

Relationship between menopausal symptoms and menopausal status in Australian and Japanese women: Preliminary analysis

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ABSTRACT

The main aim of the present study was to explore the midlife experience for women living in Australia and Japan. The specific objectives of the study included: (i) comparing menopausal symptoms between the two groups; and (ii) comparing the factor structure of symptoms and exploring their relationship to menopausal status. Postal questionnaires were distributed to two structured, random population based samples of midlife women aged 45-60 years; consisting of 712 women living in Australia and 1502 women living in Japan. Analysis showed significant differences in menopausal symptoms related to psychological symptoms ($P < 0.001$), including anxiety ($P < 0.001$) and depression ($P < 0.001$), somatic symptoms ($P < 0.001$), and vasomotor symptoms ($P < 0.01$). The analysis, which excluded hormone replacement therapy (HRT) users, found that there were significant differences seen across menopausal status in the following symptoms: difficulty in sleeping ($P < 0.01$), difficulty in concentrating ($P < 0.01$), feeling dizzy or faint ($P < 0.001$), loss of interest in most things ($P < 0.01$) and loss of feeling in hands or feet ($P < 0.001$). In the postmenopausal stage specifically, significant differences were seen in the areas of feeling tense or nervous ($P < 0.01$), feeling unhappy or depressed ($P < 0.01$), parts of body feeling numb or tingling ($P < 0.05$), headaches ($P < 0.01$), and sweating at night ($P < 0.05$). Our analysis revealed that the experience of menopause for women is different between Australian and Japanese women.

METHODS

The reviewed social psychological research demonstrates an ambiguity about the menopausal experience of women in Western countries when compared to women from Asia, with much interest recently being generated regarding the meaning of menopause to Japanese women (Li et al., 1995; Wang, 1997; Anderson, 1999; Banister, 1999). For women in Western cultures, the experience of menopause and the incidence of symptoms differ considerably from women in Asian cultures (Richters, 1997). Women from Western countries, where menopause is viewed as a deficiency disease, experience many menopausal symptoms (Gebbie, 1995). In a study of the expectations of the menopause by American women (Coleman, 1993), approximately 50% of premenopausal women stated that the menopause would be unpleasant and disagreeable. In contrast, women in northern India, where menopause is seen as an end to taboos and social restrictions, reported no menopausal symptoms (Richters, 1997). Similar results highlighting cultural differences were found when Israeli and European women were compared (Lock, 1998). Arabian women portrayed a positive attitude towards the menopause with the freedom from childbirth cited as the main reason. Negative views were expressed by European women, who expressed symptoms ranging from emotional to sexual disturbances (MacNaughton, 1985).

A multiplicity of symptoms has been associated with the menopause across cultures (WHO, 1996). Symptoms such as hot flushes and night sweats are recognized as symptoms directly associated with menopause within the biomedical Western concept. For women in other cultures, including Japan, hot flushes and night sweats are not recognized as core symptoms. Headaches, dizziness and stiff shoulders are symptoms frequently cited by Japanese women (Richters, 1997).

Within the Australian context, the frequency of hot flushes varies from 39 to 77% (Dennerstein et al., 2000, 1993). Symptom reporting from Melbourne women indicated a 39%

incidence of troubling hot flushes (Coope et al., 1992), which was similar to those reported by North American (Gold & Josimovich, 1980) and European women (Abraham et al., 1995; Barile, 1997). We can speculate on the reasons for these differences. In some ethnic cultures, such as Indian and Chinese (Berg, 1999), menopause is seen as a positive event, age is respected and as a result a certain level of prestige and social status increases with age. In these Asian countries, menopause is seen as a transition to a higher status (Vatuk, 1992). In a landmark study conducted by Lock (1986), it was found that women from Japan have few menopausal symptoms and have no real word in their language for 'hot flushes'. In Japan, the concept of 'konenki' is used to describe menopause. Konenki refers to the 'change of life', it is a transition both men and women experience, however, women are perceived to be more vulnerable to the emotional and physical changes associated with the transition (Lock, 1994). For women, the concept of konenki is individual and can include the cessation of menses, however, a women can experience konenki and still be menstruating.

A comparison indicated that Japanese women experience fewer and less severe hot flushes than Western women. Less than 20% of Japanese women had experienced a hot flush at some time compared to 65% of Canadian women. This trend was similar for the severity of hot flushes per day, as it varied according to culture, with 3% Japanese, 15% Canadian and 18% American (Lock, 1994).

The present study was conducted to further explore these questions surrounding differences in Asian and Caucasian middle-aged women. Many hypotheses and industries (e.g. soy) are being formed based on the conclusions of this earlier research on Japanese women.

Study's aims

The specific aims of this study were to: (i) compare menopausal symptoms between the two groups of women; and (ii) explore the relationship between menopausal symptoms and menopausal status of these women.

Table 1. Description of the sample of Australian and Japanese women

Variable	Australian (%)	Japanese (%)	Chi-squared test
Postcode	<i>N</i> = 692	<i>N</i> = 1502	
Rural	306 (44.2)	843 (56.1)	
Metropolitan	386 (55.8)	659 (43.9)	
Age (years)	<i>N</i> = 676	<i>N</i> = 1492	d.f. = 1
≤ 55	411 (60.8)	814 (54.6)	$\chi^2 = 7.37$
> 55	265 (39.2)	678 (45.4)	<i>P</i> < 0.01
Marital status	<i>N</i> = 683	<i>N</i> = 1479	d.f. = 3
Married/de facto	527 (77.2)	1230 (83.2)	$\chi^2 = 89.59$
Separated/divorced	83 (12.2)	89 (6.0)	<i>P</i> = 0.00
Single	73 (10.7)	71 (4.8)	
Education level	<i>N</i> = 680	<i>N</i> = 1481	d.f. = 2
Junior high school (< 10 years)	351 (51.6)	294 (19.9)	$\chi^2 = 325.83$
High school (11–12 years)	105 (15.4)	791 (53.4)	<i>P</i> = 0.00
College/university (> 12 years)	224 (32.9)	396 (26.7)	
Employment status	<i>N</i> = 675	<i>N</i> = 1482	d.f. = 2
Full-time	204 (30.2)	601 (40.6)	$\chi^2 = 24.63$
Part-time	181 (26.8)	295 (19.9)	<i>P</i> = 0.00
Not in paid employment	290 (43.0)	586 (39.5)	

d.f., degrees of freedom.

Table 2. Menopausal symptoms reported by Australian (*n* = 712) and Japanese (*n* = 1430) women

Symptoms	Japanese (%)	Australian (%)	<i>P</i> -value [†]
Heart beating quickly or strongly	51.7	35.2	< 0.001
Feeling tense or nervous	65.5	56.6	< 0.001
Difficulty sleeping	46.9	65.1	< 0.001
Panic attacks	30.7	26.4	< 0.05
Difficulty concentrating	76.2	59.1	< 0.001
Loss of interest in most things	55.1	33.9	< 0.001
Feeling unhappy or depressed	58.8	46.4	< 0.001
Crying spells	26.0	27.7	NS
Irritability	52.2	55.6	NS
Feeling dizzy or faint	57.1	23.9	< 0.001
Parts of body feel numb or tingling	43.0	36.5	< 0.01
Headaches	60.6	53.6	< 0.01
Muscle and joint pains	70.4	77.9	< 0.001
Loss of feeling in hands or feet	43.6	23.1	< 0.001
Hot flushes	46.0	45.3	NS
Sweating at night	29.2	38.8	< 0.001
Loss of interest in sex	71.5	70.4	NS

[†] Chi-squared test. NS, not significant.

METHODS

Population and setting

A stratified random sample was selected from 1500 women living in south-east Queensland, Australia and 2500 women from Japan. Subjects from each location were randomly selected from the electoral roles in Queensland, and Osaka and Nagano in Japan using the following criteria: age, 45–60 years; sex, female; and postcode, rural and metropolitan. The rural and metropolitan postcodes were used to enable the data collected from women living in rural and metropolitan areas to be cross-tabulated in the analysis. In the Australian sample, 10 923 women were found to meet the above criteria. From this target sample, 1500 women were randomly selected to participate in the study. In total, 1500 women in Australia and 2500 women in Japan provided well over the target of 399 to obtain a 0.05 desired accuracy level, at the 95% confidence level. This ensured that the sample proportion was within ± 0.05 of the population proportion.

Questionnaire

A primary source of data for the study was generated from The Queensland Midlife Women's Health Study (Anderson, 1999), which was a study conducted on women living in Queensland, using a randomized population based postal survey with a questionnaire. Selected women completed a questionnaire which included measures for sociodemographic factors, cultural factors, attitudes, height/weight ratios, mental health, vitality, social functioning, general health, diet, use of hormone replacement therapy (HRT), use of complementary and alternative medicines, smoking, alcohol and caffeine use, exercise and activity levels.

The primary source for the Japanese data was generated from the Japanese Midlife Women's Study (Yoshizawa & Atogami, 1998, unpubl. data) which was a study conducted on women living in Nagano and Osaka and used a randomized, population based postal survey with a questionnaire. Selected women completed the questionnaire, which included measures for sociodemographics, sociocultural, biological and psychological factors, attitudes, cognition of menopause, mental health, exercise and activity levels, actualization and daily life. The variables reported for both the Australian and Japanese women in the current paper included sociodemographics, menopausal status and menopausal symptoms.

Menopausal symptoms

In the Australian women, menopausal symptoms were measured using the Greene Climacteric Scale. The Greene Climacteric Scale measures the extent that an individual is affected by menopausal symptoms. It was constructed on the basis of a factor analysis of seven factorial studies of climatic symptoms (Greene, 1976; Indira & Murthy, 1980; Mikkelsen & Holte, 1982; Abe & Suzuki, 1984; Hunter et al., 1988; Holte & Mikkelsen, 1991; Kaufert, 1996). Greene's (1998) analyses concluded that psychomotor, psychological and vasomotor symptoms were common categorizations of symptoms and the scale was developed on this basis. The scale lists 21 symptoms and participants register their response by indicating either 'not at all', 'a little', 'quite a bit' or 'extremely'. The scale was constructed so that symptoms measured psychological aspects, somatic conditions, vasomotor symptoms and assessed loss of sexual interest (Barentsen et al., 2001). The Green Climatic Scale has been used to measure menopausal symptoms of specific populations (Canney & Hatton, 1994; Barentsen et al., 2001), and was used as a quality of life measurement in estrogen replacement trials (Derman et al., 1995).

The Japanese menopausal symptoms scale listed 45 items developed by Yoshizawa (1998, unpubl. data). The scale was developed after an extensive literature review and was translated from Japanese to English. The scale was constructed using five factors (psychological factor, 14 items; psychosomatic factor, 9 items; endocrinal symptoms factor, 8 items; sexual and urinary factor, 11 items and vasomotor symptoms factor, 3 items). Participants registered their response by indicating either 'not at all', 'a little', 'quite a bit' or 'extremely'.

Menopausal status

Menopausal status was determined by asking questions related to the women's monthly period/menstruation, and lead to categorizing women as premenopausal, menopausal, postmenopausal, hormone users or surgical. Surgical menopause was defined as women who had undergone a hysterectomy and/or bilateral oophorectomy. Postmenopausal women were defined as those who had no menstrual bleeding in the previous 12 months. Women who were defined as late perimenopausal had a menstrual period in the previous 12 months but not in the previous 3 months. Early perimenopausal women were distinguished from those who had experienced irregularity in their periods over the previous 12 months, but had a menstrual period in the previous 3 months. Premenopausal women were determined from those women who had reported no irregularity in their periods in the previous 12 months and also who had reported menstruating in the previous 3 months. All HRT and birth control pill users were defined as hormone users.

Statistical analysis

Quantitative data was coded and entered into the Statistical Package for Social Science (vers. 10; SPSS, Chicago, IL, USA) program for statistical analysis. The level of statistical significance used was $P < 0.05$. The response rate was 59% and 60% in the Australian and Japanese studies, respectively.

To address the first aim of the study, the two cultural groups were compared with respect to menopausal symptoms using chi-squared tests. The mean symptom severity scores were compared across the Japanese and Australian women using paired t-tests.

To address the second aim, a set of symptoms common to all the cultural groups with similar covariance structure, from the Yoshizawa and Atogami (1998, unpubl. data) menopausal scale were then matched to matching items in the Greene Climacteric Scale, with 17 similar items matching. These included nine psychological, five psychosomatic, two vasomotor and one item for the sexual symptom factor. This enabled the comparison of the Japanese symptoms with the 17 comparable items obtained from the Greene Climacteric scale used in the Australian population. Analysis first occurred using the full analytic sample and subsequently for each cultural group separately to explore the relationship between menopausal symptoms and menopausal status in the two groups.

RESULTS

The sociodemographic characteristics are described in Table 1. Significant differences were seen in the ages of the sample, with more Australian women aged 55 years and under ($P < 0.01$). The Japanese women were significantly more likely to be married ($P < 0.001$), with a larger percentage having obtained more than 10 years of formal education compared to their Australian counterparts ($P < 0.001$). More Japanese than Australian women reported working full-time ($P < 0.001$).

Menopausal symptoms

Table 2 summarizes the differences in menopausal symptoms between the Australian and Japanese women. The symptoms heart beating strongly or quickly ($P < 0.001$); feeling tense or nervous ($P < 0.001$); panic attacks ($P < 0.05$); difficulty concentrating ($P < 0.001$); loss of interest in most things ($P < 0.001$); feeling unhappy or depressed ($P < 0.001$); feeling dizzy or faint ($P < 0.001$); parts of body feeling numb or tingling ($P < 0.01$); headaches ($P < 0.01$); and loss of feeling in hands or feet ($P < 0.001$) were all significantly higher in Japanese women when compared with the Australian women. The symptoms of difficulty in sleeping ($P < 0.001$) and sweating at night ($P < 0.001$) were higher in the Australian women. No other symptoms, including crying spells, irritability, hot flushes and loss of interest in sex, showed any significant differences between the two cultural groups.

Women were asked to rate the severity of their menopausal symptoms, from little to extreme. Japanese women reported a significantly higher severity score for the following symptoms: heart beating quickly or strongly ($P < 0.001$); feeling tense or nervous ($P < 0.001$); panic attacks ($P < 0.05$); difficulty concentrating ($P < 0.001$); loss of interest in most things ($P < 0.001$); feeling dizzy or faint ($P < 0.001$); parts of the body feeling numb or tingling ($P < 0.001$); headaches ($P < 0.001$); and loss of feelings in hands or feet ($P < 0.001$). Australian women reported experiencing difficulty sleeping ($P < 0.001$) and sweating at night ($P < 0.001$) in a more severe way than Japanese women.

Factor analysis (Table 3) revealed significant differences in the factor groupings of the symptoms between Japanese and Australian women. The Japanese women exhibited higher scores in the following groupings of symptoms: the psychological factor ($P < 0.001$), including the anxiety factor ($P < 0.001$) and the depression factor ($P < 0.001$), and the somatic factor ($P < 0.001$). The vasomotor factor was higher, however, for the Australian women ($P < 0.01$). The sexuality factor was not significantly different between the Japanese and Australian women.

Exploring these factors further revealed that for the Australian women, anxiety and depression symptoms were significantly associated with each other ($P < 0.001$), with no significant associations seen for any of the other factor groupings. For the Japanese women, the factor analysis revealed significant associations for each of the following groupings; psychological and somatic symptoms ($P < 0.001$), anxiety and depression ($P < 0.001$), somatic and vasomotor symptoms ($P < 0.001$), and psychological and vasomotor symptoms ($P < 0.001$).

Table 3. Relationship between menopausal symptom factor structures in Australian and Japanese women

Symptom group	Australian (mean \pm SD)	Japanese (mean \pm SD)	F	ANOVA	
					P-value
Psychological factor	5.04 \pm 4.23	6.57 \pm 5.03	43.07		$P < 0.001$
Anxiety	3.11 \pm 2.51	3.95 \pm 2.89	39.71		$P < 0.001$
Depression	1.96 \pm 2.10	2.66 \pm 2.49	38.07		$P < 0.001$
Somatic factor	2.82 \pm 2.37	3.96 \pm 2.87	75.04		$P < 0.001$
Vasomotor factor	1.18 \pm 1.52	1.02 \pm 1.20	7.05		$P < 0.01$
Sexuality	1.21 \pm 1.03	1.18 \pm 0.93	NS		

NS, not significant.

Menopausal status

The analysis, which excluded HRT users, found there were significant differences across menopausal status (Table 4) in the following symptoms: difficulty sleeping ($P < 0.01$); difficulty concentrating ($P < 0.01$); feeling dizzy or faint ($P < 0.001$); loss of interest in most things ($P < 0.01$); and loss of feeling in hands or feet ($P < 0.001$). In the postmenopausal stage specifically, significant differences were seen in the areas of feeling tense or nervous ($P < 0.01$); feeling unhappy or depressed ($P < 0.01$); parts of body feeling numb or tingling ($P < 0.05$); headaches ($P < 0.01$); and sweating at night ($P < 0.05$).

Factor analysis revealed the somatic factor was significantly different across all three phases of menopause, including premenopause, perimenopause and postmenopause ($P < 0.001$), with the Japanese women reporting significantly higher somatic symptoms compared to the Australian women. In the perimenopausal phase, Japanese women reported significantly higher symptoms in the psychosocial factor ($P < 0.05$), specifically in increased levels of anxiety ($P < 0.05$). The postmenopausal phase also showed significant differences, with the Japanese women reporting significantly higher symptoms in the psychosocial factor ($P < 0.001$), including anxiety ($P < 0.001$) and depression symptoms ($P < 0.001$), and the somatic factor ($P < 0.001$). No significant differences in symptom groups were seen across the menopausal phases for the vasomotor and sexuality factors.

Table 4. Relationship between menopausal status and symptoms in Australian (A) and Japanese (J) women

Symptom	Premenopause (%)		Perimenopause (%)		Postmenopause (%)	
	A	J	A	J	A	J
Heart beats quickly and strongly	33.9	44.8	32.8	50.8**	36.7	53.2***
Feeling tense or nervous	53.0	63.9	57.7	58.6	58.4	67.9**
Difficulty sleeping	62.8***	40.2	63.4**	43.7	66.7***	46.7
Panic attacks	27.0	24.6	28.7	32.0	28.9	31.1
Difficulty concentrating	63.5	74.2*	57.9	72.0**	56.4	77.1***
Loss of interest in most things	37.7	50.4*	34.1	55.2***	33.5	55.9***
Feeling unhappy or depressed	49.6	52.0	55.0	47.9	45.9	61.0***
Crying spells	35.9	27.6	29.3	23.8	26.6	25.5
Irritability	52.7	47.2	55.4	48.6	58.6	56.3
Feeling dizzy or faint	23.3	59.2***	25.6	56.1***	21.4	56.1***
Parts of body feel numb or tingling	41.7	41.5	32.8	40.3	34.8	42.1*
Headaches	60.0	58.9	52.5	55.1	51.1	61.0**
Muscle and joint pain	74.4	68.0	77.0	72.5	76.8*	70.7
Loss of feeling in hands or feet	23.5	42.3**	20.5	46.8***	23.1	40.8***
Hot flushes	44.8	43.5	41.9	43.8	43.2	46.1
Sweating at night	41.4	31.4	36.9	29.7	34.4*	27.9
Loss of interest in sex	74.8	76.0	71.3	71.3	64.5	70.5

* P -value < 0.05 ; ** P -value < 0.01 ; *** P -value < 0.001 .

Exploring the relationships between the factors showed no significant relationship between menopausal status and the symptom groupings in the Australian women. In the Japanese women, significant relationships were seen across all three phases, with the psychological somatic and vasomotor all significantly related to each other in the premenopausal phase: psychological/somatic ($P < 0.01$); psychological/vasomotor ($P < 0.001$); somatic/vasomotor ($P < 0.001$), and perimenopausal phase: psychological/somatic ($P < 0.05$); psychological/vasomotor ($P < 0.001$); somatic/vasomotor ($P < 0.001$). In the postmenopausal phase, the following significant relationships were seen: psychological/vasomotor ($P < 0.001$) and vasomotor/somatic ($P < 0.01$). There was no significant relationship between the psychological and somatic symptoms.

DISCUSSION

The present study shows some surprising results in the area of Japanese women's menopausal symptoms. Research has previously found that Japanese women do not exhibit many

menopausal symptoms (Lock, 1986; Avis et al., 1993). Our research, however, suggests that Japanese women do experience menopausal symptoms, but the experience of menopause for middle-aged women was different between the Australian and Japanese participants. The Australian women reported experiencing significantly more vasomotor symptoms, such as night sweats and sleeplessness ($P < 0.001$). The Japanese women were more likely to report more psychological and somatic symptoms, such as feeling tense or nervous, having panic attacks, difficulty concentrating and feeling unhappy or depressed ($P < 0.001$). No previous cross-cultural studies of menopausal symptoms between Japanese and Australian women have been conducted. Studies comparing Japanese women with other Western countries such as the USA are very limited, with few detailed studies being conducted to date.

The findings of our study, however, were not consistent with these findings from previous studies which have explored the experience of menopausal symptoms in Japanese women. Lock (1986), who has extensively studied Japanese women's menopausal experience, reported that a small percentage of women from Japan experience depressive symptoms, irritability, hot flushes and night sweats. In a survey of 1141 Japanese women, the symptom reporting was very low, with hot flushes reported to be 9.5% (Lock, 1986); 36% less than the reported incidence in this study. Findings from Avis et al. (1993), who explored cross-cultural differences between Japanese, American and Canadian women, found that the rates of almost every symptom were lower in Japanese women than in their American and Canadian counterparts. Recent studies (Punyahotra et al., 1997), however, did find considerable variations in menopausal symptom reporting among women from Thailand. Boulet et al. (1994) also found considerable differences in menopausal symptom reporting in women from seven South-East Asian countries. These two later studies support the findings from this research.

The current paper sought to determine the differences in the factor structure of menopausal symptoms between Australian and Japanese women. The results of the analysis reported do not support a single syndrome consisting of menopausal symptoms. Across the two cultural groups, the factor structures were different, with the psychological and somatic mean symptom scores significantly higher in the Japanese women ($P < 0.001$), whereas the vasomotor mean symptom score was significantly higher in the Australian women ($P < 0.01$). The findings for the Australian women are supported by previous studies which have shown that Western women are more likely to experience vasomotor symptoms than women from Asian countries (Lock, 1986; Avis et al., 1993, 1994). An interesting finding from the research was that the sexuality factor was not significantly different between Japanese and Australian women. Debate has occurred about the significance of loss of sexual interest during menopause, with research (Dennerstein et al., 1993) reporting that the decrease in sexual interest was significantly associated with the way the woman felt about her sexual partner rather than her menopausal status. Further research exploring this issue might help to examine this finding more closely.

The higher psychological and somatic symptom reporting in the Japanese women is not consistent with previous studies in the area (Lock, 1986; Avis et al., 1993). The variations in this study might be related to the changes in the status of women and lifestyle over the past decade in Japanese women living in Japan. The role of Japanese women is changing very quickly and there is pressure for women to maintain their traditional cultural role as well as going forward in the modern world. Our study showed that Australian women experienced fewer psychological symptoms than Japanese women, and might suggest that Australian women have a higher self-esteem and are more accepting of menopause than Japanese women. It is important that future research explores these issues further.

The results of the research revealed differences in the associations of symptoms between the Japanese and Australian women. In both groups, anxiety and depression were positively associated with each other (Australian: $T = 8.82$, $P < 0.001$; Japanese: $T = 11.51$). In the Japanese women, psychological symptoms were associated negatively with the somatic symptoms ($T = 3.85$, $P < 0.001$) and positively with the vasomotor symptoms ($T = 8.65$, $P < 0.001$), whereas there were no associations for the Australian women. No associations were seen with the Australian women in the symptom grouping of somatic and vasomotor symptoms. In the Japanese women, somatic symptoms were positively associated with vasomotor symptoms ($T = 10.98$, $P < 0.001$).

The present study has revealed a relationship between menopausal status and menopausal symptoms. The pre and perimenopausal stages showed less significant differences, with women tending to have more similar experiences. In the postmenopausal stage, however, significant differences were seen in many of the symptoms, which suggests that the postmenopausal experience for Australian and Japanese women might be quite different and does refute the concept of a universal menopausal syndrome. This finding supports conclusions from recent studies conducted by Avis et al. (2001, 1994), who explored the menopausal experience of racial/ethnic groups living in the USA and concluded that their results argued against a universal menopausal syndrome consisting of a variety of vasomotor and psychological symptoms.

There were some limitations in our study design which might have influenced the reporting of menopausal symptoms. Different measures were used in the original survey instrument between the Japanese and Australian women which may have influenced the findings. The authors are currently conducting research using the same measuring instrument on Japanese and Australian women to overcome this limitation. Despite these limitations, the strengths of this study lie in the community based sample, the large size and the coordinated research input from researchers living in both countries. This has helped to ensure that meanings and constructs are not lost in the translations from English to Japanese and back again.

In summary, the findings from the present study contribute significantly towards filling the gaps in knowledge about the way Japanese and Australian middle-aged women experience menopausal symptoms. The finding that the type and number of symptoms vary with race suggests that a multifaceted relationship between physiological and psychological changes occurs during menopause. The data presented refutes previous assumptions about the menopausal symptoms experienced by Japanese women and raises important issues about cross-cultural differences in the menopause experience for women from Japan and Australia. This study's findings are important and indicate cultural factors might influence the experience of menopausal symptoms for women, therefore contributing to the knowledge required by health professionals and the women themselves, about culture and menopause.

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