

An Integrated Approach to an Analysis of Symptom Management in Patients With Cancer

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Purpose/Objectives: To provide a definition, describe uses, and identify essential attributes of symptom management by emphasizing the philosophical base for the concept.

Data Sources: 51 references (i.e., books and articles) published from 1980–2003 and located through the Ovid database.

Data Synthesis: Symptoms are subjective and personal phenomena, incorporating the dimensions of symptom occurrence, symptom distress, and symptom experience. Symptom management has been conceptualized and described as self-activity. Symptom status is the direct outcome of symptom management, with symptom distress, quality of life, and performance as major indicators.

Conclusions: The essential attributes of symptom management in patients with cancer are subjectivity, experientiality, intentionality, multidimensionality, dynamic process, and positive and negative outcomes.

Implications for Nursing: Findings can help oncology nurses and other healthcare professionals to better understand the process of managing a symptom and the influential factors that affect positive outcomes. The information from this analysis can be used to design educational and interventional programs for symptom management. Future research is needed to establish interventions that relieve and decrease the distress from or prevent the occurrence of symptoms.

Key Points . . .

- ▶ Conceptual clarification for a concept such as symptom management is needed to enable oncology nurses to accurately assess and develop effective interventions and improve evaluation of symptom management.
- ▶ As a subjective, intentional, experiential phenomenon, symptom management encompasses universal and particular experience. Universal experience provides a framework for individualizing interventions or cares to fit each patient's unique characteristics.
- ▶ Nurses and other healthcare providers need to explore the potential effectiveness of an intervention for several symptoms because multiple symptoms often occur simultaneously.

ffective interventions, and improve evaluation of symptom management. The purpose of this article is to provide a definition, describe uses, and identify essential attributes of symptom management by emphasizing the philosophical base for the concept.

Approach to Concept Analysis

Concepts are considered cognitive in nature and comprised of essential attributes abstracted from reality, expressed in some form, and used for some common purpose (Meleise, 1997; Rodgers, 1989). A concept's essential attributes are the characteristics that define that concept and make it salient under any contextual circumstances. Concept analysis is a strategy that allows researchers to examine and clarify the essential attributes or defining characteristics of a concept (Walker & Avant, 1995). Commonly used approaches to concept analysis include Walker and Avant's linguistically based analysis, Rodgers' (2000) evolutionary approach, and Norris's (1982) empirical data-based approach. However, these

Symptom management is a vital aspect of cancer care across the entire trajectory of diagnosis, treatment, and palliation. A broad spectrum of cancer-related symptoms was identified in the literature, including fatigue, weakness, pain, dyspnea, sleep deprivation, anorexia, nausea, vomiting, retching, pruritus, paresis, dysphagia, loss of concentration, and mucositis. These symptoms have been described as subjective, experienced, unpleasant, and distressing (Almadrones & Arcot, 1999; Brown, 1999; Cimprich, 1995; Dodd et al., 1999; Du Pen et al., 1999; Fu, Anderson, McDaniel, & Armer, 2002; Rhodes, Johnson, & McDaniel, 1995; Ripamonti & Bruera, 1997; Vainio & Auvinen, 1996).

The phrase "symptom management" emerged from the growing awareness of medical and surgical limitations in finding and curing the causes of cancer-related symptoms and from an increasing emphasis on quality of life in all patients with cancer. Symptom management has been described as self-monitoring, self-care, self-regulation, and self-management (Burman, 1996; Keller, Ward, & Baumann, 1989; Rhodes, 1997; Richardson & Ream, 1997; Teel, Meek, McNamara, & Watson, 1997). As a concept, symptom management is expected to describe the phenomenon of managing a symptom (Meleise, 1997), but it remains imprecise. Conceptual clarification is needed to enhance accurate assessment, develop ef-

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traditional approaches lack an emphasis on the philosophical base that limits the possibility of exploring the complex nature of a concept.

In a belief system, a philosophical base or underpinning provides a structure of inquiry in terms of the nature of reality, ways of beginning to understand, and the methods of understanding. As a term describing a phenomenon, a concept is a construct encompassing the denotation of philosophical bases that provides insightful analysis of that concept.

The integrated approach used in this analysis combined components of the classic method of concept analysis described by Walker and Avant (1995) and Rodgers (2000) with an emphasis on philosophical, empirical, and contextual elements. By using an integrated approach, the nature of the concept of symptom management can be identified, and reasonable and defensible assumptions based on a philosophical base can be made. As a result, the essential attributes of the concept can be identified in a systematic process. The procedures of this integrated approach were to

- Determine the definitions and uses of the concept and review related literature.
- Identify a philosophical base for the concept.
- Provide a definition for the concept with essential attributes.
- Explore empirical implications for practice and research.

Definitions, Uses, and Literature Review

In the integrated approach to a concept analysis, lexical information about the terms “symptom” and “management” initially was reviewed to determine the common uses and definitions of the terms. A literature review of materials published from 1980–2003 about symptom management and its associated concepts (symptom, symptom occurrence, symptom distress, and symptom experience) then was conducted through the Ovid database, including CINAHL®, AARP Age-Line®, Newspaper Abstract, Biological Abstract, HealthSTAR, Dissertation Abstract, MEDLINE®, and Bioethicsline.

Symptom

According to the *Oxford English Dictionary* (Johnson, 1993b), a symptom is defined as “a (bodily or mental) phenomenon, circumstance, or change of condition arising from and accompanying a disease or affection, and constituting an indication or evidence of it” (p. 372). Researchers agree on the subjective nature of symptoms in the literature (Almadrones & Arcot, 1999; Brown, 1999; Cimprich, 1995; Du Pen et al., 1999; Fu et al., 2002; Fu, LeMone, McDaniel, & Bausler, 2001; Rhodes et al., 1995; Ripamonti & Bruera, 1997). Rhodes and Watson (1987) defined a symptom as a “subjective phenomenon regarded by the individual as an indication or characteristic of a condition departing from normal function, sensation, or appearance” (p. 242). Dodd, Janson, et al. (2001) defined a symptom as “a subjective experience reflecting changes in the biopsychosocial functioning, sensations, or cognition of an individual” (p. 668). Lexical information and the literature support the assumption that a symptom is an experience that is perceived and verified only by the individual experiencing the phenomenon. Thus, symptom is subjective and experiential.

Three major concepts related to the idea of symptom have been interpreted as symptom dimensions: symptom occur-

rence, symptom distress, and symptom experience (Armstrong, 2003; Lenz, Pugh, Milligan, Gift, & Suppe, 1997; Rhodes, 1997). Symptom occurrence includes two components: frequency and duration (Lenz et al., 1997; Rhodes). Frequency is the number of times a symptom is experienced by an individual within a given time frame, and duration is the persistence of the subjective experience of a symptom (Lenz et al., 1997; Rhodes). Symptom occurrence has been a major focus in research on symptom evaluation and management (Berger, 1998; Fu et al., 2002; Porock, Kristjanson, Tinnelly, Duke, & Blight, 2000; Rhodes & McDaniel, 1997).

Symptom distress refers to the degree of physical or mental suffering, discomfort, or bother reported by individuals in relation to their perceptions of the symptom (Lenz et al., 1997; McCorkle & Young, 1978; Rhodes, 1997; Rhodes & Watson, 1987). The degree of symptom distress perceived by an individual is an influential factor that determines the initiation, continuation, or discontinuation of the activities to relieve or prevent the symptom(s) (Cameron, Leventhal, & Leventhal, 1993; Fu et al., 2002; Rhodes, 1997; Richardson & Ream, 1997; Sweed, Schiech, Barsevick, Babb, & Goldberg, 2002). For example, patients who suffer great distress from cancer pain or fatigue would initiate or continue their activities (relaxation, imagery, exercise, diet modification, or pharmacologic interventions) to relieve, decrease, or prevent the distress. Patients who experience minimal or no distress from certain symptoms may not undertake any activities regarding the symptoms.

The degree of symptom distress often is considered an indicator variable for symptom experience and outcome indicators for symptom management (Berger, 1998; Dimeo, Rumberger, & Keul, 1998; Dodd, Janson, et al., 2001; Fu et al., 2002; MacVicar, Winningham, & Nickel, 1989; Mock et al., 1997; Porock et al., 2000; Rhodes, 1997). Symptom distress has a great effect on the quality of life and survival of patients with cancer (McClement, Woodgate, & Degner, 1997; Rhodes; Sweed et al., 2002). Effective symptom management can decrease symptom distress and improve quality of life and survival. Factors that affect an individual’s perception of symptom distress are age, gender, culture, family role, education, health knowledge, type of treatment, values, beliefs, and past experience (Juarez, Ferrell, & Borneman, 1999; McClement et al.; Rhodes; Van Wijk & Kolk, 1997).

Symptom experience is an individual’s perception and response to symptom occurrence and distress (Rhodes & Watson, 1987). Symptom experience is a dynamic process, involving the interaction of the perception of a symptom, evaluation of the meaning of a symptom, and response to a symptom (Dodd, Janson, et al., 2001; University of California, 1994). Symptom experience is affected by personal or social (age, gender, cultural, financial status, marital status), psychological (personality, cognitive capacity, motivation), and physiologic factors (physical capacity) (Dodd, Janson, et al.). Thus, symptom experience also is a subjective, perceptual, and experiential phenomenon.

Although a single symptom can occur, in patients with cancer, multiple symptoms often are experienced simultaneously (Dodd, Miaskowski, & Paul, 2001; Lenz et al., 1997). For example, during chemotherapy for cancer treatment, patients may experience nausea and fatigue concurrently. The simultaneous occurrence of more than one symptom results in a

multiplicative symptom experience and severe symptom distress (Lenz et al., 1997).

Symptom Management

Management is defined as “the application of skill or care in the manipulation, use, treatment, or control (of things or persons)” (Johnson, 1993a, p. 106). Symptom management has been conceptualized and described as self-monitoring, self-care, self-regulation, self-management, or self-treatment (Dodd, Janson, et al., 2001; Keller et al., 1989; Lenz et al., 1997; Rhodes et al., 1995; Richardson & Ream, 1997; Teel et al., 1997). Five theoretical or conceptual models have been used as a conceptual framework to describe symptom management: the self-care model, the common sense model, the symptom interpretation model, the conceptual model for symptom management, and the theory of unpleasant symptoms. In each model, symptom management is viewed as activity that results from subjective responses to experienced symptoms. In addition, symptom management is multidimensional and has dynamic processes.

Orem’s (1995) self-care model has been used to conceptualize symptom management in patients with cancer, specifically in the management of nausea, vomiting, and retching (Rhodes et al., 1995). The application of the model to symptom management includes awareness of new needs in the presence of the symptom experienced, the response of the patient to these new needs, and the patient’s capability for performing the required actions. A knowledge deficit regarding what action to take and a lack of capacity for performing the actions elicit assistance from others in managing symptoms.

The common sense model originated from studies of compliance behavior in patients with hypertension (Keller et al., 1989; Leventhal, Meyer, & Gutmann, 1985). Individuals are motivated to construct meanings for body sensations to engage in self-regulating behaviors. The three stages of the process are representation (organizing, analyzing, and interpreting information), coping (selecting and executing responses to the information), and appraisal (evaluating the effectiveness of coping). The effect of the experiential aspect and the perception of fear and threat resulting from the symptom experience are determining factors to initiate self-management activities.

The symptom interpretation model postulates a cognitive process of decision making (Teel et al., 1997). An individual experiences, receives, and recognizes a stimulus from a symptom and makes a decision about managing the symptom. This is a cognitive process of input (i.e., recognizing a disturbance in the human system), interpretation (i.e., naming the sensation and attaching meaning to the symptom by activating stored information and reasoning), and outcome (i.e., making decisions about whether to take action). This model addresses the multidimensionality and individuality of symptom management in terms of different experiences of a symptom.

The conceptual model for symptom management was developed with a primary focus on subjective symptom experiences (Dodd, Janson, et al., 2001; University of California, 1994). Three interrelated dimensions are the symptom experience, symptom management strategies, and symptom outcomes. Symptom management often requires changes in strategies over time or in response to acceptance of a strategy. Multidimensional indicators of symptom outcomes include

symptom status, functional status, emotional status, self-care ability, cost (financial status), quality of life, morbidity and comorbidity, and mortality.

The theory of unpleasant symptoms was developed based on the assumption that sufficient commonalities exist among symptoms (Lenz et al., 1997; Lenz, Suppe, Gift, Pugh, & Milligan, 1995). Some of the same factors that influence the symptom experience may lead to similar interventions effective in alleviating more than one symptom. Performance is the outcome of symptom experience. The theory also addresses the synchronic occurrence of more than one symptom that may exert a multiplicative effect on symptom experience, distress, and performance.

Outcomes of Symptom Management

Major indicators of symptom outcomes were conceptualized or identified, including symptom status, quality of life, and performance (Dodd, Janson, et al., 2001; Lenz et al., 1997; Sweed et al., 2002). Symptom status is a direct outcome of symptom management. Effective management of a symptom should lead to a symptom status in which the symptom is relieved, symptom distress is decreased, or symptom occurrence is prevented. Symptom distress has been a main indicator in evaluating symptom status in clinical practice, developing measures for a specific symptom, and performing interventional research for symptoms (Holley, 2000; Lenz et al., 1997; Porock et al., 2000; Rhodes & McDaniel, 1997; Smith, Kemp, Hemphill, & Vojir, 2002; Tanaka, Akechi, Okuyama, Nishiwaki, & Uchitomi, 2002). Quality of life also is a measure of symptom management. Research findings show that an increase in the number and distress of symptoms is associated with decreased quality of life (Cooley, 2000; Dodd, Miaskowski, et al., 2001; Rhodes & McDaniel; Sweed et al.). Performance is conceptualized as an outcome of symptom management, including function (physical activities, activities of daily living, social activities and interactions, and role performance) and cognition (concentrating, thinking, and problem solving) (Lenz et al., 1997). Less effective role performance and lower cognitive functioning are related to an increased number of symptoms and increased symptom severity (Bennett, Stewart, Kayser-Jones, & Glaser, 2002; Richardson & Ream, 1997; Sweed et al.).

Findings

Philosophical Base for the Concept

Given that symptom experience and symptom management are experiential phenomena, descriptive phenomenology was the philosophical base used to develop the concept of symptom management. Descriptive phenomenology is based on the belief that the human experience is composed of meaningful structures that are intentional, subjective, and eidetic (Husserl, 1913/1962). Intention of experience refers to purposefulness of experience or the “goal” of experience (Husserl). The directional relationship between an individual and the intention of experience involves an individual’s perception, cognition, affection, and other conscious acts (Husserl; Omery & Mack, 1995). Managing a symptom is intentional. Only when individuals perceive the occurrence of the symptom, set goals, and direct certain activities to relieve or decrease symptom distress or prevent symptom occurrence does the phenomenon of symptom management emerge.

Subjectivity of experience represents a personal perspective that makes an individual directly aware of a given experience. Experience is not passive. The individual is conscious of the experience, recognizes the self as the subject of the experience, and is aware of the purposefulness of the experience (Husserl, 1913/1962; Kohak, 1978). Thus, personal experience is not a random set of happenings; it is a way of being in one's world and coping, adjusting, and interacting (Kohak). Emphasis on subjectivity of experience provides philosophical support for two popular assumptions: Symptom experience is subjective (Almadrones & Arcot, 1999; Armstrong, 2003; Brown, 1999; Cimprich, 1995; Du Pen et al., 1999; Fu et al., 2001, 2002; Rhodes et al., 1995; Ripamonti & Bruera, 1997), and symptom management involves self-activities (Dodd, Janson, et al., 2001; Keller et al., 1989; Richardson & Ream, 1997; Teel et al., 1997).

Descriptive phenomenology contends that experience has eidetic structures. An individual's direct awareness of an experience includes not only the particulars of that experience but also the essential principles (universalities) embodied in the particulars. The particulars of an experience are specific aspects of experience found only in an individual having a given experience. Essential principles of experience are universalities of experience found in all individuals having that experience. Thus, eidetic structures of experience are the essential principles within a given experience that are universal in all individuals having that experience (Husserl, 1913/1962). Through the recognition of eidetic structures of experience, two separately occurring experiences are recognized as being the same phenomenon: the particularity and universality of a given experience (Husserl; Omery & Mack, 1995).

Emphasis on the eidetic structures of experience provides a philosophical base for the assumption that sufficient commonalities exist among symptom experiences and that similar interventions can be effective in alleviating more than one symptom (Dodd, Miaskowski, et al., 2001; Lenz et al., 1995, 1997). This emphasis provides philosophical support for the conceptual models for symptom management that identify factors or dimensions influencing symptom management (Dodd, Janson, et al., 2001; Lenz et al., 1997; Leventhal et al., 1985) and the conceptual models that identify the stages or process of symptom management (Dodd, Janson, et al.; Leventhal et al.; Teel et al., 1997). An individual's particular characteristics in managing a symptom should be taken into consideration within the framework of universal experience because particulars and universalities occur concurrently while managing a symptom.

Accordingly, the assumptions regarding the concept of symptom management based on descriptive phenomenologic philosophy are (a) reality is experiential; only when an individual acts on and interacts with a perceived symptom does the reality of managing the symptom emerge; (b) the intentionality of experience enables an individual experiencing a symptom to purposefully undertake activities that are linked to the perceived symptom; and (c) eidetic structures of experience imply that managing the symptom has universal factors, processes, or stages shared by all individuals experiencing a given symptom within each individual's particular experience.

Definition and Attributes of the Concept

Definition: In patients with cancer, symptom management is a dynamic and multidimensional process in which patients

intentionally and purposefully act on and interact with the perception (or previous perception) of the symptom(s) to initiate activities or direct others to perform activities to relieve or decrease distress from and prevent the occurrence of a symptom.

Essential attributes: The essential attributes of symptom management are as follows.

1. *Subjective:* The perception (or previous perception) of symptom experience and the degree of symptom distress enable individuals to consciously realize and evaluate the need to manage the symptom(s), make decisions, and carry out activities to relieve, control, or prevent the symptom experience.
2. *Experiential:* The reality of managing a symptom emerges only in an experience in which individuals act on and interact with the perception (or previous perception) of the symptom to initiate activities or direct others to perform activities to relieve or decrease distress from and prevent the symptom experience.
3. *Intentional:* An experience enables individuals to purposefully undertake activities that are linked to perceptions of the symptom experienced. Symptom management is not a random set of happenings; instead, it is a way of coping with, adjusting to, and interacting with the experience of a symptom.
4. *Multidimensional:* Intentional activities involve perception, cognition, affection, and other conscious acts. The multidimensionality of symptom management includes physical, perceptual, psychological, cognitive, and socio-cultural dimensions.
5. *Dynamic process:* Symptom management is a dynamic process that may encompass phases of evaluation, decision making, actual management, and outcome. "Dynamic" not only indicates changes in management strategies over time or in response to outcomes of symptom management but also refers to the cyclic feature of the process; that is, with each experience of symptom, the cycle begins with the initial phase of evaluation.
6. *Positive and negative outcomes:* Symptom management is a process of trial and error. Even with guidance from health-care professionals and adequate knowledge about the symptoms experienced, outcomes of the initial management of a newly experienced symptom can be positive or negative. Positive outcomes include relief of the symptom, a decreased degree of symptom distress, prevention of the occurrence of symptoms, and improved quality of life. Negative outcomes include recurrence of the symptom, sustained or increased degree of symptom distress, and stable or decreased quality of life.

Discussion

Findings of this analysis support the notion that the symptom is a subjective and experiential phenomenon, incorporating the dimensions of symptom occurrence, symptom distress, and symptom experience. This analysis also supports the theory that symptom distress is a determining factor for initiation, continuation, and discontinuation of activities to relieve or prevent the symptom experienced and is an outcome indicator for symptom management. Multiple factors (e.g., personal or social, psychological, physiologic) influence the dimensions of symptom distress and symptom experience.

Thus, this analysis provides a starting point for conceptualizing a model for symptom management and developing measurement instruments by mapping dimensions and factors that are important to measure the phenomenon of managing a symptom.

The emphasis of descriptive phenomenology on the subjectivity and intentionality of experience provides philosophical support for the popular assumption that symptom management occurs through self-activity. Symptom management may be conceptualized with a self-care model, incorporating the capacity for action, demand for action, and method or measure appropriate to meet the required action (Orem, 1995). The direct outcome of symptom management is symptom status, with symptom distress, quality of life, and performance as major indicators. Based on the results of this analysis, conceptual foundations for developing effective interventional, educational, and clinical programs regarding the concept were found. For example, a conceptual model can be developed addressing the dynamic process and influential factors regarding symptom dimensions to facilitate effective decision making and positive outcomes of symptom management. Effective educational programs also can be developed based on this conceptualization to increase an individual's knowledge about the actions to take and the capability of performing self-care activities for managing the symptom experienced.

This analysis helped to provide a definition of symptom management with essential attributes by identifying a philosophical base and synthesizing related literature. The concept analysis provides valuable information for further work on instrument development, educational program design, and decision-making intervention studies. The essential attributes identified in this analysis provide a theoretical base for the development of an instrument to measure symptom management. An instrument based on these essential attributes would enhance the content and construct validity of the instrument (Walker & Avant, 1995). The essential attributes also provide information about the nature of the phenomenon that would provide a foundation for an intervention study.

The important finding of this analysis was the eidetic structures of the concept. Symptom management encompasses universal and particular experience. For example, the essential attribute of subjectivity might be viewed as the universal characteristics for all individuals sharing the experience of managing a symptom; however, an individual's perception of the symptom and personal preference to certain activities for managing the symptom may vary. Personal or social, psychological, and physical variables are universal factors that influence the experience of the symptom and symptom management; however, personal variations of these factors (e.g., age, gender, culture, financial status, family role, personality, cognitive capacity, motivation, physical capacity) might lead individuals to have different perceptions about the same

symptom experienced and different preferences for certain activities to manage the symptom. Certain phases or stages (evaluation, decision making, actual management, and outcome) may be common in the process of managing the symptom, but the way that individuals begin and reach each phase of the process might be different because of differences in the influential factors.

The integrated approach is not an endpoint process; instead, it is a heuristic process that emphasizes concept analysis as a foundation for further inquiry and theory development. Emphasis on the philosophical base for a concept provides an alternative approach to analyzing a concept. Further refinement and development for this integrated approach to a concept analysis are needed in future applications to other concepts.

Implications for Nursing Practice and Research

Clinical implications for this concept analysis are threefold. First, nurses and other healthcare professionals need to have a greater understanding of the definition of symptom management with the essential attributes and its meaning and implications for managing the symptom. Second, healthcare professionals need to understand that symptom management encompasses universal and particular experiences. Universal experience provides a framework for individualizing interventions or care to fit a patient's characteristics and unique patterns of symptoms by identifying differences in influential factors of each individual. Third, oncology nurses and other healthcare professionals need to explore the potential effectiveness of an intervention for several symptoms because multiple symptoms often occur simultaneously. For example, relaxation might be effective for pain, nausea, and fatigue.

Interventions based on the understanding and assumptions regarding the concept of symptom management are needed. Findings from the research can help oncology nurses and other healthcare professionals to better understand the process of managing the symptom and the important influential factors that affect positive outcomes. Future research is needed to focus on establishing dosing and schedules for a single intervention (e.g., relaxation, meditation, imagery, yoga) to relieve and decrease distress from or prevent the simultaneous occurrence of more than one symptom. Future research also should focus on providing systematic and integrative symptom management programs based on the understanding of the concept. Such programs should target at least one intervention specific to each phase of the symptom management process (evaluation, decision making, actual management, outcomes). Effective intervention programs to manage cancer-related symptoms will improve the quality of life of patients with cancer.

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References

- Almadrones, L.A., & Arcot, R. (1999). Patient education. Patient guide to peripheral neuropathy. *Oncology Nursing Forum*, 26, 1359–1362.
- Armstrong, T.S. (2003). Symptom experience: A concept analysis. *Oncology Nursing Forum*, 30, 601–606.
- Bennett, J.A., Stewart, A.L., Kayser-Jones, J., & Glaser, D. (2002). The mediating effect of pain and fatigue on level of functioning in older adults. *Nursing Research*, 51, 254–265.
- Berger, A. (1998). Patterns of fatigue and activity and rest during adjuvant breast cancer chemotherapy. *Oncology Nursing Forum*, 25, 51–62.
- Brown, D.J. (1999). Symptom management: The problem of weakness in patients with advanced cancer. *International Journal of Palliative Nursing*, 5(1), 6–12.

- Burman, M. (1996). Daily symptoms and responses in adults: A review. *Public Health Nursing, 13*, 294–301.
- Cameron, L., Leventhal, E.A., & Leventhal, H. (1993). Symptom representations and affect as determinants of care seeking in a community-dwelling, adult sample population. *Health Psychology, 12*, 171–179.
- Cimprich, B. (1995). Symptom management: Loss of concentration. *Seminars in Oncology Nursing, 11*, 279–288.
- Cooley, M.E. (2000). Symptoms in adults with lung cancer: A systematic research review. *Journal of Pain and Symptom Management, 19*, 137–153.
- Dimeo, F., Rumberger, B.G., & Keul, J. (1998). Aerobic exercise as therapy for cancer fatigue. *Medicine and Science in Sports and Exercise, 30*, 475–478.
- Dodd, M., Janson, S., Facione, N., Faucett, J., Froelicher, E., Humphreys, J., et al. (2001). Advancing the science of symptom management. *Journal of Advanced Nursing, 33*, 668–676.
- Dodd, M.J., Miaskowski, C., & Paul, S.M. (2001). Symptom clusters and their effect on the functional status of patients with cancer. *Oncology Nursing Forum, 28*, 465–470.
- Dodd, M.J., Miaskowski, C., Shiba, G., Dibble, S., Greenspan, D., MacPhail, L., et al. (1999). Risk factors for chemotherapy-induced oral mucositis: Dental appliances, oral hygiene, previous oral lesions and history of smoking. *Cancer Investigations, 17*, 278–284.
- Du Pen, S.L., Du Pen, A.R., Polissar, N., Hansberry, J., Kraybill, B.M., Stillman, M., et al. (1999). Implementing guidelines for cancer pain management: Results of a randomized controlled clinical trial. *Journal of Clinical Oncology, 17*, 361–370.
- Fu, M., LeMone, P., McDaniel, R.W., & Bausler, C. (2001). A multivariate validation of the defining characteristics of fatigue. *Nursing Diagnosis: International Journal of Nursing Language and Classification, 12*(1), 15–27.
- Fu, M.R., Anderson, C.M., McDaniel, R., & Armer, J. (2002). Patients' perception of fatigue in response to biochemotherapy as a treatment for metastatic melanoma. *Oncology Nursing Forum, 29*, 961–966.
- Holley, S.K. (2000). Evaluating patient distress from cancer-related fatigue: An instrument development study. *Oncology Nursing Forum, 27*, 1425–1431.
- Husserl, E. (1962). *Ideas: General introduction to pure phenomenology* (W.R.B. Gibson, Trans.). New York: Macmillan. (Original work published 1913)
- Johnson, J. (Ed.). (1993a). *Oxford English dictionary* (vol. 6). London: Oxford University Press.
- Johnson, J. (Ed.). (1993b). *Oxford English dictionary* (vol. 10). London: Oxford University Press.
- Juarez, G., Ferrell, B., & Borneman, T. (1999). Cultural considerations in education for cancer pain management. *Journal of Cancer Education, 14*, 168–173.
- Keller, M., Ward, S., & Baumann, L.J. (1989). Process of self-care: Monitoring sensation and symptoms. *Advances in Nursing Science, 12*(1), 54–66.
- Kohak, E. (1978). *Idea and experience: Edmund Husserl's project of phenomenology in ideas* (vol. 1). Chicago: University of Chicago Press.
- Lenz, E.R., Pugh, L.C., Milligan, R., Gift, A.G., & Suppe, F. (1997). The middle-range theory of unpleasant symptoms: An update. *Advances in Nursing Science, 19*(3), 14–27.
- Lenz, E.R., Suppe, F., Gift, A.G., Pugh, L.C., & Milligan, R. (1995). Collaborative development of middle-range nursing theories: Toward a theory of unpleasant symptoms. *Advances in Nursing Science, 17*(3), 1–13.
- Leventhal, H., Meyer, D., & Gutmann, M. (1985). Common-sense models of illness: The example of hypertension. *Health Psychology, 4*, 115–135.
- MacVicar, M.G., Winningham, M.L., & Nickel, J.L. (1989). Effects of aerobic interval training on cancer patients' functional capacity. *Nursing Research, 38*, 348–351.
- McClement, S.E., Woodgate, R.L., & Degner, L. (1997). Symptom distress in adult patients with cancer. *Cancer Nursing, 20*, 236–243.
- McCorkle, R., & Young, K. (1978). Development of a symptom distress scale. *Cancer Nursing, 1*, 373–378.
- Meleise, A.I. (1997). *Theoretical nursing: Development and process*. Philadelphia: Lippincott.
- Mock, V., Dow, K., Meares, C.J., Grimm, P.M., Dienemann, J.A., Haisfield-Wolfe, M.E., et al. (1997). Effects of exercise on fatigue, physical functioning, and emotional distress during radiation therapy for breast cancer. *Oncology Nursing Forum, 24*, 991–1000.
- Norris, C.M. (1982). *Concept clarification in nursing*. Rockville, MD: Aspen.
- Omery, A., & Mack, C. (1995). Phenomenology and science. In A. Omery, C.E. Kasper, & G.G. Page (Eds.), *In search of nursing science* (pp. 139–158). Thousand Oaks, CA: Sage.
- Orem, D.E. (1995). *Nursing: Concepts of practice* (5th ed.). St. Louis, MO: Mosby.
- Porock, D., Kristjanson, L., Tinnelly, K., Duke, T., & Blight, J. (2000). An exercise intervention for advanced cancer patients experiencing fatigue: A pilot study. *Journal of Palliative Care, 16*, 30–36.
- Rhodes, V.A. (1997). Criteria for assessment of nausea, vomiting, and retching. *Oncology Nursing Forum, 24*(7 Suppl.), 14–19.
- Rhodes, V.A., Johnson, M.H., & McDaniel, R.W. (1995). Nausea, vomiting, and retching: The management of the symptom experience. *Seminars in Oncology Nursing, 11*, 256–265.
- Rhodes, V.A., & McDaniel, R.W. (1997). Measuring nausea, vomiting, and retching. In M. Frank-Stromborg & S.J. Olsen (Eds.), *Instruments for assessing clinical problems* (pp. 509–517). Sudbury, MA: Jones and Bartlett.
- Rhodes, V.A., & Watson, P.M. (1987). Symptom distress—The concept: Past and present. *Seminars in Oncology Nursing, 3*, 242–247.
- Richardson, A., & Ream, E. (1997). Self-care behaviors initiated by chemotherapy patients in response to fatigue. *International Journal of Nursing Studies, 34*, 35–43.
- Ripamonti, C., & Bruera, E. (1997). Dyspnea: Pathophysiology and assessment. *Journal of Pain and Symptom Management, 13*, 220–232.
- Rodgers, B.L. (1989). Exploring health policy as a concept. *Western Journal of Nursing Research, 11*, 694–702.
- Rodgers, B.L. (2000). Concept analysis: An evolutionary view. In B.L. Rodgers & K.A. Knafl (Eds.), *Concept development in nursing* (2nd ed., pp. 77–102). Philadelphia: Saunders.
- Smith, M.C., Kemp, J., Hemphill, L., & Vojir, C.P. (2002). Outcomes of therapeutic massage for hospitalized cancer patients. *Journal of Nursing Scholarship, 34*, 257–262.
- Sweed, M.R., Schiech, L., Barsevick, A., Babb, J., & Goldberg, M. (2002). Quality of life after esophagectomy for cancer. *Oncology Nursing Forum, 29*, 1127–1131.
- Tanaka, K., Akechi, T., Okuyama, T., Nishiwaki, Y., & Uchitomi, Y. (2002). Impact of dyspnea, pain, and fatigue on daily life activities in ambulatory patients with advanced lung cancer. *Journal of Pain and Symptom Management, 23*, 417–423.
- Teel, C.S., Meek, P., McNamara, A.M., & Watson, L. (1997). Perspectives unifying symptom interpretation. *Image: Journal of Nursing Scholarship, 29*, 175–181.
- University of California, San Francisco School of Nursing Symptom Management Faculty Group. (1994). A model for symptom management. *Image: Journal of Nursing Scholarship, 26*, 272–276.
- Vainio, A., & Auvinen, A. (1996). Prevalence of symptoms among patients with advanced cancer: An international collaborative study. *Journal of Pain and Symptom Management, 12*, 3–10.
- Van Wijk, C.M., & Kolk, A.M. (1997). Sex differences in physical symptoms: The contribution of symptom perception theory. *Social Science and Medicine, 45*, 231–246.
- Walker, L.O., & Avant, K.O. (1995). *Strategies for theory construction in nursing* (3rd ed.). Norwalk, CT: Appleton and Lange.

For more information . . .

- ▶ CancerSymptoms.org
www.cancersymptoms.org
- ▶ National Library of Medicine: Symptom Management in Cancer: Pain, Depression, and Fatigue
www.nlm.nih.gov/pubs/cbm/cancersymptoms.html

Links can be found at www.ons.org.