

# Prevalence of Climacteric Symptoms According to Years After Menopause

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## Abstract

**Objective :** To study the prevalence of menopausal symptoms of women attending the menopause and gynecology clinics at Chulalongkorn Hospital.

**Study design :** A descriptive study was conducted at the menopause and gynecology clinics at Chulalongkorn Hospital. After inclusion and exclusion were done, four hundred and twenty seven participants with premenopause, perimenopause and postmenopause were studied. All the women were classified into seven groups of premenopause, perimenopause and one, two, three, four and  $\geq$ five years after menopause. The interview was performed by well-trained social workers using standardized questionnaires.

**Results :** The average age at menopause of the postmenopausal women was  $49.46 \pm 3.30$  years. Prevalence of vasomotor symptoms eg. hot flushes in premenopause, perimenopause and one, two, three, four and  $\geq$ five years after menopause were 4.4 per cent, 25 per cent, 27.3 per cent, 38.8 per cent, 40 per cent, 11.1 per cent and 10.3 per cent, respectively. Prevalence of psychological symptoms eg. moodiness were 26.5 per cent, 25 per cent, 54.6 per cent, 38.7 per cent, 32.2 per cent, 11.2 per cent and 11.8 per cent, respectively. But the prevalence of headache in this category was 29.4 per cent, 23.3 per cent, 23.7 per cent, 22.6 per cent, 25.0 per cent, 11.1 per cent and 13.2 per cent, respectively. Prevalence of urinary symptoms seemed to increase continuously after menopause. Prevalence of genital symptoms eg. vaginal dryness were 5.9 per cent, 13.3 per cent, 25.5 per cent, 25.8 per cent, 15.0 per cent, 16.7 per cent and 20.6 per cent, respectively. Prevalence of other symptoms eg. muscle and joint pain were 22.1 per cent, 43.3 per cent, 56.4 per cent, 58.0 per cent, 45.0 per cent, 27.8 per cent and 28.0 per cent, respectively.

**Conclusion :** The prevalence of menopausal symptoms in this postmenopausal group appeared to increase during the first and second years after menopause and tended to decrease afterwards. The prevalence of other symptoms eg. dry eyes and headache appeared to be unchanged after menopause.

**Key word :** Climacteric Symptoms, Menopause, Years After Menopause

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In the year 2000, the average life expectancy of the world population was 79.7 for women and 72.9 for men<sup>(1)</sup>. We can anticipate that eventually about two-thirds of the population will survive to 85 or more. All women who live beyond the age of 55-60 years and many younger women experience a period of transition from the reproductive to the non-reproductive stage of life<sup>(2)</sup>. Hence, at present and in the future, women will spend a longer period of their life in this estrogen deficient stage. In the climacteric period, there are changes in many organ systems which vary from one woman to another<sup>(3)</sup>. Climacteric symptoms have been reported to increase in this time-interval. However, there is a difference in prevalence and severity of symptoms in different cultures and socioeconomic classes<sup>(4)</sup>. The proportion of women who report climacteric symptoms in Western countries<sup>(5,6)</sup> seem to be higher than those in the East Asian countries<sup>(7,8)</sup>.

In Bangkok, Choompootweep *et al*<sup>(2)</sup> reported the prevalence of the climacteric symptoms in middle-class women and found that it was much lower than those reported from some Western countries<sup>(5)</sup>. Among low socioeconomic women in Thailand, psychological symptoms seem to be more prevalent than vasomotor symptoms<sup>(9,10)</sup>. Prevalence of the symptoms also varies from one age group to another<sup>(11)</sup>. To the best of our knowledge, most studies in Thailand classified women into premenopausal, perimenopausal and postmenopausal groups

but no study has considered the prevalence of these symptoms in each particular year postmenopause. Hence, the authors conducted this study to assess the prevalence of each climacteric symptom according to years after menopause.

#### MATERIAL AND METHOD

The study was conducted at Chulalongkorn Hospital from May 15, 1998 to Nov 30, 1999. Women who could not read and understand the questionnaire after clear explanation by well-trained paramedical personnel, could not recall and answer two of three questions about their age at menopause, had chronic illness or malignancy, were currently using hormones either for contraception or replacement therapy, smoked heavily or drank alcohol and had undergone hysterectomy or oophorectomy, were excluded from the study.

The standardized questionnaire consisted of a series of questions concerning demographic characteristics, age at menopause, menopausal symptoms, as well as sexual behavior. The term "premenopause" was defined as having regular vaginal bleeding during the last 12 months, "perimenopause" was defined as having irregular vaginal bleeding over the last 12 months and "postmenopause" was defined as having no vaginal bleeding during the last 12 months.

Women who had ceased menstruation had to answer the questions: When was her last period?

**Table 1. The demographic data of patients attending gynecology clinic and menopause clinic at Chulalongkorn Hospital.**

Characteristic	Premenopause	Perimenopause	Postmenopause
Age (Mean $\pm$ SD)	42.2 $\pm$ 7.15	47.5 $\pm$ 3.35	53.5 $\pm$ 4.36
Marital status (%)			
Single	7.4	8.3	12
Married	85.3	76.7	64.5
Widowed	4.4	8.3	19.1
Divorced	2.9	6.7	4.4
Number of children (Mean $\pm$ SD)	2 $\pm$ 1.2	2 $\pm$ 1.09	2 $\pm$ 1.61
Income per month (baht) (Median)	10,000	15,000	10,000
Education (%)			
None	3.0	3.3	5.0
Primary school	36.8	41.7	31.8
Secondary school	17.6	5.0	20.7
Occupational	13.2	11.7	12.7
Graduate	20.6	35.0	21.7
Others	8.8	3.3	8.1
Occupation (%)			
Employee	33.8	21.7	21.7
Officer	27.9	31.7	25.8
Business	7.4	15.0	13.4
House wife	19.1	28.3	26.4
Others	11.8	3.3	12.7

**Table 2. The prevalence of the menopause symptoms according to premenopause, perimenopause and postmenopause women.**

Climacteric symptoms (%)	Premenopause	Perimenopause	Postmenopause
1. Hot flushes	4.4	25.0	25.4
2. Sweating	2.9	26.7	32.8
3. Moodiness	26.5	25.0	29.4
4. Disrupted function	7.4	11.7	15.1
5. Dizziness	16.2	15.0	24.7
6. Shortness of breath	8.8	8.3	12.0
7. Palpitation	8.8	11.7	14.7
8. Headache	29.4	23.3	19.1
9. Insomnia	14.7	26.7	24.1
10. Loss of urinary control	5.9	11.7	15.1
11. Incontinence	4.4	16.7	15.4
12. Frequency	11.8	18.3	23.4
13. Vaginal dryness	5.9	13.3	20.7
14. Loss of sexual desire	14.5	30.9	56.1
15. Genital itching	4.4	1.7	7.7
16. Dyspareunia	8.2	11.1	20.7
17. Pins and needles	2.9	8.3	6.4
18. Tiredness	20.6	26.7	25.8
19. Muscle and joint pain	22.1	43.3	42.8
20. Forgetfulness	22.1	36.7	31.8
21. Dry eyes	11.8	23.3	19.4

How old was she at the time menstruation stopped and for how long had her period ceased? The contents and language were adopted for optimal under-

standing after a first pilot pretest done during April 1998 by social workers. The questionnaire sought information about the occurrence and severity of

**Table 3. The prevalence of vasomotor symptoms according to women attending gynecology clinic and menopause clinic.**

Prevalence (%)	Hot flushes	Sweating
Premenopause	4.4	2.9
Perimenopause	25.0	26.7
1st year postmenopause	27.3	41.8
2nd year postmenopause	38.8	35.4
3rd year postmenopause	40.0	45.0
4th year postmenopause	11.1	27.8
Postmenopause $\geq 5$ years	10.3	16.2

climacteric symptoms in the preceding two weeks. The symptoms were classified into five groups, which were vasomotor symptoms, psychological symptoms, urinary symptoms, genital symptoms and other symptoms. Each individual symptom was scored zero, one, two and three depending on the severity of the symptom as no, mild, moderate and severe, respectively. The prevalence of the symptoms was calculated by assuming that a score of two and three were positive for each symptom. All the participants completed the questionnaire by themselves after receiv-

ing a clear explanation of the meaning of each item of climacteric symptoms.

Descriptive statistics and tabulation were carried out on data where it was appropriate and proper analysis was applied to determine the average age at menopause.

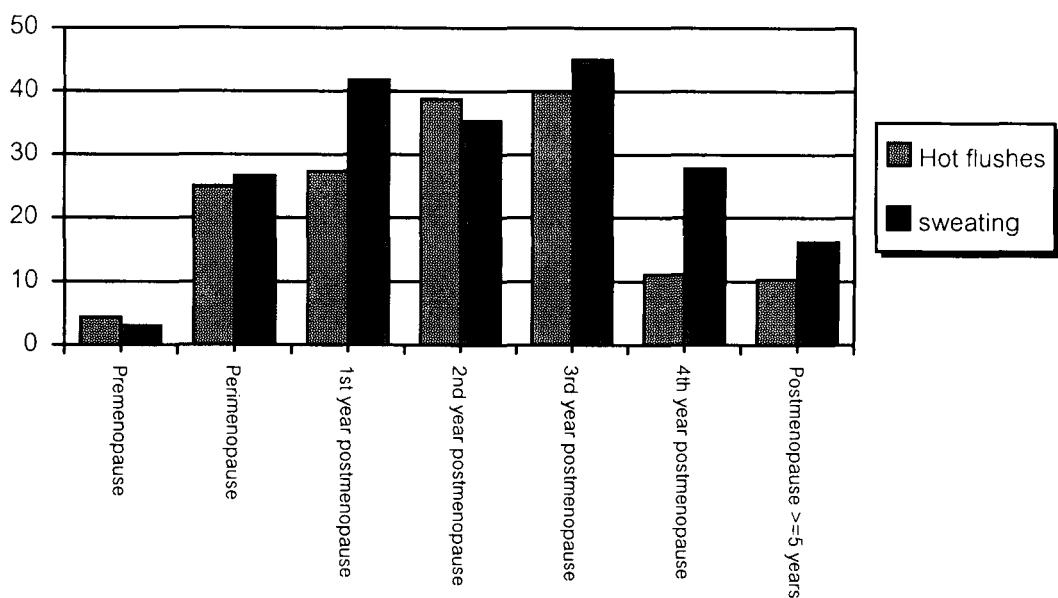
## RESULT

Of the 427 women who participated in this study, 15.9 per cent (68/427) were premenopause, 14.1 per cent (60/427) were perimenopause and 70 per cent (299/427) were postmenopause. The average mean age, by recalling their age at menopause was  $49.46 \pm 3.30$  years. The age at menopause was between 40 and 59 years. Regarding the prevalence of climacteric complaints, they were classified as premenopause, perimenopause, and one, two, three, four and  $\geq 5$  years after menopause.

The population characteristics and prevalence of these symptoms are shown in Table 1-8.

## DISCUSSION

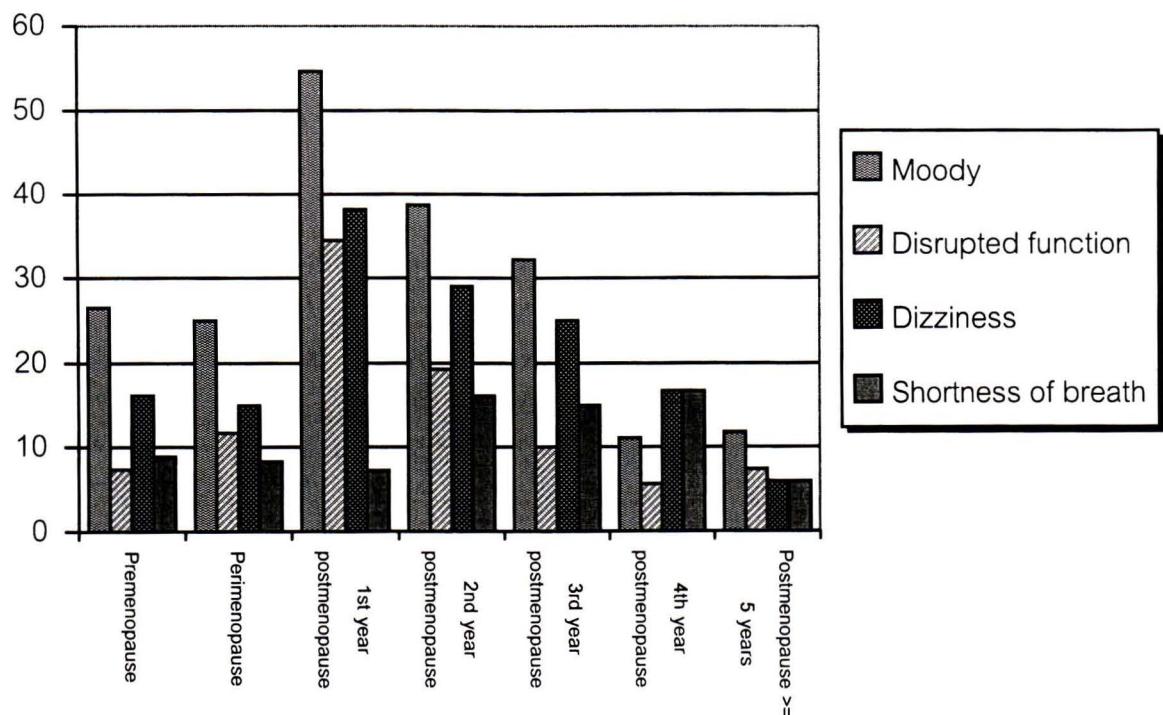
During the menopausal years, some women experience severe multiple symptoms, whereas, others will show no reaction or minimal reactions



**Fig. 1. The prevalence of vasomotor symptoms according to women attending gynecology clinic and menopause clinic.**

**Table 4.** The prevalence of psychological symptoms according to women attending gynecology clinic and menopause clinic.

Prevalence (%)	Moody	Disrupted function	Dizziness	Shortness of breath
Premenopause	26.5	7.4	16.2	8.8
Perimenopause	25.0	11.7	15.0	8.3
1st year postmenopause	54.6	34.5	38.2	7.2
2nd year postmenopause	38.7	19.3	29.0	16.1
3rd year postmenopause	32.2	10.0	25.0	15.0
4th year postmenopause	11.2	5.6	16.7	16.7
Postmenopause $\geq 5$ years	11.8	7.4	5.9	5.9

**Fig. 2.** The prevalence of psychological symptoms according to women attending gynecology clinic and menopause clinic.

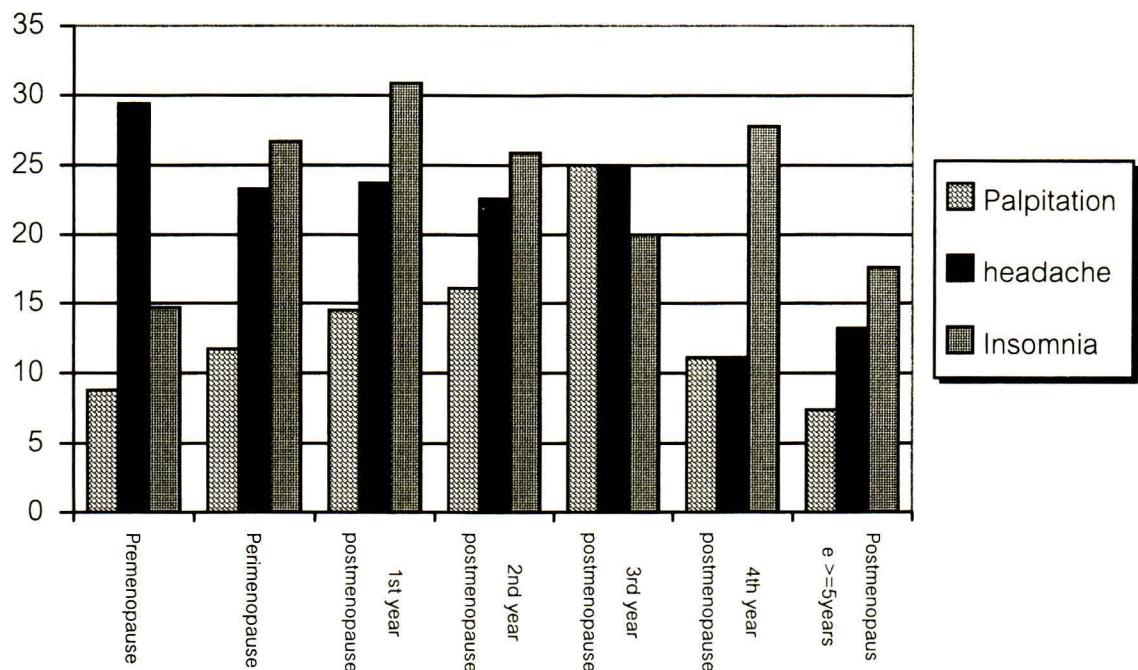
that can go unnoticed. The differences in menopausal reaction in symptoms across different cultures are poorly documented.

The vasomotor flush is viewed as the hallmark of the female climacteric. The prevalence of hot flushes ranged from 0 per cent in Mayan women (12) to 80 per cent in Dutch women (5). The prevalence of hot flushes in perimenopause and post-

menopause among Thai women ranged from 22.3 per cent (2) to 55 per cent (10) and 5.7 per cent (2) to 55.3 per cent (11), respectively. In this study, the prevalence of hot flushes was 4.4 per cent, 25 per cent and 25.4 per cent in premenopause, perimenopause and postmenopause women, respectively (Table 2). The prevalence tended to be most prevalent in women three years after menopause (40%)

**Table 5.** The prevalence of psychological symptoms according to women attending gynecology clinic and menopause clinic.

Prevalence (%)	Palpitation	Headache	Insomnia
Premenopause	8.8	29.4	14.7
Perimenopause	11.7	23.3	26.7
1st year postmenopause	14.5	23.7	30.9
2nd year postmenopause	16.1	22.6	25.9
3rd year postmenopause	25.0	25.0	20.0
4th year postmenopause	11.1	11.1	27.8
Postmenopause $\geq 5$ years	7.4	13.2	17.6



**Fig. 3.** The prevalence of psychological symptoms according to women attending gynecology clinic and menopause clinic.

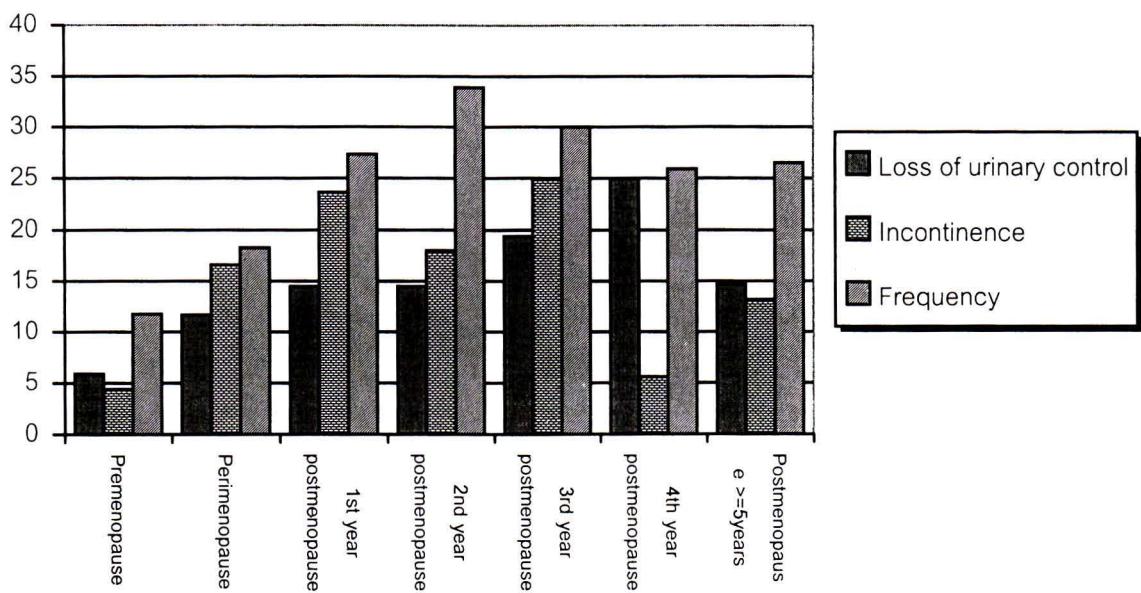
and less prevalent after that time (Table 3), similar to the Massachusetts Women's Health Study(13). From the present study, the prevalence of hot flushes in perimenopause and postmenopause women seemed to have the same rate when postmenopause women were grouped together. But some variations were seen in the prevalence of this symptom in each group after being classified into each year after menopause. However, overall vasomotor symptoms

from studies in Asian women seemed to be less prevalent than studies from Western countries(7,8,10,11, 14). Most studies found that the prevalence of vasomotor symptoms depended on age after menopause and the socioeconomic status of the women(9,10).

From the present study, the symptom most commonly present in postmenopause women was moodiness (Table 2) which is similar to other studies(7,10). There are still some symptoms that

**Table 6.** The prevalence of urological symptoms according to women attending gynecology clinic and menopause clinic.

Prevalence (%)	Loss of urinary	Incontinence control	Frequency
Premenopause	5.9	4.4	11.8
Perimenopause	11.7	16.7	18.3
1st year postmenopause	14.5	23.6	27.3
2nd year postmenopause	14.5	18.0	33.9
3rd year postmenopause	19.4	25.0	30.0
4th year postmenopause	25.0	5.6	25.9
Postmenopause $\geq 5$ years	14.7	13.2	26.5

**Fig. 4.** The prevalence of urological symptoms according to women attending gynecology clinic and menopause clinic.

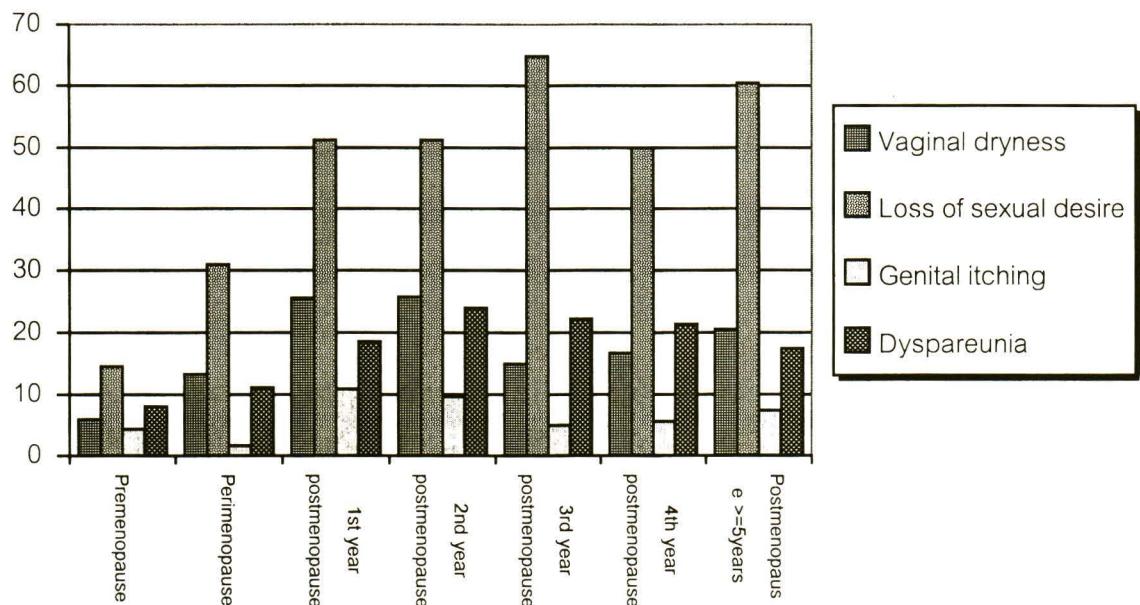
do not correlate to other studies(11,15,16) such as headache which were found to be quite unchangeable in prevalence from premenopause, perimenopause and postmenopause. However, psychological symptoms may be influenced by causes other than estrogen deficiency as demonstrated by Punyahotra et al (10) that depressed mood and tiredness appear to increase from pre, peri and postmenopause and may reflect the aging process. From this study, the symptoms that tended to have the highest prevalence during one to two years after menopause were dizziness, disrupted function, moodiness, shortness

of breath, palpitations and insomnia (Table 4, 5). Although we found a lower prevalence of vasomotor symptoms in Thailand(2) and Asia(7) because some women could not distinguish between the sensation of heat or sweating caused by hot weather in the daytime, this finding suggests that vasomotor-complaint-related distress might be translated into psychological complaints, which are more frequently considered to warrant a consulting physician(2,7,9).

Regarding urogenital symptoms, we observed a higher rate of prevalence of most symptoms in postmenopause women except in inconti-

**Table 7.** The prevalence of genital symptoms according to women attending gynecology clinic and menopause clinic.

Prevalence (%)	Vaginal dryness	Loss of sexual desire	Genital itching	Dyspareunia
Premenopause	5.9	14.5	4.4	8.2
Perimenopause	13.3	30.9	1.7	11.1
1 <sup>st</sup> year postmenopause	25.5	51.2	10.9	18.6
2 <sup>nd</sup> year postmenopause	25.8	51.2	9.7	24.0
3 <sup>rd</sup> year postmenopause	15.0	64.8	5.0	22.2
4 <sup>th</sup> year postmenopause	16.7	50.0	5.6	21.4
Postmenopause $\geq 5$ years	20.6	60.4	7.4	17.5



**Fig. 5.** The prevalence of genital symptoms according to women attending gynecology clinic and menopause clinic.

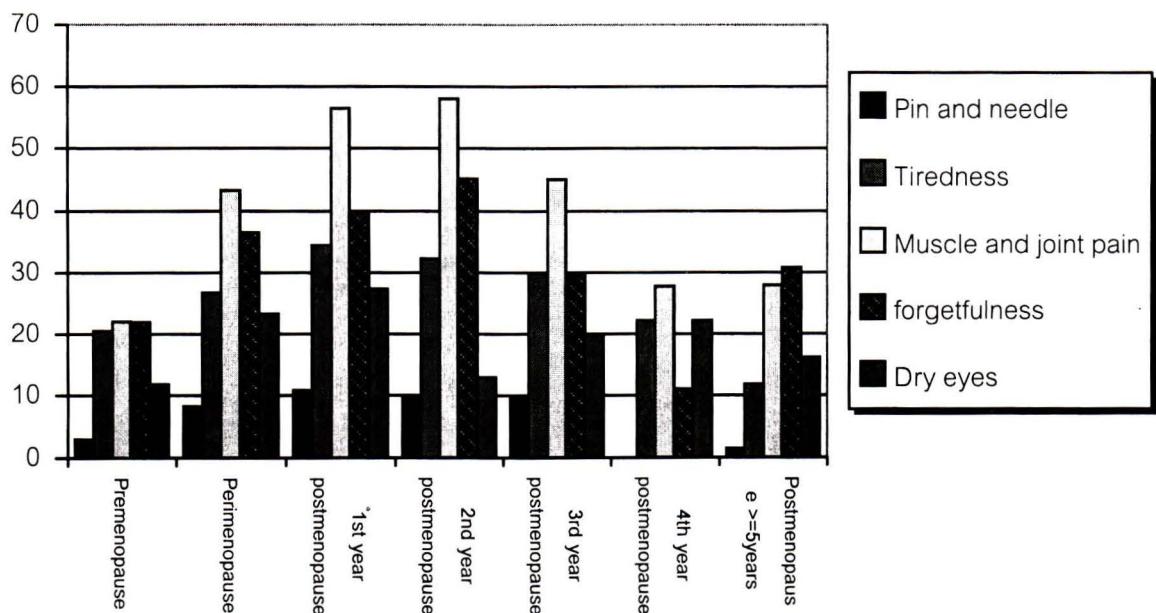
nence and genital itching (Table 2). Consistently with a higher prevalence of symptoms in postmenopause, the authors found that the prevalence of symptoms such as frequency, vaginal dryness, loss of sexual desire and dyspareunia tended to increase from the perimenopausal period through to postmenopause (Table 6, 7). These symptoms may probably relate to endogenous plasma level of estrogen or the aging process(17,18). Compared to other studies, the most common urogenital symptoms reported in Thai women(9,11) and in Asian women(7) were vaginal dryness, incontinence, dyspareunia and loss of sexual

desire. In Thailand the prevalence of genital symptoms are underreported probably because of Thai culture, as women could not express urogenital problems in an open manner. In this study, the authors tried to make participants more comfortable by using women paramedical personnel in counseling and the prevalence of loss of sexual desire was found to be 60.4 per cent (Table 7) compared to 59 per cent in perimenopausal women in Norway(19).

Concerning other symptoms i.e. pins and needles, tiredness, muscle and joint pain and forgetfulness were reported to increase in prevalence of

**Table 8.** The prevalence of other symptoms according to women attending gynecology clinic and menopause clinic.

Prevalence (%)	Pin and needle	Tiredness	Muscle and joint pain	Forgetfulness	Dry eyes
Premenopause	2.9	20.6	22.1	22.1	11.8
Perimenopause	8.3	26.7	43.3	36.7	23.3
1st year postmenopause	10.9	34.5	56.4	40.0	27.3
2nd year postmenopause	9.7	32.3	58.0	45.1	12.9
3rd year postmenopause	10.0	30.0	45.0	30.0	20.0
4th year postmenopause	0.0	22.2	27.8	11.1	22.2
Postmenopause $\geq 5$ years	1.5	11.8	28.0	30.9	16.2

**Fig. 6.** The prevalence of other symptoms according to women attending gynecology clinic and menopause clinic.

these symptoms and reached their peak about two to three years after menopause and then declined after four to five years postmenopause (Table 8). These changing patterns were similar to the pattern of vasomotor symptoms especially muscle and joint pain that was found to be significantly associated with postmenopausal status in most studies from Eastern countries(7-11). Musculoskeletal pain, although not related to hormone imbalance, is frequently associated with the symptomatology of menopause(20).

From this study, prevalence of most climacteric symptoms seemed to be higher than in other

studies(2,9-11). This is probably because it was a hospital-based study in which most of the women came to the hospital to seek medical care for menopausal symptoms. The transition to menopause is frequently associated with the increase of physical as well as psychological symptoms(21). Vasomotor and atrophic symptoms are widely recognized as being associated with estrogen deficiency(22). Other symptoms seem to have a higher prevalent rate during the period when vasomotor symptoms have the highest prevalence rate observed in this study. Understanding the physiological changes that occur

at menopause holds the key to successful treatment strategies. Despite the impressive amount literature, further study is required to extend our knowledge in this field.

## SUMMARY

This study was conducted to assess the prevalence of climacteric complaints of 427 women who attended Chulalongkorn Hospital, Bangkok, Thailand. The results revealed that the prevalence of vasomotor symptoms, some psychological symp-

toms i.e. dizziness, shortness of breath, palpitation, moody, disrupted function and some other symptoms i.e. muscle and joint pain, tiredness, pins and needles and forgetfulness tend to increase and reached their peak two to three years after menopause and then declined in four to five years. Difference in life style, socioeconomic classes, attitude toward health and menopause and research methodology in each study might influence the difference in research results.

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## ความซ้ำของอาการวัยหมดประจำเดือนปีที่หมดประจำเดือน

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**วัตถุประสงค์** : เพื่อศึกษาเกี่ยวกับความซ้ำของอาการของสตรีวัยหมดประจำเดือนที่มารับบริการที่คลินิกวัยหมดประจำเดือน

**รูปแบบการวิจัย** : การวิจัยเชิงพรรณนา โดยสัมภาษณ์สตรีวัยหมดประจำเดือนและสตรีวัยใกล้หมดประจำเดือนที่มารับบริการ ณ คลินิกวัยหมดประจำเดือนและคลินิกวิชากรรมจำนวน 427 คนโดยแยกตามกลุ่มต่าง ๆ ตามที่จัดให้โดยผู้สัมภาษณ์ที่ได้รับการอบรมและใช้แบบสอบถามที่ได้รับการทดสอบความถูกต้องและความเชื่อถือได้

**ผลการวิจัย** : พบร่วมสตรีที่ได้รับการสัมภาษณ์ที่หมดประจำเดือนแล้วมีอายุเฉลี่ยของหมดประจำเดือน 49.46 ± 3.30 ปี โดยมีความซ้ำของอาการระบบประสาทอัตโนมัติร้อยละ 4.4, 25, 27.3, 38.8, 40, 11.1 และ 10.3 ในกลุ่มสตรีวัยก่อนหมดประจำเดือน วัยใกล้หมดประจำเดือน 1 ปี, 2 ปี, 3 ปี, 4 ปี, มากกว่าเท่ากับ 5 ปี ตามลำดับ ส่วนความซ้ำของอาการทางจิตประสาท เช่น อาการหงุดหงิดมีค่าร้อยละ 26.5, 25, 54.6, 38.7, 32.2, 11.2 และ 11.8 ตามลำดับ ยกเว้นอาการปวดศีรษะ ซึ่งพบความซ้ำของอาการเป็นร้อยละ 29.4, 23.3, 23.7, 22.6, 25.0, 11.1 และ 13.2 ตามลำดับ กลุ่มอาการระบบทางเดินปัสสาวะพบว่า ความซ้ำของอาการมีแนวโน้มที่จะเพิ่มขึ้นเรื่อย ๆ กลุ่มอาการทางระบบอวัยวะสืบพันธุ์ เช่น อาการซ่องคลอตแห้ง พบร่วมความซ้ำเป็นร้อยละ 5.9, 23.3, 25.5, 25.8, 15.0, 16.7 และ 20.6 ตามลำดับ กลุ่มอาการระบบหัวใจ เช่น อาการปวดข้อหรือกล้ามเนื้อพบความซ้ำเป็นร้อยละ 22.1, 43.3, 56.4, 58.0, 45.0, 27.8 และ 28.0 ตามลำดับ

**สรุป** : ลักษณะแนวโน้มของความซ้ำของอาการต่าง ๆ มีลักษณะสูงขึ้นในช่วงหมดประจำเดือน 1 ปี และ 2 ปีแรกมากที่สุด ส่วนอาการที่มีความซ้ำใกล้เคียงกันตั้งแต่ช่วงวัยก่อนหมดประจำเดือนจนถึงวัยหมดประจำเดือนมากกว่าเท่ากับ 5 ปี คือ อาการปวดศีรษะและอาการตาแห้ง

**คำสำคัญ** : ความซ้ำ, อาการวัยหมดประจำเดือน, วัยหมดประจำเดือน

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