

A systematic review of the experiences of adult ventilator-dependent patients.

Reviewers

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Background

With advancement in medical technology, patients who are critically ill can be actively resuscitated and biophysically maintained by machines and drugs for a long period of time.^{1,2,3} As the result, there is a group of patients whose survival depends on the assistance of medical technology and health care professionals. Although the mortality of those patients is reduced, their levels of morbidity and daily functioning are not well understood, and as such their experiences as an individual living with medical machines remains unclear.

Studies exploring the perceptions of patients whose lives are maintained by mechanical ventilation, date back as early as the 1980s and they highlight the stressful nature of this type of healthcare.^{4,5} The stress to the patient occurs largely as a result of receiving intensive medical treatment in an environment controlled by hospital restrictions and medical and nursing personnel. Several studies from the 1990s focus on the prevalence, patient characteristics, intensive care environment and the measurable cost and care outcomes from the perspective of care-provider.⁶⁻¹¹ Concurrently, there are studies emphasizing the qualitative aspects of being mechanically ventilated.¹²⁻¹⁵ The experience has been described as being frightening and traumatic, as a result of the intrusive nature of technical procedures and equipment encountered by the patients.^{16,17} In addition, patients express the feeling of

fear of disorientation of time and place as the result of the unfamiliar medical personnel and noisy environment of an intensive care unit.^{9,15} Ventilator-dependent patients not only feel disoriented in time and space, they can also feel disconnection to their body which is linked to strange lines and medical machinery.¹⁷ These feelings are in addition to suffering with a prolonged illness.¹⁸

The feeling of unfamiliarity to the ventilator-assisted patients is profound, due to the nature of the intensive care environment and having routine activities being carried out for them by others, such as health care providers. As such, the ventilator-dependent patient relies heavily on the care of professionals, and as the result the quality of relationship with health care professionals becomes critical. Studies indicated that regardless of the diagnosis and the duration of endotracheal intubation, ventilator-dependent patients felt frustrated with the difficulty in communicating with others, including nursing staff with regards to their needs.^{19,20} Although the feeling of dependence on nurses for survival is perceived as frustrating and vulnerable, the presence of nurses is at the same supporting and reassuring.^{17,19}

More recently, research in this area has moved attention to the needs of the patient dependent on mechanical ventilation by attempting to understand and improve ways of communication between ventilator-dependent patients and health care professionals.¹⁹ Studies have addressed types of effective intervention used by the patients for coping, such as spiritual and religious beliefs¹⁶, use of communication boards¹⁹ and seeking information from staff who are helpful and sensitive to the patients needs.^{17,21}

The aim of the aforementioned studies is to improve the quality of life of individuals who depend on mechanical ventilation for survival.

Research describing the experiences of ventilator-dependent patients attempts to reveal patients' perceptions of being mechanically ventilated in a critical care setting. Consequently, improving communication for ventilator-dependent patients has become a recent research focus^{19,20} as difficulty in communication is one of the negative experiences for patients.

However, the effects of living with medical technology on the lives of ventilator-dependent patients and how it affects those patients, both personally and socially is not well understood. Similarly, the impact of nursing activities performed upon these patients by different levels of qualification of nursing personnel is unclear.^{17,21} It is not well understood how patients perceive nursing care tasks, such as suctioning or change of tracheostomy tube or handling of ventilator being carried out by different levels of professional background or educational training such as registered nurse or nursing aids. Research into the ethical and legal aspects of the legitimacy of nursing qualification in caring for patients who depend on respirator for survival is warranted. Given all of the above factors, it is timely that a systematic review is conducted to examine how ventilator-dependent patients experience their healthcare, in an effort to identify areas of their care can be improved.

Objective

This systematic review aims to conduct a meta-synthesis of available qualitative studies exploring the experiences of patients with long-term ventilation assistance.

Inclusive criteria

1. Types of studies

This review will consider any research that utilises qualitative methods to examine experiences of ventilator-dependent patients including qualitative inquiry, phenomenology, ethnography, hermeneutic phenomenology, grounded theory, focus group, action research and feminist research. The search will be limited to studies published from 1970 to 2008 using English or Chinese.

2. Types of participants

This review will consider all studies of adult patients who have been maintained with a

ventilator either short term, long term and during the weaning process of transition from the ventilator.

3. Types of phenomenon of interest

Studies will be included if the focus of the study is a description of the participants' experience of ventilator-dependent with or without weaning process of transition from the ventilator.

4. Types of outcomes

The outcomes of interest are the participants' own self reported experience.

Exclusive criteria

Studies that focus on patients who are younger than 18 years old will not be considered for this review. Reports of family and caregivers' experiences of caring for a ventilator-dependent patient will be excluded.

Search Strategy

Preliminary keywords have been drawn from the natural language terms of the topic, in the title, abstract and subject descriptors. Furthermore, the reference list of all identified reports and articles will be searched for additional studies. The search will be limited from 1970 – 2008 and aim to identify published and unpublished studies. The following databases will be searched:

CINAHL

PubMed

Ovid MEDLINE

Ovid CINAHL

PsychINFO

Social Science Index

Current Content

Cochrane Library (including Cochrane DSR, DARE and CCTR)

Chinese Periodicals Index

READncl Service System

The qualitative report (via JBI website)

National library of medicine

GoogleScholar

NLM Gateway

Grey Literature Report (via New York Academy of Medicine)

Alta Vista.com

Reference lists of identified studies will also be searched for further studies for inclusion.

The search for unpublished studies will include the following sources:

Doctoral and Master theses in Taiwan 1990-

Proceedings of conferences from Yahoo website

The initial search terms included:

Key words:

a. Phenomenon

Mechanical ventilation, ventilatory support, ventilator, ventilation, patient communication, patient-nursing relationship, life support, weaning, tracheotomy, technology-dependent, ventilator-dependent, patient experience, quality of life.

b. Population

Ventilator-dependent adults,

c. Methods

Qualitative method, qualitative inquiry, phenomenology, ethnography, hermeneutic phenomenology, grounded theory, focus group, action research and feminist research, content analysis,

Critical appraisal

Research papers selected for retrieval will be assessed by two independent reviewers for methodological validity prior to inclusion in the review using standardized critical appraisal criteria from Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI, Appendix I). Any disagreements that arise between the reviewers will be resolved through discussion in consultation with a third reviewer.

Data collection

Data will be extracted from papers included in the review using the standardized data extraction tool from the Joanna Briggs Institute Qualitative Assessment and Review Instrument (JBI-QARI, Appendix II).

Data Synthesis

Qualitative research findings will be pooled where possible, using the Qualitative Assessment and Review Instrument (QARI). This will involve the aggregation or synthesis of findings to generate a set of statements that represent the experiences of ventilator-dependent adult patients. Through assembling the findings according to their quality, and categorizing these findings on the basis of similarity in meaning. These categories are then subjected to a meta-synthesis in order to produce a single comprehensive set of synthesized findings.

Where textual pooling is not possible, the findings will be presented in narrative form.

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Appendix I

JBI QARI Critical Appraisal Checklist for Interpretive & Critical Research

Reviewer _____ Date _____

Author _____ Year _____ Record Number _____

	Yes	No	Unclear
1. Is there congruity between the stated philosophical perspective and the research methodology?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Is there congruity between the research methodology and the research question or objectives?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Is there congruity between the research methodology and the methods used to collect data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Is there congruity between the research methodology and the representation and analysis of data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Is there congruity between the research methodology and the interpretation of results?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Is there a statement locating the researcher culturally or theoretically?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Is the influence of the researcher on the research, and vice-versa, addressed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Are participants, and their voices, adequately represented?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Overall appraisal: Include Exclude Seek further info.

Comments (Including reasons for exclusion)

Appendix II

JBI QARI Data Extraction Form for Interpretive & Critical Research

Reviewer _____
Author _____
Journal _____

Date _____
Year _____
Record Number _____

Study Description

Methodology

Intervention

Setting

Geographical

Cultural

Data

Authors Conclusions

Comments

