Assessing the Benefits of Bladder Ultrasound Scanners in Nursing Homes

Background

- IN State Department of Health initiated RFP in 2007 to determine benefits of placing bladder scanners in nursing homes
- USI selected to conduct study
- Multi-disciplinary Team created
- 14-month project
- Partnered with 4 nursing homes

Team Members

- Multi-disciplinary Team
  - Gerontology – Katie Ehlman, PhD, CHES, LNHA, Director, Center for Healthy Aging and Wellness
  - Nursing – B. Renee Dugger, MSN, RN, GCNS-BC & Nadine Coudret, RN, EdD, Dean, College of Nursing & Health Professions
  - Occupational Therapy – Sherri Mathis, DOT, OTR/L, COTA
  - Radiologic and Imaging Sciences – Amy Wilson, MS, RT(R), RDMS, RVT
  - Biostatistician – Brandon Eggleston, PhD
Literature Review

- Urinary incontinence (UI) is a significant problem in nursing homes (NH)
  - UI estimated at 45-70% and increasing
- Elderly person with UI suffer
  - Physical distress
  - Psychological distress
  - Diminished health-related quality of life
- Financial impact of UI
  - $680/episode UTI
  - >$5 billion annually nationwide

Research Questions

1) Do direct care nursing home staff members have an increased knowledge base relating to incontinent care techniques after the staff in-service corresponding to the placement of the bladder ultrasound scanner in a nursing home?
2) Will utilization of a bladder ultrasound scanner in a nursing home impact the residents' health-related quality of life?

Education Intervention

- Individual Nursing Home Meetings
- Breakfast Meetings at USI – for Nursing Home Administrators, DON, ADON, MDS
- Three Building Toward Excellence Education Meetings – for DON, ADON, and other nursing staff
  - October 29, 2008
  - December 10, 2008
  - February 4, 2009
**Education Intervention**

- Initial in-service education for staff

**Education Intervention**

Follow-up In-Service: Bladder Jeopardy Game

**Education Intervention**

- Faculty Follow-Up Consultations
- Bladder Bonus Program
- Cue Cards

**SCAN BEFORE YOU CATH!**

"Catheterization is an invasive procedure. It causes discomfort and infections have to be treated with medication. It takes a lot of staff time to track urinary tract infections. It takes a lot of supplies and documentation too."

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Results: Question 1

Do direct care nursing home staff members have an increased knowledge base relating to incontinent care techniques after the staff in-service corresponding to the placement of the bladder ultrasound scanner in a nursing home?
- Pre-Post Quasi-experimental Prospective Design
- Paired samples t-test

Staff Member Data

Staff Completing Pre and Post Tests

N=116 Pretest
N=56 Paired Samples @ Posttest
95% Female

Results: Question 1

Bladder disorders are a normal part of aging.
- Pretest Data: True 49%, False 51%
- Posttest Data: True 7%, False 93%

Chi-Square test of independence showed significant interaction (p<.001)
Percentage of staff by position that believe bladder disorders are a normal part of aging at pretest:

- Nurses' assistants: 82%
- MFs: 50%
- RNs: 50%
- NPs: 60%
- Admin: 70%

Staff Satisfaction and Knowledge:

How satisfied are you in your knowledge to assess and treat urinary incontinence?

- Pretest: 89%
- Posttest: 50%

How often do you feel confident in helping a resident with his/her urinary incontinence problems?

Chi-square test of independence showed significant interaction (p<.001) and (p<.05)
Take Away Lessons: Question 1
- A knowledge gap exists
- The gap involves all educational levels of nursing staff
- The gap is largest for CNAs – most intimately involved in UI care
- Lack of accurate UI knowledge prevents accurate assessment and management of UI

Research Question 2
- Will utilization of a bladder ultrasound scanner in a nursing home impact the residents’ health-related quality of life?
  - Pre-post Quasi-experimental design
  - Paired samples t-test

Resident Interview
- Incontinence Stress Questionnaire for Patients Tool (ISQ-P)
  - n= 34 for paired samples (38 pre-intervention; 34 post-intervention) from 4 different NHs
  - Eligibility: Signed consent & MMSE 17 or greater
Because I am unable to control the passing of my urine, I am able to discuss incontinence with others.

Chi-square test of independence showed significant interaction (p<.05)

Relationship Correlations between Overall ISQ-P Stress Score & Specific Items from ISQ-P Tool

<table>
<thead>
<tr>
<th>ISQ-P Tool Item Statement</th>
<th>Pearson Correlation (2-tailed) between Overall Stress Score &amp; Specific Item Statement</th>
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<tbody>
<tr>
<td>Try to hide UI from others</td>
<td>.46**</td>
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<td>.56**</td>
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**Correlation is significant at the p<.001 level

Results: Question 2

UI = Urinary Incontinence
ISQ-P = Incontinence Stress Questionnaire for Patients

ISQ-P Tool Item Statement | Pearson Correlation (2-tailed) between Overall Stress Score & Specific Item Statement |
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Chi-square test of independence showed significant interaction (p<.05)
Take Away Lessons: Question 2

- An environment of openness and acceptance of resident UI may lessen the stress of “hiding” the condition while staff work to manage it.
  - Educate staff to speak with residents and encourage them to share their feelings about UI
- Remain aware of resident concerns re: “urine leakage” and “urine smell”
  - Consider incontinence products that reduce fear of leakage
  - Work with residents & staff on adequate fluid intake and odor control
  - Importance of working toward continence to reduce stress

Implications for Practice

- UI is not an expected part of aging
- Staff UI knowledge gap exists
- UI can lead to feelings of depression and “being a burden”
- UI leads to increased stress
- If not properly managed, UI can lead to decreased quality of life
- Lack of accurate staff UI knowledge prevents accurate assessment and management of UI

Questions