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A Situation-specific Theory of Asian Immigrant Women's Menopausal Symptom Experience in the U.S.

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Abstract

In this paper, a situation-specific theory that explains the menopausal symptom experiences of Asian immigrant women in the U.S. is presented. Using an integrative approach, the theory was developed based on the transition theory, a review of the relevant literature, and a study on Asian immigrant women's menopausal symptom experiences in the U.S. The proposed theory includes transition conditions, patterns of response, and nursing therapeutics as major concepts and explains the relationships among these major concepts. This theory should be further validated and developed in intervention studies and nursing practice with this specific population.

Keywords

Situation-specific theory; midlife women; Asian; immigrant; menopausal symptom experience

Despite the increasing numbers of Asian immigrants in the U.S., very few studies have been conducted on their menopausal symptom experiences.^{1, 2} Rather, based on the findings of earlier studies of Asians in their countries of origin (e.g., Japanese in Japan, Taiwanese in Taiwan, etc.),^{3–6} researchers have often taken for granted that Asian immigrant women in the U.S. rarely experience menopausal symptoms, especially hot flashes, and have sometimes stereotyped Asian immigrant women as seldom requiring management strategies for menopausal symptoms. However, very few studies have been conducted on the incidence and prevalence of menopausal symptoms in Asian immigrant women in the U.S. and very little is known about their menopausal symptom experiences.^{1, 2} Furthermore, the few studies that have explored menopausal symptoms in Asian immigrant women in the U.S. reported inconsistent findings. Some reported that Asian immigrant women had fewer and less serious menopausal symptoms than those from other ethnic groups,¹ whereas others reported that Asian immigrant women had a similar rate and seriousness of menopausal symptoms as Whites.²

In addition to the low number of studies on Asian immigrant women's menopausal symptom experiences that reported inconsistent findings, very few theories have been developed to explain the experiences.^{7–9} In extensive searches of multiple databases, including PubMed,

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PsycInfo, and the Cumulative Index to Nursing and Allied Health Literature (CINAHL), using the keyword combinations 'Asian, menopause, and theory,' 'Asian, menopause, and model,' and 'Asian, menopause, and concept,' no articles on conceptual models or theories were identified. Replacing the keyword 'Asian' with 'Chinese,' 'Filipino,' 'Asian Indian,' 'Korean,' or 'Japanese,' three articles on conceptual models or theories were retrieved.⁷⁻⁹ Two of these^{8,9} were limited to Korean immigrant women in menopausal transition, and the remaining paper⁷ applied to midlife women generally. Therefore, it is obvious that there exist very few theories⁷⁻⁹ or models, including situation specific theories, that can specifically explain Asian immigrant women's menopausal symptom experiences. Without an appropriate guiding theory, nursing research and practice with Asian immigrant women experiencing menopausal symptoms cannot be appropriately and adequately conducted or provided. Thus, there is a definite need for development of theories that can sufficiently explain menopausal symptom experiences of Asian immigrant women in the U.S.

When considering the limited scope of the topic and population, a situation specific theory would be more applicable than grand or mid-range theories to explain the menopausal symptom experiences of Asian immigrant women. Thus, an effort to develop a situation-specific theory of Asian immigrant women's menopausal symptom experiences in the U.S. (called the AIMS theory) has been made. The purpose of this paper is to present the AIMS theory with its development process. In this paper, the term Asian immigrant women refers to immigrant women having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.¹⁰ I make the assumption that Asian immigrant women can be defined as one cultural group for this theoretical development. However, because of the obvious sub-ethnic diversity among Asian immigrant women, a post-modern conceptual dilemma arises about how specifically this diversity should be approached and how far the findings can be generalized. Here, for the simplicity of the theoretical work, I take the position that Asian immigrant women are one cultural group, which may limit the use of the AIMS theory.

Because the AIMS theory was derived from a mid-range transition theory, it is a situation-specific theory. The situation-specific theory presented here narrows the scope of this mid-range transition theory to specifically explain the menopausal symptom experiences of Asian immigrant women in the U.S. It does so by using multiple sources, including the mid-range theory, the current literature, and empirical research evidence. In this paper, the definitions in this theoretical work are described first. Then the methods used to develop the situation-specific theory are described with the steps and sources used to develop the AIMS theory. Finally, the resulting AIMS theory is presented with supporting evidence.

DEFINITIONS

In this theoretical work, the following definitions were used. First, I adopted the definitions for menopausal transition used in the Stages of Reproductive Aging Workshop revision.¹¹ Thus, menopause refers to the anchor point that is defined after 12 months of amenorrhea following the final menstrual period, which reflects a near complete but natural decrease in ovarian hormone secretion.¹¹ Menopause is classified as either natural or surgical.¹¹ Natural menopause is the permanent cessation of menstruation, resulting from the loss of ovarian follicular activity (recognized to have occurred after 12 consecutive months of amenorrhea), for which there is no other obvious pathological or physiological cause.¹¹ Surgical menopause is the cessation of menstruation, resulting from removal of the uterus with or without bilateral oophorectomy.¹¹ The menopausal transition is defined as the period that begins with the onset of irregularity in the length of the menstrual cycle in a woman who has had a monotropic FSH rise and ends with the final menstrual period.¹¹

In this theoretical work, I used the same stages of menopause explained in the Study of Women's Health Across the Nation study.¹² The SWAN is a multi-site longitudinal and epidemiologic study designed to examine the health of women during their middle years and is the first national study in the U.S., which focused on ethnic differences in menopausal transition experience. The study examines the physical, biological, psychological and social changes during this transitional period. According to the stages used in the SWAN, women who have reported menses in the previous 3 months with no increase in irregularity are categorized as pre-menopausal.¹² Women who have had menstrual bleeding in the previous 3 months, but who experienced increasing irregularity in cycle length over the past year, are categorized as early peri-menopausal.¹² Women with menses in the previous 12 months, but not in the previous 3 months, are categorized late peri-menopausal.¹² Women who have had no menstrual bleeding in the previous 12 months (not due to medication, pregnancy, or severe weight loss) are categorized as post-menopausal.¹² In addition, I defined the menopausal symptom experiences as the subjective experiences that reflect changes in a person's bio-psycho-social function, sensation, and cognition during the menopausal transition.¹³

In this theoretical work, culture is defined as the non-physical traits such as values, beliefs, attitudes, and customs that are shared by a group of people and are passed from one generation to the next.¹⁴ Ethnicity is defined as a cultural group's sense of identity associated with their common social and cultural heritage,¹⁴ and sub-ethnicity is the sense of identity associated with a sub-group of an ethnic group defined by regional, tribal, or dialectic backgrounds.¹⁵ For example, "Asian" is an ethnic group; "Korean" is a sub-ethnic group of Asians.

METHODS

To develop the AIMS theory, the integrative approach by Im¹⁶ was used. The approach includes four steps: (a) checking the assumptions of the developing theory, (b) exploring multiple sources of information, (c) theorizing, and (d) reporting, sharing, and validating. These steps were followed in the development of the AIMS theory. Therefore, first, the assumptions of the developing theory were made; these assumptions are summarized in Table 1. I assumed that diversities and complexities exist within the phenomenon. I also assumed that the theory development process is cyclical, evolutionary, and occurs in specific sociopolitical contexts; in other words, the AIMS theory is not necessarily applicable to any other historical moment, social structure, or political situation. Then, I assumed that the historically inadequate management of menopausal symptoms reported by Asian immigrant women stem not only from biology, but from women's continuous interactions with their environment,¹⁷ as well as from biases that reflect the ways that they and their health care providers view the world.¹⁷ For example, when a Korean immigrant woman reports a symptom, she may minimize its effects or severity on her life because her culture views menopausal symptoms as normal and she assumes that they are part of the natural aging process.¹⁸ Thus, a health care provider who has been trained in Western medicine may think that the woman does not need management strategies for her symptoms, resulting in inadequate management of her menopausal symptoms. Finally, I assumed that the menopausal symptom experience is influenced by ethnicity, and thus significantly interacts with gender, race, and class to structure relationships among individuals.¹⁹

The major concepts of the AIMS theory, then, were developed by exploring the phenomenon through multiple sources: transition theory, an integrative literature review, and the findings from a research study. First, the transition theory by Meleis and her colleagues²⁰ was used as a source for developing the AIMS theory. The transition theory is a mid-range theory that was developed through a series of theoretical works related to transitions, an integrative literature review, and five research studies. To develop the AIMS theory from this mid-range transition theory, both inductive and deductive reasoning was used. The mid-range transition theory was

chosen for this theoretical work because the menopausal symptom experience of Asian immigrant women is linked to the health/illness and developmental transition that they experience as a result of their menopausal transition. Generally, the menopausal symptom experience has a specific beginning with certain physical and psychological changes and progresses throughout the menopausal transition. For some women, yet, menopausal symptom experiences may not influence their life at all, depending on the severity of the symptoms and the women's attitudes toward the symptoms. In addition, their menopausal symptoms experiences may have a specific ending point, but this could be vague for some women as well. After menstruation has been absent for 1 year (i.e., menopause has occurred), their menopausal transition is likely to end soon. However, even after menopause, some women continue to have menopausal symptoms during the post-menopausal period. Other major concepts of the mid-range transition theory²⁰ are also easily applicable to the menopausal symptom experience of Asian immigrant women in the U.S. For example, transition theory identifies awareness, engagement, change and difference, time span, and critical points and events as properties of transition experiences,²⁰ all of which are prominent in the menopausal symptom experiences of Asian immigrant women in the U.S. Asian immigrant women are aware of their health/illness transition; they are engaged in the transition when they recognize changes in menstruation; they go through physical, psychological, and social changes during the menopausal transition; and they experience specific critical transition points, such as changes in regularity and amount of menstruation.

Second, in the development of the AIMS theory, I performed an integrative literature review based on searches of PubMed, PsycInfo, and the CINAHL. The criteria for the articles that were included in the literature review were: (a) written in English; (b) published in nursing and clinical journals in the past 5 years; and (c) data-based publications. I searched the literature using the keywords 'midlife,' 'women,' 'menopause,' 'symptom,' 'Asian,' 'immigrant,' 'Chinese,' 'Korean,' and 'Japanese.' Forty-three articles, all in English, were retrieved. The literature on factors influencing the menopausal symptoms of midlife women in general was searched because there are so few studies specifically on Asian immigrant women. Also, the literature on the menopausal symptom experiences of midlife women in general can provide information on the menopausal symptom experience of Asian immigrant women in the U.S., as the literature on diabetes in general can explain diabetes in the Hispanic population. When the literature was searched using the keywords 'midlife,' 'women,' 'menopause,' 'symptom,' 'predictors,' and 'factors,' 264 articles were retrieved. Only 32 of these articles that met the inclusion criteria were included in the literature review. Also, additional articles were identified from the reference lists of the retrieved articles. Then, the articles were sorted according to the major foci of the theory development process: (a) the menopausal symptom experience of Asian immigrant women in the U.S.; and (b) factors influencing the menopausal symptom experience generally. The major findings of the articles were then analyzed. In brief, the literature review supported specific relationships of various factors (demographic, genetic, health and menopausal, lifestyle, and ethnic-related factors) to the menopausal symptom experiences of Asian immigrant women in the U.S. The detailed findings of the literature review were incorporated into the development of the AIMS theory, as described in the section on the AIMS theory.

Finally, to develop the AIMS theory, I used findings from the Multiethnic Internet Study on Menopausal Symptoms (MOMS).^{21, 22} The major goal of the MOMS was to explore ethnic differences in the menopausal symptom experience in four major ethnic groups in the U.S., including Whites, Hispanics, African Americans, and Asians. Detailed information on the MOMS study can be found elsewhere.^{21, 22} Only the findings for Asian immigrant women were used to develop and link the major concepts of the AIMS theory. The MOMS study had two components: (a) an Internet survey of 512 midlife women from four major ethnic groups in the U.S. (120 Hispanics, 160 Whites, 121 African Americans, and 111 Asians); and (b) four

ethnic-specific online forums involving 87 midlife women (27 Hispanics, 23 Whites, 20 African Americans, and 17 Asians). The instruments for the Internet survey included questions on background, self-reported ethnic identity, health and menopausal status, the Midlife Women's Symptom Index, and an interview protocol on perceived causes, meanings, and management strategies for menopausal symptoms. In the online forums, seven topics related to menopausal symptom experiences were discussed. The quantitative data were analyzed using descriptive and inferential statistics, including ANOVA and multiple regression analyses; the qualitative data were analyzed using thematic analysis by Braun and Clarke.²³ The quantitative and qualitative findings from the MOMS study were incorporated into the AIMS theory. Again, other findings from the MOMS study can be found elsewhere.^{20, 21}

THE AIMS THEORY: THEORIZING

The proposed AIMS theory explains the associations of multiple factors to the menopausal symptom experiences of Asian immigrant women within the unique contexts of the U.S. Also, the AIMS theory aims to possibly situate the women's experiences for later further explanation. The proposed AIMS theory includes transition conditions, patterns of response, and nursing therapeutics as major concepts (Figure 1). Transition conditions that came from the mid-range transition theory²⁰ are those that influence the way a person moves through a transition, and facilitates or hinders progress toward achieving a healthy transition. Here, transition conditions are conceptualized as factors that may influence the menopausal symptoms of Asian immigrant women, and are categorized as demographic, genetic, ethnic-related, health and menopausal status, and lifestyle factors, rather than the personal and community transition conditions that were included in the original mid-range transition theory. Asian immigrant women's menopausal symptom experience itself can be regarded as the pattern of response during the menopausal transition, which can have both process and outcome indicators. In the AIMS theory, the pattern of responses includes type, number, severity of symptoms, and ethnic-specific responses rather than process and outcome indicators because the process and outcome indicators could not be easily separated. For example, types of symptoms could indicate the process of menopausal transition that women were experiencing and also the outcome of the menopausal transition. Nursing therapeutics is conceptualized as culturally competent menopausal symptom management that includes four sub-concepts - no management, hormone replacement therapy, complementary and alternative therapies, and counseling and self-help groups. The major concepts that comprise the AIMS theory and the associations among the concepts are described below with related sub-concepts; the supporting findings from the literature review and the MOMS study (both quantitative findings and qualitative quotes) are presented with each major concept.

Transition Conditions

A major concept of the AIMS theory is transition conditions. This concept was adopted from the mid-range transition theory,²⁰ which examined transition conditions at the personal (including meanings, cultural beliefs and attitudes, socioeconomic status, preparation, and knowledge), community, and societal levels. Accordingly, these transition conditions influence the menopausal symptom experiences of Asian immigrant women in the U.S. At a personal level, Asian immigrant women's cultural attitudes toward complementary and alternative medicines are related to their choice of symptom management. As members of a unique cultural group, their community conditions influence the resources available to them. Asian immigrant women are subjected to societal conditions that tend to marginalize them because they are immigrants and members of an ethnically oppressed group. The transition conditions influencing menopausal symptom experiences of Asian immigrant women in the U.S. that were identified in the theorizing process were: (a) genetic factors; (b) demographic factors; (c)

health and menopausal status factors; and (d) lifestyle factors. Each of the sub-concepts is described in the following sub-sections.

Genetic Factors—One of the transition conditions included in the AIMS theory is genetic factors. Until recently, it was thought that there was an association between the level of circulating estrogen and the occurrence of menopausal symptoms during and after the menopausal transition.²⁴ However, studies have reported conflicting findings on this relationship; some studies showed an association, whereas others did not. Crandall and colleagues²⁵ explained these conflicting findings by suggesting that estrogen function, rather than circulating estrogen levels, could be independently related to the occurrence of vasomotor symptoms. However, it is still unknown whether alterations in estrogen function, such as estrogen inactivation, interconversion among estrogen metabolites, and/or estrogen receptor activity, are associated with the occurrence of menopausal symptoms.

Recently, researchers found that the genetics of sex steroid hormones and estrogen metabolism influenced menopausal symptoms.²⁵ Others reported an association between single nucleotide polymorphisms (SNPs) and menopausal symptoms.^{25, 26} Woods and colleagues²⁶ indicated that women with the CYP19 11r polymorphism reported more severe and frequent hot flashes. Crandall and colleagues²⁵ reported that genetic polymorphisms were significantly associated with vasomotor symptoms. However, these genetic studies are complex, and multiple gene loci are involved in the sex steroid hormone system and disease conditions that develop with age.²⁶

The relationship between SNPs involved in estrogen function and menopausal symptoms, especially vasomotor symptoms, has been inadequately explored.²⁵ Sowers and colleagues²⁷ reported that there was remarkable comparability between Chinese and Japanese women in the frequencies of the CYP1A1 and CYP1B1 alleles, which differed by 11% or less. In addition, recent genetic studies showed that the SNPs of Asian sub-ethnic groups are highly concordant with those of other Asian sub-ethnic groups.²⁸ This suggests that it would be difficult to detect significant differences in the genetic factors associated with menopausal symptoms in Asian immigrant women that originated from the same geographical area. In fact, it was difficult to detect significant differences in genetic factors associated with menopausal symptoms even among the major ethnic groups in the U.S.²⁶ Also, in some ethnic groups, there was no association between genetic factors and menopausal symptoms.²⁶

In the MOMS study, no quantitative or qualitative findings related to the genetic factors that might influence Asian immigrant women's menopausal symptom experience were obtained. Thus, the concept of genetic factors included in the AIMS theory comes solely from the literature review.

Demographic Factors—Another transition condition included in the AIMS theory is demographic factors. The literature certainly indicates that women with specific demographic factors are more likely to experience menopausal symptoms during their transitions than are others, including women over 50 years of age, and those who have low educational attainment or work as homemakers, have difficulty paying for basic necessities, and have more children and low social support.^{1, 29} By contrast, women who were employed or had higher levels of education or income reported better overall health and fewer menopausal symptoms.³⁰

Many studies have also evaluated the association between ethnic-related factors and menopausal symptoms. Typically, the study findings support that how women view menopause, how they acknowledge symptoms, and whether they seek medical treatment varies widely depending on ethnic culture.¹⁵ In midlife women living in the U.S. who immigrated from the Soviet Union, the length of stay in the U.S. was a significant independent contributor

to depression; women who had lived fewer years in the U.S. had higher depression scores.³¹ In Im's study,⁹ the mean number of menopausal symptoms was significantly different based on the length of stay in the U.S. (less than 10 years versus more than 10 years).

The level of acculturation was also associated with menopausal symptoms.^{18, 19} Less acculturated Mexican American women had more positive attitudes toward menopause and fewer menopausal symptoms than did more acculturated women.¹⁹ Less acculturated Korean immigrant women in the U.S. had more positive attitudes and fewer symptoms than did more acculturated ones.¹⁸

Recently, it was reported that except for hot flashes and headache, the rate at which Chinese women reported menopausal symptoms was higher than that of Japanese women and more similar to women from North America.³ Haines and colleagues⁴ also reported that the prevalence of individual menopausal symptoms differed among 11 sub-ethnic groups of Asian women. However, few studies have systematically assessed menopausal symptoms across cultures, and little is known about the influences of ethnic-related factors (including sub-ethnicity) on menopausal symptoms.¹⁸

The quantitative findings of the MOMS study also supported that demographic factors influenced the menopausal symptom experience of Asian immigrant women. Across four major ethnic groups in the U.S., age ($\beta = -0.4961$), employment (unemployed or employed) ($\beta = 0.3012$), income level ($\beta = -3.0224$), and country of birth (the U.S. or other than the U.S.) ($\beta = -3.9830$), were significant predictors of the total number of total symptoms at an alpha level of .05. In Asian immigrant women, the level of acculturation was a significant predictor of the total number of total symptoms ($\beta = 0.4039$, $p < .01$). Across ethnic groups, age ($\beta = -1.7728$), employment ($\beta = 14.3189$), income level ($\beta = -14.1429$), and country of birth (the U.S. or other than the U.S.) ($\beta = -16.4451$) were significant predictors of the total severity of total symptoms at an alpha level of .05. In Asian immigrant women, there was no significant demographic predictor of the total number of total symptoms at an alpha level of .05.

Health and Menopausal Status Factors—Health and menopausal status factors are also transition conditions included in the AIMS theory. Health and menopausal status factors were associated with menopausal symptoms. Green and Santoro³² reported that vasomotor symptoms were more common in women with greater BMI, challenging the widely held belief that obesity is protective against vasomotor symptoms. Also, recent studies indicated that women's body fat, especially increased abdominal subcutaneous adiposity, was associated with increased odds of menopausal symptoms, especially hot flashes.³³

Those who typically report more menopausal symptoms tend to report poorer health in general.²⁹ Diagnosed diseases such as breast cancer, arthritis, cardiovascular and coronary heart disease, gastroesophageal reflux disease, thyroid disease, and Alzheimer's disease were also reported associated with menopausal symptoms.³⁴

Peri-menopausal women, hormone users, and women who were surgically menopausal had more vasomotor symptoms compared with other women in the menopausal transition as well.^{12, 29} Being peri- or post-menopausal, using tamoxifen, having depressive symptoms, and using a vitamin E or phytoestrogen supplement were significantly associated with reporting moderate/several vasomotor symptoms in breast cancer survivors.¹

A high perceived stress level was linked to menopausal symptoms.³⁵ Nocturia was associated with parity, and urinary incontinence was prevalent among multiparae compared with nulliparae.³⁶ Other conditions that were reported in association with menopausal symptoms included: contraceptives (hormone-based), steroid use, and symptom sensitivity.³⁷ The use of

complementary and alternative medicine, including acupuncture, ginkgo biloba, soy supplement, ginseng, etc., was also reported associated with menopausal symptoms.³⁸

The quantitative findings of the MOMS study also suggested that health and menopausal status might be the factors that influenced the menopausal symptom experience of Asian immigrant women. Across the four ethnic groups, general health status ($\beta = -.84$, $p < .01$), BMI ($\beta = .27$, $p < .01$), and menopausal status ($\beta = 1.39$, $p = .01$) were significant predictors of the total number of total symptoms. Also, across ethnic groups, general health status ($\beta = -7.82$, $p < .01$), BMI ($\beta = 1.01$, $p < .01$), and menopausal status ($\beta = 5.87$, $p < .01$) were significant predictors of the total severity of total symptoms.

Lifestyle Factors—The last transition condition included in the AIMS theory is lifestyle factors. Lifestyle factors have also been reported to be associated with menopausal symptoms. Those who were more likely to experience menopausal symptoms smoked cigarettes and rated themselves less physically active than other women of the same age.²⁹ A more active lifestyle with a focus on work or chores distracted women from noticing the adverse experiences of menopause. Diet, including soy, fish, vegetables, caffeine, and alcohol consumption, has also been reported to be associated with menopausal symptoms.³²

The quantitative findings of the MOMS study supported that lifestyle factors influenced the menopausal symptom experience of Asian immigrant women. Among Asian immigrant women, the level of physical activity was a significant predictor of the total number of menopausal symptoms ($\beta = -.59$, $p < .01$). Across ethnic groups, smoking status was a significant predictor of the total severity of total symptoms at an alpha level of .05 ($\beta = 13.44$, $p < .05$). Among Asian immigrant women, only the level of physical activity was a significant predictor of the total severity of total symptoms ($\beta = -.189$, $p < .01$).

Pattern of Response: The Menopausal Symptom Experiences of Asian Immigrant Women in the U.S

A major concept of the AIMS theory is patterns of response, which was adopted from the mid-range transition theory.²⁰ In the mid-range transition theory, indicators or patterns of responses are included as a major concept that characterizes healthy transitions.²⁰ Process indicators include feeling connected, interacting, location and being situated, and developing confidence and coping skills, whereas outcome indicators include mastery of the skills and behaviors needed to manage new situations or environments, and fluid rather than static integrative identities that are reformulated during the transition.²⁰ These indicators of a healthy transition can be applied to the menopausal symptom experiences of Asian immigrant women. Those who have adequate information and support through resources already available to them may feel connected and interact with others in a positive way; thus, developing the confidence that they can cope with their menopausal transition. However, recent immigrants may not have the social support that other women have, so they may feel marginalized, isolated, and frustrated during their menopausal transition.

In keeping with the concept reflecting the patterns of response, the concept of the menopausal symptom experiences of Asian immigrant women in the U.S. is included in the AIMS theory. The concept includes four sub-concepts: (a) types of symptoms; (b) number of symptoms; (c) severity of symptoms; and (d) ethnic-specific responses.

Types of Symptoms—The menopausal symptom experience of Asian immigrant women in the U.S. could be reflected in the unique types of menopausal symptoms that they were experiencing. Recently, it was reported that the types of menopausal symptoms experienced by Asian women differed from their Western counterparts.⁴ For example, post-menopausal women from Asian countries reported backaches, muscle pain, shoulder pain, or joint pain, but

suffered less frequently from vasomotor disturbances.⁴ However, very few studies have been conducted to explain the unique types of the menopausal symptoms of Asian immigrant women in the U.S.

The quantitative findings of the MOMS study also supported that Asian immigrant women had unique types of menopausal symptoms. Across ethnic groups, “feeling hot or cold” was the most frequently reported symptom, and “forgetfulness” was the second most frequently reported symptom. However, the most frequently experienced menopausal symptom in Asian immigrant women was “decreased sexual interest.” Also, “forgetfulness” was among the top 10 most frequently reported symptoms across all ethnic groups, and “hot flash” was one of the top 10 most frequently reported symptoms for all of the ethnic groups except Asian immigrant women. “Muscle and joint stiffness” was reported only by Asians and Whites. Only Asians and Hispanics reported “decreased sexual interest”.

Number of Symptoms—The menopausal symptom experience of Asian immigrant women in the U.S. is also reflected in the total number of symptoms that they were experiencing. As mentioned above, the literature reported inconsistent findings on the total number of menopausal symptoms that Asian immigrant women experienced. Some reported that they had fewer menopausal symptoms compared with other ethnic groups.¹ Others reported that they had a similar number of menopausal symptoms compared with Whites.² In the MOMS study, the total number of symptoms experienced during the menopausal transition differed significantly by ethnicity ($F = 7.98, p < .01$), as did the total number of physical ($F = 8.25, p < .01$), psychological ($F = 7.10, p < .01$), and psychosomatic symptoms ($F = 11.20, p < .01$). Asians reported significantly lower numbers of total, physical, and psychosomatic symptoms than did Hispanics. Asians also reported significantly lower numbers of total, physical, psychological, and psychosomatic symptoms than did Whites. Asians reported a significantly lower number of psychosomatic symptoms than did African Americans.

Severity of Symptoms—The menopausal symptom experience of Asian immigrant women in the U.S. is reflected in the total severity of symptoms that they were experiencing. The literature also reported inconsistent findings on the severity of menopausal symptoms that Asian immigrant women in the U.S. experienced; some of the women reported that they had less serious menopausal symptoms than those from other ethnic groups¹ while others reported that they had a similar seriousness of menopausal symptoms as Whites.²

The quantitative findings of the MOMS study indicated that the total severity of total symptoms experienced during the menopausal transition differed significantly by ethnicity ($F = 12.71, p < .01$), as did the total severity of physical ($F = 13.33, p < .01$), psychological ($F = 7.01, p < .01$), and psychosomatic symptoms ($F = 12.64, p < .01$). Asians reported significantly lower severity scores for total, physical, and psychosomatic symptoms than Hispanics did. Asians reported significantly lower severity scores for total symptoms than Whites did. Asians also reported significantly lower severity scores for total, physical, and psychosomatic symptoms than African Americans did.

Ethnic-specific Responses—The menopausal symptom experiences of Asian immigrant women in the U.S. can be also represented by ethnic-specific responses to menopausal symptoms. The literature implied ethnic-specific responses to menopausal symptoms,^{5, 6} but little has been known about ethnic-specific responses to menopausal symptoms. The qualitative findings of the MOMS study supported the uniqueness of the menopausal symptom experience of Asian immigrant women. Their menopausal symptom experience was represented by the following four responses: (a) restricted, (b) being strong, (c) appreciating, and (d) being silent.

Restricted: Asian immigrant women in the U.S. perceived some restrictions in their menopausal symptom experience. The restrictions were the limits of their behaviors, emotions, and actions related to their menopausal symptom experience. The women perceived the tremendous influences of their cultural heritage on their personal values and behaviors to deal with life events, including the menopausal transition. Most of the participants felt that in their culture, women should be tolerant, tough, emotionally stable, and not self-centered throughout all the life stages, including the menopausal transition. One woman stated:

In the culture I grew up in, life stages were not based on how your estrogen and progesterone, and prolactin went up and down. The life stages were defined by your responsibility levels within a family.

Another woman stated:

Culturally we are matriarchal—the role of the mother in the home is deeply respected. With these expectations to take care of the whole family come great responsibilities that put family first and self last.

Being strong: Asian women talked about the difficulties and hardships during their menopausal transition as new immigrants to the U.S., without the family support that natives took for granted. The participants said that because of their difficult immigration transition, they had become strong and faced their menopausal transition, including physical and psychological changes, without problems. Compared to their transitions as immigrants, the menopausal transition and menopausal symptoms were nothing about which to worry. One woman said:

The emotional toughness (I went through in the immigration transition) would also help us through as we go through the menopausal phase - because that phase of life is nothing compared to the changes we have been through just by the fact that we are here in the U.S.—thousands of miles away from family, friends, and the community in which we grew up.

Another stated:

My experience as an immigrant woman trained me to be emotionally strong. I do not have any problem in confronting hardships and sufferings, especially those from menopause. No problem at all...The greater awareness and public discussion about the issue here in the U.S. encourages women like us, who are from another culture, to be more open about the issues (speaking for myself)...

Appreciating: All the Asian women in the MOMS study experienced their menopausal transition with symptoms with great appreciation to God or a higher power because menopause meant that they had lived long enough to reach the age of menopause. Subsequently, menopause was just a natural, unavoidable, and transitional event in a woman's life. In addition, the women perceived menopause as a relief and benefit because they would not need to worry about potential pregnancies anymore and would not need to spend money to buy feminine products for their menstrual periods. One woman wrote:

'Retiring to the woods,' away from material attractions is the stage at which most women encounter menopause... A calmer mind, and sufficient free time and reduction of stressful situations, probably gives the women strength to handle any kind of menopausal symptoms that may occur. These menopausal "symptoms" are probably expected, anticipated, and makes things easier to deal with.

Being silent: Asian participants thought that silence was the best strategy to cope with bothersome menopausal symptoms. Most of the participants thought that it was inappropriate

to talk about menopause and menopausal symptoms in public, and sometimes in private, even with their husbands and other family members. In addition, they thought that they should endure the symptoms in silence because they must suffer through the symptoms themselves. Their families also provided “quiet support,” which meant that they helped them during their menopausal transition without actually discussing it. However, some participants thought that expressing their symptoms and complaints to others would help them emotionally, although they would not do so. One woman wrote:

Personally, I think people should never hold in all their feelings, it's better to let them out. Most of the time when I have body aches or any kind of discomfort, I don't tell anybody, sometimes I even feel guilty complaining. I just hope our kids are not restricted by culture... There is a certain liberation in sharing your feelings with someone you are close to. I don't think this is specific to a certain ethnicity, but perhaps makes it more special to my ethnicity/culture due to the usual reservation with most people about the subject.

Nursing Therapeutics: Culturally Competent Menopausal Symptom Management

Nursing therapeutics is the last major concept included in the AIMS theory. Nursing therapeutics is conceptualized as culturally competent menopausal symptom management. The concept of culturally competent menopausal symptom management includes four related sub-concepts: (a) no management; (b) hormone replacement therapy; (c) complementary and alternative medicine; and (d) counseling and self-help groups. In the MOMS study, very few findings about management strategies used by Asian immigrant women for menopausal symptoms were found. Thus, the concept of culturally competent menopausal symptom management included in the AIMS theory mainly came from the literature review.

No Management—Most Asian immigrant women in the U.S. tend to adopt “no management” for their menopausal symptoms mainly because they believe that menopausal symptoms are normal and natural. Indeed, the choice of management strategies was reported related to the ethnic-specific perceived causes and meanings of the symptoms that menopausal women placed on their conditions. Im and colleagues¹⁸ reported that Korean immigrant women chose not to manage their symptoms, because the women, who perceived that the symptoms came from normal aging processes, did not place any meaning on them. In Lock's⁵ study, Japanese women did not place great importance on menopausal symptoms and simply accepted them. Sengupta⁶ reported that most Indian menopausal women went untreated or used unproven alternative therapies for their menopausal symptoms because of a lack of awareness or availability of other therapies or the ever-increasing cost of medical and social support systems. The quantitative findings of the MOMS study also indicated that 67% of Asian women did not use any management strategies for their menopausal symptoms.

Hormone Replacement Therapy—Another management strategy that has been used by Asian immigrant women in the U.S. is hormone replacement therapy although their usage tends to be minimal. The literature clearly indicates ethnic differences in the use of hormone replacement therapy (HRT); ethnic minorities are less likely to use HRT compared with Whites.³⁹ African American women were less likely than were White women to be offered or take HRT.⁴⁰ Hispanic women were reported less likely to use HRT than were non-Hispanic White women.³⁹ In Brown's study,⁴⁰ White women (33%) were significantly more likely to be prescribed HRT than Asians (21%), African Americans (25%), Latinas (23%), or immigrants from the former Soviet republics (6.6%). In the NHANES study,⁴¹ White women (40%) were much more likely to use HRT than either African American (20%) or Mexican American women (24%). In Longworth's study,⁴² most Hispanic women elected not to take HRT, but they used exercise, diet, vitamins, and other self-care activities to manage menopausal

symptoms. The quantitative findings of the MOMS study indicated that about 3% of Asian women used hormone replacement therapy.

Complementary and Alternative Medicine—A management strategy for menopausal symptoms that has been used by Asian immigrant women in the U.S. is complementary and alternative medicine (CAM). The literature indicates that the use of CAM tends to be ethnic-specific. High dietary intake of soy products was reported in Japan, China, and Korea, and was the reported reason for the lower prevalence of menopausal symptoms in those countries.⁴³ Chinese Americans frequently use acupuncture and dong quai, a Chinese herb traditionally prescribed as a tonic for women, for menopausal symptom management.⁴⁴ However, in the longitudinal SWAN study, baseline CAM use (the use of CAM before the menopausal transition) was reported as the major predictor of subsequent CAM use, not the presence of symptoms.⁴⁵ The quantitative findings of the MOMS study did not support the use of CAM by Asian women, but the qualitative findings indicated that some of the women were using herbal remedies and acupuncture for their menopausal symptoms.

Counseling and Self-help Groups—Counseling and self-help groups are the final sub-concepts related to culturally competent management strategies for menopausal symptoms. In the literature, counseling and self-help groups for menopausal symptoms that could be used by Asian immigrant women as nursing therapeutics have been reported.⁴⁶ Counseling is reported as widely used by women who might require or benefit from more psychologically based treatments.⁴⁶ Self-help groups were also reported widely used by women and regarded as useful interventions for the management of menopausal symptoms.⁴⁷ Indeed, studies have reported that health care providers incorporated counseling and support groups into the management strategies for menopausal symptoms. In addition, several studies focused on using support groups with educational programs for effective management of menopausal symptoms in healthy midlife women.^{48–50} The quantitative findings of the MOMS study indicated that 31% of Asian women were using behavioral changes to manage their symptoms, but did not support the use of counseling or self-help groups. Yet, the qualitative findings of the MOMS study indicated that the women were certainly getting help, support, and information from the peers despite their cultural silence on menopausal symptoms.

CONCLUSION

The AIMS theory presented in this paper explains the associations of multiple factors to the menopausal symptom experiences of Asian immigrant women within the unique contexts of the U.S. Each major concept includes several related sub-concepts, some of which are unique to this particular population. Due to this specificity, the AIMS theory is expected to be easily linked to nursing practice and/or research projects related to the menopausal symptom experience of Asian immigrant women in the U.S. The AIMS theory should also be further validated and developed in additional intervention studies, as well as in nursing practice, for this specific population.

The AIMS theory has several limitations because of the inherent nature of situation-specific theories. First, the proposed theory aims only to explain the menopausal symptom experience of Asian immigrant women within the sociocultural contexts of their daily lives in the U.S. Thus, the AIMS theory should be carefully used in studies of different ethnic groups or in different settings. Furthermore, the theory should be viewed as an emerging theory rather than a complete theory because a situation-specific theory for a specific time or place would not be applicable in a different time or place because of its specificity. Thus, further development of the AIMS theory should be based on repetitive studies of multiple groups of Asian immigrant women in different settings (e.g., urban versus rural). As discussed above, Asian immigrant women represent a variety of sub-ethnic groups.¹⁵ Thus, the AIMS theory is limited because

Asian immigrant women in the U.S. were lumped into a single group for the purposes of theory development. In addition, several concepts in the AIMS theory are underdeveloped, especially genetic factors and culturally competent menopausal symptom management. These two concepts were developed mainly based on the literature review. Thus, in future studies, these two concepts should be specifically tested to further develop and refine the AIMS theory.

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Figure 1.

A Situation-specific Theory of Asian Immigrant Women's Menopausal Symptom Experience in the U.S. (the AIMS Theory)

Table 1

The underlying assumptions of the AIMS theory

#	Assumptions
1	There are diversities and complexities within the phenomenon.
2	The theory development process is cyclical, evolutionary, and occurs in specific sociopolitical contexts.
3	The historically inadequate management of menopausal symptoms reported by Asian immigrant women stems not only from biology, but also from women's continuous interactions with their environment, as well as biases that reflect the ways that they and their health care providers view the world.
4	The menopausal symptom experience is influenced by ethnicity, and thus significantly interacts with gender, race, and class to structure relationships among individuals.