Theory Application Paper

(Application of Neuman Systems Model
In the Operating Room)

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Theory Application Paper

Nursing conceptual models have been useful tools for nurses to guide their clinical practice. One of the most popular one is the Neuman Systems Model. It is derived from general system theory with focuses on the client (which may be an individual, family, group, or community) as an, “open system “that continuously and dynamically responds to stressors in the environment. The stressors which may be intrapersonal, interpersonal, or extrapersonal are tension producing stimuli that have the potential to disrupt person’s normal lines of defense (Alligood, 2014). Stressors may be beneficial or noxious depending on the strength of the flexible line of defense (an individual’s combination of response to stress). According to Martin (1996),” the nurse’s role is to focus on variables affecting the person’s response to stressors, allaying risk factors associated with them. The nurse assesses, manages, and evaluates the patient, acting to impede states of disorder”. Interventions can be primary, secondary or primary prevention.

Benefits/Relevance of the Theory

Neuman Systems Model is a very helpful tool for nurses in their clinical practice. The model has been well accepted by the nursing community and is used in administration, practice, education, and research (Alligood, 2014). Because the model is flexible and adaptable to a wide range of groups and situations, people have used the model globally in all levels of practice in varied settings such as United States, Canada, Europe, Australia, and the Far East (Parker, 2001). Parker (2001), also mentioned that, “most nursing schools used the model as a curriculum framework because of its consistency with the school in one or more of the following areas: the school’s beliefs; philosophy; and concepts of humans, health, nursing, and environment”. It is also a wellness-oriented approach model which emphasizes the three levels of nursing
interventions (primary, secondary, and tertiary prevention) with the aim of reducing the threats and risks to health.

**Limitations of the Theory**

All nursing theories have their own limitations. Neuman Systems Model is no exception. According to Heyman & Wolfe (2000), “the main criticism of Neuman Systems Model is that many of the concepts are not adequately defined, especially the difference between interpersonal and extrapersonal stressors. The term reaction needs to be better defined as well as the terms knowns and commons”. The model is a holistic approach and requires not only the nurses’ intervention but also entails the collaboration of a multidisciplinary team (Lee, 2014).

**Critique of Two Articles**

The article, “Application of Neuman systems model on the management of a patient with asthma” by Queenie Lee discusses the care for a patient with asthma using Neuman systems model by implementing the three lines of intervention namely primary, secondary, and tertiary prevention. The case study is about a 35 year old Indian woman who presented to the emergency room with shortness of breath due to upper respiratory infection. The author as a nurse designed a nursing care program using Neuman systems model as a framework to develop interventions for the prevention of asthma attack. She suggested setting up a patient education session as a primary prevention intervention to provide better knowledge of the patient’s condition to decrease the possibilities of encounter with the stressor (asthma). Secondary prevention focuses on treating signs and symptoms of asthma as well as preventing further deterioration and to restore the patient’s optimal health. Interventions included medical treatments and relaxation therapy. Tertiary prevention started when the patient was admitted to the hospital to recover from her exacerbation. Patient teaching on accurate inhalation technique to prevent relapse of asthma
attack was set up within two weeks. The asthma nurse would reassess patient’s return
demonstration of inhalation technique, and re-education on asthma disease as well as setting up
for follow up appointments after discharge. Tertiary prevention also includes prescribing the
patient with the required medications and advising the patient to adhere closely to the medication
regime. This article clearly identified the type of interventions (based on Neuman system model)
suitable for different stages of asthma management. It also highlighted the basic needs of the
patient. The interventions were a collaboration of different health care personnel.

The second article, “Neuman Systems Model as a Conceptual framework for Nurse
Resilience”, discusses the stressors involved in the field of nursing such as job exhaustion and
burnout. The author suggested the Neuman systems model as a conceptual framework for
exploring nurse resilience, and recommended strategies to promote resilience building in nurses.
It has been mentioned by Turner & Kaylor (2015) that, “resilience has been associated with traits
such as hardiness, mental toughness, and emotional stability and includes positive coping
mechanisms and the ability to utilize individual strengths in order to overcome trauma and
stress”. The article stresses the unique role of the nurse to be available to others during the most
intimate times of vulnerability (surgeries and trauma, tragedies and illnesses, celebrations of
birth, and grief and loss). These moments undoubtedly place emotional and physical stress on the
nurse and if coupled with personal adverse events (family problems, financial difficulties,
personal health problems) and work place issues (long understaffed shifts, constantly changing
work environment) will definitely take a toll on nurses. The article mentioned the five interactive
variables (physiological, psychological, sociocultural, developmental, and spiritual) within the
Neuman systems model that can determine the amount of resilience a nurse has to any
environmental stressors. Physiological responses to stress are associated with the sympathetic
“fight or flight system” which produces involuntary changes in heart rate, blood pressure, respiratory and other body system. Psychological responses include healthy coping mechanisms such as humor, reflection, self-motivation, and seeking of appropriate support also promotes resilience and wellness during stressful situations. Sociocultural responses includes strong peer relationships, civic engagement, and neighborhood involvement. Developmental responses includes nurses’ age and years of experience that can have a strong impact on stress level. Spirituality gives hope which can strengthen the stability of a client system and lead to positive adaptation and increased resilience (Turner & Kaylor, 2015). I really like the article since it focuses on the nurses’ adaptation to stress. Often times, we get so occupied with taking care of our patients and forget that we have to take care of ourselves too.

**Clinical Practice Issue in My Work Setting**

I work as a perioperative nurse in the operating room. My main responsibility is to provide surgical patient care by assessing, planning, and implementing the nursing care patients receive before, during, and after surgery. My specialty is ear, nose and throat surgeries and a lot of times, I deal with children especially toddlers with chronic otitis media and chronic tonsillitis. Wikipedia defines toddlers as children between the ages of one and three years old. The toddler years are a time of great cognitive, emotional and social development. Surgical procedures can be very stressful to them. I had a three year old Hispanic boy who has a history of chronic otitis media. He was scheduled to have permanent ear tube placement. The child came with his parents who cannot speak and understand English. The parents were very anxious since the patient would not stop crying. As her nurse, I wanted to make sure the child will have a safe, positive, and successful surgical experience.

**Application of Neuman Systems Model in the Clinical Practice Issue**
To provide the appropriate nursing care to the child, it is important for me to understand the growth and developmental concerns of this age group. The Neuman systems model can be used as a conceptual framework in the surgical management of this patient. Using the model, I should place the child in the center of the open system and must address what is stressful to the child in the perioperative setting which we will consider his environment for this scenario. The perioperative setting includes the preoperative, intraoperative, and postoperative phases of care and consists of internal, external, and created environments. I, as the RN circulator should develop a nursing care plan that uses primary, secondary, and tertiary interventions to promote a positive surgical experience. My goals during the preoperative phase are to prevent stress reactions, alleviate anxiety and fear, and protect the patient’s confidentiality. Primary interventions will include educating the parents about the procedure which can be done through a language interpreter since the parents cannot speak and understand English. Toddlers have an increased understanding and awareness of object permanence. As a result, toddlers react differently with strangers (Hockenberry & Wilson, 2009). The fact that he is seeing an unfamiliar environment with strangers is very stressful to him. Incorporating play into the care of the child can be introduced to make the child at ease. Giving a stuffed toy within this age group is an intervention I can do on our first encounter. Transitional objects such as a warm, fuzzy stuffed animal are sources of security to a toddler (Hockenberry & Wilson, 2009). After this, I will let him listen to the stuffed toy’s heart before I listen to his heart. I will even let him listen to his own heart to lessen their anxiety. I let him put a surgical hat on his toy before I put one on him. Letting him put an oxygen mask on his toy gives him an idea on what we will do when we move to the operating room. Secondary interventions include giving the child a warm blanket to compensate for the cold environment. Offering reassurance to the parents and encouraging them
to ask questions are other secondary interventions. When patient is transferred to the operating room, safety is a potential stressor. Interventions such as placing safety belts on the patient, implementing comfort measures (warm blankets, bair huggers, and paddings), keeping the noise level to minimum, and maintaining a sterile environment are primary and secondary preventions to lessen the potential stressors. Postoperative interventions are assessing and managing the pain level of the child. These can be done by giving Tylenol suppository before the pain starts. Tertiary interventions include orienting the child to the PACU environment when he wakes up, asking the parent to be by the bedside before he wakes up, and assuring the safety of the child will all contribute to a safe, comfortable and positive surgical experience.

**Significance of Theory to Personal Philosophy**

I would like to quote the definition of nursing by American Nurses Association which encompasses my personal work philosophy. According to ANA, “nursing is the protection, promotion, and optimization of health and abilities, prevention of illness and injury, facilitation of healing, alleviation of suffering through the diagnosis and treatment of human response, and advocacy in the care of individuals, families, groups, communities, and populations”. Neuman systems model is a helpful conceptual framework that I always use to assess, diagnose, plan and implement a comprehensive nursing care plan for my patient to provide optimal health at every stage of their life.

This paper allowed me to grasp the details of the Neuman systems model and how it provides a comprehensive, flexible and holistic system based perspective for nursing. It directed me to mainly focus on the potential stressors my patient is subjected to and how to deal with the stressors using primary, secondary and tertiary interventions.
References


http://patheyman.com/essays/neuman/criticisms.htm


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