

INTENSIVE CARE PHYSIOTHERAPY- MEDICAL STAFF PERCEPTIONS AMONG DIFFERENT ICU'S

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Abstract:

Background and Purpose: The aim of this survey was to examine the perceptions of medical staff about physiotherapy in the critical care team.

Subjects: Hundred participants.

Methods: Hundred questionnaires were filling from ICU staff by using non probability convenient sampling. Nurses and house officers of ICU were included.

Results: Fifty seven percent of ICU staff considered that the physiotherapist's service as satisfactory and 21% as very good, nearly 33% of them also considered that the physiotherapists work could be performed by other discipline.

Conclusion: It is suggested that ICU physiotherapists broaden their research base to promote evidence base practice and develop a precise marketing strategy.

Key words: intensive care unit, physiotherapy, medical staff.

1 INTRODUCTION

An intensive care unit (ICU) has a specifically trained staff and specially equipped hospital ward for managing critically ill patients. Despite progress in medical treatment the mortality rate of ICU patients is still high. In course of ICU development the role of physiotherapist has been defined and physiotherapist should include in ICU team and should involve in any continuous training program. A wide variety of literature is available about the role of physician and nurses in ICU but the role and responsibilities of physiotherapist has received comparative less attention and largely remains undefined. In the management of critically ill patient's physiotherapist in ICU are parts of a multidisciplinary team. [1]The physiotherapist has an important and varied role in ICU settings working as a part of interdisciplinary team to optimize cardiopulmonary function and functional disability. The physiotherapist uniquely treats and follows a patient from the acute stages of ICU admission, through the rehabilitation process to subsequent discharge from hospital and if necessary treatment can be continued in outpatient setting. An ICU has inter professional environment where physiotherapist assess, treat and manage mobility issues and respiratory conditions and rehabilitate critically ill patients. In the role of physiotherapy, two things must be considered firstly the specific tasks that are performed by physiotherapist in ICU and secondly the degree to which the specialist physiotherapy services are available in the ICU. (2)Scientific societies recommend physiotherapist in the management of patients with life threatening condition. In ICU patients complications from immobility contribute to functional decline, reduce quality of life, increased health care costs and higher post-discharge mortality. Physiotherapist focuses on preserving function and promoting recovery and it may minimize the impact of these complications. There is increasing evidence demonstrating that early progressive

mobilization of patients in ICU is safe and beneficial in terms of its positive effects on patient's functional ability and low rate of adverse events and its potential to reduce complications and hospital length of stay. In ICU physiotherapist are involved in the prevention and treatment of circulatory, respiratory, musculoskeletal system and integumentary complications by graded mobilization, regular chest physiotherapy and by proper positioning of patients. ICU survivors have a significantly lower quality of life both before and after ICU stay compare with general population and they suffers from muscle weakness, physical disability and cognitive problems in very first week of illness which end up with multi organ failure.(3) Critically ill patients especially those that require mechanical ventilation, commonly develop acute neuromuscular weakness resulting in increased rate of readmission decreased long term physical functioning and overall decreased health related quality of life. In order to improve long term outcomes for ICU survivors (e.g. late mortality, neuro cognitive defects, ongoing morbidity, functional disability, quality of life, economic burden) critical illness and its management should be viewed on a continuum. Patients are often initially prescribed bed rest in in the ICU. However, inactivity and immobility by themselves have significant deleterious physiological effects, including pressure ulcers, atelectasis and aspiration and pneumonia. Immobility results in daily loss of 1.3% to 3% of muscle strength and 10% reduction in postural muscle strength after only one week of complete bed rest.(4) The development of muscular weakness in patients recovering from critical illness has dramatic effects on their physical functioning after ICU discharge. The greatest impairment related to daily physical functioning including an inability to lift and carry objects, stairs climbing, bend, kneel and walk on moderate distance. Physical therapy is one potential intervention that can be

safely performed on patients with acute respiratory failure who required mechanical ventilation for greater than 4 days. [5]The precise role of physiotherapy with in the ICU may vary but the main features include:

- Regulation of respiratory volumes and cardiac reserves
- Assistance in the weaning process utilizing ventilator support and oxygen therapy
- Instigation of an early mobilization program to assist in preventing the consequences of immobility
- Advise on positioning to protect from decubitus ulcer and to minimize potential nerve damage and muscle and soft tissue shortening
- Optimization of body position to effect muscle tone in the brain injured patient
- Promote functional independence and improve exercise tolerance
- Management of presenting musculoskeletal pathology
- Educate and advice family and carers
- Liaison with nursing and medical staff on the continuation and monitoring of ongoing physiotherapy devised care plans. (6)

The medical staff on the other hands plays a vital role in the critical care team. In the current demanding health care environment inter professional team practice is being promoted as a comprehensive means of providing cost effective health care. Literature suggests that professional specialization has led to a fragmentation between professions, which are likely to result in health care members being unable to look at problems of patients as a whole team. (7)There remains a perceptions by some medical disciplines that physiotherapy in ICU patient management is focused solely on the improvement and maintenance of a patients cardiopulmonary status, however the role of physiotherapy also include optimization of neurological status, maintenance of musculoskeletal function and is extending to areas such as extubating, ventilator weaning troubleshooting mechanical ventilation problems and therapeutic fiber optic bronchoscopy and involvement in medical emergency team. (8).

Research conducted to observe the implementation of a protocol facilitates and evidence based physiotherapy practice in ICU. Exploratory controlled clinical trial was used and patients were allocated to usual or protocol care. The results of the study showed during protocol care periods treatment sessions were provided more frequently. It was more likely for a rehabilitation management option to be included in a treatment session during protocol care periods. The study concluded physiotherapy services provided in ICU when the non-specialized therapists are guided by an evidence-based protocol are safe and differ from usual care. (9)

In (2013) Tejas et al aimed to determine practice patterns of physiotherapists in neonatal ICU with regards to cardiopulmonary and neuromuscular physiotherapy. A cross-sectional survey was conducted in which 285 questionnaire were

sent via email. The results of the study showed the treatment that are predominantly focused are percussion 74.5%, vibration 75.5%, chest manipulation 73.3%, postural drainage 67.6%, and suction 65.4%. In neuromuscular physiotherapy more than 60% of physiotherapists used positioning. The study concluded that practice pattern of physiotherapy for neonates in neonatal ICUS involve both chest and neuromuscular physiotherapy. (10)

A study conducted to identify barriers to mobilizing intensive care patients. A 4-week prospective audit of 106 patients was performed. In this study potentially avoidable factors were identified, including vascular access devices sited in the femoral region, timing of procedures and agitation or reduced level of consciousness. The study concluded critically ill patients can be safely mobilized for much of their ICU stay. Interventions that may allow more patients to mobilize include changing the site of vascular catheters, careful scheduling and improved sedation management. (11)

METHODOLOGY:

The cross sectional survey was conducted at different hospitals. The intension was to include as many large public and teaching hospitals with ICU facilities. Non probability convenient sampling was adopted for this survey. Eligible participants were nurses and house officers of ICU with physiotherapy service facility.

The questionnaire was used to check the medical staff perceptions about ICU physiotherapy the questionnaire consisted of ten questions which include 8 multiple answer questions 1 open ended and 1 close ended question. This questionnaire was relating to the nature of the unit: whether the medical staff was satisfied with hours of services provided by their physiotherapy team, how they assessed their physiotherapy service and what they considered was the most important features of that assessment, their perceive role of the ICU physiotherapists and whether the physiotherapist work could be absorbed by other discipline and how their physiotherapy service could be improved. There is neither internal or external validation of the questionnaire were scientifically established, be that it may, gleaning a population perceptions must have some validity and preliminary questionnaire ware modifies after being filled by medical staff.. The scoring for this questionnaire was in the form of percentages and each response had particular percentage based on given answer.

RESULTS

Approximately 64% of all returned completed questionnaires were from female and 36% from male. The overall response rate was approximately 86 %.(Tab 4.1)

Nearly 39% of returned questionnaires were from adult ICU, 8% from Pediatric, 2% neonatal, 16% from mixed ICU categories, 5% from surgical, 13% from traumatology , 2% from neurological, 7% from cardiac, 3% from medical and remainder were specifically

from chest ICU. %.(Tab 4.2)

Twenty nine percent of ICU staff indicated 5 days a week and day time cover only for working hour of physiotherapy service in ICU, 25% indicated 7 days a week and day time cover only, 10% indicated day time cover+ evening shift until 8pm, 3% indicated day time cover+ evening shift and on call after . %.(Tab 4.1) midnight, 9% indicated no evening shift but 24 hour on c service, 18 % indicated others and 6% varied being unaware the actual working hours of their ICU physiotherapy service. (Tab 4.3)

About 48% of ICU staff considered the above hours of serv satisfactory, 29% considered not adequate, 4% considered much and 19% considered doesn't matter for hours physiotherapy services.

Gender (Tab 4.1)

	Freque ncy	Perce nt	Valid Percent	Cumul ative Percen t
female	64	64.0	64.0	64.0
male	36	36.0	36.0	100.0
Total	100	100.0	100.0	

ICU category (Tab 4.2)

	Frequenc y	Percent	Valid Percent	Cumulative Percent
Adult	39	39.0	39.0	39.0
Pediatric	8	8.0	8.0	47.0
Neonate	2	2.0	2.0	49.0
Mixed	16	16.0	16.0	65.0
Surgical	5	5.0	5.0	70.0
Traumatolo gy	13	13.0	13.0	83.0
Neurologica l	2	2.0	2.0	85.0
Cardiac	7	7.0	7.0	92.0
Medical	3	3.0	3.0	95.0

Other	5	5.0	5.0	100.0
Total	100	100.0	100.0	

Working hours of the physiotherapy service in ICU (Tab 4.3)

	Frequency	Perce nt	Valid Percent	Cumulativ e Percent
5 days / week only	29	29.0	29.0	29.0
7 days / week only	25	25.0	25.0	54.0
Day-time cover + evening shift	10	10.0	10.0	64.0
Day-time cover + evening shift + on- call after midnight	3	3.0	3.0	67.0
No evening shift but 24 hour on-call service	9	9.0	9.0	76.0
Other	18	18.0	18.0	94.0
I don't know	6	6.0	6.0	100.0
Total	100	100.0	100.0	

Satisfaction about physiotherapy service hours (Tab 4.4)

	Frequency	Percent	Valid Percent	Cumulativ e Percent
Yes	48	48.0	48.0	48.0
No, not adequate	29	29.0	29.0	77.0
Too much	4	4.0	4.0	81.0
Doesn't matter, I am happy the service is available.	19	19.0	19.0	100.0
Total	100	100.0	100.0	

strategy must be developed to market physiotherapy as essential and non-replaceable member in ICU care.

DISCUSSION:

Developing a research culture and infrastructure may be the initial step that can be taken to confirm the physiotherapist's credibility in the ICU team. Susan D Hanekon survey suggest that physiotherapy guided by validated evidence- based protocol improved patient outcomes (12) but the results of this survey suggest that physiotherapy services in ICU can be improved by more expertise not by Evidenced-base practice. There is a need for the physiotherapists to promote the broad nature of their ICU role and to demonstrate their effectiveness in many different facets of care (13). The results of this survey showed the services of physiotherapy team as satisfactory but not outstanding and reasons are unknown but in the ICU environment, physiotherapists must show that they are capable of adapting to the temporal requirements of the disease process, combining clinical experience and expertise with published data and there by demonstrate to their ICU staff that they are an indispensable member of an ICU team. As pressure on economic resources increases, it will become imperative for physiotherapists to establish concrete evidence of their service efficacy (14). This survey showed that almost one half of the physiotherapy respondents participated in the ICU clinical research, suggesting that physiotherapists recognize the need to scientifically evaluate evidence of treatment efficacy and that research is one component of professional development. Health care professions have a duty to provide patients with the best possible treatment (15) It is the time for Pakistani physiotherapists to take positive action and provide evidence to demonstrate the quality rather than quantity of their works. A part from good communication skills, we can also contribute significantly to the improvement of patient's lung volume, ventilation and functional capacity. This requires clear and specific documentation and treatment programs that are tailored for individual patients.

CONCLUSION:

This survey demonstrates that physiotherapy has broad support from most ICU staff, but there still exists a need for physiotherapists to market their skills to those who think physiotherapy work could be absorbed by other disciplines and they are not competent. Dedication and enthusiasm were considered to be important elements of physiotherapy care by the ICU staffs who respond to this survey. Physiotherapists must continue to participate in research and promote evidence based practice and produce evidence to demonstrate efficacy of their treatment techniques. Physiotherapists now requires forceful research development program and effective marketing strategies to ensure their presence permanently, so that ICU staff will perceives that they are indispensable member of ICU team. A

REFERENCES

1. Jithendra a kumar, Arun g mariya, Daphne pereira. Role of physiotherapists in intensive care units of India: A multicenter survey. *Indian Journal of Critical Care Medicine*. 2007;11(4): 198-203.
2. Needham dm, Korupolu r, Zanni j m. Early Physical medicine and rehabilitation for patients with acute respiratory failure. *Archives of Physical Medicine and Rehabilitation*. 2010;91(1): 536-542.
3. Cecile j partridge. Coordinated Management of a Patient in ICU With Cardiorespiratory failure . In: Cecily partridge (ed.) *Recent Advances in Physiotherapy*. : John Wiley and sons; 2007. 26-27.
4. Katherine e hodqin, Amy nordon-craft. Physical Therapy Utilization in Intensive Care Units: Results from a National Survey. *PubMed central*. 2009;37(2): 561-568.
5. Ambrosino n, Makhabah dn. Comprehensive Physiotherapy management in ARDS. *PubMed central*. 2013;79(5): 554-563.
6. Andrew d bresten. Physiotherapy in Intensive Care. In: Andrew d bresten and neil soni (ed.) *OH's Intensive Care Manual E-Book*. China: 1979. 39-41.
7. Sarah e jolly. Medical intensive care unit clinician attitudes and perceived barriers towards early mobilization of critically ill patients: a cross-sectional survey study. *PubMed central*. 2014;14(10): 41-84. In-text citation: (11)
8. Simone dafoe, Kathy stiller, Marianne chapman . Staff Perceptions of the Barriers to Mobilizing ICU Patients. *Internet journal of Allied health sciences and practice*.2015;13(2): 561-568.
9. S hanekom, Qalouw and arcoetzee. Implementation of a protocol facilitates evidence-based physiotherapy practice in intensive care units. *Science direct*. 2013;99(2): 139-145.
10. Tejas choksi, Gopala krishna alaparathi, Cp zulfuequer. Practice patterns of physiotherapists in neonatal intensive care units: A national survey. *Indian Journal of Critical Care Medicine*. 2013;17(6): 359-366.
11. Anne leditschke, Margot green, Joeline irvine. What Are the Barriers to Mobilizing Intensive Care Patients 2012;23(1): 26-29.
12. Susan d hanekom, Quinette louw, Andre coetzee. The way in which a physiotherapy service is structured can improve patient outcome from a surgical intensive care: a controlled clinical trial. 2012;16(6): 86-92.
13. Rosenberg w, Donald a. Evidence based medicine: an approach to clinical problem-solving. *British Medical Journal*. 1995;310(6987): 1122-1126.
14. Sackett dl, Richardson w. Evidence based medicine: how to practice an teach EBM. *NCBI*. 1997;111(231): 3-5.

15. Mullen ej. Evidence-based knowledge in the context of social practice. NCBI. 2013;69(5): 1197-209.

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