

SC Ho 何陳雪鸞  
SSG Chan 陳秀雁  
CSY Chan 陳兆儀

# A population-based study of health service use by mid-life women

## Key Messages

1. Women going through menopause report the greatest number of symptoms and about one third of them discussed their menopausal problems with a health professional over the previous year.
2. Musculoskeletal complaints were the most prevalent, followed by psychological symptoms. The use of hormone replacement therapy was low.
3. Social, psychological, and health factors were independently associated with symptom reporting.
4. Health professionals should be more aware of menopausal women's physical and psychological needs and the support they require during this stage of life.

## Background

Knowledge about the menopause has mostly been derived from clinical studies of women attending menopausal clinics for their symptoms, or from women who have undergone surgical menopause. Moreover, most studies have been conducted in western populations. Generalisation of these findings to Chinese women may not be appropriate.

## Aims and objectives

We aimed to carry out a population-based cross-sectional study on peri-menopausal Hong Kong Chinese women to study the prevalence of menopausal symptoms and common diseases among this group. We also investigated the influence of menopausal status and socio-demographic factors on the occurrence of symptoms and the utilisation of health services.

## Methods

This study was conducted from January 1995 to December 1996.

### *Study population*

The study population was made up of respondents to a random telephone survey of mid-life women. For inclusion in the study, the participants had to be Hong Kong Chinese residents aged 44 to 55 years. Eligible subjects were located by dialling a random sample of the numbers listed in the residential telephone directory. Eligible subjects were considered non-respondents if they could not be reached after six attempts at different times of the day, or refused to participate in the study. A total of 2125 women were successfully interviewed with a response rate of 40.4%.

Women who had stopped menstruating as a result of surgical menopause, or women whose menstrual status could not be determined because missing data were excluded from the analysis.

### *Study instruments*

Information was collected through telephone interviews using a structured questionnaire. The standardised questionnaire included socio-demographic items and the 22-item symptom checklist adapted from Avis et al.<sup>1</sup> The checklist was translated into the local Chinese dialect (Cantonese) and was extensively pilot-tested before it was adopted in the study proper. Menopausal status was classified into pre-, peri-, and post-menopausal according to World Health Organization criteria.<sup>2</sup>

Pre-menopausal women were those still having menses. Peri-menopausal status was defined as cessation of menstrual periods for at least 3 months during the previous 12 months in women who had not undergone hysterectomy, oophorectomy, or been pregnant. Post-menopausal status was defined as cessation of menstruation for at least 12 months.

Information collected on Pap smear rates, clinical breast examinations, and breast self examinations was based on the structured questions.

*Hong Kong Med J* 2007;13(Suppl 4):S41-3

Department of Community and Family Medicine, The Chinese University of Hong Kong, Shatin, NT, Hong Kong SAR, China  
SC Ho, SSG Chan, CSY Chan

HSRF project number: 422017

Principal applicant and corresponding author:  
Prof SC Ho  
Department of Community and Family Medicine, The Chinese University of Hong Kong, Shatin, NT, Hong Kong SAR, China  
Tel: (852) 2692 8775  
Fax: (852) 2606 3500  
E-mail: suzanneho@cuhk.edu.hk

**Table 1. Symptoms experienced in the previous 2 weeks**

Symptoms	Menopausal status (%)				P value <sup>*</sup>
	Pre, n=1258	Peri, n=92	Post, n=550	All, n=1900	
Backaches	27.2	33.7	29.8	28.3	0.26
Aches or joint stiffness	25.2	41.3	29.3	27.2	0.00
Headaches	25.8	29.4	21.6	24.7	0.10
Trouble sleeping	21.0	20.7	20.4	20.8	0.96
Nervous tension	19.0	26.1	16.4	18.6	0.07
Feeling blue	16.9	29.3	15.1	17.0	0.00
Upset stomach	16.8	19.6	15.3	16.5	0.52
Dizzy spells	15.7	25.0	12.6	15.3	0.01
Menstrual problems	16.7	53.3	0.2	13.7	0.00
Rapid heartbeat	14.1	16.3	11.8	13.5	0.32
Difficulty in concentrating	12.4	20.7	12.0	12.7	0.06
Lack of energy	12.6	16.3	10.9	12.3	0.29
Sore throat	10.7	12.0	11.8	11.1	0.74
Hot flushes	8.7	21.8	11.6	10.2	0.00
Shortness of breath	9.4	21.7	8.7	9.8	0.00
Diarrhoea and/or constipation	8.0	13.0	10.2	8.9	0.12
Loss of appetite	8.9	10.9	8.4	8.8	0.73
Cold sweats	4.5	4.4	6.0	4.9	0.36
Persistent cough	3.3	7.61	4.7	4.0	0.07

\* P value from the Chi squared test comparing the distribution of subjects with and without symptoms in women with different menopausal status

**Box. Symptom groups**

1. Psychological: difficulty in concentrating, nervous tension, rapid heartbeat, trouble sleeping, feeling blue
2. Musculoskeletal and gastro-intestinal: diarrhoea and/or constipation, aches or joint stiffness, backaches, upset stomach
3. Non-specific somatic complaints: lack of energy, dizzy spells, headaches
4. Respiratory: persistent cough, sore throat, shortness of breath
5. Vasomotor: cold sweats, hot flushes, loss of appetite
6. All symptoms: all of the above; including three symptoms (urinary tract infection, feeling 'pins and needles', fluid retention) not loaded into any of the other symptom clusters

**Results**

Differences in the prevalence of menstrual problems according to menopausal status were noted, with peri-menopausal women reporting the most complaints. Musculoskeletal symptoms were the most common complaints (28%), followed by headaches (25%), and psychological symptoms. About 10% complained of hot flushes, and 5% complained of cold sweats, however, few (<3%) used hormone replacement therapy (Table 1).

Five symptom clusters, namely psychological, musculoskeletal/gastro-intestinal, non-specific somatic, respiratory, and vasomotor were identified using a principal component analysis (Box). Women going through the menopause were more likely to report symptoms (odds ratio [OR]=2.2; 95% confidence interval [CI], 1.6-3.0). About one third of them had discussed menopausal problems with health professional during the previous year.

Factors independently associated with higher levels

of symptom reporting included: currently not working, decreased household income in the past year, worry over friends/relatives, and health affecting daily activities. Health affecting daily activity had a 6.5-fold increased risk (95% CI, 4.7-9.0) of reporting four or more symptoms.

Herbal medicine use was common in this population, particularly among peri-menopausal women (62.4%). About 20% of women used over-the-counter painkillers and 10% used painkillers prescribed by doctors. About 14% of women used vitamin supplements and 8.6% of women used anti-hypertensive medication.

Thirty-five percent of the women had undergone Pap smears and 22% had undergone clinical breast examinations in the last 12 months; 28% had performed breast self-examination. Those women who were post-menopausal, of increasing age, not on hormones, with primary education and without chronic diseases were less likely to have had Pap smears and clinical breast examinations (Table 2).

**Discussion**

The peri-menopausal period is a stage in which mid-life women in Hong Kong have the most stress and symptomatic complaints. Peri-menopausal women had more contact with health professionals, probably because of perceived ill health. Health professionals need to be aware of the physical and psychological needs, as well as support required, of women in this stage of life. Public education campaigns and perhaps some form of subsidy should be used to encourage women, especially post-menopausal women, to make better use of the private primary care system for cervical cancer screening. The government can save resources for creating well women centres by redirecting the subsidy to the women themselves and addressing the present imbalance in the

**Table 2. Odds ratios of not having had screening in past 12 months adjusted for subjects' social backgrounds and health status\***

	No Pap smear	No clinical breast examination	No self breast examination
Menopausal status (post vs pre)	1.35 (1.01-1.81) <sup>†</sup>	1.03 (0.68-1.55)	0.81 (0.60-1.09)
Education (below secondary vs secondary or above)	1.24 (1.02-1.52) <sup>†</sup>	1.11 (0.84-1.47)	1.28 (1.04-1.58) <sup>†</sup>
Age (per year increase)	1.08 (1.04-1.12) <sup>§</sup>	1.00 (0.95-1.06)	1.03 (0.99-1.07)
Hormone therapy (no vs yes)	7.27 (2.88-18.33) <sup>§</sup>	3.78 (1.48-9.67) <sup>†</sup>	0.73 (0.31-1.67)
Health status (with vs without chronic disease)	1.56 (1.16-2.10) <sup>†</sup>	1.47 (0.99-2.19)	0.81 (0.59-1.13)
Self-breast examination (no vs yes)	1.68 (1.35-2.08) <sup>§</sup>	5.61 (4.15-7.59) <sup>§</sup>	Not applicable
Pap smear (no vs yes)	Not applicable	18.37 (13.42-25.15) <sup>§</sup>	1.67 (1.34-2.08) <sup>§</sup>

\* Values are expressed as odds ratio (95% confidence interval)

<sup>†</sup> P<0.05

<sup>‡</sup> P≤0.01

<sup>§</sup> P≤0.001

public-private health care system at the same time. Health education, promotion, and treatment programmes, multi-disciplinary in approach, need to be developed to cater for the increasing numbers of women entering the menopause.

### Conclusions

Women going through the menopause reported most symptoms. The prevalence of vasomotor symptoms was lower than that reported in Caucasian populations and the use of hormone replacement therapy was low. Musculoskeletal complaints were the most prevalent complaints, followed by psychological symptoms. Social, psychological, and health factors were also independently associated with symptom reporting. Cervical cancer screening should be

further encouraged in postmenopausal women with low levels of education.

### Acknowledgement

This study was supported by the Health Services Research Fund (#422017).

### References

1. Avis NE, Kaufert PA, Lock M, McKinlay SM, Vass K. The evolution of menopausal symptoms. *Baillieres Clin Endocrinol Metab* 1993;7:17-32.
2. Report of a WHO scientific group. Research on the menopause. WHO Technical Report Series 670. Geneva: World Health Organization; 1981.