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DEVELOPMENT OF A PRIMARY CARE ASSESSMENT
TOOL FOR URINARY INCONTINENCE IN THE
AMBULATORY ELDERLY

Scholarly Project for the Degree of M. S. N.
MICHIGAN STATE UNIVERSITY
BONNIE K. OETMAN
1998

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**DEVELOPMENT OF A PRIMARY CARE
ASSESSMENT TOOL
FOR URINARY INCONTINENCE
IN THE AMBULATORY ELDERLY**

By Bonnie K. Oetman

A SCHOLARLY PROJECT

**Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of**

MASTER OF SCIENCE

College of Nursing

1998

ABSTRACT

DEVELOPMENT OF A PRIMARY CARE ASSESSMENT TOOL FOR URINARY INCONTINENCE IN THE AMBULATORY ELDERLY

By

Bonnie K. Oetman

Urinary incontinence (UI) affects all age groups and is a particularly common health problem in the elderly. Urinary incontinence is defined as any involuntary loss of urine sufficient to be a problem. It is known to affect approximately 13 million Americans in community and institutional settings. Many elders, as well as, health care professionals do not view UI as abnormal, but rather as a normal part of the aging process. In order to change views of UI in the elderly, health care providers must be educated about the dimensions of UI. In the past, the practice toward UI has been focused on urine containment and skin protection rather than taking a proactive position toward assessment, treatment oriented, therapeutic care as described by the AHCPR Clinical Practice Guidelines on UI. Accurate assessment and diagnosis determine the success of treatment.

The purpose of this project was to develop a primary care assessment tool for UI for the ambulatory elderly. This author presented a brief overview of the problem and significance of UI with the main emphasis is on the development of a provider based assessment tool. As an outcome of the project, this assessment tool for UI will serve as an aid in the basic evaluation of clients who present with UI in the primary care setting. This tool will assist in detecting and confirming UI objectively.

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ACKNOWLEDGMENT

To the one I love, my husband, Harvey
for his love, patience, understanding
and encouragement during the long hours and
countless weekends I worked on this project.
He's my friend, I could never be happy without --
He truly is the wind beneath my wings!

ACKNOWLEDGMENTS

I would like to thank my advisor and project chairperson, Louise Selanders, for her continuous encouragement and support throughout my graduate study. She has truly been a mentor and I appreciate her professionalism. I also appreciate the other project members, Sharon King, for her great inspiration throughout this endeavor, whose untiring support I have so much appreciated, and Laura Struble for all of her assistance and smiles along the way to the accomplishment of this project.

I especially would like to thank Janice Kinsey and Dr. Lawrence Carey for their editorial assistance during the writing of this project.

I would like to acknowledge the support I received from one special friend, Sandy, who gave me so much of her time, and gave me the confidence to sustain me throughout my graduate studies. I would be amiss not to mention many other friends (Linda, Jan, Van, Sheryl, Laima & Pam), who truly kept me going, through these past few years of graduate school. Their encouragement is priceless. Thank you all for your friendship.

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Primary Care Assessment Tool for Urinary Incontinence In the Ambulatory Elderly

Chapter 1

Introduction

Background of the Problem

Urinary incontinence (UI) affects all age groups and is a particularly common health problem in the elderly. Urinary incontinence, defined as any involuntary loss of urine sufficient to be a problem for a person, is known to affect approximately 13 million Americans in community and institutional settings (AHCPR, 1996). The incidence for UI is estimated at 2.9% among 55 - 64 year old people with the more elderly individuals having a higher prevalence of 14% to 18% of those elders living at home. Approximately half of elders living in institutions have UI, ranging from 45% to 55% (Nazir, Khan, & Barber, 1996).

Overall, there are 2.6 million elders with moderate to severe UI in the community with 800,000 living in nursing homes (Bear, Dwyer, Benveneste, Jett, & Dougherty, 1997). Current estimates indicate that approximately 30% of the elderly population not living in nursing homes, who are 60 years of age and older, are incontinent (Wozniak - Petrofsky, 1993). Twice as many women as men are affected (approximately 39% of women and 19% of men), with a significant percentage (between 20% and 30%) having frequent UI episodes, usually daily or weekly (Ham & Lekan-Rutledge, 1996; Catanzaro, 1996; Lagace, Hansen, & Hickner, 1993).

The cost of managing UI is enormous. In 1996 it was estimated at more than \$15

billion (AHCPR, 1996). Most incontinent persons have tried alternative ways to manage their urine leakage, most of which were self devised by use of sanitary napkins, paper towels, adult diapers, and skin care products. According to a study done by Jeter and Wagner (1990), of the 1,670 respondents in the study, 19.3% were using adult diapers, 83% spent less than \$15.00 per month managing their UI, while 6.6% spent \$30.00 or more per month for incontinence products. Ouslander and Kane (1984) estimate that care cost of incontinent residents in nursing homes as being 2.5 times the cost of continent residents. These costs include extra nursing time, laundering, incontinent pads, diapers, and staff turnover caused by the stress of caring for incontinent residents. The fact is the cost of UI alone can tip the balance between living independently versus assisted living, given the enormous expense of nursing home care for the UI client.

Many people who are incontinent do not mention their problem to their health care provider because they are not aware that help is available, or they are too embarrassed to talk about it. About 50% of individuals with UI have not reported their symptoms to a physician or nurse (Ham & Lekan-Rutledge, 1997). According to Mitteness (1992), elderly people resign themselves to having bladder control problems because no health care professional has ever told them about treatment options. This finding is supported by Branch, Walker, Wetle, DeBeau & Resnick (1994), who found that a majority of primary care physicians had inquired about UI in approximately 25% of their older patients. When individuals do seek assistance, evidence exists that primary care providers are either hesitant or not prepared to discuss, diagnose, or treat the problem, or the provider dismisses UI as a normal part of aging, and are not sympathetic to the problem

(AHCPR, 1996; Ham & Lekan-Rutledge, 1997).

Urinary incontinence is expected to continue as a significant health care problem. As the baby boomer generation ages, the incidence of UI will increase. The consequences of UI are numerous; it affects everyday activities and the social interactions of elders with other people. Some people may experience anxiety, depression, social isolation, and low self-esteem related to their bladder problems. Often, UI causes the person to stop working, traveling, or participating in social events. In addition, family members, particularly spouses, share the frustrations and limitations when the client refuses to leave the house (Gallo, Fallon, & Staskin, 1997). According to Nazir, Khan & Barber (1996), clients reported that their UI interfered with their living in the following ways: everyday activities 34% of the time, performing household chores 24.5%, work life 11.8%, and sport activities 10.7%. Thirteen percent of the clients with UI described it as being a continuous problem.

At any age, continence depends on adequate mobility, mentation, motivation, manual dexterity and intact lower urinary tract function. According to Resnick (1995), data from continent elderly is sparse. However, it is known that with aging, the bladder capacity, contractility, and the ability to postpone voiding declines in both sexes. For women, urethral closing pressure decreases, and in men the prostate enlarges which can lead to UI.

Many elders accept their UI condition as part of the aging process and turn to supportive aids without having their condition properly diagnosed and treated. A person is more susceptible to UI with increasing age, but a loss of urinary control is not

necessarily a normal part of the aging process (Gallo, et al., 1997; AHCPR, 1996).

One of the biggest obstacles to effective management of UI has been the perception that UI is inevitable and irreversible. This mis-perception is almost as common among health care providers as it is with patients (Doughty, 1991; Mitteness, 1992). Television has been one medium that has promoted this perception in the broadcasts of advertisements for UI products. Contrary to popular and some professional beliefs, UI is a treatable problem and should not be accepted as a normal part of the aging process. Recognition of the problem must be combined with a thorough assessment to diagnose and appropriately treat UI. The development of an assessment tool for use in the primary care setting for the ambulatory elderly will aide the professional in appropriate care of the UI client.

Incontinence is a common problem in the ambulatory elderly client presenting to the primary care provider's office in daily practice. The primary care provider is the most likely medical contact these clients will have and they should play an important role in evaluation and treatment of UI. The primary health care provider today is becoming increasingly aware of UI because of the aging population. With an appropriate diagnosis and proper management of this problem, an elder's quality of life can be significantly improved. In caring for the client with UI, the goal may not necessarily be one of absolute cure, but rather to improve the condition, prevent complications, and provide comfort (Beckman, 1995). The initial approach by the health care provider is to begin asking elderly clients if they are having any difficulty with UI and the degree to which it causes a problem for them. The primary care provider can then take an active role in the

care of an incontinent client by becoming skilled in the assessment and evaluation of UI. The use of an assessment tool is one way to make certain that a thorough history is obtained.

The advanced practice nurse (APN) is in a unique position both to provide care to clients who experience UI problems, and to educate other health care providers about the signs, symptoms, and appropriate interventions for UI (Beckman, 1995). A correct diagnosis can be made on the first contact basis through the APN's accurate assessment skills and advanced knowledge. The use of an assessment tool will aide with the diagnosis of the type of UI, so that an appropriate interventions can be instituted.

Conceptual Definitions

Significant terms used in this project will need specific definition.

Incontinence is defined by the AHCPR (1996) guidelines as an involuntary loss of urine that is sufficient to be a problem. This loss of urine can be caused by factors affecting either the anatomy or the physiology of the lower urinary tract, or both, as well as other factors. It is clinically useful to differentiate the four most common types of chronic incontinence which include urge, stress, overflow, and functional. However, some people have mixed incontinence, with components of two or more of these urinary incontinent conditions.

Urgency or urge incontinence is the urgent need to pass urine and the inability to get to a toilet in time. This voiding dysfunction is related to detrusor (bladder) instability, which may be due to problems with the bladder itself or to outlet obstruction (AHCPR, 1996). Urge incontinence occurs when the bladder contracts at times other than during

intentional urination. The person experiences a sudden urge to void and subsequently leaks urine before locating the toilet. This type of UI occurs in 40% to 70% of the cases in the elderly population (Chutka, D., Fleming, K., Evans, M., Evans, J., Andrews, K., 1996). A more common cause of urge incontinence that increases detrusor instability is an overactive bladder muscle that can be caused by diabetes, tumors, bladder diverticula, inflammation, infection, dementia, stroke, multiple sclerosis, and prostatectomy (Yim & Peterson, 1996).

Stress incontinence is characterized by the involuntary loss of urine from the urethra during physical exertion; for example, during coughing, laughing, or lifting (Newman, 1997). It is a failure to store urine that may result from problems associated with the bladder or the urinary sphincter; this type of UI results from either a loss of structural support or from pelvic floor relaxation due to intrinsic sphincter dysfunction. Stress incontinence occurs primarily as a result of reduced sphincter resistance which allows urine leakage, especially when intra-abdominal pressure is increased by such activity as coughing, laughing, or lifting (Yim & Peterson, 1996). It is also known as outlet incompetence and is common in women. Although this type of incontinence can occur in men, it is usually limited to those who have had internal sphincter damage from urologic procedures (Chutka, et al., 1996). The most common causes for women and men include weak pelvic floor, multi-parity, uterine prolapse, prostatectomy, and other pelvic surgery or trauma (Yim & Peterson, 1996).

Overflow incontinence is the involuntary loss of urine associated with over-distention of the bladder, generally due to a bladder contractile dysfunction

(AHCPR, 1996). Overflow incontinence occurs when the bladder contractions are decreased or urethral resistance is increased, resulting in the bladder storing an increased volume of urine until low-pressure dilatation is no longer possible, and leakage occurs (Yim & Peterson, 1996). In other words, leakage of small amounts of urine occur usually without the urge to void. Clients with overflow incontinence commonly have symptoms of substantially reduced urinary stream, incomplete or unsuccessful voiding, and frequent or even continuous urinary dribbling. It is estimated to occur in 7% to 11% of incontinent elderly clients (Chutka, et al, 1996). Some causes of this type of UI include diabetes, spinal cord injury, fecal impaction, benign prostatic hypertrophy, and some medications, including anticholinergic drugs (Yim & Peterson, 1996).

Functional incontinence is a physical or cognitive inability that inhibits urination. This condition may be caused by medications, impaired cognition, or excessive distance to the toilet. Functional incontinence occurs in people who have normal voiding systems but have other physical or psychological impediments in reaching the toilet (Yim & Peterson, 1996). Some of the causes include inaccessible toilets, depression, anger or hostility, impaired mobility, or inappropriate cognitive processing of information (Chutka, et al., 1996; Thayer, 1994). Generally, clients with functional UI have normally functioning urinary systems; the UI is a result of some external factor, thus no typical finding will be noted on physical examination.

Mixed incontinence is a loss of urine due to a combination of the above problems. This term is used to describe storage problems with both stress and urge components. Treatment is usually focused on altering whichever pathologic process can be changed.

Incontinence can be either acute or chronic. Acute UI, also known as transient UI, occurs abruptly and is usually associated with an acute illness and/or medications; it subsides once the illness or medications are resolved (Beckman, 1995). Chronic UI can be due to long-term changes in the bladder or urethra, or as a result of damaged pelvic muscles and nerves (Newman, 1997). Chronic UI may last for indefinite periods of time; it may occur with gynecological, neuro-functional or psycho-behavioral disorders, and surgical procedures. Beckman (1995) states that if a client's condition cannot be traced to any acute condition, it is probably chronic UI.

Assessment tool for UI is a standard defined documentation format that provides for consistent recording of information about UI.

With a thorough medical history, physical examination and record keeping, the identification of UI can be improved (AHCPR, 1996). The clinical guidelines for UI were developed by the Agency for Health Care Policy and Research (AHCPR), an interdisciplinary expert panel, who conducted an extensive review of the existing knowledge base for practice about UI. This guideline provides helpful clinical information about the initial assessment of UI and also provides an informed framework for selecting appropriate behavioral, pharmacologic and surgical treatments, and supportive devices to manage UI (AHCPR, 1996). These guidelines emphasize the need for clinicians to ask about the presence of UI in the initial assessment and to inform the client that treatments are available to improve or "cure" the problem.

Purpose of the Project

The purpose of this project is to develop a primary care assessment tool for urinary incontinence for the ambulatory elderly. The development of this tool will aide in the basic evaluation of clients who present with symptoms of UI in the primary care setting. Current research relative to UI will be used as the basis for developing the assessment tool. The primary emphasis is on assessment strategies and not on treatment protocols for UI.

Several different types of UI exist: urge, stress, overflow, functional, and mixed. Therefore, assessment and history is usually the most important part of the evaluation for UI (Chutka, et al., 1996). Using an assessment tool for the elderly will set into motion the process needed to begin early and appropriate management of UI. It will increase the awareness of the health care provider and provide consistent and effective documentation of the assessment process. The goal of developing this research based assessment tool is to assist the primary care provider in the assessment and diagnosis of UI in the ambulatory elderly client.

Dorothea Orem's theory of nursing will be used as a guide for the development of this project. Orem's model of self care is applicable in most situations but is well suited for the development and implementation of an assessment and diagnostic tool for UI because of her particular emphasis on the importance of self-care issues.

Chapter 2

Conceptual Framework

Dorothea Orem's theory of nursing will be used as a guide for development of this project. Orem's model of self care is well suited for the development of an assessment tool for UI in the ambulatory elderly person. Her theory emphasizes the importance of the individual and the individual's ability to care for him/herself or perceived self-care deficits.

Orem (1995) defines self-care as the practice of activities that individuals initiate and perform on their own behalf in maintaining life, health, and well-being. Self-care includes making choices, as well as acting on them. Thus, self-care involves control over one's life. In the ambulatory setting, once an individual has a self-care deficit, in this case, with UI, and seeks assistance from a health care provider, the health care provider can utilize the assessment tool for UI in the ambulatory elderly, to assist in the diagnosis of the type of UI, which in turn, will aide the client to achieve self-care measures. It will then be up to the elderly client to continue with self-care activities as outlined by the provider to achieve a positive outcome of managing UI effectively.

Orem's theory has been called a general theory of nursing; that is, one that is descriptively explanatory of nursing in most types of practice situations. The specific name for Orem's general theory of nursing, however, is the Self-Care Deficit Theory of Nursing. Self-care is the voluntary regulation of one's own human functioning and development that is necessary for individuals to maintain life, health, and well-being (Orem, 1995). Her conceptual model defines the concepts and interrelationships available to practitioners for the development of self-care as a learned behavior and self-care as a

deliberate action (Fawcett, 1995).

The central idea of Orem's theory is that self-care is a human regulatory function. With deliberation, individuals must perform for themselves or have performed for them, the care needed to maintain life, while preserving physical and psychological functioning, as well as developing norms compatible with conditions essential for life (Orem, 1995).

There are three interrelated components in Orem's self-care deficit theory: (1) self-care (dependent care), (2) self-care deficit, and (3) nursing systems (Hartweg, 1991).

The practitioner can select one or all components or concepts to guide his/her work.

There are six basic concepts within Orem's self-care deficit theory: self-care, therapeutic self-care demand, self-care agency, self-care deficit, nursing agency, and nursing system (Parse, 1987). For the purpose of this project, the self-care deficit and nursing system theories will be discussed. The self-care deficit part of Orem's theory is a patient-focused concept; there is potential for a self-care deficit so a health care provider would have a role in this area. The central idea in the self-care deficit component is that individuals are affected from time to time by limitations that do not allow them to meet their self-care needs (Hartweg, 1991). For example, certain self-care limitations may occur because of aging, thus placing the person in need of care by a primary care provider.

The nursing system is composed of those persons with education and training, who can help others to meet or develop their self-care needs. Orem (1995) states that the nursing system is all the actions and interactions of nurses and clients in nursing practice situations. This nursing system would also include the advanced practice nurse (APN) and his/her role. There are multiple roles the APN utilizes within the primary care setting. A

few of these roles include clinician, assessor, educator, collaborator, evaluator, and advocate which will assist in the differing situations with clients who present with UT. A couple of the most important roles in promoting self-care would be the assessor role and the educator role. The assessor is one who utilizes a data base to identify health care, one who forms diagnoses or problems and then updates data to validate and revise initial findings. The educator is one who teaches and assists clients in identifying and meeting their health educational needs.

According to Orem's theory (Orem, 1995), there are three basic variations of the nursing system: (1) wholly compensatory, (2) partly compensatory, (3) supportive-educative. Orem's theory related to her basic nursing system concepts is illustrated in Figure 1. In the wholly compensatory nursing system, the health care provider has the responsibility to meet all types of self-care requisites for the client. The second system, the partly compensatory nursing system, is for situations where both the health care provider and client share the responsibility for certain self-care tasks.

The third system is called the supportive-educative system. This system is for situations where the client is able to perform or can and should learn to perform required measures of externally or internally oriented therapeutic self-care. Within this system, the client's requirements for help are confined to decision making, behavior control, and acquiring knowledge and skills. The health care provider provides the information and education for the support of the self-care skills (Hartweg, 1991). For the purpose of this project, only Orem's supportive-educative system will be utilized.

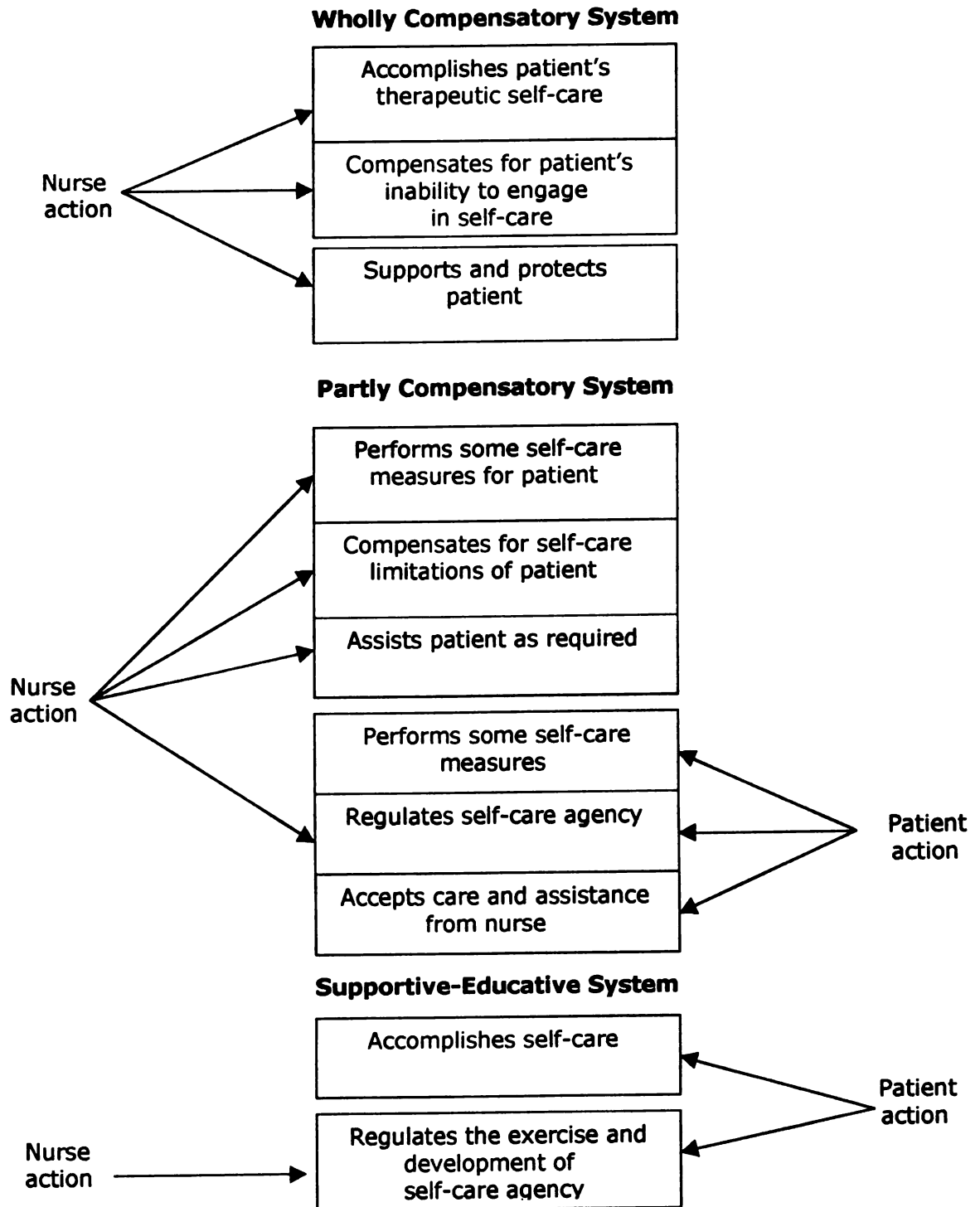


Figure 1. Orem's Basic Nursing Systems.

SOURCE: Nursing Concepts of Practice, by D. Orem, 1995, St. Louis, MO, Mosby-Year Book Inc.

The key to understanding the conceptual framework presented in this project is through the theory of the nursing system, the supportive-educative system. It is within this system that describes the role of the APN or health care provider in ambulatory primary care. It is in this system the elderly client will need to perform some self-care measures and also be willing to accept care and assistance from an APN or health care provider in order to participate in activities of daily living with self-care. It is within this system that the assessment tool for UI in the ambulatory elderly will be utilized. The APN may not have access to a continence clinic. He/she may be working in a general practice setting, when he/she encounters someone with UI and it needs to be addressed.

Within the scope of this project, the elder person may become incontinent and need some assistance to handle this problem. The APN or health care provider will assist the elder by assessing the type of UI. This interaction may assist the elder to become more aware of the strategies used for care of continent issues. The relationship established between the client and the APN or health care provider can lead to the mutual development of UI interventions. The client's implementation of these interventions can then progress the client toward the ultimate goal of self care.

People with UI are just beginning to seek health care assistance with this problem. The basic design of the nursing system within Orem's theory is that of a helping system. When the APN or health care provider uses a combination of helping methods in the care of individuals, both providers and clients move from one role to another. In the supportive-educative system, the goal is to help the client be as independent as possible with the APN or health care provider providing information about UI depending upon the

assessment strategies, especially if there is a deficit between therapeutic self-care and current capabilities. The APN, using appropriate assessment strategies, will also provide educational strategies that will address prevention protocols and be cost-effective and promote health in the management of UI.

Orem's conceptual model has been adapted so that assessment strategies are provided to aide in the development of self-care strategies for the UI client. (See Figure 2 for the conceptual model presented in this project). Figure 2, identifies primary themes found in the literature. The top box contains UI assessment strategies as a result of the literature review, thus the APN can use these strategies to obtain information to aid in the process of providing the educational strategies that are in the second box. Using these two boxes of strategies the APN can empower the client to accomplish self-care outlined in the third box. Thus the APN is providing supportive-educative strategy information as applied to UI. The strategies outlined identifies primary themes found in the current literature. The APN or health care provider can help the client implement self-care behaviors, or help an advocate or caregiver learn how to help the client with UI, by using assessment strategies followed by identifying the type of UI, and providing educational strategies to the client ultimately to promote self-care. Maintaining and promoting health is the overall goal of any health care professional.

Self-care as described by Orem is regarded as a goal oriented activity that is learned by the client. The focus of this project is the client and his/her self-care needs while developing a provider based tool to assist in the management strategies of self-care. Orem's overriding umbrella is self-care. The self-care framework of Orem presents an

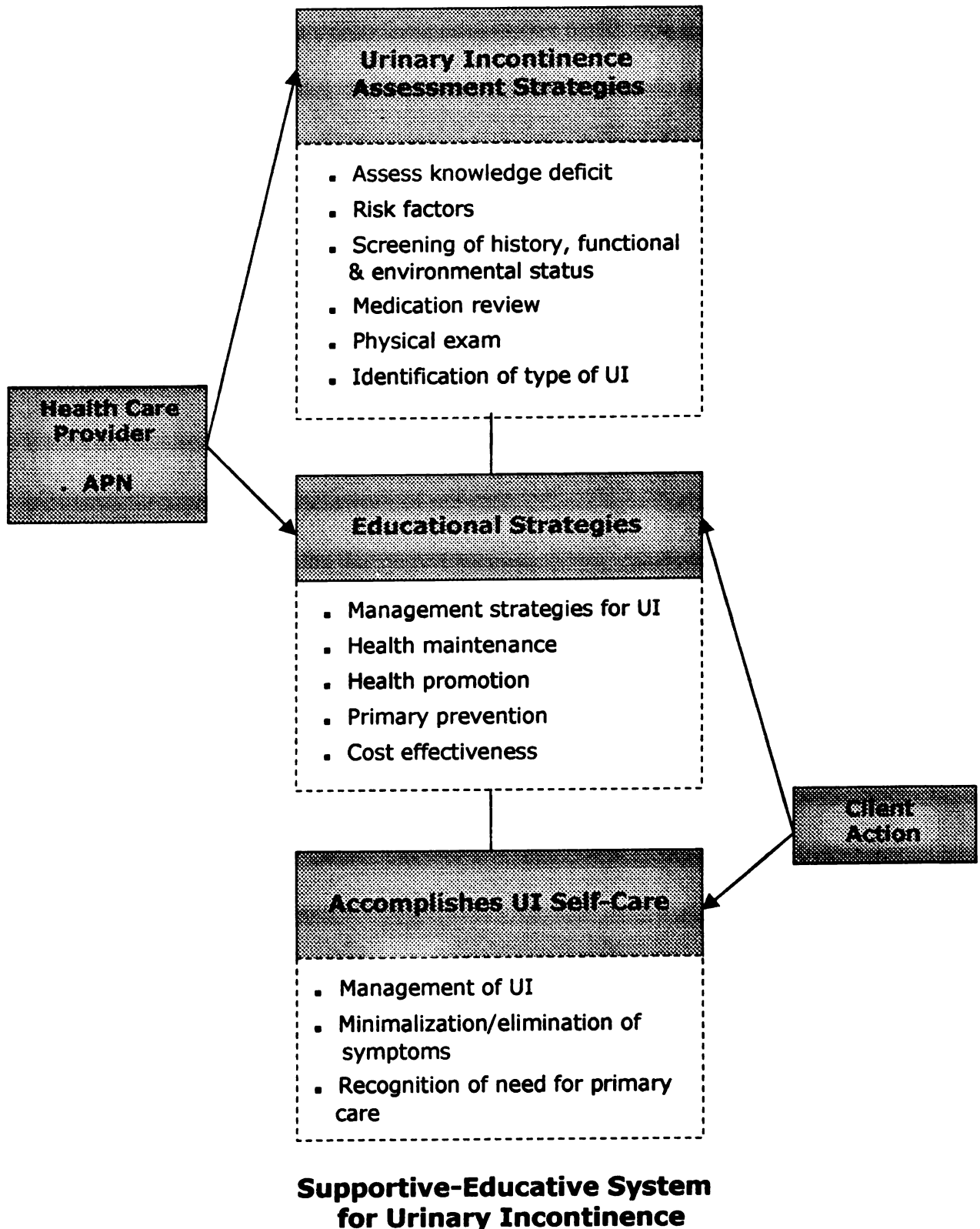


Figure 2. Oetman's adaptation of Orem's Basic Nursing System Model as applied to Urinary Incontinence.

optimistic view of the client's contributions to his/her health care that is in keeping with current evolving social values. Orem does not, however, address assessment strategies within her framework. In order for self-care to be the ultimate focus, assessment becomes the overriding concept. The client needs self-care strategies relative to UI. Assessment is essential in helping the client deal effectively with UI. Even though Orem stresses a client focused framework and the assessment tool is provider focused, the focus of this theoretical framework is the ambulatory elderly population needing self-care strategies for UI. The development of self-care measures with UI issues is the same concept that Orem promotes throughout her framework of self-care.

Orem's framework fits this project because clients who have UI need to care for themselves effectively. According to Fawcett (1995), the unique focus of Orem's framework is the provider's deliberate action to diagnose, design, plan, implement, manage, and maintain the systems of therapeutic self-care for the individuals. Self-care is the ultimate focus of this project. The desired outcome is the client's ability to accomplish self care measures with UI, and the intervention of the APN or health care provider using assessment strategies to identify what is effective to help the client manage and participate in self care. Elderly clients are viewed as having the right and responsibility to care for themselves and maintain their own rational life and health. This conceptual framework helps to guide and refocus the attention to a APN provider based tool that will begin with assessment strategies and restructure the plan to have the outcome of self-care, which includes educational strategies as part of the process. The APN can help facilitate the client's progression towards independent self care measures.

Chapter 3

Review of the Literature

Introduction: The purpose of the primary care assessment tool for UI is to detect and confirm UI objectively, to recognize factors that may be contributing to or precipitating UI and to identify clients who need further specialized evaluation before any therapeutic interventions are initiated (AHCPR, 1996; Ham & Rutledge, 1997). The cornerstone of assessment of UI is the client history, including medications, physical examination, simple diagnostics, such as urinalysis, and post-void determination. Initial assessment and evaluation for UI can be done in the primary care setting. Clients with complex neurological, urogynecological, or urological disorders should be referred for more advanced evaluation and urodynamic testing by specialists.

The focus of this chapter is to evaluate the current research literature on assessment strategies for UI in the primary care setting for the ambulatory elderly. There is an abundance of information regarding UI in the gerontological literature; however, there is little current research literature on assessment tools for UI. The majority of the literature relates to clinical articles on the types and causes of UI and management issues. Only a few articles in the literature actually address assessment strategies of UI, which will be discussed in this project.

Pharmacologic Assessment for UI

Wein (1990) states one of the assessment strategies is to look at the medication profile of the client, to note any drugs that may be causing or inhibiting continence. There are medications available that decrease bladder hyperactivity and increase sphincter

resistance. Medications that decrease bladder contractility include anticholinergic agents such as: probantheline, muscolotropic relaxants, or antispasmodics such as oxybutynin (Ditropan), and dicyclomine hydrochloride (Bentyl). Another class of medication, the calcium channel blockers, such as Terodiline, are also known to decrease bladder contractility and are sometimes used to control UI. Prostaglandin inhibitors which include the non-steroidal anti-inflammatory drugs along with beta-adrenergic agonists such as terbutaline, are also included because they decrease bladder contractility (Wein, 1995; AHCPR, 1996).

The drugs that increase bladder outlet resistance include alpha adrenergic agonists, such as imipramine, ephedrine and phenyl-propanolamine hydrochloride. Beta-adrenergic antagonists and agonists, and estrogens are also included (Wein, 1995). Diuretics can precipitate UI, but the more potent diuretics such as furosemide can also precipitate retention in men with prostatic enlargement (Ham & Lekan-Rutledge, 1997).

According to Gallo, Fallon and Staskin (1997), non-neurologic causes of UI are predominately due to medications that directly affect the bladder smooth muscle. Gray & Burns (1996) discuss the fact that transient UI is caused by multiple factors; one of those factors is medications. They addressed specific certain drugs that are normally used for acute problems that may also contribute to transient UI such as sedatives, hypnotics, and diuretics. Thus it becomes imperative to obtain an accurate list of all medications that the client is currently taking, whether over the counter or prescription medications, for consideration of coexisting problems and UI.

Risk factors / medical history assessment of UI.

Chutka, et al., (1996) reviewed pertinent articles in the literature and summarized the types of UI and contributing factors. This study summarized the assessment of clients, which included a thorough medical history, how frequently UI was a problem, how much urine was lost with each UI episode and if there were any precipitating factors. The study concluded that the physical examination should always include an abdominal exam with a rectal and pelvic exam. Occasionally, various simple laboratory tests including urinalysis, urine culture, complete blood count, serum creatinine and blood urea nitrogen are necessary. The clients studied were questioned about whether and to what degree their UI limited their lifestyle, and any degree of social isolation. Also reviewed in this assessment were questions about use of protective, absorbent undergarments or pads. The limitation identified in this study was that there was no actual tool for a clinician to follow.

Wozniak-Petrofsky (1993) reviewed the lower urinary tract function, the pathophysiology, causes, types, and the impact of UI in the elderly. There was much discussion of age-related changes that affect normal functioning, but stressed that normal aging is not the cause of UI. Dysfunctions are common among the elderly; for example, urodynamic studies performed on two groups of 100 elderly persons complaining of UI showed that 12 participants from one group and 16 from the other group had normal bladder function. The remaining participants from each group were found to exhibit one or two functional abnormalities. These abnormalities consisted of poor bladder compliance, detrusor contraction, and urethral sphincter incompetence. This article noted that assessment of the dysfunctions may indicate what abnormalities exist; then,

management can begin. The limitation of this study was there was no description of a protocol for an assessment tool or assessment strategies used to evaluate the elder's type of UI.

The research done by Pearson & Kelber (1996) indicated that all adult clients should be assessed comprehensively for their continence history. Their purpose was to demonstrate how clinical outcomes are established using nursing research regarding assessments linked with criteria for diagnoses based upon operational definitions and interventions for urine control. Their central theme was the development of clinical outcomes and interventions by the advanced practice nurse to enhance the quality of care provided by other care givers. Published assessments were reviewed; the assessments were based on questions asked to clients after they were incontinent. A literature search was used to find established criteria for 15 risk factors that are reported to influence the ability to control urine. These 15 risk factors were: 1) inadequate liquid intake, 2) inability to wait 10 minutes after urge to urinate, 3) lack of sensation of a full bladder, 4) inability to recognize when urine began to flow, 5) frequency of urination greater than eight times in 24 hours, 6) frequency of urination less than five times in 24 hours, 7) nocturia more than once a night, 8) dribbling of urine, 9) inability to stop and restart urine flow, 10) smoking, 11) burning sensation on urination, 12) bowel constipation, 13) bowel incontinence, 14) dry vagina, and 15) involuntary loss of urine only once a month. The literature revealed seven nursing interventions that could be linked individually or in combination with each other to remedy the 15 risk factors; clinical nursing outcomes were based on those seven nursing interventions. Included in this research article was a

condensed form for a continence history. The research results revealed that the consequences of UI include decreased excursions outside the home, as well as decreased social interactions with friends and family. A desirable outcome mentioned in this research was the quality of life, which could be expected to improve with the reduction of UI. This quality of life outcome is one reason the incontinent person is seeking health care for UI today. The limitation of this study was the fact that this condensed assessment tool would have the client writing an answer for each question. This type of assessment tool could become quite cumbersome for an elder and difficult for the provider to evaluate on the first contact basis. This condensed assessment tool did not offer multiple responses from which the client could choose, and this type of format does not lend itself to continuity, since an elder could answer the questions in a short one word answer or use sentence answers.

Another client history assessment tool was described by Jensen, Nielsen and Ostergard (1994). This article analyzed the statement that the client history is found to be highly accurate in diagnosing genuine stress incontinence and urge incontinence. A literature search was performed for publications addressing the clinical evaluation of UI between 1975 - 1992. Nineteen of the 29 articles during this period reported data in such a manner as to allow statistical comparison of patient history to the diagnosis based on urodynamic evaluation. The authors' findings raised many questions about current evaluation and management of clients with UI. Patient history is a less accurate predictor of detrusor overactivity and mixed UI than of genuine stress UI. The report of urge loss of urine had both a low sensitivity (0.735) and specificity (0.522), resulting in high false-

negative and false positive rates. Basing treatment of UI on a history of urge loss alone resulted in a mis-diagnosis in 45 % of the clients. This study concluded that the client history should not be used as a diagnostic test, but rather as a screening device to identify clients requiring further evaluation. The limitation of this study was there was no actual assessment tool other than the questions asked during the history taking. So history alone cannot be used solely for diagnostic purposes, must identify multiple causes during the assessment process.

The prevalence of UI in persons with complex multiple problems for example in Parkinson's disease has been difficult to determine according to DuBeau (1996), because the complicating voiding dysfunction in these clients are subject to the same mechanical sphincter problems as other persons without neurologic disease. Bladder outlet obstruction from benign prostatic hypertrophy (BHP) is found in 25% to 30% of men with Parkinson's disease. Parkinson's related lower urinary tract dysfunction mimics the symptoms of both obstructive BHP and genuine stress UI, thus urodynamic evaluation is necessary to establish the cause of the urinary dysfunction in Parkinson's disease. A high incidence of constipation occurs in Parkinson's disease, independent of mobility or medications. Constipation may predispose to impaction with resultant UI. Incontinence may also reflect functional status, ambulation, and toileting skills (DuBeau, 1996). With Parkinson's disease, potentially curable outlet abnormalities, such as stress UI and outlet obstruction such as BHP should not be overlooked.

Urinary incontinence associated with dementia is a significant problem. This problem has been reviewed recently by Skelly & Flint (1995). Their research examined

the prevalence of UI in individuals with a diagnosis of dementia. They reported that the prevalence rates varied considerably; anywhere from 11% to 90% of individuals with dementia had UI. They report the highest prevalence, 84%, was among those in institutions. The rates for mixed institutional-community dwelling was at 47%; those individuals attending outpatient clinics and living at home had a rate of 22%. Their findings indicated that lower urinary tract pathophysiology in frail elders with dementia or impaired mobility does not differ from those without such impairments. They emphasize that UI in demented persons may not be causally related to dementia, but instead may have multiple other etiologies with treatable causes. This research found that UI occurs with equal or greater frequency in males than in females. Anticholinergic and antispasmodic medications have not been shown to be effective in treating UI in demented persons. However, prompted voiding regimens have been shown to reduce UI by an average of 32% and appear to be a useful approach in managing UI in the dementia population.

Warkentin (1992) states as Alzheimer's disease progresses, UI develops and worsens due to an absence of cortical control over bladder emptying. The person with dementia forgets how to locate a bathroom, is unable to communicate the need to void, and has an impaired central inhibition of elimination.

Overview of UI

The AHCPR guidelines (1996) address the assessment process in a written format with discussion of basic evaluation including history, physical examination, and urinalysis. An algorithm was developed for the treatment options of UI. The diagnostic tests are listed according to symptoms and conditions, and in table format according to the

type of incontinence. The guidelines include treatment options which include behavioral modifications and surgical interventions. The limitations of the guidelines are that there are no actual written assessment tools. The AHCPR guidelines were developed by an expert panel of authors who have done the research of incontinence, but the clinician must use this information to guide his/her practice and develop tools and assessment strategies from this information. The guidelines contain in depth information on the assessment and treatment of UI, but they do not address any specific assessment tool. The AHCPR (1996) reports that if these clinical practice guidelines on UI are followed there will be a definite cost savings and an impact on quality of life issues.

A few articles provided assessment forms which would aide the clinician with a thorough assessment (Doughty, 1991; Ham & Lekan-Rudlegde, 1997). The clinical literature from Doughty (1991) addressed that assessment of the client should start with a history obtained by oral interview, using a checklist to facilitate adequate documentation. This checklist included a voiding history, urologic history, neurologic history, related medical conditions, reproductive system of the man and women, surgical history and current medication.

Ham and Lekan-Rutledge (1997) describe an in-depth overview of UI. The discussion identified that health care professionals should conduct initial screening and basic evaluation of clients who present with symptoms of UI. The basic evaluation should include history, a bladder diary, medication review, physical examination with additional tests such as a urinalysis. The discussion detailed what should be included in the history, the physical, and the diagnostic test for the client. An algorithmic methodology was used

as a guide to the diagnostic reasoning process. Focused assessment strategies need to be addressed for each unique presentation and characteristic of each client.

Assessment of UI.

Assessment is critical to appropriate management. Warkentin (1992) discussed that the consensus panel sponsored by the National Institute on Aging applied the term “functional incontinence” to those people in whom the lower urinary tract is intact, but other factors such as immobility or severe cognitive impairment result in UI. As Alzheimer’s disease progresses, UI develops and worsens due to an absence of cortical control over bladder emptying. Also the client with dementia forgets how to locate the bathroom, is unable to void, and has an impaired central inhibition of elimination. There were no assessment tools used in this discussion.

Moore and Siu (1996) identified problems that commonly contribute to functional disability, and focused on the following eight problems: malnutrition/weight loss, visual impairment, hearing loss, cognitive impairment, urinary incontinence, depression, physical disability, and reduced leg mobility. For all of the items identified, they modified a screening measure appropriate for use in the office setting. The study was performed with a sample of 109 new clients in primary care. The prevalence rates in this population of older persons ranged from 21% for malnutrition to 72% for physical disabilities. The positive predictive values for functional UI varied between 0.60 for memory to 0.91 for mobility. Negative predictive values in this population ranged between 0.77 for physical disability to 0.96 for UI, which is highly negative. In conclusion, the screening measure exhibited high positive and negative predictive power. Depending on the prevalence of

these conditions, clinicians using the screen should not be surprised by the need to evaluate screen-positive clients who turn out to be false positives on the items. The screening package may be a relatively inexpensive way to efficiently and effectively assess problems that commonly adversely affect function in the elderly.

The majority of the literature on UI is focused on the clinical aspects of the pathophysiology, types and causes, the management and treatment of UI (Gallo, Fallon & Staskin, 1997; Chutka, et al., 1996; Yin & Peterson, 1996; AHCPR, 1996; Davila, 1994; Thayer, 1994; Wozniak - Petrofsky, 1993; Resnick, 1990). Within the body of these articles, there are some references to assessment and evaluation of the client.

According to Gallo, et al., (1997) a consultation visit for a client with UI may include, but is not limited to, diagnosis, evaluation, and treatment with a cost effective evaluation tool and treatment options for the office setting. It is the clinician's responsibility to ask the client in a sensitive manner during an annual exam about bladder control and voiding habits. This article focused on history taking, physiology, medications, physical examination, types of UI, and treatments. A UI questionnaire/assessment tool found in this article, was described as a simple tool for obtaining UI information. This tool would provide information for the clinician to review once the client had completed the questionnaire prior to the initial visit. The assessment was in question and answer form with the client either circling the answer or being asked for a written short answer. This questionnaire is useful to diagnose the type of UI and hence to expedite a treatment plan. Another positive aspect about this tool is that the client just needs to circle the answers to the questions which makes answering the

questionnaire easy and is usually the best format for the elderly to answer. The client has the responsibility to remember to bring the questionnaire to the initial visit.

Yim and Peterson (1996) stressed the need for greater awareness of the UI problem and describe basic types of UI, diagnostic studies, and treatment options that can improve the quality of life for affected patients. After diagnosing UI it was emphasized that most patients with UI can be treated with behavior modification, muscle exercises, and medications. This article states with the current guidelines for evaluation and management; a thorough history, physical examination, and limited laboratory work-up can be accomplished for most patients with UI in the clinic setting. The assessment was limited in that it did not address the assessment skills needed to make a diagnosis of UI on a first contact basis.

Thayer (1994) discussed the fact that evaluation of UI begins with a complete history and physical. It was emphasized that questions about urine leakage are important, and how attention to the client's ability to process information and answer questions should be assessed. The practitioner must observe for impaired cognitive function. Thayer (1994) suggests objective assessment of the problem, and a voiding diary. Then, the practitioner may consider a series of diagnostic studies that will provide answers for a more complex history. The limitation of this article is the fact that no general assessment questions were addressed.

In the article by Resnick (1990) an accurate clinical evaluation of UI include: urinary history of the patient, the type of UI, frequency, pattern, associated symptoms, alteration in bowel habits, other relevant factors, medications, functional assessment, and a

self reported incontinence chart. Along with the history, a physical examination should be conducted which would include a pelvic, rectal, and neurologic exam. Followed by clinical tests such as: metabolic survey, measurement of post void residual volume, urine analysis and culture, renal ultrasound, urine cytology, uroflowmeter, and cystoscopy. This in depth assessment of the client was followed by certain tests to indicate type of UI. However, not all primary care settings are set up to do extensive diagnostics testing this article called important in making the evaluation of the client. This article alluded to the fact that the diagnosis of UI was already in place. The history of the client should augment the findings of UI. There was no actual tool used for the assessment of the client.

Many articles found in the literature outline a systematic approach to the evaluation, diagnosis, and treatment of UI; some authors mention an assessment tool within the scope of their articles (AHCPR, 1996; Colling, 1996; Pearson & Kelber, 1996; Beckman, 1995).

The assessment tool described by Colling (1996) included focus on the health history as well as a listing of medications and a fluid intake profile; also involves a history of the UI and a voiding diary. A focused physical examination involved both cognitive and functional assessments, urinalysis, and an environmental assessment. In long-term care facilities, initial UI detection usually occurs through the use of the Minimum Data Set, a standardized, comprehensive screening tool currently mandatory in all long-term care facilities. There is no standardized instrument for the detection of UI among community-dwelling dependent elderly persons. Questions about incontinent

episodes may need to be initiated. Health care providers can perform specific assessment to help determine appropriate strategies to determine the cause of UI in the elderly.

Beckman (1995) identified that the goal in caring for a client with UI may not necessarily be one of absolute cure, but rather to improve the condition, prevent complications, and provide comfort. This article has the assessment process listed in two tables; one table was the history taking, including past conditions, genitourinary, bowel profile, medication, dietary, and environmental. The other table included physical examination: general, abdominal, rectal, and pelvic. Also included in the assessment table were the diagnostic tests which include urinalysis, dipstick, post-void residual, provocative stress test, and bedside cystometrogram. The history focused on characteristics of the client's incontinence and accompanying symptoms, while also assessing for factors that may contribute to UI. The author stated that an assessment could be performed by an advanced nurse clinician in an outpatient setting by using the information in the tables. These findings were also supported by AHCPR (1996) and Pearson and Kelber (1996), who found that all clients should be assessed comprehensively for their continence history and that each client should complete a 24-hour voiding or bladder diary for a complete assessment.

Haab, Zimmern and Leach (1996) performed an extensive literature search related to the diagnosis, management and treatment of intrinsic sphincteric deficiency; this type of UI is commonly described as type II stress UI. Of the 414 women with stress UI who never had an operation only 13% had documented intrinsic sphincteric deficiency as the only factor for the UI. Estrogen deficiency in postmenopausal women is responsible for

atrophic urethral mucosal changes. The relationship between the appearance of intrinsic sphincteric deficiency and the onset of menopause suggest that the lack of estrogen may be an important contributing factor in compromising urethra function. This study indicated that intrinsic sphincteric deficiency should be suspected based on the history and severity of the UI. By history the risk factors need to be identified, such as UI persisting or worsening after bladder neck suspension, radiotherapy, and extensive pelvic surgery. The conclusions made from the study indicated that documentation and diagnosis of stress UI secondary to intrinsic sphincteric deficiency are essential before treatment. Accurate diagnosis can be achieved for most clients with an appropriately focused evaluation.

In a prospective randomized study, Bergman, Ballard and Koonings (1989) studied the effects of three different surgical procedures for stress UI: the anterior colporrhaphy, modified Pereyra, and Burch retropubic urethropexy. There were 127 women in the study, with a mean age of 55 years. Evaluation included history and physical with clinical and urodynamic evaluation. These evaluations were repeated at a three-month postoperative time and again at one year after surgery. The three groups of women were comparable in mean age, parity, and menopausal status. The results indicated that the cure rate at three-month postoperative evaluation among the three procedures were insignificant (82%, 84% and 92% for the anterior colporrhaphy, Pereyra, and Burch respectively) but became statistically significant at the one year postoperative evaluation (cure rates of 65%, 72%, and 91% for the anterior colporrhaphy, Pereyra, and Burch respectively, $p < 0.05$). There were no differences between subjective and objective cure rates among the three groups. Using strict criteria, short-term

evaluation at three-months after operation demonstrated no significant differences in cure rate among the three groups. The differences among the three groups become obvious only at the 12-month postoperative evaluation. Conclusions indicated that a long term study, between 3-5 years after surgery, be conducted on these women to examine the rate of long-term cure as one of the treatments for stress UI. The limitation of the study was that no assessment tool was identified for use with the client who presented with stress UI. The assessment included an in depth history and physical, but treatment was done randomly, thus the importance of an assessment process.

Other methods used to assess and manage UI by older adults in the community was a study done by Herzog, Fultz, Normolle, Brock, and Diokno (1989). This study data came from 1,956 self-reported incontinent respondents, in how they dealt with involuntary urine loss. Thirty percent of respondents reported urine loss within the last 12 months, with the prevalence for men at 19% and for women at 38%. The 19% incontinent men can be further differentiated into 7% urge, 2% stress, 5% mixed, and 5% other. The 38% incontinent women can be divided into 4% urge type, 10% stress type, 21% combined urge and stress, and 3% other. Women were significantly more likely than men to be using a method to control urine loss; about 69% of the women respondents reported using some type of method to control urine, compared to about 55% of the men. For those who attempted to manage their UI, absorbent products such as sanitary napkins, toilet tissue, and absorbent garments were the most popular means. About 55% of the women used absorbent products; only about 20% of the men used them. The next most

common means of controlling UI was to locate a toilet upon arrival at an unfamiliar place. Forty-two percent of the respondents used this method, and there were no significant sex differences. The conclusion of this study indicated that about two-thirds of all respondents classified as incontinent do attempt to manage their UI. The most common strategies are the use of absorbent products, the location of toilets before the need to urinate arises, and the manipulation of voiding patterns. Only about one-quarter have sought formal health care regarding the condition; only about half have ever sought such care, and very few were taking any medication for the condition.

Functional/environmental assessment

Appleby (1995) states that within the home care setting, a functional assessment should be completed because clients find comfort in their own homes, and most are more relaxed in that environment. This evaluation includes the client's physical abilities, including mobility, transfer ability, balance, strength, and visual acuity. According to this article, environmental factors, including the general safety features of the home and access to the toilet and other areas, are evaluated. The article stated that it is best to observe the client in the process of toileting to adequately assess the need for environmental change.

Physical assessment for UI

Gray (1990) stated that assessment of the UI client should include a basic physical examination, with emphasis on genitourinary and neurologic systems. Careful inspection of the client will reveal much about the general state of health, mobility, and mental state. The female genital area should be inspected for altered skin integrity or signs of estrogen deficiency. The male genitalia should be examined for signs of altered skin integrity; a

digital rectal examination should be performed if fecal impaction or prostatic enlargement is suspected.

Diagnostic assessment for UI.

There are assessment tools that discuss simple voiding records as an assessment.

A voiding diary, which is a record kept by the client and used to help determine the frequency, timing, and amount of voiding, as well as other factors associated with UI.

This diary must be included in the assessment process, but cannot be used alone in making a UI diagnosis. This record may provide clues about the underlying cause of UI as well as information on fluid intake and voiding patterns that may be helpful for behavioral interventions, and can serve as a baseline to gauge severity and treatment efficacy (Colling, 1996; AHCPR Treatment Guidelines, 1996; Doughty 1991).

Davila (1994) stated that the key to managing UI is identifying the cause. Office tests, including cystometry, can pinpoint the cause in about 80% of the patients. New non-surgical treatment options are effective in at least 70% of clients. This article covered the causes of UI, as well as evaluation by history, physical examination, urine cultures, measurement of postvoid residual, and cystometrogram. It discussed management options that may help clients avoid surgical interventions. The assessment tool used was totally by experience of the clinician. The assessment tool was not in a written format. It stated that diagnostic tools, including the cystometry can help identify the cause of UI. However not all primary care settings are set up with cystometrogram equipment to be able to diagnose UI in this manner.

In conclusion, there is little empirical research demonstrating the true effectiveness

of assessment strategies for UI to quantify importance of clinician skill regarding diagnosing UI on the first contact basis. According to Branch, Walker, Wetle, DeBeau, Resnick (1994) appropriate symptom interpretation and reporting is closely related to accurate knowledge and information. For all aspects of incontinence, levels of knowledge among clients and health care providers must be increased to ensure that appropriate treatment and management of UI are achieved. The literature in general does not document the assessment process for UI. There is adequate clinical literature recognizing the assessment process, but there are no adequate assessment tools to aide the APN in this process. This concern provides the incentive and rationale for the development of a standard assessment tool to provide consistency for accurate diagnosis and appropriate interventions.

Chapter 4

Tool Development

The purpose of developing an UI assessment tool for the ambulatory elderly was that current empirical literature did not identify any written assessment tools for use in the primary care setting. The clinical literature described several assessment tools but none were developed based on empirical data. Through the review of literature, a variety of assessment aids was found. These include: descriptions of nursing assessments for UI (AHCPR, 1996); simple voiding records (Colling, 1996, AHCPR, 1996); and assessment forms which help guide a thorough assessment (Doughty, 1991, Ham & Lekan-Rutledge, 1997). These tools are helpful in collecting appropriate data, but do not directly interpret the results to diagnose a specific types of UI. The development of an UI assessment tool follows the recommendations from the AHCPR guidelines, that addresses medications, risk factors, types of UI, functional and environmental issues, the physical exam, and diagnostic tests.

There were many limitations in currently available literature noted from the literature review. Some of the tools found in the literature were written in a general format. They did not directly assist the practitioner to diagnose a specific type of UI. Many articles in the literature review focused attention on the types of UI, pathophysiology, and management of various incontinent problems; however assessment of UI was implied and not explained. Many authors did not provide a tool for assessment and most important, a tool for assessment that was appropriate for the primary care setting.

The development of this assessment tool will provide needed strategies to promote self-care measures for the client who presents with UI. Orem's framework that focuses on self-care presents an optimistic view of the client's contributions to his/her health care. An accurate assessment tool of UI conducted by an APN or health care provider becomes the overriding concept within the scope of this paper; thus, the motivation for the development of an assessment tool for UI in the primary care setting.

Overview: The reason for the development of an assessment tool for UI is to provide an easy, understandable tool that will simplify identification of UI on a first contact basis in the primary care setting. This tool doesn't require expensive invasive tests and is an easy tool for the APN and/or the primary care provider to use in the primary care setting. None of the assessment tools in the literature was in a format that was easy to use for the client or the health care provider who may have limited knowledge about UI. Elderly clients should be asked about symptoms of UI because appropriate assessment and treatment can usually provide solutions to the problem. Health care providers want clients to be independent in activities of daily living. Maintaining self-care in the performance of activities of daily living for the elderly is an important quality of life issue. Self-care involves control over one's life, which includes making choices, as well as acting upon them. According to Orem (1995), self-care is the practice of activities that individuals initiate and perform on their own. The use of this assessment tool will provide the opportunity for the APN to provide direct care and enhance self-care beliefs in older clients who experience UI problems.

Implementation: The assessment tool is designed to be used by any health care provider when there is a question about UI. It is a short one page, two sided assessment tool that uses an interview format. Most of the questions requires the APN provider to circle the appropriate response or fill in the blank with short responses. This is a comprehensive assessment tool which collects data in a progressive and systematic way. It will guide the health care provider to assess broadly, and help determine the probable type of UI on the first contact basis in the primary care setting. The assessment tool identifies medications, allergies, risk factors, including medical conditions and lifestyle behaviors, along with urinary history, and the UI profile of urge, stress, overflow, and functional UI. Additional assessment includes functional status, and environmental assessment. The physical examination includes abdominal and pelvic exams. Simple diagnostic tests can be conducted right in the primary care setting such as an evaluation of urine using dipstick, culture if indicated, and a post-void residual urine evaluation. A voiding diary is also included in the assessment analysis, but this diary must be given to the client, to be completed over a course of three to five days to help complete the urinary history.

Assessment tool: The Urinary Incontinence Assessment Tool for the Ambulatory Elderly, Oetman Assessment Tool, to be used in the primary care setting is available in Appendix A.

Guidelines for assessment tool usage: The assessment tool is designed as an aide for the practicing health care provider to evaluate and diagnose UI, that can lead to appropriate evaluation and management of UI. This assessment can be implemented

across all ages but is particularly important in the elderly population, because the elderly have the highest prevalence of UI. The tool is intended to be used with clinical judgment and individual circumstances. The goal of the assessment tool is to provide an easy assessment of the elderly client when UI is suspected. A thorough assessment can result in correct diagnosis and appropriate management of UI. It will help the clinician identify the type of UI so as to implement appropriate intervention. This assessment tool should be easy to use and assist in decreasing the dollars spent in providing supportive care for UI.

The tool begins with demographics, then lists the current medications. This allows the practitioner to review the medications that may adversely affect continence. Keeping in mind the medications that affect UI will include: alpha blockers, alpha stimulators, antispasmodics, anticholinergics, antihistamines, calcium channel blockers, diuretics, hypnotics, narcotics, and sedatives (Wein, 1995, AHCPR, 1996). Following the list of medications, allergies are listed, to help identify any medications that may cause a reaction if taken. Any drug a client is taking should be recorded because many drugs have a subtle or direct influence on bladder function. This will draw attention for the APN health care provider to evaluate medications that may be a problem for the individual client relative to incontinence.

The assessment of risk factors include any medical condition that may provide important information about the neurologic, musculoskeletal, metabolic, urologic, and gynecologic condition of the client. Within this section on the assessment form, the clinician needs to circle the appropriate response or fill in the blanks with short responses.

The UI risk factors will guide the APN to discuss health promotion education, and lifestyle changes with the older client. Gray (1990) found that multiple aspects of a client's medical history affects UI and should be noted.

The urinary history provides an area for the client to state in his/her own words how and to what degree UI is a problem. The history area helps to determine more information about the frequency of urination, the amount of leakage, and what kind of management program the client has tried or is currently trying. This will give the APN a quick look at what actually has been happening to the client. Chutka, et al. (1996) stated that the history is the most important part of the evaluation of UI. Jensen, et al. (1994) found client history should not be used as a diagnostic test, but rather as a screening device to identify clients requiring further evaluation.

The next section includes questions about specific types of incontinence. If one area has more circled responses, the assessment would indicate that type of incontinent problem. In some instances, clients may present with a combination of symptoms that may lead the clinician to make a diagnosis of mixed incontinence. In this case, treatment would need to be adjusted accordingly. Gray (1990) found that UI symptoms provides clues to a possible diagnosis, and when combined with a comprehensive history and thorough examination, allows for a provisional diagnosis of voiding dysfunction.

The functional assessment addresses the client's access to a toilet, whether or not he/she have the ability to void, the time it takes to reach a toilet, and if the client is cognitively intact to comprehend the voiding function. The responses need to be circled or a short answer filled in the blank.

The environmental assessment identifies the accessibility of toilets, bed pan or bedside commode, and if they are close at hand. Also considered is safety in the bathroom area, such as does the bathroom have enough light; does it have any loose rugs; or are there any other things the client is not aware of, that may be causing some difficulties, such as excessive time to remove clothing. Gray (1990) states that an assessment of a client's environment should focus on bathroom facilities in the home; the assessment includes that of poor lighting, stairs, long distance to the toilet, and chairs or beds that obstruct walkways. The need of any mobility aids must be assessed, such as wheelchairs, walkers, crutches, canes, and eyeglasses.

A complete, physical examination should be performed on all clients that present with UI. Careful inspection of the client will reveal much about the general state of health, mobility, and mental state (Gray, 1990). Examination of the abdomen will evaluate bladder distension, because a distended bladder is often palpable especially in clients with overflow incontinence (Chutka, et al. 1996). Upon examination of the abdomen, palpation for masses should be included to rule out any type of abnormality. Also checking for CVA tenderness to rule out any renal dysfunction needs to be included.

Included in the physical examination is the pelvic examination. The female genital area is inspected for altered skin integrity or signs of estrogen deficiency. This exam allows the practitioner to observe the external genitalia, assess for local inflammation, vaginal atrophy, and evidence of weak pelvic support. Weak pelvic support, such as cystocele, rectocele, or prolapse may be observed by asking the client to bear down or cough vigorously, thus noting the organs that may protrude. The male genitalia are

examined for signs of altered skin integrity and a digital rectal examination is performed if fecal impaction or prostatic enlargement is suspected (Gray, 1990).

The rectal examination should be completed on both male and female clients. It starts with inspection of the perianal area, checking for lesions or other skin alterations. Chutka, et al. (1996) stated that the assessment of the anal wink reflex and a rectal examination should be done to disclose any neurologic deficiency, prostate abnormalities, fecal impaction, or pelvic pathologic conditions. The anal sphincter tone must be assessed for integrity and sensations. The internal sphincter tone can be assessed by the client coughing while lying supine on the exam table, leakage of urine in this position is suggestive of an outlet incompetence. Assessment of fecal impaction, prostate enlargement, or other pelvic pathologic conditions must be considered.

Diagnostic tests include obtaining a clean catch urine specimen and testing it with a dipstick. This dipstick is used to detect conditions such as hematuria, suggestive of infection, cancer, or stones. It is also used to detect glucosuria, pyuria, and bacteriuria. Urine cultures are obtained when the dipstick indicates infection or when the symptoms suggest infection (AHCPR, 1996). The estimation of post void residual (PVR) urine will help to rule out a bladder emptying problem. This test is measured by urethral catheterization. It is generally accepted that a PVR of less than 50 ml means the bladder is adequately emptying, and volumes greater than 200 ml may indicate a urinary obstruction (Appleby, 1995).

Another diagnostic tool is the voiding diary which is a vital part of the client's overall bladder habits. The diary helps the client to self report accurate urinary symptoms

rather than trying to have the client recall what incontinent episodes have occurred at home. The voiding diary is a valuable tool to assess voiding patterns, including diurnal and nocturnal voiding. The voiding diary should be simple to use and provide pertinent information to assist in the assessment of UI (Appleby, 1995). A sample of a voiding diary is available in Appendix B.

The last part of the assessment tool is the impression the clinician obtains based upon the clinical information from the tool. This information should yield the diagnosis of urge, stress, overflow, functional, or mixed. Once this diagnosis has been made, treatment can be initiated. If the clinician needs further information, or if more in depth urodynamic testing is indicated, then a referral would be made to a specialist for follow up.

This assessment tool is then signed and dated. Once the initial assessment has been completed, treatment options can be presented. The treatment of UI would be based on an algorithm for management such as those provided in the AHCPR guidelines. Most cases of UI can be evaluated by the APN or primary health care provider by using this type of assessment tool.

Chapter 5

DiscussionImplications for Advanced Practice

The advanced practice nurse (APN) who provides primary care to the elderly is in a unique position to impact the elderly with UI by accurately assessing and using educational strategies to inform clients about the specific self-care interventions available to them. The assessment tool described in this paper is intended to aide the APN in the assessment process, evaluate, and initiate an impression of the type of UI on a first contact basis for those clients presenting with UI. As stated previously, an individual assessment of each client, in conjunction with the assessment tool for the ambulatory elderly, will aide in a correct diagnosis and initiation of treatment. Multiple risk factors must be assessed before implementing any type of intervention. The APN can provide educational strategies that will be cost effective with positive outcomes in the area of UI. Another positive outcome from using the UI assessment tool is that the APN can become proficient in assessing UI in the primary care setting.

In the conceptual model based on Orem's self-care deficit theory, the goal of Orem's assessment is client focused self-care. The theoretical framework for the UI assessment tool is to refocus the attention to a provider based tool. It is speculated that during the assessment time, effective communication can occur between the APN and the client, and realistic expectations for self-care activities can be developed. Thus, the goal is to help the client be as independent as possible, using self-care strategies as outlined by the APN. These strategies occur through the clinical knowledge and judgement skill of the

APN provider and the use of the assessment tool.

There are several aspects of the medical system that contribute to health care professionals who under evaluate and under treat UI among the elderly. One of those aspects may be inadequate instruction or education. Health care providers without training in geriatrics do not always know how to respond to the elderly UI patient, and assume it's part of the aging process. The APN must acknowledge the taboos and beliefs of many individuals that UI is a normal part of aging. Reassuring the client becomes vital. Discussing the fact that UI is not a normal part of the aging process is important. Another area of concern is adequate assessment of the UI client. The assessment skill is time consuming; many primary care providers have limited time to spend with each UI client. Another area of concern is the reimbursement issues. The reimbursement mechanisms of the American private health insurance and Medicare systems strongly discourage adequate responses to incontinent people (Mitteness, 1992). For example, Medicare will reimburse for the ongoing cost of indwelling catheters but will not reimburse for the cost of incontinence pads, pants, or diapers (Mitteness, 1992). APNs can provide services that have traditionally been provided by physicians. These services are more within the realm of nursing practice, such as education, client advocacy, assessing, care coordination, and collaboration with other care providers.

The roles of the APN with UI expertise are several fold: an assessor, educator, advocate, consultant, and a collaborator. As an assessor, the APN utilizes the data from the assessment tool to identify health care needs. This data base helps to formulate impressions about initial findings about UI. The APN begins to interpret and makes

clinical judgments from the objective and subjective data. The assessor systematically and continuously collects information and updates that data to validate and revise initial findings.

As an educator, the APN is in a unique position to educate other nurses, APN students, other nursing students, health care providers, clients and the community at large. The APN can provide education to the elder client about specific UI problems through Community Education inservices, through newspaper articles, and in one to one interviews. Education for the elders and the community provided by inservices can be done on a contractual basis, whether contracted by the individual or a facility. Education for nursing students, APN students, health care providers can be done more formally, done in a classroom setting or by videotaping. According to AHCPR (1996) information about UI should be included in the curricula of undergraduate and graduate health care professionals. Also included should be schools of nursing and physical therapy and physician assistants. Specialists of incontinence care can be expert advisors to other health care providers, in teaching hospitals and nursing homes.

The APN educator can provide information regarding risks factors, lifestyle behaviors, and treatment options for the client with UI. The educational strategy may include behavioral therapies, such as Kegel exercises, scheduled toileting or any other supportive information. Health promotion and prevention strategies for UI must always be considered by the APN. As baby boomers age and become more aware of the problems of UI, demands for programs and education will increase.

Another area the APN should be involved with as an educator is continuing

education programs for health care professionals. Assessments and treatments are effective only if the health care providers are aware of them and are skilled in implementing them (Mitteness, 1992; Newman, 1996). No longer can the APN be prepared for the future as they have been in the past. The APN must integrate many skills that will create an effective, meaningful role. They need to address the standard of practice, processes, policy and parameter of practice. They must also prove the value of their practice in the delivery of health care services (Porter-O'Grady, 1997).

The advocate role promotes a transfer of responsibility to the client by creating a climate of mutuality where the APN can empower the client to take over their health care and improve their self-care abilities. Self-care is so important when it comes to the management and treatment of UI. Maintaining self-care in the activities of daily living for the elderly is so important for the elder's quality of life.

As a consultant, the APN would be available to advise other health care providers on UI assessment skills. This would occur in such settings as private practice, extended care facilities, acute care agencies and home care settings. The APN is in a unique position both in providing direct care to the elders who experience UI problems, and to assist and educate other health care providers on appropriate assessment skills and interventions available (Beckman, 1995).

The APN is also a collaborator, one who can assist others with the management of UI by providing expertise and leadership in innovation in the area of UI. This may include communicating with nursing homes, foster care homes, and families to ensure continuity of care in managing UI. The APN can share the knowledge gained from assessments of

clients with physicians and other health care providers to advocate for continuity of care and to improve the quality of life for each client.

Positive roles identified for the APN include: providing comprehensive, cost effective care, acting as an assessor, an advocate and an educational resource to staff and clients, being available for consultation to peers, and assisting others with the management of the client. Serving in these roles, the nurse in advanced practice can improve primary care.

Evaluation

Evaluation of the assessment tool for the ambulatory elderly will be on going, and changes may be made as the tool usage increases. As the health care providers begin to identify the positive outcomes and benefits from identifying the type of UI on the first contact basis, the assessment tool will become part of their everyday use for their elderly clients presenting with UI. The expected outcome of this project is with increased knowledge about assessment skills, health care providers will expertly question and offer suggestions of alternative treatment options for the elderly client who presents with UI.

As health care providers become more aware of the misconceptions that many people have about UI, they will use a more matter of fact approach and be sympathetic to the client's embarrassment. Reassuring the client is vital. The health care provider must be careful not to dismiss UI as an un-treatable fact of aging.

The specific evaluation plan for this assessment tool would be to have the tool available in the family practice and internal medicine offices with a short inservice on usage. Follow up in one month to the individual sites would include a retrospective chart

review for: (1) those clients who presented with complaints of UI, (2) to look for the number of times UI was identified, (3) to check for the number of times the assessment tool was actually used, (4) monitor the amount of time involved in using the tool, (5) whether the provider actually used the tool for the assessment process, (6) identify the number of referrals made to a specialist, and (7) whether the provider was satisfied with the tool.

Part of the evaluation would include identifying the client outcomes. Some of those outcome measures would consist of the client's ability to recognize their urge to void, whether their underclothing was dry during the day, or were they wet or their bedding was wet during the night. Was the client able to manage their clothing independently and were they able to toilet independently. Is there some predictable pattern to the client's passage of urine. Does the client still have incontinent issues after the initial visit and what other educational strategy needs to be initiated for a positive outcome for the individual client.

Another important area that needs to be addressed and not overlooked is client satisfaction with the outcome. Has the social and psychological consequences that often accompany UI been improved. Has the client's quality of life been improved by the implementation of the outlined educational strategies. Identifying the level of self-esteem and activities of daily living, will be predictors of client satisfaction and quality of life issues. A section on the evaluation form should include whether the client was satisfied, unsatisfied and why, or not applicable. Older people are healthier, living longer, and living better with more chronic issues. The provision of services to essentially healthy aging

people will be an increasing focus of advanced practice (Porter-O'Grady, 1997).

During the evaluation, the author would be available to answer questions, offer guidance in usage of the tool, and obtain feedback from the practitioners regarding the usefulness of the tool to APN's and physicians. Frequent contact via the phone or with office visits is needed to provide support and positive reinforcements for use of the tool.

This author plans on having the tool available for use in family practice and internal medicine offices which have high volumes of elder clients in the Lansing area. It can be used with very little in-service, as it is self explanatory. This author will be available for questions that may arise upon usage of the tool, and will provide follow up with the primary care offices after one month of usage of the assessment tool in their elderly population.

Implications for Research

The need to promote and maintain health for as long as possible will intensify with the ever-increasing number of elderly; measures to enhance or maintain physical, mental, and social function will also need emphasis (Strumpf & Paier, 1993). The research component cannot be overlooked. Research is needed to understand the natural development and remission of UI, to identify risk factors and to match affected clients to the most appropriate and effective treatment (Beckman, 1995). Nursing research should be on-going to evaluate the effectiveness of interventions, but this clinician suggests more research should focus on assessment tools and their efficacy for UI clients.

Adequate assessment of UI in the elderly usually does not require complex, highly technological skills, but it is time consuming and requires skilled history taking and

repeated contact with clients (Mitteness, 1992). Research is needed to keep track of the number of clients being seen for UI and whether the assessment tools helped with the diagnosing of UI. Researchers must continue to assess for client outcome studies in the area of UI.

Further research is needed to examine the assessment strategies used for the elderly client in the primary care setting. Clients who are reluctant to initiate conversation about their UI may welcome the opportunity to discuss the problem with a provider who is genuinely interested and who can convey accurate information and potentially assist the client's as to what type of UI they are dealing with, so treatment can be initiated. Focused assessment and treatment strategies can be individualized to address the unique presentation and characteristics of the older client.

Further research is indicated to evaluate differences in reimbursement issues that may affect clinical decisions. Medicare will reimburse for the ongoing cost of indwelling catheters for a management strategy for UI, but will not cover the cost of incontinence pads, pants, or diapers. Also other technological diagnostic procedures are reimbursed more fairly than long clinical interviews and non-technical management strategies (Mitteness, 1992). The APN is in an excellent position to be instrumental in implementing current research, to seek and clarify reimbursement issues for future plan of care.

From this author's perspective, this assessment tool for UI will provide data for further research when used consistently. It is far easier to abstract information from this standardized format than from traditional notes. Data gathered would be more

meaningful as the client information is documented. The data regarding UI would be more consistent, more reliable, and be meaningful research for the future plan of care.

Summary

After evaluating the current research relating to UI, there are several conclusions that can be made. Urinary incontinence is a common condition in the elderly population, both in the community and in long term care settings (Chutka et al., 1996). Many elders with UI would benefit from an assessment, but most do not seek medical evaluation for various reasons. Health care providers need to begin to ask about UI on the first contact basis. By using this new assessment tool, diagnosis of UI can be identified quickly, and management can begin earlier. This process will improve the quality of life for UI elder's as they are assessed for UI and how it has affected their lifestyle. Understanding the process of UI in the elderly population, the healthcare provider can treat UI successfully.

Urinary incontinence is both a community health problem and a personal crisis (Newman, 1997). According to Mitteness (1992), UI does not have to be a destructive force in the lives of elderly people. It is, therefore, the leadership expectation that APN's invest themselves in ensuring that the valuable and significant contribution of nursing and the design and future of health care are in evidence in every place where decisions are made (Porter-O'Grady, 1997). The challenge is for the APN to incorporate this knowledge, so they can provide more therapeutic care in the area of UI. The goal for clients with UI may not necessarily be one of absolute cure, but rather to improve their quality of life, prevent complications, and provide comfort (Beckman, 1995).

APPENDIX A

APPENDIX A

Urinary Incontinence Assessment for the Ambulatory Elderly

Practitioner fill out with client:

Name: _____ **Date:** _____ **Date of Birth/Age:** _____ **Sex:** _____

Current Medications: _____

Allergies: _____

For each question, circle the appropriate response or fill in the blanks.

URINARY HISTORY:

Do you have a problem holding your urine: (Describe in their own words) _____

Onset of Problems: 1. recent within last six months, 2. within past year, 3. problem for more than one year.

Frequency of Leakage / Frequency of Accidents: 1. once a day, 2. twice a day, 3. three times or more per day, 4. at nighttime.

Amount of Leakage: 1. small (pants are damp), 2. moderate (pants are wet), 3. large (pants are soaked).

Management: 1. catheters, 2. medications, 3. pads, 4. skin care, 5. toileting program.

RISK FACTORS:

Medical Conditions: 1. arthritis, 2. back injury/surgery, 3. cancer, 4. chronic constipation, 5. dementia, 6. diabetes, 7. eye/sight problems, 8. hypothyroidism, 9. multiple sclerosis, 10. multiparity, 11. parkinson's disease, 12. pelvic surgeries (including prostatic surgery), 13. restrictive mobility, 14. stroke, 15. urinary tract infections, kidney disease, stones, 16. any other active major medical condition: _____

Lifestyle Behaviors:

1. alcohol, 2. caffeine intake, 3. inadequate fluid intake, 4. obesity, 5. smoking.

Medications Affecting UI:

1. Alpha BLockers, 2. Alpha Stimulants, 3. Anticholinergics, 4. Antihistamines, 5. Antispasmodics, 6. Calcium Channel Blockers, 7. Diurectics, 8. Hypnotics, 9. Narcotics/Sedatives.

INCONTINENCE PROFILE: *Circle the appropriate response. Diagnosis of UI will be indicated by the increased number of responses circled.*

Urge UI:

1. Leak urine on the way to the toilet.
2. Frequency or urgency of urination.
3. Leakage in moderate to large amounts.
4. Leakage during the night.
5. Strong uncontrolled urge to void.

Stress UI:

1. Leakage with cough, laugh, exercises or physical activity.
2. Leakage in small amounts.
3. No leakage during the nighttime.
4. Sudden onset.

Overflow UI:

1. Difficulty starting the urination.
2. Weak or interrupted stream.
3. Post voiding dribbling.
4. Prolonged voiding.
5. Voiding in small amounts or dribbling.

Functional UI:

1. Mobility or manual dexterity impairments.
2. Lack of toileting facilities/excessive distance to toilet.
3. Depression, delirium, or dementia.
4. Pain.
5. Medication use.

Circle the appropriate response or fill in the blank.

FUNCTIONAL ASSESSMENT:

1. Mobility: a) independent, b) assistance needed, c) wheelchair use, d) transfer assistance.
2. Voiding ability: a) able to urinate on own, b) difficulty starting urination, c) refuses to urinate when assistance offered.
3. Cognitive function: a) intact, b) impaired.
Check Mini Mental State Exam (score) _____ (<24 abnormal).

ENVIRONMENTAL ASSESSMENT:

1. Is bathroom area well lit: a) Yes, b) No.
2. Are there any physical barriers on the way to the bathroom, such as:
a) stairs, b) loose rugs, c) doors to open, d) furniture.
3. Difficulty in removing clothing: a) Yes, b) No.
4. Are the toilet facilities large enough to accommodate any assistive devices, such as:
a) wheelchairs, b) walkers.

PHYSICAL EXAM:

1. Abdominal Exam:
a) palpate for distended bladder, b) massess, c) CVA tenderness, d) normal.
2. Pelvic Exam: *Check all that apply.*

<u>Genitalia:</u>	<u>Rectal:</u>
a) atrophic mucosa _____	a) perenial sensation _____
b) cystocele _____	b) anal sphincter tone _____
c) rectocele _____	c) prostate enlargement (<u>male</u>) _____
d) uterine prolapse (<u>female</u>) _____	d) fecal impaction _____

DIAGNOSTICS:

1. Urine:
Dipstick: leukocytes _____, blood _____, protein _____, glucose _____
Culture, if ordered, date: _____, results: _____
Post-void residual urine measurement _____
2. Voiding Diary: Give to the client to complete. For 3-5 days, record the number of urinary accidents, reason for the accidents, and review at next visit.

Impression (type of incontinence) _____

Refer to Algorithm for Management of Urinary Incontinence.

Signature

Date

APPENDIX B

APPENDIX B

Appendix B: Sample of a Voiding Diary

NAME: _____

DATE: _____

INSTRUCTIONS: Place a check in the appropriate column next to the time you urinated in the toilet or when an incontinence episode occurred. Note the reason for the incontinence and describe your liquid intake (for example, coffee, water) and estimate the amount (for example, one cup).

Time interval	Urinated in toilet	Had a small incontinence episode	Had a large incontinence episode	Reason for incontinence episode	Type/amount of liquid intake
6–8 a.m.					
8–10 a.m.					
10–noon					
Noon–2 p.m.					
2–4 p.m.					
4–6 p.m.					
6–8 p.m.					
8–10 p.m.					
10–midnight					
Overnight					

No. of pads used today: _____ No. of episodes: _____

Comments: _____

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