Prevalence of menopausal symptoms in women in Kelantan, Malaysia

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Abstract

Objectives: The aim of the study was to document the prevalence of 16 symptoms commonly associated with menopause, in women living in Kelantan.

Method: After verification, a semi-structured questionnaire in the Malay language was administered to 326 naturally menopaused healthy women (mean age of 57.1 ± 6.58 (SD)) to assess the prevalence of 16 common symptoms, which had been identified through focus group discussions and those that have been repeatedly reported in the literature.

Results: Mean age at menopause was 49.4 ± 3.4 (SD) years while both the mode and median were 50 years. Of these, 75% were within the first ten years of menopause and the rest were within the range of 11 to more than 20 years postmenopause. The mode for the number of symptoms complained by each woman was 8 (range 0 – 16). The prevalence of atypical symptoms was as follows: tiredness (79.1%), reduced level of concentration (77.5%), musculo-skeletal aches (7[illegible]nd backache (67.7%). Night sweats (53%), headache (49.4%), and h[illegible].1%) were the typical vasomotor symptoms, whereas mood swing[illegible] problems (44.8%), loneliness (41.1%), anxiety (39.8%) and crying spells (33.4[illegible]ie main psychological symptoms. Uro-genital symptoms such as vaginal discomfort (45.1%), occasional stress incontinence (40%), weak bladder control (24%), and urinary tract infection (19.3%) were also reported.

Conclusion: The symptoms are somewhat similar to those experienced by postmenopausal women elsewhere, albeit at different frequencies. There was a tendency for the women to admit to having more of the atypical somatic symptoms, the prevalence of some which increased with increasing age category, and lesser of the vasomotor and psychological symptoms.

Keywords: Malaysia; Kelantanese women; postmenopausal symptoms; women's health

1. Introduction

Menopause has been associated with numerous transient typical and atypical symptoms. Typical or classical symptoms are those that include vasomotor symptoms [1], e.g. hot flushes, night sweats, and sleep disturbance. Atypical or somatic symptoms, on the other hand, include headache [2,3], low backache [2,3], skin dryness [2,3] and reduced level of concentration [2,3], which can be associated to both menopause and as well as to the ageing process. Frequency of micturition, avoiding intimacy, changes in sexual desire and vaginal dryness are considered as urogenital problems often associated with declining estrogen levels.

It has been suggested that Asian women suffer more of the atypical symptoms and fewer, and with lesser severity, the typical psychological and vasomotor symptoms when compared to those reported in Caucasian women in the west [2-5]. Avis et al [6], on the other hand reported of significantly more psychosomatic symptoms in Caucasian women than in African-American, Chinese, Japanese and Hispanic women, and significantly more vasomotor symptoms in Afro-American women. In a review of five studies evaluating the impact of menopause in different cultures, Robinson [7] concluded that there were large differences in the experiences of menopause by women from different cultures and even in women from the same culture. They further suggested that menopausal complaints appear to depend on a combination of physical changes, cultural influences and individual perception and expectations [7]. In addition, studies on women in Singapore [1], Taiwan [5], Malaysia [8], Thailand [9-11] and Australia [12] suggest that other variables such as socio-demography, education level, access to health care and perception of menopause could also influence the menopausal woman's quality of life. It is therefore becoming apparent that the experience during climacteric is influenced by numerous factors. Even though there have been studies [8], [13] done in Malaysia, there still remains very little information on the prevalence of symptoms, particularly in the postmenopausal Malaysian women living in Kelantan, a state in Malaysia where there is a strong adherence to traditional and cultural practices. Documenting menopausal experiences from all populations and geographical locations is important if we want to better understand climacteric. This study was therefore undertaken to ascertain the prevalence of some of the commonly documented menopausal symptoms in women living in Kelantan.

2. Materials and Methods

A semi-structured questionnaire in the Malay language was designed to obtain information on the most common postmenopausal symptoms described by women worldwide. The development and design of the questionnaire were done following a substantial literature review of related studies and through focus group discussions, which consisted of eight postmenopausal women. These women were randomly chosen from those attending the menopause clinic, gynaecology clinic and nurses working at Hospital Universiti Sains Malaysia. The list of symptoms chosen consisted of those that were complained most frequently by the women in the focus group and also commonly reported in the literature. To ascertain its face validity, the content of the questionnaire was reviewed by three academic staff, consisting of a gynaecologist, an academician from the Department of Community Medicine, and one other academic from the Women's Health Development Unit.

Upon approval of the study by the University's Ethics Committee the questionnaire's construct validity was determined using factor analysis. For this the questionnaire was distributed to 100 postmenopausal women. Their responses to the questions were tabulated and KMO and Bartletts test was done which revealed a $p<0.001$, indicating that these questions were acceptable for factor analysis. Reliability coefficient (Cronbach's alpha) was 0.8334, which indicated that the measurement tool had a good reliability [14].

After verification, we were able to distribute the questionnaires to 326 naturally menopausal women living in Kelantan. The subjects consisted of women, living in rural, suburban and urban areas whose education level ranged from no education to tertiary education. Some were self-employed whereas others consisted of support staff to professionals. Being a purposive, cross-sectional study, women were recruited through the Kelantan Family Planning Association, menopause clinic, and gynecology clinic at Hospital Universiti Sains Malaysia, local general practitioners, public services departments and village committees. About 50% of the participants were recruited via the snowballing technique, where respondents recommended or introduced other subjects to the researcher. The inclusion criteria consisted of healthy women who had menopaused naturally and had no menses for a period of 1 year or

more. Women with uncontrolled medical conditions such as hypertension, diabetes mellitus or heart disease, or who had undergone oophorectomy or those who were undergoing treatment for cancer or were in remission were excluded from the study.

The response rate was 100 percent as the questionnaire was given personally to the respondents, either at home or at their workplaces. For those subjects who were unable to read, the questions were read to them and their responses were recorded by the same researcher. As the questions were in the local language and designed with the local population in mind, the subjects did not have any difficulty in understanding the questions when they were read to them. The questionnaire was collected immediately upon completion. Before collection of the questionnaire, the statements were re-checked to ensure all statements were answered. The respondents' responses were based on those symptoms, which they were experiencing or had experienced within the month. Sample size was determined from other studies, which had sample sizes ranging from 200 [15] to 400 women [4, 13]. The minimum sample size for this study was ascertained to be 255. As the data was being collected and analysed, the outcome started showing a saturation point at sample size of about 250 women and no difference was seen when the sample size was increased to 300 and then to 326. It was then assumed that a saturation point had been reached and further addition of subjects to the sample size was not going to have any significant effect on the findings. Statistical analysis was performed using descriptive statistics.

3. Results

Mean age of the subjects in this study was 57.01 ± 6.58 (SD) years and the age range of the respondents was between 40 to 70 years. However, more than three-quarters of the subjects in this study were within the age of 45 – 60 years. According to the STRAW classification [16], more than half the participants in this study were in early postmenopause i.e. the first five years of menopause, while the rest were in late postmenopause. Nevertheless, nearly three quarters were within the first ten years of menopause. The mean age at menopause was 49.4 ± 3.4 (SD) years while both the mode and median were 50 years. The breakdown of the education level of the subjects was as follows; no education (23%) to primary (25.1%), secondary (39.9%), and tertiary (12%) education and consisted of women living in rural (38.7%), suburban (23.3%), and urban (38%) areas. Their occupations ranged from housewives (28.8%), self-employed and support staff (61%) to professionals (10.2%).

Table 1
Prevalence of postmenopausal symptoms

	Menopausal symptoms	n = 326	100%
1.	Tiredness	258	79.1
2.	Reduced level of concentration	253	77.5
3.	Musculo-skeletal aches & pains	230	70.6
4.	Backache	221	67.7
5.	Night sweats	173	53.0
6.	Mood swings	168	51.5
7.	Headache	161	49.4
8.	Vaginal discomfort	149	45.7
9	Hot flushes	146	44.0
10	Sleep disturbances	147	45.1
11	Loneliness	134	41.1
12	Anxiousness	130	39.8
13	Stress incontinence	126	40.0
14	Crying Spells	106	33.4
15	Poor bladder control	78	24.0
16	Urinary Tract Infection	63	19.3

Of the symptoms, somatic symptoms were the most prevalent followed by vasomotor, genital, psychological and urological symptoms (Table 1). Only six women did not have any symptoms at all and they were within the first ten years of their menopause.

Table 2
Frequency distribution of symptoms in the whole group

No. of symptoms	1-5 years	> 5 years	TOTAL
0	2	4	6 (1.8%)
1	3	1	4 (1.2%)
2	8	6	14 (4.3%)
3	10	12	22 (6.7%)
4	10	14	24 (7.4%)
5	14	12	26 (8%)
6	20	9	29 (8.9%)
7	18	12	30 (9.2%)
8	21	14	35 (11.3%)
9	17	5	22 (6.7%)
10	17	16	33 (10.1%)
11	14	11	25 (7.7%)
12	13	8	21 (6.4%)
13	11	13	24 (6.7%)
14	6	2	8 (2.5%)
15	0	1	1 (0.3%)
16	0	2	2 (0.6 %)
TOTAL	**184 (56.4%)**	**142 (43.61%)**	**326 100%**

Table 2 presents the frequency distribution of the number of women admitting to having one or more symptoms in this study. The complaints per women ranged from zero to 16. The overall mean was six symptoms. The mode for women who had been in menopause for 1-5 years was 8 whereas the mode for women who had been menopaused for >5 years was 10. A small fraction (0.6%) had complained of all the sixteen symptoms and these women had been in menopause for more than 11 years.

Table 3

Prevalence of menopausal symptoms in the two groups based on STRAW classification

Symptoms	Menopausal status 1-5 years n= 184 %	6 - 21 years and more n=146 %	$\chi 2$
Tiredness	79.3	78.9	*ns*
Reduced level of concentration	72.8	83.8	**p<0.018**
Musculo-skeletal aches and pain	69.0	72.5	*ns*
Backache	68.0	68.0	*ns*
Night sweat	53.8	52.1	*ns*
Mood swing	59.8	41.0	**p<0.001**
Headache	55.4	41.5	**p<0.013**
Vaginal discomfort	38.6	55.0	**p<0.003**
Hot flushes	52.7	34.5	**p<0.001**
Sleep disturbance	44.0	46.5	*ns*
Loneliness	35.0	49.0	**p<0.016**
Anxiousness	41.0	39.0	*ns*
Stress incontinence	39.0	40.0	*ns*
Crying spells	34.0	33.0	*ns*
Weak bladder control	19.9	24.0	*ns*
Urinary Tract Infection	19.7	19.0	*ns*

To determine how many of the women continued to have some of the symptoms beyond the first five years of menopause, the subjects were divided into two groups based on STRAW classification (Table 3). Some clear trends were observed between menopausal status and symptoms. Symptoms like mood swings, headache, and hot flushes were lower in women who had been in menopause for more than five years. In contrast, the prevalence of reduced level of concentration, vaginal discomfort and loneliness was higher in women who had been in menopause for more than five years menopause. There were however a few symptoms with prevalence that was not different between the two groups.

4. Discussion

This study sought to ascertain the prevalence of 16 commonly reported symptoms in menopaused women living in Kelantan and to see if the prevalence of some of these was similar to that reported in other studies. Subjects in this study consisted of women with varying occupational and educational background, derived from rural, suburban and urban areas but were mainly from one ethnic group. The ages of the subjects ranged from 40 – 70 years, providing information on the menopausal experiences of women beyond the age of 60 years, which is somewhat lacking except for one Pakistani study where the respondents' ages ranged from 42 – 80 years [17]. This consideration is becoming important as more women are living longer and the current average life span of a woman in Malaysia is 75.2 years, indicating that nearly a third of a women's life is now spent in menopause.

Of interest in this study population is the overall prevalence and the distribution of the symptoms amongst the respondents, and their prevalence when women are divided based on the duration of their menopause. Although majority of the women experienced symptoms that were similar to those reported in other populations, but when ranked in the order of prevalence, the atypical symptoms or somatic symptoms of tiredness, decreased level of concentration, backache and joint and muscle pain had the highest prevalence (Table 1). The classical symptoms such as hot flushes and vaginal discomfort were reported by less than 50% of the women, with the exception of night sweat and mood swings. This, to an extent, concurs with suggestions of Asian women having more of the atypical symptoms than their western counterparts [2-5]. Interestingly, a recent report indicates that the prevalence may also differ among Asian women of different ethic origins [18], indicating that the experiences may differ even in women living within the same geographical location. The exact reason for the higher prevalence of atypical symptoms in this study is not evident, although dietary [19], cultural [20] and possibly life-style [21] factors have been proposed to influence the menopausal experiences of women. Dietary and cultural life-styles were not studied in this population but the study population consisted primarily of one race.

The mode for the number of symptoms complained was eight, where nearly 52% of the women in this study had complained of eight or more symptoms (Table 2). The number of

women complaining of 5 or more symptoms was 78.9%. This is somewhat higher than what was reported in the Australian women [12], where only 56% of the respondents had reported to having 5 or more complaints. The reason for this difference is once again not clearly apparent, although one possibility that may explain the higher prevalence of most symptoms documented in this study is the fact that the questionnaire in this study was more structured and the subjects were asked directly if they had or were experiencing the symptoms within a month of the interview, rather than the participant having to recall what symptoms they had. No significant correlation was evident between the number of symptoms complained and the level of education, occupation or the place of residence.

It is often difficult to identify which symptoms are primarily due to oestrogen deficiency and which are due to the ageing process. In addition, there may also be symptoms that are related to ageing but are exacerbated during oestrogen withdrawal or symptoms due to oestrogen deficiency that are exacerbated by age. While it is difficult to comment about the influence of age on the symptoms, or vice versa, from this study, we tried to explore this possibility by examining the prevalence of these symptoms in women by grouping them into early (first five years of menopause) and late (more than 6 years of menopause) menopause, based on the STRAW classification [16], (Table 3). It was assumed that symptoms primarily due to oestrogen deficiency only would decrease with advancing duration of menopause as the body adapts to the deficiency, whereas those that are due to aging or both may either increase or remain the same. Interestingly, there were some significant differences observed in the prevalence of the symptoms between the two groups. The prevalence of mood swings, headache and hot flushes was lower in women who had been menopaused for more than 5 years. In contrast, the prevalence of complaints like reduced level of concentration, vaginal discomfort and loneliness was higher in women who had been in menopause for more than 5 years, suggesting the latter complaints may also be related to the ageing process (Table 3). Urinary tract infection, stress incontinence and anxiousness were the same in all categories. From the ensuing it seems that not all complaints that arise during menopause are entirely due to the declining oestrogen levels, but rather there are some that are also due to the aging process, which is of course ongoing. Support for women in menopause has therefore to be planned appropriately. There is a clear need for more study to differentiate complaints that

are primarily due to oestrogen deficiency and those that are due to ageing or both if we wish to better manage women through this transition.

Comparison of the prevalence of the symptoms in this study with that reported in other studies in the Asia-pacific region is presented in Table 4. The prevalence of the symptoms was generally higher in this study with the exception of headache and sleep problems, which were

Table 4 Prevalence of postmenopausal symptoms in other studies in the Asia-pacific region.

No		Kelantan 2003 n=326 %	Singapore[1] 2002 n=495 %	Taipei[5] 2001 n=210 %	Melbourne[12] 2000 n=438 %	Bangkok[9] 1997 n=268 %
	Age (yrs)	40 – 70	40 – 60	46-54	45-55	40 – 59
	Symptoms					
1	Tiredness	79.1	38.8	33.8	43	63
2	Reduced concentration	77.5	45.1	-	20	-
3	Musculo–skeletal aches	70.6	51.7	37.4	57	71
4	Backache (lumbago)	67.7	included with muscle ache	41.5	32	27
5	Night sweat	53.0	8.9	11.8	24	-
6	Mood swing	51.0	22.4	-	-	43
7	Headache	49.4	30.1	36.9	-	59
8	Vaginal discomfort	45.7	20.7	24.2	32	8
9	Sleep problem	45.1	23.4	57.4	45	52
10	Hot flushes	44.8	17.6	16.4	41	33
11	Loneliness	41.1	-	-	-	-
12	Anxiousness	39.8	19.2	-	28	39
13	stress incontinence	40.0	19.6	23.6	-	25
14	Crying spells	33.4	16.4	-	32	27
15	Poor bladder control	24.0	Included with Stress incontinence	-	26	-
16	Urinary tract infection	19.3	-	-	2	-

This study, 2003: n= 326, 326 were postmenopausal (100%)
Chim *et al.*, 2002 [1]: n= 495, 133 were postmenopausal (27%)
Fuh *et al.*, 2001 [5]: n=210; 210 were postmenopausal (100%)
Dennerstein *et al.*, 2000 [12]: n= 438, 157 were post menopausal (36%)
Punyahotra *et al.*, 1997 [9]: n = 268; 107 were post menopausal (40%)

higher in the Bangkok study (Table 4). In addition, the complaints also differed in both their rates of prevalence and their order of complaint. For example, tiredness, which was the most prevalent symptom in this study, was listed as the 2nd, 3rd, and 5th most frequent complaint in the Bangkok, Melbourne, Singapore and Taipei studies respectively, where it ranged from 63 – 33.8%. Another study in Malaysia, on a Kuala Lumpur based population, listed tiredness as the 2nd most frequent symptom and with a slightly lower prevalence [8]. The study however consisted of a multiethnic population drawn from an urban area. A more recent study, documented 65.4% rural women in Lahore complaining of lethargy [17]. Decreased level of concentration had a prevalence that was once again higher than that reported in some of the other studies and was complained more by women who had been in menopause for more than 5 years. Although reduced level of concentration was ranked as the 2nd most frequent complaint in the Singapore study [1], it was only ranked 11th most frequent complaint in the Melbourne study [12]. Despite the slight differences in the prevalence of tiredness and loss of concentration, the prevalence of the atypical symptoms nevertheless was generally higher when compared to the vasomotor symptoms in all these studies with the exception of the Melbourne study [12]. The reason for the higher prevalence of most of the symptoms in our study is not clearly apparent, but as stated earlier, it may be related to the fact that the questionnaire used to ascertain the prevalence was more structured, where the participants were specifically asked about the symptoms, and also, the age range of the participants in this study was greater than that in the other studies, the latter may have contributed to the prevalence of those symptoms that are also related to ageing. The cause for the tiredness and decreased level of concentration is not known. None of the participants in this study had any evidence of anaemia or thyroid dysfunction, which are known to cause tiredness and lethargy. The demonstration of oestrogen receptors in the various part of the brain suggests that oestrogen may serve a wider function than its widely understood role in reproduction [22]. There are reports of association between circulating sex steroids and cognitive function in aged men and women [23]. As reduced level of concentration was significantly associated with menopausal status (χ^2 5.5 $p<0.018$) and tiredness did not differ between the two groups (Table 3), indicate that these two complaints may also be influenced by age.

Vasomotor symptoms like hot flushes and headaches were common among women within the first five years of menopause (Tables 1 & 3). Their prevalence seems to be lower in women who had been in menopause for more than five years, indicating an adaptation to the declining oestrogen levels. Significant correlation was evident between headaches and hot flush ($r = 0.389$; $p<0.01$) and mood swings ($r = 0.349$; $p<0.001$). There was also a significant correlation between sleep disturbances and hot flushes ($r=0.446$; $p<0.01$), implying that one of the reason for the sleep disturbance may be hot flushes during the night. Like in the case of the atypical symptoms, the prevalence of vasomotor symptoms was higher in this study compared to other studies. However, the order of the complaint was lower in this and in other studies in the Asian region, but it was higher up the ranking order in the Melbourne study [12].

Uro-genital atrophy is a common occurrence in postmenopausal women. It manifests as stress and urgent urinary incontinence, dysuria and recurrent infection of the lower urinary tract [24]. Occasional stress incontinence (38.7%) and frequent stress incontinence (0.9%) was reported by some women in this study. Stress incontinence had also been reported in studies from other populations [1,5,10], but the prevalence is somewhat lower. This symptom was however not reported among the Australian postmenopausal women [12]. On the other hand, Milsom [25] reported that half the postmenopausal women in the Swedish study had lower urinary tract symptoms. There was no correlation observed between stress incontinence and menopausal status or age in the Kelantanese women. A vast majority of the women in this study felt they had either no change in their bladder control or still had a strong bladder control after menopause. The rate of occurrence of poor bladder control was somewhat similar to that reported in the Australian study [12]. In this study, urinary tract infection was the least frequent symptom amongst the women. Out of the 19.3% (63) women who admitted to urinary tract infection, majority had occasional infection and only three women had frequent episodes. Of the few studies referred to here, only in the Melbourne study was there women who complained of urinary tract infection [12], where only 2% complained and it ranked as the tenth most common complaint. The women who had frequent UTI were within the first ten years of postmenopause. This is probably due to the result of poor estrogenisation in the vagina and adjacent tissues [26, 27]. The prevalence of bacteriuria has been reported to

increase with age and has also been associated with parity and previous history of urinary tract infection [28]. Yoshikawa et al., [27] estimated that as many as 30% of women older than 80 years were bacteriuric. A survey of 1,280 Swedish women aged 61 years old, revealed that 75% were affected by genitourinary complaints; 4% reporting recurrent urinary traction infection [29]. In another Swedish survey of 2,245 women showed that more than twice as many 81-year olds (11%) reported recurrent UTI as did 71-year olds (5%) [29].

Out of the total, less than half complained of occasional vaginal discomfort. There was a small minority who had frequent or continuous vaginal discomfort. Vaginal discomfort has been reported before in other studies [1,5,10,12]. The overall incidence of vaginal discomfort was lower in all these studies compared to our study. Over a third (35.9%) of the women did not complain of any pain during sexual intercourse. However 34% of the respondents did complain of dyspareunia. A small fraction (7.1%) of women found that their vagina was unable to accommodate completely an erect penis. There was a significant correlation between dyspareunia and reported inability of the vagina to accommodate an erect penis ($r = 0.55$; $p<0.001$). Vaginal discomfort also had significant association with menopausal status ($p<0.003$), which was higher (55%) among women who had been in menopause for more than 5 years. Prevalence of stress incontinence (40%) and weak bladder control (24%) was also higher in women who had been menopaused more than 11 years than those in the 1st five years of menopause (Table 3).

Psychological symptoms like mood swing, loneliness, anxiousness, and crying spells were reported by a significant number of participants (Table 1). Similar complaints from postmenopausal women have also been recorded in other populations. However, the prevalence of these was once again higher in this study. Loneliness had significant association with menopausal status ($p<0.016$) which was higher (49%) in women who had menopaused more than 5 years (Table 3). In contrast mood swing, another symptom significantly associated with menopausal status ($p<0.001$) decreased from 59.8% to 41% in women menopaused for more than 5 years.

In summary, it appears that the menopausal symptoms experienced by women in Kelantan are similar to those experienced by women elsewhere. Their prevalence however was consistently higher in this population, which may be related to the study methodology. In addition, majority of the women had more of the atypical symptoms of tiredness, decreased level of concentration, backache and joint and muscle pain. The classical symptoms such as hot flushes and vaginal discomfort were reported by less than 50% of the women with the exception of night sweat and mood swing. Uro-genital ageing and sexual functioning were adversely affected by menopause but the impact of these on their quality of life appeared small. This was probably because the uro-genital changes and sexual functioning were not that severe and also they were more prevalent in the older age group, where perhaps the importance of sexual functioning was somewhat reconciled and readily accepted as a natural process and consequence of ageing. Only a small fraction of women complained of the inability of their vaginas to stretch sufficiently to allow full penetration of an erect penis. Parity is high in this population and the multiple births could also contribute to the possible laxity of the vaginas, hence only a very small fraction complained of the inability of the vaginas to accommodate an erect penis. In conclusion therefore, our study seems to suggest that the prevalence of postmenopausal symptoms may be higher in some populations than has been generally reported and further confirms that the prevalence of symptoms may vary from population to population, depending upon the type of symptom.

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