Dependency in Critically Ill Patients: A Meta-Synthesis

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Abstract

By necessity, critically ill patients admitted to intensive care units (ICUs) have a high level of dependency, which is linked to a variety of negative feelings, such as powerlessness. However, the term *dependency* is not well defined in the critically ill patients. The concept of "dependency" in critically ill patients was analyzed using a meta-synthesis approach. An inductive process described by Deborah Finfgeld-Connett was used to analyze the data. Overarching themes emerged that reflected critically ill patients' experience and meaning of being in dependency were (a) antecedents: dependency in critically ill patients was a powerless and vulnerable state, triggered by a life-threatening crisis; (b) attributes: the characteristic of losing "self" was featured by dehumanization and disembodiment, which can be alleviated by a "self"-restoring process; and (c) outcomes: living with dependency and coping with dependency. The conceptual model explicated here may provide a framework for understanding dependency in critically ill patients.

There is a high incidence of dependency in critically ill patients admitted to intensive care units (ICUs) due to their severe illness and compromised body functions. This dependency may produce a variety of negative feelings, such as powerlessness and shame (Lykkegaard & Delmar, 2013; Svedlund, Danielson, & Norberg, 2001). Current understanding of care dependency comes from the caregiver's perspective, while the patient's feelings are neglected. The nature of dependency, however, is seldom verbalized nor understood by nurses and other health care providers (Lykkegaard & Delmar, 2013).

A critical review of the literature revealed two methods for measuring a patient's care dependency. Normally, "patient dependency" refers to the amount of care/time needed by a patient and is dependent on the severity of the patient's condition and their needs (Barr, Moores, & Rhys Hearn, 1973, p. 195). It is measured by the time spent by nurses at the bedside as well as the related workload. The nursing staff is therefore viewed as the indicator of patient dependency (Barr et al., 1973). A second measure is the Nursing Care Dependency Scale (NCDS; Dijkstra, Buist, Moorer, & Dassen, 1999, 2000). The scale's definition of patient dependency is "a process in which the professional offers support to a patient whose self-care abilities have decreased and whose care demands make him/her to a certain degree dependent" (Dijkstra, Buist, & Dassen, 1998, p. 146). Items included in the NCDS are based on the concept of basic human needs, such as eating and drinking, mobility, hygiene, and daily activities. Because patient dependency is narrowly defined in terms of "care" needs from the caregiver's perspective, the shortcoming of the scale is evident. Thus, as different people may bear different understandings of "patient dependency," the meaning of care dependency to care providers may not be the same as the patients. Both the measurements are therefore criticized, and it raises a number of questions regarding the essence of patient dependency, its attributes and components. The concept of caregiver dependency actually encompasses three important components: functional limitations, needs, and nature of support required. Assessment of workload and functional decline may not accurately reflect the nature of support needed by patients and thus does not fully capture the meaning of care dependency (Boggatz, Dijkstra, Lohrmann, & Dassen, 2007).

Although qualitative studies on critically ill patient dependency from both patient's and caregivers' perspectives have increased in number, the two are largely different from each other. Two systematic reviews and one concept analysis paper have been published recently (Boggatz et al., 2007;

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Mu & Wang, 2008; Tsay, Mu, Lin, Wang, & Chen, 2013), but neither were conducted on critically ill patients. The purpose of this meta-synthesis is to explicate the concept of dependency in the critically ill patient.

Three main research questions used to guide the analysis of included studies were as follows:

Question 1: How is dependency in critically ill patients defined in nursing literature in terms of antecedents, attributes, and outcomes?

Question 2: What are the meaning and experiences of being in dependency for the critically ill patients?

Question 3: How do the patients communicate and manage these experiences?

Method

Search Methods

PubMed (1947-2014), CINAHL (1980-2014), and Google Scholar (1900-2014) were searched using the keywords "depend*," "reliant*," "rely," "critically ill patient*," "intensive care," "technology," and "nursing." Books, dissertations, and gray articles were not searched in this study because the dissertations are usually published in articles, and therefore they are included in this review. Initial searches produced 1,018 relevant publications, from which 102 articles were selected for abstract review. After close reading of the full text of the articles, 24 articles were eventually included based on the inclusion and exclusion criteria (Table 1).

The inclusion criteria were articles from peer-reviewed journals using qualitative or linguistic design focusing on the patients' perspective of dependency, either on technology or on people. The main exclusion criteria were studies from caregivers' perspectives, and studies conducted in a home or long-term care facility. As the goal of this study is to clarify the concept of dependency on nursing, the articles from other disciplines were also excluded. The concept of dependency labeled as a personality trait or drug dependency was also excluded, as this was not the focus of the study from inception (Finfgeld-Connett, 2008). Data obtained from this study were mainly from phenomenology, grounded theory, and descriptive qualitative studies, as well as content analysis, concept analysis, and linguistic analysis. In the mixed-methods studies, only qualitative findings were used. The types of qualitative studies were not intended to be used as a tool for restricting the results because different epistemological origins were deemed to be strengths as they complemented each other (Finfgeld, 2003; Finfgeld-Connett, 2006, 2008). Included studies displayed a good congruence between epistemology, methodology, method, and interpretation of data.

Data Analysis

Data were analyzed using the process orientation and grounded theory methods as described by Finfgeld (2003)

and Finfgeld-Connett (2006, 2008). This served as the data analysis framework, which focuses on the process or the context, action/interaction, and consequences (Corbin & Strauss, 2014; Finfgeld-Connett, 2006, 2008). The conceptual process categories (e.g., antecedents, attributes, and consequences) were used to transform the data for reflecting the temporal process (Finfgeld-Connett, 2006). This study was conducted in the qualitative methodology class, and the mutual findings were triangulated among class participants.

Each article was carefully studied and open coded using in vivo and process codes; these provided a beginning structure for the data analysis (Finfgeld-Connett, 2006). With ongoing analysis, subcategories and codes were added, combined, and confirmed later by six independent coders of this study. The analysis process continued until all the codes and categories were saturated. The memos, diagram, paper, and electronic matrix were used to assist in synthesizing the data. Patients' quotes from original studies were used to delineate the constructs of this study (Finfgeld, 2003). The original studies were consented by participants.

Results

In nursing, "dependent" usually implies a strong assumption of the critically ill patients' weakness and unmet needs for the care or technology. Thus, the antecedent of dependency is a powerless and vulnerable state, triggered by life-threatening crisis, characterized by losing "self," leading to feelings of shame, fear, and distrust. Loss of self may be alleviated by a "self"-restoring process involving relinquishing self, finding meaning, and seeking control of life to reconstruct a sense of security and trust. Becoming dependent, however, is not necessarily a permanent state. Therefore, the key to this state was the way of preserving "self" (Morse, 2012): Loss of self may prevail in the early state of the illness. Self-restoration is a gradual realization and discovery of meaning of life, discovering a new perspective in the taking over by others, and strategizing to form trust and a secure relationship, thereby relieving fear, shame, and distrust. These findings are depicted in Figure 1 and are described in detail below.

Antecedents

Life-threatening occurrence. The life-threatening crisis is described as an initial trigger for loss of self and being forced into a dependent role. Being unable to breathe and utter a word, seeing their body connected to various medical tubes and wires, and vomiting blood were markers of severity of their state; patients must rely on external help for survival (Almerud et al., 2007; Johnson, St. John, & Moyle, 2006; Karlsson, Bergbom, & Forsberg, 2012; Samuelson, 2011). Thus, dependency is inevitable.

Powerlessness. Literature included in the meta-synthesis demonstrated that powerlessness was one of the predominant

Table 1. Summary of Studies Included in the Meta-Synthesis (*N* = 24).

Study (year)	Discipline	Type of investigation	Health care setting	Purpose
Ågård, Egerod, Tønnesen, and Lomborg (2012)	Nursing	Grounded theory	ICU	Explore the challenges, concerns, and coping modalities in ICU survivors
Almerud, Alapack, Fridlund, and Ekebergh (2007)	Nursing	Phenomenology	ICU	Describe meaning of being critically ill and cared for in technologically intense environments
Briscoe and Woodgate, (2010)	Sociology/ nursing	Phenomenology	Respiratory unit[a]	Explore the meaning of the experience of individuals requiring ventilation by focusing on the transition from spontaneous breathing to reliance on long-term mechanical ventilation
Cutler, Hayter, and Ryan (2013)	Nursing	Review of qualitative studies	ICU	Describe the experience of critical illness
Granberg, Engberg, and Lundberg (1998)	Nursing	Phenomenology	ICU	Describe patients' experiences of being critical ill and cared for in ICU
Griffin (1982)	Nursing	Descriptive	ICU	NA
Hafsteindottir (1996)	Nursing	Phenomenology	ICU	Describe patients' experiences of communication during the respirator treatment period
Happ (2001)	Nursing	Review[b]	ICU	Review of critically ill patient's communication with mechanical ventilator
Hofhuis et al. (2008)	Nursing	Phenomenology	ICU	Explore patients' experiences of nursing care and ICU stay
Johnson, St. John, and Moyle (2006)	Nursing	Phenomenology	ICU	Describe the meaning of being on long-term mechanical ventilation in ICU
Johnson (2004)	Nursing	Phenomenology	ICU	Explore the meanings of being on long-term mechanical ventilation in ICU
Karlsson and Forsberg (2008)	Nursing	Phenomenology	ICU	Describe patients' experiences of being conscious during ventilator treatment
Karlsson, Bergbom, and Forsberg (2012)	Nursing	Phenomenology	ICU	Describe the experiences of patients who were conscious during mechanical ventilation
Lapum, Angus, Peter, and Watt-Watson (2010)	Nursing	Narrative analysis	ICU	Examine patients' experiential accounts of technology in open-heart surgery
Locsin and Kongsuwan (2013)	Nursing	Phenomenology	ICU	Describe the meaning of being dependent on technologies in ICU patients
Lykkegaard and Delmar (2013)	Nursing	Phenomenology	ICU	Examine the meaning of dependency on care as experienced by intensive care patients
McKinley, Nagy, Stein-Parbury, Bramwell, and Hudson (2002)	Nursing	Grounded theory	ICU	Describe the experiences of being seriously ill
Patak et al. (2006)	Nursing	Descriptive/mixed method	ICU	Describe patients' perspectives on communication in ICU
Russell (1999)	Nursing	Thematic analysis/ mixed method	ICU	Describe patients' experiences and memories of ICU stays
Samuelson (2011)	Nursing	Descriptive	ICU	Describe patients' perspectives on the intensive care experience
Strandberg, Norberg, and Jansson (2003)	Nursing	Phenomenology	Surgery ward[c]	Understand the meaning of dependency on care as narrated by patients
Svedlund, Danielson, and Norberg (2001)	Nursing	Phenomenology	CCU	Understand the meaning of lived experiences in acute myocardial infarction
Wang, Zhang, Li, and Wang (2009)	Nursing	Phenomenology	ICU	Describe patients' experience of receiving mechanical ventilation
Zeilani and Seymour (2012)	Nursing	Phenomenology	ICU	Explore experiences of bodily change during critical illness in Muslim women

Note. ICU = intensive care unit; NA = not applicable.
[a]Patients are asked about the experiences of first using ventilator.
[b]Review of qualitative and quantitative findings, only qualitative results are included in this meta-synthesis. NA means not indicated in the study.
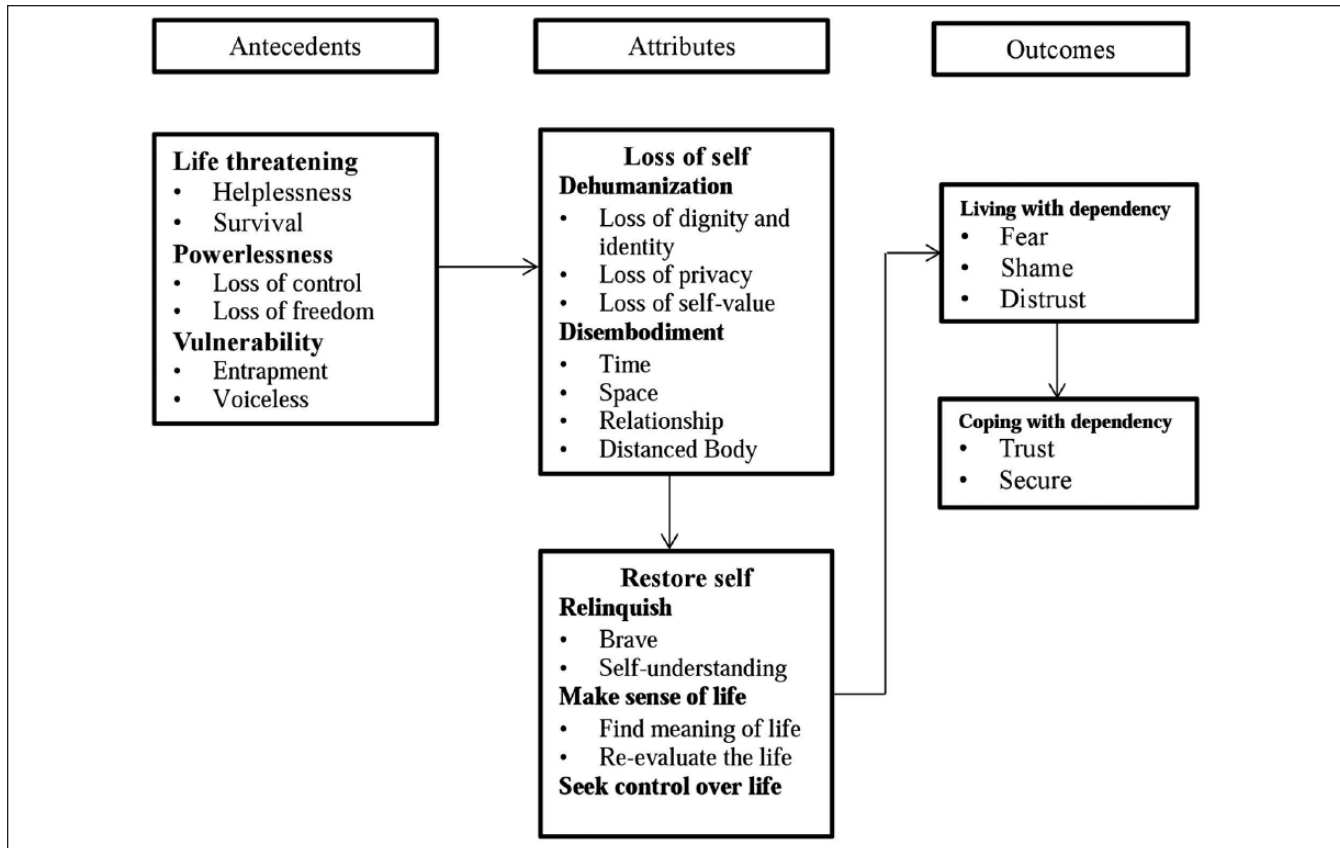[c]Patients are not in the ICU, but they are critically ill.

Figure 1. A model of the concept of dependency in critically ill patients.

perceptions of critical care patients, after they regain consciousness (Hofhuis et al., 2008; Karlsson et al., 2012; Lykkegaard & Delmar, 2013; Samuelson, 2011). Thrown into unfamiliar circumstances, patients were subjected to their physical deformities, unable to communicate, and felt obliged to be dependent on their caregivers. As a consequence, the sense of powerlessness occurs (Johnson, 2004; Lykkegaard & Delmar, 2013). Moreover, activities of the medical staff intensifying patients' sense of powerlessness implicated how serious their diseases are (Griffin, 1982; Lykkegaard & Delmar, 2013). Thereby, whether a patient develops powerlessness depended on individual experience of existential life because powerlessness was believed to be an ethical life phenomenon (Delmar, 2013; Lykkegaard & Delmar, 2013) and the sense of powerlessness varies among different people. A consequence of patient powerlessness was the creation of blind compliance, in which caregivers became the authoritarians and the patients tended to put up with (Lykkegaard & Delmar, 2013). As a result, patients may not question and make demands.

Loss of control. Critical care patients experienced a loss of themselves, bodily and emotionally. Loss of control results in care dependence over daily activities and increased the feeling of powerlessness (Carroll, 2007; Magnus & Turkington,

2006). For some patients, loss of control was viewed as a kind of shame more threatening than dying (Lykkegaard & Delmar, 2013). Loss of control also deprived the patients of the right to determine on their own what kind of care or treatment they would receive or want. They had to put up with undesired caregivers or therapies perceived as additional suffering (Strandberg, Norberg, & Jansson, 2003). To surrender self to others' hands was the only choice left to the dependent, as described in following quotes:

> . . . you have to lie there with your naked butt while they treat the so called bed ulcer then you have to (stay lying down). I could not remove myself from a very uncomfortable situation. I could just keep lying there . . . . (Lykkegaard & Delmar, 2013, p. 9)

Loss of freedom. Critical care patients lost much of their freedom (Almerud et al., 2007; Briscoe & Woodgate, 2010; Karlsson et al., 2012; Lykkegaard & Delmar, 2013; Strandberg et al., 2003), which was embodied as an emotional sense of being caged, and this hurt them inside (Briscoe & Woodgate, 2010). It also jeopardized their self being: "It just feels like I'm not as free anymore. I didn't like the hose around my neck" (p. 61). Loss of freedom was also magnified by the physical body restriction and inability to make decisions over their treatment (Karlsson et al., 2012).

Vulnerability. Qualitative research rather than structured investigation revealed that critically ill patients were afflicted with the sense of vulnerability (McKinley, Nagy, Stein-Parbury, Bramwell, & Hudson, 2002), especially when the patients' needs were not met (Lykkegaard & Delmar, 2013; McKinley et al., 2002). Disorientation and confusion experienced by the patients, together with the concern of dying, resulted in fear and anxiety, which were considered the main causes of vulnerability. It was believed that lack of sleep contributed to their fear and anxiety, while the support from family members may help alleviate those adverse emotions (McKinley et al., 2002). Anxiety also mounted when patients did not know what was happening to them (McKinley et al., 2002). For example, a participant stated, ". . . I didn't really know what was wrong with me—I just had a pipe in my arm and all these things stuck into me . . ." (p. 31). It was said that individual care of the patients and the good interaction between nurses and patients were also able to relieve the feelings of fear and vulnerability (Finch, 2004; Zeilani & Seymour, 2012).

Entrapment. The physical impairment led the patient to be dependent on medical devices and other people's care, which made patients feel entrapped "in the silent world" (Karlsson et al., 2012, p. 13) because their bodies were connected with all kinds of medical devices (Almerud et al., 2007; Briscoe & Woodgate, 2010; Johnson et al., 2006; Karlsson et al., 2012; Karlsson & Forsberg, 2008; Russell, 1999; Samuelson, 2011; Wang, Zhang, Li, & Wang, 2009): ". . . tubes and lines all over me, in my arms and legs, forcing me to lie still" (Granberg, Engberg, & Lundberg, 1998, p. 303). "Why were my hands and feet restricted?" (Wang et al., 2009, p. 185). Even in a dream, the patient always had such feelings of restriction and being caught in this world (Karlsson & Forsberg, 2008). Not being able to move, speak, and even sense their body, increased patients' sense of vulnerability. They wanted to escape—"You just want to take it all. Just rip everything off and leave" (Almerud et al., 2007, p. 155).

Being voiceless. Although being voiceless has been broadly addressed in the literature, few studies have been conducted on the topic for ICU patients, and valuable solutions for speechless patients in ICU are limited (Happ, 2001). Being voiceless was often due to the trachea cannula or inability to breathe. It was also caused by a "polite smile and professional tone of voice," which prevented the patients from opening up and discussing their fears and concerns (Almerud et al., 2007). Being voiceless is perhaps the most frustrating experience of mechanically ventilated patients in ICU and precludes effective communication between patients and nurses (Hafsteindottir, 1996; Johnson, 2004; Karlsson et al., 2012; McKinley et al., 2002; Patak et al., 2006). Silent patients suffered more than those who could talk, because the nurses would not be able to know the needs of the patients (Locsin & Kongsuwan, 2013; Strandberg et al., 2003). Carroll (2007) and Karlsson et al. (2012) found that non-vocal patients were associated with an enhanced feeling of powerlessness. Being voiceless also led to feelings of isolation, loss of personality and identity. Furthermore, the silent patients were interpreted as enervated and despairing, which was a more serious state than for other patients (Briscoe & Woodgate, 2010; Engström & Söderberg, 2007; Karlsson et al., 2012):

> "When they put this and that on me, I was very annoyed but I must give in . . ." because of patient's inability to speak. (Locsin & Kongsuwan, 2013, p. 205)

> I couldn't speak . . . terrible . . . I wanted to explain that I felt like I was dying and didn't get any air, but I couldn't. (Samuelson, 2011, p. 78)

Attributes

Loss of self. Being hospitalized due to serious illness and forced to be dependent on care and technology affect the understanding of "self" (Lapum, Angus, Peter, & Watt-Watson, 2010; Lykkegaard & Delmar, 2013): ". . . damn it, it's difficult, you get the feeling of grieving the loss of the known self" (Lykkegaard & Delmar, 2013, p. 7). "Sustaining self" is the essence of the ventilator-dependent patient's main experiences (Briscoe & Woodgate, 2010). Loss of self is characterized by dehumanization and disembodiment. Dehumanization manifested as "being invisible," "loss of privacy," and "loss of self-value," while disembodiment encompassed an altered sensed of time, space, and relationship with a normal body.

Dehumanization. Constant, close monitoring, life-saving technologies, coupled with intensive medical treatment, revealed a standard picture of the ICU patients entering this territory without any warning. They were suddenly forced to be dependent on life-sustaining treatment (Svedlund et al., 2001). The most common feeling described by patients is "shocked," "why it is me?" and "how it happened?" (Samuelson, 2011, p. 79). "Why did the severe illness or injury happen to them? What did they do or not do to bring it on? Endless questions . . ." (Almerud et al., 2007, p. 153). "What happened to me? Why so many odd things around my body?" (Wang et al., 2009, p. 186).

Survival of the patient was a salient feature in this stage; doctors and nurses tend to pay more attention to technology and vital signs, while patients as human beings are ignored and invisible (Almerud et al., 2007; Lapum et al., 2010; Locsin & Kongsuwan, 2013). Technology mutes patients (Almerud et al., 2007); patients become biological units, an object of care, likened to an exemplar of some diagnosis or a pawn (Almerud et al., 2007; Briscoe & Woodgate, 2010; Karlsson & Forsberg, 2008; Lapum et al., 2010; Locsin & Kongsuwan, 2013; Wang et al., 2009): "No one wants to say that; this is the way it'll be for you . . ." (Almerud et al., 2007,

p. 155). ". . . caregivers read the monitoring devices carefully and conscientiously but brush them off with their hesitant gestures at speaking" (p. 155). Patients may be perceived as interesting new diseases, instead of as a human being with an illness. The patient may be referred to impersonally, as the "MI in bed 3 with PVCs" (Griffin, 1982, p. 351).

Dehumanization was also marked by a loss of privacy (Griffin, 1982; Lykkegaard & Delmar, 2013). The studies identified three types of privacy loss. The intensive need of monitoring meant that "many people were present in the room or passing through" (Granberg, et al., 1998, p. 302), which reduced their desire to communicate with their families: "Well, there were some things I didn't want to say because I didn't want them to overhear . . ." (Karlsson et al., 2012, p. 10). This may increase patients' feelings of loneliness (Karlsson et al., 2012), insecurity (Hofhuis et al., 2008; Karlsson & Forsberg, 2008), annoyance, and irritation (Johnson et al., 2006). The second violation was ignorance of patient personal body privacy, which was made more clear by the patient's descriptions: ". . . a couple of times I was almost naked . . . trying to hide, you know. Being uncovered . . . I was very determined" (Russell, 1999, p. 788). ". . . I couldn't cover my body, I felt shamed because I would never be that way . . . you need to behave in a decent manner . . . we need to cover our body" (Zeilani & Seymour, 2012, p. 104). The third privacy violation concerned the self-decision making. Many patients died without fully expressing their needs and wishes about end-of-life care or final messages to loved ones (Happ, 2001).

Loss of self-value was another manifestation of dehumanization. When individuals could not fully act with independent agency, relying on technology and others for survival, it changed their feelings of self-conception and meaning of existence (Lapum et al., 2010). "Toileting in bed meant loss of personal dignity, leaving yourself completely in the hands of someone else . . ." (Karlsson et al., 2012, p. 10). "I was like a vegetable, without being able to do anything by myself" (Samuelson, 2011, p. 79). ". . . try to get up with a walker and I just couldn't. I couldn't even hold my head. I wasn't able to do anything" (Ågård, Egerod, Tønnesen, & Lomborg, 2012, p. 109). These statements indicated that being dependent was in conflict with their normal "self" and raised questions about their existence as a human being (Lykkegaard & Delmar, 2013).

Disembodiment. The urgent crisis may bring about physical changes as well as a change of the patient's perceptions of time, space, relationship and body role (Briscoe & Woodgate, 2010; Cutler, Hayter, & Ryan, 2013; Johnson, 2004; Karlsson & Forsberg, 2008; Lykkegaard & Delmar, 2013). Patients felt they became strangers from their previous known body (Cutler et al., 2013; Griffin, 1982; Johnson et al., 2006; Lykkegaard & Delmar, 2013): "All those tubes and lines, irritating, made me kind of crazy . . . and that thing in my throat, it was nasty" (Samuelson, 2011, p. 81). "It hit me so much being

that dependent on others because I have never been that way before . . ." (Lykkegaard & Delmar, 2013, p. 7). "I used to be the strong one and take care of others, and now it was I who needed them" (Svedlund et al., 2001, p. 200).

Some patients experienced these outsiders, such as lines and tubes, as intruders of their body (Zeilani & Seymour, 2012), which heightened awareness of their sickness: "It felt so strange . . . I didn't know if I was alive or dead" (Samuelson, 2011, p. 81). Being connected to tubes and a ventilator caused a feeling of isolation from the outside of the world (Granberg et al., 1998), and people perceived them in different ways (Johnson et al., 2006) while the boundary between "self" and machine was blurred; "plugged in" was used to describe their bodies when they were attached to technological objects (Lapum et al., 2010). Meanwhile, the lived time, space, and relationship also shifted. Time and place lost meaning; hallucinations and bizarre dreams occurred in patients (Cutler et al., 2013; Johnson et al., 2006; Samuelson, 2011); they could not sleep and felt totally "crazy" (Granberg et al., 1998). They were unable to distinguish between the body, the equipment and the environment, the dream and reality (Granberg et al., 1998).

> . . . I was just occupying space. It wasn't me. My body felt like just a thing… I was there, but I couldn't do my normal things, just lying there . . . I was just taking up space. (Johnson et al., 2006, p. 555)

Restore self

Relinquishing self and making sense of life. Heavy reliance on technology and others to sustain life was perceived as frightening. However, death overshadowed this frightening thought: "You must have confidence, otherwise you would say farewell to life" (Wang et al., 2009, p. 186). If they survived the urgent crisis, then patients began to gain a new sense of self and better relationships with technology and people. They began to change their mind-set and relinquish themselves to adapt to the new environment. They believed, "Whatever the doctors want to do, whatever they think is best for me" (Russell, 1999, p. 789). When faced with difficulty in this adaptation process, for instance, to the ventilator, a patient would relax himself or herself and synchronize the respiration with the ventilator (Jablonski, 1994). The patients eventually began to feel comfortable and relieved to let the technology or other people take over (Johnson, 2004; Lapum et al., 2010), and perceived their body as both weak and strong and brave, due to survival from the critical illness, regardless of how close they were to the death; their bodies hang in and fight between death and life (Granberg et al., 1998; Lykkegaard & Delmar, 2013). Armed with positive self-understanding of dependency, they believed, ". . . the body became more and more 'normal' as they became more awake, but it would take some time . . ." (Granberg et al., 1998, p. 304). "I grow stronger and stronger every day . . . I also fight and do something for it" (Lykkegaard & Delmar, 2013, p. 8).

The loss of ability and value may also provide another opportunity for the dependent patient to see life in a different way, which was usually ignored earlier in life (Johnson et al., 2006; Strandberg et al., 2003; Svedlund et al., 2001; Wang et al., 2009). They sought to appreciate the old self, and also the second chance of life; they regarded this urgent crisis as a warning and realized the preciousness of life, possessing a wish for enjoying future life and changing previous life behaviors (Granberg et al., 1998; Svedlund et al., 2001; Wang et al., 2009). The medical apparatus and technology words, such as ventilator, were no longer enemies but friends—"I called her Shelley" (Johnson et al., 2006, p. 556). ". . . I'm sure glad it saved me" (Russell, 1999, p. 788).

Seeking control over life. In the late physical recovery stage, the patients began to try and regain some control over their lives, such as attempting to master medical equipment, make decisions over treatment, and connect with nurses and family (Briscoe & Woodgate, 2010; Johnson, 2004; Johnson et al., 2006; Karlsson et al., 2012; Lapum et al., 2010). The removal of tubes and other medical devices, and being able to talk were significant markers of regaining control (Briscoe & Woodgate, 2010; Lapum et al., 2010). This indicated that their body would not be entrapped permanently by the technology and they began to regain bodily control: "[I was] getting back to being myself" (Lapum et al., 2010, p. 758). ". . . instead of a 'vegetable', I can actually talk to somebody and tell them what I want instead of lying here . . ." (Johnson, 2004, p. 196).

Outcomes

Living with dependency. Becoming dependent for intensive care patients was linked to several negative feelings. It took on different forms, which varied in different people. However, being dependent, consistently throughout the studies, was described as a significant stressor that can undermine patients' understanding of meaning of life. Some even reported that death was an easier choice than the life of being a dependent (Griffin, 1982; Lykkegaard & Delmar, 2013).

Fear. Eighteen studies reported that fear was commonly seen in ICU patients, due to their pervasive loss and complete dependency for survival (Briscoe & Woodgate, 2010; Locsin & Kongsuwan, 2013; Lykkegaard & Delmar, 2013). Fear of death and worries that the ventilator would stop working were one form of fear evidenced (Briscoe & Woodgate, 2010; Happ, 2001; Karlsson et al., 2012; Karlsson & Forsberg, 2008; Samuelson, 2011): ". . . I was a little worried . . . that it would pack up . . . Or . . . I'll stop breathing . . ." (Karlsson et al., 2012, p. 9). A sense of suffocating and lack of air caused a sense of terror and panic (Karlsson & Forsberg, 2008). For those patients, being dependent on a ventilator for survival was a fight between "live" and "life." Choosing not to die meant being ventilator reliant and enduring the fear

accompanied by it (Briscoe & Woodgate, 2010; Locsin & Kongsuwan, 2013).

In other cases, being afraid of becoming a burden or of being perceived as a troublesome person was another form of fear in this context (Locsin & Kongsuwan, 2013; Zeilani & Seymour, 2012). They felt embarrassed to ask nurses for help, and sometimes would even curb the desire to ask questions regarding their injury or illness (Almerud et al., 2007; Svedlund et al., 2001; Zeilani & Seymour, 2012): "The physician thinks this is a troublesome patient . . . who nags and asks questions the whole time" (Svedlund et al., 2001, p. 200). The desire not to be a burden on others (Locsin & Kongsuwan, 2013) caused some patients to try to "do as much as they could" (Zeilani & Seymour, 2012, p. 102) and ask for help "in a proper way" (Strandberg et al., 2003, p. 75; Zeilani & Seymour, 2012), which meant trying to please health care providers and adapt to the system. They felt this would cause caregivers to like them more, which in turn gave them a sense of safety (Almerud et al., 2007; Lykkegaard & Delmar, 2013).

Shame. Asking for help was perceived by the patient as a kind of shame (Almerud et al., 2007; Svedlund et al., 2001). Accepting the need for help was a signal of weakness and even inferiority, which put dependents' personal pride, value, and identity at stake (Lykkegaard & Delmar, 2013). The meaning of receiving help as a dependent was an acknowledgment on their part of weakness and degrading personal value due to the loss of ability to manage themselves as autonomous human beings. They could not meet their basic needs and had to rely on others to compensate for that inability, especially with needs related to intimate and personal things (Svedlund et al., 2001), as exemplified by the following patients' narrative:

> . . . I needed help in everything I did, and even in using the toilet—I could not control my bladder. I used to wet my bed so they would use incontinence nappies [pads] to keep me dry . . . . I felt so embarrassed and shy . . . . (Zeilani & Seymour, 2012, p. 102)

The shame of excessive need for help made patients feel insulted (Svedlund et al., 2001), and this was reported not to be associated with the way nurses reacted to the patients, but rather as a result of the social value of independency and autonomy (Lykkegaard & Delmar, 2013): "You do not live up to standards and norms attached to your identity, and the dignity is destroyed" (Lykkegaard & Delmar, 2013, p. 10; Martinsen & Dreyer, 2012).

Distrust. Loss of trust in their own body due to difficulties in breathing and moving (Cutler et al., 2013; Johansson & Fjellman-Wiklund, 2005; Zeilani & Seymour, 2012) and lack of expertise in related technology and disease caused patients to believe that "you have to trust the doctors because

you're under" (Lapum et al., 2010, p. 757). "You are in the hands of the caregivers. So, you have to trust them . . . you won't get anywhere . . ." (Almerud et al., 2007, pp. 154-155). Obedience to the health care experts' instruction (Cutler et al., 2013; Lapum et al., 2010) was the only choice. However, in some cases, this blind obedience did not imply that a true trust relationship was established between them: ". . . I couldn't get to sleep once, but that battle axe [nurse] said I had." She said, "Yes you have been asleep . . ." (Karlsson et al., 2012, p. 11). This disbelief in the patients' report puts the patients' dignity at risk (Cutler et al., 2013; Karlsson et al., 2012), and the patients fight for their dignity through their attitude and comments, such as "I did not trust the nurses, or the doctor" (Almerud et al., 2007, p. 155).

Coping with dependency: trust and security. Patients who were coping with dependency reported an enhanced sense of security and trust, regardless of their illness and high reliance situation. There were feelings of safety and security inherent in a trust relationship; those who relinquished self to the "good" of others and understood the situation were able to make the best of it. Although some patients reported distrust in the nurses, others still reported security and trust in being cared for by the staff (McKinley et al., 2002). This trust relationship was depicted as, "When she (the nurse) was with me I felt as if I could rest for a while" (Granberg et al., 1998, p. 302), and was formed through good communication and a feeling of being valued and supported by nurses (Karlsson et al., 2012; McKinley et al., 2002). According to Karlsson et al. (2012) and Foster (2010), communication helped build confidence and trust in the nurses, and alleviated the sense of loneliness and uncertainty (Locsin & Kongsuwan, 2013). Knowing what was happening and being aware of surroundings meant a gradual regaining of self and sense of control and security (Karlsson et al., 2012; McKinley et al., 2002). Security was reported to be linked with feelings of safety, assurance, and comfort (McKinley et al., 2002). Receiving personalized care and prompt response to their needs, coupled with nurses' technical competence and expertise knowledge, willingness to help, and being visible and available to the patients created a feeling of comfort, rest, relief, and confidence in life (Locsin & Kongsuwan, 2013; McKinley et al., 2002; Russell, 1999). In such a context, ICU was not perceived as frightening, instead it was thought of as a kind of "home," because they were in the good hands of others (Locsin & Kongsuwan, 2013; Russell, 1999).

> I felt attached to this unit as if it was another home of mine. They helped in every way . . . . (Locsin & Kongsuwan, 2013, p. 205)

> . . . I was taken care of very regularly-this made me feel very safe and secure, and that I was in good hands and amongst experts . . . . (Russell, 1999, p. 786)

> . . . I had a doctor. It was not a lonely environment . . . . (Locsin & Kongsuwan, 2013, p. 206)

Discussion

It is generally believed that dependency in critically ill patients connotes a state of being vulnerable. It threatens the patients' identities and dignities, resulting in the loss of self, which is characterized by an inability to sense time, space, and body. This made dependents feel like "a little child who could not swim, and was thrown into a cold swimming pool" (Cutler et al., 2013; McKinley et al., 2002; Wang et al., 2009, p. 185). However, it does not necessarily mean an unchangeable or uncontrollable state. The sense of "self" can be restored. Dependency may threaten a loss of "self," but it can also activate a restoring of "self" as the patients make sense of the situation, accept who they are, and find another perspective for life. Admitting dependency does not necessarily mean weakness; it can be an expression of bravery and resilience, signifying patients' preparedness for a changed "self" and a willingness to cope with dependency. The restoring "self" process starts with the awareness of the dependency, thereby enabling the patients to understand and adjust to the situation, and then gradually seek control over their lives. It is essential to understand that patients can actively define the state of dependency and undertake activities to regain control over life. It is important for patients to maximize independency and identity within the dependent state.

The restoring process is important because it determines whether the patients are controlled by the negative mood or successfully survive in the critical illness without the loss of "self." Facilitators of this restoring process include the following:

1. Keeping patients informed of their situation, which helps patients feel secure and better understand and prepare for future situations (McKinley et al., 2002).
2. Establishing rapport with patients by empowering and listening to patients. The voice from patients themselves is more meaningful than medical authorities in engendering and nurturing hope and a sense of identity to overcome fear (Fixsen, 2015; Tsay et al., 2013).
3. Providing an opportunity for patients to choose or participate in their care plans. This can increase a sense of control, security, and being understood as a human being (Briscoe & Woodgate, 2010; Karlsson & Forsberg, 2008; McKinley et al., 2002), which in turn can strengthen a trusting relationship (McKinley et al., 2002).
4. Maximizing and maintaining patients' independency while they are dependent.

This meta-synthesis developed a more holistic and profound understanding of dependency from critically ill patients' perspectives. The overarching themes and subthemes were merged and condensed inductively, and the conceptual model of dependency was developed, including

antecedents, attributes, and outcomes (Figure 1), representing the basic anatomy of the concept of dependency (Finfgeld-Connett, 2006). The conceptualization of dependency from the critically ill patients' perspective in this study has important implications for clinical practice as it is closer to the patients themselves, and the meaning of dependency to patients may not be the same as care providers. Cultural perception of dependency, however, is not explored in this meta-synthesis due to a limited access to non-English publications. A conceptual comparison between different cultures can elicit profound implications for the care of diverse patient populations.

Conclusion

The findings of this meta-synthesis enriched understanding of the concept of dependency in critically ill patients; the conceptual model provided a frame for clinical practice. Further research is needed to test the validity of this dependency model. Conceptual comparison in different cultures is also desirable; a better articulation of meaning of dependency in different cultural populations will inform a better patient-centered care.

Author's Note

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Supplemental Material

The Chinese translation of the article is available at http://gqn.sagepub.com/content/by/supplemental-data

References

Ågård, A. S., Egerod, I., Tønnesen, E., & Lomborg, K. (2012). Struggling for independence: A grounded theory study on convalescence of ICU survivors 12 months post ICU discharge. *Intensive and Critical Care Nursing*, *28*, 105–113.

Almerud, S., Alapack, R. J., Fridlund, B., & Ekebergh, M. (2007). Of vigilance and invisibility-being a patient in technologically intense environments. *Nursing in Critical Care*, *12*, 151–158. doi:10.1111/j.1478-5153.2007.00216.x

Barr, A., Moores, B., & Rhys Hearn, C. (1973). A review of the various methods of measuring the dependency of patients on nursing staff. *International Journal of Nursing Studies*, *10*, 195–208.

Boggatz, T., Dijkstra, A., Lohrmann, C., & Dassen, T. (2007). The meaning of care dependency as shared by care givers and care recipients: A concept analysis. *Journal of Advanced Nursing*, *60*, 561–569. doi:10.1111/j.1365-2648.2007.04456.x

Briscoe, W. P., & Woodgate, R. L. (2010). Sustaining self: The lived experience of transition to long-term ventilation. *Qualitative Health Research*, *20*, 57–67. doi:10.1177/1049732309356096

Carroll, S. M. (2007). Silent, slow lifeworld: The communication experience of nonvocal ventilated patients. *Qualitative Health Research*, *17*, 1165–1177.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage.

Cutler, L. R., Hayter, M., & Ryan, T. (2013). A critical review and synthesis of qualitative research on patient experiences of critical illness. *Intensive and Critical Care Nursing*, *29*, 147–157. doi:10.1016/j.iccn.2012.12.001

Delmar, C. (2013). Beyond the drive to satisfy needs: In the context of health care. *Medicine, Health Care and Philosophy*, *16*, 141–149. doi:10.1007/s11019-011-9362-8

Dijkstra, A., Buist, G., & Dassen, T. (1998). Operationalization of the concept of "nursing care dependency" for use in long-term care facilities. *Australian and New Zealand Journal of Mental Health Nursing*, *7*, 142–151.

Dijkstra, A., Buist, G., Moorer, P., & Dassen, T. (1999). Construct validity of the Nursing Care Dependency Scale. *Journal of Clinical Nursing*, *8*, 380–388.

Dijkstra, A., Buist, G., Moorer, P., & Dassen, T. (2000). A reliability and utility study of the Care Dependency Scale. *Scandinavian Journal of Caring Sciences*, *14*, 155–161.

Engström, Å., & Söderberg, S. (2007). Receiving power through confirmation: The meaning of close relatives for people who have been critically ill. *Journal of Advanced Nursing*, *59*, 569–576.

Finch, L. P. (2004). Understanding patients' lived experiences: The interrelationship of rhetoric and hermeneutics. *Nursing Philosophy*, *5*, 251–257.

Finfgeld, D. L. (2003). Metasynthesis: The state of the art—So far. *Qualitative Health Research*, *13*, 893–904.

Finfgeld-Connett, D. (2006). Meta-synthesis of presence in nursing. *Journal of Advanced Nursing*, *55*, 708–714. doi:10.1111/j.1365-2648.2006.03961.x

Finfgeld-Connett, D. (2008). Meta-synthesis of caring in nursing. *Journal of Clinical Nursing*, *17*, 196–204. doi:10.1111/j.1365-2702.2006.01824.x

Fixsen, A. M. (2015). "I'm not waving, I'm drowning": An autoethnographical exploration of biographical disruption and reconstruction during recovery from prescribed Benzodiazepine use. *Qualitative Health Research*, 1–16. doi:10.1177/1049732315576496.

Foster, A. (2010). More than nothing: The lived experience of tracheostomy while acutely ill. *Intensive and Critical Care Nursing*, *26*, 33–43.

Granberg, A., Engberg, I. B., & Lundberg, D. (1998). Patients' experience of being critically ill or severely injured and cared for in an intensive care unit in relation to the ICU syndrome. Part I. *Intensive and Critical Care Nursing*, *14*, 294–307.

Griffin, J. (1982). Forced dependency in the critically ill. *Dimensions of Critical Care Nursing*, *1*, 350–353.

Hafsteindottir, T. B. (1996). Patient's experiences of communication during the respirator treatment period. *Intensive and Critical Care Nursing*, *12*, 261–271.

Happ, M. B. (2001). Communicating with mechanically ventilated patients: State of the science. *AACN Advanced Critical Care*, *12*, 247–258.

Hofhuis, J. G. M., Spronk, P. E., van Stel, H. F., Schrijvers, A. J. P., Rommes, J. H., & Bakker, J. (2008). Experiences of critically ill patients in the ICU. *Intensive and Critical Care Nursing*, *24*, 300–313. doi:10.1016/j.iccn.2008.03.004

Jablonski, R. S. (1994). The experience of being mechanically ventilated. *Qualitative Health Research*, *4*, 186–207.

Johansson, L., & Fjellman-Wiklund, A. (2005). Ventilated patients' experiences of body awareness at an intensive care unit. *Advances in Physiotherapy*, *7*, 154–161.

Johnson, P. (2004). Reclaiming the everyday world: How long-term ventilated patients in critical care seek to gain aspects of power and control over their environment. *Intensive and Critical Care Nursing*, *20*, 190–199.

Johnson, P., St. John, W., & Moyle, W. (2006). Long-term mechanical ventilation in a critical care unit: Existing in an uneveryday world. *Journal of Advanced Nursing*, *53*, 551–558.

Karlsson, V., Bergbom, I., & Forsberg, A. (2012). The lived experiences of adult intensive care patients who were conscious during mechanical ventilation: A phenomenological-hermeneutic study. *Intensive and Critical Care Nursing*, *28*, 6–15.

Karlsson, V., & Forsberg, A. (2008). Health is yearning-experiences of being conscious during ventilator treatment in a critical care unit. *Intensive and Critical Care Nursing*, *24*, 41–50.

Lapum, J., Angus, J. E., Peter, E., & Watt-Watson, J. (2010). Patients' narrative accounts of open-heart surgery and recovery: Authorial voice of technology. *Social Science & Medicine*, *70*, 754–762. doi:10.1016/j.socscimed.2009.11.021

Locsin, R. C., & Kongsuwan, W. (2013). Lived experience of patients being cared for in ICUs in Southern Thailand. *Nursing in Critical Care*, *18*, 200–211.

Lykkegaard, K., & Delmar, C. (2013). A threat to the understanding of oneself: Intensive care patients' experiences of dependency. *International Journal of Qualitative Studies on Health and Well-Being*, *8*, 1–12.

Magnus, V. S., & Turkington, L. (2006). Communication interaction in ICU-patient and staff experiences and perceptions. *Intensive and Critical Care Nursing*, *22*, 167–180.

Martinsen, B., & Dreyer, P. (2012). Dependence on care experienced by people living with Duchenne muscular dystrophy and spinal cord injury. *Journal of Neuroscience Nursing*, *44*, 82–90.

McKinley, S., Nagy, S., Stein-Parbury, J., Bramwell, M., & Hudson, J. (2002). Vulnerability and security in seriously ill patients in intensive care. *Intensive and Critical Care Nursing*, *18*, 27–36.

Morse, J. M. (2012). *Qualitative health research: Creating a new discipline*. Walnut Creek, CA: Left Coast.

Mu, P. F., & Wang, K. W. K. (2008). A systematic review of the experiences of adult ventilator-dependent patients. *The JBI Database of Systematic Reviews and Implementation Reports*, *6*(17 Suppl.), S76–S87.

Patak, L., Gawlinski, A., Fung, N. I., Doering, L., Berg, J., & Henneman, E. A. (2006). Communication boards in critical care: Patients' views. *Applied Nursing Research*, *19*, 182–190. doi:10.1016/j.apnr.2005.09.006

Russell, S. (1999). An exploratory study of patients' perceptions, memories and experiences of an intensive care unit. *Journal of Advanced Nursing*, *29*, 783–791.

Samuelson, K. A. (2011). Unpleasant and pleasant memories of intensive care in adult mechanically ventilated patients-findings from 250 interviews. *Intensive and Critical Care Nursing*, *27*, 76–84. doi:10.1016/j.iccn.2011.01.003

Strandberg, G., Norberg, A., & Jansson, L. (2003). Meaning of dependency on care as narrated by 10 patients. *Research and Theory for Nursing Practice*, *17*, 65–84.

Svedlund, M., Danielson, E., & Norberg, A. (2001). Women's narratives during the acute phase of their myocardial infarction. *Journal of Advanced Nursing*, *35*, 197–205.

Tsay, S. F., Mu, P. F., Lin, S., Wang, K. W. K., & Chen, Y. C. (2013). The experiences of adult ventilator-dependent patients: A meta-synthesis review. *Nursing & Health Sciences*, *15*, 525–533.

Wang, K., Zhang, B., Li, C., & Wang, C. (2009). Qualitative analysis of patients' intensive care experience during mechanical ventilation. *Journal of Clinical Nursing*, *18*, 183–190.

Zeilani, R., & Seymour, J. E. (2012). Muslim women's narratives about bodily change and care during critical illness: A qualitative study. *Journal of Nursing Scholarship*, *44*, 99–107. doi:10.1111/j.1547-5069.2011.01427.x

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