Burden among Caregivers of Patients with Schizophrenia in Thai Nguyen, Vietnam

นิพนธ์ต้นฉบับ

Original Article

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บทคัดย่อ

วัตถุประสงค์: โรคจิตเภทเป็นความเจ็บป่วยที่รุนแรงและทำให้เกิดภาระแก่ทั้งผู้ป่วยและผู้ดูแล การศึกษาภาคตัดขวางนี้มีวัตถุประสงค์เพื่อศึกษาภาระของผู้ดูแลกผู้ป่วย และความสัมพันธ์ของภาระกับลักษณะของผู้ดูแล ได้แก่ อายุ การศึกษา สภาวะสุขภาพ จำนวนชั่วโมงต่อวันที่ดูแลผู้ป่วย และการรับรู้ความรุ่นของความเจ็บป่วย **วิธีการศึกษา:** ผู้ร่วมการศึกษาเป็นผู้ดูแลผู้ป่วยจิตเภทที่รับการรักษาที่โรงพยาบาล Thai Nguyen ประเทศเวียดนาม ใช้วิธีสัมภาษณ์และตอบแบบสอบถาม นำเสนอข้อมูลโดยสถิติเชิงพรรณา paired t-test และทดสอบค่าสหสัมพันธ์ของเพียร์สัน **ผลการศึกษา:** ผู้ดูแลผู้ป่วยส่วนมากเป็นหญิง (ร้อยละ 80) สมรส (ร้อยละ 90.8) เป็นผู้ปกครองของผู้ป่วย (ร้อยละ 48.4) และจบการศึกษาภาคบังคับ (ร้อยละ 51.6) ใช้เวลาดูแลผู้ป่วย 2.57 ชม.ต่อวัน (SD = 1.19) พบว่าภาระเป็นระดับปานกลาง ภาระของผู้ดูแลสัมพันธ์ทางบวกกับอายุของผู้ดูแล เวลาที่ใช้ดูแลผู้ป่วยต่อวัน สถานะสุขภาพ และระดับการรับรู้ความรุนแรงของความเจ็บป่วย แต่สัมพันธ์ทางลบกับระดับการศึกษา พบว่าสภาวะสุขภาพทางกายและทางจิตใจ และการรับรู้ความรุนแรงของความเจ็บป่วย เป็นปัจจัยที่สัมพันธ์กับภาระของผู้ดูแลอย่างมีนัยสำคัญ **สรุป:** ภาระที่ผู้ดูแลผู้ป่วยจิตเภทแบกรับนั้นอยู่ในระดับปานกาง และเพิ่มขึ้นตามอายุของผู้ดูแล เวลาที่ใช้ดูแลผู้ป่วยต่อวัน สภาวะสุขภาพ และการรับรู้ความรุนแรงของความเจ็บป่วยที่ผู้ป่วยเป็น ผลการศึกษานี้สามารถนำไปใช้พัฒนากระบวนการทางพยาบาลเพื่อลดสภาวะเครียดและผลด้านลบของการดูแลผู้ป่วยจิตเภทในบรรดาผู้ดูแลผู้ป่วยเหล่านี้ในประเทศเวียดนาม

คำสำคัญ: ภาระ, ผู้ดูแล, สภาวะสุขภาพ, ผู้ป่วยจิตเภท, การรับรู้ความรุนแรงของความเจ็บป่วย, จิตเภท, ประเทศเวียดนาม

Abstract

Objective: Schizophrenia, a devastating psychiatric disorder, poses numerous burdens for patients and their caregivers. This cross-sectional study aimed to examine caregiver burden and its relationships with caregiver's age, education level, health status, average time per day for taking care of patients, and perceived severity of illness among caregivers of patients with schizophrenia. **Method:** Participants were caregivers of schizophrenia patients recruited from outpatient psychiatric hospital in Thai Nguyen, Vietnam. They were interviewed to complete a set of questionnaires. Descriptive statistics, paired-t-test and Pearson product-moment correlation coefficient were employed to analyze the data. **Results:** The majority of caregivers were females (80%), married (90.8%), the patient' parent (48.4%), with completed compulsory education (51.6). The average time per day for caregivers spent for giving care to the patients was 2.57 hours (SD = 1.19). The burden was in moderate level. The caregivers' burden was positively correlated with caregiver's age, time per day for care taking, health status, and perceived severity of patient's illness, but was negatively correlated with their education level. Physical and mental health conditions and perceived severity of illness of primary caregivers were the significant factors related to burden among caregivers. **Conclusion:** Burden on caregivers of schizophrenia patients was in moderate level and increased with caregiver's age, time spent for care taking, health status, and perceived severity of patient's illness. The findings could be used to develop nursing intervention to reduce distress or negative consequence in caring for persons with schizophrenia in Vietnam.

Keywords: burden, caregivers, health status, perceived severity of patient's illness, schizophrenia, Vietnam

Introduction

Schizophrenia is a devastating psychiatric disorder which can progressively result in long-term disability in patients.[1] According to the World Health Organization (2004),[2] approximately 24 million people suffer from this disease worldwide with an average lifetime prevalence rate between 0.5 - 1%. In Vietnam, Nguyen (2010)[3] found the prevalence of schizophrenia ranged from 0.52 - 0.61%. The recurrence rate among chronic schizophrenic patients was about 88 - 94%. Although the burdens of the disease have been considered, the trend in psychiatric care focuses on deinstitutionalization and community based psychiatric care services have formalized the role of the caregivers.[4,5] The family and caregiver's role has been integrated in the treatment plans and in policy making. In addition, the more effective newer atypical antipsychotic drugs as well as advances in community based treatment lead to the reduction of time for patients staying in the hospitals.[6]

The numerous studies have estimated that 40 - 90% of patients with schizophrenia and other psychiatric disorders live with their families. Moreover, they rely on their families for ongoing care as well as physical and emotional support throughout their lives.[1,2,5,7] The shift towards deinstitutionalization and community based care for psychiatric patients has also led to burden for their families. Burdens among these caregivers have been identified including physical problems, restrictions in social life, tense relationships in the family, changes in household routines, diminished opportunities for leisure, deteriorating finances, emotion problems, and disturbance in their work performance.[8,9] Caregiver burdens can be classified as objective burdens, which are observable, concrete, tangible costs or as subjective burdens, which are negative or positive feeling experienced by the caregivers.[10,11] According to Ivarsson et al (2004)[12], objective burden is the existence of problems and changes in family life (household routine, relationships, and leisure time) that occur because a family member requires care due to an illness, while subjective burden is the emotional feelings and mental health status (guilt, feelings of loss, and anxiety) of caregivers.

Notably, research studies over the past several decades have provided consistent evidence that caregivers of patients with schizophrenia and other psychotic disorder experience high levels of burden and these caregivers reported significant psychological distress (e.g., stress, frustration, emotional distress, anxiety, depression, grief, and somatic complaints), physical problem (e.g., insomnia, fatigue, headache, neck and shoulder pains), as well as financial demands.[13-15]

There are many studies conducted in the West and in some Asian countries, affirming the existence of burden among caregivers of patients with schizophrenia. However, most of these investigations have been conducted outside Vietnam. There is still a big gap of understanding regarding burden and its associated factors for Vietnamese caregivers of schizophrenics. Objective and subjective burdens are related to both patient's and caregiver's characteristics. For example, the time dedicated to patient are or the severity of the impairment will contribute to objective burden. Subjective burden is a caregiver assessment and may also vary depending on their age, education or health status. However, perceptions of both objective and subjective burden are also related to the individuals' cultural background. In addition, lack of knowledge and better understanding regarding these issues is one of the barriers impeding health care providers, nurses in particular, from providing effective care to both caregivers and their care recipients. Therefore, the study focusing on exploring burden and its associated factors among Vietnamese caregivers should be a priority. This study brought about baseline data and enabled nurses to better address the needs, and reduce the distress or negative consequence of caring for persons with schizophrenia. These would in-turn help promote quality of life for both caregivers and patients.

The purposes of this study were to describe caregiver burden and test its relationships with caregiver's age, education level, health status, average time per day for taking care patients, and perceived severity of patients' illness among caregivers of patients with schizophrenia in Thai Nguyen, Vietnam.

Method

Design and Study Settings

A descriptive correlation design was employed in this study. This study was conducted at the Outpatient Department (OPD) of Thai Nguyen Psychiatric located in the Northern part of Vietnam. Thai Nguyen province has a natural area of 3541 km2 and population about 1.2 million people, and Thai Nguyen city is a political and economic center of the North region of Vietnam. This study was conducted from December, 2010 to February, 2011

Sample

One–hundred and twenty primary caregivers were randomly selected to participate in this study. This sample size was calculated by using Thorndike's formula.[16] The inclusion criteria for participants were as follows: (1) Should be a primary caregiver of a patient with schizophrenia for at least 6 months before collecting data; (2) Age at least 18 years old; (3) Absence of physical disability and psychiatric disorder; (4) No severe cognitive impairment impeding them from understanding the questionnaire.

Instruments

Demographic information sheet

Demographic information from both the patients and their caregivers were collected. For patients, these included patients' age, gender, marital status, duration of illness. For caregivers, such information consisted of their age, gender, marital status, education level, occupation, relationships to the patient, average time per day for taking care of the patient, and their medical illnesses.

Family Burden Interview Schedule

The Family Burden Interview Schedule (FBIS) modified by Poonnotok (2007)[17] was used to measure burden. This scale was originally developed by Pai and Kapur (1981).[18] It assessed both objective and subjective dimensions of burden. Objective burden was examined by 24 items which were classified into six domains of perceived burden. Each domain has 2 - 6 items. The domains examined are 1) effects on family finance, 2) routine, 3) leisure, 4) interaction, 5) physical health, and 6) mental health. The item scale is 3-point Likert-type scale ('0'-'No burden', '1'-'Moderate burden' and '2'-'severe burden'). Subjective burden was assessed by asking one standard question "How much would you say you have suffered owing to the patient's illness?" and scoring the answer as 0 = not at all, 1 = a little, and 2 = severely. The total burden scores range from 0 to 50, with higher scores indicating a higher burden of care. Cronbach's alphas presented in previous studies ranged from 0.72 to 0.88.[17-19] The reliability coefficient of this questionnaire was tested in the pilot study with 30 participants and a high reliability was found (Cronbach's alpha of 0.94).

Caregiver's perceived severity of illness

The perceived severity of patient's illness scale was used to capture how the caregiver's perceived the frequency and types of patient's symptoms and impairments caused by schizophrenia when they took care of the patients. It was measured by the psychiatric Behavior and Symptom Perception Scale (BSPS) which was modified by Poonnotok (2007)[17]. This scale was originally developed by Pipatananond (2002)[20]. It includes 29 items. The BSPS is a 4-point Likert-type scale indicating the extent to which caregivers perceive the degree of each patient's behaviors and symptoms. Ratings are indicated as 0 = never, 1 = rarely, 2 = often, and 3 = always. The total scores range from 0 to 87 with higher scores indicating higher level of caregiver's perceived severity of the patient's illness. This scale focuses on assessing the perceived severity of 1) Depression Symptom, 2) Inappropriate Performance, 3) Psychotic Symptom, 4) Attention and Memory, and 5) Addictive Behavior. This study found a good reliability of this scale, with a Cronbach's alpha of 0.95.

Caregiver's health status

Caregiver's health status was measured by two scales as follows. The first scale was Subjective Health Rating (SHR). This scale focuses on how each caregiver perceives his or her health status at present and before they became caregivers. Two questions were asked: a) "Presently, how would you rate your health?" and b) "Before being a caregiver, how would you rate your health?," on a 5-point rating scale (1-excellent to 5-poor), with higher scores indicating worse health.

The second scale measuring caregiver's health status was the General Health Questionnaire (GHQ) developed by Goldberg and Hillier (1979).[21] It was used to measure the caregiver's health status focusing on mental aspect. GHQ consists of 12 items, each one assessing the presence and frequency of a mental problem occurring to the caregiver over the past few weeks. It is a 4-point Likert-type scale (0 = not at all, 1 = no more than usual, 2 = rather more than usual, and 3 = much more than usual). Total score ranged from 0 to 36 with higher scores indicating worse health. In this study, the scale reliability coefficient tested with 30 participants was 0.76.

Data collection procedure

The study protocol was granted for ethical approval from the Faculty of Nursing Burapha University-Institutional Review Board (IRB No. 03-11-2010, Nov. 25, 2010). After granting allowance from authorities of Thai Nguyen Psychiatric Hospital, the process of data collection began. Family caregivers who met the study criteria and agreed to participate in the study signed a consent form. With their written consent, each participant was asked to complete the questionnaire in an interview room at the hospital outpatient section.

Data Analyses

A computer statistical program was used to analyze data. The alpha level for significance was set at 0.05. The descriptive statistics was used to describe the sample characteristics and enumerate the caregiver burden. Paired t-test was used to compare a sample group's scores regarding caregivers' health status before and after taking caregivers' roles. The Pearson's correlation coefficient was used to explore the relationships between caregiver's age, education level, average time per day for taking care of patients, health status, perceived severity of patient's illness, and caregiver burden.

Results

Patient characteristics

Of 120 patients, the majority of patients were males (58.3%). The average age was 38.3 years old. The most common age range of patients was 40 to 49 years (32.5%). Sixty-three patients (52.5%) were married. The average years of being diagnosed from physician as having schizophrenia was 3.76 (SD =1.26). In this sample, 37.5% of patients reported being diagnosed with schizophrenia more than 10 years, and 6.7% were diagnosed less than one year (Table 1).

Table 1 Demographic characteristics of patients (N = 120).

Characteristics	n	%
Gender		
Male	70	58.3
Female	50	41.7
Age (years) (mean = 38.3, SD = 11.3)		
≤ 29	29	24.2
30 – 39	34	28.3
40 – 49	39	32.5
≥ 50	18	15.0
Marital status		
Married	63	52.5
Single	45	37.5
Divorced/separated	6	5.0
Widowed	6	5.0
Duration of illness (years) (mean = 3.76, SD = 1.26)		
≤ 1	8	6.7
1 – 3	15	12.5
3 – 5	20	16.7
5 – 10	32	26.6
≥ 10	45	37.5

Caregiver characteristics

Demographic characteristics of the 120 caregivers of the patients were as follows (Table 2). The majority of them were females (80%), and the ages were mostly in late adulthood. Caregivers aged 40 years or above accounted for 86.6% of the total participants. Most of them were married (90.8%). About 51.6% of them completed only compulsory education, whereas 11.7% of these respondents were illiterate. For occupation, farmer and industrial worker were the most common occupations (28.3% and 25%). The average time per day caregivers spent for giving care to the patients was 2.57 hours (SD = 1.19). The majority of relationships between caregivers and patients were either father or mother (48.4%). More than half of the sample (55%) reported having medical illnesses. Examples of medical illnesses reported by these caregivers were hypertension, heart disease, lung disease, and kidney disease.

Table 2 Demographic characteristics of caregivers (N = 120).

Characteristics	n	%
Gender		
Male	24	20
Female	96	80
Age (years) (mean = 49.6, SD = 9.9)		
≤ 29	2	1.7
30 – 39	14	11.7
40 – 49	47	39.1
≥ 50	57	47.5
Marital Status		
Married	109	90.8
Divorced/separated	7	5.8
Single	2	1.7
Widowed	2	1.7
Education level		
Compulsory education	62	51.6
Diploma	30	25.0
Bachelor or higher	14	11.7
No schooling	14	11.7
Occupation		
Farmer	34	28.3
Industrial worker	30	25.0
Retired	20	16.7
Government officer	16	13.3
Not working	11	9.2
Officer worker	9	7.5
Relationship with patients		
Parent	58	48.4
Spouse	42	35.0
Sibling	12	10.0
Son/daughter	7	5.8
Other	1	0.8
Average time (hrs) per day for taking care of patient		
	mean = 2.57; SD = 1.19	
Medical illness		
Have medical illness	66	55
None medical illness	54	45

Descriptive information of burden

Table 3 shows that the burden scores as rated by the caregivers were in the moderate level (mean = 0.95, SD = 0.46). Considering each domain of burden, it was found that "Disruption of family leisure time" and "Effect on mental health of others” were regarded as being low level of burden (mean ± SDs of 0.61 ± 0.62 and 0.35 ± 0.47, respectively), whereas domains of “Effects on family finance,” “Disruption of routine family activities,” “Disruption of family interaction” and “Effect on physical health” were in moderate levels of burden (mean ± SDs of 1.23 ± 0.56, 1.13 ± 0.59, 0.74 ± 0.53 and 1.07 ± 0.66, respectively). In this study, subjective burden was assessed by asking one standard question “How much would you say you have suffered owing to the patient’s illness?” and respondents rated suffering at a high level (1.59 ± 0.57).

Table 3 Objective and subjective burden (N = 120).

Variables	Mean	SD	Level of burden
Overall Burden	**0.95**	**0.46**	**Moderate**
Objective burden*	***0.92***	***0.46***	***Moderate***
Financial Burden	1.23	0.56	Moderate
Disruption of routine family activities	1.13	0.59	Moderate
Disruption of family leisure time	0.61	0.62	Low
Disruption of family interaction	0.74	0.53	Moderate
Effect on physical health of others	1.07	0.66	Moderate
Effect *on mental health of others*	0.35	0.47	Low
Subjective burden	***1.59***	***0.57***	***High***

* Average domain score.

Relationship between selected factors and burden

The results in Table 4 show that among variables examined, caregivers’ age, time spent for taking care of patients, health status (as measured by subjective health ratings before and after being caregivers and general health status), and perceived severity of illness were positively correlated with burden, whereas, caregiver’s education level was negatively correlated with burden.

Table 4 Correlation coefficient among various variables with burden (N = 120).

Variables	Burden
Age	0.47**
Education level	-0.20*
Average time per day for taking care patient	0.77**
Caregiver’s health status	
Presently, how would you rate your health	0.71**
Before being a caregiver, how would you rate your health	0.29**
GHQ (general health status)	0.76**
Perceived severity of illness	0.79**

* $P < 0.05$; ** $P < 0.01$.

Discussions and Conclusion

Information regarding caregivers’ characteristics obtained from this study showed patterns similar to those found in various studies examining burden in caregivers in Asia and the West. In this study, the majority of caregivers were mostly in late adulthood. They related to patients as parents, were female, and had low educational background and had poor health. According to Magana et al (2007)[22], the caregivers of the chronically ill usually reporting this relationship with patients were mothers. Caregivers also reposted low level of education,[23] and poor health.[14] From literature, general data of caregivers and patients as well as the nature of the caregiver-patient relationship also had a direct impact on the burden of family caregivers, indicating that caregivers who were parents experienced higher perception of subjective burden than other family members.[14,24-26]

Regarding the level of objective and subjective burden, overall assessment of objective burdens was that they were moderate to low, whereas caregiver’s subjective rating of burden was high. The finding is consistent with that of previous studies[14-27] that families are cohesive, and they depend on each other for emotional, cultural, and social support in daily life. The result shows that the commonest severe burden experienced by primary caregivers was the financial burden. It is also consistent with cultural and economic conditions of the people of Vietnam in general. Vietnam is a country whose economics is still on development. Many Vietnamese persons reported having low incomes. Interestingly, patients were generally not perceived as causing disrupting family leisure time (one domain of burden)-which for Vietnamese, is taking breakfast, possibly evening meals and watching TV at night. Apparently, according to occupation, over 54% of caregivers did not need to leave home to work. Caregivers did not feel that job affected their mental health, but perhaps because of age on existing illness, there was a moderate report of effects on physical health. In addition, in this study, 37.5 percent of patients reported being diagnosed with schizophrenia more than 10 years. It possibly explains why caregiver’s subjective rating of burden was high.

Results from this study revealed that caregiver’s age was positively correlated with burden. This is consistent with some previous studies such as Poonnotok (2007)[17] and Chien and colleagues (2007).[27] These studies mentioned that higher burden among those older caregivers might relate to the point that as caregivers get older, their health conditions also declined. The decline of their health as they get older can lead to higher burden as having to taking care the patients. Traditionally in Asian nations, Vietnam in particular, the family members who are older are given respect as ”the heads of household.” They are culturally prepared to take roles as the caregivers for their family members who were sick or unable to take care of themselves. The caregivers, especially those with old age not only have to take care for the patients, they also have to take care of their own health, which may result in a higher burden they perceived.[17-27]

Regarding education, from this study, education level had a low negatively significant relationship with burden. This finding was supported by previous studies which found that caregivers who had higher level of education, reported less burden.[17,24,28,29] A possible reason for the negatively significant relationship between education level and caregiver burden can be explained by a view that caregivers with higher educational background may have higher knowledge of the disorders and are able to find and access to social and financial resources. These characteristics allow them to obtain better care and treatment for their patients. Cook et al (1994)[29] stated that education acted as a “buffer” against the burden. Generally, caregivers with higher levels of education had higher incomes and had better physical health and psychological functioning. Especially, caregivers with low socioeconomic status usually reported poorer education status; these together impede caregiver’s potential to adjust their roles as caregivers. They have many challenges in taking care of patients such as limited resources and confront with multiple stressors.

For health status, the results obtained from this study indicated that caregiver’s health status rating (before and after taking roles as caregivers) and their general health status (GHQ) focusing on psychological morbidity, have positively significant relationships with burden. With regard to the comparison of health status ratings at two points of time, including before and after being caregivers, it was found that there was a statistically significant difference (P-value < 0.05) which demonstrated that caregivers rated their health worse off than before taking their role as a caregivers. It was consistent with previous studies.[14-15,26-30] The poorer health caregivers had, the higher burden they experienced. According to Bull (1990)[30], relationships between burden and health condition change over time; burden might increase once the situation changes. In addition, as the caregivers get older, the physical health of them seems to decline.[26] Hou et al (2008)[14] found that the level of burden among caregivers can be predicted by the health condition of the caregivers where those with a worse health condition had a higher burden level. The burdens in daily life, social shame, and negative emotion worsened the caregiver’s mental condition.

Regarding times spent for taking care of the patients, this study results revealed that average time per day for taking care of a patient had a high positive correlation with burden. The higher hours per day spent for taking care of the patients, the greater burden the caregivers experienced. It is consistent with previous research conducted in Asia and in the West.[15,31,32] Those caregivers who spend less times dealing with the patients might not be affected by the patients’ illness symptoms and inappropriate behaviors. Therefore, they would perceive lower levels of burden, both subjective and objective burden. In addition, when caregivers spent more time with their ill family members, this would result in having less time for themselves.

Perceived severity of patient’s illness refers to a caregiver’s perception of frequency and types of patient’s symptoms and impairments caused by schizophrenia. Results from this study indicated that perceived severity of patient’s illness had a high positively significant relationship with burden. Such results are consistent with some previous studies.[17,20,33] According to Zahiruddin and Salleh (2005)[34], Schene et al (1998)[35] and Tucker et al (1998)[36], the current patients’ symptoms had the strongest relationship with caregiver burden. Grandón et al (2008)[25] and Lauber et al (2003)[37] found that the positive symptoms (e.g. delusions, hostility, hallucinations and suspiciousness/persecution) had correlation with burden higher than the negative symptoms (e.g., blunted affect, emotional withdrawal, and poor rapport). These symptoms caused a greater disruption across the family functioning. According to Provencher and Mueser (1997)[33] and Blanchard et al (2004)[38], those caregivers who perceived that the patients are incapable of altering their negative symptoms, behaviors, and meeting certain role obligations reported higher burden. Solomon and Draine (1995)[39] discovered that most schizophrenia patients presented both the positive and negative symptoms: abnormal behavior, retardation, hallucination, etc. These symptoms would attract people’s attention and judgments, and cause stigma and family interference. Previous studies often report that positive symptoms (hallucination and delirium) and aggressive, destructive or suicidal behaviors represent the greatest strain for family members,[35] whereas other studies mentioned negative symptoms, e.g., withdrawal, passiveness and self-neglect as the most related with the caregiver's burden.[36] Results from this study highlighted the need for proper treatment for the patients in order to reduce both the positive and negative symptoms as well as the need to instruct appropriate strategies to caregivers in order to deal with the inappropriate symptoms and behaviors found among patients with schizophrenia.

Implications of the study

The findings from this study have implications for nursing practice and research. Attention should be paid to those caregivers who are more prone to a higher burden such as older age, low education level, poor health status, more hours in taking care of patients. Due to the expensive healthcare costs and deinstitutionalization policy, the number of persons involved in care giving is increasing worldwide, Vietnam in particular. Therefore, the burden caregivers experience, as well as related factors which contribute to the burden, should be assessed with the instruments that are valid and reliable. Traditionally, some healthcare professions have relied on their own perceptions in determining the level of distress their patients or caregivers have.[20] To become usable in reality, the instruments used in this study are promising. Burden assessment as well as other measures employed in this study appeared to be valid and reliable in the assessment of care giving phenomena in a Vietnamese context. Employing the structured instruments could greatly improve the measurement since it is based on both accurate and relevant information.

The implication for nursing practice, therefore, should be considered, as it is related to the variables influencing caregiver burden. Thus, nurses need to be sensitive to the presence and absence of these factors that may put caregivers at risk of unbearable burdens. In addition, caregivers with old age, low education, poor health status, and high time spent per day for taking care should be recognized as they may experience more burden. In addition, perceived severity of illness was found to have the strongest effect on burden of caregivers. Therefore, essential information regarding illness, its related manifestation, as well as symptom management should be delivered to the caregivers through educational programs, counseling, and support services. Furthermore, training on how to appropriately react and handle the situation related to the patient's behaviors and symptoms such as aggression and violence, both at home and in the community settings should be conducted. Implementing appropriate intervention might not only alleviate caregiver burden but it would also help enhance caregiver sense of coherence to their loved ones. In Vietnamese society, home and family give a person the most appropriate sense of belonging and a place to return to throughout the life process. Traditionally, psychiatric patients usually live together with their family. Therefore, increasing mutual understanding and harmony among the family members, strengthening the patient's functioning, and the family members' understanding of psychiatric symptoms and caring skills are the most important tasks of community psychiatric care to lighten caregiver burden. This highlights the need for health care providers to take the initiative step in providing education, therapy, and recovery schemes to the patients in order to deal with the problems of which caregivers may encounter during the course of patients' illness. This could help improve the patients' living quality and lessen caregiver burden.

Limitations

Although, this study brought about important information related to burden and its related factors, some limitations need to be addressed. Firstly, although the sample was selected randomly from the patient lists, it was drawn from caregivers in only one geographical region in Thai Nguyen. Secondly, this study was cross-sectional study which is unable to investigate causal relationships and change over time. Finally, a further methodological concern is that, because all of the measures were based on self-reports, there is a possible common method variance that may inflate the obtained results.

Recommendations for future study

In this study, the caregivers were those who accompanied patients to receive outpatient care services. These might represent the caregivers who show the most concern in support and continuity of treatment for the patients; that is why they accompanied the patients to receive care. There may be some caregivers who did not come to the health care setting but might experience the greater burden such as those caregivers who had poor health and provide care to other family members. Therefore, further study should encompass those caregivers in communities who had greater burdensome and did not accompany patients to receive services at the health care settings. In addition, longitudinal study as well as qualitative research to examine burden and its related factors are also recommended. Baseline data obtained from this study should also be used to generate nursing intervention aimed at reducing burden among caregivers of patients with schizophrenia.

Conclusion

This study explored burden and tested its relationships with related factors among caregivers of patients with schizophrenia in Vietnam. The burden reported by the caregivers in this study as well as its relationships with related factors corresponds with the results from other studies conducted in Asian or Western countries. The study results demonstrated moderate level of burden among caregivers of patients with schizophrenia. Greater burden was reported by caregivers with advanced ages, low education background, reported poor health status, spending more hours for taking care patients, and perceived higher severity of patients' illnesses. Thus, in planning for developing programs aimed at alleviating burden among these caregivers, all factors mentioned above should be taken into account. This study brought about baseline data and enables healthcare professionals; nurses in particular have better understanding. These will lead to better address the needs, reduce the distress or negative consequence of caring for persons with schizophrenia, as well as promote quality of life for both the caregivers and the patients.

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