

โปรแกรมพัฒนาสุขภาพทางจิตสำหรับผู้ดูแลผู้ป่วยบาดเจ็บศีรษะ:
การทบทวนบูรณาการ
A PROGRAM OF PSYCHOLOGICAL HEALTH IMPROVEMENT FOR
CAREGIVERS OF PATIENTS WITH TRAUMATIC BRAIN INJURY:
AN INTEGRATIVE REVIEW

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บทคัดย่อ

จากความต้องการการดูแลระยะยาวของผู้ป่วยบาดเจ็บศีรษะที่เพิ่มขึ้น ผู้ดูแลผู้ป่วยบาดเจ็บศีรษะมักจะประสบปัญหาทางด้านจิตใจ จึงต้องใช้โปรแกรมในการส่งเสริมสุขภาพจิตที่เหมาะสม บทความนี้เป็นการทบทวนบูรณาการ มีวัตถุประสงค์เพื่อค้นหาโปรแกรมที่มีประสิทธิภาพในการดูแลสุขภาพทางจิตของผู้ดูแลผู้ป่วยบาดเจ็บศีรษะ ผลการศึกษาพบว่าปัญหาทางจิตใจของผู้ดูแลผู้ป่วยบาดเจ็บศีรษะที่พบมีทั้งความทุกข์ที่ต้องแบกรับ ภาวะซึมเศร้าและความเครียด ส่วนโปรแกรมที่ใช้มีองค์ประกอบหลัก คือ การสอนหรือให้ความรู้ สุขภาพจิตศึกษา การฝึกอบรมทักษะและการสนับสนุนทางอารมณ์ สรุปการศึกษานี้พบว่าโปรแกรมที่มีหลายองค์ประกอบร่วมกันสามารถพัฒนาสุขภาพทางจิตของผู้ดูแลผู้ป่วยบาดเจ็บศีรษะได้ อย่างไรก็ตามปัญหาทางด้านจิตใจของผู้ดูแลอาจยังคงอยู่ เนื่องจากผู้บาดเจ็บศีรษะอาจมีการเปลี่ยนแปลงของอาการและไม่สามารถทำนายล่วงหน้าได้หลังจำหน่ายจากโรงพยาบาล จึงมีข้อเสนอแนะสำหรับการนำไปใช้ว่าควรมีการติดตามประสิทธิภาพของโปรแกรมอย่างต่อเนื่องในระยะยาว

คำสำคัญ: สุขภาพทางจิต ผู้ดูแลผู้ป่วยบาดเจ็บศีรษะ การทบทวน

Abstract

There is an increasing demand for the long-term care of people with traumatic brain injury (TBI). TBI caregivers often experience psychological problems which require appropriate interventions to promote psychological health. The purpose of this reviewed paper was to determine effective interventions which improve psychological health among caregivers of people with TBI. The findings showed that the psychological problems of TBI caregivers were distress, burden, depression, and stress. The main components of the interventions were educational, psycho-education, skill

training, and emotional support. The results concluded that combined methods of interventions could improve psychological health among TBI caregivers. However, psychological problems of caregiver's still remain due to the unpredictable and dynamic conditions of people with TBI after discharge. It is suggested when applying the program, the monitoring on the effectiveness of program should be conducted continuously in the long term.

Keywords: psychological health, TBI caregivers, review

Introduction

Traumatic Brain Injury (TBI) is a silent epidemic in modern times (Petranovich et al., 2015). At the global level, it is estimated that TBI accounts for twenty deaths per 1,000,000 per year (World Health Organization, 2014). Similarly in Thailand, TBI is a common, costly and debilitating health problem, particularly in young people (Prabripoo et al., 2013; Narkthong et al., 2014). TBI is generally caused by road traffic accidents and is often found either as an isolated injury, or in combination with other injuries (Thailand Bureau of Non Communicable Disease, 2015).

Although advances in medical and nursing practice can enhance the survival of TBI victims, those who have moderate to severe injuries experience life-long disabilities, including varying degrees of dependence and complications which require ongoing care from family members and health care providers (Kneafsey & Gawthorpe, 2004; Gan et al., 2006; Khiewchaum et al., 2011). Moreover, people with TBI are confined to bed which causes a decrease in their social interaction as well as mobility. As a result, people with TBI need long-term care from family caregivers. However, caregivers should receive care too as they often experience psychological problems with the high demand of long-term care for people with TBI. Caregivers always use many of their own resources and then may suffer negative psychological, social and economic impacts (Kneafsey & Gawthorpe, 2004) which in turn results in their decreased psychological health and well being. It is therefore a challenge for nurses to develop strategies to improve the psychological health of these caregivers.

This paper aimed to identify effective interventions to improve psychological health that could be used to guide the essential supportive care in a service plan for TBI caregivers. The specific objectives were to address the following 1) psychological problems experienced by TBI caregivers 2) the most effective interventions in improving psychological health among TBI caregivers.

Text

This integrative review was conducted using the databases of MEDLINE, PUBMED and CINAHL searching for studies from 1999 to 2015 under the search terms “caregiver”, “caregiving”, “head injury”, “brain injury”, “traumatic brain injury” and “psychological health”. Additional databases of TCI database and Thai LIS were included.

The electronic and paper search produced 192 references. The applicable studies were selected. Firstly, the review was limited to only full texts, in which thirty one research articles were available. Thereafter, the final study material was formed by twenty five research articles published in English or Thai language. However, only nine researches were interventions. Most of these were conducted in hospitals (Morris, 2001; Backhaus et al., 2010; Prabripoo et al., 2013; Sawasdinaruenart et al., 2013; Narkthong et al., 2014) and the community (Brown et al., 1999; Carnevale et al., 2002; Rivera et al., 2008; Petranovich et al., 2015). According to the Joanna Brigg Institute, most of these articles were level 1c (Randomized controlled trail) (Carnevale et al., 2002; Rivera et al., 2008; Backhaus et al., 2010; Petranovich et al., 2015) and 2c (Quasi-experimental design) (Brown et al., 1999; Sawasdinaruenart et al., 2013; Prabripoo et al., 2013; Narkthong et al., 2014). Except only one article was level 2d (a longititudinal, mixed variable, within- and between-subject design) (Morris, 2001).

Results

The Characteristics of TBI Caregivers

TBI could have permanent changes not only in the individual, but also in the family system (Gan & Schuller, 2002). All members of the family system were interconnected and a change in one part of the system means that there was a change for the whole system (Leaf, 1993). Families played a significant role in the caring process with the primary caregiving role often undertaken by one primary family member such as a mother, spouse, child, or other relatives (N=14-67 persons/group). The family played an important role in promoting a healthy adjustment for a family member with a TBI. Moreover, more than 80% of the family caregivers of patients with TBI were women with an average age range from 36.50 to 54.4 years old (Brown et al., 1999; Morris, 2001; Carnevale et al., 2002; Rivera et al., 2008; Backhaus et al., 2010; Sawasdinaruenart et al., 2013; Narkthong et al., 2014; Petranovich et al., 2015). In addition, these caregivers were anticipating being the primary caregiver for the family member with TBI who might be an entirely different person than the one that they once knew. Clearly, the family was under significant stress at this time (Brown et al.,

1999; Morris, 2001; Carnevale et al., 2002; Rivera et al., 2008; Backhaus et al., 2010; Sawasdinarenart et al., 2013; Narkthong et al., 2014; Petranovich et al., 2015).

Psychological Problems Among TBI Caregivers

After TBI, there could be a multitude of physical, cognitive and emotional changes which might prove distressing for the TBI individual and their families. Table 1 shows some of the psychological problems among TBI caregivers and assessment tool applied in TBI caregivers which had been repeatedly reported in research to reflect both the strain and burden upon the caregiver, resulting in poorer physical, mental and overall health and well-being (Brown et al., 1999; Morris, 2001; Carnevale et al., 2002; Rivera et al., 2008; Backhaus et al., 2010; Sawasdinarenart et al., 2013; Narkthong et al., 2014; Petranovich et al., 2015). These caregivers had also been referred to the “hidden patients” and little attention had been paid to health care staff for understanding the experiences of caregiving and researching interventions to meet their needs (Rivera et al., 2008; Petranovich et al., 2015).

The most common psychological problems were caregiver stress (Carnevale et al., 2002; Rivera et al., 2008; Sawasdinarenart et al., 2013), caregiver burden (Brown et al., 1999; Carnevale et al., 2002; Rivera et al., 2008), depression (Morris, 2001; Rivera et al., 2008; Petranovich et al., 2015), distress (Brown et al., 1999; Backhaus et al., 2010; Petranovich et al., 2015), and anxiety (Morris, 2001). Other psychological problems among TBI caregivers were unready to discharge (Narkthong et al., 2014; Prabripoo, et al., 2013), and poor well-being (Rivera et al., 2008).

TBI caregivers might face specific stress related to their families which can directly impact on their employment and financial status including changes within their social functioning. Stress from both family caregivers and their own members might affect the entire family caregivers’ system. Approximately 48-60% of caregivers looking after a person with severe brain injury might experience stress and depression (Carnevale et al., 2002; Rivera et al., 2007) and the stress might not lessen over time (Carnevale et al., 2002). For example, caregiver stress was higher at five years post-injury than one year after the injury (Rivera et al., 2007). The stress experienced by caregivers might interfere with many aspects of their lives including their ability to carry out household or work responsibilities. Living with these changes could have adverse consequences on the whole family. Even assessments of families of patients with TBI had revealed 'unhealthy' family functioning similar to that observed in the families of psychiatric patients (Carnevale et al., 2002; Rivera et al., 2008). Stress might also affect the quality of care given to patients and hinder assistance with rehabilitation activities (Carnevale et al., 2002; Rivera et al., 2007; Rivera et al., 2008; Sawasdinarenart et al., 2013).

Interventions for Improving Psychological Health Among TBI Caregivers

Most of these interventions were conducted in hospitals (Morris, 2001; Backhaus et al., 2010; Prabipoo et al., 2013; Sawasdinaruenart et al., 2013; Narkthong et al., 2014) and the community (Brown et al., 1999; Carnevale et al., 2002; Rivera et al., 2008; Petranovich et al., 2015). The interventions developed for TBI caregivers were described in terms of components, duration, and outcomes. The main components of the interventions from the nine studies were composed of education, psycho-education, skill training, and emotional support (Table 2).

Table 1 Psychological problems and assessment tool applied in TBI caregivers

Psychological Problem	Assessment Tools
Caregiver stress (Carnevale et al., 2002; Rivera et al., 2008; Sawasdinaruenart et al., 2013)	The questionnaire on Resources and Stress for Families with Chronically Ill or Handicapped Member (QRS) (Holroyd, 1987) The Global Severity Index (GSI) of Symptom Checklist-90-R (SCL-90-R) (Derogatis & Lazarus, 1994) Thai Stress Appraisal Questionnaire (TSAQ) (Pandee, 2006).
Caregiver burden (Brown et al., 1999; Carnevale et al., 2002; Rivera et al., 2008)	Caregiver Burden Inventory (CBI) (Novak & Guest, 1989)
Depression (Morris, 2001; Rivera et al., 2008; Petranovich et al., 2015)	The Center for Epidemiologic Studies Depression (CES-D) (Radloff, 1977) Profile of Mood States (POMS) (McNair et al., 1971) The Global Severity Index (GSI) of Symptom Checklist-90-R (SCL-90-R) (Derogatis & Lazarus, 1994)
Distress (Brown et al., 1999; Backhaus et al., 2010; Petranovich et al., 2015)	Brief Symptom Inventory-18 (BSI-18) (Derogatis, 2001) Profile of Mood States (POMS) (McNair et al., 1971)
Anxiety (Morris, 2001)	Profile of Mood States (POMS) (McNair et al., 1971) The Global Severity Index (GSI) of Symptom Checklist-90-R (SCL-90-R) (Derogatis & Lazarus, 1994)
Discharge Readiness (Narkthong et al., 2014; Prabipoo et al., 2013)	The Readiness for Hospital Discharge Scale (RHDS) (Weiss & Piacentine, 2006) Ability and perception of ability to care (three-point and five-point rating scales)
Well Being (Rivera et al., 2008)	The Satisfaction With Life Scale (SWLS) (Diener et al., 1985)

Educational Interventions

The educational interventions were mainly focused on health conditions related to TBI, its impact, a patient's recovery process, solving problems and managing

stress. Booklets and documents for individual learning after teaching or training were distributed without any system of follow up or individual counseling and/or support.

Psycho-Education

The group interventions were combined using psycho-education, and teaching of stress management and problem solving strategies. Most types of material used for teaching were power-point and visual aids. Moreover, all groups were led by clinical psychologist.

Skill Training

The skill training topics were mainly focused on nursing techniques that included nutrition care, respiratory care, excretion care, exercise and daily care, prevention of accidents and complications, rest care, medication care, and hygiene care which were conducted in groups by nursing professionals (researchers).

Emotional Support

The emotional support intervention was conducted in a group between the caregivers of patients with TBI (two to three persons/group) through training workshops on stress management, problem solving, control of intense emotion, coping strategies and anger management. This session took only 30-45 minutes.

Table 2 Main components of interventions

	Educational	Psycho-education	Skill Training	Emotional Support
Contents	TBI, its impact, patient's recovery process, solving problems and managing stress	Psycho-education, teaching stress management and problem solving strategies	Nutrition care, Respiratory care, Excretion care, Exercise and daily care, Prevent accidents and complications, Rest care, Medication care, and Hygiene care	Not mentioned
Materials	Booklets and documents	Power point and visual aids	Demonstration	Individual counseling
Method	Individual	Group	Individuals	Group
Provider	Nurse	Psychologist	Nurse	Nurse

Table 3 shows the duration of the interventions which are mostly designed to administer during hospitalization within a short term period (less than 3 months) rather than over a long term period (more than 3 months). Seven studies conducted in the

short term ranged from 1 week (Prabripoo et al., 2013; Sawasdinaruenart et al., 2013), 4 weeks (Morris, 2001; Carnevale et al., 2002; Narkthong et al., 2014), 10 weeks (Brown et al., 1999), and 14 weeks (Backhaus et al., 2010). Two studies conducted in the long term included 1 year (Rivera et al., 2008), and 1.5 years (Petranovich et al., 2015). However, an average of four weeks is often designed for the intervention for TBI caregivers. A wide range of outcome scales were used focusing on reducing caregivers' psychological problems which will improve psychological health.

Table 3 Intervention for Caregivers of TBI Patients

Authors	Level of evidence	Sample	Effect Size	Intervention	Duration	Outcomes
Morris (2001)	2d	1 group	0.14 to 0.21 (small)	Combination ^(1,2)	4 weeks	Depression*, Anxiety*
Brown et al. (1999)	2c	2 groups	1.20 (large)	Single ⁽¹⁾ , distance education or face to face intervention	10 weeks	Caregiver burden*, Distress*
Sawasdinruenart et al. (2013)	2c	2 groups	1.27 (large)	Combination ^(1,2,4)	1 week	Caregiver stress*
Prabripoo et al. (2013)	2c	2 groups	1.28 (large)	Combination ^(1,3)	1 week	Discharge readiness*
Narkthong et al. (2014)	2c	2 groups	0.074 to 1.05 (large)	Combination ^(1,2)	4 weeks	Discharge readiness*
Carnevale et al. (2002)	1c	3 groups	0.07 to 0.39 (Small to medium)	Group 1 Single ⁽¹⁾ Group 2 Single ⁽²⁾ Group 3 Combination ^(1,2)	4 weeks	Caregiver stress* (group3), Caregiver burden* (group 3)
Rivera et al. (2008)	1c	2 groups	-0.62 to 0.30 (small)	Combination ^(2,4)	1year	Caregiver stress*, Depression*, Well-being*
Backhaus et al. (2010)	1c	2 groups	0.80 (large)	Combination ^(2,4)	14 weeks	Distress*
Petranovich et al. (2015)	1c	2 groups	0.36-0.55 (medium)	Combination ^(2,4)	1.50 years	Depression*, Distress*

Remarks ¹ Educational intervention ² Psycho-education ³ Skill Training ⁴ Emotional Support **p* < 0.05

Regarding the outcomes of the interventions in Table 3, some similar findings were shown. The mean score of the psychological problems in the intervention group (receiving combined methods) was significantly lower than those in the control group (Brown et al., 1999; Morris, 2001; Rivera et al., 2008; Backhaus et al., 2010; Sawasdinaruenart

et al., 2013; Narkthong et al., 2014; Petranovich et al., 2015). However, only one study (Carnevale et al., 2002) showed no significant change in the psychological problems of caregivers after receiving an educational program. Moreover, Brown and colleagues (1999) found that those who received an intervention either face to face or by telephone had no significant change in the mean score of psychological problems.

Conclusion

Although there was evidence of the interventions reducing psychological problems or improving psychological health among the caregivers of patients with TBI, these were administered in the short term period. Evaluation was mainly assessed at the hospital level with acknowledgement to the importance of comprehensive education for TBI caregivers. In addition, adequate support is required since care demands of people with TBI after discharge are unpredictable and dynamic.

Implications for Nursing Care and Research

Nurses are the largest group of health care professionals who play a central role in discharge education. It is important for nurses to provide information packages for caregivers. Combined interventions are more effective than a single method, so comprehensive guidance for caregivers should be developed for them to be better able to care for people with moderate to severe TBI living in the community. However, a further method needs to be developed to maintain the psychological health of TBI caregivers with follow up in the long term. In addition, the caregiver intervention must be integrated with the available resources such as hospital discharge and community support programs to enable patients or/and family caregivers to manage care and prevent patient complications, while maintaining psychological health.

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