

Review Article

Patient safety issues in rehabilitation for person with locomotor disabilities: a review

Kuldeep Deka*, Pranjal Gogoi

Department of Physiotherapy, Down Town Hospital Ltd. Sankardev Path, Dispur, Guwahati, Assam, India

Received: 04 January 2019

Revised: 03 February 2019

Accepted: 05 March 2019

***Correspondence:**

Dr. Kuldeep Deka,

E-mail: kuldeepdeka7@yahoo.in

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Since the publication of the Institute of medicine report, To Err Is Human: Building a safer health system, notes that errors in health care are a significant cause of death and injury and the emphasis on patient safety has steadily increased. The rehabilitation professionals engaged for the management of patient with locomotor disabilities should incorporate elements of patient safety into their practices and also to stimulate research associated with prevalence of analysis of error/harm which occurs during the rehabilitation phase and also to develop and validate certain specific measuring tools and instruments for patient safety issues.

Keywords: Locomotor disabilities, Medical error, Patient safety, Rehabilitation

INTRODUCTION

The Institute of medicine report, To Err Is Human: Building a safer health system, notes that errors in health care are a significant cause of death and injury.¹ Despite with the advancement in medical technology and rehabilitative care, errors and unsafe system of care has had a profound effect on the practice of rehabilitation for person with disabilities. An error must be distinguished from an adverse event, which is “an injury caused by medical management rather than by the underlying disease or condition of the patient”.² Medical error occur mostly during the exercise prescription, preparation and administration of different therapies and often due to mistaking patients or procedures, miscalculation, writing and reading mistakes, mishearing.

Rehabilitation professionals working in clinical and rehabilitation settings must be aware of patient safety while dealing persons with locomotor disability on a continual basis. Although in general, measuring outcome

of therapy to the diseased state or conditions were being carried out routinely with different specific measuring tools in clinical settings. Even though of having knowledge of the scope of the issue it has not being given due consideration as a part of the rehabilitation process. With the traditional concepts of barrier free environment as a safety concern for person with locomotor disabilities resulting from affliction of neurological, orthopaedic, paediatric, and or geriatrics, there is a limited literature on the evolving concept of patient safety measures in the rehabilitation fields.

Health care error and measuring tools

Though health care error, a preventable adverse effect of care is attributed to multiple causative factors starting from human factors (increasing working hours of professional, variations in healthcare provider training and experience etc.) to medical complexity and system failures.^{3,4} Whereas finding out the exact cause and

remedial measures to minimize the error stands to be technically difficult.

The most common methods for measuring patient safety in hospitals were usually by retrospective chart review, voluntary error reporting systems, automated surveillance and administrative/claims data (AHRQ patient safety indicators). Despite with certain disadvantage for all those methods like the process require labour-intensive, data quality variability due to incomplete clinical information, require electronic data to run automated surveillance etc. Some of the common English version instruments identified for measuring patient safety experiences, outcome and their focus in primary care settings where such as the adverse drug reaction survey, 1999 (adverse drug reaction); prescription safety questionnaire, 2003 (adverse drug reaction); medication risk questionnaire, 2003 (risk of medication related problems); Use of medication questionnaire, 2003 (appropriateness of prescribing); The SEAPS, 2007 (patient safety health beliefs); Out-of-hours patient questionnaire, 2007 (out of hours care); perceptions of medical mistakes, 2010 (medical mistakes); PREOS-PC (practice and patient activation, experiences of safety problems, harm and general perceptions of patient safety).^{5,6,7} Among all those instruments none of them had measured the overall patient safety issues and were not applicable for the rehabilitation fields.

Rehabilitative care and errors

The care provided by rehabilitation professionals is generally safe, but adverse events do occur.⁸ Some of the commonest adverse events; fall related event, pain and soreness associated with muscle injury, infection due to medical care ,wound infection, decubitus ulcer, hospital acquired pneumonia etc. were more commonly seen in the clinical practices. The clinical risk associated with the treatment of disabled patients should be known and need to be analysed for safety measures by the experienced professional. This type of analysis were not frequent in “patient safety” which attempts to systematize the study of health care risks so that none go unnoticed. It is obvious that knowing these risk factors will help us to organize the measures of prevention against them.

The nature of certain error/fault which commonly occurs in rehabilitation fields while providing care for the person with disabilities like failure to disclose wheelchair fall, false documentation and protecting colleague, poor staffing and fraud, ineffective communication and patient hand-off, forgotten patient, breach of duty and forgiveness, deliberate harm and patient abuse can lead to potential harm which usually goes unnoticed.⁹

Analysis of health care risks in disabled patients can be grouped under three factors - risks associated with the patients themselves, health care professionals and the health care environment which were listed in Table 1.¹⁰

Table 1: Analysis of health care risks in disabled patients.

Risks factor	Analysis
Risks associated with the patients themselves	Disability that affects the understanding of clinical instructions
	Disability that affects perception of the environment
	Anomalies in the patient’s attitude and/or impulse control
	Deficient basal state of health and regular medication taken.
	Temporarily deficient state of health at the time of treatment.
Risks associated with the health care professionals	Inadequate attitude in the patient’s surrounding environment
	Inadequate level of training and/or experience
	Inadequate personality and/or poor communication skills.
Risks associated with the health care environment	Deficient physical or mental state at the time of treatment.
	Deficient organization of care: Improper planning of clinical appointments.
	Insufficient staff assigned and trained.
	Deficient handling of clinical information.
	Non-existence of protocols and/or instruments to deal with clinical emergency situations.
Existence of architectural barriers and/or improper layout of the furnishings or clinical apparatus	
Environmental conditions (light, noise, etc.) are inadequate	

DISCUSSION

With the limited retrieved literature available on patient safety issues in rehabilitation field in India, a conceptual approach for the analysis of patient safety is indispensable. Proposal for a regularised committee for root cause analysis, its corrective and preventive action for the error in the rehabilitation necessitates. Some of the following measures can be proposed to prevent, correct and modify error to improve the quality in rehabilitation for locomotor disabilities-the determination of type and level of disability prior to initiate any treatment, foremost screening the patient for specific diseased state through proper examination and evaluation with appropriate screening tools; to understand, to make aware and to counsel the family members/care-giver regarding the limitation of the rehabilitation outcomes and its prognosis, to set-up the goals of treatment in accordance with the available evidence based practice, periodical follow-up of outcome of treatment, patient/carer satisfaction, measuring quality of life as well as the need for assessing the requirement of assistive aids/devices in

order for energy conservation for the person with locomotor disability.

For effective delivery of therapeutic measures with rehabilitative and health-care services – a system that both prevents error from occurring is most important while considering for time sensitive and result oriented improvement of the disability associated with specific diseases. The key elements of a culture of safety include:

- A shared belief that although health care is a high-risk undertaking, delivery processes can be designed to prevent failures and harm to participants;
- An organizational commitment to detecting and analyzing patient injuries and near misses; and
- An environment that balances the need for reporting of events and the need to take disciplinary action.

Improving patient safety requires a multi-phased process beginning with the detection of injuries and near misses and ending with a mechanism for ensuring that improvements in patient safety are maintained.¹¹ However safety culture is multi-dimensional and usually includes assessment of leadership style, collaboration and co-operation among staff, and front-line professionals, practice of evidence based medicine, adequacy of communication, learning from mistakes and recognition of harm.¹²⁻¹⁴ In tertiary care centres the communication between the referring physician and rehabilitation professionals for both in-patient and out-patient care services stands as an important tool in directing a beneficial effect as well as minimizing risk to the patient during the treatment sessions.¹⁵ Most importantly, review of the chart of the patient should reflect the red flags in a specified column in order to minimize certain risk, and modifying the factors may prove beneficial. For example, weight bearing state for a post-operative temporary disability following fracture neck of femur such as non weight/partial weight bearing should be always based on surgeon preferences and advices-that need to be strictly followed by rehabilitation professionals like physiotherapist in order to reduce the risk of implant failure, affecting fracture healing etc. and this type of communication between the concerned should always be documented in the patient chart.

Wong CA et al, reported significant positive associations between effective styles of leadership and high levels of patient satisfaction and reduction of adverse effects.¹⁶ Style of leadership such as transformational which is characterized by creating relationships and motivation among health-care members in order to inspire confidence, staff respect and effective communication loyalty, results in improved productive care for patients.^{17,18} Empirical evidence suggests that improving teamwork may be key to reducing medical error whereas the context of evidence based practice (EBP) improvements in patient safety need to be addressed at each step of the implementation process; piloting the change in practice is essential to determine the fit

between the EBP patient safety information/innovation and the setting of care delivery.¹⁹⁻²¹ Learning from error not just applies to individual staff, but also to teams and to entire organisations associated with rehabilitative care. Although patient centered approaches had been always favourable in prognosis for both temporary and permanent disability.

Although literature provides insight into various prognostic factors but very little is known about the patient who experiences adverse events during their length of hospital stay and out-patient care. Adverse events in rehabilitation fields for locomotor disability patient may be under reported because there is no consensus on the definition. Usually adverse events associated with therapeutic exercises, prosthetic and orthotic application, training for activities of daily living (ADLs), and instrumental activities of daily living (IADLs) goes unnoticed. Adverse patient events can be detected, and their frequency reduced, using multiple detection methods and clinical improvement strategies as part of an integrated clinical risk management program.²² Generalizability from the examination of events from one urban hospital to other community hospitals or smaller hospitals that are staffed differently or serve less critically ill patients is difficult. Applying lessons learned from one institution may only be partially applicable to others.²³ However, only a few studies have analyzed the relation between safety culture, objective quality and perceived quality by patients.²⁴⁻²⁶ Despite, the increasing concept of improving quality of life for patients with locomotor disabilities, the culture of patient safety issues were lagging behind with no or under reporting incident. Furthermore, a substantial proportion of adverse events are preventable. Thoroughly, identifying the nature and rate of adverse events associated with rehabilitation, initiatives can be developed to improve care.

Quality assurance and patient safety are closely related, there are very few studies that have analyzed empirically the inter-relationships between the variables. The researches in rehabilitation for patients with locomotor disability were limited in terms of either these variables. Therefore, future research on rehabilitation sciences needs development and validation of specific measuring tools and instruments for risk factor analysis and issues related to patient safety which will indirectly improve the quality of treatment as well as the well-being state of patients.

CONCLUSION

In fact, learning new concepts and knowledge for patient safety and strategies, thereby preventing harm by making necessary practice changes and managing error may contribute to create a safety environment for patient with locomotor disabilities. With the advent of modern medical technology and standardized outcome measures for screening various key parameters for specific diseased conditions, there is a necessity for rehabilitation

professionals to develop and implement the culture of patient safety issues in their routine clinical practices. Therefore, future research should analysed for the prevalence of potential error/harm that occurred with the rehabilitation of patient with locomotor disabilities and for the development and validation of specific measuring tools and instruments related to patient safety in the rehabilitation fields.

ACKNOWLEDGEMENTS

Authors would like to thank Executive director, Down Town Hospital Guwahati, India for her encouragement and support.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: Not required

REFERENCES

- Institute of Medicine (US). To err is human: building a safer health system. Washington, DC: National academy press; 2000.
- Hoffmann B, Rohe J. Patient safety and error management. What cause adverse events and how they can be prevented? Dtsch Arztebl Int. 2010;107(6):92-9.
- Runciman W, Merry A, Smith AM. Improving patient safety by gathering information. Anonymous reporting has an important role. BMJ. 2001;323:7308-10.
- Kalra J, Entwistle M. Medical error disclosure and professionalism: The right thing to do. Ann Clin Pathol. 2014;2(2):1023-5.
- Ignacio RC, Daniela CG, Antino RG, Jose MV. Measuring experiences and outcomes of patient safety in primary care; a systematic review of available instruments. Fam Pract. 2015;32(1):106-19.
- Ignacio RC, David R, Antino RG, Umesh TK, Jose MV. Measuring patient safety in primary care: The development and validation of the "Patient reported experiences and outcomes of safety in primary care"(PREOS-PC). Ann Fam Med. 2016;14:253-61.
- Spencer R, Cambell SM. Tools for primary care patient safety: a narrative revie. BMC Fam Pract. 2014;15:166-71.
- Hagley GW, Mills PD, Shiner B, Hemphill RR. An analysis of adverse events in the rehabilitation department: using the veterans affairs root cause analysis system. Phys Ther. 2018;98(4):223-30.
- Wade D. Adverse effects of rehabilitation- an opportunity to increase quality and effectiveness of rehabilitation. Clin Rehabil. 2009;23(5):387-93.
- Perea-PB, Labajo-GE, Bratos-MM, Santiago-SA, Albarrán-JE, Villa-VA. The clinical safety of disabled patients: Proposal for a methodology for analysis of health care risks and specific measures for improvement. Med Oral Patol Oral Cir Bucal. 2013;18(2):e251-6.
- Aspden P, Corrigan JM, Wolcott J, Erickson SM, editors. Patient Safety: Achieving a New Standard for Care. Washington, (DC): National Academies Press (US); 2004.
- Sammer CE, Lykens K, Singh KP, Mains DA, Lackan NA. What is patient safety culture? A review of the literature. J Nurs Scholar sh. 2010;42(2):156-65.
- Colla JB, Bracken AC, Kinney LM, Weeks WB. Measuring patient safety climate: a review of surveys. Qual Saf Health Care. 2005;14(5):364-6.
- Wakefield JG, McLaws ML, Whitby M, Patton L. Patient safety culture: factors that influence clinician involvement in patient safety behaviours. Qual Saf Health Care. 2010;19(6):585-91.
- Brathwaite D, Aziz F, Eakins C, Charles AJ, Cristian A. Safety precautions in the rehabilitation medicine prescription. Phys Med Rehabil Clin N Am. 2012;23(2):231-9.
- Wong CA, Cummings GG. The relationship between nursing leadership and patient outcomes: A systematic review. J. Nurs Manag. 2007;15:508-21.
- Al-Sawai, A. Leadership of Healthcare Professionals: Where Do We stand? Oman Med. J. 2013;28:285-7.
- Frandsen B. Nursing leadership management & leadership styles. AANAC, American Association of Nurse Assessment Coordination: Denver, CO, USA. 2014.
- Risser DT, Rice MM, Salisbury ML, Simon R, Jay GD, Berns SD, et al. The Potential for Improved Teamwork to Reduce Medical Errors in the Emergency Department. Ann Emerg Med. 1999;34:373-83.
- Manser T. Teamwork and patient safety in dynamic domains of healthcare: a review of the literature. Acta Anaesthesiol Scand. 2009;53:143-51.
- Hughes R. Patient safety and quality: An Evidence-based Handbook for Nurses, vol 1. Agency for Healthcare Research and Quality, Rockville; 2008.
- Wolff AM, Bourke J, Campbell IA, Leembruggen DW. Detecting and reducing hospital adverse events: outcomes of the Wimmera clinical risk management program. Med J Aust. 2001;174(12):621-5.
- Jayaram G. Measuring adverse events in psychiatry. Psychiatry (Edgmont). 2008;5(11):17-9.
- Manzanera R, Guilabert M, Galvez G, Mira JJ. Quality Assurance and Patient Safety Measures: A Comparative Longitudinal Analysis. Int J Environ Res Public Health. 2018;15(8):1568-73.
- DiCuccio MH. The Relationship between patient safety culture and patient outcomes: A Systematic Review. J Patient Saf. 2015;11(3):135-42.
- Sorra J, Khanna K, Dyer N, Mardon R, Famolaro T. Exploring relationships between patient safety culture and patients' assessments of hospital care. J Patient Saf. 2012;8(3):131-9.

Cite this article as: Deka K, Gogoi P. Patient safety issues in rehabilitation for person with locomotor disabilities: a review. Int J Res Med Sci 2019;7:1388-91.