Application of the Self Care Deficit Nursing Theory: The Community Context

Rebecca D. Green, Valdosta State University
Contents

Editorial
2 Letter from the Editors
2 President’s Message
3 Editors’ Column

Original Manuscripts
5 Application of the Self Care Deficit Nursing Theory: The Community Context
Rebecca Green, MSN, DNS, RN
16 The Evaluation of Supportive-Developmental Nursing Program on Self-Care Practices of Persons with Type 2 diabetes at the Health Centre in Bachok, Kelantan.
23 Spiritual Self-care Practices on Quality of Life for African American Patients Diagnosed with Heart Failure
Mary L. White, PhD, APRN-BC

Announcements
33 Call for Papers
34 Call for New Scholar Papers
34 IOS Scholarship Research Grant
35 Sarah E. Allison Foundation, Inc
36 Orem Archives
37 New Publications
Greetings to all! We are pleased that Spring has returned – and with it a renewed energy. It is our wish that this season will provide a time of inspiration for all of us to move the IOS forward to:

• Extend the international influence of the IOS
• Inspire a renewed interest in nursing theory
• Continue the explication and application of Orem’s SCDNT
• Discover new scholars
• Enhance the development of budding Orem scholars
• Support our IOS leadership

The official IOS website is up and running, thanks to the expertise of Gerd Bekel. The site, www.orem-society.com/, now SAFE, is a work in progress. We recognize many were inconvenienced when they could not access the journal and apologize.

Self-Care, Dependent-Care & Nursing sports a new cover that incorporates the IOS logo created by our founders in 1991. We continue to remind you that Self-Care, Dependent-Care & Nursing, referenced by EBSCO and CINAHL, is the primary source for SCDNT-based publications.

One of our goals for the Fall 2013 issue is to feature reflections from our current Orem scholars on their real life experiences with Dorothea Orem. They will share insights into Dorothea, the person, and her incredible influence on the world of nursing, past, present and future. A second goal is to provide novice and seasoned authors the opportunity to share short vignettes of how they have applied Orem’s concept of health deviation self-care requisite (HDSCR) in their practice.

Thank you for your continued support of the IOS.

We look forward to your contributions to the journal.

Violeta Berbiglia
Virginia Keatley

I am honored to serve as President of the International Orem Society (IOS) for Nursing Science and Scholarship. I have been a student of Orem’s Self-Care Deficit Nursing Theory (SCDNT) since the mid 1970s endorsing her conceptualization of nursing as an educator and researcher. As a member of the IOS, participation in scholarly dialogues and in international conferences helped me grow in my understanding of the theory. I am committed to work hard as your president to fulfill the mission and purposes of the organization so others have the same opportunity and SCDNT can be further developed, tested, and utilized in nursing practice, education, and research.

The continued success of the IOS is critical to further development and utilization of SCDNT. As a professional organization, our collective voice is essential to moving forward the ideals that none of us can promote as effectively as individuals. Goals are realized through collaboration, as well as independent work. It is the sharing and group work where thoughts are challenged, new ideas emerge, and knowledge is expanded. The IOS provides the ideal vehicle for collaboration of expert scholars with novice scholars. Those of us with decades of experience with the SCDNT can provide insight to these new scholars. And, the new scholars can provide fresh insights into the theory. Recruiting new members who bring understandings and applications will enhance the SCDNT and invigorate the organization.

The IOS Board established a vision for the upcoming years that was outlined by past president, Kathie Renpenning, in the most recent issue of this Journal. Extremely significant and pressing is the need to establish a structure of workgroups and internet communication for the continued development of the SCDNT. This structure should include collaboration among practitioners, researchers, and educators. Such a composition should also provide avenues of dialogue with new scholars. The recently elected Board members, listed below, will be diligent in our efforts to ensure that this and other goals are met.

Vice-President: Victoria Folse
Secretary: Barbara Banfield
Treasurer: Beth Geden
As a reader of this Journal, I urge each of you to consider active participation in the IOS; it is your discoveries and reflections that will move us forward.

Sharie Metcalfe.

Editors’ Column: Health Deviation Self-Care Requisites

Orem’s Self-Care Deficit Nursing Theory (SCDNT), first proposed in the early sixties, seems to grow in relevance as countries around the world face increasing complexity in health needs and costs in health care. The belief that individuals are able to partake in health decisions and rituals becomes increasingly popular and necessary. In her first theory, the Theory of Self-Care, Orem proposes the concepts of universal, developmental, and health deviation self care requisites, basic conditioning factors, and power components. While the overall idea of self care has become generic, attention to Orem’s specific self care requisites demonstrates how farsighted Orem was. Less emphasized has been what Orem conceptualized as health deviation self care requisites (HDSCRs). These, however, provide much food for thought as the international health community struggles to provide care amidst growing financial and social concerns.

Orem defines self care requisites as existing for persons who “are ill or injured, have specific forms of pathology, including defects and disabilities, and who are under medical diagnosis and treatment” (Orem, 2001, p. 233). While changes in health status may impair a person’s ability to maintain self care, they do not necessarily mandate a permanent move to dependent or professional nursing care. It is in helping individuals to regain self care agency with adjustments through guidance and support that the framework provided by the HDSCRs is so beneficial.

Orem identified 6 categories of health-deviation self-care (Orem, 2001, 233-235). These include: seeking and securing medical assistance, becoming aware of and attending to the effects of conditions, carrying out diagnostic, therapeutic, and rehabilitative measures, understanding the deleterious effects of treatments, modifying the self concept and accepting a new state of well being, and learning to live with the effects of the new condition and the modifications needed to regain self-care.

Nurses are often at the frontline in providing the care, education, and support that enables persons with health care deviations to identify a change in health status and to find appropriate assistance. In this issue, Green explores the role of the school nurse in providing support and education and acting as liaison for children with special needs who are identified by school
nurses. Rosmawati and colleagues propose implementations at nurse run clinics to help diabetics regain control of self-care through exercise, diet, medication, and motivation. White proposes spirituality as a potentially strong influence in the lives of chronically ill heart failure patients.

Nurses also have a primary role in empowering self care among persons with HRSCRs to be aware of the deleterious effects their condition might have on other self-care requisites and in carrying out the treatment modalities necessary to stabilize these conditions through enhanced self care measures.

Support for persons who must modify lifestyles or dreams of life options is also a role nurses have traditionally played in the health care arena. In fact, nurses are uniquely positioned to do so. Learning to live with chronic illness is especially relevant among today’s population. Whether it be children or adults with disabilities, persons whose lifestyle has increased the chance of health deviations such as hypertension, diabetes, the effects of obesity, or older adults who are living longer, nurses are stepping up to new challenges and expanded roles. The conceptual framework proposed by Orem provides a blueprint for nursing action. Her concept of HDSCR, in particular, seems appropriate for the nurses in the 21st century. In a time when the importance of nursing theory seems to be in question, is it not time to demonstrate how effective and practical nursing theory really is?

With this question in mind, we invite you, the reader, to submit short vignettes of how you have applied Orem’s concept of HDSCR in your practice. We would like to publish several of your 1-2 page stories in the next issue of the journal. This is a great opportunity for both novice and seasoned authors to share how they applied nursing theory. In doing so, you will be providing a testimony not only to Orem’s work but to the place of nursing theory in nursing practice. We look forward to receiving your stories at violetaberbiglia@hotmail.com.
Abstract

The purpose of this article is to consider basic tenets of Orem’s Self-Care Deficit Nursing Theory in application to children with special health care needs as an aggregate in a larger community. The cases of Javon and Elizabeth will be evaluated within the context of community. Orem’s concept of conditioning factors is linked with the public health concepts of social determinants of health; and her concept of universal self-care requisites are interpreted in the context of the World Health Organization’s definition of health. Finally, the concept of intersectionality is introduced as a linking framework for consideration of these concepts in relationship to vulnerable individuals and populations.

Keywords: Orem, intersectionality, children with special health care needs, self-care, school health

Use of practice models to conceptualize and deliver care that addresses universal self-care requisites of both individuals and populations can be helpful to school nurses who may lose sight of the larger population picture in the daily scramble to deliver care to individual students. The purpose of this article is to establish the usefulness of Dorothea Orem’s Self-Care Deficit Nursing Theory (2001) in application to the care of an aggregate (disabled children in the school setting), in the context of the larger community. In addition, Orem’s concept of conditioning factors is linked with the public health concepts of social determinants of health; and her concept of universal self-care requisites are interpreted in the context of the World Health Organization’s definition of health. Finally, the concept of intersectionality is introduced as a useful framework for consideration of Orem’s conditioning factors in relationship to vulnerable individuals and populations and as a starting point for further scholarly work.

Conditioning Factors of Aggregates and Populations and Intersectionality

Conditioning factors for self-care such as age, gender, genetics, sociocultural orientation, resource availability, health care system factors, and environmental factors, should be essential considerations in the practicing nurse’s investigation when developing plans of care not only for individuals, but for multiperson units or aggregates within a community, or entire populations (Orem, 2001; Taylor & Renpenning, 2001). Orem’s theory makes some distinction between the nursing of individual patients and the nursing of families and populations (multiperson situations). Multiperson care systems are those in which care is delivered for the purpose of enhancing the welfare of the unit. In a community
health care setting such as a school, it is important for the practicing nurse to consider factors that affect the health of individual students and the health of multiperson units, which may include family and social support systems, the population of the school itself, and the greater community in which the school is located.

**Intersectionality**

Intersectionality provides a framework for understanding basic conditioning factors and their relationships with self-care agency and dependent-care agency of vulnerable individuals and multi-person units. Fundamental concepts related to intersectionality and Orem’s basic conditioning factors are similar. Intersectionality is a subconstruct of critical theory that frames the consideration of inequality as the result of complex interactions between categories of difference, such as race, class, gender, and sexuality (Kelly, 2009). It has been defined as “the oppression that arises out of the combination of various forms of discrimination, which together produce something unique and distinct from any one form of discrimination standing alone” (Reynoso, 2004, p. 64). Though age is not commonly mentioned in the literature about intersectionality, one might argue that age is a major intersecting factor in health care, considering the health disparities of the very young and the very old, one that could be an important framework for questions about children’s health. The concept of intersectionality was first introduced as a “matrix of domination” in the 1980’s by Patricia Hill Collins (1986), an influential scholar in African American feminist thought. In subsequent years it was further developed by scholars like Crenshaw (1989, 1991) and Jones (2010) in application to complex interactions among race, class, and gender in the shaping of African American and immigrant women’s lives in the inner city. Intersectionality is a difficult concept to grasp, but is best illustrated by the metaphor of origin, the traffic intersection (Crenshaw, 1989). Crenshaw described a traffic intersection in which traffic flows in all four directions: north, south, east, and west. If an accident happens, it can be caused by traffic traveling in one direction, or by traffic traveling from any number of directions. If categories of human difference such as race, class, gender, or age are imagined as opposite pathways leading to social inequalities in health, minorities are often forced take long and complicated detours to destinations which are easily gained by others. Intersectionality has been considered and applied by scholars whose primary interest is health care and who consider it a critical step in addressing social determinants of health (Iyer, Sen & Ostlin, 2008).

The Centers for Disease Control (CDC, 2011) named the five broad determinants of health as biology/genetics, individual behavior, social environment, physical environment, and health services. The World Health Organization defined the social determinants of health as “the conditions in which people are born, grow, live, work and age, including the health system” (WHO, 2012, para1), and which are largely responsible for health disparities. These determinants of health are reflected within Orem’s categories of basic conditioning factors. Iyer, Sen, & Ostlin (2008) discussed how intersectionality affects health outcomes and contributes to health disparity: “Risk factors do determine health outcomes… but as both gender and class exert an influence, the pathways leading to social inequalities in health can be complex, and cannot be predicated along a single dimension of social inequality” (p. 11). Orem’s theory specifically considers the basic conditioning factors within the categories of 1) factors descriptive of individuals, singly or in groups; 2) factors that relate these individuals to their families of origin or marriage; and 3) factors that “locate these individuals in their worlds and relate them to conditions and circumstances of living” (Orem, 2001, p. 328). Intersectionality is a framework that can be used to consider a variety of individual, institutional, and societal factors related to health, including access, utilization, discrimination, perception, and others as they are influenced by a confluence of social determinants or conditioning factors. Western health care has traditionally considered disparities within singular categorical dimensions such as race, gender or income, as opposed to a multidimensional approach (Kelly, 2009). Considering Orem’s conditioning factors, or the determinants of health, within a framework of intersectionality may be useful when planning the care of vulnerable individuals and populations. Young, Taylor and Renpenning (2001) established that there are relationships between and among internal and external conditioning factors. Using a framework of intersectionality, one might extrapolate Young, Taylor and Renpenning’s assertion by suggesting that for vulnerable individuals and populations, these dynamic and complex relationships and
interactions among conditioning factors result in greater health disparity and inequity. There are many similarities and relationships among the theories and concepts of determinants of health, basic conditioning factors, and intersectionality (see Figure 1).

**Children with Disability as a Vulnerable Population**

The Center for Vulnerable Population Research (CVPR, 2010) identified vulnerable populations as

social groups with increased relative risk (i.e. exposure to risk factors) or susceptibility to health-related problems. Vulnerability is evidenced in higher comparative mortality rates, lower life expectancy, reduced access to care, and diminished quality of life. Vulnerable populations are often discriminated against, marginalized and disenfranchised from mainstream society, contributing to their lower social status and lack of power in personal, social, and political relationships. (CVPR, 2010)

Groups may be designated as vulnerable based on color/ethnicity, social class or income level, sexual preference, immigrant status, religion, gender, age, HIV or other chronic illness status (Dorsey & Murd, 2003).

Children with special health care needs may be considered as dually vulnerable based on their status as both children and disabled. Children are considered highly vulnerable because of high-risk health status in certain categories of illness. Landrigan (2004) labeled these as “new pediatric morbidity” and cited increases in morbidity and mortality over the past decade in incidence of asthma, childhood cancer, neurodevelopmental and behavioral disorders, diseases caused by

---

**Figure 1: Comparison of Determinants of Health, Categories of Basic Conditioning Factors & Concepts of Intersectionality Related to Healthcare**

<table>
<thead>
<tr>
<th>DETERMINANTS OF HEALTH</th>
<th>SYSTEM DETERMINANTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual behavior</td>
<td>Physical environment</td>
</tr>
<tr>
<td>Biology/genetics</td>
<td>Health services</td>
</tr>
<tr>
<td>Social environment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OREM’S BASIC CONDITIONING FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>INDIVIDUAL DESCRIPTIVE &amp; FAMILY RELATED FACTORS</td>
</tr>
<tr>
<td>Age</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Developmental state</td>
</tr>
<tr>
<td>Family system factors</td>
</tr>
<tr>
<td>Sociocultural factors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CONCEPTS OF INTERSECTIONALITY</th>
<th>INSTITUTIONAL &amp; SOCIETAL FACTORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Access to care</td>
</tr>
<tr>
<td>Gender</td>
<td>Utilization</td>
</tr>
<tr>
<td>Ability</td>
<td>Discrimination</td>
</tr>
<tr>
<td>Sexuality</td>
<td>Perception</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td>Resources</td>
</tr>
<tr>
<td>Class</td>
<td>Education</td>
</tr>
</tbody>
</table>

tobacco smoke exposure, and congenital defects; and cited many of these as being related to genetics, obstetrical difficulty, trauma, infection, and higher vulnerability to chemical environmental toxins. Children are also considered highly vulnerable because of their dependency on adults. Children are more likely than adults to be poor, to be malnourished, to be maltreated or to be victims of domestic violence, and to have disabilities (Macomber, 2006).

In short, multiple intersecting factors determine the health status of school children.

The disabled are considered vulnerable because of health disparities in the areas of obesity, cardiovascular fitness, vaccination levels, mental health disorders, dental health, and health screenings (Horowitz, Kerker, Owens & Zigler, 2000). They are also less likely to receive adequate health care (Fisher, 2004; Kraus, Gulley, Sciegaj & Wells, 2003).

The Centers for Disease Control (CDC) identified children with special health care needs as those who “have a parent-reported medical, behavioral, or other health condition that has lasted or is expected to last 12 months or longer and that has resulted in functional limitations and/or elevated use of or need for medical care, mental health or educational services, specialized therapy, or prescription medications beyond what is usual for other children of the same age” (CDC, 2009, Children with special health care needs section, para. 1). For the purposes of this article, children with special health care needs and children with disability will be considered synonymous terms (as they are in the school setting).

According to the CDC, “in 2005–2006, an estimated 14 percent of children ages 0–17 had a special health care need. Overall, 22 percent of all U.S. households with children had at least one child with special health care needs. The proportion of children with special health care needs increased from 13 percent in 2001 to 14 percent in 2005–2006” (CDC, 2009, Children with special health care needs section, para. 2). Special health care needs refers not only to severe disability, but may also include allergies, asthma, attention deficit/hyperactivity disorder, depression, anxiety, and migraines. About 63% of these children are affected moderately or daily by their conditions; 78% of them require prescription medication, and 18% need other special therapy (CDC, 2009). Brooks, Kendall, Bunn, Bindler, & Bruya (2007) asserted that the school nurse may be pivotal as the “only professional concerned with children’s wellbeing that traverses all the environments of the child, i.e. the home, the school and the wider community as well as connecting with the multi-sectoral nature of the service provision for young people” (p. 8). It is therefore appropriate to consider the application of Orem’s nursing theory to children with special health care needs as an aggregate within the larger community.

Application of Orem’s Theory to an Aggregate, School Children with Disabilities

Interestingly, school nursing incorporates elements of both individual and multiperson care (families and populations) described in Orem’s theory (2001). An Orem-inspired practice model of community care structure was included in her book (Taylor & McLaughlin, 1991; Orem, 2001). For example, the school nurse serves to promote the well-being of the school unit, as a whole, which is made up collectively of students, faculty, staff, and extended family outside the school, and the well-being of the greater extended community. An example of this is the school nurses’ role in monitoring children’s immunization status according to state law and providing annual flu immunizations to children and staff. For the purpose of this article, the role of the school nurse will be interpreted in the context of care of an aggregate population, children with disability. The dual nature of the school nurse’s role as caregiver of individuals and promoter of population health requires attention to the implications of Orem’s theory for both individuals and multi-person units and systems.

The Aggregate and Community Context

Much of the daily care provided by the school nurse falls squarely within the realm of individual nursing care. But school nursing is widely accepted to be a public health role, its success measured, since Lina Rogers first stepped foot in the tenements of New York City in 1902, by its impact on reducing school absenteeism (Hanink, 2012). So how might Orem’s theory inform better understanding and practice in the care of an aggregate population within the school, children with disabilities and also clarify the understanding of this aggregate in the more global context of the larger community? Kulig (2000) discussed the need for community health nursing practice frameworks that include “factors such as the social and economic environment, physical environment, personal health practices, individual capacity and coping skills, and health services” (p. 375) as factors which influence the health of an entire community. Orem’s theory is a flexible framework that may serve in this manner.

Javon and Elizabeth (see Figures 2 and 3) (Green, 2012) certainly represent an aggregate...
within the school and within the community. In this context, the nursing system is designed for individual persons who make up a larger group (Taylor & Renpenning, 2001, p. 394). Taylor and Renpenning cautioned that in this type of system, while it is important to recognize the requisites of the individual, these individual requisites do not extend understanding of the whole unit. In many school settings like those in which Javon and Elizabeth are educated, there is a “requirement for organized, cooperative effort to bring about the conditions and acquire resources to meet self-care requisites common to group members” (Taylor & Renpenning, 2001, p. 400). In these situations, nursing care is directed at promoting dependent-care capabilities, to promote habitual performance of essential measures of self-care or dependent care under known prevailing conditions, and to bring about the development and maintenance of cooperative efforts essential for group welfare (Taylor & Renpenning, 2001). In many school systems, children with significant self-care deficits may be educated in a self-contained classroom, with teachers and paraprofessionals taught by the

Figure 2. Case Study Jarvon

Case Study: Jarvon

Javon, a middle school student, was born premature at 30 weeks gestation, and had been diagnosed with asthma as an infant. He required frequent care in the school clinic for asthma related symptoms such as wheezing, chest pain, and fatigue.

Javon knew from experience that taking daily preventive medication would result in better control of his asthma, and he knew that his specific triggers were cigarette smoke and dust. He sometimes spent summers with his grandmother, who was faithful about following his medication regimen and maintaining a dust-free, smoke-free environment. However, he had limited self-care agency because as a minor, he was unable to control conditioning factors in his own environment. He usually lived with his mother and siblings in subsidized housing, with several smokers in residence. His family’s transportation and employment were not secure; therefore, neither were his income and insurance status. There were periods of time during which Javon’s mother was unwilling or unable to fill his prescription because of personal and other circumstances. It therefore became necessary for the school nurse to focus beyond the treatment provided in the school clinic and beyond setting and achieving dependent-care goals with his family.

Often in the case of children with asthma, much of the care provided will be supportive educative, teaching the child and family: to recognize symptoms of asthma; to identify personal triggers; how to interpret peak flow meter readings; and the importance of following preventive medication regimens faithfully at home. By the time he got to middle school however, Javon already had a solid understanding and knowledge base regarding asthma because of supportive educative care he had received through the local grant-funded asthma clinic and day camps. His mother shared this understanding and knowledge, and was always able to iterate the ideal care for Javon, even when it was clear that his asthma was being poorly managed at home.

According to Orem’s theory, for children with asthma, partly compensatory care may be provided in assisting the child to set-up and self-administer inhaler and nebulized albuterol treatments at school; with the eventual goal of complete self-care. This kind of partly compensatory care was provided by school nurses throughout Javon’s elementary school years, and indeed he was independent in set-up and self administration of nebulized albuterol and inhaler treatments by the time he reached middle school.

Finally, according to Orem’s theory, wholly compensatory care may be required in the case of an acute asthma attack when oxygen and supportive respiratory care is required until emergency transport arrives at the school. In this case, care is wholly compensatory because while Javon can still breathe for himself, he is not physically able, through manipulative movements, to control a hazardous situation (acute attack) to eliminate danger to life (Orem, 2001). The school nurse provided wholly compensatory care of this nature to Javon on one occasion during his first year of care in the school clinic. Several days of managing symptoms in the school clinic without sufficient self-care or dependent-care at home resulted in the nurse accessing emergent care on Javon’s behalf. Familiar with Javon, the emergency room staff were quick to admit Javon for several days to address the severe and ongoing asthma symptoms.
nurse to perform certain delegable dependent care tasks, such as administration of tube feedings. This delegation is necessary because the school nurse is responsible for the health not only of this small aggregate, but for the health of all the individual children who make up the school. Furthermore, the nurse is responsible for the health of the school as a unit, as described earlier when discussing immunizations.

It is important to acknowledge the multistrategic and multidisciplinary approach that is necessary for even this smallest and simplest example of aggregate care. Though the nurse may be the designer and coordinator of care in these situations, other individuals and disciplines are also involved, and the very existence of the program is dependent on a complex and multilayered system of approval (and funding), which includes school administrators, the local school board, the voting public, state and federal government, and the state Board of Nursing. In addition, agencies and programs in the community may be involved in

### Figure 3: Case Study: Elizabeth

**Case Study: Elizabeth**

Elizabeth, a 12-year-old middle-schooler, had a self-care deficit in provision of care associated with elimination processes and elements; and a self-care deficit in promotion of normalcy (related to bowel and bladder hygiene) in terms of functioning and development within her social group in middle school. An episode of severe hypoxia at birth had left Elizabeth with an IQ of 53, indicating moderate cognitive impairment (Siskin Institute, n.d.). Elizabeth usually was continent of urine, but had never developed bowel continence and always required help with toileting hygiene. She was a high-demands child, and the only child of a professor and a stay-at-home mother. Parents of children with cognitive impairments frequently become habituated to providing toileting care and may fail to promote independence as children grow older (Tasch, 1988): This was true of Elizabeth’s parents.

In Elizabeth’s case, her age and her promotion to the middle school environment created a change in conditioning factors and an opportunity for facilitating her self-care agency. Elizabeth had been in a self-contained classroom in elementary school, but in middle school she would be in some integrated classes. Her success in the integrated setting would be dependent on increased self-agency in toileting, and her parents were anxious that she begin to develop more independence and social successes.

Interventions for the family, in cases like Elizabeth’s, are directed at maintaining independent toileting at home. Nursing care in this scenario may require wholly compensatory, partly compensatory, and supportive educative care. Though Elizabeth is physically capable of elimination without assistance, wholly compensatory care may characterize the beginning of the interpersonal relationship, when the caregivers and the school nurse may provide complete toilet hygiene in the form of diaper changes. This had been the case for Elizabeth up until her entry into middle school. Her parents and school caregivers had provided toileting hygiene every time she urinated and a complete change of clothing when she defecated. This type of care may be considered wholly compensatory in individuals like Elizabeth who are socially dependent on others for well-being (Orem, 2001).

According to Orem’s theory, as self-care agency increases, the care will become partly compensatory as the nurse implements a schedule and routine for the child; then supportive/educative as she provides reminders at school and information for home. The school nurse met with Elizabeth’s parents, teacher, and paraprofessional in early May, her last month of 5th grade prior to entry into middle school. Because her parents were motivated, the nurse felt that if she planned and initiated a program of toileting training and hygiene, they would be able to maintain it over the summer, ensuring her readiness for middle school. She and the parents developed a process that involved achieving bowel continence and mastering toileting hygiene using small, simple steps; repetition; scheduling; and positive reinforcement (Lott & Kroeger, 2004; Taras & Matese, 1990).

The goal in a case like Elizabeth’s is for the child to reach independence in elimination self-care, and for the family to eliminate provision of dependent-care in the area of elimination. Elizabeth developed complete independence in toileting hygiene and bowel continence. Conditioning factors were such that the requisite for provision of self-care associated with elimination processes and elements was achieved and self-care agency was actualized.
promoting self-care and dependent care agency. In Javon’s case, a nurse-run grant-funded Asthma clinic has promoted dependent care agency by providing ongoing education, support, and free medications for Javon’s family in the home. His family is eligible for this intervention because of conditioning factors related to age, income, and access to care. Likewise, a private nonprofit agency servicing those with developmental disabilities will help promote Elizabeth’s independence in self-care by providing family counseling, job placement, community recreation, and housing assistance as she transitions to adulthood. Programs and agencies like these are community variables that promote the health of the community by administering programs designed to improve the health of individuals and aggregate groups. The health of Javon and Elizabeth as individuals, and the health of the aggregate population, disabled children in a school setting, are inextricably linked with the health of the community in which they exist. When these factors are considered, it is clear that the community itself can be a conditioning factor in the care of individuals like Javon and Elizabeth, and in the care of aggregate groups within a population (Taylor & Renpenning, 2001).

Orem’s theory may be applied beyond the individual and the aggregate, to the entire community as a unit of care delivery. Individual self-care deficits are addressed from the bottom up, as the school nurse provides direct care, makes referrals, and acts as case manager. Aggregate or community self-care deficits are addressed by the individual school nurse as coordinator of care within the school setting; but also by a network of local programs and agencies, including nurse-designed and nurse-run programs like the Asthma care program that intervened with Javon’s family. And finally, population care is promoted (or inhibited) from the top down by conditioning factors like public funding, legislation, and state and federal health programs. Taylor and Renpenning (2001) emphasized that when the community or population is the unit of care, strategies will be multilayered and multidisciplinary. For example, it is apparent that changes in societal mores and government legislation like IDEA and the Rehabilitation Act of 1973 were instrumental community variables that have facilitated the exercise of self-care agency and dependent care agency of disabled individuals and the disabled, as a population. Likewise, federal, state, and local budget cuts in recent years are also community variables that affect the delivery of programs funded by legislation, thereby inhibiting the exercise of self-care agency and dependent care agency of disabled persons and populations.

Still, there are variables of concern that are unique to nursing. Orem’s theory posits that there are eight universal self-care requisites of persons that are of concern to nursing: maintenance of a sufficient intake of air, water, and food; care associated with elimination processes and excrements; maintenance of a balance between activity and rest, and between solitude and social interaction; the prevention of hazards to human life, functioning, and well-being; and the promotion of human functioning and development within social groups (Orem, 2001). These self-care requisites may be impacted by many conditioning factors (age, gender, developmental state, health state, pattern of living, health care system factors, family system factors, sociocultural factors, availability of resources, and external environmental factors). It is the intersection of these conditioning factors (which one might propose to be consistent and interchangeable with the concept social determinants of health) with universal self-care requisites that should be the unique focus and concern of nursing on a community-based, population level.

It is an easy and potentially useful conceptual leap to consider Orem’s eight universal self-care requisites in terms of communities and populations (see Figure 4). Communities must have clean air, potable and sufficient water, sufficient food production and food sources, management of refuse and sewage through sanitation services, opportunities for work balanced with safe recreation and sufficient rest, opportunities for people to live comfortably in uncrowded conditions, and yet be able to gather socially and publicly, public safety systems and provisions for human safety, and systems which promote normalcy in human development in the form of education, health care, culture, and attention to human rights. Interpreting Orem’s universal self-care requisites on this level creates a consistency with the World Health Organization’s definition of health: “a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity” (WHO, p. 100, 1948).

Though Orem’s theory has often been considered to be a theory designed to care for individuals, it has been adapted for use in community and public health nursing of vulnerable populations. The school nurse is provided with a wonderful opportunity to care for both vulnerable individuals and vulnerable populations in the school setting. Orem’s theory provides a useful and flexible framework for doing both. Application of Taylor and McLaughlin’s (1991) model (See Figure 5) encourages community health nurses to look beyond the individual and implement political action and advocacy as part of nursing care.
### Figure 4: Comparison of Universal Self-Care Requisites of Individuals and Populations

<table>
<thead>
<tr>
<th>UNIVERSAL SELF-CARE REQUISITES OF INDIVIDUALS</th>
<th>UNIVERSAL SELF-CARE REQUISITES OF POPULATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sufficient intake of air</td>
<td>1. Sufficient clean air</td>
</tr>
<tr>
<td>2. Sufficient intake of water</td>
<td>2. Sufficient potable water supply</td>
</tr>
<tr>
<td>3. Sufficient intake of food</td>
<td>3. Sufficient food production and sources</td>
</tr>
<tr>
<td>4. Provision of care associated with elimination processes and excrements</td>
<td>4. Provision for management of refuse and sewage through sanitation services</td>
</tr>
<tr>
<td>5. Balance between activity and rest</td>
<td>5. Opportunities for work balanced with safe recreation and sufficient rest</td>
</tr>
<tr>
<td>6. Balance between solitude and social interaction</td>
<td>6. Opportunities for people to live comfortably in uncrowded conditions; and also to gather socially and publicly</td>
</tr>
<tr>
<td>8. Promotion of human functioning and development within social groups in accord with human potential</td>
<td>8. Systems which promote normalcy in human development through education, health care, culture, and attention to human rights</td>
</tr>
</tbody>
</table>


### Figure 5: Model for Community as Unit of Service

that may impact health outcomes of vulnerable populations on a community-wide level. Taylor and Renpenning (2001) stated, "... the nurse in the community is required to think beyond the values of the specific variables of therapeutic self-care demand and self-care agency of individuals. The nurse must be able to think of those variables in relation to populations, community, and community systems in operation, and the relation of these to person variables" (p. 421). Orem’s book (2001) includes an excellent tool for categorizing data for the purpose of describing populations for the design of nursing care (pp. 423-426). The interpretation of the universal self-care requisites to populations further expands the use of Orem’s model for population-based care planning.

Some scholars have discovered important connections between health beliefs, self-care and conditioning factors within specific aggregates (Slusher, Withrow-Fletcher & Houser-Whitaker, 2010). But aggregates and multiperson units are not static, unchanging, or siloed. Javon and Elizabeth inhabit different multiperson units and aggregate populations simultaneously. In considering Elizabeth and Javon as members of the aggregate, children with disabilities, within the larger multiunit system of a school, which in turn is part of a greater community; it must also be acknowledged that Javon and Elizabeth are members of differing gender, cultural, and socioeconomic groups. And membership in these groups is, in itself, a distinct conditioning factor. Multiple group memberships like Javon’s and Elizabeth’s become more and more of a consideration as the world becomes more global.

This reality paints a complicated picture of health, health care delivery, access, and relationships, thereby creating a challenge for designing nursing care that is both patient-centered and population focused. Taylor and Renpenning (2001) stated that this kind of complex care may be characterized by a circular, changing focus from individual as unit of service to multiperson unit as unit of service that will require a multidisciplinary, multistrategic system of care as opposed to solely a nursing system of care. A deeper understanding of the mechanisms and effects of intersecting conditioning factors on both individual self-care and multiperson unit or population self-care is needed to design the most effective interventions and systems of care.

Beyond its usefulness as a tool for practicing nurses who plan and implement nursing care for vulnerable individuals and populations, Orem’s theory invites both practicing nurses and nursing scholars to expand the understanding and application of its concepts. The comparison of case studies of Javon and Elizabeth offers a tantalizing glimpse of how conditioning factors reflect intersectionality at work in the self-care agency and dependent-care agency of two vulnerable children. Both children started out with easily identified self-care deficits related to their vulnerabilities, to their age (dependence on others for care), and to their special health care needs. But what contributed to the differences in the achievement of self-care or dependent-care agency? Why was there a continuing and ongoing deficit in Javon’s case, but not in Elizabeth’s? Considering the conditioning factors in these individual cases within the framework of intersectionality may begin to suggest an answer that extends to populations, as well.

Elizabeth had little vulnerability beyond her minor status and her special health care needs. She was from a white, upper-middle class, two-parent family with a high level of stability and motivation to resolve the self-care deficit. Her parents had stable income and insurance coverage, and a large system of extended support. There are fewer intersecting conditional factors in Elizabeth’s case.

Javon, on the other hand, experienced many intersecting conditioning factors even beyond his minor status and his special health care needs. He was one of several dependent children in a low-income, single parent home. Because of limited self-care agency, Javon could not control his environment despite a good understanding of his asthma triggers. Likewise, his mother’s tenuous income and employment status, changing insurance status, uncertain access to health care, and lack of transportation resulted in limited dependent-care agency. The concept of intersectionality suggests that considering any one factor in a singular manner is not sufficient to explain inequity. In Javon’s case, for example, it is important to understand how his status as a minor and his chronic asthma are influenced not just by his physical environment, but how his mother’s race, gender, and social status affect her ability to maintain an income level and employment that would provide continuity of care and control of Javon’s physical environment. In fact, these factors were at work even before Javon’s birth, and were contributing intersectional factors to his premature birth and subsequent development of asthma.

The differences in the conditioning factors at play in the lives of these two children are representative of differences between aggregates and populations. As a challenge, scholars of intersectionality and of Orem’s Theory of Self-Care, might postulate that as intersectionality among negative internal and external conditioning factors increases, self-care and dependent-care
agency decreases at both individual and population levels. Though a great deal of work has been done to identify conditions and factors associated with limitations of self-care agency (Taylor & Renpenning, 2011), intersectionality is a concept that is widely considered to be difficult to apply in terms of method and measurement of outcomes (McCall, 2005; Mens-Verhulst & Radtke, 2006). Future research toward enhancing understanding of Orem’s conditioning factors within a framework of intersectionality offers exciting potential for improving nursing care of vulnerable individuals and populations and for advancing nursing knowledge.

References


Individuals with Disabilities Education Improvement Act (2004). H.R. 1350 § 602 [Definitions].


Taylor, S., & Renpenning, K. (2001). The practice of nursing in multilayer situations, family, and...


The Evaluation of Supportive-Developmental Nursing Program on Self-Care Practices of Persons with Type 2 diabetes at the Health Centre in Bachok, Kelantan


Abstract:
The purpose of this quasi-experimental research is to evaluate the effectiveness of a planned supportive-developmental nursing program on self-care practices of persons with Type 2 diabetes. Orem’s Self-Care Deficit Nursing Theory provides the theoretical framework for the study.

The purposive sample included sixty eight adult patients with Type 2 diabetes who attended a diabetic clinic at a designated Health Centre. The subjects were divided into two groups. Group 1 (n=34) served as the control group. This group received the usual care. Group 2 (n=34) was assigned as the experimental group. This group received usual care coupled with supportive-developmental nursing program. This program focused helping methods for promoting self care capability for patients with Type 2 diabetes: 1) teaching, 2) guiding and supporting, 3) providing an environment conducive to building a relationship with participants. Data were collected by using two sets of questionnaires developed by the researcher: the Demographic and Health Information Form and Diabetes Self-Care Practice Questionnaire. The data were analyzed using inferential statistics of frequency, percentage, standard deviation, and Repeated Measured ANOVA.

The study revealed that the mean scores of total and subtotal self-care practices of the experimental group, i.e., dietary control, exercise, medication taking, stress management, and personal hygiene were significantly higher than that of the control group (p<0.05). There was no significant difference (p>0.05) for HbA1c changes before and after intervention in either group. Thus, this study suggests that the supportive-developmental nursing program is effective in helping the Type 2 diabetic patients to improve their self-care practices. It also suggests that the application of the supportive-developmental nursing program might be applicable for extension at other health care centers and for patients with other chronic illnesses.

Keywords: supportive-developmental nursing program, self-care practices, Type 2 diabetes.

Introduction
Diabetes is one of the most prevalent chronic diseases among Malaysians. Its incidence has steadily increased over the past 10 years. In 1986, the prevalence was 6.3%; this increased to 8.3% by 1995 (Ministry of Health, 1998). With a population of 21 million people (1996 estimated), this accounts for approximately 1.7 million individuals. By the year 2020, the prevalence is expected to exceed 10% (Anuar, 1998). In the state of Kelantan, in northeastern Malaysia, the prevalence of diabetes was 5.3 % as reported by second Malaysian National Health Morbidity Survey (NHMS, 1996). Another study conducted in 1999 revealed an increase to 10.3% (Mafauzy, Mokhtar, Wan Muhamad & Salmah, 1999). In addition, the number of in-patients with diabetes at the University Hospital Science Malaysia, Kelantan, is increasing every year. In 2003, the number of cases was 1,176, whereas it was 628 in 2002 and 413 in 2001 (Medical Record of University Hospital Science Malaysia, 2004). The escalation in diabetes, coupled with associated chronic complications such as retinopathy, nephropathy, and angiopathy will place a growing burden on the healthcare system. Therefore, a program promoting self-care for diabetic patients might reduce this burden.

Orem’s Self Care Deficit Nursing Theory provided the theoretical foundation for this program. The supportive developmental (formerly supportive educative) nursing system is applicable for patients with chronic diseases seeking to improve their self-care. Unfortunately, there is no research examining the effectiveness of self care interventions when comparing the increasing incidence of individuals with Type 2 diabetes in Kelantan, Malaysia with that in the country at large. The hypothesis for this study is: enhancing self-care of the population will contribute to more effective control of the disease and ultimately promote a higher quality of life. This study was planned to evaluate the effect of a supportive-developmental nursing program on self-care practices of patients with Type 2 diabetes. The study results will provide knowledge and guidelines for improving self-care practices of the diabetes population in Malaysia.

Conceptual Framework
Orem’s Self-Care Deficit Nursing Theory (SCDNT) provided the framework for this study (Orem, 2001). Orem’s supportive developmental nursing system forms the basis for strategies in the intervention program. According to Orem, “self-care is the practice of activities that the individual initiates...
The questionnaires were self-administered by collection in the diabetic clinic at the health center. Written consent was obtained from each respondent prior to data inclusive respondents. Written consent was and procedures of the study was given to all individually. A detailed explanation of the purposes met the inclusion criteria were approached administered questionnaire. Respondents who diabetes patients.

**Methodology**

**Study Design** A quasi-experimental approach consisting of two groups (comparison and intervention) was used in this study. It aimed to evaluate the effect of the supportive-developmental nursing program on self-care practices among diabetes patients.

In this study, data was collected via a self-administered questionnaire. Respondents who met the inclusion criteria were approached individually. A detailed explanation of the purposes and procedures of the study was given to all inclusive respondents. Written consent was obtained from each respondent prior to data collection in the diabetic clinic at the health center. The questionnaires were self-administered by respondents. After hearing a brief instruction on how to fill in the questionnaires, respondents were asked to complete the questionnaires within 20-30 minutes. Explanations were given to the respondents whenever required while answering the questions. The questionnaires were collected after completion by the respondents.

**Sample and Setting** The sample in this study consisted of 68 newly diagnosed Type 2 diabetes patients. The study was carried out at an outpatient clinic, in Bachok, Kelantan.

**Procedure** The Type 2 diabetic patients were approached on the first day of their visits at the outpatient clinic in order to seek their consent to participate in this study. The researcher explained the objectives, subject’s right, and outcomes of the study. Those who agreed to participate in this study, were given the consent form to complete.

Demographic and Health Information Forms, and a Diabetes Self-Care Practices Questionnaire were administered for both comparison and intervention groups. The questionnaires were reviewed after completion. This process was repeated every week for both groups until the number of subjects for each group reached the desired sample size. There were 34 subjects in each group.

**Comparison group:** The participants in the comparison group received usual care from doctors and nurses at the outpatient clinic. The usual care consisted of 1) advising the patients on dietary control, exercise, medication, stress management, and personal hygiene, and 2) encouraging the patients to follow treatment regimen by making routine appointments.

**Intervention group:** This group received the usual care. In addition they participated in a 7 week supportive-developmental nursing program conducted by the researcher. This program followed 7 modules developed by the Epidemiology Unit of Health Department Kelantan, Ministry of Health (2004). The supportive-developmental nursing program consists of: 1) teaching; 2) guidance and support, and 3) providing environment for self-care development. (Please see Table 1). Both groups continued to receive usual care at the out-patient clinic.

**Instruments**

1. **Demographic and health information form**
   The instrument was designed by the researcher to assess the basic conditioning factors of the participant. It also included questions about current prescribed medications and HbA1c. (See Table 2)

2. **Diabetes self-care practice questionnaire**
   The questionnaire developed for this study was based on Doungchan’s (2004) self-care...
<table>
<thead>
<tr>
<th>Week</th>
<th>Teaching Modules</th>
<th>Guiding and Supporting</th>
<th>Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 1</strong></td>
<td><strong>General Knowledge of Type 2 Diabetes:</strong> Risk factors, symptoms, monitoring, complications</td>
<td>Discussion with participants: Identifying individual self care needs and health problems, soliciting questions. Group exploration of alternative ways to provide self care. Written guidelines of material covered provided for practice</td>
<td>Comfortable room provided. Participants encouraged to express individual feelings, concerns and worries. Appointment for next session scheduled.</td>
</tr>
<tr>
<td><strong>Week 2</strong></td>
<td><strong>Diabetic Diet:</strong> Emphasis on 3 categories of diet: foods to avoid, food allowed, food portion</td>
<td>Diet guidelines demonstrated by researcher. After review of guidelines, participants were asked to perform these guidelines with a return demonstration of calorie calculations Printed material reinforcing information form second module provided.</td>
<td>Group sharing of information from previous week including problems encountered and opinions on performing self care at home. Group sharing of experiences and problem solving Appointment for next session scheduled.</td>
</tr>
<tr>
<td><strong>Week 3</strong></td>
<td><strong>Medical Management</strong></td>
<td>Discussion on concerns and problems with taking medications. Printed material from third module given to participants.</td>
<td>Calm, private room continued to serve as a conducive environment for sharing and expressing concerns. Appointment for next session scheduled.</td>
</tr>
<tr>
<td><strong>Week 4</strong></td>
<td><strong>Exercise:</strong> Types of light exercise identified. Participants asked to choose a group exercise. Walking was selected. Each week group members and the researcher will walk for 30 minutes together.</td>
<td>Discussion centered around participants' needs related to self care practices. Questions about self care practices were asked and answered by researcher. Printed material from fourth module given to participants.</td>
<td>Meetings continued to be held in the same manner and environment. Appointment for next session scheduled.</td>
</tr>
<tr>
<td><strong>Week 5</strong></td>
<td><strong>Management of Diabetes in Special Circumstances:</strong> Areas identified: Fasting, traveling, social events, pregnancy, preoperatively</td>
<td>Discussion about self care practices during special circumstances. Alternative choices were suggested and shared among group members and facilitator. Written guidelines were given and questions encouraged.</td>
<td>Meetings again focused on problems and concerns encountered by participants and clarification of self care practices as needed. Appointment for next session scheduled.</td>
</tr>
<tr>
<td><strong>Week 6</strong></td>
<td><strong>Monitoring Glucose Level</strong></td>
<td>Discussion about the use of glucometer at home including any problems encountered by participants. Each participant was asked to demonstrate the use of the glucometer. Printed information about the material covered was given to each participant.</td>
<td>The researcher continued to provide an open, non-judgmental environment in order to encourage participation and disclosure of self care practices. Appointment for next session scheduled.</td>
</tr>
</tbody>
</table>
practice questionnaire which was used to measure nurses’ capabilities in promoting self-care practice of diabetes patients. The original version was translated from Thai to English by a bilingual Thai-English expert. Subsequently, the English version of questionnaire was translated to Bahasa Malaysia by a bilingual Malay-English expert. The questionnaire was a rating scale ranging from 1 to 6. The higher the score, the higher the level of self-care practice promoted. The total scores, ranged from 44 to 264.

Validity. The content validity of the Diabetes Self-Care Practice Questionnaire was evaluated by five experts. One expert in the area of diabetes was from Medical Faculty of University Science Malaysia. Two theory experts were lecturers from Nursing, Prince of Songkla University, Thailand. The other was experienced in provision of care for diabetes patients from University Hospital Science Malaysia. These experts were asked to evaluate each item. Then, the researcher modified the items based on the experts’ recommendations.

Reliability. The Diabetes Self-Care Practice Questionnaire was administered to ten patients with Type 2 diabetes for testing its reliability. The internal consistency was evaluated by using Cronbach’s alpha coefficients. The coefficient alpha of self-care practice was .97. The alphas of each dimension in self-care practice questionnaire were as follows: 1) dietary control was .97, 2) exercise was .98, 3) medication taking was .97, 4) stress management was .97, and 5) personal hygiene was .96.

3. Manual handbook
The education guidelines for diabetes patient were developed by Epidemiology Unit of Health Department Kelantan in year 2004. This handbook is divided into learning modules. The content consists of the definition of diabetes, its clinical effects, and severity of its complications, and self-care management for dietary control, exercise, medication taking, stress management, and personal hygiene.

4. Supportive-developmental nursing care plan
The nursing care plan was developed by the researcher (see Table 1). Four experts confirmed the content validity of this instrument. The plan consists of teaching, guiding, support and providing an environment conducive to promoting self-care practice for diabetic patients.

Supportive-Developmental Nursing Program
Orem (2001) describes helping methods as: (1) acting for or doing for another, (2) guiding another, (3) supporting another, (4) providing a developmental environment, and (5) teaching another (56-59). This study used 3 categories: teaching, support and guidance, and providing an environment conducive to building relationships. The teaching sessions were held for seven weeks, taught in groups of 7-10 participants, as suggested by Rickheim, Weaver, Jill, and Kendel (2002). The sessions lasted approximately 60 minutes. The first 30 minutes of each session focused on information needed to understand diabetes and manage self-care. The sessions were divided into modules each with a specific focus. The seven modules were: general knowledge of Type 2 diabetes, diet, medical management, exercise, blood glucose monitoring, and managing diabetes in special circumstances. The teaching portion lasted about 30 minutes for each module. The final 30 minutes of the session was devoted to support and guidance. The participants were encouraged to discuss problems they encountered and methods that helped them in managing their self-care. Choices and alternative strategies were offered by the nurse. Nursing assistance was always offered in a calm, polite, respectful manner. All the sessions were held in a private, comfortable environment. Appointments for the next session were always given at the end of the previous session.

Results
Sample.
A total of sixty eight of Type 2 diabetic patients who met the inclusion criteria were recruited for this study. Data of the control group revealed that the majority were female (58.8%), married (85.3%), and Muslim, (97.1%). The average years of age of the subjects were 53.56 (±11.15) with an educational background of Lower Secondary School (38.2%). Most of them had an income of about or less than 500 ringgit per month (76.5%), and controlled their diabetes by oral medication (100.0%).

<table>
<thead>
<tr>
<th>Week 7</th>
<th>Complications, Symptoms, Risks:</th>
<th>Discussion centered around the content of the session, problems encountered in self care management and concerns of individual participants. Printed information to reinforce the session was handed out.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teaching focused on hypo and hyperglycemia, and ketoacidosis</td>
<td>Questions, concerns, and accomplishments shared and participants continued to be encouraged to provide self care</td>
</tr>
</tbody>
</table>
the comparison group, there were more female (73.5%) subjects in the intervention group. Average years of age of the subjects in the intervention group were 50.00 (±8.77). All of the subjects were Muslim (100.0%) and married (100.0%). The majority of them had attained Junior High School (58.8%). Most were housewives (82.4%), had a monthly income of equal or less than 500 ringgit (79.4%), and controlled their blood sugar level by oral medication (88.2%). (Please see Table 2).

Self-care practices of persons with Type 2 diabetes.

Self-care practices were measured in five dimensions: dietary control, exercise, medication taking, stress management, and personal hygiene. The total and subtotal scores of self-care practices of the control and experimental groups are presented in Table 3. In addition, the total self-care practice scores of the control and experimental groups ranging from 44 to 220 were compared both at the pre-test and post-test periods. The results showed there were differences between the mean scores of both groups at both points of measurement. (Please see Table 3).

Repeated Measured ANOVA

A repeated measure ANOVA was performed to determine the mean differences between the total scores of self-care practices in the control and the experimental groups. The differences between the pre and post test for the comparison group and for the intervention group were measured. Then the difference between the pre test scores between the comparison group and the experimental group were calculated. Finally, the difference between the post test scores of the two groups was determined. The post intervention scores between the groups revealed a statistical difference between the groups. (Please see Table 4).

In conclusion, the study results suggest that the implementation of this supportive-developmental nursing program has the potential to enable nurses to promote self-care capabilities for disease management in people with Type 2 diabetes.

Discussion

The findings of this study suggest that the supportive-developmental nursing program led to a significant improvement in self-care practices among participants in the intervention group. In the areas of dietary control, exercise, and medication management, the pattern of self-care practice scores of the intervention group are similar to that reported in an earlier study by Keeratlyutawong, Hanucharunkul, Boonchay, Phumleng, & Muangkae (2005). The significant effect this program had could be explained by the methods of assistance provided by the researcher who was acting as a nurse when delivering the program. The structured program, not only provided cognitive content, but offered support and guidance in a nurse centered environment. The arrangement of learning activities promoted the enhancement of capabilities of self-care for Type 2 diabetic patients and encouraged the participants to perform self-care practices themselves. According to Orem (2001), these helpful methods were tools that enabled patients to increase their capabilities in engaging in the operating processes of their deliberate actions.

On the other hand, those patients in the comparison group who had received only the usual care showed no increase in the total and subtotal scores at the post-test. This difference may be explained by the fact that the usual care provided for Type 2 diabetic patients consisted of having the doctor inform them, during the short time of visiting hours, about the detrimental aspects of diabetes when their glucose level was high based on diabetes guidelines. The limited information provided coupled with the brief time doctors and nurses have to discuss the disease, its causes and risk factors, signs and symptoms, and self-care practice in the management of diabetes may explain this difference. In addition, there could be a relationship between educational level and self-care practice. The majority of the participants had only finished lower secondary school. According to Pender (1996), the higher the educational level of the patient, the more accessible the ways to search for additional information, the more experiences in self-care practice and the greater the understanding about health status the better the chances for developing a repertoire for self care skills. Orem (2001) also identified education as one of the basic conditioning factors, believing that education enhances the ability of an individual to develop knowledge, skills, and a positive attitude toward self-care.

On the other hand, the result of HbA1c showed that there were no changes in either group. This might be caused by the fact that HbA1c testing was conducted only one time after the intervention. Because HbA1c level reflected glucose control over the past several months, improvements of HbA1c would seldom be seen only 1 month after intervention. Furthermore, HbA1c might be elevated in older patients. In this study, fifty percents of patients were elderly. Indeed, Brown (1992) indicated that glycosylated hemoglobin levels were only minimally improved by educational strategies in patient groups whose mean ages were more than 55 years.
In summary, the findings of this study suggest that helpful methods provided within a supportive-developmental nursing program to promote self-care capabilities for disease management need to be conducted on a continuous basis in order to ensure the development of the patient’s capability. The involvement of nurses in supportive-developmental programs is invaluable in enabling patients to provide self care in the management of their diabetes. Hence, a supportive-developmental nursing program is important in helping the patients develop the ability to be agents of their own care by having both the nurses and patients cooperating to achieve self-care management. This study presents an opportunity for nurses to promote comprehensive service to diabetes population. This program may also prove applicable to other chronic conditions, such as hypertension and cancer patients.

**Implications and Recommendations**

Supportive-developmental nursing program is a way to empower patients by helping them...
Nurses in practice settings have an excellent opportunity to help patients learn to manage their diabetes. The results of this study provide a basis for further research. Implementation of the program and a replication of this study would be very valuable in extending the findings of this study.

Acknowledgements

We would like to thank the participants for willingly being involved in the study, all staff at the Health Centre in Bachok, Kelantan, Malaysia for their support, as well as constructive suggestion from financially supported by Research University Grant (1001/PPSK/812022), (Wellness Integrated Project for Community Well Being).

References


Table 3: Pre-test and post-test mean scores and standard deviations on the total and subtotal self-care practices of the control and experimental groups (N = 68).

<table>
<thead>
<tr>
<th>Self-care practices</th>
<th>Control group</th>
<th></th>
<th>Experimental group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-test Mean (SD)</td>
<td>Post-test Mean (SD)</td>
<td>Pre-test Mean (SD)</td>
<td>Post-test Mean (SD)</td>
</tr>
<tr>
<td>Dietary control</td>
<td>11.35 (5.34)</td>
<td>11.12 (5.61)</td>
<td>12.24 (6.56)</td>
<td>38.44 (5.44)</td>
</tr>
<tr>
<td>Exercise</td>
<td>9.68 (3.18)</td>
<td>9.44 (1.44)</td>
<td>9.00 (0.00)</td>
<td>37.00 (6.17)</td>
</tr>
<tr>
<td>Medication taking</td>
<td>20.44 (1.58)</td>
<td>20.97 (2.38)</td>
<td>21.18 (1.95)</td>
<td>33.03 (4.03)</td>
</tr>
<tr>
<td>Stress management</td>
<td>9.29 (1.55)</td>
<td>9.59 (2.15)</td>
<td>9.59 (2.15)</td>
<td>27.24 (13.72)</td>
</tr>
<tr>
<td>Personal hygiene</td>
<td>27.74 (4.41)</td>
<td>29.21 (2.78)</td>
<td>28.68 (2.36)</td>
<td>44.18 (2.12)</td>
</tr>
<tr>
<td>Total</td>
<td>78.50 (10.43)</td>
<td>80.56 (8.86)</td>
<td>80.68 (8.00)</td>
<td>179.62 (21.72)</td>
</tr>
</tbody>
</table>

Table 4: Comparison of total scores of post-test self-care practices among control and experimental group (N=68).

<table>
<thead>
<tr>
<th>Group</th>
<th>Self-care</th>
<th>Mean</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>Pre-test</td>
<td>78.50</td>
<td>75.32, 81.68</td>
</tr>
<tr>
<td>Post-test</td>
<td>80.56</td>
<td>74.88, 86.24</td>
<td></td>
</tr>
<tr>
<td>Experimental</td>
<td>Pre-test</td>
<td>80.68</td>
<td>77.49, 83.86</td>
</tr>
<tr>
<td>Post-test</td>
<td>*</td>
<td>179.62</td>
<td>173.94, 185.30</td>
</tr>
</tbody>
</table>

F=509.75  P value < 0.001

Abstract
This study extended Orem's self-care deficit nursing theory by including the construct of spiritual self-care practices. This research is part of a larger study that examined relationships between quality of life (QOL) and spirituality, spiritual self-care practices, chronic illness self-care for heart failure, and physical and mental health. Practice experience and a discovery theory-building approach were used to develop a mid-range theory, White's theory of spirituality and spiritual self-care (WTSSSC). A sample of 142 urban African American outpatients diagnosed with heart failure was used to provide support that the WTSSSC is a viable extension of Orem's self-care deficit nursing theory. The present study examined spiritual self-care practices as a mediator in the relationship between chronic disease (heart failure) and overall QOL for African Americans. This study found that spiritual self-care practices helped manage chronic illness, specifically heart failure and quality of life. Nurses who work with patients diagnosed with heart failure should provide instruction on self-care practices specifically for heart failure and encourage the use of spiritual self-care practices to enhance well-being and QOL.

Key Words: chronic illness, heart failure, quality of life, self-care, spiritual self-care, spirituality

Introduction
Understanding the ways in which spiritual self-care influence health and wellbeing outcomes requires an understanding of the nature of self-care. The purpose of this paper is to examine the integration of heart care self-care and spiritual self-care practices as enhancements to Orem's self-care deficit nursing theory (SCDNT), with research and practice applicability. Increased clarity of the role of spirituality in self-care practices is needed to understand how spiritual practices, specifically self-care, can help maintain health.

The relationship between spirituality and health-related quality of life (QOL) has been a major focus of study for the last few years. Research on spirituality has been published in diverse disciplines, including theology, sociology, psychology, and medicine, with these studies contributing to the continued discussion on this construct (Como, 2007). An important element in the lives of many African Americans, who are living with chronic illness, is spirituality.

Chronic illness is understood as "the medical condition or health problem with symptoms or limitations that require long-term management" (Freitas & Mendes, 2007, p. 592). It involves permanence and a deviation from normalcy, affecting aspects of everyday life, including physical, psychological, and social abilities. Some chronic illnesses can be controlled through diet, exercise, and certain medications. Studies have shown that people with chronic illnesses are more likely to engage in spiritual self-care practices to help cope with their situations (Polzer, 2007; Samuel-Hodge et al., 2000).

One chronic illness overlooked in research on African Americans is heart failure (HF). Statistics regarding HF are readily available. For example, in 2005 the prevalence for HF in adults age 20 and over was 5,300,000, with about half of the incidence involving women (American Heart Association [AHA], 2008). African Americans have a higher incidence of HF, develop HF at an earlier age, and experience higher rates of mortality related to HF than Caucasians. The health disparities for African American men and women with HF are clearly demonstrated in statistics reflecting excess morbidity and mortality. In the U.S., approximately 4.2% of the African American women, compared to 1.8% of Caucasian women, are living with HF (AHA 2009a, b, c). Total mention death rate for heart failure (HF listed on a death certificate as either the cause of death or a contributing factor) is highest for African American men (81.9 per 100,000 deaths) followed by Caucasian men (62.1 per 100,000). The African American female
The death rate for HF (58.7) is 15 points higher than for Caucasian women (43.2; AHA, 2009a, b, c). The estimated financial cost of HF in the United States in 2008 was $34.8 billion.

To further nursing science and practice concerning this topic, the intent of this research was to understand how participation in spiritual self-care practices helps African-American men and women with a diagnosis of HF practice self-care that can influence their QOL. The hypothesis tested for this study is: Levels of spiritual self-care practices will mediate the relationship between heart failure self-care practices and quality of life among African American men and women who are being treated for HF.

The study was limited to African American patients diagnosed with heart failure. Holt, Lukwago, and Kreuter (2003) observed that African Americans in their study reported relying on God to do what physicians or modern medicine cannot; working together with God for good health; and being empowered by their religion to take care of themselves.

**Literature Review**

**Orem Self-Care Deficit Nursing Theory**

According to Orem (2001), self-care is an important component of treatment for chronic illness. Self-care embodies the whole patient, physically, mentally, and emotionally. Expanding Orem’s SCDNT to include spiritual self-care practices as a contributing factor in QOL is important in the treatment of chronic illness, specifically HF. Figure 1 presents the White’s midrange model of the expanded SCDNT that includes spirituality and spiritual self-care practices. Orem’s SCDNT is an appropriate framework for patients with chronic illnesses. While Orem includes spiritual experiences as an element of well-being, the construct of spirituality, essential to the human experience, has not been investigated within the SCDNT. Spiritual self-care is defined as the set of spiritually-based practices in which people engage to promote continued personal development and well-being in times of health and illness. Understanding ways in which

---

**Figure 1:** White’s enhanced midrange model of Orem’s SCDNT with spirituality and related constructs added
spirituality and spiritual self-care influence health and wellbeing requires an understanding of the nature of self-care. Increased clarity of the role of spirituality in self-care practices is needed to understand how spiritual practices, specifically self-care, can help maintain health.

The power to engage in self-care is called self-care agency. Within the SCDNT, self-care agency (SCA) is defined as “the complex acquired ability of mature and maturing persons to know and meet their continuing requirements for deliberate, purposive action to regulate their own human functioning and development” (Orem, 2001, p. 254). SCA encompasses the capacity of individuals to engage in self-care practices and behaviors. Ability allows individuals to acquire knowledge of appropriate courses of actions, decide what actions to take, and act to achieve change. Self-care agency can be described as a three-part structure (Orem, 2001). One part of the structure consists of foundational capabilities and dispositions (FCDs). Another is the set of 10 power components enabling performance of self-care operations. The third is the operations needed for self-care. Each of these elements can be enhanced by the addition of spirituality and spiritual self-care practices.

**Spirituality.**

Carson and Koenig (2008) have noted that spirituality is a construct that has three interrelated meanings in nursing. These meanings, spiritual distress, spiritual needs, and spiritual well-being, are important for health promotion and health recovery. Fosarelli (2008) asserted that the lives of healthy people could be enhanced by spirituality that gives meaning to them and provides comfort in difficult times. Spirituality helps support and sustain a positive outlook and can provide people who have chronic health problems with peacefulness, reasons for living, a sense of purpose, and a sense of harmony (Katerndahl, 2008). Increased spirituality and spiritual support can be important coping mechanisms for individuals who are ill or dying (Creel & Tillman, 2008). Spirituality helps people with chronic conditions accept their illnesses and have meaningful lives despite their health challenges (Sorajjakool, Thompson, Aveling, & Earl, 2006). Nurses need to understand how spirituality is manifested and use research to learn to use spiritual interventions effectively when providing nursing support to people both in times of health and illness. Expanding Orem’s self-care deficit nursing theory (SCDNT) to include spirituality and spiritual self-care practices can give nurses a framework that promotes a holistic approach when attending to the healthcare needs of patients with chronic illnesses and their families (White, Peters, & Schim, 2011).

**Quality of Life**

Quality of life (QOL) is an individually defined and perceived state of well-being. The World Health Organization’s (WHO, 1994), defined QOL as “an individual’s perception of their position in life in the context of the culture and value system in which they live and in relation to their goals, expectations, standards, and concerns” (p. 28). Ratings of QOL within the context of a chronic illness often depend on subjective responses to changes produced by the disease (Mahon, 2002). Quality of life is a multidimensional concept that encompasses physical, emotional, and social effects on the individual’s perception of daily life. For the purpose of the present study, QOL is being used as a holistic construct measuring well-being.

**Chronic Illness and Self-Care Practices**

Chronic illness is defined as “the medical condition or health problem with symptoms or limitations that require long-term management” (Freitas & Mendes, 2007, p. 592) and implies permanence and a deviation from normalcy that affect aspects of everyday life, including physical, psychological, and social abilities. According to Finseth (2009), a chronic illness typically lasts longer than three months.

Self-care for chronic illnesses has been defined as “those activities that persons engage to manage ongoing limitations in structural or functional integrity. Chronic illness self-care focuses on meeting health-deviation requisites in addition to universal and developmental requisites.” (Freitas & Mendes, 2007, p. 592). These behaviors could include: following up with medical care, self-monitoring (e.g., glucose checks for diabetes, blood pressure readings for hypertension), taking medications properly, adhering to diet and exercise regimens, and smoking cessation (Katon & Ciechanowski, 2002). Activities also may include seeking information regarding the chronic illness through media sources, friends or family; and self-advocacy with medical professionals or family members (Loeb, 2006). Some goals of self-care are to control the disease progression, avoid hospital admissions, and have an improved QOL.

Self-care in HF is the primary basis of treatment. Self-care can seem overwhelming and all-consuming for chronically ill HF patients. Health care practitioners (HCPs) routinely advise patients diagnosed with HF about obtaining daily weights, monitoring swelling, taking medications, eating a
low-sodium diet, obtaining routine vaccinations (e.g., yearly flu vaccine), exercising daily, and seeing their HCP regularly. However, research is needed to determine if these actions achieve the goals of improved QOL, better overall health, and reduced hospital admissions. The Heart Failure Society of America (2006) listed six specific recommendations with regard to educating and counseling their patients:

1. Patients and family members receive individualized counseling and education that emphasizes self-care;
2. Patient’s literacy levels, cognitive status, psychological state, culture, and access to social and financial resources be taken into account for optimal education and counseling;
3. Educational sessions begin with a thorough assessment of current knowledge of HF and issues that patients want to learn, and patients’ perceived barriers to change;
4. Frequency and intensity of patient education and counseling vary according to the stage of illness;
5. Patients, during the care process, should be asked to demonstrate the self-care tasks being asked of him/her;
6. Essential education is provided during acute care hospitalization periods with the goal of assisting patients to understand the disease process and goals of treatment.

These lessons are then followed by step-by-step re-education and counseling at and after discharge and reinforced every one to two weeks for three to six months after discharge, with reassessment occurring periodically.

**Spiritual Self-care Practices**

Spiritual self-care is defined as the set of spirituality-based practices in which people engage to promote continued personal development and well-being in times of health and illness. Spiritual self-care focuses on meeting developmental requisites. Spiritual self-care is based on an individual’s mind/spirit/body connection, upbringing, moral and religious background, and life experiences that originate from faith, feelings, and emotions. Examples of spiritual self-care can include building social networks or volunteering (Liu et al., 2008); listening to inspirational music (Stake-Nilsson, Soderlund, Hultcrantz, & Unge, 2009); meditation (Delaney, 2005); and developing a sense of inner peace and quiet (Kreitzer, Gross, Waleekhachonloet, Reilly-Spong, & Byrd, 2009). Other examples of spiritual self-care include practicing yoga or Tai Chi, attending religious services, reading sacred or inspirational texts, prayer or mediation, hiking, walking or otherwise enjoying nature, and developing or mending personal relationships. Whatever the spiritual self-care activity, the goal is the enhancement of spiritual well-being and overall health and well-being.

**Research Methodology**

**Research Design**

A nonexperimental, correlational research design was used in this study. This research design was appropriate as the independent variable was not manipulated and no treatment or intervention was provided for the participants. Prior to collecting data, internal review board (IRB) approval was obtained from the hospital where the data were collected and the university where the study was completed.

**Participants**

Participants in this study were 142 African American patients diagnosed with heart failure who were being treated in two outpatient clinics associated with a large medical center in a major urban area. The inclusion criteria were: (a) African Americans who self-identify as members of this race, (b) diagnosed with HF by health care providers, (c) live in a large metropolitan area located in the southeastern section of Michigan, and (d) at least 18 years of age. The exclusion criteria were having a dual diagnosis of dementia or Alzheimer’s disease as these individuals may not be able to respond accurately to the items on the survey.

A purposive sample of 142 participants who met the inclusion criteria was included in this study. The researcher met with potential participants at their appointments with their cardiologists. The patients completed the surveys at their appointments and received a stipend of $20.00 for their participation. Approximately 20 patients who were approached refused to participate because of time constraints.

Using G-Power 3.1.0 (Faul, Erdfelder, Lang, & Buckner, 2007), a power analysis was completed to determine appropriate sample size. Using an alpha level of 0.05, a moderate effect size of 0.15, and a two-tailed test, a sample of 142 provided a power of 0.95 for a multiple linear regression analysis with nine independent variables and the dependent variable, quality of life.

The mean age of the African American participants was 56.82 (SD = 14.41) years, with a range from 18 to 91 years. An equal number of male and female participants (N = 71) were included in the sample. The largest
group of participants was single and had high school educations. Most participants were either retired or disabled. The participants all had been diagnosed with heart failure and were at either Stage C ($N = 50, 35.2\%$) or Stage D ($N = 67, 47.2\%$) of the disease. In contrast to their diagnosis, they generally reported their physical activities were either not limited ($N = 22, 15.5\%$) or somewhat limited ($N = 62, 43.7\%$). They self-reported their physical health as either good ($N = 51, 35.9\%$) or fair ($N = 64, 45.1\%$) and their mental health as either good ($N = 64, 45.1\%$) or fair ($N = 55, 38.7\%$). Most participants indicated they were attending religious services at the time of the study ($N = 105, 75.0\%$) and practiced specific traditions related to spiritual beliefs ($N = 122, 86.5\%$). Table 1 presents the demographic characteristics of the study participants.

### Instruments

Four instruments, original demographic survey (White, 2010), Heart Failure Self-Care Behavior Scale (HFSCBS; Artinian, Magnan, Sloan, & Lange, 2002), Spiritual Self-Care Practice Scale (SSCPS; White, 2010), and World Health Organization Quality of Life (WHOQOL BREF; World Health Organization, 1996). These instruments were selected because they were considered to measure aspects of the SCDNT, specifically, quality of life and self-care practices. The demographic survey, developed by the researcher, was used to obtain personal characteristics of the participants. In addition, the survey asked for information on Orem's basic conditioning factors, heart failure information, and spiritual/

## Table 1: Demographic Characteristics of the Sample ($N = 142$)

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>71</td>
<td>50.0</td>
</tr>
<tr>
<td>Female</td>
<td>71</td>
<td>50.0</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, never married</td>
<td>61</td>
<td>43.3</td>
</tr>
<tr>
<td>Married</td>
<td>36</td>
<td>25.5</td>
</tr>
<tr>
<td>Widowed</td>
<td>18</td>
<td>12.8</td>
</tr>
<tr>
<td>Divorced</td>
<td>24</td>
<td>17.0</td>
</tr>
<tr>
<td>Living with partner</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>30</td>
<td>21.6</td>
</tr>
<tr>
<td>High school graduate/GED</td>
<td>56</td>
<td>40.3</td>
</tr>
<tr>
<td>Some college/Technical school</td>
<td>30</td>
<td>21.6</td>
</tr>
<tr>
<td>Associate degree</td>
<td>12</td>
<td>8.6</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>7</td>
<td>5.0</td>
</tr>
<tr>
<td>Advanced degree</td>
<td>4</td>
<td>2.9</td>
</tr>
<tr>
<td>Work Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working full-time</td>
<td>23</td>
<td>16.5</td>
</tr>
<tr>
<td>Working part-time</td>
<td>5</td>
<td>3.6</td>
</tr>
<tr>
<td>Retired</td>
<td>39</td>
<td>28.1</td>
</tr>
<tr>
<td>Retired, volunteering</td>
<td>2</td>
<td>1.4</td>
</tr>
<tr>
<td>Disabled</td>
<td>44</td>
<td>31.7</td>
</tr>
<tr>
<td>Other</td>
<td>26</td>
<td>18.7</td>
</tr>
<tr>
<td>Heart Failure Stage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage A</td>
<td>10</td>
<td>7.0</td>
</tr>
<tr>
<td>Stage B</td>
<td>15</td>
<td>10.6</td>
</tr>
<tr>
<td>Stage C</td>
<td>50</td>
<td>35.2</td>
</tr>
<tr>
<td>Stage D</td>
<td>67</td>
<td>47.2</td>
</tr>
<tr>
<td>Physical Activities Limited Because of Heart Failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not limited</td>
<td>22</td>
<td>15.5</td>
</tr>
<tr>
<td>Somewhat limited</td>
<td>62</td>
<td>43.7</td>
</tr>
<tr>
<td>Limited</td>
<td>33</td>
<td>23.2</td>
</tr>
<tr>
<td>Very Limited</td>
<td>25</td>
<td>17.6</td>
</tr>
</tbody>
</table>
ranging from 0 for each behavior using a 6-point Likert-type scale condition. The patients indicated the frequency of these behaviors are used to manage their chronic HF patients performed 29 self-care behaviors. These behaviors are used to manage their chronic condition. The patients indicated the frequency of each behavior using a 6-point Likert-type scale ranging from 0 for none of the time to 5 for all of the time. Patients can complete the instrument in approximately 10 minutes. Responses on the 29 items are summed to obtain a total score ranging from 0 to 145, with higher scores indicating greater use of self-care behaviors to manage their HF. The HFSCBS was tested for content validity by having a panel of experts that included two nurse practitioners and two self-care experts review the scale. The instrument was tested for internal consistency using Cronbach alpha coefficients. The resultant alpha coefficient of .81 for the 29 items indicated the instrument as adequate internal consistency. Artinian et al. (2002), in another study, evaluated the internal consistency and obtained an alpha coefficient of .84, which was consistent with the earlier study.

To determine if the HFSCBS was reliable for the present study, Cronbach alpha coefficients were used to determine the internal consistency for the sample of African American patients diagnosed with HF. The resultant alpha coefficient of .86 was similar to that obtained in previous studies, indicating the instrument was reliable for the present study.

**Readability.** Results of the analysis using the Flesch-Kincaid readability index (Flesch, 1948) indicated that the HFSCBS had a reading level of 4.8. This finding indicated that people with an eighth grade reading level should be able to complete this scale with problems.

**Spiritual Self-Care Practices Scale (SSCPS; White, 2010).** The SSCPS is a 36-item questionnaire that measures the extent to which participants practice spiritual self-care actions. The 36 items were derived from a comprehensive review of literature on spiritual practices. The preliminary instrument was sent to four diverse religious leaders to evaluate the content validity of the items. The validators were asked to review the items and rate their relevance to spiritual practices using a 4-point scale ranging from 1 for not a spiritual practice to 4 for very much a spiritual practice. They also were asked to provide suggestions regarding the removal, addition, or rewording of items. The researcher reviewed the comments and responses on the surveys and made changes when a consensus was reached on removing an item or changing the wording to make it reflective of spiritual practices.

Participants rated the frequency with which they practiced each of the items on the SSCPS using a 5-point Likert scale ranging from 1 for never to 5 for always. The scores on each of the subscales were summed to obtain a total score. The total score for each subscale was divided by the number of items on the subscale to obtain a mean score. The use of mean scores provides outcomes that reflect the original unit of measurement and allows comparisons across the four subscales. The total score is calculated using the same procedure, with mean scores ranging from 1 to 5.

Ratings on the SSCPS items from the 142 participants in the present study were used in a principal components factor analysis using a varimax rotation. Four factors emerged in the analysis: personal spiritual self-care practices, spiritual practices, physical spiritual practices, and interpersonal spiritual practices. The eigenvalues ranged from 2.77 to 6.00, indicating that each of the four factors was accounting for a statistically significant percent of variance.

To determine the reliability of the SSCPS, internal consistency coefficients were obtained using Cronbach alpha procedures (White, 2010). Results of these analyses indicated adequate to good internal consistency for each of the four subscales: personal spiritual self-care practices (.89), spiritual practices (.85), physical spiritual practices (.69), and interpersonal spiritual practices (.66). The alpha coefficient for the total scale was .91 indicating the scale had good internal consistency reliability.

**Readability.** The Flesch-Kincaid readability index (Flesch, 1948) for the SSCPS was at the 8th grade level. Of the 36 items, however, 34 items were at a 4th grade reading level. Two items, “Following a special diet (e.g., Kosher, Halal, vegetarian, etc.)” and “Wearing special clothing or jewelry (e.g., yarmulke, birka, cross, star of David)” included potentially unfamiliar polysyllabic words that increased the overall reading level substantially. However, these items were retained based on their importance in the overall purpose of the instrument.

**World Health Organization – Quality of Life-BREF.** The WHOQOL-100 is a valid, reliable measure of individual facets relating to QOL. The World Health Organization (WHO) developed the WHOQOL-BREF (1996) as a short form of the WHOQOL-100. The WHOQOL-BREF includes 26 questions, with one item from each of the 24 facets comprising the WHOQOL-100. The WHOQOL measures four dimensions of QOL: (a) physical health, (b) psychological, (c) social relationships, and (d) environment. For the purpose of this study, the total score on the WHOQOL will be used.
Miller, Chan, Ferrin, Lin, and Chan (2008) reported on the validity of the WHOQOL-BREF. Construct validity of the WHOQOL-BREF was determined using exploratory and confirmatory factor analysis. The correlations between domains on the WHOQOL-BREF and the WHOQOL-100 (the parent instrument) ranged from .89 for social relationships to .95 for physical health. The WHOQOL-BREF also demonstrated good discriminative validity by being able to distinguish QOL between healthy and ill patients. Miller et al. (2008) reported on the reliability of the WHOQOL-BREF. Cronbach alpha coefficients ranged from .68 for social relationships to .82 for physical health. Yao and Wu (2005) tested the internal consistency with the obtained coefficients for a Taiwanese sample ranging from .70 to .77 for the four domains. The range of test-retest reliability coefficients at 2-to 4-week intervals was from .41 to .79 at the individual item level and .76 to .80 for the four domains. Yao and Wu asserted that the WHOQOL-BREF had good psychometric properties for use with a Taiwanese population and could be used with other cultures.

**Readability.** The WHOQOL-BREF was tested for readability using the Flesch-Kincaid readability index (Flesch, 1948). The results of this analysis indicated the WHOQOL-BREF had a grade level of 5.2, indicating that individuals with a fifth grade reading level should be able to read and comprehend the items on the scale without a problem.

**Data analysis.**

The data were analyzed using SPSS Ver. 20.0 to determine if spiritual self-care was mediating the relationship between heart failure self-care and quality of life. The four-step mediation analysis process (Baron & Kenney, 2012) was used in this analysis. All decisions on the statistical significance of the findings were made using a criterion alpha level of .05.

**Findings**

The mean score for heart failure self-care ($M = 3.63, SD = .75$) was above the midpoint of the 5-point scale, indicating the participants’ self-reported they were generally using many of the self-care practices for chronic illnesses. Spiritual self-care practices had a mean of 3.79 ($SD = .59$), providing support that the participants were using the self-care practices that were considered spiritual, but not necessarily religious. The WHOQOL mean score was 3.82 ($SD = .70$) on a 5-point scale, which indicated that participants had positive quality of life.

The first step of the mediation analysis used a linear regression analysis, with heart failure self-care practices as the independent variable, and quality of life as the dependent variable. Statistical findings of the mediation analysis are shown in Table 2. A total of 25.2% ($p < .01$) of the variance in quality of life was accounted for by heart failure self-care practices. On the second step of the analysis, spiritual self-care practices was used as the dependent variable and heart failure self-care practices was used as the independent variable. A statistically significant percentage of variance in spiritual self-care practices was explained by heart failure self-care practices ($R^2 = 41.2\%, p < .01$). The results of the third step of the analysis indicated a statistically significant amount of variance in quality of life was explained by spiritual self-care practices ($R^2 = 44.8\%, p < .01$). Because the criteria for the mediation analysis had been met on the first three steps, the fourth step was completed. Holding spiritual self-care practices

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Outcomes</th>
<th>$R^2$</th>
<th>$F$</th>
<th>Standardized $\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Step 1</strong></td>
<td>Heart Failure Self-care Practices</td>
<td>Quality of Life</td>
<td>.25</td>
<td>47.13</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td>Heart Failure Self-care Practices</td>
<td>Spiritual Self-care Practices</td>
<td>.41</td>
<td>98.29</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td>Spiritual Self-care Practices</td>
<td>Quality of Life</td>
<td>.45</td>
<td>113.81</td>
</tr>
<tr>
<td><strong>Step 4</strong></td>
<td>Heart Failure Self-care Practices</td>
<td>Quality of Life</td>
<td>.18</td>
<td>30.30</td>
</tr>
<tr>
<td></td>
<td>Spiritual Self-care Practices</td>
<td>Quality of Life</td>
<td>.01</td>
<td>2.25</td>
</tr>
</tbody>
</table>

*p ≤ .05; **p ≤ .01
constant, the relationship between heart failure self-care practices and quality of life was re-evaluated. The amount of variance explained by heart failure self-care practices decreased to 1.0% \( (p = .136) \), which was not statistically significant. Based on these findings, spiritual self-care practices was considered to be a statistically significant mediator of the relationship between heart failure self-care practices and quality of life. Figure 2 provides a graphical representation of the mediation model that was developed by the researcher.

Conclusions

Heart failure is a chronic illness that can be managed when patients use appropriate self-care practices in conjunction with keeping doctor appointments and taking medications. Heart failure patients who use effective self-care practices can expect to have better outcomes for their chronic conditions. The use of spiritual self-care practices can enhance the relationship between heart failure self-care practices as a specific element within the SCDNT and quality of life. For many African Americans, spirituality is integrated through all aspects of their life, including health practices that influence their health beliefs and health outcomes that can then influence their self-care practices (Newlin, Knafl, & D’Eramo Melkus, 2002; Polzer & Miles, 2005).

Spiritual self-care is based on an individual’s mind/spirit/body connection, upbringing, moral and religious background, and life experiences that originate from faith, feelings, and emotions. The use of spiritual self-care practices can promote quality of life through participation in interpersonal and intrapersonal activities that give meaning to life. Examples of spiritual self-care can include building social networks or volunteering (Liu et al., 2008); listening to inspirational music (Stake-Nilsson et al., 2009); meditation (Delaney, 2005); and developing a sense of inner peace and quiet (Kreitzer et al., 2009). Other examples of spiritual self-care include practicing yoga or Tai Chi, attending religious services, reading sacred or inspirational texts, prayer or mediation, hiking, walking or otherwise enjoying nature, and developing or mending personal relationships.
Whatever the spiritual self-care activity, the goal is the enhancement of spiritual well-being and overall health and well-being. The function of mid-range theory is to develop a knowledge base that supports clinical decision making. This knowledge can provide a basis for predicting outcomes of nursing practice decisions (Blegen & Tripp-Reimer, 1997). To be practical across a wide array of nursing situations, a mid-range theory must be applicable in multiple settings, with patients who have differing health issues. Using Orem’s (2001) SCDNT as a foundation, White (2010) developed the mid-range Theory of Spirituality and Spiritual Self-Care (WTSSSC). Once validated, this theory could be used in health promotion and disease mitigation to incorporate spirituality and spirituality self-care practices related to an individual’s overall QOL. This study supported the importance of spiritual self-care as a mediator in the relationship between health deviation as a part of Orem’s SDCNT and quality of life. Additional research is needed to examine the role of White’s midrange theory of spirituality and spiritual self-care practices (WTSSSC) that incorporates spiritual self-care as an enhancement to the health deviation component of Orem’s SCDNT.

This study was limited to a sample of African Americans diagnosed with heart failure living in an urban area. The study needs to be extended to include a heterogeneous sample of people with diverse chronic illnesses who are living in urban, suburban, and rural areas. This further research can provide additional information regarding the reliability and validity of the SSCPSS with diverse groups of people. Testing the relationship between spiritual self-care practices can further determine the importance of the addition of this construct to Orem’s SCDNT.

References


CALL FOR PAPERS

Self-care, Dependent-care, & Nursing (SCDCN) is the official journal of the International Orem Society for Nursing Science and Scholarship. The editor welcomes manuscripts that address the mission of the Journal.

Mission:
To disseminate information related to the development of nursing science and its articulation with the science of self-care.

Vision:
To be the venue of choice for interdisciplinary scholarship regarding self-care.

Values:
We value scholarly debate, the exchange of ideas, knowledge utilization, and development of health policy that supports self-care and dependent-care.

Author Guidelines

Manuscript Preparation

Use Standard English. The cover page must include the author’s full name, title, mailing address, telephone number, and eMail address. So that we may use masked peer review, no identifying information is to be found on subsequent pages. Include a brief abstract (purpose, methods, results, discussion) followed by MeSH key words to facilitate indexing. The use of metric and International Units is encouraged. Titles should be descriptive but short. Full-length articles should not exceed 15 double-spaced pages. Use of the Publication Manual of the American Psychological Association (5th ed.) is strongly encouraged but not mandatory. When required by national legal or ethical regulations, research-based manuscripts should contain a statement regarding protection of human subjects.

Review Process

Manuscripts are reviewed anonymously. One author must be clearly identified as the lead, or contact author, who must have eMail access. The lead author will be notified by eMail of the editor’s decision regarding publication.

Intellectual Property

Authors submit manuscripts for consideration solely by SCDCN. Accepted manuscripts become the property of SCDCN, which retains exclusive rights to articles, their reproduction, and sale. It is the intention of the editor to facilitate the flow of information and ideas. Authors are responsible for checking the accuracy of the final draft.

Submission

Manuscripts are to be submitted in MS Word format as an eMail attachment to the co-editor, Dr. Violeta Berbiglia at violetaberbiglia@hotmail.com. Submissions will be immediately acknowledged. It is assumed that a manuscript is sent for consideration solely by SCDCN until the editor sends a decision to the lead author.

CALL FOR PAPERS
Call for New Scholar Papers

The purpose of the New Scholar Papers feature is to foster the advancement of nursing science and scholarship in the area of Orem’s Self-Care Deficit Nursing Theory through the recognition of developing scholars.

New Scholar Qualifications

- Member of the International Orem Society (Apply for membership at: http://www.orem-society.com/index.php/membership)
- Enrollment in or completion of nursing graduate studies
- Scholarly productivity related to the advancement of nursing science and scholarship in the area of Orem’s Self-Care Deficit Nursing

Recognition of New Scholars

- Each New Scholar will be featured in an issue of Self-Care, Dependent-Care & Nursing, the official online journal the International Orem Society for Nursing Science and Scholarship. The IOS will award the scholar a complimentary membership.

Submission of Papers

Papers will be submitted using the Author Guidelines.

IOS Scholarship Research Grant

The International Orem Society is pleased to offer funding to support projects for the Advancement of Nursing Science and Scholarship.

Purpose

The purpose of this funding opportunity is to promote the advancement of nursing science and scholarship in the area of Orem’s Theory of Self-Care Deficit Nursing. Priority is given to projects that will lead to further advancement of knowledge for the discipline of nursing.

Eligibility Criteria

- Applicants must be members of the International Orem Society (IOS)
- Applicants must be ready to implement research project when funding is received and agree to publish the results.

Grants available: One per year
Amount: $2,500
Deadline: October 1 of each year
Date of notice of the grant: November 15

Because funds are limited, they may not be used for salary for grant applicants or institutional overhead. They may, however, be used to hire research assistants. Funds may also be used for consultants, essential equipment and supplies, telephone, necessary travel, and other relevant costs. All budget items should be justified with brief, clear rationale.

How to apply?

- Applicants must submit a completed research proposal, signed research agreement, and CV to: Barbara Banfield, 34010 Ramble Hills Drive, Farmington Hills, MI 48331 E-Mail: bebanfield@aol.com
The Sarah E. Allison Foundation, Inc is a small private foundation established in December 2000 for the purpose of promoting and supporting the continuing development and formalization of the practical science of nursing based on Dorothea E. Orem’s conceptualizations about nursing. Small grants will be given to encourage and promote scholarly activities and studies in nursing for the advancement of nursing knowledge and improvement of nursing practice and nursing education based on Orem’s general theory of nursing, the self-care deficit nursing theory, and the associated foundational nursing sciences.

Areas of Interest: The Foundation seeks to:

1. Give priority to interpretive integrative review and synthesis of what is known in relation to conceptualizations associated with the self-care deficit theory of nursing, for example, a specific self-care requisite, bringing together disparate pieces of knowledge that create a new whole.

2. Support a new nursing research initiative within the framework or related theoretical frameworks of the self-care deficit nursing theory and the foundational nursing sciences.

3. Support the development of working groups seeking to advance the theory and produce working papers suitable for publication; for example, facilitate the formation of groups of young scholars in establishing networks working toward further development of the theory.


5. Provide seed money for pilot work of those seeking larger grants or partially support work in cooperation with other funding agencies, such as the International Orem Society for Nursing Science and Nursing Scholarship.

Criteria for Awards
Grants will be made to individuals demonstrating apparent scholarly merit in terms of the following:

1. Knowledge of the Self-Care Deficit Theory, its conceptual components, and their relationship(s) to other bodies of knowledge and/or Orem’s other conceptualizations

2. Sound methodology

3. Potential contribution to further development of the theory and nursing knowledge

4. Proposed project can be carried out within a reasonable time limit in relation to funds requested for the project

5. The findings and results of the work will be published within a reasonable length of time as determined by the Grants Award Committee.

6. Eligible recipients are professional nurses or nursing students who meet the foregoing criteria. However, the Foundation will place greater priority on persons who are members of the International Orem Society.

7. No restrictions or limitations on awarding grants will be based on race, ethnicity, gender, sexual orientation, religion, and employment status of a prospective recipient.

8. If the proposal involves human subjects, documentation of the proposal’s acceptance by the appropriate institutional review body must be submitted prior to receipt of the award.

9. A report of the project’s progress, findings and/or accomplishments must be submitted to the Foundation at the end of the award year.

10. Any subsequent publication of the work and results emanating from the funded project must acknowledge support from The Sarah E. Allison Foundation, Inc.

Time Frame
Grants are awarded on a yearly basis only. If a project requires more than one year, reapplication must be made each year. The deadline for submission is April 1st of each year. Grant award notification will be made in July followed by funding in August.

Funding Limitations
A budget for the project must be submitted. Note: The Foundation does not provide any indirect cost reimbursement, such as for salaries, office space, etc. and will not consider such costs in an award. Where funds requested to partially support
work to be done in conjunction with other funding support, any additional funds should be included in the budget along with the potential expected date of funding. Foundation grants given in association with other accepted funding sources will be provided only when the applicant submits a receipt of the award notification from the other funding source(s).

Application
The applicant should submit a brief biographical sketch of the principal investigator indicating knowledge and experience and, in particular, qualifications in relation to study of and application of the self-care deficit theory of nursing and related theories. Give the title and briefly describe the specific aim, background and significance of the project, methods/procedures proposed, plan of work/time line and budget. Any references cited in the proposal must use the American Psychological Association format. Applications should be submitted in Microsoft Word as an e-mail attachment to the address given below:

The Sarah E. Allison Foundation, Inc.
260 Eastbrooke II
Jackson, MS 39216-4716
Email: FOUNDATION SEA @aol.com

Orem Collection in the Alan Mason Chesney Medical Archives at Johns Hopkins University Medical Institutions

Below are the links for The Dorothea Orem Collection, which is now live on the Alan Mason Chesney Medical Archives at Johns Hopkins University Medical Institutions website: http://www.medicalarchives.jhmi.edu/papers/orem.html

Complete Finding Aid: http://www.medicalarchives.jhmi.edu/finding_aids/dorothea_orem/dorothea_oremd.html

The related Joan Backscheider Collection description is also available. http://www.medicalarchives.jhmi.edu/papers/backscheider.html

Complete Finding Aid: http://www.medicalarchives.jhmi.edu/finding_aids/joan_backscheider/joan_backscheiderd.html
Translation:

Taylor, Susan / Renpenning, Katherine

Selbstpflege - Wissenschaft, Pflegetheorie und evidenzbasierte Praxis
Dt. Ausg. hrsg. von Gerd Bekel.
German translation
Release date: June 2013