



Contents lists available at ScienceDirect

## Teaching and Learning in Nursing

journal homepage: [www.journals.elsevier.com/teaching-and-learning-in-nursing](http://www.journals.elsevier.com/teaching-and-learning-in-nursing)

## Experiences of nursing students in caring for older adults with mechanical ventilation: A descriptive phenomenological study

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## ARTICLE INFO

*Article History:*  
Accepted 6 May 2022

*Keywords:*  
Caring  
Mechanical ventilation  
Nursing students  
Older adults

## ABSTRACT

*Introduction:* Providing care for older adults who undergo mechanical ventilation (MV) is an essential practice for nursing students to gain more experience. This study was developed and conducted in order to describe the experiences of nursing students in caring for older adults with MV.

*Method:* A descriptive phenomenological method was employed. Eighteen fourth-year nursing students were recruited through purposive sampling. Face-to-face semistructured interviews were conducted. Data were analyzed using Giorgi's method.

*Findings:* Five themes were identified: delicate and difficult care, emotional feelings during the care, learning to assist older adults with MV, improved abilities, and learning support needs.

*Discussion:* Nursing students attempted to learn and improve their practical skills. They experienced emotional problems and needed to be supported by nursing instructors. This may be because of the complicated health concerns of older adults and the fact it was the students' first experience with such patients. Therefore, preparedness to promote nursing students' learning is recommended.

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## Introduction

Older adults with mechanical ventilation (MV) are critically ill patients with severe illnesses. Critical illness is associated with age-related physiological changes (Guidet et al., 2018) and severe comorbidities (e.g., diabetes mellitus, hypertension, chronic obstructive pulmonary disease, heart disease, and chronic renal failure) (Martin-Loeches et al., 2019; Orsini et al., 2015). These health conditions often cause acute respiratory failure, necessitating the use of MV among older adults (Guidet et al., 2018; Le Borgne et al., 2018). Currently, the outcome of the coronavirus disease (COVID-19) infection is also associated with the use of MV in older adults (Guillon et al., 2021). Of all hospitalized patients with MV, 67.8% are older adults over 60 years of age (Aggarwal et al., 2017). They have a higher risk of complications and mortality during treatment compared to younger patients (Santa Cruz et al., 2019). Additionally, the care for older adults with MV is complicated and recovery from their health conditions delayed compared to those who are younger because of complex diseases, malnutrition, delirium, the side effects of medicines, as well as cognitive impairment that can lead to difficulties with communication between older adults and the nursing team (Guidet et al., 2018). Therefore, those older adults are cared for by the nursing team that is responsible for the management of diseases, patient safety, palliative

care, and educational support to older adults and their family caregivers (Brummel & Ferrante, 2018)

Within the nursing team are nursing students who are educated in caring for older adults in hospitals. They are assigned to provide care for older adults with MV and practice how to do so (Williams & Palmer, 2014). To achieve the goal of learning outcomes and have competencies in caring for older adults, nursing students must face challenges while spending time in clinical settings. They have difficulties with limited theoretical and procedural knowledge in working with older adults (Abudu-Birresborn et al., 2019). They are afraid and anxious about caring for critically ill elderly patients (Tastan et al., 2015). However, they learn to adapt to shifting situations and to manage stress during clinical practice (Hågg-Martinell et al., 2020). Moreover, they also need encouragement and support in the form of an individual who can be physically present and connect emotionally to them in improving confidence, motivation, and well-being (Subke et al., 2020).

The Faculty of Nursing, Burapha University, Thailand, plays a role in both the theoretical and practical aspects of teaching nursing students in clinical settings; in particular, in hospitals in the care of older adults in the course of gerontological nursing, and with the care of critically ill patients in the course of adult nursing. In the context of the faculty of nursing, nursing students are educated in the hospital in the care of older adults with MV, including those who are critically ill in medical-surgical wards. Nursing students gain knowledge and experience while practicing in the clinical setting. Moreover, they

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learn various skills in managing health conditions in the real situation including health assessments, pathophysiological changes, feeding, tracheostomy care, and MV (Williams & Palmer, 2014).

In summary, older adults with MV have more complications and delayed recovery from their conditions compared to younger patients, which relates to the fears of nursing students in working with diverse, critically ill, older adults (Grossman, 2013). Previous studies were also examined for descriptions of experiences of nursing students during the care for patients in critical care units (Carey et al., 2018; Tastan et al., 2015; Williams & Palmer, 2014), and caring for nursing students within their clinical learning environment (Subke et al., 2020). However, there is still insufficient knowledge regarding nursing students' experiences in caring for older adults (aged 60 and over) with MV in medical-surgical wards in the Thai context. Therefore, this study is conducted to describe the experiences of nursing students in such environments. The basic information gathered from this study can be used to develop a curriculum, learning management system, and nursing students' competencies in gerontological nursing.

## Methods

### Study Design

The purpose of this study was to describe the experiences of nursing students who provided care for older adults with MV in medical-surgical wards. A descriptive phenomenological approach was employed. Before conducting the research, permission to carry out the study was approved by the Research Ethics Committee (IRB1-048/2564) on June 20, 2021. All participants were informed that participation in the study was voluntary, and they could withdraw from the study at any time. Participants who agreed to take part in the study were asked to provide written consent before interviewing via face-to-face semi-structured interviews together with audio-recording.

### Participants

Participants were nursing students who were involved in the care of older adults with MV. They provided care by assisting with daily activities (e.g., bed bath, dressing, feeding), giving medications, tube suctioning, and observations of symptoms, all under supervision from nurses and nursing instructors. Eighteen participants were selected through purposive sampling between June and August 2021. Inclusion criteria of participants were: (1) fourth-year nursing students in practice to provide care for older adults (aged 60 or over) with MV for at least 3 days; (2) over 18 years of age; (3) able to communicate in the Thai language; (4) willing to participate in the study. Nursing students who had either cared for young patients or for older adults with MV for only 1 to 2 days were excluded. It was a condition of selection that the student be willing to participate in the study and there were no subsequent withdrawals.

### Data Collection

After the participants had given their consent to cooperate in this study, they were interviewed at convenient places such as the researcher's office in the faculty of nursing. The demographic data form was used to ask: gender, age, ward, and the length of time providing care for older adults with MV. Interview data were obtained using an audio-recorder and a face-to-face, semi-structured interview guide that was developed from a literature review. The interview guide was developed by the research team (two researchers, WT and PJ) and recommended by two experts with knowledge and experience in doing qualitative research in the field of critical care.

Additionally, the interview guide was pilot tested with two participants who had experience in caring for older adults with MV. These interview questions were as follows:

- 1) What kinds of experiences do you have in providing care for an older adult with MV?
- 2) How do you feel being involved in the care of the older adult with MV?
- 3) How did your life change as a result of being a healthcare provider for an older adult with MV?
- 4) What kind of support do you need and who provides support to you?

The interview took 30 to 60 minutes and was audio-recorded along with taking the field notes after interviews. The recruitment of participants continued until data saturation, which meant that 18 nursing students were interviewed and data from participants had redundancy.

### Data Analysis

Each transcript was transcribed verbatim. Giorgi's method was used for data analysis (Giorgi, 2017) as follows:

- 1) Multiple readings of all transcriptions and notes in Thai to obtain a sense of the whole description.
- 2) Discrimination of meaning units and focusing on the phenomena that were examined. The discrimination of meaning units emerged from rereading the transcriptions and notes and gaining awareness of the meanings attributed to the situations by participants.
- 3) Transformation of meaning units into psychological language or scientific language. For example, if the language of nursing students was expressed in colloquialisms, the researcher would change it into medical language.
- 4) Synthesis of the transformed meaning units into a conceptual structure of the meanings participants attached to caring. In the other words, transformed meaning units were created to be 45 initial codes, which were subsequently reviewed, revised, and combined to organize the essential themes of this study.

### Trustworthiness of the Findings

The research team had experience in performing qualitative research, as it is important in establishing the credibility of the findings (Polit & Beck, 2017). Data were collected from nursing students who had direct experience in caring for older adults with MV. To enhance dependability, Thai transcripts were originally used for data analysis to reduce any loss of meaning through translation. Meanwhile, data were translated from Thai to English by a native Thai translator and the translation was confirmed by the research team for accuracy before publishing. Data from the experiences of nursing students were presented and discussed in the research team to reach a consensus on the themes to enhance the confirmability and trustworthiness of the process. In order to ensure the transferability of the study findings to others, the description of the research process has been written clearly (Holloway & Galvin, 2017). Additionally, the consolidated criteria for reporting qualitative studies (COREQ) were used (Tong et al., 2007).

### Findings

The 18 nursing students were female and their average age was 22.2 (range from 21 to 25). They were trained to provide care for

**Table 1**  
Characteristics of participants (N = 18).

Demographic data	Frequency	Percentage
<b>Age</b>	Ranged from 21 to 25 years (Mean = 22.3; SD = 0.82)	
<b>Sex</b>		
Female	18	100
<b>Wards</b>		
Medical ward	11	61.11
Surgical ward	7	38.89
<b>Length of time providing care for the older adults with MV</b>	Ranged from 3 to 10 days (Mean = 5.67; SD = 2.88)	

**Table 2**  
Experiences of nursing students in caring for older adults with MV.

Themes	Sub-theme
Delicate and difficult care	<ul style="list-style-type: none"> <li>• Delicate care because of the more complicated nature of older adults' illnesses</li> <li>• Difficult care because of the use of MV and the unconsciousness of older adults</li> </ul>
Emotional feelings during the care	<ul style="list-style-type: none"> <li>• Worry</li> <li>• Fear</li> <li>• Lack of confidence</li> </ul>
Learning to assist older adults with MV	<ul style="list-style-type: none"> <li>• Learning from textbooks</li> <li>• Learning from the internet</li> <li>• Learning from the nursing team</li> <li>• Learning from friends</li> </ul>
Improved abilities	<ul style="list-style-type: none"> <li>• Practical skills</li> <li>• Coordination</li> <li>• Theories application</li> </ul>
Learning support needs	<ul style="list-style-type: none"> <li>• A review of existing knowledge before going to the hospital</li> <li>• Face-to-face teaching and appreciation from nursing instructors during the care for older adults with MV</li> </ul>

older adults with MV in the medical ward (61.11%) and surgical ward (38.89%). The average length of providing care was 5.67 days (range from 3 to 10 days). The characteristics of participants are shown in Table 1. Experiences of nursing students in caring for older adults with MV is shown in Table 2 and the findings were described as follows.

#### *Delicate and Difficult Care*

With a role in caring for older adults, nursing students described that the care of older adults with MV was delicate and difficult. The more complicated nature of older patients' illnesses required a different, more delicate or sensitive approach than that required by younger adults. Participants provided the following examples:

"I think that the care for older adults is delicate. There are two patients, an adult patient and an elderly patient, who lie down on the bed and are receiving mechanical ventilation. I notice that older adults often resist using mechanical ventilation compared to [younger] adult patients. Then, they have more complications than the [younger] adult."

(P1)

"The care for older adults is more delicate than younger because their skin is wrinkled and thin. When we change the equipment, such as transpore (plaster) to put on skin, something like this, we have to be careful."

(P16)

The care for older adults was made more difficult because of the use of MV and the necessary unconsciousness of the patient. The frailty of an older adult affected the turning of the body, and hearing loss could affect communication, as described by these participants:

"Difficulty is about the care for older adults with mechanical ventilation and suction. Sometimes, the patient will tell me some things by posturing. We think that patient has some secretion in the throat. We do not know and the patient can't tell us due to hearing loss or the patient is unconscious."

(P4)

"I think that the care for older adults with MV is difficult. The difficulty is about turning the body due to frailty. I have to do [this] carefully and I am afraid that moving the patient causes the tube in the patient's mouth to be dislodged and cause the alarm to sound."

(P11)

#### *Emotional Feelings during the Care*

The nursing students described the emotions they felt during the care for older adults with MV. They described various feelings while performing these duties, consisting of worry, fear, and lack of confidence. Their knowledge about systems of MV and the care for older adults with intubation made them worried because they were inexperienced in such care. Participants provided the following descriptions:

"I feel worried because I do not have previous experience. I studied only theory, but I never did any practice in providing care for an elderly patient with mechanical ventilation. I do not know how to care because it is delicate for a nursing student who does not have experience in taking care of them."

(P1)

"My worry is knowledge because I have not been taught mechanical ventilation for deep understanding. It is superficial studying. I feel that the studied lesson is not related directly to my patient."

(P10)

At the beginning, the nursing students were afraid that the care provided by them to an older adult with MV would be refused or not accepted by older adults, and that their lack of experience would lead to the deteriorating health of those older adults. Two participants provided the following examples:

"I am afraid that elderly patient's symptoms will worsen as I do not know how to take care of my patient such as how to care for endotracheal tube."

(P1)

"In the first period, I am afraid that the patient will deny my provision of care to him. I [am anxious] about this [rather than] about providing care for elderly patients [itself]."

(P14)

Furthermore, nursing students described that they lacked the confidence in caring for older adults with intubation and MV due to inexperience and their patients being older and having more

complications. This made the situation different to that of other general patients for whom nursing students could identify their diseases and provide basic care:

“I am not confident in providing care for elderly patients with intubation. If they are general patients, I can identify his/her disease and how to provide basic care. When they were intubated and underwent mechanical ventilation, and then they have two or three complications occurring as well.”

(P1)

“I have no experience in caring for a patient with mechanical ventilation like this patient. It made me lack confidence.”

(P8)

#### *Learning to Assist Older Adults with MV*

Apart from the teaching of nursing instructors, nursing students prepared to learn how to assist older adults with MV through textbooks, the internet, the nursing team, and friends. Nursing students regularly borrowed textbooks from the library to study and learn how to care for older adults, focusing on nursing care for patients with MV. Participants described it thus:

“I borrowed textbooks from the library about nursing care for patients with mechanical ventilation. I tried to study and learn from textbooks to gain knowledge in assisting my patient.”

(P7)

“When we are assigned to care for patients with MV, we have to read books like a textbook that was borrowed from the library to read and study how to care.”

(P10)

Using the internet for learning, nursing students searched websites of reliable, authoritative institutes for information about how to set the mode of the MV system, such as Continuous Positive Airway Pressure (CPAP) and Positive End Expiratory Pressure (PEEP), and how to manage the alarms from MV. Nursing students found using Google search helpful in seeking information about the care of older patients with MV from research articles that were published within the last 5 years. As well, nursing students preferred YouTube for searching various techniques such as setting MV systems and how to tie the rope with an endotracheal tube. Video helped them visualize and gain knowledge to answer the nursing instructor's questions and assist their older patients. Participants gave the following examples:

“At first, I did not know what is PEEP and CPAP. While studying in the class, studying about mechanical ventilation is not in-depth. I used the internet and websites to search the journal, which will tell how much the volume.”

(P1)

“I searched the research articles from Google. I feel that my teacher accepts research articles more than others. I will learn how to use the mode of mechanical ventilation and why my patient has to use this mode. Then, I will search for information from reliable institutes.”

(P7)

“I used the internet to search YouTube. I feel that I can visualize and recall what type of mechanical ventilation is [needed].”

(P12)

“I search data from Google. I find information about patients with mechanical ventilation as I have not [previously] focussed on older adults with mechanical ventilation. I would like to know how to care for the patient with mechanical ventilation. I have to

look at the year because my teacher needs articles that are published within five years.”

(P13)

Apart from the nursing instructors, the nursing team and physicians in medical-surgical wards play an important role in teaching, explaining to, and answering questions from, nursing students. Practical skills, intubation, the care for older adults, as well as the management of technological devices and alarms, were the main points that nursing students learned from the nursing team. Participants gave the following descriptions:

“I love to talk with doctors to know why patients were inserted with endotracheal tube. Sometimes, I read a book, but I do not understand. Although I can link the theories to explain the patient, I do not understand the real reasons. I have to ask doctors.”

(P9)

“I remember that mechanical ventilation has an alarm but I do not know when it shows apnea. A nurse helped me set an alarm. At the same time, she teaches and explains how to turn the patient so that the tubing does not become dislodged or kinked. Then, there is no alarm.”

(P11)

Another important learning came for some nursing students who said that they would be supported or assisted by friends in such areas as essential care and cautious practice as well as explaining how theories were to be applied in caring for older adults with intubation. Receiving such support could make them more confident in practice. Participants offered some examples of this:

“I feel unconfident about theories or practice as [to whether] it is correct or incorrect. If we provide care for an older adult together with friends, they will support me. If I do not know [something], friends can help in answering what my friend knows.”

(P4)

“My friend has experience of caring for patients with intubation before. Our friends will remind us or tell us what we should do carefully. The tube may slip. My friends will stand and be beside me. I feel that I am confident because of my friends.”

(P11)

#### *Improved Abilities*

Nursing students played an essential role in assistance to older patients. They received education in the provision of care for older adults with MV, which improved their abilities (e.g., practical skills in caring for older adults, coordination, and theories application). The new practical skills acquired included the specific ones associated with the management of mechanical and other technological devices in patients in clinical situations, as well as the useability of MV and closed suction systems that they had not performed in the laboratory room. Participant descriptions included:

“My skill is increasing because [when] I meet a new case, I can practice in caring for the patient with mechanical ventilation. I have never seen this case before. I can provide care to patients with many devices and communicate with patients and their relatives. It is an experimental practice to improve my confidence.”

(P12)

“I have [acquired] skill in suctioning the phlegm in the tube for patients with mechanical ventilation, which is the closed suction system. I have never done it before in laboratory room.”

(P18)

Nursing students played a role in coordinating with nurses and physicians to inform them of patients' symptoms and abnormalities. Moreover, they also coordinated with physicians to provide more information for the relatives of older adults when their patients' multiple pathologies were beyond their expertise to explain. The following responses give examples of this:

"If relatives need to talk or need information, I will inform nurses or coordinate with doctors to give information for relatives. I cannot explain to them myself because older adults have multiple pathologies [and it is too complex]."

(P10)

"If I was assigned to take care of the patient, I have to observe abnormality or changes in the respiratory system, vital signs, oxygen, expression, and dyspnea. If I see changes, I will coordinate with nurses or doctors to assist and manage."

(P14)

The application of theory learned in the classroom to nursing practice was one of the nursing students' abilities. For example, nursing students used theories about aging – such as the wear and tear theory or the immunological theory – in explaining the clinical appearance of older adults with MV. The immunological theory can be used to explain infections in the elderly and the wear and tear theory to explain an accumulation of damage to organs over time as a possible cause of aging.

"I try to link that the patient is elderly. It is the wear and tear of an older person's body. I cannot manage their complex problems, but [I have learned] to link theories that explain that aging results from an accumulation of damage to organs in the body of older adults."

(P9)

"I use theory in nursing care. I used the wear and tear theory to compare the clinical appearance in the patient that related to theory directly or not. If patients [become] infected from intubation or mechanical ventilation, I use the immunological theory to explain this infection in the elderly."

(P11)

### Learning Support Needs

Learning support was an essential need of nursing students that helped them achieve the purpose of nursing practice in caring for older adults with MV. Their needs were divided into those both before and during practicing patient care. Before practicing in the clinical setting, a review of existing knowledge had to be conducted using instructional media, such as manuals, case studies, videos, and simulation-based learning. Therefore, nursing instructors should help with their preparedness for clinical practice.

"Before going to the hospital, I need to review knowledge about mechanical ventilation and how to assess an older patient. The teacher should help to review my knowledge for preparedness. It may be an interesting manual."

(P6)

"[In the] simulation laboratory, I am not [taught] the settings of mechanical ventilation. Teaching focused on how to help doctors in inserting an endotracheal tube rather than in setting the mode of mechanical ventilation. I need [to learn this]."

(P5)

"I can not remember what I read. I have to remember by listening and I have to see a picture. I think that if teachers have videos

about how to do the procedure and how to use mechanical ventilation, it will help me remember or review knowledge a second time."

(P15)

"If there are many case studies about older adults with mechanical ventilation, [I] like studying in a laboratory room using case studies. It may help in remembering better than studying theory in the classroom. I can imagine."

(P2)

During the care for older adults with MV, nursing students needed personal, face-to-face teaching from nursing instructors. Having a nursing instructor made them confident in learning. In addition, they also needed appreciation from nursing instructors when they had done well to develop a sense of pride in their practice.

"I need to have a teacher to be beside [me] while doing procedures, it made me confident. The teacher does not blame [me for mistakes] and it does not affect the older patient."

(P2)

"I need appreciation if I have done well. If the teacher tells [you] that what you have done well and correct. I feel proud to practice and read a book continuously."

(P1)

### Discussion

Experiences of caring for older adults with MV were described by 18 fourth-year nursing students. The five themes that emerged from the study were delicate and difficult care, emotional feelings during the care, learning to assist older adults with MV, improved abilities, and learning support needs. In this study, nursing students described that the care for older adults with MV was difficult and delicate, both of which were accentuated when mechanical ventilation was required. The complexities and vulnerabilities of older adults with a critical illness made their care particularly challenging. Therefore, the ability to manage the complex caring required for older adults did not come automatically (Brummel & Ferrante, 2018). At the same time, caring for critically ill older patients has to be thorough because age is a risk factor in recovery and older adults have greater difficulty achieving liberation from MV (Vargas et al., 2017). Likewise, Tastan et al. (2015) studied the experiences of nursing students in the intensive care unit and their findings indicated that nursing students had a difficult time in managing the priorities of patient care.

Additionally, the current study found that nursing students described various emotions while caring for older adults with MV: worry, fear, and lack of confidence. These feelings may often occur among nursing students due to the diverse issues that arise while working with critically ill older adults, involving decision making for older adults' lives, communication with older adults and their families, and older adults' care (Grossman, 2013). According to previous studies, nursing students were afraid and worried about how to talk to and handle a patient (Abraham et al., 2018). Likewise, a study by Tastan et al. (2015) explained the experiences of nursing students in the intensive care unit. The findings showed that nursing students feared doing something wrong and causing harm. Furthermore, the fears expressed by nursing students while caring for critically ill older adults derived from anxiety about caring, lack of knowledge, and difficulty of dealing with older adults (Grossman, 2013). According to one study, nursing students had low self-confidence at the beginning of critical care training, which related to their clinical inexperience (Joolae et al., 2015).

One interesting finding is nursing students learned to assist their older patients by seeking information to gain more knowledge in

order to provide the best care for older adults with MV. Apart from teaching by nursing instructors, they learned and sought information from textbooks, the internet, the nursing team, and friends. These sources of learning were supportive learning environments and significant factors in improving nursing students' learning in clinical education (Baraz et al., 2015). Stoffels et al. (2019) studied how nursing students learn in the hospital by sharing work experiences with ward staff, learning from friends by sharing experiences and working together, and seeking information through textbooks and journals. In addition, Hallila et al. (2014) indicated that nursing students used computer programs and the internet for various purposes; for example, searching nursing journals and relevant nursing information for their studies. To assure accuracy of information from the internet or websites, nursing instructors should suggest how to critically evaluate websites for finding reliable and authoritative information online.

The most obvious finding that emerged from the analysis is that nursing students played an essential role in caring for older adults with MV. Improved abilities during such care focused on practical skills, coordination, and practical application of theories. This finding may be explained by the fact that this is a learning outcome in gerontological nursing, which is the result of students' learning processes and their ability in the subject for the achievement of learning goals (Erikson & Erikson, 2019). Prior studies have noted the ability of nursing students in the intensive care unit setting to perform a variety of practical skills and to communicate with the nursing team (Swinny & Brady, 2010). However, practical skills did not only include technical skills but also the ability to establish a relationship with patients and for the student to manage their working day (Gregersen et al., 2021). Regarding the application of theories, nursing students used the wear and tear theory to explain the characteristics of older people. This theory was introduced by the German biologist Dr. August Weismann in 1882 involving human bodies wearing out due to use (Mitteldorf, 2010). The transfer of theoretical knowledge into clinical practice was explained by Günay and Kılınç (2018) as essential to clinical practice and thus an important ability for nursing students. However, this ability to apply theories in practical situations was weak.

Another important finding was that nursing students needed learning support. Before practicing in the clinical setting, they needed to review their existing knowledge about the use of MV as well as other relevant knowledge in the provision of care for older adults using instructional media (e.g., manuals, the case study, videos, and simulation-based learning). This finding is likely to be related to curriculum needs (Tastan et al., 2015). Nursing instructors provide support to meet the needs of nursing students within clinical practice (Price et al., 2011). This finding seems to be consistent with other research which found a need for preparedness for clinical practice because nursing students had no prior experience being at a hospital and their knowledge was insufficient (Joolae et al., 2015). Gregersen et al. (2021) explained both theory and simulation-based learning was important for learning to perform practical skills. Therefore, nursing students should be theoretically and practically prepared in the laboratory room (Jamshidi et al., 2016).

One interesting finding is the need for nursing students to have nursing instructors beside them while performing caring activities and they also needed appreciation from their nursing instructors to encourage them. It may be that emotional support during clinical practice was necessary for nursing students and it was the nursing instructors' role to provide this support in the clinical learning environment (Subke et al., 2020). Carey et al. (2018) also described the need for nursing instructors to support nursing student learning. Positive support from nursing instructors could reduce anxiety and improve confidence for nursing students and, therefore, should be conducted by nursing instructors or relevant persons in teaching.

## Conclusion

These findings help us to understand the perspective of nursing students toward older patient care as they found such care was difficult. They felt worried, afraid, and unconfident regarding the care for older adults with MV. Although they experienced the psychological impact of caring and learning, practical skills were also improved with the support of nursing instructors, the nursing team, and close colleagues. To improve knowledge and practical skills, nursing students regularly learned independently through studying from textbooks and searching information from the internet. However, they also needed to be supported by nursing instructors in producing instructional media about mechanical ventilation (e.g., manuals, the case study, and videos) and simulation-based learning to prepare them before going to the hospital for clinical practice.

## Strengths and Limitations of the Study

The findings can provide a contextualized understanding of participant experiences, but the generalization of the findings is not possible. The findings of this study can be used to develop other research methods concerning the care for older adults who undergo mechanical ventilation. Researcher bias may occur while interpreting data in a way that supports the formulated research questions; it is possible that biased reporting may occur because this phenomenological study was conducted by two researchers to analyse data and define the themes of reporting findings. Therefore, in further phenomenological research, other phenomenologists should be invited to be members of the research team to assist in checking data and reporting findings.

## Relevance to Clinical Practice

Instructional media in the classroom was insufficient to utilize for reviewing knowledge regarding MV. Instructional videos and simulation-based learning will be important instruments to help in learning and reviewing knowledge before practicing in the hospital. Additionally, nursing students were gaining knowledge outside the classroom via the internet, thus instructors may develop the lesson to teach the role of the internet in healthcare informatics and internet safety, including the critical evaluation of reliability and accuracy of websites. Therefore, further work is required to establish a curriculum or develop a program to support the learning environment for nursing students. As well, emotional support for nursing students who were worried and unconfident in caring for older adults with MV is essential and this is an important issue for future research. The guidelines for a development program for emotional support in nursing students should be conducted, and faculty of nursing should establish the student consultation center to promote mental health.

## Funding

This study was financially supported by Faculty of Nursing, Burapha University, Thailand (grant number: 01/2564).

## Conflict of Interest Statement

The authors have no conflicts of interest to disclose.

## Acknowledgments

We greatly appreciate the participants who were willing to participate in this study.

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