%. 3<sup>rd</sup> question asked the participants to research shows that early mobilization of post cesarean mothers has this effect on pain control the correct answer show the knowledge only 29.4%, 4<sup>th</sup> have early mobilization has a positive effect on post cesarean mother's ability to void after indwelling catheter removal have right answer was only 56.9%. As like the other Bed-rest during the hospital stay is important for maintaining functional ability in older adults was 39.4%, I understand which in patients are appropriate to refer to physical therapy was 58.6%, Bed-rest can heighten the risk for hospital-associated complications such as falls, delirium and pressure ulcers was 58.7%, Unless there is a contraindication, I educate the patients to exercise or increase their physical activity was 57.8% and Mobilization is as important compared to other aspects of care was 53.2%. these results shows the knowledge of surgical nurses in pre-survey section needs to modify and enhanced their knowledge about early mobilization in post-operative patients.

Table 3  
 Frequency table of post-survey independent variable

	Frequency	Percent
The benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population.		
True	67	61.5
False	42	38.5
The complications of immobility for the postoperative patient include...		
Increase risk of thromboembolism	9	8.3
Increase risk of pneumonia	14	12.8
Decrease in metabolic rate	9	8.3
Constipation	6	5.5
All of above	71	65.1
Research shows that early mobilization of post cesarean mothers has this effect on pain control.		
Patients will have an increase in pain with early mobilization	11	10.1
Patients will require less pain medication to achieve satisfactory pain relief.	75	68.8
Patients will require more pain medication to achieve satisfactory pain relief.	12	11.0
Early mobilization has no effect on pain management.	11	10.1
Early mobilization has a positive effect on post cesarean mother's ability to void after indwelling catheter removal.		

True	89	81.7
False	20	18.3
Bed-rest during the hospital stay is important for maintaining functional ability in older adults.		
True	49	45.0
False	60	55.0
I understand which in patients are appropriate to refer to physical therapy.		
True	95	87.2
False	14	12.8
Bed-rest can heighten the risk for hospital-associated complications such as falls, delirium and pressure ulcers.		
True	100	91.7
False	9	8.3
Unless there is a contraindication, I educate the patients to exercise or increase their physical activity.		
True	87	79.8
False	22	20.2
Mobilization is as important compared to other aspects of care.		
Strongly Disagree	20	18.3
Strongly Agree	89	81.7
There is adequate inter-disciplinary communication regarding which patients need to mobilize, how they should be done.		
Strongly Disagree	16	14.7
Strongly Agree	93	85.3
There is adequate time to mobilize of my patients.		
Strongly Disagree	19	17.4
strongly Agree	89	81.9
Patients' pain/discomfort/fatigue prevent mobilization of my patients.		
Strongly Disagree	13	11.9
Strongly Agree	96	88.1
I am confident in where I should document and what I should communicate regarding Mobilization of post-operative patients on the Women 'Care Unit.		
Strongly Disagree	45	41.3
Strongly Agree	64	58.7

After the teaching section the results have to show in table 3 that through knowledge based questions the post-survey results prove the minimal change in nurse's knowledge.

Table 4  
 Paired sample T-test of independent variables.

Sr.		Non Significance
Pair 1	The benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population - The benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population	.399
		Significance
Pair 2	The complications of immobility for the postoperative patient include. The complications of immobility for the postoperative patient include...	.000
Pair 3	Research shows that early mobilization of post cesarean mothers has this effect on pain control. - Research shows that early mobilization of post cesarean mothers has this effect on pain control.	.004
Pair 4	Early mobilization has a positive effect on post cesarean mother's ability to void after indwelling catheter removal. - Early mobilization has a positive effect on post cesarean mother's ability to void after indwelling catheter removal.	.000
Pair 5	Bed-rest during the hospital stay is important for maintaining functional ability in older adults. - Bed-rest during the hospital stay is important for maintaining functional ability in older adults.	.029
Pair 6	I understand which in patients are appropriate to refer to physical therapy. - I understand which in patients are appropriate to refer to physical therapy.	.000
Pair 7	Bed-rest can heighten the risk for hospital-associated complications such as falls, delirium and pressure ulcers - Bed-rest can heighten the risk for hospital-associated complications such as falls, delirium and pressure ulcers	.000
Pair 8	Unless there is a contraindication, I educate the patients to exercise or increase their physical activity. - Unless there is a contraindication, I educate the patients to exercise or increase their physical activity.	.001
Pair 9	Mobilization is as important compared to other aspects of care - Mobilization is as important compared to other aspects of care	.000
Pair 10	There is adequate inter-disciplinary communication regarding which patients need to mobilize, how they should be done. - There is adequate inter-disciplinary communication regarding which patients need to mobilize, how they should be done.	.000
Pair 11	There is adequate time to mobilize of my patients. - There is adequate time to mobilize of my patients.	.003

After applying Paired Sample T-test the results shows in table 4 that after teaching section the knowledge was improved and enhanced regarding early mobilization of post-operative patients. Only in 1 question shows non-significant result .399 and in other have shown the improvement in knowledge.

## DISCUSSION

Early mobilization of the post-operative patient is associated with reduction in incidence of post-operative complications. Lewis, Dirksen, Heitkemper, and Bucher (2014) defined that early mobility is most important in general nursing measure to prevent post-operative complications.

Each section was analyzed separately. Of the knowledge based questions, all post-survey scores, either stayed the same or increased. Overall, post-survey scores increased by 16.8% and knowledge was improved when compared to the pre-survey. When individual knowledge-based questions were compared, an increase in correct responses from pre-survey to post-survey was seen in all but one question have got same results. The correct response rate for question one, "the benefits of early mobilization of the postoperative patient are only seen in the older adult and elderly population", the true or false correct response rate went from 44% to 38.5% in the post-survey. The reason for this decrease in correct responses was not understood. All nurses correctly responded in both the pre-survey and post-survey to questions regarding the complications of immobility and the positive effect of early mobilization of the postoperative patient. Nurses' knowledge of early mobilization was determined to be high.

Bed rest and immobilization can often benefit an acutely affected part of the body by conserving metabolic resources for healing and recovery, but when prolonged, bed rest can adversely affect the rest of the body through inhibition of the beneficial effects of physical activity. The average adult will spend 16 hours upright and eight to nine hours in a supine position for rest. Since the time of Hippocrates, prolonged periods of bed rest have been prescribed and believed to assist recuperation and promote healing (Truong et al., 2009).

## LIMITATION

This study found many limitations;

- Time duration was too short.
  - The limitation and intended scope of this research project opens door for future research. Task that emphasis on beating known obstructions to early mobilization would be helpful coordinating usage methodologies to future activities.
  - Research that incorporates control and intervention group to trial particular execution methodologies would enable the capacity to assess and evaluate changes.
  - Respondents were asked to answer the questionnaire on their previous experience which was recall bias and therefore, considered as another limitation of the study.

## CONCLUSION

The aim of this study was to assessing and improving the nurses knowledge and attitude regarding early mobilization of post-operative patients. A quality improvement project was developed using a pre-survey, educational intervention, post-survey design with the purpose of improving nurse knowledge and attitude of early mobilization of the postoperative patient

A significant aspect of postoperative patient care is its early mobilization. Early mobility have improved and increased survival rates. So, it is important to improve patients outcomes and recovery. The implementation of mobility level decision with nursing interventions can promote physical activity.

The study will enhance nurses expertise in mobilizing hospitalized older adult patients. The mobilization of hospitalized adult patients is an often overlooked aspect of nursing care.

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## REFERENCES

- Abrahamson, K. A., Fox, R. L., & Doebbeling, B. N. (2012). Facilitators and barriers to clinical practice guideline use among nurses. *AJN The American Journal of Nursing*, 112(7), 26-35.
- Boltz, M., Resnick, B., Capezuti, E., Shuluk, J., & Secic, M. (2012). Functional decline in hospitalized older adults: can nursing make a difference? *Geriatric Nursing*, 33(4), 272-279.
- Canet, J., Gallart, L., Gomar, C., Paluzie, G., Valles, J., Castillo, J., . . . Sanchis, J. (2010). Prediction of postoperative pulmonary complications in a population-based surgical cohort. *Anesthesiology: The Journal of the American Society of Anesthesiologists*, 113(6), 1338-1350.
- Castelino, T., Fiore, J. F., Niculiseanu, P., Landry, T., Augustin, B., & Feldman, L. S. (2016). The effect of early mobilization protocols on postoperative outcomes following abdominal and thoracic surgery: a systematic review. *Surgery*, 159(4), 991-1003.
- Chandrasekaran, S., Ariaretnam, S. K., Tsung, J., & Dickison, D. (2009). Early mobilization after total knee replacement reduces the incidence of deep venous thrombosis. *ANZ journal of surgery*, 79(7-8), 526-529.
- Chatterjee, S., & Laxminarayan, R. (2013). Costs of surgical procedures in Indian hospitals. *BMJ open*, 3(6), e002844.
- Chatterley, L. (2017). Improving Nurse Knowledge and Attitudes of Early Mobilization of the Postoperative Patient.

- Clark, D. E., Lowman, J. D., Griffin, R. L., Matthews, H. M., & Reiff, D. A. (2013). Effectiveness of an early mobilization protocol in a trauma and burns intensive care unit: a retrospective cohort study. *Physical therapy, 93*(2), 186-196.
- da Costa Torres, D., dos Santos, P. M. R., Reis, H. J. L., Paisani, D. M., & Chiavegato, L. D. (2016). Effectiveness of an early mobilization program on functional capacity after coronary artery bypass surgery: A randomized controlled trial protocol. *SAGE open medicine, 4*, 2050312116682256.
- De Almeida, E., De Almeida, J., Landoni, G., Galas, F., Fukushima, J., Fominskiy, E., . . . Ribeiro-Jr, U. (2017). Early mobilization programme improves functional capacity after major abdominal cancer surgery: a randomized controlled trial. *British journal of anaesthesia, 119*(5), 900-907.
- Dube, J., Kshirsagar, N., & Durgawale, P. (2013). Effect of planned early ambulation on selected postnatal activities of post-caesarean patients. *Int J Health Sci Res, 3*(12), 112-118.
- Fecho, K., Lunney, A. T., Boysen, P. G., Rock, P., & Norfleet, E. A. (2008). Postoperative mortality after inpatient surgery: incidence and risk factors. *Therapeutics and clinical risk management, 4*(4), 681.
- Floyd, S., Craig, S. W., Topley, D., & Tullmann, D. (2016). Evaluation of a progressive mobility protocol in postoperative cardiothoracic surgical patients. *Dimensions of Critical Care Nursing, 35*(5), 277-282.
- Fridman, V. (2017). *The Effectiveness of Nurse-Driven Early Mobility Protocol*. Seton Hall University.
- Fu, H., Wang, J., Zhang, W., Cheng, T., & Zhang, X. (2017). Potential superiority of periarticular injection in analgesic effect and early mobilization ability over femoral nerve block following total knee arthroplasty. *Knee Surgery, Sports Traumatology, Arthroscopy, 25*(1), 291-298.
- Havey, R., Herriman, E., & O'Brien, D. (2013). Guarding the gut: early mobility after abdominal surgery. *Critical care nursing quarterly, 36*(1), 63-72.
- Jones, R. A. P. (2007). *Nursing leadership and management: Theories, processes and practice*: FA Davis.
- Kalisch, B. J., Dabney, B. W., & Lee, S. (2013). Safety of mobilizing hospitalized adults: review of the literature. *Journal of nursing care quality, 28*(2), 162-168.
- Karakaya, İ. Ç., Yüksel, İ., Akbayrak, T., Demirtürk, F., Karakaya, M. G., Özyüncü, Ö., & Beksaç, S. (2012). Effects of physiotherapy on pain and functional activities after cesarean delivery. *Archives of gynecology and obstetrics, 285*(3), 621-627.
- Kaur, H., Kaur, S., & Sikka, P. (2015). A quasi-experimental study to assess the effectiveness of early ambulation in post-operative recovery among postcaesarean mothers admitted in selected areas of nehru hospital. *Nursing and Midwifery Research Journal, 11*(1), 33-44.
- Kneafsey, R., Clifford, C., & Greenfield, S. (2013). What is the nursing team involvement in maintaining and promoting the mobility of older adults in hospital? A grounded theory study. *International journal of nursing studies, 50*(12), 1617-1629.
- Koo, K. K., Choong, K., Cook, D. J., Herridge, M., Newman, A., Lo, V., . . . Burns, K. E. (2016). Early mobilization of critically ill adults: a survey of knowledge, perceptions and practices of Canadian physicians and physiotherapists. *CMAJ open, 4*(3), E448.
- Lacomba, M. T., Sánchez, M. J. Y., Goñi, Á. Z., Merino, D. P., del Moral, O. M., Téllez, E. C., & Mogollón, E. M. (2010). Effectiveness of early physiotherapy to prevent lymphoedema after surgery for breast cancer: randomised, single blinded, clinical trial. *Bmj, 340*, b5396.
- Law, J. A., Broemling, N., Cooper, R. M., Drolet, P., Duggan, L. V., Griesdale, D. E., . . . Massey, S. (2013). The difficult airway with recommendations for management—part 1—difficult tracheal intubation encountered in an unconscious/induced patient. *Canadian Journal of Anesthesia/Journal canadien d'anesthésie, 60*(11), 1089-1118.
- Leong, Y. L., Chong, M. C., & Rahman, R. B. A. (2017). Patient early mobilization: A Malaysia's study of nursing practices. *Journal of Intensive and Critical Care, 3*(3).
- Lewis, S. L., Bucher, L., Heitkemper, M. M., & Dirksen, S. R. (2014). *Clinical Companion to Medical-Surgical Nursing-E-Book*: Elsevier Health Sciences.
- Lyle-Edrosolo, G., & Waxman, K. (2016). Aligning Healthcare Safety and Quality Competencies: Quality and Safety Education for Nurses (QSEN), The Joint Commission, and American Nurses Credentialing Center (ANCC) Magnet® Standards Crosswalk. *Nurse Leader, 14*(1), 70-75.
- Majumdar, A., & Saleh, S. (2012). Psychological aspects of hysterectomy & postoperative care *Hysterectomy*: InTech.
- Morris, B. A., Benetti, M., Marro, H., & Rosenthal, C. K. (2010). Clinical practice guidelines for early mobilization hours after surgery. *Orthopaedic nursing, 29*(5), 290-316.
- Nicholson, A., Lowe, M., Parker, J., Lewis, S., Alderson, P., & Smith, A. (2014). Systematic review and meta-analysis of enhanced recovery programmes in surgical patients. *BJS, 101*(3), 172-188.

- Nydahl, P., Sricharoenchai, T., Chandra, S., Kundt, F. S., Huang, M., Fischill, M., & Needham, D. M. (2017). Safety of patient mobilization and rehabilitation in the intensive care unit. Systematic review with meta-analysis. *Annals of the American Thoracic Society*, 14(5), 766-777.
- Pelle, A. J., Denollet, J., Zwisler, A.-D., & Pedersen, S. S. (2009). Overlap and distinctiveness of psychological risk factors in patients with ischemic heart disease and chronic heart failure: are we there yet? *Journal of affective disorders*, 113(1), 150-156.
- Pusey-Reid, E. (2014). Preventing postoperative pneumonia. *Nursing2017 Critical Care*, 9(4), 42-47.
- Shakil-ur-Rehman, S., Sheikh, S. I., & Danish, K. F. (2015). The Role of Early Mobilization in the Prevention of Post Operative Wound Infection after Lower Extremity Orthopedic Surgeries.
- Statistics, N. C. f. H. (2016). Health, United States, 2015: with special feature on racial and ethnic health disparities.
- Struijk-Mulder, M., & Ettema, H. (2014). Ten-year follow-up on orthopedic thromboprophylaxis in the Netherlands DATA III survey. *Thromboprophylaxis in*, 27.
- Sweetland, S., Green, J., Liu, B., de González, A. B., Canonico, M., Reeves, G., & Beral, V. (2009). Duration and magnitude of the postoperative risk of venous thromboembolism in middle aged women: prospective cohort study. *Bmj*, 339, b4583.
- Truong, A. D., Fan, E., Brower, R. G., & Needham, D. M. (2009). Bench-to-bedside review: mobilizing patients in the intensive care unit—from pathophysiology to clinical trials. *Critical Care*, 13(4), 216.
- Wang, Y. T., Haines, T. P., Ritchie, P., Walker, C., Ansell, T. A., Ryan, D. T., . . . Fealy, N. (2014). Early mobilization on continuous renal replacement therapy is safe and may improve filter life. *Critical Care*, 18(4), R161.
- Zhang, G., Zhang, K., Cui, W., Hong, Y., & Zhang, Z. (2018). The effect of early mobilization for critical ill patients requiring mechanical ventilation: a systematic review and meta-analysis. *Journal of Emergency and Critical Care Medicine*, 2(1).
- Zisberg, A., Shadmi, E., Sinoff, G., Gur-Yaish, N., Srulovici, E., & Admi, H. (2011). Low mobility during hospitalization and functional decline in older adults. *Journal of the American Geriatrics Society*, 59(2), 266-273.