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Annotated Bibliography of NINR Findings on Women's Health Across the Lifespan: 2008 Update

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Abstract

The National Institute of Nursing Research (NINR) anticipates that sharing this on-going series of annotated bibliographies with the nursing community will increase knowledge and awareness of these valuable research findings in women's health, and support the continued development of evidence-based practice.

NINR in MedlinePlus

The National Institute of Nursing Research (NINR) was recently featured in the spring 2008 issue of *NIH MedlinePlus Magazine*. The article presented some of the contributions to health care made by nurse scientists across the nation, as illustrated through landmark NINR-supported research studies on interventions to:

- help teenagers manage diabetes,
- improve the transition from hospital to home care for elders, and
- reduce the risk of HIV exposure among young minority women

As noted by NINR Director Patricia A. Grady, Ph.D., RN, FAAN, “Our health care system will face new and significant challenges as the 21st century progresses and our population continues to grow, age, and become more diverse.”

The article also discussed the leadership role of NINR at the National Institutes of Health (NIH) in end-of-life research. Studies in this area are aimed at improving palliative care for dying patients, as well as promoting communication among patients, families, and clinician. An important goal of this research is to reduce the stress and anxiety both patients and families can experience during this difficult and often emotional time. “Nurses are involved with people at every stage of life and across the full range of health and illness,” said Dr. Grady. “It is only natural that nurses and nurse scientists would take the lead on the sensitive and vital issues surrounding care at the end of life.”

First published in 2006, *NIH MedlinePlus* is a free publication from the National Library of Medicine (NLM), with a circulation of approximately 300,000. The magazine showcases the latest medical research and health care information from NIH, and provides a free, trusted consumer guide to the vast array of authoritative online health and medical information at www.medlineplus.gov. All issues are available on the NLM web site at: www.nlm.nih.gov/medlineplus/magazine.html.

NINR Findings in Women's Health Across the Lifespan

Recent findings from the scientists supported by NINR have contributed new knowledge that addresses women's health across the lifespan, helping to give nurses and other health care professionals greater understanding of the wide range of women's health issues. This annotated bibliography summarizes published reports in the following three areas of women's health:

- Menopause issues,
- Cognitive function and aging, and
- Chronic conditions.

Menopause issues

Vasomotor symptoms such as hot flashes and night sweats are reported by 70-80 percent of women during the menopausal transition, and often result in impaired sleep, mood, and quality of life. As part of the *Study of Women's Health Across the Nation (SWAN)*, a group of researchers examined the association between body fat and reports of vasomotor symptoms among a multiethnic sample of over 1,700 women transitioning through menopause. Each participant received a body composition evaluation, a vasomotor symptoms assessment, and a reproductive hormone analysis. Results indicated that a greater percentage of total body fat was associated with an increased chance of reporting vasomotor symptoms. These results are particularly relevant given current interests in developing alternate methods for managing vasomotor symptoms, which include behavioral approaches such as weight loss programs.

Approximately 40 percent of all postmenopausal women will eventually experience bone fractures. As part of *SWAN*, almost 2,000 pre-, peri-, and postmenopausal women received bone mineral density (BMD) measurements annually for an average of three to four years. The annual rate of bone loss during these intervals ranged between 1 to 2.5 percent. If bone loss were to continue at these rates for 5 additional years, the average woman's BMD would decline by 5 to 10 percent. BMD losses occurred at greater rates in women in the lowest percentile of body weight and during the late peri- and postmenopause stages. Identifying factors associated with bone mineral loss during menopause transition could help women and their health care providers make informed decisions about the need to screen for osteoporosis and when to consider therapy to prevent bone loss.

For women, menopause is a significant milestone that often marks the beginning of "middle age," but it also may carry many different social meanings. From interviews of 53 premenopausal women who ranged in age from 40 to 48 years, some common themes emerged: (1) increased sense of maturity and control, (2) focus on oneself, and (3) transitions in family, relationships, and physical appearance. Most of the women said they did not feel "middle-aged," but had mellowed, gained self-understanding, and become more self-assured and assertive. They reported greater independence, as well as the opportunity to start new interests or resume a career. Most recognized signs of aging and altered appearance, such as graying hair or weight gain, but refuted the notion that older women could no longer look attractive. Married women and those with children tended to look forward to their transition from the "caregiver" role to addressing their own needs. Most of the women were knowledgeable about taking care of their health through diet and exercise, as well as breast exams and Pap smears. In general, the women felt that the approach of menopause was a time of gaining individual responsibility and control over their lives, while they expressed little concern over their chronological age.

Cognitive function and aging

In otherwise healthy older adults, impairment of declarative memory, the ability to form new memories, may create a barrier to maintaining independent functioning. The multisite Advanced Cognitive Training for Independent and Vital Elderly (ACTIVE) study followed over 2800 older adults at risk for loss of independence, over three quarters of whom were women. From baseline screening, roughly 200 of these participants had signs of impaired declarative memory. All participants received one of three cognitive training programs: (1) memory; (2) reasoning; or (3) speed-of-processing. Participants with normal memory ability at baseline who received the memory training showed significant improvement in memory tasks. However, those identified with memory impairment had no gains from memory training, although they were able to show improvement from training in reasoning or speed-of-processing. While older adults with mild memory impairment may not respond well to memory training, they may benefit from other forms of cognitive training.

For adults aged 65 years and older, falls are a leading cause of injury and hospitalization. The Fall Evaluation and Prevention Program (FEPP) is an individualized, home-based intervention intended to reduce the risk of falls. A group of over 250 elderly women who completed the FEPP kept a self-report calendar to record any falls they experienced and any follow-up care received for a period of two years. The women reported a total of 386 falls, with 14 percent resulting in injury. The average cost of health care for all fall-related injuries was \$6,600. In addition, 4 percent of fall-related injuries resulted in a fracture, most often involving the wrist or hip. The costs resulting from a hip fracture averaged over \$35,000. Evaluation of health care use and costs related to falls in the elderly may help determine the cost-effectiveness of individualized preventive interventions.

For women with mild to moderate urinary incontinence (UI), simple self-management techniques are available that are safe, inexpensive, and easy to teach, but their effectiveness has not been adequately tested. A group of over 100 women with self-reported UI, most between 40 and 64 years of age, received an intervention that consisted of individualized counseling in areas such as fluid intake, frequency of voiding, and caffeine consumption, as well as instruction in pelvic floor muscle (Kegel) exercises. The women in the intervention reported a decrease in urine leakage, as well as an improved quality of life, while women in a control group reported a slight increase in urine leakage. These findings indicate that teaching women with UI some simple self-monitoring practices should be considered as an initial treatment option for these women.

Chronic illnesses

For adolescents with Type 1 diabetes, poor metabolic control can leave them at risk for a range of cardiovascular and related complications. A group of over 100 adolescent diabetics, most of whom were female and White, received a 6-week education program involving coping skills training (CST), along with diabetes management. CST taught them skills in communication, social interaction, conflict resolution, and behavior modification. As they entered adulthood, participants maintained a low level of diabetes complications such as hypertension or renal complications, and most reported feeling satisfied with their quality of life. However, those with a higher level of depressive symptoms in early adolescence were more likely to remain depressed into adulthood. These findings indicate that CST can help adolescent diabetics maintain good metabolic control and quality of life.

Persons with diabetes often experience anger, anxiety, and depression as a result of the constant awareness and self-management required by their condition. In focus group discussions involving over 40 women with diabetes, many expressed anger for not taking better care of their health, as well as anxiety over the possible complications of the disease.

They also worried about the ongoing costs of treating their diabetes and the additional responsibilities involved along with being a mother, wife, and other related roles. Some even planned “Diabetic Holidays,” taking a break from treatment to enjoy particular foods or activities, when diabetes management became overwhelming. Assessment of the psychological health for women with type 2 diabetes may give health care providers the opportunity to better understand and address the emotional impact of the disease, allowing for more successful diabetes management.

During a myocardial infarction (MI), rapid recognition of the symptoms and entry into treatment are critical to reducing the risk of death and disability. However, men and women often experience and interpret MI symptoms differently. Interviews of over 1,000 recent MI patients from five countries (Australia, Japan, Korea, England, and the U.S.) found that almost 40% correctly attributed their initial symptoms as cardiac in origin, while the others thought their symptoms were from stomach problems, muscle pain, fatigue, or other causes. For men, a higher severity of symptoms significantly increased the chance of correctly recognizing an MI. Among women, though, the severity of chest pain did not affect their symptom recognition. For both men and women, having a history of heart disease increased the likelihood that they would identify their symptoms as heart-related. These findings indicate that public education campaigns to increase awareness of MI symptoms and speed entry into treatment may need to account for sex differences in symptom experience, recognition, and severity.

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