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REVIEW ARTICLE

A NURSING REHABILITATION PROGRAM TO IMPROVE THE QUALITY OF LIFE OF PATIENTS WITH MENINGIOMA: A NARRATIVE REVIEW

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Abstract

Meningioma is the most common type of primary brain tumor, which affect several domains of life, such as physiological, psychological, and social life conditions. Although surgery has been performed on meningioma patients in Indonesia, some patients still experience sequelae such as headache, impaired mobilization, disruption of activity, and visual disturbances. This narrative review aims to describe nursing rehabilitation programs in patients with meningioma in Indonesia. As a result, the nursing rehabilitation program is considered as an integral part of multidisciplinary rehabilitation, which can be applied in the nursing rehabilitation center and in the form of telenursing. The roles of nurses include providing evidence-based direct care, psychosocial support, patient / family education, care coordination, and continuing health promotion starting from the period of patient care in the hospital to discharge. In conclusion, the nursing rehabilitation program has the potential to improve the quality of life in patients with meningioma, especially in Indonesia.

KEYWORDS

meningioma; nursing rehabilitation program; primary brain tumor; quality of life

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INTRODUCTION

Meningioma is the most common type of primary brain tumor, which is 40-42% with an incidence rate of 8.9 per 100,000 populations ([Benz et al., 2018](#); [Dos Santos et al., 2011](#); [Najafabadi et al., 2017](#)). In Indonesia, the mortality rate of primary brain tumor patients is 4.25 per 100,000 populations per year with an incidence rate of 7 per 100,000 populations ([Komite Penanggulangan Kanker Nasional, 2015](#)). Meningioma can cause symptoms such as seizures, visual disturbances, cognitive and psychiatric disorders, fatigue, insomnia, and psychosocial disorders ([Najafabadi et al., 2017](#)).

Meningioma can affect several domains of life quality such as physiological, psychological, and social life. The results of a study showed that the most neurological symptoms experienced by meningioma patients are headache, impaired vision, cognitive impairment, epilepsy, motor disorders, and

speech disorders ([Van Alkemade et al., 2012](#)). Other studies show that around 20-23% of patients experience anxiety and postoperative depression and persists in 6 months after surgery ([Goebel & Mehdorn, 2013](#)). In addition, the process of social interaction in patients with meningioma often experiences obstacles due to physical symptoms experienced by patients. In fact, the limited time for social interactions experienced by an individual often reduces the number of life satisfaction and quality of life ([Zielinski et al., 2016](#)).

Quality of life can be defined as individual perceptions of its position in life associated with the prevailing cultural and systemic context, goals, expectations, and standards so that it is not limited to physical but also psychosocial, economic, and environmental aspects ([Giovagnoli et al., 2014](#)). Assessment of health-related quality of life in primary brain tumor patients is very important. The pattern of quality of life

of brain tumor patients can serve as an easy and cost-effective tool to recognize the initial changes in the subjective clinical conditions of brain tumor patients, and their relationship to disease progression ([Ooi & Mazlina, 2013](#)).

Research on the quality of life of patients with brain tumors has been carried out in Bandung Indonesia in October 2015 until February 2016. The results showed that there was still a large proportion of patients experiencing disorders in various levels of quality of life of patients after 3 months of hospitalization ([McCallister et al., 2018](#)). This shows that patients with primary brain tumor, one of which is meningioma in Indonesia, requires a rehabilitation program from nurses to overcome problems that occur in their life after discharge from the hospital. Recently, there is no specific nursing rehabilitation for patients with meningioma in Indonesia. This review was to describe the nursing rehabilitation programs for patients with meningioma in Indonesia.

CONCEPT OF REHABILITATION

Rehabilitation is a problem solving education process that aims to reduce the disability experienced by a person as a result of illness or injuries ([Khan et al., 2016](#)). The rehabilitation of patients with tumor is a coordinated rehabilitation program in which various disciplines provide assessment, care, and support that focus on complex medical, psychosocial, functional, and individual quality of life directly related to the pathology and treatment of tumors ([Silver et al., 2013](#)). Rehabilitation of individuals related to tumors or treatment of tumors requires someone who is skilled in giving it, one of them is a nurse ([Reigle et al., 2017](#)).

Based on several articles, the rehabilitation of patients with tumor should involve a multidisciplinary approach to providing quality care for survivors. Competence in assessment, decision-making, coordination, and communication skills is a must-have requirement for each discipline in applying a multidisciplinary rehabilitation program. The results of a controlled clinical trial on rehabilitation carried out in primary brain tumor patients in Australia showed that with multidisciplinary rehabilitation, brain tumor patients can improve function in several domains of life for up to 6 months after surgery ([Khan et al., 2016](#)). Other research results also showed that of 27,952 patients using multidisciplinary-based rehabilitation units in the United States, 52.9% were primary brain tumor patients ([Mix et al., 2017](#)).

Recent research proves the existence of intensive rehabilitation interventions from physical therapy and safe and appropriate occupational therapy for patients with primary brain tumors (one of them meningioma) can improve functional status ([Hansen et al., 2014](#)). Research on

multidisciplinary rehabilitation also shows that multidisciplinary rehabilitation can improve physical function in newly diagnosed primary brain tumor patients ([Roberts et al., 2014](#)).

ROLE OF NURSES IN THE REHABILITATION PROGRAM FOR PATIENTS WITH MENINGIOMA

Based on theory, nursing rehabilitation has to (1) be patient-centered in as much as patients preferences are key and the patients' partner must be engaged in the decision-making; (2) be evidence-based, which needs ongoing organizational efforts such as guideline development and evaluating care processes and mentoring of colleagues; (3) broaden its scope to include family in order to react to the changing social realities; and (4) rely on good leadership practices to access resources, build trustful work relationships, and reach shared vision within the interprofessional team ([Brady Germain & Cummings, 2010](#)). In neuro-rehabilitative settings, nurses have been described as pivotal to provide and ensure a supportive and safe environment to coordinate the services of the interprofessional team ([Aadal et al., 2013](#); [Karol, 2014](#)). Also, nurses contribute to functional recovery by improving functionality ([Kesselring & Beer, 2005](#)) and physical competencies ([Imhof et al., 2015](#)).

Additionally, the role of nurses in tumor rehabilitation is to provide evidence-based direct care, psychosocial support, patient / family education, care coordination, and continuous health promotion, starting from the patient care in the hospital to the discharge period ([Reigle et al., 2017](#)). A randomized controlled trial, which examines the rehabilitation program for environment-based brain tumor patients, explains one of the roles that nurses can play in implementing the rehabilitation program. It was explained that nurses could play a role in arranging the schedule according to the rehabilitation program for each brain tumor patient, observing the patient's condition during the rehabilitation program, ensuring the patient did not feel pain, facilitating the patient to have access to the surrounding equipment, and documenting the processes that occurred during rehabilitation program ([Khan et al., 2016](#)).

The role of nurses in conducting rehabilitation can also specialize in promoting tumor early screening and detection, giving specific tumor treatments such as radiotherapy, collaborative assessment and management of physical and psychosocial morbidity and related care, and supportive care of patients and their families ([Reigle et al., 2017](#)). Knowledge of the type of tumor and designated treatment and treatment-related morbidity is very important for nurses. Nurses can take steps to assess and prevent acute morbidity, chronic morbidity and anticipated long-term morbidity. In the rehabilitation process, if the nurse identifies various types of morbidity, the nurse can refer to a physiotherapist, physical

therapist, occupational therapy or speech therapy (Reigle et al., 2017).

Specific competencies of nurses to rehabilitate patients vary based on care settings. For example, patients with meningioma in inpatient rehabilitation may need help with daily life activities, drug management, pain management and other disruptive symptoms, patient / family education for daily activities, transfers, locus, intestines and bladder management (Reigle et al., 2017). In carrying out nursing rehabilitation, nurses must also be eligible to have the ability to assess the psychosocial and physical functions of individuals with tumors in the entire course of care. When rehabilitation nurses identify disorders, functional limitations, and restrictions on participation, nurses can make appropriate referrals made for services such as physical therapy or pain management (Langbecker & Yates, 2016).

NURSING REHABILITATION PROGRAMS

The results of research conducted in Bandung city Indonesia showed that when nurses conducted telephone follow-up, some patients said they still had problems in various domains of their lives from mild, moderate, to severe levels (McAllister et al., 2018). Some patients said that they came back to the outpatient hospital unit for consultation and rehabilitation, but some of the patients said that they did not come back to the hospital due to difficulties in access to transportation and considerable distances. In fact, they complain that they still have difficulty in mobilizing, feeling pain, experiencing visual impairments and have not been able to carry out activities such as before being sick (Sutiono et al., 2018). Thus, there are two programs proposed in this article, namely:

1) Telenursing as a form of nursing rehabilitation program in meningioma patients

One of the rehabilitation programs that can be performed by nurses in postoperative meningioma patients after the discharge from the hospital is home visiting or utilizing an information technology system such as nursing teleconsultation or called telenursing. Nursing teleconsultation is electronic communication that provides health consultation services in areas that are difficult to reach (Kumar & Snooks, 2011). The same is explained by Deldar et al. (Deldar et al., 2016), that nursing teleconsultation is defined as synchronous or asynchronous consultation using communication and information technology to eliminate geographical and distance problems. With the development of information technology, teleconsultation is currently widely used in the health service area because of its benefits. For patients, teleconsultation facilitates access to health services, especially for people who live in rural / remote areas or have disabilities, so that by having teleconsultation they can save time and transportation costs because they can access directly from home. For health care providers,

teleconsultation can provide an opportunity to expand their care and knowledge that is not limited to the walls of the hospital (Aggarwal et al., 2015).

Research on the effectiveness of teleconsultation by telephone shows that teleconsultation focuses on symptom management in patients with brain injury, one of which is caused by a brain tumor can reduce chronic complaints in patients at 6 months post-hospital treatment (Bell et al., 2008). The results of a similar study conducted in Indonesia showed that follow-up conducted by neurosurgical nurses was competent when patients returned from hospital was very possible to do in patients with neurosurgery disorders (one of them is a brain tumor) and patients were very accepting and appreciating it (Sutiono et al., 2018).

2) Nursing rehabilitation center

Nursing rehabilitation center is intended to prepare postoperative meningioma patients to be able to resume daily activities such as returning to work. This service has been developed at Wakari Hospital, Dunedin, New Zealand. Wakari Hospital is a rehabilitation center for patients with neurological disorders and post-neurosurgical surgery in Dunedin Hospital with a capacity of 16 bed patients. This place prepares discharge planning for neurology and neurosurgery patients including strokes, brain tumors and traumatic brain injury, multiple sclerosis or Parkinson's disease (Perez, 2017). The health team consists of medical staff with the main consultants namely nurses and other health workers (occupational therapists, clinical psychologists, social workers, language therapists, rehabilitation assistants and physiotherapists). The purpose of this rehabilitation is to help patients before returning home or work after discharge from the hospital. The nurse will assess the patient's level of independence and provide services according to the patient's needs. The design of the room is made by paying attention to the condition of the patient so as to make the patient safe despite carrying out activities independently (one of which has many handles in the patient's bathroom). In addition, the design of the room also aims to increase the level of patient independence. In some patient care rooms, there is a kitchen that patients can use to cook food for themselves independently. The facilities available at the rehabilitation center are very complete to support the healing process of patients, such as the gym, playing, reading, and occupational therapy rooms. Every patient treated at Wakari Hospital has a daily schedule prepared by nurses that aims to increase the patient's level of independence (Perez, 2017).

CONCLUSION

In conclusion, a rehabilitation program is needed for the recovery of meningioma patients, which should be arranged in an interdisciplinary manner involving several health workers such as general practitioners, neurosurgeons,

rehabilitation doctors, nurses, psychologists, and therapists. The nurse, as a professional health worker, must always be responsible for the health of meningioma patients since the patient is hospitalized and after post-hospital care. The results showed that rehabilitation in the form of palliative care provided by nurses in cancer patients could improve the quality of life of patients (Haun et al., 2017). Nurses should be able to accommodate the needs of post-treatment meningioma patients and assist patients and families in overcoming the problems they face. This is one of the roles of nurses in rehabilitation in meningioma patients (Reigle et al., 2017). Nurses can also conduct teleconsultation because meningioma patients in Indonesia are spread to several regions. For example in West Java, many meningioma patients have difficulty accessing health services after surgery due to transportation difficulties (Sutiono et al., 2018). More broadly, nursing rehabilitation centers can be developed in Indonesia to overcome the problems faced by meningioma patients. This service consists of consulting with specialist nurses, nursing education centers, and providers of therapies that can be applied to postoperative meningioma patients so as to improve the health status and quality of life of patients. By carrying out nursing rehabilitation program in meningioma patients in Indonesia, it is expected to be able to prepare patients when returning to their daily activities so that the quality of life of these patients can be optimal. Building a nursing rehabilitation center for meningioma patients is an opportunity and challenge that can be developed in Indonesia.

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AUTHORS CONTRIBUTION

Each author made substantial contributions to the conception or design of the work, the acquisition, analysis of result, and drafted the manuscript or substantively revised it.

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