

The importance of multidisciplinary team in postoperative neurorehabilitation

Abstract

Neurosurgical centers deal with complex diseases and not rarely patients face a range of impairments or nuisances in the postoperative period. In order to achieve optimal outcomes multidisciplinary teams play an important role during neurorehabilitation. Although the data concerning this issue is limited, some aspects worth to be discussed and reviewed. We present a brief review about the multidisciplinary approach to neurosurgical patients. Individualization of patients' necessities and efficient communication in the team are essential points in this subject.

Keywords: neuro rehabilitation, psychological rehabilitation, postoperative care, speech therapists, nutritionists

Volume 4 Issue 5 - 2019

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Received: August 21, 2019 | **Published:** September 19, 2019

Introduction

Postoperative care in neurosurgery is a crucial part to achieve excellent outcomes for these complex patients.¹ A multidisciplinary approach, good relation between neurorehabilitation team and patient (and family), and raise of correct expectation are points that immensely contribute to optimal recovery.² Although we can see that is a growing trend at hospitals to give more attention to postoperative protocols, there is limited scientific literature available about the subject. Nevertheless, the establishment of approaches focus on prompt diagnosis, continuous care after the neurological procedure and intense dialog among the professionals involved in physical and psychological rehabilitation bring the surgeries results to better results and consequently more patient's satisfaction.³

In this scenario, some routines are naturally developed. Individuals undergoing complex procedures should have the first contact with the rehabilitation team before the surgery. Not rarely these patients will be exposed to many hours per day of physical training for several days. Individual's necessities should be identified soon, and, thus, being conducted to specific exercises or proper care. Moreover, the commutation in the neurorehabilitation group should be constantly encouraged. This multidisciplinary aspect is an essential role in the optimization of recovery. Finally, the health institution should measure and record data of neurological hospitalizations to further comparisons and goal establishments.

In this review, we are going to present issues concerning the aspects cited and discuss how each one is important to neurosurgical rehabilitation. The final impact of postoperative care is the sum of these features.

Building a multidisciplinary team

Treatment of neurosurgical diseases carries a range of possible focal deficits that cannot be covered by one specific rehabilitation professional or physician. A complete multidisciplinary team includes nurses, physiotherapists, speech therapists, nutritionists, psychologist and other health workers with neurological training. Only such group is able to provide global assistance to patients with complex demands.

The description of each function is beyond the scope of this review. Nonetheless, it is important to mention that the attention on inpatient

rehabilitation has advanced toward an increasing involvement of different specialties to offer efficient support to individuals' needs.

Distinct types of neurological impairments should be treated by trained professionals and proper plans for optimal recovery can only be developed in accordance between neurosurgeons and the multidisciplinary team.^{4,5}

Historically, all these specialties have been producing the evidence-based literature concerning rehabilitation among neurological conditions. However, few have been presented about the results of integrated care to postoperative patients. The establishment of multidisciplinary teams requires the commitment of health institutions and the comprehension of neurosurgeons about the role of rehabilitation concepts to excellent neurological recovery.

There is evidence to support rehabilitation in coordinated multidisciplinary units to a complex condition such stroke provides better results.⁶ High complex neurosurgical centers treat a heterogeneous range of pathologies, and, so, neurorehabilitation team will face a heterogeneous range of disabilities in the post-care period.⁷ Thus, the first challenge once a team was formed is set a routine in which individual patients will receive personal interventions and reach the optimal improvements for the case.

In order to build the best strategies, two elements are fundamental to neurorehabilitation teams. The first is communication. It is indispensable that multidisciplinary teams develop the habit of constant dialog about patients and continuous information exchange during the recovery, which sometimes takes a longer time. The second is coordination. An efficient group work implies structured plans and arrangements to course organized interventions. Protocols should be designed considering suggestions of all the specialties and usually a leadership position should be executed by a motivated person.

Early contact

Candidates to neurosurgery procedures naturally create expectation and anxiety focused on those hours spent in the operative room, under anesthesia. The feelings are commonly shared by the family. However, surgery safety has significantly advanced and mortality is less than 3% in elective delicate procedures.⁸

On the other hand, the possibility to approach high complex pathologies also brought the duty to deal with some morbidity related to cranial nerves, vascular injuries and even noble nervous tissue when the benefits overlap the risks. These patients will require immediate support to recovery after waking and a previous conversation about the nuisances is essential.

It is advisable that the patient's first contact with the neurorehabilitation team happens at least in the day before surgery. If a person was never exposed to critical health problems, there is no perception of how wide the group of health assistance may be. A mention of the different professionals and a brief explanation of each role in the recovery is helpful. This action guide to a less stressful state and helps to build confidence between patient and health workers. Ideally, the neurosurgeon discusses the expected or possible physical deficits and estimate time and steps to improvements. Lastly, all the questions should be reviewed and the idea of continuity to the treatment following the surgery must be enhanced. All this point will make the patient understand the importance of the multidisciplinary approach in rehabilitation to excellent outcomes.

Furthermore, the family plays a meaningful role in joining the recovery. It is the opportunity to talk to the family and invite them to assist during the recovery program. The first conversation about the rehabilitation process is routinely executed by someone representing the multidisciplinary group and can be performed by a pro of any area. The crucial point is to make it clear that the talk is on behalf of a team.

Finally, it is the moment to identify those patients requiring psychological support, even before the surgery. Prompt support by a psychologist may boost physical rehabilitation and not rarely family also needs this guidance.

Measurements and results analysis

During the design of the therapeutic plan, the multidisciplinary teams must be able to evaluate its impact in order to adapt to the particular needs of each patient. In the literature, we found several scales and functional classifications, but the implementation and validation of the scores to the multidisciplinary environment are not well established.

Neurorehabilitation is a dynamic process that cannot be encapsulated at one protocol or score. Studies will need to clearly define the goals and measurements in recovery interventions. While it does not happen, it is crucial for a team to determine which scales and assessment points will satisfy a continuous refinement of its job.

Nevertheless, again some authors have published some data and discussions about neurorehabilitation in stroke patients. The scores and scales can be adapted, resulting in useful tools to multidisciplinary

teams. The implementation of measures is also essential for hospital managers to identify priorities and plan futures investments.

Conclusion

The recovery process of complex neurosurgeries should not be underestimated. Those surgeons that have the opportunity to work with a multidisciplinary team certainly will see better results in patients that need rehabilitation in the postoperative period. Although there is a lack of studies concerning this issue, in future we probably will see evidence-based data confirming that complex procedures demand complex approaches after operative room. Until specific protocols and measurement tools are not established, hospitals and neurorehabilitation groups should feel motivated to discuss and choose the best options to develop their work.

Funding details

There was no funding for this study.

Acknowledgement

None.

Conflict of interest

The authors declare that there is no conflict of interest.

References

1. Artur NLRMs, Rodolfo FC, Aline A, et al. Multidisciplinary neurorehabilitation team: the importance of objective self-assessment. *Arq Bras Neurol*. 2018;37(S 01):S1–S332.
2. Yagura H, Miyai I, Seike Y, et al. Benefit of inpatient multidisciplinary rehabilitation up to 1 year after stroke. *Archives of Physical Medicine and Rehabilitation*. 2003;84(11):1687–1691.
3. Peter L, Julie B, Gert K. Stroke rehabilitation. *Lancet*. 2011;377:1693–702.
4. Barbeau H. Locomotor training in neurorehabilitation: emerging rehabilitation concepts. *Neurorehabilitation and Neural Repair*. 2003;17(1):3–11.
5. Kitago T, Krakauer JW. Motor learning principles for neurorehabilitation. *Handbook of Clinical Neurology*. 2013;93–103.
6. Pamela W. Duncan, Richard Z, et al. Management of adult stroke rehabilitation care: a clinical practice guideline. *Stroke*. 2005;36:e100–e143.
7. Aadal L, Angel S, Dreyer P, et al. Nursing roles and functions in the inpatient neurorehabilitation of stroke patients. *Journal of Neuroscience Nursing*. 2013;45(3):158–170.
8. Elina R, Hanna T, Juha H, et al. Patient satisfaction and short-term outcome in elective cranial neurosurgery. *Neurosurgery*. 2015;77(5):769–776.