

Wandering: A Concept Analysis

Wantonoro

BSN, MSN, Ph.D., RN., Faculty of Nursing, Aisyiyah University, Yogyakarta, Indonesia

Abstract: Background: Wandering should not be simply considered as a uni-dimensional concept resulting in a simple categorization of wanderers or non-wanderers, but wandering is a complex, multifaceted behavior with variations in its expression often with observable patterns. Multiple disciplines and professions, as well as lay people dealing with wandering or its consequences, attribute varied meanings to the word. Understanding concept of wandering in nursing clinical setting is needed in order to improve dementia patient safety. Aim: to expand understanding of the concept of wandering; specifically, clarify the wandering meaning among dementia patients in the clinical care setting. Methods: The Walker and Avant concept analysis approach was applied. Results: The critical attributes of the concept of wandering include: pointless movement/aimless walking/walking with inappropriate purpose, walking with appropriate purposes but inappropriate frequency/repetitive movement; lapping, random, and/or pacing patterns, night-time walking, being brought back home and attempts to leave home/locomotion that cannot be easily dissuaded or redirected, hyperactivity, scanning, seeking, checking or searching behaviors. Biological, psychosocial, and person-environment interaction are the antecedence for wandering in older persons with dementia. Wandering behavior seems innocent enough, but it is exhausting for the family and clinicians as well as for healthcare policymakers, because accidents, getting lost/missing, malnutrition fatigue, sleep disturbance, social isolation, high risk of fall, earlier institutionalization are associated with wandering. Conclusion: Wandering did not emphasize specifically on getting lost/missing condition, however, getting lost/missing seem the consequence of wandering. In addition, locomotion is central of wandering, provided of space is recommended for dementia clinical nursing care. Clinical health-care provider would need fully attention on wandering characteristics for dementia care patients safety.

Keywords: wandering, dementia, older persons, concept analysis

1. Introduction

Dementia is becoming increasingly common among older persons, it is not a normal part of ageing (Lin-Gu, 2015). The estimated proportion of the general ageing population with dementia at a given time is between 5 to 8 per 100 people (World Health Organization, 2017). The total number of people with dementia is projected to near 75 million in 2030 and almost triple by 2050 to 132 million (World Health Organization, 2017).

Dementia patients should be presumed at high risk for wandering (Coltharp et al., 1996; Silverstein, 2003). Studies showed that the majority of dementia patients who are ambulatory wander at some time, whether they live at home or in a residential care facility (Silverstein et al., 2006). Around sixty percent of people with dementia displaying the wandering behavior (Kiely et al., 2000; Jayasekara, 2009). The incidence of wandering in the community range from 17.4% to 36%, and from 11% to 39% in institutions setting (Cohen-Mansfield et al., 1991; Lucero et al., 1993; Logsdon et al., 1998; Greiner, 2013). Wandering is defined as a collection of different behavioral abnormalities in dementia (Jayasekara, 2009). Another study stated wandering is frequently used to describe the situation where someone with dementia has become lost or missing in the community (Rowe, 2008). Wandering is frequently defined as aimless movement (Heard & Watson, 1999; Colombo et al., 2001). However, Kiely, Morris, and Algase's (2000) study identified that some wandering has purposes.

Movement (walking) is a common and a pleasurable leisure activity for healthy people. Walking has both physical and social purposes and also may have a relaxing effect on both healthy people and patients with dementia. Walking have benefits such as for cardiopulmonary function, osteoporosis, muscle fitness, constipation and more. Walking may also be

helpful for improving "brain fitness" as it activates brain areas responsible for gait (Kwak et al., 2015). However, wandering in dementia raises safety concerns for nursing practitioner.

Wandering should not be simply considered as a uni-dimensional concept resulting in a simple categorization of wanderers or non-wanderers, but wandering is a complex, multifaceted behavior with variations in its expression often with observable patterns such as lapping, pacing, or random ambulation. It is also one of the most frequently encountered dementia-related behavioral disturbances, and has been a major challenge for caregivers, including nursing profession. Moreover, wandering associated with negative consequences such as higher morbidity and mortality (Lai & Arthur, 2003; Rowe, 2008).

Wandering is a multifaceted pattern of human activity, a fascinating and elaborate behavior that is difficult to define (Nelson & Algase, 2007). Multiple disciplines and professions, as well as lay people dealing with wandering or its consequences, attribute varied meanings to the word. Although the number of studies related to wandering has increased in recent years, many gaps between "real world" and science remain, and empirical information related to interventions to address wandering is limited (Tilly & Reed, 2006). These discrepancies contribute to significant variation in practice associated with assessment practices for wandering as well as interventions used to manage wandering.

In regard to wandering, the extent to which this affects the dementia patients in the clinical care setting is unclear for a variety of reasons, including the lack of a clear, clinical setting accepted a definition of wandering (Lai & Arthur, 2003). In addition, the clinical nurse is confused to judge the wandering because of similarity characteristics with other

terms, such as anxiety and restlessness. Lack of a standardized definition of wandering is a fundamental problem that hinders achievement of clinical practice goals. Hence, the present study was performed with the aim of analysing the concept of wandering to clarify this concept. The aim of this analysis is to expand understanding of the concept of wandering; specifically, clarify the wandering meaning among dementia patients in the clinical care setting. Walker and Avant's (2005) concept analysis serves as a guideline to direct this paper.

2. Methods

The study was conducted in October, 2019 to define the wandering in clinical settings using the basic principles of Walker and Avant's method of concept analysis. The Walker and Avant (2005) consist eight-step process is a (1) The selection of a concept. (2) The determination of the analysis purpose. (3) The identification of all possible uses of the concept. (4) The creation of the defining attributes. (5) The identification of a model case of the concept. (6) The identification of borderline, contrary cases. (7) The identification of antecedents and consequences. (8) The definition of empirical referents.

First, the concept was analyzed with an extensive review of databases (PubMed, Scopus, MEDLINE, PsycINFO, and CINAHL (EBSCO)). The concept was analyzed with an extensive review of databases search by keywords, such as "wandering" OR "wander" AND "ageing" OR "elderly" OR "older persons" AND "dementia" was performed. All articles with the above-mentioned phrases in their title, abstract or keywords were extracted. In the conducted review, all English literature were studied. All articles containing definitions, characteristics, arrangements and outcomes of wandering were retrieved and non-relevant articles were omitted. More than 200 articles were found, and finally 6 articles (Heard & Watson, 1999; Kiely, Morris & Algase, 2000; Colombo et al., 2001; Algase et al., 2007; Rowe, 2008; Jayasekara, 2009) were selected from among them to be analyzed using Walker and Avant's concept analysis method.

3. Results

The selection of a concept

Wandering is the phenomena that experienced by older persons with dementia and this issue can be found in clinical settings. Many people believe, if wandering is one of the most challenging behaviors to be managed by caregivers, particularly in the nursing area. A number of studies related to wandering has increased in recent years, many gaps between "real world" and science remain, limiting the empirical evidence on which to base important clinical decisions. These discrepancies contribute to significant variation in practice associated with assessment practices for wandering as well as interventions used to manage wandering. Therefore, clear definitions of wandering in clinical settings are very crucial for nursing, since a nurse playing an important role to give nursing care in providing the intervention and management strategies for patients with wandering. Finally, the concept analysis for wandering in elderly will be explored in this paper.

The determination of the analysis purpose

The varieties term of wandering has shown in the many studies, (Heard & Watson, 1999; Kiely, Morris & Algase, 2000; Colombo et al., 2001; Algase et al., 2007; Rowe, 2008; Jayasekara, 2009). Wandering should not be simply considered as a uni-dimensional concept resulting in a simple categorization of wanderers or non-wanderers. Clear nursing understanding about wandering is important in order to provide nursing interventions and management strategies for this behavior in the clinical settings. The aim of this analysis is to expand understanding of the concept of wandering; specifically clarify the wandering meaning in aging.

The identification of all possible uses of the concept

At this initial stage, using dictionaries, thesauruses, colleagues and available literature to identify as many uses of the concept (Walker & Avant, 2005).

Definition Wandering

Several definitions derived from online dictionaries such as *Merriam Webster* that define wandering as characterized by aimless, slow, or pointless movement (Webster, 2017). Meanwhile the *Colin dictionary* defined wandering is used to describe people who travel around rather than staying in one place for a long time (Collinsdictionary.com, 2017). The *Oxford dictionary* defined wandering is travelling aimlessly from place to place; itinerant (Oxford dictionary.com, 2017).

Further, Rowe (2008) defined wandering is frequently used to describe the situation where someone with dementia has become lost or missing in the community. However, Colombo et al., (2001); Heard and Watson (1999) defined wandering is frequently defined as aimless movement, and Kiely, Morris, and Algase (2000) study identified that some wandering has purposes. While, Algase, Moore, Vandeweerd, and Gavin-Dreschnack (2007) defined wandering a syndrome of dementia-related locomotion behavior having a frequent, repetitive, temporally-disordered, and/or spatially-disordered nature that is manifested in lapping, random, and/or pacing patterns some of which are associated with eloping, eloping attempts, or getting lost unless accompanied.

The creation of the defining attributes.

Defining attributes are defined as those characteristics that appear in a concept repeatedly and help researchers differentiate the occurrence of a specific phenomenon from a similar one (Walker & Avant, 2005). Defining attributes is to list the characteristics that are associated with a concept. Based on this principle, the critical attributes of the concept of wandering include: pointless movement/aimless walking/walking with inappropriate purpose, walking with appropriate purposes but inappropriate frequency/repetitive movement; lapping, random, and/or pacing patterns, night-time walking, being brought back home and attempts to leave home/locomotion that cannot be easily dissuaded or redirected, hyperactivity, scanning, seeking, checking or searching behaviors (Heard & Watson, 1999; Kiely, Morris & Algase, 2000; Colombo et al., 2001; Algase et al., 2007; Rowe, 2008; Jayasekara, 2009).

The identification of a model case of the concept

A model case is an example of the use of the concept that demonstrates all the defining attributes of the concept (Walker & Avant, 2005). Prior model case illustration, we identify the defining attribute that involved this case as follows:

- a) Locomotion behavior; pointless movement/aimless walking/walking with inappropriate purpose, walking with appropriate purposes but inappropriate frequency/repetitive movement; lapping, random, and/or pacing patterns, locomotion that cannot be easily dissuaded or redirected
- b) Hyperactivity, scanning, seeking, checking or searching behaviors

For the completed narrative story, here the illustration of model case related to wandering as follow;

“Mr. B. 80 years old with dementia and diabetes mellitus diagnosis is admitted to hospital for maintaining the glucose level. The patient responding well to insulin treatment and is almost fully recovered. He comes to the hospital with his family, in the first day in the patient room, nurse find the patient pacing repetitively back and forth from his room to the other patient room next door and always checking the outside window. The nurse asks Mr.B. What he is doing and he states nothing. The nurse reorient the patient and assist the patient back to his bed. Afterwards, when the nurse come back to the patient room for the noon medications pass, Nurse find the patient pacing movement between the window and the door and his body look very hyperactive movement such as arm Flexi-extension movement. He did not answer the nurse question. Nurse reorient the patient and assist her back to her room. Based on the nurse's observation, this behavior always happens with Mr.B in the morning and afternoon and also in the night before sleeping time during the hospitalization”

The identification of borderline, related and contrary cases**Borderline case**

Borderline case, described as those examples that contain most of the defining attributes of the concept being examined, but not all of them (Walker & Avant, 2005). The illustration of this borderline case involving two defining attributes as follows hyperactivity, scanning, seeking, checking or searching behaviors. Here the completed narrative of this story, as follows;

“Mrs. A, 78 years old with dementia and hypertension diagnose, she admitted to the hospital for medication her hypertension since yesterday with her family. In the first day hospitalization, she looks sometime walking around with randomly in the room (random pattern). The nurse ask with the family, is this common happen at home? The family explains that she will look like that when she has loosed her most lovely pink pillow. After the family gave the pink pillow to her, then she stopped walking around and more calm down. However She looks sometime rocking the leg lying on the bed and moving the neck frequently (hyperactivity) and sometime looking at her pink pillow in detail (checking)”

Contrary Case

It is illustration of the clear examples of not related to the concept (Walker & Avant, 2005). The illustration of this contrary case not involving the attributes of wandering concept. Here the completed narrative of this story, as follows;

“Mrs. B, 78 years old, She comes to the hospital to get medical check-up, after administration process, she has several physical examinations in the different rooms, such as bone x-ray, lung x-ray, eye examination, cardiovascular examination and others. Sometimes she walk back and forth to the previous room examination because she left her belongings there. She looks walking actively from place (room) to place (room), but also looks enjoy during medical check-up process. Sometime she looking at her mobile phone with seriously to check new message. Finally, she finished the medical check-up with a good health diagnose”

The identification of antecedents and consequences.**Antecedents**

Walker and Avant (2005) define antecedents as the events or attributes that must arise prior to a concept's occurrence. Articles that studied wandering were reviewed. Three fields: biological, psychosocial, and person-environment interaction are the antecedence for wandering in older persons with dementia.

Biological; The impairment of certain brain functions, especially in spatial memory, visuospatial processes or executive functions. Showed that spatial memory problems account for wandering in dementia, functionally impaired spatial and executive neural circuit leads to wandering (Tetewsky et al., 1999; Kavcic & Duffy, 2003; Rowe & Bennett, 2003).

Psychosocial and environmental; Wandering can occur when internal discomfort, especially when coupled with external demands (e.g., a noisy environment), exceeds the individual's threshold. Wandering increased when the environment is unfamiliar (Hong & Song, 2009), previous work roles and tendencies towards greater affiliation, such as seeking familiar places and people to provide security (Goldsmith, Hoeffler, & Rader, 1995).

Dementia patients with frustrating physical or psychosocial needs, such as the need for toiletry assistance or the need to find a familiar safe place, may be more prone to wandering. Personality and prior behavior patterns of coping with stress, previous work roles, and a need to search for secure people or places are also associated with wandering. Social environment evidence demonstrates wandering occur most often when people are alone (Kolanowski, Richards, & Sullivan, 2002). In addition, the characteristics patients associated with wandering include cognitive impairment, discomfort, medication use, the experience of pain, and ability to wander (Kiely et al., 2000).

Consequences

The consequences are those events or incidents that can occur as a result of the occurrence of a concept and that can often stimulate new ideas or avenues for research pertaining to certain concepts (Walker & Avant, 2005). Wandering behavior seems innocent enough, but it is exhausting for the family and clinicians as well as for healthcare policy makers, because accidents, getting lost/missing, malnutrition/weight loss, fatigue, sleep disturbance, social isolation, high risk of fall, earlier institutionalization are associated with wandering. (Martino et al., 1991; Morley et al., 1997; Yang et al., 1999; Phillips et al., 2003; Olland et al., 2003; Beattie et al., 2005). Negative consequences of unsafe wandering, including injury to oneself or others, and death. However, there are benefits of wandering has been state, include promotion of circulation and oxygenation, exercise, and decreased contractures (Lai & Arthur, 2003).

The definition of empirical referents

Empirical referents are measurable ways to demonstrate the occurrence of the concept (Walker & Avant, 2005). The empirical referents are classes or categories of actual phenomena that by their existence or presence demonstrate the occurrence of the concept itself. Based on literature review, we found the precisely measurable ways to support the clear meaning of the wandering concept. However, at two instruments related and connected with advanced technology.

Instrument	Authors	Item categories
Radio Frequency Identification Devices (RFID)	William & Helen Moore, 2016	Measurement of locomotion
Ultra wideband radio	Kearns et al., 2008	Measurement of locomotion
Algase wandering scale (AWS)	Algase et al., 2001	28-item questionnaire, based on five dimensions of wandering

4. Conclusion

Finally, the expanded understanding the term of wandering in elderly has been acknowledged and provide the significant information for the health care provider, particularly in the antecedence, attributes and consequence of wandering. However, learning about how to present the best treatment for the patient with wandering is the continuing process. Based on these works concept analysis, we state that "wandering" in the clinical setting as ambulating behavior of demented older persons with dimensions of pattern (lapping, random, or pacing), hyperactivity, scanning, seeking, checking or searching behaviors. However, we believed that getting lost/missing is become the consequences of wandering, even though it is a contradiction statement with Rowe (2008) who defined wandering as the situation where someone with dementia has become lost or missing in the community.

Therefore, we decided that to wandering is a form of locomotion, most often walking, in other words, locomotion is central of wandering, so space is needed. Wandering did not emphasize specifically on getting lost/missing condition, but getting lost/missing is the consequence of wandering.

Furthermore, the antecedents of wandering older persons with dementia are biological, psychosocial and person-environment interaction; cognitive impairment, discomfort, medication use, experience of pain, and ability to wander. While, the negative consequences of wandering are getting lost/missing, malnutrition/weight loss, fatigue, sleep disturbance, social isolation and fall, and benefits of wandering such as circulation and oxygenation, exercise, and decreased contractures.

Nursing Implication

Locomotion is central of wandering. Full understanding of attributes of wandering patterns such as locomotion behavior (lapping, random, or pacing), hyperactivity, scanning, seeking, checking or searching behaviors is recommended for a nurse practitioner in making judgment diagnosis of wandered or not wandered older people. Then, understanding the causes of attributes such as lapping, random, or pacing is needed to be underlined by nursing to provide nursing intervention strategies. Provide space and safe wandering is consideration for maintaining exercise and physical function. In addition future study strongly suggested to clearly determine differences the wandering and getting lost/missing concepts. Clinical health-care provider and caregivers would need fully attention on wandering characteristics for dementia care in getting loss prevention.

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6. Conflicts of Interest

The authors have no conflict of interest to disclose

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