

## Enhancing the care of neuro-oncological patients: Fundamental and useful concepts for nurses who specialize in neurorehabilitation

Yashvi Gupta <sup>1</sup>, Kavitha P <sup>2</sup>, Shivani Shashikant Mahadik <sup>3</sup>, Niharika Tiwari <sup>4</sup>, Jaineeta <sup>4</sup>, Liji Chaudhary <sup>4</sup> and Samiksha Joshi <sup>3,\*</sup>

<sup>1</sup> Department of Neurology, All India Institute of Medical Sciences Ansari Nagar, New Delhi, India.

<sup>2</sup> Sri Devaraj Urs College of Nursing, Kolar, Karnataka, India.

<sup>3</sup> JJ Hospital, JJ Marg, Nagpada-Mumbai Central, Off Jijaboy Road, Mumbai, Maharashtra, India.

<sup>4</sup> School of Nursing, Noida International University Greater Noida (UP), India.

GSC Advanced Research and Reviews, 2023, 15(01), 144–148

Publication history: Received on 21 February 2023; revised on 18 April 2023; accepted on 21 April 2023

Article DOI: <https://doi.org/10.30574/gscarr.2023.15.1.0108>

### Abstract

Due to the variety of neurological abnormalities that these patients experience, the neuro-oncological population effectively conveys the complexity of neurological disability. Also, because of treatment advancements, patients with brain tumors live longer and need rehabilitation services. Even if their importance in this environment is acknowledged and their role is growing, the nurse's position in the interdisciplinary specialty of neurorehabilitation is not precisely defined.

The study aims to determine the fundamental skills that neurorehabilitation nurses should possess, which might be taught in a specialty course. According to the literature, advancing medical professionals' scientific and practical knowledge is necessary for the growth of rehabilitation. This organized training curriculum could be included in graduate nurse continuing education programs and undergraduate nursing education programs. For nurses to provide better overall care and care management for patients with extremely complex disabilities, such as those affected by brain tumors, they must become experts in neuro-rehabilitation. The next step will be to begin debating the creation of a specialization program in neurorehabilitation nursing at the level of scientific associations related to neurorehabilitation and cancer.

**Keywords:** Care; Enhancing; Nuro-Oncological Patients; Nurses; Neuro rehabilitation

### 1. Introduction

Over 40% of the most severely impaired individuals (who require daily assistance) and the majority of those with complex disabilities with a combination of physical, cognitive, and behavioral impairments have a neurological injury as the underlying cause of their disability. The neuro-oncological population accurately reflects the complexity of neurological disability; in fact, patients with malignant brain tumors (BT) exhibit multiple neurological deficits throughout the disease as a result of both the direct effects of the tumor and the unfavorable side effects of treatment, which severely restrict the patient's ability to carry out daily activities. The most prevalent neurological abnormalities identified in patients with BTs were weakness, impaired cognition, impaired visuo-perception, and motor issues. Patients with BTs live longer and need more rehabilitative care and services due to recent improvements in surgical methods, chemotherapy, and radiation therapy. When cancer is considered a chronic illness, the idea of cancer rehabilitation becomes a crucial part of comprehensive care. Patients anticipate physical rehabilitation and a wide range of therapies to help them learn how to deal with the long-term effects of cancer diseases. In order to meet their needs

\* Corresponding author: Samiksha Joshi

for care continuity and support in learning self-management techniques, as outlined in the Chronic Care Model of the World Health Organization (WHO), patient-centered rehabilitation programs that are both individual and group-oriented are offered. Due to the dual burden of dealing with an oncological illness and neurological abnormalities, neuro-oncological disorders are associated with significant levels of psychosocial distress. Moreover, probable neurological impairments result in a distinct symptom profile significantly hindering patients' and their carers' day-to-day activities. Because patients avoid social interactions, which often impact their families, social isolation is frequently related to that, for instance, due to physical constraints, cognition deficiencies, or communication difficulties. Please explain how the diagnosis can significantly change a person's social, family, and professional life for both patients and their careers. Neurological deficiencies affect patients' social and role functioning, making it harder for them to understand their diagnosis and making them more reliant on assistance. Changing roles within the family or in the patient's relationship with caretakers may result in losing independence, autonomy, and identity, which adds even more psychological strain. Thus, social isolation and its consequences are already a risk for neuro-oncological patients and those who care for them. There must be a decrease in all interpersonal relationships due to the COVID-19 epidemic. Weller and Presser advised carefully assessing whether asymptomatic individuals with stable clinical problems require follow-up care and outpatient visits. Moreover, video calls and telephone consultations have become more prevalent [1]. On the one hand, this safeguards employees, family members, and patients from the possibility of contracting COVID-19. On the other hand, preexisting social isolation may be exacerbated, which would then cause more psychological anguish. This may be made worse by caregivers getting infected with COVID-19 and potentially spreading it to patients, as well as the dread of infection (particularly while receiving tumor-specific treatment). Patients may avoid visiting the clinic due to restrictions on accompanying people and guests, fearing potential treatment delays. Moreover, video calls and telephone consultations have become more prevalent. On the one hand, this safeguards employees, family members, and patients from the possibility of contracting COVID-19 [2]. On the other hand, preexisting social isolation may be exacerbated, which would then cause more psychological anguish. This may be made worse by carers getting infected with COVID-19 and potentially spreading it to patients, as well as the dread of infection (particularly while receiving tumor-specific treatment). Patients may avoid visiting the clinic due to restrictions on accompanying people and guests while also fearing potential treatment delays. The rehabilitation nursing practice aims to support patients in regaining and maintaining maximum health while avoiding typical consequences for those with impairments and chronic illnesses. Physiotherapists and occupational therapists used to take the lead on rehabilitation programs. Not always has the nurse's contribution to the recovery process been acknowledged or treated as an equal rehabilitation team member. Herein we will review the available literature related to Enhancing the care of neuro-oncological patients [3,4].

## 2. Methodology

The Rapid Review Guidebook suggests following the steps of Dr. Dobbin's evidence-informed decision-making (EIDM) methodology: Steps for Conducting a Rapid Review served as the framework. The health EvidenceTM tool was used to 1) find and access pertinent research evidence, 2) assess the evidence's methodological quality, and 3) synthesize the evidence.

### 2.1. Search Strategies

The following key search terms were established based on the quick review research questions. With the help of Enhancing the Care of Neuro-Oncological Patients

### 2.2. The final search string is as below

Enhancing The Care of Neuro-Oncological Patients: Fundamental and Useful Concepts for Nurses Who Specialize in Neurorehabilitation

For the purpose of conducting a thorough search for publications, four databases have been adopted: Scopus, Google Scholar, PubMed, and the Cochrane Library. Due to the dearth of publications in the field of Enhancing the Care of Neuro-Oncological Patients, Google Scholar has been added to provide wider coverage of the gray literature. Scopus, PubMed, and the Cochrane Library all provided excellent coverage of peer-reviewed articles.

### 2.3. Eligibility criteria

The literature search included all Enhancing the Care of Neuro-Oncological Patients articles, theses, and review papers released before November 2022.

## 2.4. Data Extraction

The articles were examined by two impartial reviewers from the medical community to guarantee the selection's impartiality. On the finalized list of articles for additional data extraction, the two reviewers have achieved an eighty percent agreement.

## 2.5. Results of the literature search

Over 40% of the most severely impaired individuals (who require daily assistance) and the majority of those with complex disabilities with a combination of physical, cognitive, and behavioral impairments have a neurological injury as the underlying cause of their disability. The neuro-oncological population accurately reflects the complexity of neurological disability; in fact, patients with malignant brain tumors (BT) exhibit multiple neurological deficits throughout the disease as a result of both the direct effects of the tumor and the unfavorable side effects of treatment, which severely restrict the patient's ability to carry out daily activities. The most prevalent neurological abnormalities identified in patients with BTs were weakness, impaired cognition, impaired visuo-perception, and motor issues. Patients with BTs live longer and need more rehabilitative care and services due to recent improvements in surgical methods, chemotherapy, and radiation therapy. When cancer is considered a chronic illness, the idea of cancer rehabilitation becomes a crucial part of comprehensive care. Patients anticipate physical rehabilitation and a wide range of therapies to help them learn how to deal with the long-term effects of cancer diseases. In order to meet their needs for care continuity and support in learning self-management techniques, as outlined in the Chronic Care Model of the World Health Organization (WHO), patient-centered rehabilitation programs that are both individual and group-oriented are offered. Due to the dual burden of dealing with an oncological illness and neurological abnormalities, neuro-oncological disorders are associated with significant levels of psychosocial distress. Moreover, probable neurological impairments result in a distinct symptom profile significantly hindering patients' and their carers' day-to-day activities. Because patients avoid social interactions, which often impact their families, social isolation is frequently related to that, for instance, due to physical constraints, cognition deficiencies, or communication difficulties. Please explain how the diagnosis can significantly change a person's social, family, and professional life for both patients and their careers. Neurological deficiencies affect patients' social and role functioning, making it harder for them to understand their diagnosis and making them more reliant on assistance. Changing roles within the family or in the patient's relationship with caretakers may result in losing independence, autonomy, and identity, which adds even more psychological strain. Thus, social isolation and its consequences are already a risk for neuro-oncological patients and those who care for them. There must be a decrease in all interpersonal relationships due to the COVID-19 epidemic. Weller and Presser advised carefully assessing whether asymptomatic individuals with stable clinical problems require follow-up care and outpatient visits. Moreover, video calls and telephone consultations have become more prevalent [1]. On the one hand, this safeguards employees, family members, and patients from the possibility of contracting COVID-19. On the other hand, preexisting social isolation may be exacerbated, which would then cause more psychological anguish. This may be made worse by caregivers getting infected with COVID-19 and potentially spreading it to patients, as well as the dread of infection (particularly while receiving tumor-specific treatment). Patients may avoid visiting the clinic due to restrictions on accompanying people and guests, fearing potential treatment delays. Moreover, video calls and telephone consultations have become more prevalent. On the one hand, this safeguards employees, family members, and patients from the possibility of contracting COVID-19 [2]. On the other hand, preexisting social isolation may be exacerbated, which would then cause more psychological anguish. This may be made worse by carers getting infected with COVID-19 and potentially spreading it to patients, as well as the dread of infection (particularly while receiving tumor-specific treatment). Patients may avoid visiting the clinic due to restrictions on accompanying people and guests while also fearing potential treatment delays. The rehabilitation nursing practice aims to support patients in regaining and maintaining maximum health while avoiding typical consequences for those with impairments and chronic illnesses. Physiotherapists and occupational therapists used to take the lead on rehabilitation programs. Not always has the nurse's contribution to the recovery process been acknowledged or treated as an equal rehabilitation team member. Herein we will review the available literature related to Enhancing the care of neuro-oncological patients [3,4].

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## 3. Results and discussion

The standard competencies of neurorehabilitation nurses are identified in this research, along with a recommended structured education program for training specialized nurses in neurorehabilitation care. To achieve this goal, a consensus was formed on a minimal core set of issues that included five areas of rehabilitation nursing: clinical, technical, methodological, organizational, and legal. This was accomplished by calling on the knowledge of various clinicians and professions. This review supports the requirement for specialized education and training (reported by nurses) to interact with persons with complex neurological disorders, consistent with earlier literature [6]. Indeed, a more thorough investigation of the role of nurses within the multi-professional rehabilitation team revealed gaps in

graduate nurses' skills and knowledge when working in rehabilitation settings. Even though the role of nurses has significantly changed over time, there are still clear gaps in the field's current nursing education for rehabilitation. The research demonstrates that rehabilitation nursing has advanced to varying degrees globally, although the precise role of nurses in rehabilitation is not well understood. Moreover, a thorough foundation for the specialty practice of rehabilitation nursing is not present in the English-language literature, according to searches on Medline and Google. The proposed course seeks to close these gaps by offering the theoretical and practical foundations required to educate a qualified NSp in neurorehabilitation [7]. The program's main goals are to train nurses in managing the care of neurological patients with disabilities in both the acute and chronic phases, to equip them with the leadership and team-coordination skills necessary to ensure that patients receive comprehensive care, and to impart to them knowledge of the clinical tools and technologies used in the field of neurorehabilitation. To teach them a practical technique that will enable them to continue developing their knowledge and to share it with other healthcare professionals, implementing this knowledge across the healthcare system and raising levels of both safety and quality. Several publications, including three editions of a core curriculum, have been released by the Association of Rehabilitation Nurses in the US to help guide the development of rehabilitation nursing practice. Nonetheless, these publications had little impact outside of the US [8]. There is consensus elsewhere that nurses' potential contribution to rehabilitation has not yet been fully appreciated. It may be possible to train advanced practice nurses, especially neurorehabilitation specialists, who could fill the growing need for knowledgeable clinicians capable of taking on significant leadership roles in clinical, management, and research areas, by developing and implementing formal education courses. This paper suggests a course that might be used as the foundation for a core curriculum. It is based on a minimal selection of subjects that are divided into five major categories. This model emphasizes strong evidence-based practice and substantial clinical practice. It also emphasizes the value of cross-disciplinary teaching, which strives to integrate and harmonize various professional abilities within an interprofessional education framework. In order to provide the best possible treatment for patients, interdisciplinary healthcare teams must collaborate closely. Non-technical abilities including communication, teamwork, cooperation, and reflection are essential for efficient practise in this situation. Education on how to work in a team is crucial because interprofessional collaboration is a key component of total quality management. Healthcare professionals from various backgrounds and knowledge levels must synchronize their intervention plans with the skills and objectives of the other team members [9,10,11].

#### 4. Conclusion

According to the literature, advancing medical professionals' scientific and practical knowledge is necessary for the growth of rehabilitation. This organized training curriculum could be included in graduate nurse continuing education programs and undergraduate nursing education programs. For nurses to provide better overall care and care management for patients with extremely complex disabilities, such as those affected by brain tumors, they must become experts in neuro-rehabilitation. The next step will be to begin debating the creation of a specialization program in neurorehabilitation nursing at the level of scientific associations related to neurorehabilitation and cancer.

#### Compliance with ethical standards

##### *Acknowledgments*

Thank you to my mentor for supporting and advising me as I wrote this post. I want to express my sincere gratitude to my friends for their unwavering support and assistance in helping me finish this study. They dedicated their valuable time to guiding me directly or indirectly during the journey.

##### *Disclosure of conflict of interest*

There are no conflicts of interest, according to the authors.

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