Care of the Rural COPD Patient: A Perspective Based on
Virginia Henderson’s Principles of Nursing
Tricia Beveridge, Debbie Green
& Jaimee Sutherland
Idaho State University
Virginia Henderson is considered the mother of modern nursing. In her own words “the unique function of the nurse is to assist the individual, sick or well, in the performance of those activities contributing to health or its recovery (or to a peaceful death) that he would perform unaided if he had the necessary strength, will or knowledge. And to do this is such a way as to help him gain independence as rapidly as possible” (Henderson, 1991, p. 21). Virginia Henderson was a pioneer of modern nursing and her influence in nursing continues today.

Henderson believed that care provided by the nurse and the cure provided by the physician were different, yet equal factors in facilitating the recovery of the patient (Henderson, 1991). She stressed the importance of care for a patient until the patient could do for themselves and the framework of her theory is based on increasing and encouraging the patient’s independence. Henderson’s believed that the mind and body are inseparable and that the patient and his or her family are seen as a unit. Henderson understood that the role and responsibility of the nurse is to facilitate activities of patient assistance which encompass the totality of the individual and move the patient toward wellness.

Chronic obstructive pulmonary disease (COPD) is a debilitating disease affecting millions of people. Henderson’s nursing theory can be applied to the individualized care of the rural geriatric patient with COPD. A rural location with primary care provided by a Family Nurse Practitioner (FNP) is the practice setting examined. The population includes elderly adults who live in a rural community with a diagnosis of COPD. Key concepts used in research found on this population include: geriatrics, nursing, rural, self-care, coping, and end of life.

COPD is the fourth leading cause of death in the United States, claiming the lives of more than 120,000 Americans in 2002 (Carlson, Ivnik, Dierkhising, O’Byrne, & Vickers, 2006, p. 204). Nearly 10.7 million U.S. adults have been diagnosed with COPD, but as many as
24 million U.S. adults have evidence of impaired lung function. The burden economically in 2004 has been estimated at 37.2 billion dollars (Carlson, et. al., 2006). The burden of illness on the COPD patient is significant due to loss of independence, functional disability, taxing symptoms, and a decreased quality of life. There are many symptomatic treatments of COPD, however there is no cure, that leaves an advanced practicing nurse the opportunity to educate on slowing the progression of the disease and the symptomatic treatments available to the patient in an outpatient setting (Barnett, 2006).

There are two desired outcomes for rural geriatric patients with COPD being followed by an FNP. The first goal is to maintain independence by allowing the patient to continue to live in his or her own home. The second outcome desired is to limit the amount of occurrences requiring hospitalization as a result of complications from COPD, thus affecting one’s independence.

Utilizing Virginia Henderson’s fourteen points of client assistance the disease state of COPD can be analyzed. Henderson emphasized that the competent nurse relied upon the interpersonal relationship created between the nurse and the patient to provide assessments of the patient that go beyond the medical assessment (Henderson, 1991). Identifying the needs of the geriatric patient and then applying useful, research based, interventions to help resolve those needs will allow the patient to fulfill his desired outcomes of maintaining independence and reducing hospitalizations due to COPD complications. Applying Henderson’s theory in an outpatient FNP clinic, COPD patients will establish independence and work closely with the FNP to set and achieve goals associated with COPD treatment.

Virginia Henderson’s theory is considered a philosophy, or grand theory which describes the meaning of the nursing phenomena. The philosophical underpinnings of Henderson’s nursing theory matured from her own experiences in medical surgical, psychiatric, pediatric and home
health nursing (Furukawa & Howe, 1992). She developed 14 points of care based on 7 essential values or philosophies that she believed to be care of the human being. The seven essential values include: human being, environment, health, interpersonal, care, goal attainment, and adaptation. The fourteen points of patient assistance are used to accomplish this care which include: breathe normally, eat and drink adequately, eliminate body waste, move and maintain postures, provide for sleep and rest, wear suitable clothing, maintain body temperature, keep body clean and well groomed, avoid dangers in the environment, communicate, worship according to one’s faith, feel good about work accomplishment, participate in recreation, and learn, discover, or satisfy curiosity that leads to health (McEwen & Wills, 2007).

These major and minor concepts can be ordered in any configuration and allow for individualization based upon the patient’s needs. For example, a patient with COPD will have breathing normally as a priority while a terminally ill patient might have worshipping according to one’s faith as a top need. The concepts are narrow in words, but broad in practice. For example, the 13th point of care is “play or participate in various forms of recreation” (Tomey & Alligood, 2002, p. 101). The COPD patient can individualize their forms of recreation depending on what they enjoying and are capable of doing. One COPD patient might enjoy bird watching while another enjoys swimming or working out in the gym. The patient will adjust participation according to their stamina, dyspnea, or how they feel at that particular time. Henderson’s concepts promote patient participation in the plan of care which moves them toward independence and allows for individual needs and preferences. All of Henderson’s concepts have the common goal of creating independent health or a peaceful death. Working toward a common end point, the concepts are closely related and can be used separately or in conjunction with each other.
Henderson’s theory aligns with the metaparadigm of nursing outlined in McEwen and Will (2007) including patient, nurse, health and environment. The seven essential values and fourteen activities focus on individual patient needs within this metaparadigm. Henderson’s theory emphasizes that the competent nurse relies on the interpersonal relationship created between the patient and the nurse, and the assessment produced while interacting with that patient (Furukawa & Howe, 2002). Utilizing the assessment, nurses identify individual patient needs and then formulate and implement nursing goals. Nursing autonomy is an underlying key concept in Henderson’s theory.

Henderson’s theory is broad in purpose and has positive repercussions for both the patient and nurse. The theory purpose starts when a patient has need of gaining independence either from physical or emotional hurtles and ends when the patient has reached maximum independence. Each individual is unique, with distinctive needs, and there is no time limit on when the patient needs to be independent. Virginia Henderson’s theory allows for individuation based on each specific situation.

Although the basic components of Henderson’s nursing theory identified over forty-five years ago have remained relatively unchanged (Henderson, 1991). Henderson believed the global definition of nursing remained elusive and that nursing must be defined by the available means of support and the population which it serves. It is impossible to define what nursing is to all people given the wide range of responsibility and education in the worldwide nursing profession (Henderson, 1986).

Henderson advocated for nursing research, research based practice, expanding the function and responsibility of the nurses’ role, and collaboration in practice. She believed that clinical research and evaluation was the only way to maintain the highest standards in practice.
and patient care (O’Malley, 1996). Henderson understood there was a need for nurses to prepare for a wider range of function and responsibility as the needs and the diversity of the population they served increased. Through Henderson’s theory the role of the FNP is a growth of nursing to serve the underserved in rural settings. The FNP provides a holistic approach to nursing that encompasses the outpatient setting, thus the full circle of care that Henderson’s envisioned.

The FNP, as primary care provider, is the key to empowering rural COPD patients and providing optimal management and quality of service. Offering education and links to resources, role modeling and encouraging positive health behaviors, implementing pharmacological care when indicated, and maintaining access to research based current treatments and therapies are all within the scope of the rural FNP.

Henderson’s theoretical framework and the components of nursing knowledge previously outlined will be the basis for examining primary care of the geriatric COPD patient in a rural environment. Key concepts of geriatrics, nursing, rural, self-care management, coping and end of life will be utilized. Care for these patients is based on “the acceptance of multiple realities, patterns of knowing that are explicitly and implicitly developed and revealed, and human actions that are considered and executed within contexts that are both individually and collectively constructed” (Sanford, 2000, p. 4).

Approximately 35 million Americans are over the age of 65 with about 4 million of those 85 years or older (Kara, 2005). As a result of the migration of younger adults to metropolitan areas for work and educational opportunities and the reverse migration of retirees to less populated areas, rural communities in the United States are disproportionately ageing (Barnett, 2006). Geriatric populations in rural communities often experience fragmented health care and social services, and have limited access to services which encourage or promote healthy living.
Rural, elderly populations certainly meet the criteria of underserved and at risk groups. Nurse Practitioners as primary care providers in rural communities must return to the fundamental principle of nursing, empowering communities through primacy of caring, holism, and social ecology. “Reflective, creative, collaborative practices of listening, honoring, acknowledging, and incorporating multiple perspectives represent human caring, human science and research, and community health nursing at their best” (Averill, 2003, p. 453). Geriatric patients are unique in their perception of health and illness and bring with them a wealth of lived experiences. As advanced practice nurses plan and deliver care services to this population, they must assimilate local knowledge and the life experiences of their patients into care strategies, understanding that these perspectives effect the decision making of their elderly patients.

The key concept of nursing, or the role of the nurse, is integral to the outcome of maintaining independence and reduction of hospitalizations as a result of complications from COPD. The FNP in the rural setting is a multi-faceted role. The concept of the rural FNP includes the professions of rehabilitation specialist, counselor, and social worker, in addition to the traditional nursing functions. The FNP in a rural setting must develop and modify the plan of care as the patient trajectory of illness changes.

Coordination and supplementation of services where there are none is essential to the role of the FNP in a rural setting. For example, pulmonary rehabilitation is an optimum addition to therapy which enables the patient to maintain or optimize current lung function. The availability of resources such as this may be limited rurally (McHugh, Chalmer, & Luker, 2007). The FNP role in this situation would include developing programs and support education to maintain COPD patient’s lung function.
Engaging in frank and open discussions about the disease state and possible life threatening outcomes that arise during the progression of COPD is another facet of the FNP role. Offering family support and education about the disease is essential. Families must understand that isolation and withdrawal from normal daily activities can negatively affect the patient’s psychological health and possibly limit lung function and physical health (Kara & Mirici, 2004). The rural FNP aids and diagnoses associated psychological depression that comes with a COPD diagnosis. Research has shown that COPD patients have increased depression and anxiety, and undergo heroic and traumatic deaths due to the unknown progression of COPD. In one study COPD patients reported a 50% depression rate (Goodridge, 2006). Patients and families need support to understand the disease process to better manage adverse side effects, and facilitate increased independence and improved quality of life. Patients are entitled to frank discussions about the disease process with their primary care provider to ultimately define and understand the circumstances surrounding their end of life goals.

The goal of COPD treatment is to “ensure patients are on appropriate therapy, provide relief of symptoms, reduce frequency of exacerbations, improve quality of life and activities of daily living, and prevent further disease progression” (Barnett, 2006, p. 19). COPD is a chronic condition requiring patients to develop skills of self-management. COPD self-management can be defined as effective behavior based on knowledge about the disease (Kara, 2005). Self-management includes obtaining knowledge about one’s disease and participating in prevention and health promotion activities. These activities include: smoking cessation, medication management, nutrition and activity, energy conservation, participation in pulmonary rehabilitation, and maintaining current vaccination status. Individualized care management plans including personal information about the patient’s lung function, a list of current medication, and
detailed instructions for the patient to follow should their symptoms increase are effective in empowering patients in their own care. One such example found in the literature suggests that patients hold a standing course of antibiotics and corticosteroids, together with clear instructions about implementation, allowing them to start therapy immediately if needed and reduced hospitalizations (Barnett, 2006).

Patient education is a critical element in moving patients toward independent, self-management of COPD and is the objective of Henderson’s nursing framework (Carlson et. al., 2006). Education must include knowledge that the patient wishes to know, not just what the provider wishes the patient to be educated about. It has been shown that health education at times reflects the information that the health care provider views as pertinent, however health education fails to address the entire COPD process and patients’ education needs are often not satisfied (Carlson et al., 2006). Learning needs must be assessed and learning style integrated into the self-management plan. Research has shown that most patients want to know when to seek help and how to manage the isolation and impact of their disease on their life and the lives of their caretakers (Carlson et al., 2006).

For COPD patients Henderson’s first principle “breathe normally,” is a priority. Smoking cessation is the most important factor in preventing the progression of COPD and slowing the decline of lung function (Scullion, 2004). All patients need to be encouraged to give up smoking. Research has demonstrated that the earlier a patient is able to cease smoking the more potential for salvaging lung function (Booker, 2005). Long-term smoking cessation rates are low because patients return to the habit. They may accept the theory that smoking is related to their disease, but may rationalize that it is not worth stopping because the damage to their lungs has already
occurred (Scullion, 2004). Combination therapy including pharmacological agents and group or individual support is the most effective approach to smoking cessation (Booker, 2005).

When using pharmacotherapy, it is important to emphasize that drugs are used only to decrease symptoms and complications, they do not cure COPD (Kara, 2005). Pharmacological treatment of COPD includes bronchodilators, corticosteroids, mucolytics, inhaler devices, and nebulizer therapy. Bronchodilators increase exercise tolerance by “reducing air-trapping and improving the efficiency of respiratory muscles to help improve overall symptom control” (Barnett, 2006, p. 19). Corticosteroids are not recommended for mild COPD, but have been shown to be beneficial in patients with moderate to severe COPD. Corticosteroids may provide reduction in the frequency of exacerbation and the declination of quality of life (Barnett, 2006). Mucolytics are helpful in thinning secretions, making them easier to expectorate. Correct use of inhalers is essential to gain optimum benefit. Patients prescribed both an inhaled bronchodilator and an inhaled steroid must be taught proper sequencing. The bronchodilator needs to be used first to help open the airway, followed by the steroid, helping to reduce lung inflammation. Steroid inhalers may cause sores or Candida in the mouth. Patients need to be advised to rinse their mouth with water and gargle after each inhaled steroid use. It is the role of the FNP to provide comprehensive medication education and to follow up with the patient early and on a regular basis to ensure that inhalers are being used correctly and evaluate effectiveness of the treatment regimen.

Oxygen therapy is common amongst COPD patients. Research has demonstrated that oxygen can be prescribed inappropriately to help manage exacerbations of COPD. It is shown that it is often prescribed for breathlessness without documentation of hypoxia (Pearce, 2006). In fact it would be more cost effective to teach the patient breathing and relaxation techniques to
deal with breathlessness symptoms. In the rural setting the Nurse Practitioner as primary care provider must ensure appropriate and cost effective therapies are utilized.

“Maintaining adequate nutrition and hydration”, Henderson’s second principle of nursing, is essential for patients with chronic illness such as COPD. These patients are often underweight while having increased energy requirements and expenditure due to breathlessness. Weight loss is thought to be “the result of a complex interaction between decreased food intake because of breathlessness, altered absorption as a result of hypoxia, increased energy expenditure and the systemic effects on inflammatory cytokines” (Booker, 2005, p. 17). Many patients with advanced COPD have a low BMI which is suggestive of a poor prognosis. The nurse practitioner can monitor the BMI with other laboratory results on a regular basis to assess whether weight loss is increasing or improving over time. A higher BMI can suggest an improved prognosis for the COPD patient. COPD patients who lose weight have more dyspnea and less exercise capacity then those who do not. To reduce dyspnea and increase exercise capacity, patients can be advised to increase calories and eat smaller more frequent meals which are easy to prepare. Eating smaller, frequent meals allows the patient to maintain sufficient caloric intake and expend less energy in food preparation and eating.

COPD patients need to eat a varied diet with emphasis on fresh fruits and vegetables. The nurse practitioner can educate the patient about foods that have high levels of antioxidants such as vitamins C and E. Both of these vitamins have a protective effect on the lungs and are beneficial in slowing the progression of COPD (Barnett, 2006). Fish and other omega 3 fatty acid rich foods are also thought to protect the lungs. Poor nutrition contributes to respiratory and skeletal muscle weakness and decreases exercise performance and stamina (Kara, 2005). Dietary
supplements may be helpful in providing extra calories, but they should not take the place of a normal meal.

Patients with COPD are likely to avoid activities that make them breathless or fatigued. Patients will reduce activity and become less social, eventually becoming housebound, because of dyspnea and fatigue. Henderson outlines “moving and maintaining posture,” and “participating in recreation” as activities which contribute to overall health. Any type of exercise, whether gentle exercise in the home to maintain limb strength or daily walks will optimize pulmonary rehabilitation. The FNP can encourage the COPD patient to exercise with a partner not only to improve lung function and physical health, but to foster positive social relationships (Barnett, 2006).

Energy conservation is addressed by suggesting the patient perform daily activities sitting down, rather than standing. Ideas include using a shower chair for bathing and a chair in or near the closet for dressing. Pacing activities and resting between tasks decreases energy expenditure and breathlessness. For example, when bringing groceries in from the car, unload the perishables first, rest and then return to the car for the nonperishable items.

Patients with COPD often complain of dyspnea. To help avoid breathless attacks, patients can be taught to control their breathing using special techniques. Abdominal breathing improves the efficiency of the respiratory muscles by reducing the amount of air trapped in the lungs at the end of expiration. Abdominal breathing is taught by having the patient put their hand on their abdomen and as they breathe, they concentrate on moving their abdomen, not their shoulders (Barnett, 2006). Pursed-lip breathing also improves patients’ ability to control acute attacks of breathlessness because as air is exhaled it creates resistance to keep the small airways of the lungs open, relieving the pressure in the chest (Dunn, 2001). Using pursed-lip breathing together
with the tri-pod position can maximize chest expansion while reducing the work of breathing. By teaching the COPD patient these techniques, the FNP can assist the patient in decreasing their anxiety related to dyspnea and work of breathing.

Mucus in a patient’s airway can cause excessive coughing. Teaching effecting coughing techniques such as “take a deep breath, hold it for three seconds (which builds pressure in the lungs), and then cough gently to shake mucus loose” (Dunn, 2001, p. 35) is helpful. This process is repeated, the patient allowed to rest, then repeated as necessary. Maintaining adequate hydration by drinking at least eight 8-ounce glasses of fluid a day helps thin secretions, allowing more successful coughing and clearing of the airways.

Pulmonary rehabilitation is an important aspect of disease management for the COPD patient. Rehabilitation programs normally last six to eight weeks and work with the patient to improve functional lung capacity and quality of life. Education provided includes individualized information regarding disease, medications, and exercise program (Barnett, 2006). Research has shown pulmonary rehabilitation programs lead to improved health, quality of life, and improve exercise and patients possess the education to understand COPD modifications in daily living (Booker, 2005). Pulmonary rehabilitation has also been shown to reduce the number of inpatient hospitalizations for patients with COPD (Booker, 2005).

Henderson’s “avoiding dangers in the environment” includes taking measures to prevent communicable diseases which may be detrimental to those already compromised by chronic illness. Patients with COPD should receive yearly influenza vaccination and pneumococcal vaccination at least once in their lifetime. Vaccination has been shown to reduce rates of influenza and also reduces the rates of hospitalization and death from an infection of influenza (Barnett, 2006). According to a recent review of research related to influenza vaccination in
COPD patients there is now evidence from randomized trials that influenza vaccine decreased "flare ups" of COPD, related to the influenza virus (Poole, 2007).

COPD patients are dealing with a debilitating disease which has a major impact on daily living. The key concept coping encompasses anxiety, depression, loneliness and fear. Evidence suggests that many people with a COPD diagnosis feel apart from the rest of population (Kara & Mirici, 2004). The role of the FNP includes effectively assessing and treating depression while supporting symptom management in patients experiencing respiratory compromise and associated isolation. COPD patient’s report social restriction, social isolation, and decrease productivity in personal activities of daily living. COPD patients have an altered sense of self. Using Henderson’s model there is an important aspect of doing for one self. These patients may be unable to participate in religious or other social gatherings as they once did. COPD patients have increased fear of dyspnea in social situations and this highlights Henderson’s beliefs. The rural FNP provides assistance with a caring approach to help patients identify resources such as support groups. These resources encourage maintenance and building of social ties and may encourage the patient to accept illness and connect with friends in new or different ways.

The rural COPD patient is naturally isolated. It will be the challenge of the FNP to develop a social and support network for these patients. Evidence suggests that loneliness is associated with less satisfying interpersonal networks and these patients are less engaged in social activities (Kara & Mirici, 2004). Further research demonstrates that COPD patients naturally withdraw from their normal social interactions because of their compounding symptoms (McHugh et al., 2007). Virginia Henderson stressed that the nurse was to do for the patient until the patient could do for himself. In this case, theory would be applied to develop modified goal setting to encourage the patient to participate in some of their former, or reach out
for new, social engagements. Obviously isolation and reported loneliness increase the rate of depression in COPD patients (McHugh et al., 2007).

Anxiety is an additional issue compounding COPD. Anxiety related to breathlessness, acute exacerbations, another hospitalization, all are realities for the COPD patient. There are two folds to anxiety. In this case, the emotional component of dealing with anxiety will be addressed. COPD patients experiencing an acute dyspneic episode have anxiety about the actual attack, however this anxiety continues after resolution of the attack (Dunn, 2007). There are a number of ways to treat and avoid acute exacerbation that leads to hospitalizations. However, the most effective is education and teaching about breathing techniques. It is a fundamental goal of Virginia Henderson that the nurse will breathe for the patient until the patient is able to breathe for himself. This theory can be applied to teaching and demonstrating breathing techniques for potential breathlessness.

Finally, the prevailing nursing diagnosis that resounds across all aspects of COPD care, the coping concept of fear. Fear of breathlessness, fear of isolation, fear of loss of function, fear of death. It is the role of the FNP to treat and educate the patient to the progression of the disease, expected complications, and the final prognosis of the disease. Research reveals that COPD patients undergo more invasive life sustaining procedures at the end of life than do lung cancer patients (Goodridge, 2006). This is often associated with the family and the patient’s lack of understanding of disease progression. It is the responsibility of the FNP to provide education, reinforce the terminal nature of COPD, explain the compounding factors of exacerbations, and emphasize the importance of developing a palliative care plan early in treatment.

The primary responsibility of the FNP is to respect and understand the goals of the patient. This is achieved with open and honest communication about end of life goals early in
treatment. The FNP must have frank discussions with their patients, to maintain the patient’s wishes, and to support the family through the end of life process. Research reveals that only 15% of people surveyed believed their physician understood their goals at end of life (Goodridge, 2006). In COPD patients the discussion of end of life care occurred most often during an acute exacerbation in an intensive care setting (Goodridge, 2006). The rural FNP can discuss palliative measures early in treatment to better prepare the patient and represent their wishes when an acute exacerbation does occur. Representing the patient’s wishes and allowing a death with dignity is a primary goal of Virginia Henderson’s nursing theory.

In conclusion, Virginia Henderson’s grand theory developed fourteen points of patient assistance to move patients toward wellness and independence. Using the backdrop of Henderson’s theory independence for COPD patients was emphasized with the hope of reducing hospitalizations related to COPD exacerbations. The six key concepts identified address the many aspects of care for the patient living with COPD in a rural community. The FNP role is that of primary care provider, coordinator, educator, counselor, and social worker. Through the evidence based research presented in this paper, the necessity of a multifaceted role for the rural FNP has been demonstrated. The geriatric population has been identified as an underserved, need based population that lacks social network and support, especially in the rural community. This work has demonstrated how the specific diagnosis of COPD can further isolate and challenge the geriatric population. In addition, care of COPD patients in a rural setting is further compromised by lack of resources and detachment from the community. With all of these compounding factors the COPD diagnosis is complicated with physical and psychological challenges creating poor compliance and impoverished coping. In some cases this hastens the terminal end of the disease. In conclusion this discussion also demonstrates how the psychological and physical coping
mechanisms of the COPD patient have been grossly underserved. The final end of life concept confirms the need for further education and work to allow patients the right and option to a death with dignity. Disease trajectory along with palliative care options should be discussed at diagnosis of COPD. It is the hope that with a multifaceted role of the rural FNP these challenges can be addressed and patient outcomes improved, including maintenance of independence and decreased hospitalization related to COPD exacerbation.
References


Poole, P.J. (2007). Influenza vaccines for patients with chronic obstructive pulmonary disease. *Cochrane database for systematic reviews, (3).*

