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# Menopause Across Cultures: A Review of the Evidence

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**ABSTRACT**

***Objective:*** To review the cross-cultural evidence on menopausal symptoms to assess the extent of variability in symptomatology and the relative weight of hormonal and social factors.

***Design:*** Literature review and critical summaries of available studies.

***Results:*** Symptoms related to menopause are found in all regions of the world, although everywhere large proportions of women go through menopause uneventfully. The evidence does not support that women in developing countries report fewer symptoms than in industrialized countries. There is a great diversity in symptom frequencies across countries, and the association of symptoms with menopausal status is weak. A number of symptoms thought to be part of menopause are in fact not specific to it, although the evidence does support the narrow estrogen hypothesis of a core of symptoms associated with estrogen decline, namely vasomotor and vaginal symptoms.

***Conclusions:*** The association between hormonal changes and menopause symptomatology is complex and mediated by sociocultural factors. (*Menopause* 2000;7:184–192. © 2000, The North American Menopause Society.)

***Key Words:*** Cross-cultural variations – Hot flash – Menopausal symptoms – Mental/emotional symptoms – Sexuality – Social factors.

During the past few decades, medical approaches to managing the symptoms of menopause and the risks associated with it have spread to many parts of the world, and there has been a concomitant increase in the number of studies seeking to assess the burden of ill health that menopause represents in different countries. From a comparative perspective, a central question is whether menopause is everywhere associated with similar physical and mental manifestations or cross-cultural variations are so wide as to confound attempts to define it as a unified set of conditions.

This question has elicited a good deal of debate, and much of the literature on the definition of menopause seems to be polarized along two positions that usually reflect the disciplinary background of those who hold to them. The first is a predominantly medical view that menopause is a condition resulting from estrogen deficiency, associated with ill health for the majority of women, and manifested in symptoms that are largely similar in all cultures because they are biologically determined. The second view, frequently held by social scientists, emphasizes the social construction of menopause, arguing that most women go through this transition uneventfully and that the health changes associated with it are a function of aging rather than of hormonal changes. These positions have implications for the management of menopause, with the former calling for medical treatment to compensate for the loss of estrogen and the latter for lifestyle adjustments only, on the grounds that the demand for medications is driven by false expectations about women and the aging process.

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## DIVERSITY OF SYMPTOMATOLOGY

Comparisons of the symptomatology of menopause across cultures are a crucial element in these debates. If menopause is largely similar across cultures, then it is likely, at least in part, related to physiological changes common to women everywhere; if, however, the correlates of menopause vary widely depending on context, then physiological changes would seem to play a relatively minor role compared with the social forces that shape attitudes and expectations related to this phase of

life. This article reviews the evidence pertaining to the following two questions:

1. Is menopause everywhere associated with similar physical manifestations and mental states? What proportions of women experience various menopausal symptoms in different contexts?
2. Are variations in menopausal symptoms across cultures compatible with the notion of a single, biologically determined condition, or are they so large that we may not be dealing with a well-defined entity?

Several points must be borne in mind when pondering the issue of how menopause is to be defined in light of its symptomatology in different contexts. First, the numbers simply do not speak for themselves, because they come from disparate studies that are not readily comparable and that vary a great deal in terms of quality. Thus, judgment must be exercised regarding the weight that is given to the results of the different studies, and the summary findings of this review represent less final results than statements to be refined through further research.

Second, although the summaries that are provided in this article follow the conventional categories of symptoms used in most menopause research, standardized symptom lists have certain limitations as instruments for cross-cultural research. Because they originate from primarily clinical research in industrialized countries, symptom lists may not be adequate to capture the experiences of women everywhere, especially when they are administered without sufficient attention to their relevance to the reality of women's lives.[1] In addition, symptom checklists emerge from a medical tradition that seeks to objectify physical and mental states, and they do not incorporate women's own assessments of these states—at best, some studies ask women to give a categorical response indicating whether a given symptom is bothersome. Yet the question of subjective evaluation is key to all research on morbidity. In the case of menopause, it in turns raises a set of issues regarding the role of expectations in influencing how symptoms are tolerated and the role of cultural norms related to aging, gender, and health in defining these expectations.

Third, this review of the evidence seeks a balance between two extreme positions—that menopause is a biologically determined estrogen-deficiency disease and that it is entirely socially constructed. The approach here is multidisciplinary and seeks to integrate the biological and cultural dimensions of menopause. Because the phenomenon under consideration is multidimensional and reflects changes in both physiology and social circumstances, understanding it requires a degree of familiarity with both medical and cultural perspectives. Thus, this review is informed on the one hand by medical and epidemiological studies of menopausal symptoms and their treatment and determinants and on the other hand by research on the meaning of the menopause transition across cultures. It first surveys the available evidence as a whole, then examines the results of studies dealing with three major sets of symptoms: hot flashes, sexual function, and emotional/mental health.

## DATA AND METHODS

Two types of research are relevant to the question of whether menopause constitutes a uniform set of symptoms related to the decline of estrogen and is invariant across cultures: (1) medical investigations of the pathways linking lower estrogen to specific physical or mental manifestations and (2) survey or field research to measure the occurrence of symptoms in different places and their association with various factors.

There is a long tradition of medical research on the effect of hormones on the physical and mental symptoms believed to be associated with the cessation of menses, and in recent years, a growing number of studies have contributed to clarifying the association between hormone levels and various physiological and mental manifestations such as hot flashes, the atrophy of vaginal tissue, and memory function. It is usually assumed that these associations, because they are physiological, hold across cultures in exactly the same manner.

There are, however, several strands of puzzling evidence suggesting that this assumption is not always justified and that research ought to pose it as a question and compare the extent to which the associations among the physiological processes involved hold in different populations. Among these perplexing findings is the widely known study of osteoporosis in the Yucatan peninsula, showing that even though Mayan women had the expected hormone levels and the reduction in bone density, they did not seem to be at risk for bone fractures like their U.S. peers.[2,3] Another piece of evidence comes from medical research indicating that the experience of the hot flash is not necessarily correlated to objectively measured changes in body temperature.[4–6] Ethnographic research documenting cultural differences in body changes, including pain,[7–9] supports the claim that menopausal symptoms are not experienced in the same manner everywhere. Research on responses to pharmaceuticals also shows considerable variations across cultures,[10–13] and data from pharmacoepidemiological studies indicate that reports of the side effects of the same medication vary a great deal across countries (A. Walker, personal communication, January 1999). Thus,

differences in women's reports of symptoms may result from innate biophysiological differences among populations, from environmental factors such as diet and exercise, or from the experience of bodily states in different cultures. In any case, such evidence suggests that we should not generalize immediately from medical research in one context to the other, and we are in need of more systematic comparative medical research on the symptomatology of menopause that would incorporate respondents' perceptions and assessments.

In recent years, there has been a rapid increase in the number of studies on the symptomatology of menopause at the level of the community in different countries, in contrast with earlier studies that were limited to clinical populations primarily in industrialized countries. In preparing this review, the results of nearly 100 such studies were compiled, as they pertain to reported frequencies of approximately 10 symptoms believed to be part of a possible menopause syndrome. Although it would be theoretically feasible (if cumbersome) to provide a detailed summary of these numbers, this review focuses less on the specific frequencies of symptoms and more on the general patterns that can be discerned about variations and their possible determinants and implications for the question of the role of culture. This article examines the evidence on three major sets of symptoms: hot flashes, sexual symptoms, and emotional/mental symptoms.

It is important to note that many of the differences that are found among the different studies are artifactual and reflect methodological differences.[14,15] Even comparisons of the age at menopause in different countries, which seem at first to suggest an earlier age at menopause ranging from 43.5 to 49.5 years in developing countries compared with 49.3–51.4 years in industrialized countries, suffer from methodological limitations. These apparent differences can be explained in large part by the fact that most analyses in the former calculate means on the basis of reported age at menopause, a method that tends to underestimate menopausal age because reports are collected from menopausal women only.[16–20] By contrast, studies in the latter are more accurate because they use data on current menopausal status and are based on logit or survival analyses.[21–24] Where current status and logit analyses have been used in developing countries, median ages have been within the range for industrialized nations.[25–28]

Our ability to compare symptomatology across studies is severely limited by the lack of standardization in definitions of symptoms and by differences in the types of information that are collected and reported—for example, whether information is limited to the simple occurrence of a given symptom or includes how bothersome it is, how frequently it is experienced, and over which specified reference period. There are also considerable differences in the methods of data collection, in particular whether reports are obtained through written questionnaires or interviews. Most important, the sampling frames and inclusion criteria used to select respondents in most studies do not produce representative results, especially when samples of convenience are used. Although it is true that the process of medicalization tends, in many contexts, to blur differences between clinical samples and those drawn from general populations,[13] it is frequently misleading to draw inferences about symptoms on the basis of data from clinical populations, as many studies do. As a result, a large part of the differences we observe in symptom frequencies may simply reflect such differences in methodology.

Not all of the variations in symptomatology are artifactual, however. We do have evidence from several studies that have been carried out by the same team of researchers or that have been coordinated to use similar methods. Among these are the comparison of Manitoba, Japan, and Massachusetts, carried out by Kaufert, Lock, and the team of the New England Research Institute[22,29–31]; the International Health Foundation study in seven Asian countries[32]; and some comparative studies of selected pairs of populations—Greece/Guatemala,[33] Anglo/Latinos.[34] The evidence that these studies provide is of greater quality and is more likely to reflect true differences.

One last point should be noted regarding the available epidemiological evidence: Most studies are cross-sectional and do not make it possible to ascertain temporal associations between menopause and symptoms. Longitudinal studies are rare because of difficulties of logistics and costs, but only such studies can establish that menopause—whether it is defined as the cessation of menses or as changes in hormone levels—in fact preceded the symptom of interest and hence may have been the reason for its occurrence.

The large number of sources on symptomatology makes it necessary to summarize findings to discern patterns beyond the numerous details. In the following discussion, information is summarized at the level of regions, even though regions are less-than-perfect units of analysis, because they lump together countries that are sometimes heterogeneous; even within countries, there are frequently large differences among groups. Such broad comparisons, however, are useful as a first step in considering broad patterns in cross-cultural variations.

## RESULTS

### Menopause and Hot Flashes

Comparisons of frequencies of hot flashes across countries show considerable differences, but several major

findings stand out. The first—and most widely known—is the now classic contrast between the relatively high frequency in North America—35 and 31% in the United States and Canada, respectively—and the low frequency (12%) in Japan.[22,29,31] This finding has been replicated in other studies of the United States that have also found high proportions of women reporting hot flashes—some as high as three quarters[35–37]—and in studies of European countries that have found proportions of one fifth to one third.[38–41] A number of studies in Asian countries have similarly found low rates: 10–20% in Hong Kong, India, Indonesia, and Thailand,[32,42–45] with one study in Thailand finding a rate of 6%[27] and another claiming that hot flashes are unknown among some groups in India.[46] Figure 1 presents a graphic summary of these comparisons.

It is possible, as these numbers suggest, that the frequencies of hot flashes are truly lower in Asia and that this is in part attributable to dietary factors, because there is good evidence that phytoestrogens, which are consumed in these countries, contribute to decreasing some of the vasomotor symptoms of reduced estrogen. But it should also be mentioned that other studies in Asian countries have not consistently documented such low frequencies of hot flashes. In some countries, such as Thailand, frequencies closer to European levels have been found[47]; the International Health Foundation studies of Korea, Malaysia, and the Philippines found proportions of approximately one third of women complaining of hot flashes,[32] and one study in Pakistan[48] found that although women of the lower strata had low frequencies of hot flashes, among women of the upper strata, the proportion was as high as one half. These findings underscore the pitfalls of facile generalizations about regions and even about countries.

Among the recurrent findings of comparative studies of the hot flash is that everywhere, women who are menopausal as a result of surgery, as well as very thin women with low body mass index, have more severe symptoms; in addition, although most studies find that the perimenopause is the worse time for the hot flash, there is not a one-to-one correlation between menopausal status and the frequency of hot flashes, and consistent associations have not been documented with reproductive history and sociodemographic variables.[4,22,29,49–54]

Overall, the comparative statistics show that hot flashes are neither absent nor substantially lower among developing countries: as Figure 1 shows, percentages of 30%, 50%, and 80% are found in Nigeria, Ghana, and Tanzania, respectively.[18,19,54] Proportions of one third to one half are found in countries of the Arab world,[20,55] with a high of 74% in Turkey.[56] Such frequencies do not support the claim that women in the developing world welcome aging and are asymptomatic. There have been some puzzling reports of populations in which hot flashes are completely unknown, such as the Maya of Yucatan and the Rajput of India, but we still do not have good answers to two important questions that relate to the link between culture and symptoms: (1) In societies in which women do not report hot flashes, are these symptoms truly absent or are they perceived differently?[4] (2) Although it has been shown that women can manifest peripheral temperature changes without feeling hot flashes, why does the threshold differ so considerably across populations?[6]

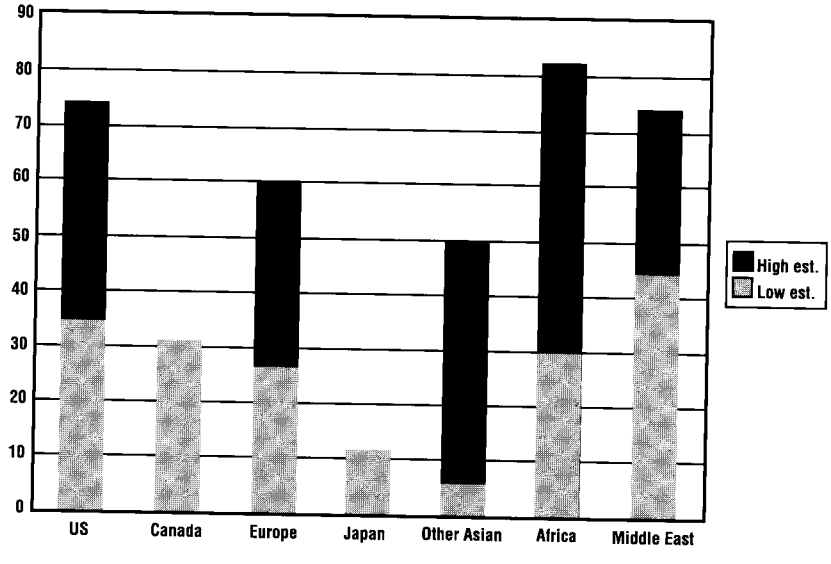


**FIG. 1.** Reported frequencies of hot flashes (%). United States,[29,30,35–37] Canada,[29,30] Europe,[38–41,63] Japan,[29,31] Other Asian,[27,32,42–45,47,48,50,52,58,61,62] Africa,[18,19,54] Middle East.[20,55,56]

To make progress in addressing these questions, we need both comparative medical studies and research that would give closer attention to prevalent notions of bodily functioning (what anthropologists refer to as ethnophysiology) and the extent to which these notions are associated with different expectations, perceptions, and attitudes regarding symptoms. Ethnographic studies have provided some clues indicating that cultural norms and expectations may shape the perception and recognition of hot flashes and their prevalence. For example, in rural Greece, hot flashes are seen as a means whereby the body rids itself of harmful vapors, and they are therefore construed as beneficial episodes[33]; in Wales, they are thought to facilitate the transition to the postreproductive years[57]; in parts of Thailand, they are taken as a sign that the woman is attaining a purer stage of life and spirituality.[58] We also have the phrase that was coined by Western feminists to subvert prevalent negative views of hot flashes and redefine them as a positive experience, referring to them as "power surges." Understanding how such ideas may affect bodily states calls for a rigorous combination of epidemiological measures of symptoms and field research on menopause in the context of women's lives.

**Menopause and Sexual Function**

Menopause generally is believed to mark the end of sexual activity for women; in industrialized countries, they lose their femininity and enter into a somewhat undifferentiated social category, whereas in developing countries, they can, as asexual objects, interact with men in public and have a say in matters both in the household and outside it. The medical version emphasizes the association of declining estrogen with painful intercourse, atrophy of the external genital organs, and loss of interest in sex. Research on sexual activity in the middle and later years has recently shown that these notions were not completely accurate and that the majority of women continue to be sexually active during menopause and beyond. The statistic from the PEPI trials[59] that two thirds of menopausal women in the United States continue to function sexually (as measured by desire, arousal, and satisfaction) provides a reasonable estimate of the proportions that we might expect to find in other countries and is similar to the figure recently found in Lebanon.[55]

Figures on indicators of sexual function across countries are not as abundant as those dealing with hot flashes, but a recent review by the World Health Organization[60] found that among clinical populations, the frequency of dyspareunia was approximately 10%, which is consistent with the results of community-level studies in Asian countries—approximately 6% in Hong Kong, Malaysia, and Singapore; 10–11% in the Philippines, Thailand, and Taiwan; and 17–20% in Korea and Indonesia.[32,47,61,62] In studies of European countries, the frequencies are a little higher, in the range of 20–40%.[38,39,41,63,64] Some of these differences are attributable to the different definitions used, as reports of dyspareunia are substantially lower than reports of general vaginal discomfort, found to be approximately 40% in one U.S. study[65] and as high as 80% in Kuwait[66] and Thailand.[42] The recent finding that one third of women in the United States experience sexual problems[59] is consistent with other studies in the United States and Europe showing that 25–50% experience sexual problems and loss of interest.

Some researchers have attributed an increase in urinary problems to the cessation of ovarian activity, and, indeed, a number of studies show that incontinence, micturition, and dysuria are reported by approximately one fourth of women. However, a summary of evidence on this point carried out by the World Health Organization[60] suggests that urinary symptoms are unlikely to be directly related to hormone levels because they do not seem to be relieved by the administration of estrogen. This is in contrast with dyspareunia and vaginal dryness, which are responsive to hormone therapy.

Several patterns emerge from studies that have investigated the determinants of changes in sexual function around menopause.[59,65,67–69] First, although many studies do show a decline in interest in and capacity for sex at the time of menopause,[49,66,67] others have failed to find statistical associations between menopausal status and the decline in sexual interest and function.[68,69] Second, there are indications that much of what happens to sexual function at the time of menopause is associated with current health and activity level, as well as with factors operating before menopause, including sexual adjustment in the premenopausal years and anticipation of decline.[65,67] Third, social factors surrounding marital relations are key, and where sexual function declines, partner factors as well as psychological and marital problems are frequently the most important reasons.[59,66,69] In other words, research is showing that multiple social factors influence sexual function and, therefore, that further work should shift from narrow questions related to specific symptoms to a broader approach to sexual function in the context of women's lives.

Last, it is possible that the notion of healthy sexuality through life is a culturally specific rather than a universal ideal and that not all cultures share it to the same degree. There are indications that in some societies, women think of midlife as a phase of life when they can devote themselves to spiritual or religious pursuits and attach less importance to their own or their partner's

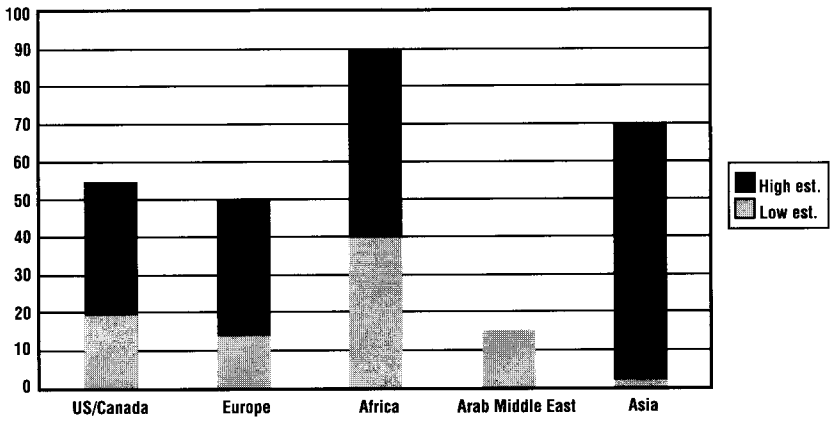


**FIG. 2.** Reported frequencies of depression (%). United States and Canada,[30,35,36] Europe,[39–41,64] Africa,[18,19,54] Middle East,[55] Asia.[27,31,32,42,44,45,47,48,52,62,72]

bodily satisfaction[44,58,70,71]; (in the Muslim world, midlife is the time when many women fulfill the religious recommendation of making the pilgrimage [*hajj*] to Mecca). In view of this, it would be useful to take account of such preferences in assessing the impact of menopause on women's sex lives.

### Menopause and Emotional/Mental Health

Prevalent ideas about menopause associate it with emotional upheavals related to changes in hormones and with greater risks for depression and anxiety. Although such gross misconceptions as were behind the notion of involutional melancholia—a depressive psychosis attributed to hormonal changes, which was deleted from medical classifications in 1979 after no evidence was found to support its existence[6]—are not so prevalent today, a good deal of the research on the emotional/mental correlates of menopause tends to be conceptually and methodologically naïve. Most studies do not clearly differentiate between clinical diagnoses (e.g., of depression); therefore, symptoms as reported by women (e.g., depressive symptoms such as feeling sad) and their results are difficult to compare.

One of the major problems is that the translation of concepts related to mental and emotional states is even more difficult than for bodily states, yet many studies simply ask about mental and emotional states without sufficiently investing in the development of appropriate instruments. This makes it very hard to interpret results, but it is obvious that where the near totality of women in a sample reportedly experience depression (e.g., 92% in one study of Tanzania[54]), this is more likely to reflect the instruments and the methods of the study rather than truly high frequencies of depression.

In general, rates of depression among menopausal women are between 20 and 60% in the United States,[29,36,72] between 10 and 50% in Europe,[39–41,64] and substantially lower in Japan.[31] Other parts of the world show wide ranges in the frequencies found: between one fifth and one third in Hong Kong, Korea, Malaysia, the Philippines, and Singapore[32]; lower percentages in Indonesia, Thailand,[27,32,44] and Lebanon[55]; higher percentages in Africa, although the symptoms seem to have been defined somewhat less specifically.[18,19,54] Studies that have collected women's reports about anxiety, irritability, and nervousness have found similar, though somewhat higher, frequency ranges. Figure 2 summarizes these results.

On the basis of a few rigorous studies of mental health during menopause that have used validated instruments and assessed the role of social factors,[49,65,73–75] we can say the following. First, previous mental health status and general health are the most powerful predictors of mental health during menopause. Second, as was found for other symptoms, the association between menopausal status and mental/emotional health symptoms is weak. Third, although the life changes of midlife do affect women, they do not cause mental/emotional problems, and studies of this association do not provide much support for the so-called role loss hypothesis. A major problem in the study of the emotional and mental correlates of menopause is establishing the temporal sequence, and current research is attempting to address it by designing longitudinal studies that would collect baseline data on both menstrual status and mental health, follow women over time, and assess changes in both of these indicators to establish whether hormonal changes in fact precede and hence may cause emotional problems.

## DISCUSSION

### Cross-Cultural Variations and the Narrow Estrogen Hypothesis

What are the implications of these results for the questions posed at the beginning of this article regarding the

burden of menopause across cultures and the extent of variations in the definition of menopause? It is clear that the available data, though abundant, suffer from methodological problems that limit our ability to give clear answers to the question. We can say, however, that symptoms related to menopause are found nearly everywhere, though it is true that in most of the world, large proportions of women go through menopause uneventfully.

It has been argued that women in some contexts are asymptomatic because they are positively disposed to menopause, which is thought to be associated with increased freedom as well as greater power in the household or community. Although there is some truth to this and although it is clear from ethnographic research that the construct of aging varies widely, we should be mindful of the ambivalence that is likely to characterize the construct of aging in general and menopause in particular in all societies. For example, in industrialized countries, there are contradictions between the values of gaining independence after children leave home and the loneliness that may accompany the menopausal years. In Arab countries, the term used in classical Arabic language for menopause is *sinn al ya's* (the age of despair), and although many women do try to delay this phase of life, others feel a certain relief at entering a time when they need not worry about unwanted pregnancy and can gain greater power in the household and beyond. Ethnographies of menopause provide ample evidence of such ambivalence.[33,76-79] They show that all cultures attach both positive and negative meanings to aging and menopause and suggest that complex negotiations mark the menopause transition everywhere.

The considerable variations in symptom frequencies by region cannot all be dismissed as artifactual, and they indicate that both the social circumstances of the menopause transition and prevalent notions of physical and mental processes play a role in the experience and frequency of symptoms. The diversity in the experience of menopause is apparent not only from the frequencies of symptoms that we reviewed but also from the importance given to symptoms and their relative rankings. For example, the principal complaint for Japanese women is shoulder stiffness[31]; in Taiwan, it is backache and tiredness[80]; in Lebanon, it is fatigue and irritability[55]; and in many countries, fatigue is the most frequently reported symptom. The priorities that are given to particular symptoms underscore both the diversity in local definitions of menopausal symptoms and the importance of carrying out pilot studies to develop and test instruments aimed at developing contextually appropriate symptom lists and at reformulating research questions in light of local realities.

A number of symptoms that are thought to be part of the menopause transition are in fact not specific to it but reflect changes in health associated with aging in general. This is supported by the recurrent finding that the correlation between symptoms and menopausal status is weak. This indicates that the association between hormonal changes and symptomatology is complex and that it is mediated by sociocultural factors that may at times play a more important role than hormonal changes. Of particular interest here is a study that compared symptom frequencies among men and women in the Netherlands and analyzed the sex ratios of various complaints (dizziness, headache, tiredness, nervousness, aggression, irritability, incontinence, joint pains, perspiration, palpitations, insomnia, and listlessness). A striking finding of the study is that only hot flashes and nights sweats showed sex ratios that were consistent with an increase related to the menopausal years.[81] Those complaints for which men and women do not differ are not likely to be related to hormonal changes. The fact that hot flashes and night sweats were different supports the so-called narrow hypothesis of the effect of estrogen decline. This hypothesis holds that there is a core of symptoms that result from the decrease in the production of estrogen and that this core includes vasomotor and vaginal symptoms. The narrow estrogen hypothesis is also consistent with factor analyses of symptom frequencies, which have shown that "vasomotor" and "genital" were factors around which symptoms clustered in several studies.[82,83]

Last, although cultural particularisms continue to shape the experience of menopause in different contexts, global forces that may contribute to greater similarities around the world are also at work. Of particular importance is the process of medicalization, the shift in the definition of menopause from a natural phase of life to a bodily change that can be managed medically, and the availability of therapies for that purpose. Medicalization has proceeded at a very uneven pace in different parts of the world, and increasingly, in a number of countries, relatively privileged groups of women who are attuned to the models of biomedicine and have access to health services consider the possibility of taking medications for the relief of symptoms and the reduction of health risks, whereas their peers from the more disadvantaged segments of society see menopause as an inevitable part of the process of aging. Differences in information and awareness of medical alternatives are likely to influence the tolerance of symptoms and the perception of bodily changes; thus, medicalization may lead to a degree of similarity across and, at the same time, greater differences within countries.

## CONCLUSION

This review has shown that although there are considerable variations in the symptomatology of menopause across cultures, certain patterns can be discerned. The lack of an unequivocal association between menopausal status and symptomatology underscores both possible physiological variability in the changes related to aging and the role of social factors in shaping the experience of symptoms. At the same time, however, the evidence suggests that there may be a core of symptoms that are found with a degree of consistency (though not uniformly) across cultures and that these may be related to hormonal changes that may be common to women everywhere. Further research combining rigorous epidemiological methods with ethnographic field research can contribute to clarifying the interplay of the biological and cultural factors in the manifestations of menopause across cultures.

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