Problems and Needs of Caregivers and the Multidisciplinary Team Regarding Transitional Care for Survivors of Severe Traumatic Brain Injury: A Qualitative Descriptive Study

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Abstract: The needs and support for survivors of severe traumatic brain injury and their caregivers after hospital discharge are in high demand. Although care transition interventions have demonstrated improvement in outcomes, little is known about care transition practice for survivors of such brain injury as experienced by multidisciplinary team members and caregivers in Thai community settings. This study aimed to describe the problems and needs in caring for survivors of traumatic brain injury during the hospital-to-home transition as perceived by the multidisciplinary team and caregivers. A qualitative descriptive study was conducted in one of the tertiary hospitals in Southern Thailand. The researcher collected data through in-depth interviews with seven caregivers of survivors of traumatic brain injury and focus group discussions with 11 multidisciplinary team members. Content analysis was used for data analysis.

The multidisciplinary team and caregivers identified problems and needs related to the demands of care and the needs of the caregivers. "Lack of adequate preparation, learning resources and self-confidence" was identified as a main theme. Four sub-themes included: 1) inadequate discharge preparation, 2) low self-confidence in patient care at home, 3) lack of adequate learning resources and communication channels for caregiving at home, and 4) limited time on home visits after discharge. "Consistent support with accessing appropriate resources" was reported as the most common need. Four sub-themes included 1) adequate discharge planning within the caregiver's context, 2) simple self-learning resources available at home, 3) alert and rapid response using technology for two-way communication, and 4) adequate supplies and network support of primary care after discharge. Caregivers and the multidisciplinary team require additional support from routine practice. This necessitates a co-designed discharge program in the transitional period that incorporates the specific needs and problems of the care setting. Future nursing research needs to develop a transitional nursing support model to enhance caregivers' capabilities in providing effective patient care at home.

Keywords: Caregivers, Home care, Qualitative description, Transitional care, Traumatic brain injury

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Introduction

One of the major global health problems is traumatic brain injury (TBI). TBI is a leading cause of mortality, life-long disability, and effects on survivors' families.[1,2] In 2021, there were 37.93 million TBI cases reported worldwide, resulting in 5.48 million years lived with disability (YLDs).[3] A major cause of TBI is road traffic accidents (RTA), which affects people of all ages with a high impact, particularly in middle and low-income countries.[4] In 2019, Southeast Asia reported a moderate to severe TBI incidence rate of 52.2%.[1] In Thailand, TBI is a major health problem related to traffic accidents.[5] TBI incidence in Thailand is about 1 million cases per year, of which 80% were mild TBI, followed by moderate TBI and severe TBI of 10% equally.[6,7] Almost half of the patients (49.7%) were admitted with severe TBI (STBI).[8]

The severity of TBI is assessed by the Glasgow Coma Scale (GCS) and classified as mild (GCS 13-15), moderate (GCS 9-12), or severe (GCS 3-8).[9] STBI often affects multiple organs, such as circulatory dysfunction (shock and cardiac dysfunction), pulmonary dysfunction, and acute kidney injury, with long-term health effects.[10-12] Living with permanent disability of STBI leads to a high level of dependency and requires a continuum of care from family caregivers upon discharge from home.[13] Therefore, family members must play the caregiver's role.[14] Poor health outcomes for patients with TBI and their family caregivers can result from the various unmet needs that family caregivers face at home.[15] If compared to other diseases, the caregivers of those with STBI had a high level of caregiver burden.[16]

Caregivers of survivors of STBI are confronted with many problems during the transition from hospital to home. Caregivers may face specific challenges when helping their patients deal with unexpected changes in their daily routines.[17] Caregiver concerns, preparing their home to provide patient care, and tricks to set up an effective assistance support system are essential for caring for patients during transitional care.[18] They require more information and supportive care to enhance their adaptation in taking care of such patients in the long term.[19]

Regarding family caregivers with TBI, gaps were identified in discharge planning, care coordination after acute care, and rehabilitation services.[15] In addition, the problems and needs in caring for survivors of STBI were mainly investigated with caregivers or patients.[15,17-19] It is recommended to examine how a multidisciplinary team approach and planning respond to these needs. However, there are some limitations in studying this issue from the perspective of a multidisciplinary team or specifically focusing on both caregivers and the team caring for survivors of STBI.

Therefore, this study aimed to describe the problems and needs in caring for survivors of STBI during the transition from hospital to home in Thailand as perceived by caregivers and the multidisciplinary team. The findings will serve as a basis for developing a transitional nursing support model that addresses the problems and needs of caregivers and multidisciplinary teams during this transition.

Review of Literature

In hospitals, survivors of STBI receive comprehensive rehabilitation care. After recovering from the acute phase, they may be cared for at the previous hospital or referred to another hospital for rehabilitation care, and caregivers are prepared to look after them at home later. This depends on the medical diagnosis, the patient's symptoms, the caregivers' availability, and the referring hospital's capacity. However, most patients discharged home or transferred to another hospital may not receive intensive, comprehensive, or specialized therapy and may have limited opportunities for reassessment after discharge.[20] Due to the complexity of the conditions of STBI and more care demands than other levels, both family caregivers and patients commonly need a variety of services. The necessary care for STBI after discharge includes managing long-term symptom impairments, providing continuous follow-up and rehabilitation services, as well as community-based support services for patients and caregivers.[20]

In Thailand, patients with STBI receive continuous care. The approach, supported by nurses and a multidisciplinary team, including family caregivers, has been implemented to care for patients from admission to the hospital until six months after discharge. Patients with STBI receive two intermediate care (IMC) levels: 1) hospital-based IMC and 2) community-based IMC. In a hospital, a multidisciplinary team prepares caregivers and relatives for necessary patient care at home and provides the necessary equipment for rehabilitation.[21] The Ministry of Public Health has set the performance indicators of the IMC service plan in fiscal 2024 as more than or equal to 85% of IMC patients who must receive rehabilitation services and follow-up for six months or until the Barthel index reaches a full score of 20.[22]

However, a previous study[23] found that patients in the hospital could not access rehabilitation services through the IMC. Some patients lacked follow-up and continued care during the appropriate time of recovery, causing these patients to lose the opportunity to recover, develop complications, and become disabled.[23] Many patients with STBI may not receive intensive care, comprehensive care, or specialized therapy, which limits opportunities for re-evaluation after hospital discharge.[20] In addition, TBI care outcomes have not been evaluated or assessed.

During the transition from hospital to home, caregivers often lack information and confidence in their capability to do patient care and support, as well as the complexity of TBI care management.[17,19,24] The capability to provide patient care at home and prevent complications is essential.[25] This is especially critical in remote areas where resources are limited. Inadequate information and support to enhance caregivers' confidence and care management for patients with TBI during the transitional period is also reported.[17,19,24] Additionally, it is recommended to improve access and facilitate care coordination for healthcare of survivors of STBI.[26]

Caring practice during the transition from hospital to home, experienced by both the caregivers of survivors of STBI and the multidisciplinary team as part of the IMC system approach, has not been explored. A situational analysis is required to better understand the gaps in implementing the IMC service plan, which will be helpful for further development of a comprehensive care model to support caregivers and individuals with STBI at home. This qualitative descriptive study was employed to gain a rich and detailed understanding of a phenomenon. It is an appropriate methodology to offer a firsthand description of the facts of the phenomenon, which is very useful to perform before developing the intervention model.[27]

Study Aim

To describe the problems and needs in caring for survivors of STBI during the transition from hospital to home in Thailand as perceived by the multidisciplinary team and caregivers.

Methods

Design: This qualitative descriptive study is part of an unpublished study titled "Development of Transitional Nursing Support Model for Caregivers of Severe Traumatic Brain Injury Survivors." The Consolidated Criteria for Reporting Qualitative Research (COREQ) guidelines[28] were adhered in this paper.

Participants and Setting: This study was conducted in a tertiary hospital in Nakhon Si Thammarat Province, where a large number of trauma admissions were referred. Between 2019-2023, 154-189 patients with STBI were admitted to the hospital per year. Some were discharged, but still required continuity of care at home.[29] Multidisciplinary teams prepare families or relatives to be ready for discharge through a discharge planning guideline. A nurse is a discharge planner and care manager who provides discharge education, routine patient care, and information on hygiene care, feeding, suction, dressing, and exercise.

The participants in this study consisted of two groups, selected using purposive sampling.[30] The first group consisted of seven caregivers (18 to 60 years old), both male and female, who had experience in caring for individuals with STBI (GCS ≤ 8) after hospital discharge and follow-up at the hospital's surgical outpatient department, and were able to communicate in the Thai language. Exclusion criteria include caregivers of those with STBI who had comorbidities diagnosed by doctors and were unable to participate in activities throughout the project. The second group consisted of 11 multidisciplinary team members with experience caring for survivors for at least six months and who were willing to participate in the study. Exclusion criteria included individuals who were unable to participate in the focus group discussion and those who were unable to review and comment on the data activities throughout the project.

Ethical Considerations: Approval was received from the Center for Social and Behavioral Sciences Institutional Review Board, Prince of Songkla University, Approval No. 2024-St-Nur-018 (Internal), and the Institutional Review Board of Maharaj Nakhon Si Thammarat Hospital, Approval No. A033/2567. All participants received written information explaining the purpose, procedures, privacy, anonymity, and confidentiality of the study, as well as their rights and responsibilities. Participants were also informed of their right to withdraw from the study at any time. They could also decline to answer any questions without losing access to any treatment they should receive. Before commencing the study, the primary investigator (PI) obtained permission to use an audio recorder and secured verbal and written consent from all participants.

Data Collection: The PI collected data through face-to-face in-depth interviews and focus group discussions, using audio recordings and taking field notes. At the outset, the PI explained the purpose, procedures, inclusion criteria, and exclusion criteria of this study, as well as the participants' rights, to the head nurse. The head nurse identified all participants for the study. In-depth interviews were conducted with seven caregivers who have experience in caring for STBI, for 45 minutes to an hour in a private room at the surgical clinic. Questions included "What problems do you have in taking care of patients with severe TBI during the transition from hospital to home?"; "What do you need to take care of patients with severe TBI during the transition from hospital to home?"; "How do you feel about the nursing care you received during the transition from hospital to home?"; and "How would you like to change the nursing care process or supportive care during the transition from hospital to home? Please suggest a few of the highest needs of supportive care to improve the nursing care during the transition from hospital to home."

A 50-minute focus group discussion was held with team members in a private room at the surgical ward. The research assistant was trained to assist in taking notes. Questions included "What are the current practices and care models in taking care of patients with severe TBI during transition from hospital to home?"; "What are the problems in providing care for patients and supporting caregivers during the transition from hospital to home?"; "What do you do to resolve the problem and what do you need to revise to assist or support the care to caregivers and patients with TBI during transition from hospital to home?"; and "How would you like to change care process to improve the care for caregivers and patients during transition from hospital to home?"

In addition, the PI asked probing questions to obtain a comprehensive description based on the answers provided by the participants. Research instruments in this study include demographic data from the caregiver record form, demographic data from the multidisciplinary team in the IMC record form, question guidelines for in-depth interviews with caregivers, and question guidelines for focus group discussions with the multidisciplinary team in the IMC. Three experts examined all research instruments for content validity index (CVI = 1.0).

Data Analysis: The PI separated the data into two groups: caregivers and healthcare team members, and then analyzed it to identify similarities and differences. In-depth interviews with caregivers and focus group discussions with multidisciplinary teams analyzed the data through content analysis in five steps[31] as follows: generate the analysis template that consists of a memo sheet and coding units; all of the data including field notes, in-depth interviews, and focus group transcriptions were collected together and checked several times to comprehend the perspectives of the informant and the connection between the data and the purpose of this study; the key concepts presented by the informants were inductively coded; the core themes and sub-themes were assessed; themes were compared, and tables were generated. The codes were arranged in the tables to highlight the similarities and differences among them, and the core theme and its subthemes were identified based on this coding organization. The findings from the final analysis of both groups were combined to identify and classify the core theme.

Trustworthiness: Credibility, dependability, confirmability, and transferability were employed to establish trustworthiness and validate the contents of this study.[32] Credibility was assessed by prolonged engagement and member checks. The analyzed data from the in-depth interviews and focus group discussions were sent back to all participants to determine the result of the analysis and to suggest changes if they were unhappy with it or because they had been misreported. Member checking was performed by the PI throughout data collection and analysis. Dependability was assessed by two researchers who individually checked the transcriptions and frequently checked to validate the meaning categorization and agree on the emerging contents. Confirmability was ensured, as no disagreements were identified, and validation with all participants was reconfirmed. The researchers, aware of subjectivity, used peer review and member checking to establish confirmability. Transferability was achieved through data saturation with 18 participants, as the data presented redundancy, and the researchers obtained findings on the phenomenon.

Findings

Participants in this study included seven caregivers. Their ages ranged from 38 to 59 years. The relationships involved four spouses, one son, one mother, and one grandchild. Experience in caregiving ranged from six to 18 months. The average income per household ranged from 10,000 to 35,000 baht/month (approximately 304 to 1,064 USD) (see **Table 1**). The multidisciplinary team consisted of 11 members, including eight nurses, two physical therapists, and one nutritional therapist. The experience in caring for these patients ranged from 3 to 23 years (see **Table 2**).

Table 1. Characteristics of caregivers (N = 7)

ID	Gender	Age	Education	Marital status	Relationship with patient	Experience in patient care	Income per month Baht/USD
CG1	Female	59	Primary	Married	Spouses	8 months	10,000/304
CG2	Female	56	Primary	Widow	Mother	6 months	15,000/456
CG3	Female	35	Secondary	Married	Grandchild	4 years	35,000/1,064
CG4	Female	38	Secondary	Married	Spouses	1 year and 6 months	15,000/456
CG5	Male	41	High vocational certificate	Married	Son	1 year and 6 months	15,000/456
CG6	Female	58	Primary	Married	Spouses	3 years	30,000/912
CG7	Female	58	Primary	Married	Spouses	6 months	35,000/1,064

Table 2. Characteristics of multidisciplinary team members (N = 11)

ID	Gender	Age	Education	Position	Work experience (years)
MT1	Female	27	Bachelor	Nurse	4
MT2	Female	27	Bachelor	Nurse	3
MT3	Female	31	Bachelor	Nurse	8
MT4	Female	28	Bachelor	Nurse	5
MT5	Female	36	Bachelor	Nurse	12
MT6	Female	25	Bachelor	Nurse	3
MT7	Female	28	Bachelor	Nurse	5
MT8	Female	45	Bachelor	Nurse	23
MT9	Female	45	Bachelor	Physical therapist	23
MT10	Female	34	Bachelor	Physical therapist	11
MT11	Female	44	Bachelor	Nutritional therapist	21

Problems and needs in transitional care

Two core themes and eight sub-themes resulting from the analysis of the discussions with the multidisciplinary team and caregivers of STBI during the transition from hospital to home are shown (see **Table 3**).

Table 3. Themes and sub-themes perceived by the multidisciplinary team and caregivers of survivors of STBI during transition from hospital to home

Core themes	Sub-themes
1. Problems in TBI transitional care: Lack of adequate preparation, learning resources, and self-confidence	1.1 Inadequate education and skill training for caregivers 1.2 Lack of adequate learning resources and communication channels for caregiving at home 1.3 Limited home visits as needed 1.4 Low self-confidence in patient care at home*
2. Needs in TBI transitional care: Consistent support for accessing appropriate resources	2.1 Adequate discharge planning within the caregiver's context 2.2 Simple self-learning resources that can be used at home 2.3 Technology facilitates information and communication between caregivers and multidisciplinary teams 2.4 Adequate supplies and network support of primary care after discharge

Note. * Sub-theme from caregivers only

Theme 1: Lack of adequate preparation, learning resources and self-confidence

Lack of adequate preparation, learning resources and self-confidence was identified as the central theme in caring issues for STBI during transition from hospital to home. The participants agreed on the problems related to the demands of care and the caregivers' factors. They address the issues of discharge education and the caregivers' abilities to care after discharge. Four sub-themes were identified. This includes three similar sub-themes (1.1-1.3) from both caregivers and the multidisciplinary team, as well as one sub-theme (1.4) specific to caregivers.

Sub-theme 1.1: Inadequate education and skill training for caregivers

During the discharge preparation process for survivors and their caregivers, a multidisciplinary team was assigned to work together in preparing caregivers to provide care during the transition from hospital to home. Specific information and training were provided, including exercise and physical therapy for patients by a physical therapist, as well as guidance on diet preparation from a nutritional therapist. Nurses often provide information and skills training on patient care and coordinate with relevant agencies during care transitions. However, they reflected some limitations of care provision for caregivers:

> *"Due to the high workload of nurses, some caregivers may not be adequately prepared to care for patients at home. They did not practice some caregiving skills because of a change or rotation of caregivers, causing them to not receive continuous training." (MT 4)*

> *"Sometimes with a high workload and limited time. As a result, there are limitations in providing information and retraining in patient care skills to caregivers before discharge." (MT 2)*

The caregivers received information and training once or twice on patient care from nurses and a multidisciplinary team when the patients had recovered from critical conditions and were ready to go home. However, most caregivers had never experienced providing patient care at home. Caregivers did not perform suction and tracheostomy care before discharge. They could only listen and watch as nurses demonstrated the suction and tracheostomy care procedures. The caregivers reflected their capability for patient care before discharge as follows:

> *"I received some skills for patient care from a nurse once. It's when the patient has a tracheostomy tube inserted. But before discharge, I did not receive training to do patient care as a caregiver again." (CG5)*

> *"Before discharge, nurses did not come to assess my capability to do patient care, I may not have enough skill to do." (CG3)*

Sub-Theme 1.2: Lack of adequate learning resources and communication channels for caregiving at home

Nurses and caregivers reported that the media used to provide information to caregivers consisted only of a brochure. Some caregivers did not receive a brochure, and some expressed concerns that this media to provide patient care at home was inadequate and irrelevant to their needs. After discharge, there were limited communication channels for caregivers to contact or consult with the multidisciplinary team about patient care if they lost the brochure. They could only contact a ward where they were last admitted by telephone, as reflected by caregivers and nurses in the following responses:

> *"Has only a brochure for teaching and also does not cover essential care skills, no educational media in the remote area, such as the LINE group for communication after discharge." (MT 2)*

> *"There were no documents to give good advice about patient care before discharge." (CG 2)*

Sub-Theme 1.3: Limited home visits as needed

Regarding the Ministry of Public Health's provision of the IMC services plan, home visit guidelines should be arranged for the survivors and their caregivers. They must receive home visits from the multidisciplinary team and rehabilitation care for at least 10 to 15 hours per month within the first month. A follow-up twice a month until six months after discharge was required. However, there were still limitations due to the multidisciplinary team's workload or patients living in remote areas, for example:

> *"Home visit for patients with severe TBI requires cooperation from a multidisciplinary team, including nurses, physical therapists, dietitians, or doctors. As a result, some patients still have limitations and cannot visit their homes according to the criteria. "Due to the limitations of each personnel's workload, the schedules for home visits do not match, or there are limitations in terms of distance traveled to visit their homes." (MT 10)*

The home visit situation reported by caregivers was also limited. Since patients were discharged from the hospital, some caregivers reported no home visits or received only one home visit in their first month after discharge. If they need assistance at home, they must coordinate with the healthcare providers at the nearby health-promoting hospital. Some participants reflect this:

> *"The first time I left the hospital. I was very worried. There was no healthcare provider to visit patients at home. I didn't know if I had prepared enough and appropriate patient care equipment. I was not sure if I was suctioning and providing patient care correctly. I wanted the healthcare provider to come and check if I had prepared it correctly. If not, I will improve." (CG 6)*

> *"The first month after discharge, a nurse came for the home visit. But after the first month had passed, it took a long time to have a home visit again. I would like to have continuous home visits because it will allow me to discuss my concerns, share information about signs and symptoms of patients, and plan for the patient care and continued rehabilitation." (CG 7)*

Sub-Theme 1.4: Low self-confidence in patient care at home

There was one sub-theme identified from the caregivers' perspective. The caregivers reflected that transition from hospital to home is a time of fear and uncertainty. They felt less confident about providing patient care at home. This was because such survivors required intensive care from caregivers during the transition, especially for the complex and difficult care they faced, such as suctioning and tracheostomy tube care. Most caregivers had never practiced suction and tracheostomy tube care in the hospital before discharge. They only received information and demonstrations from nurses, as caregivers stated.

> *"When I returned home, I was not sure that I would be able to do suction. It is very difficult for me. I fear suction." (CG 1)*

> *"Concerned about taking care of patients at home, because a nurse came to teach how to suction and tracheostomy tube care only once before leaving the hospital. So, I'm not sure if I can do it at home or not." (CG 3)*

> *"I am very afraid and anxious when I have to do suctioning for patient at home. I am afraid of making mistakes, forgetting procedures, and not completing the steps. Because suctioning is very difficult and has complicated steps to perform." (CG 5)*

> *"The first time when I was suctioning and doing tracheostomy tube care at home, I was not confident. I had never done it before and had not been taught by the healthcare provider because when the patient lived in the hospital, I was not the one who went to study with nurses. I just followed what the previous caregiver taught and showed it to me one time." (CG 7)*

Theme 2: Consistent support for accessing appropriate resources

To stabilize the conditions of survivors with STBI after discharge, the need for intermediate care and rehabilitation for recovery was paramount. Consistent support in accessing appropriate resources had emerged as a key need from both caregivers and the multidisciplinary team. Four sub-themes describing the need to care for survivors with STBI during care transition from both groups were identified.

Sub-Theme 2.1: Adequate discharge planning within the caregiver's context

The strategies for preparing caregivers for patient care before discharge included providing information about care and training in skills on one or two occasions. Although the patients spent a considerable amount of time in the hospital, most of their care was the responsibility of nurses. As a result, caregivers faced limitations in practicing patient care and struggled to recall all care practices previously taught by nurses. After discharge, caregivers were therefore not confident in their care practices, as they were unsure whether they had been done correctly and thoroughly. The participants requested the designation of strategies for preparing caregivers, including increasing their capability to perform patient care, repeating information, and providing additional training before discharge. The participants reflected this:

> *"I want nurses to teach relatives how to do patient care at home until I can do it before returning home." (CG 1)*
>
> *"I want nurses to teach me again. The nurse came to teach once before returning home. I can't remember everything. The nurse cared for me and helped me until I returned home. But I want him or her to teach me how to care for patients at home more often." (CG 4)*
>
> *"Want the nurse to teach me how to suction several times before discharge. I want the nurse to supervise or coach me when I do suction to ensure I'm doing it right or not." (CG 3)*
>
> *"Some of the activities that the caregiver had to do for the patient at home were very complicated, such as suction. So, it should be taught to the caregiver several times until the caregiver can do it correctly before the patient's discharge home." (MT5)*

Sub-Theme 2.2: Simple self-learning resources that can be used at home

This study found that some participants require more media than just a brochure; other media, such as those that are easy to use and hard to lose, can help caregivers review information whenever needed. This would help the caregivers increase their self-confidence in caring for patients at home, particularly in reducing complications or readmission rates. The participants requested learning resources such as media or innovation that cover the necessary content for patient care at home, can be used anytime, and are easy to use. It should include information, such as pictures and clear text. Participants described it as follows.

> *"I want to have a document with large pictures and clear descriptions, both methods for patient care at home and information that I can coordinate with government agencies, and can use at home." (CG 1)*
>
> *"If we have teaching materials on how to care for patients at home to use in discharge teaching, it would be a good thing. Every nurse can teach the same procedures. The caregivers will not be confused if their teaching is not different." (MT 8)*

Sub-Theme 2.3: Technology facilitates information and communication between caregivers and multidisciplinary teams

To reduce the gaps in the transition from hospital to home, an essential communication channel exists between caregivers and multidisciplinary teams, particularly for individuals with limited resources and poor access to services. In this setting, mostly personal contact between caregivers and recognized persons in multidisciplinary teams or ward nurses was often used. However, most caregivers found it difficult or were unable to contact help and received a delayed response.

Having technology that supports caregivers in contacting and consulting with the multidisciplinary team was requested. Both caregivers and teams sought better choices to enhance rapid response and assess patients' progress. Caregivers, in particular, need more information for patient care at home, and they require the ability to coordinate or communicate with teams that are accessible at any time. A LINE group was suggested as the better choice by participants, as they are familiar with it.

> *"A LINE group is needed for a consultation or documents or pictures, similar to those in YouTube, which can be viewed and given a clear picture of what needs to be done for patient care." (CG 4)*

> *"On discharge day, the ward nurse will give the ward's telephone number to the caregivers to contact them when they need help. However, there are limitations in providing information when they asked questions beyond nursing care. Sometimes, there is limited time to provide information due to the busiest ward. Therefore, other communication channels, such as a LINE group and assigning someone in the team who can provide more comprehensive information to the caregivers would be good." (MT 3)*

Sub-Theme 2.4: Adequate supplies and network support of primary care after discharge

The participants in this study provided further insight into the current state of TBI care after discharge. It requires good coordination to support patient care after discharge, as well as the link between primary care, local government agencies, and the hospital. The need for support from the community healthcare team and volunteer network is suggested, which can assess patient symptoms, identify problems and needs of patients and caregivers, and provide support or address issues. Additionally, caregivers in some communities faced limitations in accessing adequate supplies. A good process of care coordination and support from primary care and local government agencies after discharge could help with caregiving at home, as reflected by the multidisciplinary team.

> *"I want them [assistance from primary care and local government agencies] to support us with adequate supplies for patient care at home." (CG2 and CG5)*

> *"Some supplies for use in patient care, such as pampers, are important. The subdistrict health promotion hospital only helped with equipment for dressing wounds, gauze, cotton, and wound cleanser. The doctor gave me a cream for wound medicine. It's all out of stock now, but the pressure sore has remained or not healed. ...Want to know where I can coordinate or seek help and from which agencies?" (CG 1)*

> *"My patient had unplanned extubation of a tracheostomy tube. I was shocked and didn't know what to do. I decided to drive the car to the hospital. Luckily, my house was not far from the hospital, and the patient was still breathing on his own, so he arrived at the hospital safely. However, if the community has support for emergency notification and transportation to the hospital, it would be great. So that the patient receives the correct care and fast primary care." (CG 4)*

> *"I need to support information on patient care at home, especially suction and tracheostomy tube care, because it is difficult, complicated, and most importantly, it involves breathing. If there is a mistake, the patient may die." (CG 7)*

> *"...working with hospital networks such as primary care and government agencies in the area. It will help support caregivers and patients more effectively when they return home." (MT 11)*

> *"It is important to have the network in place to prepare adequate supplies for providing patient care at home, ensuring they are ready to use. This support is essential for patients and caregivers at home."* (MT 10)

Discussion

Our study found various problems and needs in caring for survivors of STBI during transitional care from hospital to home. The caregivers and multidisciplinary team had both similar and different perspectives. Participants are concerned about post-discharge support, partly due to the limited current service for STBI and their caregivers' skills during transition. Problems identified were related to education and skill training before discharge, as well as learning resources and communication systems, which align with previous studies in transitional care.[19,33] A scoping review also showed that types of educational interventions in STBI for caregivers required more accurate and easier-to-read materials.[34] Skills training is one of the components of interventions that provide basic knowledge to improve the self-efficacy of patients and caregivers.[34] Another issue perceived by both groups was the limitation of home visits. This is partly due to the high workload of the interdisciplinary team, which limits the ability to follow up on patients and offer home visits as planned. Although home visits after discharge are essential and significantly reduce the readmission rate within 30 days,[35] both groups reflected this as a problem. However, the unique problem identified by only caregivers' perspectives was low self-confidence in patient care at home, which corresponds to previous studies in transitional care in the Thai context.[19]

Caregivers and the multidisciplinary team members had similar perspectives on needs in caring for survivors of STBI during care transition. These include adequate discharge planning within the caregiver's context, simple self-learning resources for use at home, technology facilitating information and communication between caregivers and the multidisciplinary team, and sufficient supplies and network support for primary care after discharge. This finding is consistent with previous studies in Thailand and Indonesia, where caregivers felt unready to care due to inadequate discharge planning.[19,36]

Some caregivers in this study had less than one and a half years of experience caring for survivors of TBI at home, and had never experienced it before. They reflected the need to manage care at home independently, especially in the event of emergency problems. Additionally, a shortage of staff for home visits in the settings was also identified. All participants are required to use technology for alert and rapid response for communication between caregivers and the multidisciplinary team. The caregivers and multidisciplinary team for survivors of STBI requested strong strategies that meet the needs of patients and caregivers and provide adequate supplies and network support of primary care and local government agencies after discharge. This finding is consistent with a previous study that caregivers need strong support when preparing to bring survivors with TBI back home and during their first few months at home.[17]

Caregiver needs for simple self-learning resources were highlighted, including educational media, LINE applications, and innovative technologies that can be used at home. These tools can facilitate monitoring, communication, and the management of daily tasks between caregivers and the multidisciplinary team, tailored to their specific needs. This finding aligns with a previous study, which found that family caregivers need a patient portal to exchange information and communicate with healthcare providers.[37] To support caregivers to be confident in performing care skills, such as suctioning and tracheostomy tube care, as the caregivers perceived these as difficult and complicated. Technology applications, such as care process interventions and communication channels, are preferred to improve patient and caregiver outcomes.[19,38] Additionally, caregivers of those with moderate to severe TBI reported that using the applications makes it easy to repeat information, and they can decrease caregiver burden in the second and fourth weeks after discharge from the hospital.[38]

A network of primary care and local government agencies that support patients and caregivers after discharge in caring for survivors of STBI during care transition is also required. This supports a previous study that called for better nursing proficiency, care coordination, and associated care across settings, particularly critical communication throughout the transition to home.[39] The nurse often plays a crucial role[40] in caring for patients with TBI and their caregivers. The nurse is therefore one of the most essential factors leading to the success of care coordination to provide a connection between patients, their families, and the multidisciplinary team.[35]

Limitations

The transferability of findings may be limited in this study, as it was conducted in a single tertiary hospital in Thailand. Therefore, it cannot be cited that the perspectives of caregivers and the multidisciplinary team on transitional care for survivors with STBI represent the perspectives of all caregivers and multidisciplinary teams. Moreover, the participants have been receiving care and working in various units. Therefore, their perspectives on care may have differed.

Conclusion and Implications for Nursing Practice

This study's findings revealed most similar problems and needs perceived by both caregivers and multidisciplinary teams who had experience caring for those with STBI. One unique problem that caregivers identified is their low self-confidence in patient care at home. The knowledge gained from this study is valuable for informing government policies and nursing practice, providing additional support in caring for STBI during the transition from hospital to home. It necessitates developing a transitional nursing support model that meets the needs of caregivers and the multidisciplinary team. The model should include skill training, easily accessible technology (e.g. LINE application) for managing everyday life, facilitating support, and follow-up, as well as continuously coordinating care after discharge. It will also be critical to help close the gaps in the current transitional care model for those with STBI and their caregivers.

Recommendations for Further Research

There is a need for further study to develop an appropriate transitional nursing support model for caregivers of survivors with STBI. Interventions that address the process of providing education and skill training, as well as simple self-learning resources through digital health or technology, should be developed and evaluated.

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ปัญหาและความต้องการของผู้ดูแลและทีมสหวิชาชีพในการดูแลช่วงเปลี่ยนผ่านสำหรับผู้รอดชีวิตจากการบาดเจ็บสมองรุนแรง : การวิจัยพรรณนาเชิงคุณภาพ

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บทคัดย่อ: ผู้ดูแลและทีมสหวิชาชีพมีความต้องการการสนับสนุนสำหรับการดูแลผู้รอดชีวิตจากการบาดเจ็บสมองรุนแรงหลังจำหน่ายจากโรงพยาบาลเป็นอย่างมาก แม้ว่ารูปแบบการดูแลช่วงเปลี่ยนผ่านสำหรับการดูแลผู้รอดชีวิตจากการบาดเจ็บสมองรุนแรงที่ผ่านมาจะแสดงให้เห็นถึงผลลัพธ์ที่ดีขึ้น แต่ข้อมูลการศึกษาเกี่ยวกับแนวปฏิบัติการดูแลในช่วงเปลี่ยนผ่านสำหรับผู้รอดชีวิตจากการบาดเจ็บสมองจากประสบการณ์ของทีมสหวิชาชีพและผู้ดูแลในบริบทของประเทศไทยยังมีน้อย การวิจัยในครั้งนี้มีวัตถุประสงค์เพื่ออธิบายปัญหาและความต้องการในการดูแลผู้รอดชีวิตจากการบาดเจ็บสมองรุนแรงในช่วงเปลี่ยนผ่านจากโรงพยาบาลถึงบ้านตามการรับรู้ของทีมสหวิชาชีพและผู้ดูแล โดยใช้การวิจัยพรรณนาเชิงคุณภาพในโรงพยาบาลตติยภูมิแห่งหนึ่งในภาคใต้ของประเทศไทย ผู้วิจัยเก็บรวบรวมข้อมูลด้วยการสัมภาษณ์เชิงลึกกับผู้ดูแลผู้รอดชีวิตจากการบาดเจ็บสมองรุนแรง 7 ราย และสนทนากลุ่มกับสมาชิกในทีมสหวิชาชีพ 11 ราย การวิเคราะห์ข้อมูลใช้วิธีการวิเคราะห์เนื้อหา

ทีมสหวิชาชีพและผู้ดูแลระบุปัญหาและความต้องการที่เกี่ยวข้องกับการให้บริการการดูแลและความต้องการของผู้ดูแล โดยระบุประเด็นปัญหาหลัก คือ การขาดการเตรียมความพร้อม ทรัพยากรการเรียนรู้ และความมั่นใจในตนเองในการดูแลที่เพียงพอ ซึ่งประกอบด้วย 4 ประเด็นย่อย ได้แก่ 1) การเตรียมก่อนจำหน่ายไม่เพียงพอ 2) ขาดความไม่มั่นใจในการดูแลผู้ป่วยที่บ้าน 3) ขาดทรัพยากรในการเรียนรู้และช่องทางในการสื่อสารสำหรับการดูแลที่บ้าน และ 4) เวลาการเยี่ยมบ้านหลังจำหน่ายที่จำกัด นอกจากนี้ ความต้องการที่ถูกกล่าวถึงมากที่สุดเป็นประเด็นความต้องการหลัก คือ การสนับสนุนที่ต่อเนื่องและการเข้าถึงทรัพยากรที่เหมาะสม ซึ่งประกอบด้วย 4 ประเด็นย่อย ได้แก่ 1) การวางแผนการจำหน่ายที่เพียงพอสอดคล้องกับบริบทของผู้ดูแล 2) การมีแหล่งข้อมูลการเรียนรู้ด้วยตนเองที่เข้าใช้ได้ง่ายที่บ้าน 3) การใช้เทคโนโลยีสำหรับการสื่อสารสองทางระหว่างทีมสหวิชาชีพและผู้ดูแลที่มีการแจ้งเตือนและตอบสนองที่รวดเร็ว และ 4) การมีวัสดุอุปกรณ์และเครือข่ายสนับสนุนการดูแลปฐมภูมิหลังจำหน่ายที่เพียงพอ

ผู้ดูแลและทีมสหวิชาชีพมีความต้องการการสนับสนุนเพิ่มเติมจากแนวทางการดูแลตามปกติ สิ่งนี้แสดงให้เห็นถึงความจำเป็นในการออกแบบโปรแกรมการจำหน่ายที่มีการออกแบบร่วมกันในช่วงเปลี่ยนผ่านที่ตอบสนองความต้องการและปัญหาเฉพาะในบริบทการดูแล ดังนั้น การศึกษาวิจัยการพยาบาลในอนาคตควรมุ่งเน้นการพัฒนารูปแบบการสนับสนุนการพยาบาลในช่วงเปลี่ยนผ่านเพื่อเสริมสร้างขีดความสามารถของผู้ดูแลในการดูแลผู้ป่วยที่บ้านอย่างมีประสิทธิภาพ

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คำสำคัญ: ผู้ดูแล การดูแลที่บ้าน พรรณนาเชิงคุณภาพ การดูแลช่วงเปลี่ยนผ่าน การบาดเจ็บสมอง

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