

Depression, Quality of Life, Work Productivity and Resource Use Among Women Experiencing Menopause

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Introduction

- Every woman who lives into old age will experience menopause. Though the cessation of menstrual periods is a welcome change for some women,¹ it is also associated with a variety of unpleasant symptoms, including vasomotor symptoms (hot flashes and night sweats), anxiety, depression, decreased libido, vaginal dryness, insomnia, and difficulty concentrating²
- The most commonly reported symptom of menopause is the hot flash—a sensation of heat on the face and upper body, visible flushing of the skin, often coinciding with perspiration—which are experienced by the majority of women worldwide over 45 years of age,³ and approximately 75% of women in the US over the age of 50^{4,5}
- Furthermore, hot flashes have been associated with depressive symptoms.⁶ Indeed, Reed et al. (2009) found that, after adjusting for age and body mass index, women with moderate or severe symptoms were almost twice as likely to report recent hot flash or night sweat symptoms (OR = 1.67, 95% CI: 1.04-2.68)⁶
- However, few studies have examined the association of depression with health outcomes, including health-related quality of life, work productivity and resource use, among women experiencing hot flashes

Objectives

- The objective of the current study was to assess the association of depression with health outcomes, including health-related quality of life, work productivity and resource use, among women experiencing hot flashes

Methods

Sample and Procedure

- Data were obtained from the 2005 wave (N = 41,184) of the National Health and Wellness Survey. NHWS is an annual, cross-sectional, self-administered Internet survey given to a sample of adults (18 years and older) who were identified through a web-based consumer panel
- A stratified random sample procedure was implemented for NHWS so that the final sample mimics the demographic composition of the adult US population. Comparisons between the NHWS sample, the US census, and other national surveys have been made elsewhere⁷
- The present study included the responses of all women aged 40-64 in the 2005 wave of the NHWS who reported currently experiencing menopausal symptoms, including hot flashes, but never experiencing bipolar disorder, were included for analyses (N = 3,632)

Measures

- Women who reported experiencing depression in the last year (n = 1,165) were compared with women who did not report experiencing depression in the last year (n = 2,467)
- Demographic and health history variables (age, race/ethnicity, marital status, education, income, employment status, possession of health insurance, exercise, smoking habits, alcohol consumption, and BMI information) were assessed

- Healthcare utilization was defined by:
 - Traditional healthcare provider visits (“which of the following traditional healthcare providers have you seen in the past six months?”; e.g. general practitioner, internist, etc.)
 - The number of ER visits (“how many times have you been to the ER for your own medical condition in the past six months?”)
 - The number of days hospitalized (“What is the total number of days you were hospitalized for your own medical condition in the past six months?”) in the past six months
- Work productivity was assessed using the Work Productivity and Activity Impairment (WPAI) questionnaire⁸
 - The WPAI scale is a validated scale used to measure lost work productivity and impairment in daily activities
 - Three subscales (absenteeism, presenteeism, and activity impairment) were generated in the form of percentages, with higher values indicating greater impairment
 - Absenteeism represents the percentage of work time missed due to health in the past seven days
 - Presenteeism represents the percentage of impairment while at work due to health in the past seven days
 - Activity impairment represents the percentage of impairment in activities of daily living
- Health-related quality of life (HRQoL) was assessed using the physical (PCS) and mental component summary (MCS) scores from the SF-8⁹
 - Scores for the PCS and MCS are normed to the US population (Mean = 50, SD = 10) and vary from 0 to 100, with higher scores indicating greater quality of life

Analyses

- Differences between the depression groups were assessed on demographic and health history variables, as well as other menopause-related variables, using chi-square tests for categorical variables and t-tests for continuous variables
- HRQoL analyses were conducted, controlling for demographic and health history differences, using multiple regression, since the MCS and PCS scores are standardized and therefore normally distributed
- Because work productivity, impairment, and resource utilization, were highly skewed, we used a generalized linear model (GLM) approach specifying a negative binomial distribution and a log-link function, controlling for demographic and health history differences

Results

- Women experiencing depression were more likely to be younger than women not experiencing depression ($P < .01$) (see **Table 1**). Women experiencing depression were significantly ($P < .01$) more likely to be white, unemployed, uninsured, currently smoking, not exercising, overweight, and obese
- Furthermore, women experiencing depression were more likely to experience severe hot flash symptoms ($P < .01$)

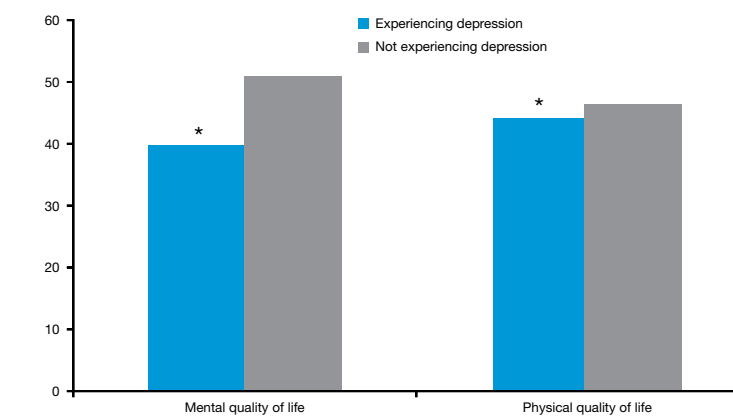
Table 1. Demographic and health history differences between women with hot flashes experiencing depression vs. those not experiencing depression

	Experiencing depression n = 1,165		Not experiencing depression n = 2,467	
	n	%	n	%
Age*				
40-44	223	19.14%	311	12.61%
45-49	340	29.18%	624	25.29%
50-54	370	31.76%	868	35.18%
55-59	220	18.88%	583	23.63%
60-64	12	1.03%	81	3.28%
Ethnicity*				
White	1053	90.39%	2184	88.53%
Black	46	3.95%	142	5.76%
Hispanic	30	2.58%	58	2.35%
Asian	3	0.26%	26	1.05%
Other race/ethnicity	30	2.58%	34	1.38%
Married*	738	63.35%	1851	75.03%
Beyond high school education	825	70.82%	1739	70.49%
Income*				
Less than \$25,000	287	24.64%	312	12.65%
\$25,000 to \$49,999	396	33.99%	702	28.46%
\$50,000 to \$74,999	230	19.74%	554	22.46%
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Decline to answer	79	6.78%	271	10.99%
Currently employed*	639	54.85%	1646	66.72%
Health insurance*	915	78.54%	2067	83.79%
Health risk behaviors*				
Exercise	541	46.44%	1422	57.64%
Smoke	489	41.97%	828	33.56%
Drink alcohol	698	59.91%	1574	63.80%
BMI*				
Underweight	9	0.77%	34	1.38%
Normal	244	20.94%	665	26.96%
Overweight	272	23.35%	723	29.31%
Obese	592	50.82%	905	36.68%
Decline to answer	48	4.12%	140	5.67%
Menopause symptom severity*				
Mild	527	45.24%	1314	53.26%
Moderate	498	42.75%	984	39.89%
Severe	140	12.02%	169	6.85%

* $P < .01$

- After controlling for demographic and health characteristics, women experiencing depression reported significantly lower mental (Adjusted means = 39.66 vs. 50.85, $P < .01$) and physical (Adjusted means = 44.05 vs. 46.38, $P < .01$) SF-8 component summary scores (see **Figure 1**)

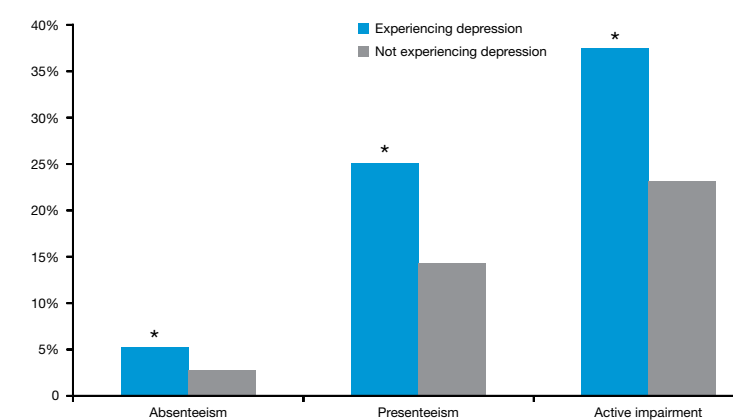
Figure 1. Adjusted health-related quality of life differences between women with hot flashes experiencing depression vs. those not experiencing depression



* $P < .01$

- Similarly, absenteeism (Adjusted means = 5.31% vs. 2.80%, $P < .01$), presenteeism (Adjusted means = 25.00% vs. 14.32%, $P < .01$), and activity impairment (Adjusted means = 37.32% vs. 23.16%, $P < .01$) due to health were greater among women experiencing depression

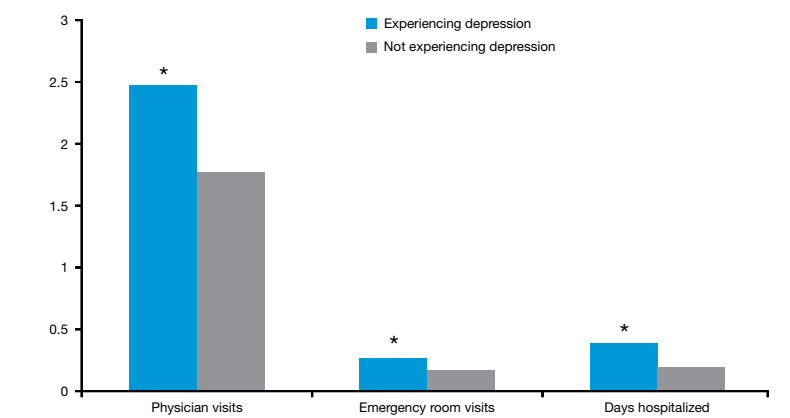
Figure 2. Adjusted work productivity and activity impairment differences between women with hot flashes experiencing depression vs. those not experiencing depression



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- The number of physician visits (Adjusted means = 2.47 vs. 1.77, $P < .01$), ER visits (Adjusted means = 0.27 vs. 0.16, $P < .01$), and days hospitalized (Adjusted means = 0.36 vs. 0.18, $P < .01$) was higher among women experiencing depression vs. those not experiencing depression

Figure 3. Adjusted healthcare resource use differences between women with hot flashes experiencing depression vs. those not experiencing depression



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Discussion

- For women experiencing menopausal symptoms, including hot flashes, depression was associated with lower levels of mental and physical quality of life
- In addition, women with depression had lower productivity and greater impairment in activities of daily living as compared to women not experiencing depression and greater healthcare resource utilization
- These findings suggest assessment of depressive symptoms may be an important part in the treatment of hot flashes and other menopausal symptoms

References

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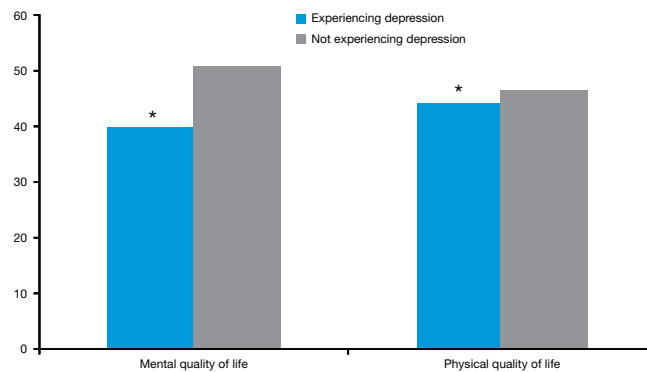
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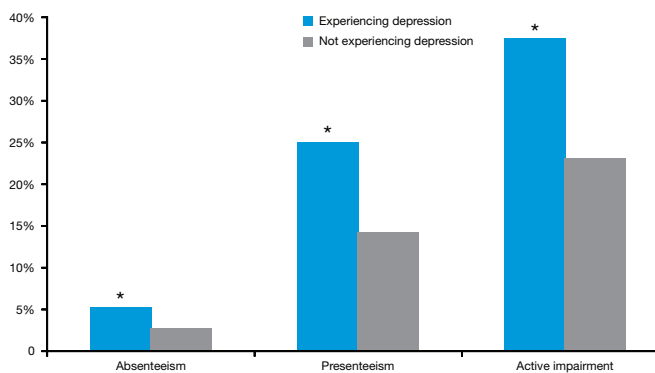
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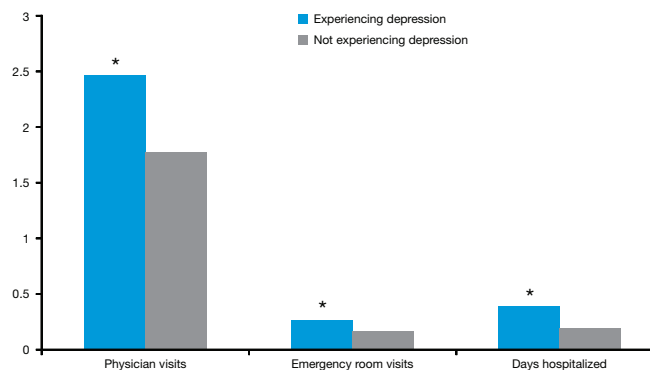
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