

## Original Research Article

# An analysis of the items of nursing competency in oral feeding assistance for hospitalized hemiplegic patients in China: a qualitative study

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## ABSTRACT

**Background:** Patients with hemiplegia often suffer from malnutrition and security threat due to disabilities and inadequate supports. This study aims to explore nursing perceptions regarding problems, necessary nursing supports, and nursing competencies required for the provision of oral feeding assistance to hospitalized hemiplegic patients.

**Methods:** A qualitative study was conducted in Taian City, China in 2016. A purposive sampling method was used, and data were gathered using semi-structured interviews. Totally, 5 faculty members and 10 ward nurses in China were interviewed. In relation to the nursing status regarding oral feeding assistance in the case of hemiplegic patients, background and improvement measures in nursing practice were assessed. Data were analyzed using the content analysis method.

**Results:** Four problems in providing oral feeding assistance to hemiplegic patients were identified: 1) insufficient cognition of nursing roles, 2) insufficient consideration of psychological aspects of the patients, 3) lack of related theoretical and practical education, 4) lack of nutritional support during hospitalization. Twenty-five items of nursing competencies, the knowledge and skills required for oral feeding assistance to hospitalized hemiplegic patients were identified.

**Conclusions:** The nursing competency identified by this study can provide evidence for reviewing the related nursing practice and continuous education in China.

**Keywords:** Chinese nurses, Hemiplegic patients, Nursing competency, Oral feeding

## INTRODUCTION

Eating is an indispensable basic physiological need for humans' health. Adequate nutritional intake by eating assists recovery from trauma, surgery, and disease, as well as promotes wound healing and prevents infection among hospitalized patients. Furthermore, eating not only provides nutritional sustenance for life, but also helps to

fulfill psychosocial needs like eating delicious food happily, and to provide enjoyment in life.<sup>1</sup> Therefore, eating is important for patients' overall health.

During hospitalization, undernutrition and aspiration pneumonia may occur during the natural ingestion of food orally, especially in patients with hemiplegia or dysphagia with low functioning of feeding and

swallowing.<sup>2</sup> Indeed, undernutrition frequently occurs during hospitalization, and nurses playing an important role in supporting patients' nutritional needs.<sup>3,4</sup> Accordingly, nurse-supported meals are indispensable for hospitalized patients with disabilities.

According to the World Health Organization (WHO), cerebrovascular diseases (CBVD) are the second-leading cause of death in middle-income countries.<sup>5</sup> Among these countries, China has the largest population, accounting for one-fifth of the world's population. CBVD is ranked third among the common causes of death in urban residents and second for rural residents in China.<sup>6</sup> Stroke, the most common CBVD, is also the leading cause of sustained neurological disability in the world, with 50% of the patients suffering from hemiparesis.<sup>7,8</sup> Hemiplegic patients suffer from sensory-motor deficit, decreased passive joint motion and pain, these impairments have a profound effect on patients' activities of daily living.<sup>9</sup> Nevertheless, if the physiology and psychosocial needs of hemiplegic patients are satisfied, they can overcome obstacles and lead an optimal life. Appropriate diet and nutrition are the foundation of stable recuperation. Considering the great burden of stroke-induced malnutrition around the world, nursing skills are increasingly becoming important to facilitate the eating behaviors of hospitalized hemiplegic patients to support their nutritional needs and ensure the quality of daily life.<sup>10</sup>

As stated in a Chinese textbook on the fundamentals of nursing, oral feeding assistance is a common nursing task. However, nurses' perceptions of their roles in oral feeding assistance remain unclear.<sup>11</sup> In a previous study, descriptive examples such as "diet aid is not taught at school" and "family members provide body cleaning, transferring, diet aid, etc." were stated.<sup>12</sup> Indeed, Chinese nurses work in a stressful environment because of the nurse shortage.<sup>13</sup> They typically carry out skilled professional tasks for patients; their roles are mainly treatment-oriented and to implement physicians' orders. They are only involved in 25.6% of the bedside nursing care, while 64.7% of such tasks are performed by family members or healthcare assistants.<sup>14</sup> Family-paid caregivers, rather than hospital nursing staff, are involved in most of the bedside nursing care with oral feeding comprising a major proportion of the tasks. However, they are supervised directly by a privately owned agency rather than the hospital, and they seldom receive any formal training.<sup>15</sup> Accordingly, families and caregivers play a major role in basic nursing care, but there is a need to examine the quality and safety of oral feeding assistance provided, with special reference to hospitalized hemiplegic patients. Based on the above results, it is evident that many factors hinder the fulfillment of nursing roles related to oral feeding assistance; therefore, it is necessary to provide appropriate nursing intervention to improve the quality and safety of oral feeding assistance provided by nurses to hospitalized hemiplegic patients.

Until now, no study has clarified the necessary nursing supports to improve the quality of basic nursing care. The purpose of this study was to explore nursing perceptions about problems, required supports and items of nursing competencies to aid the improvement of the quality and safety of oral feeding assistance to hemiplegic patients. The findings of this study are expected to provide evidence for the review of related nursing practice and continuous education in China in the future and contribute to the mutual authentication of nursing qualifications in Asian countries.

## METHODS

It is a qualitative study and inclusion criteria for the study population was to be faculty members in charge of a 4-year nursing education program, and ward nurses with at least one-year experience in Neurology, Neurosurgery, or Geriatrics. The participants were selected based on purposive sampling. Semi-structured interviews were conducted on 5 faculty members and 10 ward nurses after receiving informed consent. The faculty members were responsible of fundamental nursing, surgical nursing, geriatric nursing, or medical nursing in a nursing school with average 11.3-year experiences. The ward nurses were from Neurology, Neurosurgery, or Geriatrics with average 8.8-year experiences in those departments. Five of them worked in a tertiary general hospital, another five worked in a sanatorium. The reason for choosing the participants from a general hospital and a sanatorium was that the former has more hemiplegic patients in acute stage, and the latter has more hemiplegic patients in chronic stage. The reason behind choosing faculty members of a 4-year nursing education program was the growing attention and support to nursing undergraduate education from Chinese government. The reason behind choosing ward nurses in Neurology, Neurosurgery and Geriatrics was the increased needs for oral feeding assistance in those departments with more hemiplegic patients who have difficulties in accessing food and high risk of aspiration. The study was performed in Taian City, China from November to December 2016.

The interview was conducted surrounding three problems related to oral feeding assistance obtained from the results of the previous research:<sup>16</sup>

- Insufficient cognition of nursing roles pertaining to oral feeding assistance
- Insufficient consideration of the psychological aspects of the patients
- Lack of related theoretical and practical education

The interview questions were:

- Do you agree with the above problems in the case of hospitalized hemiplegic patients?
- How do you think about the possible reasons?
- How do you think about the necessary nursing support for improving the current problems?

The interviewees decided the time and place of the interviews. Each interview took about 30 minutes, and all the interviews were recorded. The interviewees were free to quit the interview or to decide whether their voice should be recorded or not. They were ensured about the confidentiality of the information. To increase the reliability and validity of the study, the answers were double-checked by the interviewees. The interviews continued to reach the level of saturation with all 15 participants. To analyze the data, content analysis method was employed. The transcriptions of the interviews were read several times to derive some codes, and conclusively, the remaining codes were sub-categorized and categorized surrounding the above problems or newly arisen problem. Finally, based on the codes for each problem, the items of knowledge and skills for nursing competency concerning oral feeding assistance to hemiplegic patients were extracted. The extraction criteria were as follows:

- Knowledge or skills necessary for oral feeding assistance
- Knowledge or skills suitable for hemiplegic patients
- Knowledge or skills according to the nursing status in China.

## RESULTS

The answers of each interviewee were documented as T1–T5 for faculty members and N1–N10 for ward nurses to ensure privacy. Finally, 86.7% or above of the participants agreed with the validity of the three problems obtained from the previous research. Those results have been presented in Table 1. And a total of four problems were grasped with a solely new problem obtained. Based on the codes of improvement measures for each problem, 25 items for nursing competency concerning oral feeding assistance to hemiplegic patients were extracted. Those 25 items have been presented in Table 2.

**Table 1: The validity of the three problems obtained from the previous research.**

Problems (3)	Validity 15 (100.0 %)	
	Yes (%)	No (%)
<b>1. Insufficient cognition of nursing roles pertaining to oral feeding assistance</b>	14 (93.3)	1 (6.7)
<b>2. Insufficient consideration of the psychological aspects of the patients</b>	13 (86.7)	2 (13.3)
<b>3. Lack of related theoretical and practical education</b>	15 (100.0)	0 (0.0)

**Table 2: The 25 items for nursing competency pertaining to oral feeding assistance to hospitalized hemiplegic patients.**

Problems (4)	Items (25)
<b>1. Insufficient cognition of nursing roles pertaining to oral feeding assistance</b>	1. The status of epidemiology on hemiplegic patients;
	2. Help the patient to eat more efficiently;
	3. Create a good eating environment;
	4. Observe the dietary intake situation and condition of hemiplegic patients;
	5. Evaluate the intake situation after meals;
	6. Instructions for guiding families to do oral feeding assistance.
<b>2. Insufficient consideration of the psychological aspects of the patients</b>	7. Assess psychological state of hemiplegic patients;
	8. Help the patient to eat happily;
	9. Provide aid that considers patient's individuality (eating habits, etc.).
<b>3. Lack of related theoretical and practical education</b>	10. Important factors causing hemiplegia;
	11. Physical and psychological characteristics of hemiplegic patients;
	12. Complications likely to occur in hemiplegic patients;
	13. Prevention method for risks likely to occur;
	14. First aid method in emergency;
	15. Help the patient to eat safely;
	16. Provide safe and effective oral care;
	17. Method of using self-help devices;
	18. Provide aid according to patient's independence degree;
	19. Oral feeding assistance according to the degree of hemiplegia;
	20. Oral feeding assistance according to the recovery phase of hemiplegic patients;
	21. Method of rehabilitation guidance such as functional training, etc.;
	22. Assess eating and swallowing function of hemiplegic patients.
	<b>4. Lack of nutritional support during hospitalization</b>
24. Instructions on dietary nutrition suitable for hemiplegic patients;	
25. Assess nutritional status of hemiplegic patients.	

***Problem one: Insufficient cognition of nursing roles pertaining to oral feeding assistance***

Most of the participants (93.3%) agreed with insufficient cognition of nursing roles pertaining to oral feeding assistance in the case of hemiplegic patients. They also pointed out the main reasons such as nurse shortage and lack of nursing assistants, unclear nursing roles because of hospital's management model, and the intervention of rehabilitation ward responsible for rehabilitation treatment. "With a high disability rate and early onset, it is possible to draw out the interest and attention of nurses by introducing the knowledge such as epidemiology on cerebrovascular diseases" (N2). From that point, items 1-3 were extracted. And "there is a need for making nurses understand how to assess firstly, how to prepare, how to perform, what is the observation point, at last how to evaluate" (N6). Thus, items 4-5 concerning the process of oral feeding were extracted. In addition, "in the representative cases such as hemiplegic patients, safety risks such as aspiration occur, so not only guidance to families, but also clarifying what kind of assistance should be done and what is the aid method in detail is necessary" (T4). Therefore, item 6 corresponding to the status of nursing that families provide most of the basic nursing care in China was extracted.

***Problem two: Insufficient consideration of the psychological aspects of the patients***

Most of the participants (86.7%) believed the validity of insufficient consideration of the psychological aspects of hemiplegic patients. They stated the disease-centered medical model, and the traditional Chinese culture may affect nurses' cognition and behaviors pertaining to psychological care. However, "the psychological state of a patient may affect appetite, etc. It is difficult to do psychological care, but it is necessary and important to assess psychological state" (T4). From that viewpoint, items 7-9 centered on considering preference and eating habits in psychological care were extracted.

***Problem three: Lack of related theoretical and practical education***

All the participants recognized the validity of lack of related theoretical and practical education, even in the case of hemiplegic patients. The participants mentioned the possible factors such as lack of emphasis on related education, inadequate contents in textbooks, limited implementation, and insufficient and unreasonable related training. "In order to provide oral feeding assistance to hemiplegic patients, we need to learn the significance of nursing, damaged nerves (dissection), pathophysiology, symptoms, etc." (T1). Therefore, items 10-12 regarding basic medical knowledge suitable for hemiplegic patients were extracted. And "it is important to understand the prevention of possible surprising situations during eating, and corresponding methods" (T2). Based on that point, items 13-16 pertaining to prevent accidents were

extracted. "In recent years, education on rehabilitation nursing and gerontological nursing tends to place emphasis on the use of self-help devices, and self-feeding in spoons, etc. can be often seen" (N5). Therefore, to consider self-reliance on the purpose of oral feeding assistance, items 17-18 were extracted. "It is also necessary to provide oral feeding assistance according to the recovery phase of hemiplegic patients. For example, how about during hospitalization, how about after discharge" (T2). From that viewpoint, as knowledge suitable for the condition of hemiplegic patients, items 19-20 were extracted. Additionally, "it is necessary to assess the swallowing function, etc. of newly hospitalized hemiplegic patients and to instruct rehabilitation exercises, etc. during hospitalization. Especially, the instructions on swallowing gymnastics, functional training, etc." (N8). Thus, as knowledge and skill concerning rehabilitation nursing for hemiplegic patients, items 21-22 were extracted.

***Problem four: Lack of nutritional support during hospitalization***

Nutritious meals can be ordered as needed, but the same results in additional costs were also pointed out. Thus, the nutritional needs of hospitalized patients are affected by the limitations of the hospital system; lack of nutritional support during hospitalization was considered as a new problem. "Dietary guidance is necessary. We need to pay attention to the types and properties of food suitable for hemiplegic patients, for example, what kind of food should be eaten or avoided. And it is necessary to assess the information such as eating habits, appetite, and medical condition of patients. Particularly, how to promote the patient's appetite is important" (N9). From that point, as the knowledge to consider the individuality concerning the purpose of oral feeding assistance, item 23 was extracted. Also, as the knowledge and skills concerning nutritional guidance suitable for the condition of hemiplegic patients, items 24 and 25 were extracted.

**DISCUSSION**

The findings of this study indicate that the quality and safety of oral feeding assistance for hospitalized hemiplegic patients are a big nursing issue in China, highlighting the main cause of nurse shortage, insufficient nursing education, and the restrictions in the hospital system.

According to the participants, due to the shortage of nurses and nursing assistants, nurses tend to prioritize the work related to treatment when they encounter high workload. Consequently, they seldom have any time left for life care. Since the national economic reform in 1978 and the subsequent health system reforms owing to a market economy, the state subsidy has been cut dramatically from 30% to less than 7% of the total hospital expenditure.<sup>17,18</sup> As a result, Chinese hospitals have been gradually reducing the number of formally

employed nurses with a lifetime security. Instead, to cut costs, they have been increasing the employment of contract-based nurses who have less job security and fewer employment benefits.<sup>19</sup> This employment transition has led to potential inequities within the Chinese healthcare system as well as to low job satisfaction and the high turnover rate among nurses. In 2015, the bed-to-nurse ratio in tertiary hospitals was 1:0.60 and the physician-to-nurse ratio was 1:1.07, far lower than the average in developed countries.<sup>20</sup> Nevertheless, the problems related to the nursing workforce were not considered relevant and important in the current stage of the new healthcare reform.<sup>21</sup> Additionally, accompanying persons are permitted to stay with patients throughout the night when necessary in Chinese hospitals. Families who understand the excessive workload of nurses increasingly worry about the patient's in-hospital life and actively assist with bedside care. Indeed, bedside nursing care is traditionally considered to be the responsibility of families. Nurses mainly work under doctors' instructions, and they focus on completing routine tasks and medical treatments; families or family-paid caregivers are the primary providers of bedside nursing care, with oral feeding assistance being the largest component of such care.<sup>14,15</sup> The rehabilitation ward is mostly concerned with the work related to rehabilitation, hemiplegic patients with a low function of feeding and swallowing are usually recommended to use tube feeding other than oral feeding to reduce the risk of aspiration. In this way, the nursing roles related to oral feeding assistance for hospitalized hemiplegic patients are dispersed, nurses' motivation for oral feeding assistance may be accordingly affected. Evidently, unclear nursing roles related to oral feeding assistance was pointed out as one of the main barriers to the effective provision of oral feeding assistance by nurses in the present study, Chinese nurses have a heavy workload without clear role boundaries as revealed in a qualitative study.<sup>22</sup> Hence, considering the nursing status in China, it was suggested that related nursing intervention that helps nurses understand the importance of nursing roles related to oral feeding assistance, and introduces ways to guide families or caregivers about oral feeding assistance is necessary.

Our findings showed that traditional Chinese culture was pointed out to be one of the important factors that affects nurses' consideration of psychological aspects of patient care. In the Chinese culture, patients may not express their complaints regarding nursing care because dissatisfactions are not articulated openly.<sup>23</sup> However, in China, especially since the country is transitioning from a planned to a market economy, there has been increasing emphasis on providing high-quality nursing care. In addition, according to the "Quality Care Service Demonstration Project" initiated in 2010, a patient-centered philosophy is advocated with the purpose of satisfying patients, the society, and the government, which has led to the integration of humanistic caring into daily nursing work.<sup>24</sup> In the same year, "Basic Care Service for Hospitalized Patients" clarified that the scope

of nursing jobs should cover basic nursing care, including oral feeding assistance, with the inclusion of detailed assistance items on daily life care.<sup>25</sup> This indicates that basic nursing care that considers the psychological aspects of patients is now assigned an increasingly important status. Furthermore, the importance of nurses' understanding of eating and drinking from a physical, social, and psychological perspective to ensure that oral feeding is considered a priority in hospitals has been acknowledged.<sup>26</sup> Although nurses and patients report different views on the quality nursing care, studies have reported that improvements are needed regarding support for the patient's psychological needs.<sup>27</sup> With increased support from the Chinese government and growing needs for quality nursing care, the nursing support that contributes to the improvement of nursing cognition on and the quality of psychological care is necessary.

Insufficient nursing education about oral feeding assistance and the deficiency of hospital-based training were revealed in the present study. Until now, oral feeding assistance is not fully emphasized upon and taught in the educational setting as independent learning contents in China.<sup>12</sup> No study has reported the implementation of practical education, such as school exercises and clinical practice on oral feeding assistance in nursing schools. In developed countries like Japan, school education in oral feeding assistance is fully integrated into lectures, in-class exercises, and clinical practice as an important life support role of nurses. The possible reason for this difference is that American-style nursing education started late in China, American nursing books translated into Chinese were widely used in the new baccalaureate and master's programs until the late 1990s.<sup>28</sup> However, in 2011, China's Ministry of Education formally announced the updating of nursing to a first-class discipline, which provides an impetus for the future development of nursing education.<sup>29</sup> With the increase of the elderly and disabled population, education for assisting patients with difficulties in self-feeding is gaining increasing attention. In the present study, the necessary knowledge based on the degree of hemiplegia and recovery stage, and to focus on basic knowledge and rehabilitation knowledge while taking the self-reliance and safety of the patient into attention was considered important. The Chinese Nursing Development Plan for 2016–2020 advocates the patient-centered medical model and greatly emphasizes the quality nursing care and the development of rehabilitation nursing and clinical nurse specialists.<sup>20</sup> With a shift in focus from treatment of disease to prevention and rehabilitation, there is an increase in expectations of professional competency to improve the quality and safety of the oral feeding assistance provided to hospitalized hemiplegic patients through education.<sup>30</sup>

As stated by the present participants, nutritional intake is associated with the economic situation rather than based on the disease state, resulting in differences in nutritional support. This would significantly affect patients'



nutritional intake, which in turn would affect their recovery. As identified in a report, nurses have the responsibility to obtain the knowledge and skills for creating an environment conducive to eating and drinking.<sup>31</sup> From this viewpoint, although it is difficult to improve the nonstandard status of nutritious meals because of the restrictions in the hospital system, dietary nutrition guidance would be helpful for nutritional improvement. In developed countries, nutrition support team plays an important role in in-patients' nutritional care since the mid-1970s with a nurse as one of the core members, which would refer to reduction of complications and cost saving in hospitals.<sup>32</sup> In China, rekindling the role of nurses in patients' oral nutrition and multidisciplinary cooperation by nutrition support team would be expected in near future.

## CONCLUSION

This study confirmed the nursing problems in providing oral feeding assistance to hemiplegic patients and revealed the main reasons such as inadequate related education, restrictions in hospital management model, and socio-cultural barriers. The qualitative descriptions of participants in the present study provided an image of nursing competency of nurses for improving the quality and safety of oral feeding assistance for hemiplegic patients. This nursing competency includes 25 items consisted of necessary nursing roles, basic knowledge on hemiplegia, rehabilitation nursing knowledge, the consideration of safety, comfort and self-reliance, and the guidance to family members.

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