

The Menopause Epidemiology (MEPI) Study: Vasomotor Symptom Results from a Large Population-based Study



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Introduction

Vasomotor symptoms (VMS) are the most frequently reported symptoms in women going through the menopause transition.^{1,2} Although several population-based studies have described the prevalence of VMS in women during the menopause transition,^{1,2,5,8-10} there is limited information on the detailed frequency, duration and severity these vasomotor symptoms. The objective of the Menopause Epidemiology (MEPI) Study was to collect detailed information on menopause symptoms, including vasomotor symptoms (VMS), as well as their impact on quality of life and health care utilization.

Methods

- The MEPI study is a cross-sectional population-based study of women 40-65 years old in the United States.
- Participants were selected from a panel that is based on random digit dialing and probability sampling (Knowledge Networks). Web-TV is provided for free.
- The questionnaire was administered via the Internet in April 2005.
- For the purposes of this study,
 - Pre-menopausal = monthly periods for the past 12 months
 - Peri-menopausal = having at least one period in the past 12 months, but not every month.
 - Post-menopausal = no periods in the past 12 months.

Results

Figure 1. Study Population

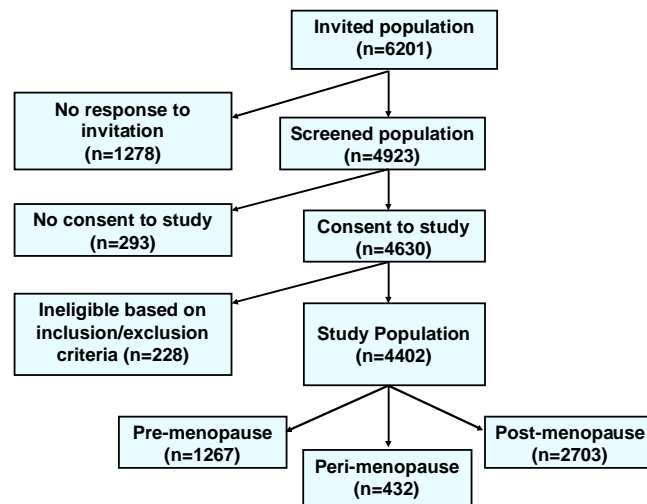


Table 1. Comparison of MEPI Study population with US population, women 40-65 years old

	MEPI Study (n=4402) %	US CPS* %
Age (years)		
40-49	39	48
50-59	40	37
60-65	21	15
Race/ethnicity		
White, non-Hispanic	78	75
Black, non-Hispanic	11	12
Hispanic and Other	11	13
Education		
Some college or higher	55	54
High School or lower	45	46

* US CPS = US Current Population Survey¹¹

Table 2. VMS among peri- and post-menopausal women 40-65 years old in the United States in 2005.

	Peri- menopausal (n=432) %	Post- menopausal (n=2703) %
VMS	(n=432)	(n=2703)
Anytime	79	65
Night sweats	65	53
7+ moderate to very severe VMS in 24 hours	9	7
"Hot flashes" in past 4 weeks	(n=432)	(n=2703)
None in past 4 weeks	28	44
1-3 days in past 4 weeks	25	18
1-2 days per week	15	11
3-4 days per week	13	10
5-6 days per week	7	5
Every day	13	13
Number of "hot flashes" per day*	(n=310)	(n=1507)
1-2	62	62
3-4	23	24
5-6	8	8
7 or more	6	6
Frequency of daytime hot flashes in a typical day**, Mean (SD)	(n=55)	(n=355)
Very mild/mild	2.2 (2.7)	2.4 (4.2)
Moderate	2.6 (3.4)	2.6 (3.9)
Severe	2.7 (3.5)	2.5 (6.3)
Very Severe	1.5 (2.9)	1.4 (4.1)

*Among women who had least 1 daytime hot flashes in the past 4 weeks

**Among women with hot flashes every day

Note: due to rounding, the % may not add up to 100%

- ~45% of women with VMS said it interfered with work, social activities, and leisure activities at least "a little".
- 81% said VMS interfered with sleep at least "a little".

Table 3. Night sweats among peri- and post-menopausal women 40-65 years old in the United States in 2005.

	Perimenopausal (n=432) %	Postmenopausal (n=2703) %
Night sweats in past 4 weeks	(n=432)	(n=2703)
None	35	46
1-3 days in past 4 weeks	27	21
1-2 nights per week	12	10
3-4 nights per week	9	8
5-6 nights per week	6	4
Every night	11	9
# Night sweats per night*	(n=279)	(n=1428)
1-2	77	83
3-4	18	12
5-6	3	3
7 or more	3	1
Frequency of night sweats in a typical night, mean (SD)**	(n=49)	(n=243)
Moderate	1.6 (3.1)	2.5 (8.0)
Severe	3.8 (4.1)	3.1 (5.0)
Very severe	2.3 (3.3)	2.8 (8.2)

*Among women who had at least 1 night sweat in the past 4 weeks

**Among women who had night sweats every night

Note: due to rounding, the % may not add to 100%

Conclusions

- The Menopause Epidemiology (MEPI) Study is a large US survey, representative of the US population, as compared to the US CPS.
- Current vasomotor symptoms were highly prevalent among perimenopausal (79%) and postmenopausal women (65%), with some women experiencing many moderate to very severe symptoms (7% of postmenopausal women reported 7+ moderate to very severe VMS per day).
- VMS interfered with daily living for at almost half of women with VMS (~45%) and sleep for most women with VMS (81%)

References

- Dennerstein L, Smith AM, Morse C, et al. Menopausal symptoms in Australian women. *Med J Aust.* 1993;159:232-236.
- McKinlay SM, Brambilla DJ, Posner JG. The normal menopause transition. *Maturitas.* 1992;14:103-115.
- Freedman RR, Norton D, Woodward S, Cornelissen G. Core body temperature and circadian rhythm of hot flashes in menopausal women. *J Clin Endocrinol Metab.* 1995;80:2354-2358.
- Casper RF, Yen SS. Neuroendocrinology of menopausal flushes: An hypothesis of flush mechanism. *Clin Endocrinol (Oxf).* 1985;22:293-312.
- Feldman BM, Voda A, Gronseth E. The prevalence of hot flash and associated variables among perimenopausal women. *Res Nurs Health.* 1985;8:261-268.
- Management of menopause-related symptoms. Report/Technology assessment: Number 120. AHRQ publication no. 05-E016-1. Agency for healthcare research and quality, Rockville, MD. <http://www.ahrq.gov/clinic/epcsums/menopause.htm>. Accessed July 2006.
- Ulian WH. Psychosocial and socioeconomic burden of vasomotor symptoms in menopause: A comprehensive review. *Health Qual Life Outcomes.* 2005;3:47.
- Gold EB, Block G, Crawford S, et al. Lifestyle and demographic factors in relation to vasomotor symptoms: Baseline results from the study of women's health across the nation. *Am J Epidemiol.* 2004;159:1189-1199.
- Gold EB, Sternfeld B, Kelsey JL, et al. Relation of demographic and lifestyle factors to symptoms in a multi-racial/ethnic population of women 40-55 years of age. *Am J Epidemiol.* 2000;152:463-473.
- Porter M, Penney GC, Russell D, Russell E, Templeton A. A population based survey of women's experience of the menopause. *Br J Obstet Gynaecol.* 1996;103:1025-1028.
- US current population survey (CPS) February 2002. Accessed at: <http://www.bls.census.gov/cps/cpsmain.htm>. May 2005.

