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Headache and Health-Related Job Loss Among Disadvantaged Women

Shawn M. Kneipp, PhD, ANP-BC, Linda L. Beeber, PhD, RN, and Laura A. Linnan, ScD, CHES

ABSTRACT

Headache is a significant public health issue and a major cause of work-related disability. Given that lower-income groups suffer more frequent and more severe headaches, this study examined the associations between headaches, comorbid conditions, symptom management, and health-related job loss in 432 low-income women. The presence of headaches, headaches and allergy symptoms combined, and a higher number of comorbid conditions were significantly associated with health-related job loss. Medication use and emergency department use patterns suggest further research related to day-to-day headache symptom management strategies, and role functioning among this vulnerable group is needed.

Keywords: employment, headache, health disparities, socioeconomic status, women's health

From a public health perspective, the global burden of headache is significant. According to the World Health Organization (WHO), 46% of adults suffer from headaches.[1,2] The vast majority of headaches are benign and are classified as primary headache disorders based on the *International Classification of Headache Disorders-II* (ICHD-II).[3] This class of headaches predominantly includes episodic and chronic forms of tension-type headache (TTH), migraine headaches with and without aura, and cluster headaches. In the adult population, the lifetime prevalence of TTH is 52%, migraine headache is 18%, and cluster headache is 1%.[4,5] Although TTHs may be more common, migraine headaches account for the vast majority of disability, and afflict women at nearly 3 times the rate as they do men, with 17.3% of women and 5.7% of men meeting the ICHD-II migraine criteria.[6] Up to 72% of women who present with headache symptoms meet ICHD-II criteria for episodic, chronic, or probable migraines.[7] Primarily as a result of sex differences in migraine prevalence and its associated symptom burden, headache is 1 of the top 5 disorders responsible for disability among women worldwide.[2]

Headache-related disability also has a substantial adverse effect on workplace outcomes and costs. An estimated 31% of adults with migraine report losing at least 1 day of work in the prior 3 months and are absent an average of 10.7 days per year because of their headache symptoms.[8,9] Moreover, 51% report their work productivity was reduced by at least 50%.[9] The work absenteeism associated with migraines has been estimated to result in a loss of productivity of $1,165 per individual and up to $13 billion dollars annually in the United States.[8]

As with many other chronic disease states influenced by stress, behavior, and/or lifestyle factors, recent studies have found an inverse relationship between socioeconomic status and migraine prevalence.[6,10] Using nationally representative data, Buse et al[6] found both women and men in the highest-income group were 46% and 55% less likely to have migraine headaches than those in the lowest-income bracket, respectively. Others have found that lower-income groups experience more frequent migraine episodes, more severe pain, and more disability from migraines.[10]

In isolation, the higher prevalence among and more severe symptom burden experienced by women who are socioeconomically disadvantaged (henceforth referred to as "disadvantaged") can be viewed by health care providers as one of many conditions requiring appropriate diagnosis and treatment in order to improve a patient's current quality of life. However, from a social, economic, and life course perspective, the potential impact of poorly controlled

symptoms over time can be significant. For example, disadvantaged women typically work in employment sectors that do not extend paid sick leave and may be less tolerant of illness-related absences.[11,12]

Given the level of disability associated with migraines and the characteristics of their employment conditions, headache disorders may exacerbate the pre-existing vulnerability of disadvantaged women to periods of recurrent unemployment and economic instability. As nurse practitioners providing primary care to this population, we need to better understand the unique risks that might be incurred by this group that could negatively impact their economic stability. Despite this, little is known about the impact of headaches on employment among disadvantaged women in particular. Therefore, the purpose of this study was to examine the relationships among headaches as a chronic health condition (CHC), health care system and medication use patterns for headaches, and employment history among disadvantaged women. More specifically, the aims of the study were as follows:

1. To describe (a) the frequency of self-reported headaches, (b) health care use patterns related to headaches, and (c) patterns of medication use for headaches
2. To examine (a) the association between self-reported headaches as a CHC and recent health-related job loss and (b) assess the strength of this association relative to other high-prevalence chronic health conditions among a sample of socioeconomic status disadvantaged women.

METHODS

This study was conducted as a secondary analysis of existing data using a descriptive, multivariate correlational cross-sectional design. Approval was granted from 2 university institutional review boards affiliated with the first author for both data collection and analysis.

Sample

The study uses baseline data from a recent randomized controlled trial that tested a public health nursing case management intervention with 432 disadvantaged women in North Central Florida between 2005 and 2010. Details of the intervention development, randomized controlled trial methods, and other health and employment-related study findings are reported elsewhere.[13-15] Women in the sample were all unemployed at baseline and had to either self-report having at least 1 health condition considered "chronic" that had been diagnosed by a health provider or have met depression, general anxiety disorder, or post-traumatic stress disorder criteria using Structured Clinical Interview for *Diagnostic and Statistical Manual of Mental Disorders* modules.[16] These criteria were selected given the potential for these conditions to interfere with physical, social, and/or emotional functioning. Chronic health conditions were defined as "conditions that are generally not cured, once acquired." Baseline sociodemographic sample characteristics are presented in Table 1. Women in this sample were predominantly black (56.3%), single (88.4%), relatively young ($\overline{x}$ age = 29.8 years), and had a lower level of education (60.2% had a high school diploma/general equivalency diploma [GED] or less). All women enrolled in the study were receiving Medicaid at the time baseline data were collected.

Measures

Study participants provided self-reported data; they completed a comprehensive health-related questionnaire. The questionnaire included health history—related questions commonly asked during a primary care visit, investigator-constructed questions, and a battery of standardized instruments to measure select health outcomes (ie, the Medical Outcomes Study [MOS] Short-Form 12 Version 2 and the Patient Health Questionnaire-9, among others).

The investigator-constructed items asked participants to select the CHCs they had been diagnosed with by a health care provider from a comprehensive list. The presence of "headache" as a CHC was identified by women when completing this checklist without further specification of headache type. For each CHC selected, they were asked to provide information on how long they had had the condition (in years), the number of emergency department (ED) visits made in the past year for the specified condition, and the medications taken for the specific