Social Support, Self-efficacy and Care Participation Among Parents of Hospitalized Children with Pneumonia in Chengdu City, Sichuan Province, the People's Republic of China

Jie Zhang [1*]
Usanee Jintrawet [2]
Pimpaporn Klunklin [3]

Corresponding author E-mail: zhang_jie1015@163.com *
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ABSTRACT

This study used a descriptive correlational design to explore the level of care participation among parents of hospitalized children with pneumonia, and to describe the relationship between social support, self-efficacy and care participation among parents of hospitalized children with pneumonia in Chengdu city, Sichuan province, the People's Republic of China. Purposive sampling was used to recruit 85 parents who completed the Demographic Data Form, the Social Support Questionnaire, a Parental Self-efficacy Scale and a Parents Actual Participation Scale at two hospitals in China. Among parents of children hospitalized with pneumonia, the total mean score of care participation was at a high level, social support showed a statistically significant positive correlation to care participation, and self-efficacy showed a statistically significant positive correlation to care participation. Chinese parents of hospitalized children with pneumonia showed a total mean score of care participation at a high level. Each dimension of care participation was at a high level, except for decision making. The results of this research could guide health professionals to encourage parents to participate more in the decision-making process. A plan or guideline should be developed to enhance care participation to be more effective for hospitalized children with pneumonia.

Keywords: Social support, Self-efficacy, Care participation,
Parents of a child with pneumonia, China

1 – 3 Faculty of Nursing, Chiang Mai University

Introduction

Pneumonia is commonly found in children younger than 5 years old (World Health Organization [WHO], 2019; Kyle & Carman, 2017). Incidences of pneumonia are highest in Africa and Asia (DeAntonio, Yarzabal, Cruz, Schmidt, & Kleijnen, 2016). In China, the annual incidence rate of pneumonia was 84 episodes per 1,000 children, while incidences of severe pneumonia ranged from 5–34 episodes per 1,000 children (McAllister et al., 2019). The rate of hospital admission rate for children of all cases in China was 1.40% (Li et al., 2017). In Suzhou, China, children aged younger than 5 years had a hospitalization rate for community-acquired pneumonia of 248.4 per 1,000 hospitalizations (Li et al., 2017).

Children aged younger than 5 years are still going through the growth and development process (Pillitteri, 2014). Their ability to help themselves is limited and they need to be taken care of by their parents. Parents are typically a child's closest and most understanding relation and are thus appropriate to participate in the provision of care during hospitalization. Care participation among parents of hospitalized children with pneumonia refers to activities performing by a mother or a father in the care of their child with pneumonia during hospitalization including routine care, technical care, information sharing and decision-making from admission through discharge date as ordered by a physician (Schepp, 1995). Three studies about care participation among parents were done using the concepts of Melnyk et al. (2004) and Schepp (1995). Abdelkader, Khalaf, Kridli, Arabiat and Alrimawi (2016) examined the level of parent involvement in children's care in an Arab pediatric setting. The findings showed that parents had moderate mean scores of actual participation in their child's care. In another study, the participants were parents involved in caring for a child aged younger than 15 years old with either acute or chronic illness. Scores were more focused on activities of daily living and providing comfort, and less on advocating and providing technical care (Gyeltshen, 2012). In one comparative descriptive study, the participants were parents of children under 5 years old hospitalized in the respiratory ward at a children's hospital in Vietnam (Phuong, Pongjatyrawit & Chaimongkol, 2016). The findings revealed the mean score of the actual parent participation was at a high level. In addition, several studies suggested that care participation among parents was beneficial for both children and caregivers (Pongjaturawit, 2005; Pourkhani, Chehrzad, Masouleh & Leyli, 2018).

In the People's Republic of China, when a child is admitted to a general pediatric ward, parents have always been expected to play a role in the care of their hospitalized child. Parents not only accompany their child in the hospital but are also encouraged to participate in their child's care (Min & Jie, 2014; Chinese Hospital Association [CHA], 2019). Thus, the family members are inevitably part of helping to care for their child.

Previous research showed factors related to care participation among parents of hospitalized children including demographic data (Balling & McCubbin, 2001), social support

(Samit, Lamchang & Mesukko, 2013) and self-efficacy (Kantahong, Niyomkar & Lamchang, 2015). In this study, social support and self-efficacy were selected because of the modifiable variables property. In addition, it is also known that social support and self-efficacy can both affect the outcome of a person's practice (Reblin & Uchino, 2008).

Two studies were conducted on the relationship between social support and care participation among parents of children with congenital heart disease and acute illness, respectively. Both studies showed a statistically significant low positive relationship between social support and care practice among parents: r= .47 ($p< .05$) and r = .46 ($p< .001$), respectively (Madawala, 2019; Samit et al., 2013).

There were two studies conducted on the relationship between self-efficacy and care participation among parents of children with leukemia and an acute illness, respectively. Both studies showed a statistically significant positive relationship between self-efficacy and care practice among parents: r = .38 ($p<.001$) and r **= .**51 ($p <.001$), respectively. (Samit et al., 2013; Siriwan, Yunee & Nujjaree, 2018).

Previous studies have been conducted in other countries; thus, these findings may not fully explain the care participation among parents of hospitalized children with pneumonia in China. Therefore, this study aimed to explore the level of care participation among parents of hospitalized children with pneumonia and to describe the relationship between social support, self-efficacy and care participation among parents of hospitalized children with pneumonia in Chengdu city, Sichuan province, the People's Republic of China.

Methods

Design: A descriptive correlational design was used in this study.

Participants and setting: Participants were selected purposively and included 85 parents of children aged 1 to 5 years with pneumonia who were admitted to the general pediatric ward at 2 public hospitals in Chengdu city, Sichuan province, the People's Republic of China. The number of participants was determined using power analysis with a significance level of 0.05 and a power of 0.80. The researcher estimated the relationship size of the variable (effect size) with a medium effect size of 0.30 (Cohen, 1992).

Inclusion criteria: Parents aged 18 to 59 years old who stayed with a child hospitalized with pneumonia from admission to discharge; were capable of reading, writing and communicating in the Chinese language; and willing to join the study were included. The hospitalized child had no comorbidities (such as Down Syndrome or neurological problems), was conscious and was not on a ventilator, had no tracheotomy, and retained neither gastric tube nor intercostal drainage.

Ethical consideration: Ethical approval from the Faculty of Nursing, Chiangmai University was obtained on May 5, 2020, code: 2020-EXP043 as well as the permission of

the two hospitals involved in the research. Permission for using the Social Support Questionnaire and the Parental Actual Participation scale was obtained from the original authors.

Instruments: The instruments for data collection were 4 questionnaires consisting of 1) the Demographic Data form, which was developed by the researcher based on a literature review; 2) the Social Support Questionnaire, which was modified based on Madawala (2019) and included a total of 10 items, each with a 5-point Likert scale. The internal consistency reliability as measured using Cronbach's alpha coefficient was .87; 3) the Parental Self-efficacy Scale, which was developed by the researcher based on Bandura's concept (1977) with a total of 24 items each with a 4-point Likert scale. The internal consistency reliability as measured using Cronbach's alpha coefficient was .87 and 4) the Parental Actual Participation Scale (PAPS), developed by Schepp (1995) which included a total of 24 items each with a 4-point Likert scale. The PAPS was divided into 3 levels: low, moderate, and high based on the class interval method (Polit, 1996). The internal consistency reliability as measured using Cronbach's alpha coefficient was .93.

Results

Demographic Data of the Parents: The findings showed that most of the parents were aged 26-35 years old (76.47%) and the majority of parents (87.06 %) were mothers. Nearly half of the parents had at least diploma-level education (47.06%) and were self-employed (43.53%). Among the parents, about one-third had a monthly income above 5,000 Yuan (36.47%) and nearly two-thirds of them (62.35%) had only one child. Most of them (77.65%) had prior experience caring for their hospitalized child.

Demographic Data of Hospitalized Children with Pneumonia: A majority of the children (75.29%) were toddlers. More than half of them were male (58.82%) and the majority of them (92.94%) were diagnosed with bacterial pneumonia. Nearly half of the children (42.35%) were hospitalized for the second time. The majority of them (87.06%) spent 4-7 days in the hospital. All of the children (100%) received invasive treatment.

Descriptive Data for Care Participation, Social Support, and Self-efficacy Among Parents of Hospitalized Children with Pneumonia

The data for care participation among parents of hospitalized children with pneumonia are shown in Table 1. Findings showed the total mean score of care participation among parents of hospitalized children with pneumonia was at a high level ($\bar{x}$ = 78.58, SD = 8.78). In the determination of dimensions, it was found that the mean scores of three dimensions of care participation among parents of hospitalized children with pneumonia were at high levels: routine care ($\bar{x}$ = 34.65, SD = 3.77), technical care ($\bar{x}$ = 14.09, SD = 1.84) and information sharing ($\bar{x}$ = 13.61, SD = 2.02). However, the mean

score of the decision-making dimension was at a moderate level ($\bar{x}$ = 16.22, SD =2.80).

Table 1: Descriptive Data of Care Participation, Social Support, and Self-efficacy Among Parents of Hospitalized Children with Pneumonia

Variables	Level			Mean $\bar{x}$	SD	Interpretation
	Low (n) (%)	Moderate (n) (%)	High (n) (%)			
Care participation (total mean score)	0	20 (23.53)	65 (76.47)	78.58	8.78	High
- Routine care	0	16 (18.82)	69 (81.18)	34.65	3.77	High
- Technical care	0	18 (21.18)	67 (78.82)	14.09	1.84	High
- Information sharing	2 (2.35)	24 (28.24)	59 (69.41)	13.61	2.02	High
- Decision-making	10(11.77)	59 (69.41)	16 (18.82)	16.22	2.80	Moderate
Social support (total mean score)	1 (1.18)	21 (24.70)	63 (74.12)	30.29	6.77	High
Self-efficacy (total mean score)	0	7 (8.24)	78 (91.76)	86.38	7.74	High

Relationship Between Social Support, Self- efficacy and Care Participation Among Parents of Hospitalized Children with Pneumonia

The data for the correlation of social support, self- efficacy and care participation are shown in Table 2. The result of Pearson Product Moment Correlation showed that social support had a statistically significant positive correlation to care participation among parents of hospitalized children with pneumonia at a weak level (r =.42, p <.05). In addition, self- efficacy showed a statistically significant positive correlation to care participation among parents of hospitalized children with pneumonia at a high level (r =.82, p <.05).

Table 2: Pearson Product Moment Correlation between Social Support, Self-efficacy and Care Participation Among Parents of Hospitalized Children with Pneumonia (n=85)

	Care Participation	P-Value
Social support	.416*	.00
Self-efficacy	.822*	.00

* p<.05

Discussion

Research Question 1: What is the Level of Care Participation Among Parents of Hospitalized Children with Pneumonia in Chengdu city, Sichuan province, the People's Republic of China?

The findings in this study revealed that the total mean score of care participation among parents of hospitalized children with pneumonia was at a high level ($\bar{x}$ = 78.58, SD= 8.78) (Table 1). This could be explained by many factors including the demographic data of parents and their children, social support and self-efficacy. Firstly, in consideration of parents' demographic data, findings from this study revealed that 76.47% of the parents' age ranged from 26-35 years and 87.06% were mothers. At this age, they can effectively attend to child-rearing and caring tasks (Bandura, 1997). Generally, the mother was the child's primary caregiver in the family and responded to her child's needs. In this study, 47.06% of the parents had graduated from college and 37.65% had an even higher level of education. When the parents have a higher level of education, they are better able to understand information about the illness and treatment. A study by Gyeltshen (2012) showed that parents with higher-level educational backgrounds participate more actively in care episodes .Besides, 43.53 %of the parents were self-employed and 9.41 %of them were housewives who were not limited by working hours, so they had enough time to provide care activities .This is supported by findings from Balling and McCubbin (2001) As 62.35 %of the parents had only one child, it can be speculated that parents who had only one child were more likely to participate in their children's care. This is supported by Pongjaturawit (2005); Kristensson-Hallstrom (2000) Moreover, 77.65 %of the parents had experience caring for their hospitalized child; parents' participation in the care of a hospitalized child was greater when the parents had previous experience (Wongcheeree, Chaimongkol, & Pongjaturawit, 2011)

In addition, a majority of the children 75.2 were toddlers .It can be hypothesized that the younger the child, the more willing the parent was to participate in the activities of caring for them (Abdelkader, Arabiat, Holmes, & Hamdan-Mansour, 2016) Only 27.06 % of the children were hospitalized for the first time .Parents whose child has had one or more previous hospital admissions have more experience and skill to be involved in their child's care .This was confirmed by a previous study that found there was a significantly positive relationship between time of previous hospitalization and care participation among parents (Abdelkader et al., 2016). Moreover, nearly three-quarters (87.06%) of the children stayed in the hospital for 4-7 days. These findings are consistent with a study from Vietnam, in which parents performed a high-level ($\bar{x}$ = 72.02) of care participation (Phuong et al., 2016).

Another possible reason for higher care participation might be the availability of high-level social support. In the present study, 84.71 %of parents had a college degree or

above and more than one-third of the parents (36.47%) had an income > 5,000 Yuan/month .Social support was related to good outcome of an individual action (Rini et al., 2008)

A high level of self-efficacy could be another possible explanation for the high care participation of parents of hospitalized children with pneumonia . In this study, parents were confident in their ability to provide proper care for their children . According to Bandura (1977) self-efficacy was a key factor in establishing good health care behaviors . So, the parents, as the primary caregivers, need to have a strong level of self-efficacy to provide care at the highest quality (Ngoc Han, 2015)

However, the level of parental participation in decision-making was moderate . When an ill child was admitted to the hospital, the responsible doctor and nurse made a regimen for treatment .The treatment plan should be known by the parents .Due to the outbreak of COVID-19, the hospital allowed only one parent to accompany a child .Nurses routinely took the child's temperature six times a day. However, parents may take their child's temperature more often if the child had a fever or went home during their hospital stay. It was found that 48% of parents allowed nurses to care for their child without selection, 11% of parents had no restriction of particular visitors to their child, and 2% of parents did not take their child's temperature. It may explain why parents perceived health care providers as having authority, and the welfare of the hospitalized child was dependent upon the healthcare providers, so the parents accepted their medical knowledge . This finding is concurrent with the study by Gyeltshen (2012)

Research Question 2: Is There any Relationship Between Social Support, Self-efficacy and Care Participation Among Parents of Hospitalized Children with Pneumonia in Chengdu city, Sichuan Province, the People's Republic of China, and how?

Firstly, social support showed a statistically significant positive correlation to care participation among parents of hospitalized children with pneumonia at a low level ($r = .42$, $p < .05$). According to Reblin and Uchino (2008), social support can affect the outcome of a person's practice. Findings showed that 1.20 % of the parents disagreed that they received information about the disease, and 7.10 % of the parents disagreed that someone could look after their child when they needed a break .It may be possible that parents are reluctant to participate in care. Another possible explanation may be that all children have received invasive treatment. Although most parents had experience taking care of a hospitalized child, they may have been afraid of jeopardizing their child's health due to receiving an invasive treatment. Thus, they trust health professionals to do some activities for their child.

Secondly, self-efficacy showed a statistically significant positive correlation to care participation among parents of hospitalized children with pneumonia at a high level ($r = .82$,

p <.05). According to Bandura (1977), parents were more likely to engage in activities for which they have high self-efficacy. Self-efficacy was affected by some aspects such as previous experience, social persuasion, physiological and emotional state. In this study, the self-efficacy of parents was at a high level. Parents' sense of personal efficacy in caring was positively associated with the quality of care provided for their children (Sanders & Woolley, 2005), and the provision of effective care (Bandura, 1977, 1997). Sixty-six percent (66.00%) of the parents in this study had experience caring for a hospitalized child. Parents showed an overall mean score of care participation at a high level.

Limitations: Participants in this study included only parents of hospitalized children with pneumonia who could read, write, and communicate in the Chinese language at two hospitals in Chengdu city, Sichuan province, the People's Republic of China. Therefore, it has a limited generalization for parents in other cultural or national contexts.

Further research: Further research should look at predicting factors of care participation among parents of hospitalized children with pneumonia and a similar study design among parents of hospitalized children with pneumonia of other age groups.

Conclusion and implications

In conclusion, Chinese parents of hospitalized children with pneumonia had a high level of care participation. Each dimension of care participation was at a high level except for decision making. Both social support and self-efficacy showed a statistically significant positive correlation to care participation among parents of hospitalized children with pneumonia. The results of care participation could guide health professionals to encourage parents to participate in the decision-making process. A plan or guideline should be developed to enhance care participation to be more effective for hospitalized children with pneumonia.

Implications for Nursing Practice: The findings of social support and self-efficacy may serve as basic information for pediatric nurses to develop a plan or guideline to enhance care participation to be more effective for hospitalized children with pneumonia. The results of care participation could guide health professionals to encourage parents to participate in the decision-making because they know their child best. Thus, the needs of children will be met during hospitalization, resulting in a positive treatment outcome.

Implications for Nursing Education: The findings in this study may serve as information for teaching nursing students to be aware of the need for social support and self-efficacy of parents during their child's hospitalization. The two variables affect the outcome of care participation among parents.

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