

# Communication in Patients with Ventilation Support: An Integrative Review

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## Abstract

Communication is a basic human need. Patients with ventilation support using an endotracheal tube cannot communicate orally. Such condition may lead to negative impacts related to ineffective communication. The purpose of this article was to review the literature concerning in patient situations with communication difficulties due to airway and ventilation problems. Integrative review was conducted on published literature in the years 2002 to 2016. Electronic databases included ProQuest Nursing & Allied Health Source, Elsevier/ Science Direct, CINAHL, and PubMed were used. The search strategies were based on PICO questions using keyword such as communication ability, ineffective communication, ventilation support, and mechanical ventilation. Relevant literatures were appraised following the recommendation of The Joanna Briggs Institute for Evidence-Based Nursing. One hundred and sixty-one articles were retrieved and there were 21 articles met the inclusion criteria. Impact of ineffective communication in patients with ventilation support included depression and anxiety; fear and anger; frustration; and loss of control. Factors related to ineffective communication were inability to lip-read; motor weakness; fear and avoidance of talking, and inability to write. Augmentative and alternative communication (AAC) strategy was mostly used to enhance effective communication. The results of this integrative review revealed gaps of knowledge about communication methods and strategies to enhance effective communication in patients with ventilation difficulties. Support focusing on the factors associated with ineffective communication, especially concerning emotional factors of fear and avoidance of conversation was identified. Implications for practice were identified and discussed.

**Keywords:** communication; ventilation support

## Introduction

Communication is a basic human need. It is a process in efforts to build mutual understanding. Tappen as cited in Riley<sup>1</sup> defines communication as an exchange of ideas, feeling, opinions, and advising that occurs between two or more persons who work together. Ventilation support is commonly used as life

support in patients with respiratory failure or after major surgery. Although ventilation support can serve as life-saving treatment, the consequence of inability to communicate is always a concern.<sup>2</sup> Conditions leading to ventilation problems are often the consequence of endotracheal tubes preventing the passage of air thru the vocal cords. Often exacerbated by the placement

of the tube and inflation of tube cuff, patients are unable to communicate orally.<sup>3</sup>

Ineffective communication may create stressful to the patients during the ventilation support, including the psycho-emotional distress that appertain the tendency of depression, anxiety, frustration, fear and anger, panic, sleep disorders, decreased self-esteem, and loss of control,<sup>4</sup> and also patients cannot convey what they needs or complaints to the nurses and medical staff.<sup>5</sup> Therefore, nurses should be more aware due to the need of effective communication in patients with ventilation support. Appropriate communication methods can reduce patients' distress during ventilation support.<sup>4</sup> To provide effective communication interventions, there is a need to review and synthesize the knowledge from existing evidences.

### **Purpose**

To review impacts of ineffective communication, factors related to ineffective communication, and strategies to enhance effective communication in patients using ventilation support.

### **Methods**

The integrative review was described as the methodological approach of reviews that provides knowledge and applicability of the result of significant studies to practice.<sup>6</sup> An integrative review was conducted through six steps including; (1) preparing the guiding

questions, (2) searching the literature, (3) data collection, (4) critical analysis of the studies included, (5) discussion of results, and (6) presentation of the integrative review.<sup>6</sup>

In this study, three guiding questions were created based on PICO format; patient population (P), intervention or issue of interest (I), comparison intervention or issue of interest (C), and outcome of interest (O) (see Table 1). Previous studies that published between 2002, 2016, were searched through the electronic databases of ProQuest Nursing & Allied Health Source, Elsevier/Science Direct, CINAHL, and PubMed. The searching strategy included all English articles and the keywords were used for searching the literature including communication, communication ability, ineffective communication, ventilation support, mechanical ventilation, and ventilation. All of these keywords were mixed in different combinations.

All clinical trials, randomized control trials, meta-analyses, and review articles that investigated about communication in patients with ventilation support were considered for inclusion criteria. Of the 166 articles retrieved, there were 21 relevant articles that met the inclusion criteria as presented in the Table 2. The relevant literatures were analyzed and appraised following the recommendation of The Joanna Briggs Institute for Evidence-Based Practice (EBP) in nursing and health care.<sup>7</sup>

**Table 1.** Clinical questions based on PICO format.

Question type	Definition	Format
Impact	To investigate impacts of ineffective communication in patients with ventilation support	P: Patients with ventilation support I: Impacts of ineffective communication C: - O: Preventing impacts of ineffective communication
Factor	To investigate factors related to ineffective communications in patients with ventilation support	P : Patients with ventilation support I : Factors C: - O: Factors related ineffective communication
Method or strategy	To determine the best methods or strategies in enhance effective communication in patients with ventilation support	P: Patients with ventilation support I: Appropriate communication methods C: Hospital setting O: Effective communication

**Table 2.** Summary of searching results from database

Database	Keywords	Numbers of research	Numbers of relevant research
CINAHL	Communication AND ventilation support	62	14
PubMed	Communication AND mechanical ventilation	36	2
Elsevier/Science Direct	Communication ability AND ventilation	40	2
ProQuest Nursing & Allied Health Source	Ineffective communication AND Ventilation support	28	3

## Results and Discussion

Twenty-one publications met the inclusion criteria of this study. According to the outline of the study, the 21 studies were categorized as follows: 11 studies (52.38%) described impacts of ineffective communication in patients with ventilation support, 9 studies (42.86%) discussed factors related ineffective communication in patients with ventilation support, and 6 studies (28.57%) explored methods or strategies to enhance effective communication in patients with ventilation support.

### Impacts of ineffective communication in patients with ventilation support

#### *Anxiety*

Ineffective communication can contribute to an exacerbation of negative emotions and acute

confusion among patients with ventilation support.<sup>5</sup>

In a study by Happ et al<sup>8</sup>, of 158 patients retrospectively interviewed about their experiences during ventilation support, 47% reported feeling of anxiety that mainly attribute to their inability to communicate during ventilation support. Furthermore, lack of communication ability caused of the difficulty of patients in expressing themselves, and also patients' struggle to communicate with the medical staff. This barrier was increased anxiety among patients with ventilation support.<sup>9</sup>

#### *Fear and Anger*

A correlational study by Khalaila<sup>3</sup> found higher psychological distress was correlated with higher feelings of fear and anger. Higher levels of fear were correlated with greater level of anger. Similarly, in a study by Carrol<sup>5</sup> also described fear and anger in patients with ventilation support as a

result of negative emotions. This is because they did not know why they were unable to communicate. A retrospective study of patients treated with mechanical ventilation by Happ et al<sup>10</sup> found that the length of stay of intubated mechanical ventilation was significantly associated with the feelings of anger and fear. They were also reported that the higher number of illness severity had the most anger about their inability to communicate verbally. Based on this evidence, it can be concluded that the feelings of fear and anger among mechanical ventilated patients were most significant impact in nonverbal patients who are at the risk of dying.<sup>10</sup>

### ***Frustration***

Previous study by Patak et al<sup>11</sup> reported 62% patients with intubated mechanical ventilation reported their high level of frustration due to not able to communicate effectively, and 24% described their extremely frustrating experience during their ventilation treatment. The reason of frustration was related to discomfort of communication difficulties associated with periods of increased awareness and alertness during weaning from the mechanical ventilation.<sup>3</sup>

Similarly, a qualitative study by Carrol<sup>5</sup> has described the basic of frustration in unvocal patients related to not being in control of patient's destiny. Unvocal patients usually report failed when their communication efforts useless. Failing occurs if the accumulation of negative emotions is not understood by family and healthcare providers. It has been related to negative emotions of frustration because the goal of conveying message did not met.<sup>5</sup>

### ***Loss of control***

A study by Carroll<sup>5</sup> found that unable to communicate effectively in patients with ventilation support often lead to misunderstanding because of communication process is not equal. This inequality of communication caused by nonverbally patient became not being understood. As the result, when

patients did not adequately understand, patients may report a loss of control over their situation. Loss of control in patients with ventilation support were characterized by having unmet need, feeling of dependency, and being dehumanized.<sup>5</sup> Similarly, Patak et al<sup>11</sup> also mentioned that patient's unable to communicate during ventilation support results feeling of loss of control. Patients may become loss of control when their needs are not met during mechanical ventilation treatment because of their inability to communicate verbally with their family members and also health care providers.<sup>11</sup>

### **Factors related ineffective communication in patients with ventilation support**

Nine studies were identified factors related to the ineffective communication in patients with ventilation support. All nine studies were conducted in intensive critical care that focused on the communication in patients with ventilation support. Based on these evidences, influencing factors related to the ineffective communication in patients with ventilation support can be categorized into patient aspect, caregiver aspect, and environmental aspect.

#### ***Patient aspect***

Several studies revealed that physical condition of the mechanically ventilated patients may influence their ability to communicate effectively. Two studies were described that decreasing on level of consciousness due to the administration of sedative was a significant factor related to effective communication in patients with ventilation support. Communication between ICU's nurses and the patients often occurs in a short interaction (mean duration around 2 minutes) due to the patients were sedated and drowsy.<sup>12-13</sup> Limited interaction time with the patient did not allow nurses to understand the need of the patients, and offer appropriate care based on their needs.<sup>14</sup>

Otuzoglu and Karahan<sup>9</sup> mentioned that several factors such as inability of the patient to move, motor weakness, and inability of the patient to write as physical factors which impairs communication in patients with ventilation support. Moreover, the ability of communication might be different on each patients, it may be related to the personal characteristics, education level, and also the cultural structure.<sup>9</sup> Whereas, Hemsley, et al<sup>15</sup> reported that ICU nurses were in difficulty to communicate with ventilated patients who had receptive and expressive language difficulties and the perception due to decreased levels of cognitive ability or more severe illnesses.

#### **Caregiver aspect**

Three studies highlighted the ability of the nurses or medical staffs in facilitating effective and appropriate communication methods in patients with ventilation support. Previous studies by Otuzoglu and Karahan<sup>9</sup> and Patak, et al<sup>11</sup> reported that skills of caregivers may influence the effectiveness of communication in patients with ventilation support. Caregiver skills and perceptions are very important considering that they have controlled the timing, topic, and method of communication in patients with ventilation support. In fact, there were many of nurses or medical staffs dismiss patients' communication effort due to they do not have enough ability to lip-read and could understand patient's word.<sup>16</sup> Moreover, nurses more focus on technological or physical care rather than facilitating an effective communication with the ventilated patients. This circumstance can be related to the heavy workload of the nurses.<sup>9</sup> However, training in team and interpersonal communication skills, which constitute a patient safety factor that is seldom addressed in hospital setting.<sup>16</sup> Nurses or medical staffs need to develop their skills with positive outcomes despite limited support and resources to make it obvious that staff skills are a significant factor related to

effective communication in patients with ventilation support.<sup>14</sup>

Furthermore, a review study by Hoom, et al<sup>17</sup> argued that healthcare professionals still have lack of skills in the usage of the suitable communication methods to enhance effective communication among ventilated patients. The author suggested that ICUs need to be equipped with different communication devices to improve ability of the ICU nurses to choose the most suitable communication method in enhancing effective communication in patients with ventilation support. Furthermore, communication strategies for the patients with ventilation support should be brief, minimally fatiguing, and immediately beneficial to both the patient and the caregivers.<sup>17</sup>

#### **Environmental aspect**

Merilainen et al.<sup>13</sup> claimed that the environment of intensive care unit was identified as a factor affecting nurse-patient communication. When the patients admitted to the ICU occurs they were exposed with several distractions such as connected with various devices, a noisy environment, unsettling alarms, uncomfortable lighting, and smells room. These situations may lead to decreasing on their ability to communicate effectively.<sup>4,12,18</sup> Moreover, Patak, et al<sup>11</sup> found that noisy environment of the ICU is a major factor that can influence ineffective communication in patients with ventilation support. Therefore, there is a need to manage ICU environment such as by managing the environment noises to develop effective communication in patients with ventilation support.<sup>11</sup>

#### **Strategies to enhance effective communication in patients with ventilation support**

Several strategies have been used to enhance communication in patients with ventilation support. Communication strategies can be identified with some methods including gesture and mimics, lip-reading, eye contact, and touching.<sup>9,12</sup> Another option

that may a great importance for the nurse and patient to be able to communicate each other is using pen and paper as communication methods.<sup>20</sup> However, most of the evidences showed augmentative and alternative communication (AAC) strategy is commonly used to enhance effective communication in patients with ventilation support.<sup>21</sup> The American Speech Language Hearing Association (ASHA) defines AAC as any method used as a mean of communication when oral speech cannot be achieved. This method of communication is used to help individuals express their wants and needs, as well as convey their feelings or express what they are thinking.<sup>21</sup>

The context of AAC strategies includes all form of communication that are used to express thoughts, needs, wants, and idea when an individual has a communication barrier that inhibits potential to meet patient's need of daily communication through natural communication.<sup>22</sup> These strategies were categorized as no technology (gesture, facial expression, and head nodes), low technology strategies (drawing, writing, point to partner-generate written

word choices, first letter spelling while mouthing, and point to alphabet board), and high technology system (direct-selection message such as word, picture, phrase; scan-spell; communication devices such as electrolarynx, supertalker, TechSpeak, E-Talk, etc).<sup>2,11,23</sup>

## Conclusion

Ineffective communication affects to patients' emotional distress. Many factors were associated to ineffective communication. Several strategies to improve effective communication were used successfully. Nevertheless, there are still inadequate studies to identify appropriate communication methods that fit to the factors related to ineffective communication.

## Recommendation

Further studies are needed to conduct focusing on specific factors that may be related to enhancing effective communication, particularly, focusing on patient's fear and avoidance of communication.

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