Introduction

Postmenopausal women who reported experiencing hot flashes were stratified by the severity of their symptoms. Among postmenopausal women, those reporting greater severity of VMS had significantly worse health status (EQ-5D) compared to women with mild symptoms (P<0.0001). In addition, greater healthcare resource use and productivity loss were observed among women with severe VMS symptoms (P<0.0001).

Conclusion

The prevalence of VMS among postmenopausal women, along with its impact on a range of health outcomes including work productivity, resource use and quality of life, is a significant issue. Improved management of VMS, particularly for those who are severely affected, may have a profound effect on improvement in quality of life and indirect societal costs.

Acknowledgments

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References


Abstract

Objective: The current study characterizes health-related quality of life (HRQoL), work productivity, and resource use among postmenopausal women by severity of vasomotor symptoms (VMS) symptoms.

Methods: Participants were selected from the 2010 US National Health and Wellness Survey, which is a cross-sectional, Internet-based survey of the adult US population. Women age 40-75 years, who did not report a history of menarcheal bleeding or spotting for one year, were considered postmenopausal and eligible for analysis. Of 36,791 women, 17,069 (46%) reported experiencing hot flashes (HMFS) symptoms, 4,374 (13%) moderate and 2,730 (8%) severe VMS symptoms were compared, controlling for demographic and health characteristics. Outcomes measured included health status (EQ-5D), work productivity (WPAI) within the past 7 days, and healthcare resource use (Symptom-Related Physician Visits in the Past 6 Months).

Results: The prevalence of VMS among postmenopausal women, along with its impact on a range of health outcomes (EQ-5D, work productivity, and healthcare resource use) was significantly greater among women with severe or moderate VMS symptoms compared with women with no symptoms (p<0.0001). Women with moderate VMS symptoms had a single index value for health status (EQ-5D) of 0.64 (±1.0) compared to women with no symptoms (p<0.0001). Postmenopausal women who reported experiencing hot flashes were stratified by the severity of their symptoms. Among postmenopausal women, those reporting greater severity of VMS had significantly worse health status (EQ-5D) compared to women with mild symptoms (P<0.0001). In addition, greater healthcare resource use and productivity loss were observed among women with severe VMS symptoms (P<0.0001).

Conclusions: Among post-menopausal women, those reporting greater severity of VMS symptoms were significantly associated with lower levels of health status and work productivity, and greater healthcare resource utilization.

Introduction

• Menopause is associated with anxiety, depression, decreased libido, vaginal dryness, incontinence, difficulty concentrating, and vasomotor symptoms (VMS).
• VMS, including hot flashes and night sweats, constitute the most common menopausal complaint and are generally the main women seek treatment for.
• No study has examined the impact of the severity of VMS across a wide range of health outcomes among a large sample of postmenopausal women.
• The objective of the current study was to examine the impact of the severity of VMS among postmenopausal women on:
  - Health status
  - Work productivity loss
  - Healthcare resource utilization (HCRU)

Methods

Data Set

A sample of women, aged 40 to 75 years, was selected from the 2010 US National Health and Wellness Survey (NHWS) for a brief follow-up survey. Women who did not report experiencing menarcheal bleeding or spotting for at least 1 year were considered postmenopausal and eligible for analysis.

Results

• A total of 3,267 postmenopausal women were stratified by VMS severity: none (n=1743), mild (n=1476), moderate (n=931), and severe (n=134) vasomotor symptoms.
• To be younger than 60 years of age
• To have a comorbidity index greater than zero
• To have been diagnosed with osteoporosis
• To have had a hysterectomy
• To report symptoms consistent with depression
• To report ungent symptoms

• After controlling for demographic and health characteristics, women experiencing moderate and severe VMS reported significantly lower mean health status scores compared with women not experiencing VMS (both P<0.0001). Figure 1

• Among employed women experiencing VMS, women with moderate and severe symptoms had significantly more adjusted work days lost (P<0.0001) compared to women without symptoms (Figure 2).

Figure 1. Adjusted Differences Among Hot Flash Severity Groups on EQ-5D Health State Utilities

Figure 2. Adjusted Differences Among Hot Flash Severity Groups on Work Productivity and Activity Impairment Due to Hot Flashes or Night Sweats

Figure 3. Adjusted Differences Among Hot Flash Severity Groups on Menopause Symptom-Related Physician Visits in the Past 6 Months
The Impact of Severity of VMS on Health Status, Resource Use and Productivity

Limitations

- All data came from a self-reported, cross-sectional survey.
- Regression models controlled for potential confounding variables but other unmeasured or not of this symptom.

Participants were selected from the 2010 US National Health and Wellness Survey, which is a cross-sectional, internet-based survey representative of the adult US population. Women age 40-75 who reported no spotting for one year, were considered post-menopausal and eligible for analysis (N=3,267). Cohorts of women were collected for all patient groups with no (n=1740), mild (n=931), moderate (n=462), and severe (n=134) vasomotor symptoms.

Menopause-related symptoms/conditions: diagnosis of osteoporosis, depression severity.

Results:

- Health status: the EQ-5D questionnaire was used as a measure of health status. Adjusted Health State Utilities:
  - None: 0.82
  - Mild: 0.85
  - Moderate: 0.9
  - Severe: 1.0

- Healthcare resource use (past 6 months): The number of physician visits specific to a problem among employed women experiencing VMS, women with moderate and severe symptoms had significantly worse adjusted presenteeism (<0.001) and activity impairment (<0.001).
- Among employed women experiencing VMS, women with severe, moderate or mild symptoms compared to women with no symptoms had significantly greater healthcare resource utilization.
- As the severity of VMS experienced by postmenopausal women increased, an increase in health outcomes in a large, nationally-representative group of postmenopausal women in the study. In addition, the mean number of menopause symptom-related physician visits was significantly greater among women with severe, moderate or mild symptoms compared to women with no symptoms.

Association between severity and demographics and health history.

- Improved management of VMS, particularly for those who are severely affected, may have a greater the health care resource utilization.

Introduction

Menopause is associated with anxiety, depression, decreased libido, vaginal dryness, constipation, sleep disturbances, and hot flashes. VMS, including hot flushes and night sweats, constitute the most common menopausal symptom and are generally the main reason women seek treatment. In the United States, the prevalence of moderate to severe vasomotor symptoms is estimated at 40% in post-menopausal women. VMS symptoms are associated with lower levels of health status and work productivity.

Statistical Analyses

- After controlling for demographic and health characteristics, women experiencing moderate and greater healthcare resource utilization.

Abstract

**Objectives:** The current study characterizes health-related quality of life (HRQoL), work productivity, and resource use among post-menopausal women by severity of vasomotor (VMS) symptoms.

**Methods:** Participants were selected from the 2010 US National Health and Wellness Survey, which is a cross-sectional, internet-based survey representative of the adult US population. Women age 40-75 years, who did not report a history of menstrual bleeding or spotting for one year, were considered post-menopausal and eligible for analysis (N=3,267). Cohorts of women with no (n=1,740), mild (n=831), moderate (n=462), and severe (n=134) vasomotor symptoms (VMS) were compared, controlling for demographic and health characteristics. Outcomes measures included health status (EQ-5D), work productivity (WPAI) within the past 7-days, and healthcare resource use within the past 6-months and were assessed using linear models.

**Results:** The mean age (SD) for women experiencing severe VMS was 57.92 years (7.84), 58.76 (7.64) for moderate VMS, 60.47 (7.35) for mild VMS, and 64.46 (7.12) for women not experiencing VMS. After controlling for demographic and health characteristics, women experiencing severe and moderate VMS reported significantly lower mean health status scores compared to women with no symptoms (severe=0.77, moderate=0.82, mild=0.85, none=0.86; P<.0001). In addition, the mean number of menopause symptom-related physician visits was significantly greater among women with severe, moderate or mild symptoms compared to women with no symptoms (severe=2.73, moderate=2.37, mild=1.63, none=0.72; P<.0001). Among employed women experiencing VMS, women with severe and moderate symptoms had adjusted presenteeism (percent impairment while working due to a problem) of 24.28% and 14.3% compared to 4.33% in women with mild symptoms (P<.001), and activities of daily living impairment of 31.66% and 17.06% compared to 6.16% for women with mild symptoms (P<.0001).

**Conclusions:** Among post-menopausal women, those reporting greater severity of VMS symptoms was significantly associated with lower levels of health status and work productivity, and greater healthcare resource utilization.

Introduction

- Menopause is associated with anxiety, depression, decreased libido, vaginal dryness, insomnia, difficulty concentrating, and vasomotor symptoms (VMS)
- VMS, including hot flushes and night sweats, constitute the most common menopausal complaint and are generally the main reason women seek treatment
- No study has examined the impact of the severity of VMS across a wide range of health outcomes among a large US sample of postmenopausal women
- The objective of the current study was to examine the impact of the severity of VMS among postmenopausal women on
  - Health status
  - Work productivity loss
  - Healthcare resource use (HCRU)

Methods

**Data Set**
- A sample of women, aged 40 to 75 years, was selected from the 2010 US National Health and Wellness Survey (NHWS) for a brief follow-up survey
- Women who did not report experiencing menstrual bleeding or spotting for at least 1 year were considered postmenopausal and eligible for analysis

Presented at The North American Menopause Society
The severity of hot flushes was defined using the first item of the Menopausal Rating Scale (MRS) (“hot flashes, sweating, [episodes of sweating]”; 0=None, 1=Mild, 2=Moderate, 3=Severe, 4=Extremely)

Postmenopausal women who reported experiencing hot flushes were stratified by the severity of this symptom

Demographic and health characteristic variables were collected for all patient groups

Menopause-related symptoms/conditions: diagnosis of osteoporosis, depression severity (using the Patient Health Questionnaire [PHQ-9]), urogenital and psychological symptom severity (using MRS) were also assessed

**Study Outcomes**

Health status: the EQ-5D questionnaire was used as a measure of health status
- The EQ-5D is a standardized instrument for use as a preference-based measure of health
- The EQ-5D provides a single index value for health status (health state utilities). Higher scores indicate greater health (range:-0.59 to 1.00, where negative values indicate a state worse than death and 1 indicates perfect health)

Healthcare resource use (past 6 months): The number of physician visits specific to a menopausal symptom

Work productivity (past 7 days): assessed using the Work Productivity and Activity Impairment (WPAI) questionnaire, which was made specific to hot flushes/night sweats
- Percent work time missed (Absenteeism)
- Percent impairment while working (Presenteeism)
- Percent overall work impairment
- Percent of daily living activities impairment

**Statistical Analyses**

Postmenopausal women with mild hot flushes were compared with those with moderate and severe hot flushes
- Compared health status, work productivity, and HCRU using regression modeling

All regressions were controlled for age, education, household income, insurance, BMI, and the Charlson comorbidity index

Analyses were tested at the 2-tailed 5% significance level (α = 0.05)

**Results**

A total of 3,267 postmenopausal women were stratified by VMS severity: none (n=1740); mild (n=931); moderate (n=462); severe (n=134)

Association between severity and demographics and health history
- Compared with women with mild hot flashes, women with moderate and severe hot flashes were significantly (P<0.05) more likely
  - To be younger than 60 years of age
  - Be employed
  - Have a comorbidity index greater than zero
  - Have been diagnosed with osteoporosis
  - Have had a hysterectomy
  - Report symptoms consistent with depression
  - Report urogenital symptoms
  - Report psychological symptoms

After controlling for demographic and health characteristics, women experiencing moderate and severe VMS reported significantly lower mean health status scores compared with women not experiencing VMS (both P<0.0001) (Figure 1)
Introduction

The objective of the current study was to examine the impact of the severity of VMS among women who did not report experiencing menstrual bleeding or spotting for at least 1 year were considered post-menopausal and eligible for analysis (N=3,267). Cohorts of women age 40-75 years, who did not report a history of menstrual bleeding or spotting for one year, were considered postmenopausal and eligible for analysis.

Methods:

Among employed women experiencing VMS, women with moderate and severe symptoms had significantly worse adjusted presenteeism (P<0.001) and activity impairment (P<0.0001) compared to women with mild symptoms (Figure 2)

- Absenteeism followed a similar trend but adjusted percentages for all groups were less than 1% (data not shown)

Figure 1. Adjusted Differences Among Hot Flush Severity Groups on Health State Utilities

Figure 2. Adjusted Differences Among Hot Flash Severity Groups on Work Productivity and Activity Impairment Due to Hot Flushes or Night Sweats

Figure 3. Adjusted Differences Among Hot Flush Severity Groups on Menopause Symptom-Related Physician Visits in the Past 6 Months

Among employed women experiencing VMS, women with moderate and severe symptoms had significantly worse adjusted presenteeism (P<0.001) and activity impairment (P<0.0001) compared to women with mild symptoms (Figure 2)

- Absenteeism followed a similar trend but adjusted percentages for all groups were less than 1% (data not shown)

After controlling for demographic and health characteristics, the mean number of menopause symptom-related physician visits was significantly greater among women with mild, moderate, or severe VMS compared with women not experiencing VMS (all P<0.0001) (Figure 3)

**Acknowledgments**

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2. Guthrie JR, Dennerstein L, Taffe JR, Donnelly V. Health care—


Limitations

- All data came from a self-reported, cross-sectional survey.
- Regression models controlled for potential confounding variables but other unmeasured or not included variables may explain part of the relationship between the severity of hot flashes and health outcomes.
- Although the sample source (NHWS) is broadly representative of the US population the findings may not be able to be generalize beyond the subsample of women used in the study.

Conclusion

- This was the first study of its kind to stratify the effect of VMS severity across a wide range of health outcomes in a large, nationally-representative group of postmenopausal women in the US. A parallel study conducted in Europe demonstrated similar findings.
- As the severity of VMS experienced by postmenopausal women increased, an increase in menopause symptom-related physician visits and productivity loss was observed. Health status decreased with increasing symptom severity.
- The prevalence of VMS among postmenopausal women, along with its impact on a range of health outcomes, suggests a substantial societal burden for this symptom.
- Improved management of VMS, particularly for those who are severely affected, may have a profound effect on improvement in quality of life and indirect/direct societal costs.

Acknowledgments

The current study was conducted by Kantar Health on behalf of Pfizer Inc, which funded the study. Medical writing support for this poster was provided by Ira Mills, PhD, and Peter M. Mathisen, PhD, both of Embryon LLC, A Division of Advanced Health Media, LLC, and was funded by Pfizer.

References