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The Differentiation Between Pain and Discomfort: A Concept Analysis of Discomfort

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ABSTRACT

Background: Discomfort is a concept found in the literature, usually related to pain. Some sources do not distinguish between pain and discomfort. Others refer to different sources of discomfort, thereby leading to a lack of conceptual clarity.
Aims: The objective of this paper was to present a concept analysis of discomfort. Full-text articles published between 1970 and 2016 in English were used to inform the concept analysis.
Design: Articles were taken from CINAHL, Medline and PsycNET databases.
Methods: A total of 7,406 articles and 120 abstracts were identified for evaluation. After initial review, 42 articles were further analyzed. Two reviewers independently evaluated the selected publications using the Walker and Avant approach to concept analysis.
Results: Discomfort can be physical or psychological and is characterized by an unpleasant feeling resulting in a natural response of avoidance or reduction of the source of the discomfort. Pain is one of the causes for discomfort, but not every discomfort can be attributed to pain. It is identified by self-report or observation. Discomfort in noncommunicative patients is assessed and measured via behavioral expression, also used to describe pain and agitation, leading to discomfort being interpreted as pain in some conditions.
Conclusions: A clarification of the concept of discomfort leads to a more accurate theoretical and operational definition. This clarification can help nurses to make more accurate nursing diagnoses and develop methods to measure discomfort in order to provide optimal quality of nursing care.

Providing comfort in a healing, patient care environment was first introduced by Florence Nightingale. However, providing care with minimal discomfort has proven increasingly difficult over the years because of increased use of advancing technology. For example, monitor alarms create a lot of noise, causing discomfort and a lack of quiet time in intensive care units (ICUs; Krinsky, Murillo, & Johnson, 2014). Although it would seem that the concepts of discomfort, and its opposite, comfort, are well understood, their use is ambiguous. This might be because discomfort is a subjective concept, used in different contexts, often related to pain (Siefert, 2002).

Comfort and discomfort can be recognized within the nursing clinical context. A common nursing diagnosis is “change in comfort” (Hurley, Volicer, Hanrahan, Houde, & Volicer, 1992). Assessment of “discomfort” is essential for caring for the ill, and even more crucial when the patient cannot communicate—for example, the critically ill patient on mechanical ventilation (Samuelson, 2011) or those with advanced dementia of the Alzheimer type. There is no doubt that pain can cause discomfort; however, there are other, non–pain-related, physical and psychological sources that can also lead to discomfort. It is important to look for other sources for discomfort and treat them properly, especially in a noncommunicative patient who cannot verbally express discomfort.

To our knowledge, the concept of discomfort has not been clearly defined in the literature nor has a concept analysis been conducted, even though there are several assessment scales for measuring discomfort (Hurley et al., 1992). Theoretically clarifying the concept “discomfort,” delineating all of its sources (including pain), differentiating between discomfort and other concepts, and measuring it precisely will help caregivers more accurately treat discomfort and other related symptoms. Matching the correct treatment to the correct physical or psychological symptom can further lead to decreased patient suffering and the promotion of patient comfort in all clinical areas. However, the concept must first be described. Concept analysis is a strategy that explores the attributes or

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characteristics of a concept and provides criteria to decide which phenomena are good examples of the concept and which are not. This type of analysis can promote communication among colleagues, theory development, and research. Concept analysis also is effective for tool development (Walker & Avant, 1983) and allows for proper patient assessment, diagnosis, and treatment.

Purpose of the Analysis

The purpose of this analysis is to define discomfort clearly and holistically.

Methods

A concept analysis for "discomfort" was conducted by searching the scientific literature using the CINAHL, MEDLINE, and PsychNET databases for full-text English manuscripts published until December 2016. Initially 7,406 publications were found using the keyword "discomfort." Articles that mentioned "discomfort" but did not measure it were eliminated from the analysis, with 326 articles remaining for abstract evaluation. Of the abstracts reviewed, 120 full-text articles were fully evaluated. Of these, 42 publications were retained (Fig. 1). A textbook and a dictionary were also used in the analysis. The Walker and Avant (1983) method was used for the construction of the concept analysis. This method consists of several steps. The first step includes a determination of the aim of the analysis and the definition of the concept. Second, articles using the concept are chosen and two reviewers independently evaluate the publications to determine the use of the concept and the concept's attributes. The next step is to develop a model case, a related case, a contrary case, a borderline case, and an illegitimate case. In addition, the concept analysis includes a discussion of antecedents and consequences of the concept and its empirical referents.

Results

Dictionary and Thesaurus Definitions

A definition of the concept of discomfort was found in *The Concise Oxford Dictionary,* eighth edition (Allen, 1990), which defines discomfort as a "lack of ease, slight pain, mental uneasiness, lack of comfort, make uneasy."

Thesaurus synonyms found were "ache, annoyance, displeasure, disquiet, embarrassment, hardship, soreness, trouble, uneasiness, unpleasantness" (Thesaurus, 2017).

Use of the Concept

The concept of discomfort was used in the literature in different contexts (Table 1). However, discomfort can be divided into to two main domains, physical discomfort and psychological discomfort (Fig. 2).

Physical Discomfort

Most references (n = 14) used "discomfort" in the physical sense (Aroni, Nascimento, & Fonseca, 2012; Bonn-Miller, Zvolensky, & Bernstein, 2009; Borg, Hernefalk, Carlsson, & Larsson, 2015; Borgonovo, Giussani, Battista Grossi, & Maiorana, 2014; Bruijns, Guly, & Wallis, 2013; Buckner, Keough, & Schmidt, 2007; Ghoseiri & Safari, 2014; Karpe, Misiołek, Daszkiewicz, & Misiołek, 2013; Kuijt-Evers, Twisk, Groenesteijn, de Looze, & Vink, 2005; Morita et al., 2008; Robinson & Benton, 2002; Rowe & King, 1998; Samuelson, 2011; van de Leur et al., 2004). Based on these studies, physical discomfort is defined as an unpleasant body feeling or sensation that can be divided into pain or other unpleasant physical feelings or sensations such as fatigue, sleeplessness, shortness of breath, or thirst.

Pain and Physical Discomfort

Many of the articles in the physical domain described pain as the main source of discomfort. In some of these studies, there was a lack of differentiation between discomfort and pain. For example, several (n = 6) measured discomfort together with pain (Buffum, Miaskowski, Sands, & Brod, 2001; Cooke et al., 2010; Karpe et al., 2013; Meechan & Thomason, 1999; Rowe & King, 1998; Smith & Meuret, 2012). One study used pain and discomfort synonymously (Meechan & Thomason, 1999). Other articles (n = 5) used the word "pain" to describe physical discomfort and "discomfort" to describe unpleasant feelings that were not just pain (Kovach, Noonan, Griffie, Muchka, & Weissman, 2001; Lai et al., 2015; Morrison et al., 1998; Papas & Klassen, 2005; Rutter, Calnan, Vaile, Field, & Wade, 1992).

Discomfort as Other Unpleasant Physical Feelings

"Discomfort" has also been used as a term for other, non–pain-related physical symptoms or body sensations that are subjectively unpleasant (Cooke et al., 2010; Lai et al., 2015; Morrison et al., 1998; Papas & Klassen, 2005; Rutter et al., 1992). For example, Cooke et al. (2010) explored the effect of music on discomfort and anxiety experienced by ICU patients during turning. They used the word "discomfort" for unpleasant sensations of pain and of other physical sensations. Lai et al. (2015) describe bladder-associated unpleasant symptoms as discomfort in patients with urologic chronic pelvic syndromes. They define the sensation of pain pressure and discomfort as "painful urgency." This example demonstrates the use of discomfort as composed of both pain and another unpleasant physical sensation caused by pressure.

Other studies also intertwine the concepts of pain and discomfort, but measure the concepts separately. For example, Rutter et al. (1992) described discomfort and pain during mammography, where 35% of the women reported discomfort and 6% pain. They found that a previous expectation of pain was a predictor of discomfort. Papas and Klassen (2005) also examined pain and discomfort associated with mammography. They found that a report of discomfort was related to machine compression, breast size, and the stature and roughness of the technician. Morrison et al. (1998) asked patients to separately rate the levels of pain and discomfort associated with 16 hospital procedures such as mechanical ventilation, central line placement, waiting for a procedure, and the use of physical restraints. Among the ranked procedures, arterial blood gas was the most painful, whereas nasogastric tube procedure was associated with the most discomfort. Therefore, pain and discomfort were perceived as distinct from one another.

Sources of Non–pain-related Physical Discomfort

In the literature several sources of non–pain-related physical discomfort have been listed. A common source for physical discomfort is environmental conditions such as light, temperature, noise, tubes and devices, and lack of intimacy (Kalfon et al., 2016; van de Leur et al., 2004).

Another source of discomfort is postoperative discomfort, used to describe common body sensations appearing after surgery. In these studies, the definition of discomfort was related to the specific type of surgery. For example, Borgonovo et al. (2014) evaluated postoperative discomfort after impacted mandibular surgery. Postoperative discomfort in this study was defined as pain, swelling, and trismus. Borg et al. (2015) analyzed pelvic discomfort

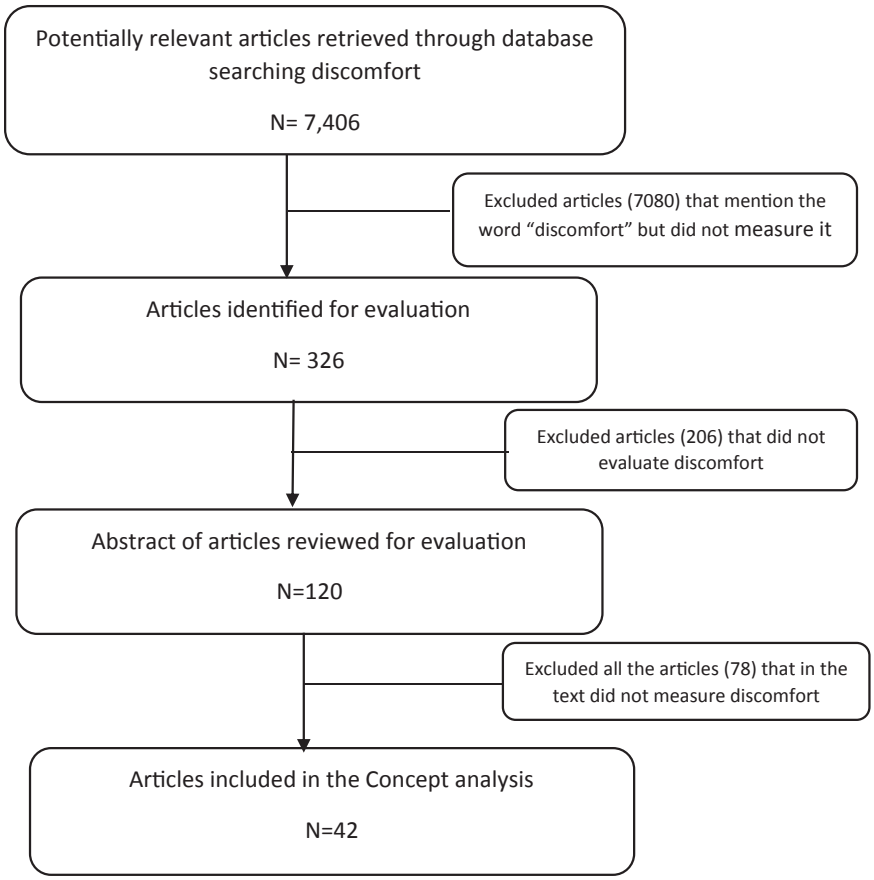

Figure 1. Flowchart of selection process for reviewing articles.

after fixation of pelvic ring injury. They defined discomfort as physical sensations of pain, walking motion, sexual activity, and sleeping. Aroni, Nascimento, and Fonseca (2012) examined thirst in the postanesthesia recovery room for patients who went through surgical procedures, causing postoperative discomfort.

A third source of physical discomfort was pregnancy, caused by physiologic alterations, increasing weight, and changes in posture as a result of hormonal changes (Greenwood & Stainton, 2001). Discomfort in pregnancy can be defined as a women's subjective experiences with unpleasant sensations anytime during pregnancy and functional changes that might cause pain or discomfort (Greenwood & Stainton, 2001).

Psychological Discomfort

"Psychological discomfort" refers to unpleasant emotions a person might experience. Psychological discomfort could lead to feelings such as anxiety, fear, depression, embarrassment, isolation, and vulnerability. Several articles (n = 5) reported on psychological discomfort (Bélanger & Ducharme, 2011; Bell, Tsang, Greig, & Bryson, 2009; Davis, Stoner, Norris, George, & Masters, 2009; Hayes & Mahalik, 2000; Masuda et al., 2008), whereas others combined them with physical discomfort.

Unpleasant Psychological Feelings

Williams and Irurita (2006) described emotional discomfort as the negative dimension of emotional comfort, an unpleasant negative feeling or a state of tension. They noted that physical discomfort was exacerbated by emotional discomfort.

Discomfort is also mentioned in situations that might be unpleasant and cause stress. Stress and discomfort were analyzed on a group of participants' perceptions of stressful experimental procedures. Participants were exposed to three sets of hypothetical procedures that threatened physical and emotional discomfort (Farr & Seaver, 1975). Bogaerts, Van den Bergh, Witters, and Devlieger (2013) examined the association between psychological discomfort and postpartum weight retention in obese mothers. Psychological discomfort was measured as levels of anxiety and depressed mood. In another study (Masuda et al., 2008), emotional discomfort was defined as disturbing self-relevant, negative thought. A qualitative review of patients experiencing delirium and the nurses who cared for them (Bélanger & Ducharme, 2011) revealed various expressions of discomfort such as fear and stress, a sense of threat, unpleasant hallucinations and illusions, feelings of lack of control, and an inability to communicate. Furthermore, Williams and Irurita (2006) defined emotional discomfort as a negative dimension of emotional comfort, an unpleasant negative feeling, and a state of tension. They also mention that the cause could be physical discomfort.

Sources of Psychological Discomfort

Another dimension of psychological discomfort is related to social situations, where the feeling of discomfort is in a social context. For example, women have feelings of discomfort during sexual assault. First, women who were assaulted detect environmental cues associated with risk. They then evaluate these cues as a threat and determine if further action is necessary. The sense of a threat can result in feelings of discomfort (Davis et al., 2009).

Table 1
Dimensions of Discomfort Found in the Literature

Physical Discomfort
Pain
Other unpleasant physical feelings or sensations
Bothersome
Sore throat, hoarseness
Fatigue
Nausea
Itching, irritation
Hunger
Sleeplessness
Shortness of breath
Thirst
Postural deviation from natural posture, body position
Sources of unpleasant body feelings or sensations
Environmental sources: noise, light cold/hot
Postoperative sources: tenderness, tingling, burning, swelling, weakness
Pregnancy
Psychological
Unpleasant psychological feelings
Embarrassment
Uncertainty
Vulnerability
Fear
Stress
Loss of body control, threat
Anxiety
Depression
Sources of psychological discomfort
Social Situations
Sexual assault
Hostility
Lack of communication
No respect for intimacy
Lack of information

Another application of social discomfort appears in the context of the workplace and is connected to social cognition (the mental operations underlying social interactions) that influences function at work. Bell et al. (2009) point out that when a worker's social cognition is impaired, it is more difficult for the worker to feel comfortable in the workplace and to communicate with coworkers, thereby affecting functioning at work. In addition, social discomfort related to gender role conflict and psychological distress has been reported (Hayes & Mahalik, 2000).

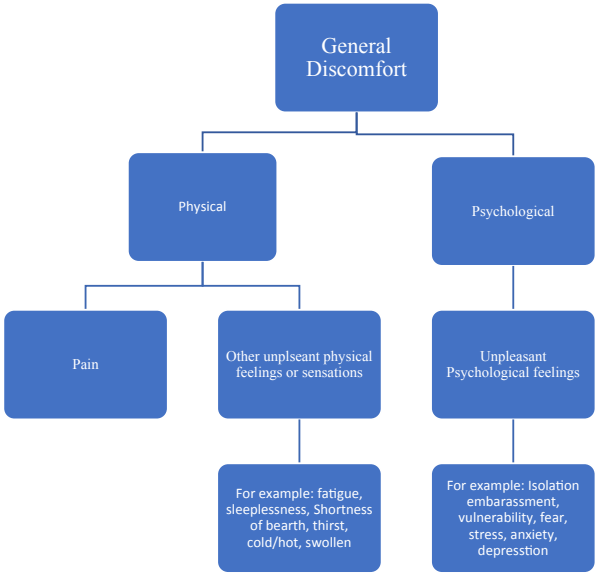

Figure 2. Process of manuscript extraction for the concept analysis of discomfort.

Physical and Psychological Discomfort

The combination of physical and psychological discomfort was also found. Some studies (n = 10) investigated the influence of physical discomfort on emotions or feelings (Cooke et al., 2010; Currin & Meister, 2008; Kalfon et al., 2016; Li & Puntillo, 2006; Ma et al., 2010; Rohr, Adams, & Young, 2012; Staphorst, Hunfeld, van de Vathorst, Passchier, & van Goudoever, 2015; Suskind et al., 2015; Tugut & Golbasi, 2014; Williams & Irurita, 2006). For example, Li and Puntillo (2006) evaluated the relationships between self-reported discomfort symptoms of ICU patients. Some of the symptoms were physical (e.g., thirst, hunger, and dyspnea) and others were psychological (anxiety, depressed feeling). The researchers found strong and significant correlations between some of the physical symptoms and anxiety. Currin and Meister (2008) assessed whether a therapeutic massage can reduce the level of distress of cancer patients. The four distress dimensions that were measured (pain, physical discomfort, emotional discomfort, and fatigue) included both physical and psychological aspects of discomfort. Cresi et al. (2012) investigated the influence of a gastroesophageal reflux event on discomfort in the early stages of life. The authors found that a physical event led to emotional sweating by the sympathetic system and that a gastroesophageal reflux event was responsible for stress and discomfort. Here, physical discomfort induced emotional discomfort.

Furthermore, one of the conditions that can accelerate psychological discomfort is physical discomfort. Williams and Irurita (2006) emphasize patient-perceived mind-body connections and the effect of various factors on emotional and physical comfort of patients in the hospital.

Other Aspects of the Concept Analysis

The next steps in the concept analysis are defining the concept's attributes and developing a model case, a related case, a contrary case, a borderline case, and an illegitimate case. Next the concept analysis includes a discussion of antecedents and consequences of the concept and its empirical referents.

Defining Attributes

A concept analysis requires defining attributes of the concept by taking note of the recurring characteristics of the concept (Walker & Avant, 1983). Based on this approach, discomfort's defining attributes are unpleasant physical or emotional feelings or sensations and physical or emotional negative state; and the natural response of avoidance or reducing the source of the unpleasant feeling by self-report either via verbal or nonverbal behavioral cues (for those who cannot verbally communicate).

Model Case

A model case is a real-life example of the use of the concept that includes all of the critical attributes, as per Walker and Avant (1983). The following is an example of a model case:

> A 24-year-old woman was traveling with her friend. One day they decided to take a 12-hour bus ride. The friends could not find two seats together, so they sat separately. One woman sat next to a large man who sat with his arms crossed. As time went by, the woman started to feel as if the man's arm was touching her arm. She was not sure if it was by mistake. Later, she started to feel his fingers touching her side, invading her privacy. She was so shocked that she could not move. She could not speak up because she was not sure if her accusation was true. She felt fear and stress. Her friend turned toward her, saw her face, and asked

if everything was OK. As the bus stopped and a new seat became free, the woman took her belongings and moved to another seat.

This case demonstrates a combination of physical and psychological discomfort. First, physical touch was a form of discomfort that was not painful but was certainly unpleasant. Second, the situation caused a negative emotional experience that led to embarrassment and an assault on the woman's privacy. She felt uncomfortable and stressed. She moved away in order to avoid the unpleasant emotional feeling.

Related Case

Related cases are examples of concepts that are related and similar to the concept but do not contain the critical attributes (Walker & Avant, 1983). For example:

Over a period of 1 week, an 11-year-old boy felt weak and dizzy. The child's mother brought him to his pediatrician, who decided to order blood tests. The boy entered the examination room with his mother and sat down. The technician began to prepare for the blood draw by taking out equipment, including the needle and test tubes. Suddenly the boy was pale and told his mother that he was not feeling well. The medical team lay him down and gave him some water, and later the blood was taken. The boy continued to be dizzy and weak even after the blood was drawn. Later it was determined that the dizziness and weakness were related to the boy's disease.

In this case the reaction of the boy to the needle and test tubes may have caused stress and discomfort. However, the boy's disease was the source of the response.

Contrary Case

Contrary cases are clear examples of what is not the concept (Walker & Avant, 1983). The following is an example of a contrary case:

A 41-year-old man was admitted to a surgical ward after mandibular surgery. A day later the left side of his face was swollen, and the sutures became red. He barely could move his face from side to side. The site was warm, and he was weak. His wife visited him and was afraid that there was an infection at the surgical site. When she asked him about how he was feeling, he did not complain of the swelling and said the surgical site did not bother him. He continued resting for the rest of the day without complaining.

Here, the swollen site, redness, and weakness did not cause an unpleasant body feeling even though it appeared as if it should.

Borderline Case

Borderline cases are the instances that contain some, but not all, of the critical attributes (Walker & Avant, 1983).

R.F., a 78-year-old woman, was admitted to ICU after a motor vehicle accident, with a diagnosis of pneumothorax and rib and pelvic fractures. A chest drain was inserted, and she was intubated because of respiratory failure. While her nurse was turning R.F., changing R.F's position in bed and changing her dressing, R.F's heart rate increased. No other signs or symptoms were seen because R.F. was sedated and unconsciousness. The nurse who was taking care of R.F. assumed that R.F. was uncomfortable and in pain and increased the dosage of analgesic medication.

This case demonstrates a borderline example of discomfort. The patient had reason to be uncomfortable because of repositioning in bed while having fractures. R.F. did not show any signs of discomfort because she was unconsciousness. The only sign that was observed was an increased heart rate, which was due to other medical reasons. The nurse could not reject the conclusion that the increase in heart rate was due to discomfort; hence, the diagnosis of discomfort is borderline.

Illegitimate Case

An illegitimate case is an example where the concept is used improperly (Walker & Avant, 1983). An author who uses the term “discomfort” instead of specifically citing other physical or psychological unpleasant feelings and studies that claim to measure pain and discomfort but only measure pain are examples of illegitimate cases.

Antecedents and Consequences

Antecedents are those events that must occur before the occurrence of the concept, whereas consequences are events that occur because of the concept. All physical and emotional events that cause an unpleasant feeling or sensation are antecedents for discomfort. Pain is the primary event that the literature describes leading to discomfort. However, there are many antecedents for discomfort, including environmental conditions, surgery, pregnancy, and emotional disturbances like embarrassment, lack of intimacy, anxiety, isolation, and fear.

The consequences of the unpleasant negative feeling of discomfort are attempts to avoid or reduce the perceived causes of the discomfort. This avoidance can be accomplished through a verbal or nonverbal response like behavioral cues.

Empirical Referents

According to Walker and Avant (1983), critical attributes and empirical referents can be the same. Empirical referents demonstrate the occurrence of the concept. Self-report by the person who experiences discomfort is the best empirical referent. However, lack of verbal communication and the presence of cognitive and motor deficits may make self-report not feasible or unreliable. The Discomfort Scale for the Dementia Alzheimer Type (Hurley et al., 1992) was developed to assess discomfort among cognitively impaired adults. An assumption of the authors was that there is a similarity in the behavioral manifestations of discomfort in dementia compared with infants and children. For example, facial expressions were one of the domains used to detect discomfort in noncommunicative patients with advanced dementia of the Alzheimer type. One of the stages of creating this scale was recording overall observed discomfort on a visual analog scale from extremely uncomfortable to completely comfortable. Another scale was developed to assess pain and discomfort (Pain and Discomfort Scale) among adults with intellectual and developmental disabilities (Shinde et al., 2014). The items used for this scale also were based on facial and behavioral expressions. However, the scale attributed discomfort to pain. Both the Discomfort Scale for the Dementia Alzheimer Type and Pain and Discomfort Scale measure discomfort in noncommunicative patients by using facial and behavioral expressions that correlated with the attributes of the concept of discomfort when self-report is unreliable or does not exist.

Discussion

Previous literature related to the word “discomfort” was reviewed; however, in most of the publications the measured value was pain rather than discomfort. Others used pain and discomfort interchangeably or measured other unpleasant physical and emotional symptoms that cause discomfort.

This concept analysis and literature review has found that pain can cause discomfort but not every discomfort can be attributed to pain. Thus it can be assumed that clinicians might interpret discomfort as pain, when in reality the patient is uncomfortable. This is especially true among those who cannot verbally report their psychological or physical feelings of discomfort. Behavioral cues for discomfort can be similar to those of pain, thereby leading to a misinterpretation in the assessment of pain or discomfort. In a noncommunicative patient, it is often assumed that pain is the reason for the patient's behavior, when other reasons such as discomfort may be the real cause of the behavior. A lack of an accurate assessment can lead to incorrect treatment, such as administering an analgesic for pain when the patient is uncomfortable but not in pain. This assumption should be examined in future research.

Walker and Avant's (1983) approach was used to define the concept discomfort. This method distinguishes between the defining attributes of a concept and the irrelevant attributes by a systematic method. Concept analysis gives a precise theoretical definition but also an operational one. It can also help to clarify nursing terms and develop nursing diagnoses (Walker & Avant, 1983). Therefore, based on the results of this analysis, discomfort is defined as a negative physical and/or emotional state, causing unpleasant feelings or sensations. As a result, a natural response of avoidance or reducing the source is expressed either verbally or nonverbally via behavioral cues (for those who cannot verbally communicate).

The definition of pain, according to the International Association of the Study of Pain (Merskey & Bogduk, 1994), is an "unpleasant sensory and emotional experience" that includes actual or potential tissue damage. Our definition of discomfort does not include tissue damage and therefore is one mechanism to distinguish discomfort from pain.

Measuring outcomes of strategies to treat discomfort is important to nursing science; thus clarifying and defining the concept and explicating the antecedents and consequences of discomfort will help to develop methods to measure discomfort and give patients the treatment they deserve.

Empirical measurements of discomfort have been measured in two ways by investigators: first, using a self-report by either rating the discomfort on a visual analog scale (Rowe & King, 1998) or numeric rating scale from 0 = no discomfort to 10 = worst possible discomfort (Cooke et al., 2010) in communicative patients. Furthermore, facial and behavioral expression are the current methods available to measure discomfort in noncommunicative patients as present in the Discomfort Scale of Dementia of the Alzheimer type or Pain and Discomfort scale (Hurley et al., 1992; Shinde et al., 2014). Facial and behavioral expressions also are used to describe pain and agitation in intubated patients who cannot communicate verbally with their surroundings. For example, the Behavioral Pain Scale (Payen et al., 2001) or other scales that measure pain of mechanically ventilated patient rely on observation and interpretation of the patient's behavior by clinicians, because those patients cannot verbally communicate with their caregivers.

Limitations

The search strategy included only available full-text articles in English, which could be a limitation in that there might be other relevant articles that were not reviewed. Also, we did not use a pain expert in the analysis of the concept.

Conclusions

Discomfort is a concept that is familiar to nurses and described in the nursing literature; however, many of the studies that investigate discomfort use the concept incorrectly. Discomfort can describe both physical and psychological states. Pain can cause discomfort, but not every discomfort can be attributed to pain. A better understanding of discomfort is useful for health care professionals who intend to investigate the influence and outcomes of treatments, either in communicative or noncommunicative patients. This theoretical definition needs further investigation.

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