

Acculturation and Asian American Elderly

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Abstract The “graying” of the United States and its increasing ethnic and racial diversification make understanding the particular acculturation issues facing the Asian American elderly important for the mental health clinician. This population faces multiple acculturation stressors making it vulnerable to depression, anxiety, and suicide. In addition, for Asian American elderly suffering from dementia, acculturation can influence the diagnosis, treatment, and attitudes toward caregiving. Understanding these factors is critical for clinicians taking care of the Asian American elderly.

Keywords Asian American elderly · Depression · Suicide · Caregiving · Acculturation stressors · Intergenerational stressors

Contents

Introduction	168
Acculturation and Mental Health Issues in Asian American Elderly	169
Risk of Depression and Anxiety in Asian American Elderly	169
Risk of Suicide in Asian American Elderly	170
Dementia in Asian American Elderly	172
Epidemiology of Dementia in Asian American Elderly	172
Family Perceptions of Dementia in Asian American Elderly	173
Caregiving for Asian American Elderly	174
Patterns of Caregiving in Asian American Families	174
Future Directions and Clinical Implications	175
References	176

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Introduction

The “graying” of the United States and its increasing ethnic and racial diversification make understanding the particular acculturation issues facing the Asian American elderly important for the mental health clinician. According to the 2000 Census, by 2030, about 20% of the total US population is projected to be of age 65 and older [1]. In particular, nearly one-fourth of the older foreign-born population in the United States is from Asia, and the Asian American elderly population grew by 76% from 1990 to 2000. Furthermore, this population is projected to grow by 246% from 2000 to 2025, as compared with 9.2 and 73% growth rates in the corresponding years among the European American elderly population [2]. US life expectancy estimates anticipate increased life expectancy for Asian Americans, with 86.2 years on average for Asian American women and 80.2 years for Asian American men [3]. In addition, while the overall death rate of the US population during the period 2002–2004 was 826.5 per 100,000, the Asian or Pacific Islander death rate was half that, only 460.9 per 100,000 [4]. Within the immigrant Asian American elderly group, however, life expectancy may decline with increasing time spent in the United States. Consistent with the acculturative stress hypothesis, immigrants’ risks of depression, disability, and chronic disease morbidity appear to increase with increasing length of residence [5].

These demographic shifts in the population of older adults in the United States have led to an increased awareness of the particular needs of the Asian American elderly. As has been discussed in earlier chapters, the acculturation process is multidimensional, including physical, psychological, financial, spiritual, social, language, and family adjustment. This process can be very stressful for immigrant Asian American elders in the United States because they may have fewer resources, such as income, education, and English proficiency, to assist them in adapting to their new life situation. An additional dilemma is that acculturation can occur at different rates for different individuals. The adaptation of Asian American elderly is affected by a number of factors in their pre-migration history: their countries of origin, including their specific cultural backgrounds, their socioeconomic status in the country of origin, their prior history of living in a modernized urban versus rural environment, and their reasons for immigration (political, economic, familial). Factors in their new environment also affect their ability to integrate; in particular, Asian American elderly may feel more integrated if there are other immigrants at the place of settlement of similar age and background, or if there are institutions such as churches or social clubs.

Children may have more exposure to American culture through school, and their parents through work; in contrast, if Asian American elderly immigrate at an older age, they may find themselves isolated in their new surroundings. As newcomers who have spent much of their life in a different society, they must cognitively, attitudinally, and behaviorally adapt to the new cultural system.

Even daily life events in a new environment may become stressful [6]. In particular, Asian American elderly face particular challenges as they integrate from an Asian culture to the American culture. The former places an emphasis on the group through filial piety, humility, restraint of emotional expression, and a sense of obligation toward elders; the latter is more individualistic, competitive, achievement-oriented, assertive, and more concerned with mastery over one's environment. Elders may find it difficult to adjust to this "American way of life" in their families; as their children and grandchildren acculturate, cultural discontinuity increases in the home. The differences in acculturation among the different generations can lead to intergenerational conflict. These differences may need to be negotiated within the extended family to restore harmony.

Not only is this a large attitudinal change, but also practical challenges exist with language, financial concerns, and navigation of the rules and regulations of a new culture. Role reversals may occur when children and grandchildren become translators and interpreters of American culture for seniors, or when limitations on financial resources translate into a reversal of authority and power in the family. Given these stressors, this population is quite vulnerable to acculturative stress. However, despite the increasing number of Asian American elderly immigrants and the recognition that mental health clinicians should be sensitive to cross-cultural issues in the elderly, there exists a paucity of research regarding these populations [7]. Nevertheless, this population has particular vulnerabilities relating to their immigrant and acculturation status, which, in turn, affect their mental health. In this chapter, we will examine the effects of acculturation on the mental health of elderly Asian Americans and the clinical implications of acculturation stressors on this group.

Acculturation and Mental Health Issues in Asian American Elderly

Risk of Depression and Anxiety in Asian American Elderly

There is increasing recognition of the role of culture and ethnicity in the risk and protective factors of depression, anxiety, and suicidality. However, very little is known about the risk of depression in the Asian Americans and the Asian American elderly in particular. Asian American and Asian immigrant elderly groups are rarely included in national long-term care data sets in sufficient numbers to ensure meaningful analysis [7]. Two large epidemiologic studies, the Epidemiologic Catchment Area Study and the National Co-morbidity Survey, were unable to estimate with confidence the prevalence of depression in Asian Americans as a whole, and the elderly in particular [8, 9]. The Chinese American Psychiatric Epidemiological Study estimated rates of depression in Chinese Americans in Los Angeles County and found low-to-moderate levels of depressive disorders in this predominantly immigrant group [10]. Using Diagnostic

and Statistical Manual, Fourth Edition (DSM-IV)-based criteria or major depression, the 1-year prevalence rate of depression was estimated at about 5% or less among community-dwelling people aged 65 and older [11]. Depressive symptoms or syndromes have been found to be more prevalent, with about 15–20% prevalence for community-dwelling elders [12].

If research on depression in Asian American elders is sparse, there exists even less research on anxiety among older Asian Americans. In two studies of older Japanese American adults, anxiety disorders were not as prevalent as compared with depression, but Japanese American adults conceptualized anxiety similarly to the conceptualization of anxiety found in the DSM-IV [13, 14]. However, there was some overlap between the conceptualization of anxiety and depression. For example, some participants used depressive terms, such as irritability, sleep disturbance, and depression, to describe anxiety. Respondents thought risk factors for anxiety would include not being able to relax, having negative thoughts, and ruminating, which are similar to risk factors for depression. Clearly, additional studies are needed to examine more closely the prevalence and phenomenology of both depression and anxiety for this population.

Depression and anxiety may occur frequently in Asian immigrant elders because they have limited resources in dealing with the multiple losses associated with the process of adaptation, acculturation, and family disruption [15]. A few small sample studies of Asian elders also reported that immigrants who were more acculturated to the host society tended to have better mental health status than those who were less acculturated [16, 17]. In a study examining the role of acculturation of older Korean Americans, those with lower levels of acculturation to mainstream American culture were more at risk for depressive symptoms, even after controlling for socioeconomic status [18]. Another study looked at a sample of six different Asian elderly groups (Chinese, Filipino, Indian, Japanese, Korean, and Vietnamese) and examined the association between acculturation stress and depression [19]. Examining the relationship of acculturation stress specifically on depression, they found that about 40% of the sample was depressed, and that acculturation stress caused by the elders' perception of a cultural gap between themselves and their adult children was associated with high depression levels [19]. Studies on Asian American family support have shown that Asian American elders receive a considerable amount of emotional and practical support from their adult children [20, 21]. In addition, studies on the role of social support of family members and its impact on the psychological well-being of elders have found that higher rates of depression are associated with fewer family contacts and smaller social network [22].

Risk of Suicide in Asian American Elderly

A quarter of all late-life suicides are due to depression [23]. Compared with older European Americans, the rates of suicide overall among Asian Americans

are significantly lower. Most studies have assessed only three major ethnic groups, the Chinese, Japanese, and Filipinos, with the overwhelming majority focusing on only the first two [24]. One of the studies examining rates of suicide using the 1990 census found that Asian American elderly had 50% of the suicide rate of European American elderly; among the ethnic minorities, however, Asian American elderly had the highest rates of completed suicide [25]. In addition, rates of suicide by Chinese American women greatly exceeded that of Japanese American and European American women, and that rates of completed suicide by Japanese American women were higher than European American women in the 75- to 84-year age group. The author hypothesized that the high rates of suicide seen in Chinese American women may indicate a cohort effect reflecting tension between traditional gender roles and the American ideal of equality. In addition, for both Chinese and Japanese American women, increased risk of depression and suicide may have been associated with the loss of family cohesion as adult children moved away. Interestingly, rates of completed suicide by older European American men exceeded rates for Chinese and Japanese American men; however, after the age of 85 years, this pattern reversed. Baker hypothesized that the high rates in the oldest age group reflected a cohort that immigrated before 1924, before the repeal of the Oriental Exclusion Acts of the 1880s. As a result, these men came to the United States alone and experienced acculturation stress without family support. These patterns continued to persist; more recent data estimates of completed suicide rates in 2000–2004 showed that female Asian Americans over the age of 65 years had the highest completed suicide rates in comparison with European American, Hispanic American, and African American groups [26]. In contrast, male Asian Americans over the age of 65 years had lower completed suicide rates in comparison with European American and Hispanic American groups, but were higher than African American groups [4].

Another study examining completed suicides in San Francisco from 1987 to 1994 found that Asian American women had lower rates of completed suicide as compared with European American women, except in the age of 85 years and older cohort. In contrast, Asian American males were found to have lower rates of suicide as compared with European American men, except between the age of 75 and 84 years [27]. Hanging was the most common means used to complete suicide by Asian Americans, as compared with the use of firearms by European Americans. To explain the higher rates of suicide in the older Asian Americans, the authors hypothesized that these older immigrants came to the United States without their traditional support systems and were confronted with a new idea that the elderly should not be a burden to their children. This created a conflict with their traditional view of being revered for their old age. To explain the method of suicide, the authors postulated that it reflected a pattern in traditional China where hanging is predominantly used.

Not only are Asian American elderly at risk for suicide but they also have a higher proportion of death and suicidal ideation as compared with other minority elder groups. In one study, using the Paykel suicide questionnaire to

probe thoughts about death, suicide, or attempts at suicide, Asian American elderly had the highest proportion of Death Ideation (37.8%) or Suicidal Ideation (11.8%) in comparison with African American, Hispanic American, and European American groups [28]. Taken together, these studies reveal not only that Asian American elderly may have higher rates of depression secondary to acculturation stress but also that they are at higher risk for suicide than other ethnic minority groups.

These findings point to the need for more research to understand intergenerational family relationships. The common denominator underlying these studies is the stress that arises when elderly parents feel distant from their adult children, particularly when the elderly have high expectations of family solidarity and interdependence [15]. The resulting generational split of the family may be both a source and an indicator of intergenerational conflicts. For Asian American elder parents, they may be confronted with the loss of respect, as their role as cultural conservator and family decision maker may be undermined. Interestingly, length of residence in the United States also predicted higher levels of depression in Asian American elders [19]. This finding is reversed from other studies, where increasing length of residence in the United States corresponded to lower levels of depression in Asian American adults younger than 65 years [29]. One hypothesis is that the longer Asian American immigrant elderly have lived in the United States, the more likely they are to have American-born children and grandchildren. Their descendants' acculturation and family expectations differ from their parents and grandparents [30]. This heightened cultural gap between the generations may cause elders' anxiety regarding their role in the family and may increase their risk for depression, hopelessness, and risk for suicide.

Dementia in Asian American Elderly

Epidemiology of Dementia in Asian American Elderly

Researchers have observed ethnic and cross-national differences in the frequency of different types of dementia. Dementia is characterized by a decline in memory and other cognitive abilities, ultimately interfering with daily, social, and occupational functioning. In general, overall rates of dementia are similar cross-nationally and cross-culturally, but notable differences exist in rates of dementia subtypes [31]. Although some Asian American elders such as the Chinese and Japanese have a higher risk of developing vascular dementia as compared with Alzheimer dementia in their homeland, data suggest that the influence of acculturation modifies their risk of developing Alzheimer dementia. The Ni Hon-San study of Japanese migration from Japan to Honolulu suggests that as migrating Japanese groups become more acculturated to the United States, rates of vascular dementia decline and rates of Alzheimer dementia increase to be more similar to

rates in the European American population in the United States. This finding suggests a cultural and environmental influence on the development of dementia [32]. The authors postulate that lower rates of vascular dementia may be secondary to improved control over environmental risk factors, such as a change in diet or improved control over hypertension as Japanese American elderly acculturated. Although the exact mechanism remains to be clarified, it is clear that as certain Asian American groups acculturate into the United States, new patterns of the prevalence of dementia emerge.

Finally, although similar rates of dementia exist for Asian American elderly as for other groups in the United States, individual characteristics among Asian American elderly can create barriers in the diagnosis of dementia. Among older Asian populations, language differences are among the most common reasons for the avoidance of health-care services by community members as well as errors in diagnosis by clinicians [33]. Not only do language barriers make diagnosis dementia difficult, only 32% of Asian American elders have 8 years or less of formal education, making screening instruments for dementia difficult to interpret [34]. These obstacles combined with Asian American family perceptions of dementia make it difficult for Asian American elderly to seek out help and receive treatment.

Family Perceptions of Dementia in Asian American Elderly

Caregivers of Asian American elderly may have an understanding of dementia that reflects more traditional views of aging. In a study of adult family caregivers, Asian American caregivers were the most likely to adhere to “folk models” of dementia, which attribute dementia-related changes as a result of psychosocial stress in combination with “normal” aging processes [35]. This difference in the family’s perception of the etiology of the illness may influence the time to presentation to medical and psychiatric care. In addition, the family may not recognize their ailing relative’s difficulties. In a study of Japanese elderly, family members failed to notice problems with memory, and the majority of subjects with dementia had not received medical evaluation for their illness [36]. Lack of access to education regarding the characteristics of dementia was a main factor influencing their inability to recognize dementia in their elderly relatives. In addition, out of respect for their elderly relatives, family members reported trying to ignore memory difficulties to “save face” for their elderly relatives. The idea that caregivers would not seek outside support and interventions out of respect for and duty toward elders is a theme that recurs in other interviews with Asian American caregivers [37]. For Asian American families, dementia may be a mental health diagnosis with which they may have an incomplete understanding. As with many mental health issues, dementia symptoms may carry a great deal of shame, preventing Asian American families from seeking intervention and treatment for their elders.

Caregiving for Asian American Elderly

Patterns of Caregiving in Asian American Families

In the United States, 18% of Asian Americans provide informal care for their elderly family members, as compared with 21% of European Americans and African Americans and 16% of Latino Americans [38]. In addition, in many Asian American cultures, the son's family traditionally has the most responsibility for taking care of the older parent. Given traditional gender roles, the burden of daily care falls on the oldest son's wife; this is in contrast to the mainstream US populations, where the spouse is the first-choice provider, followed by daughters [39]. These values come from a collectivist approach, which emphasizes the welfare of the extended family versus a Western individualist way of thinking [40]. Also underlying this strong preference is an emphasis on filial piety, or the belief that each individual has an obligation to older generations [41]. As a result, there is a strong preference for family caregiving versus institutionalized care. In a survey of Japanese American and European American elders, Japanese Americans were more likely to rely on loved ones than European Americans, who were more likely to rely on paid providers [42].

However, although Asian Americans rely on their families, this causes a significant burden on caregivers. Studies of caregivers of Asian American elderly have shown that, as compared with European American caregivers, Asian American caregivers are engaged in significantly higher numbers of caregiving tasks, and report lower levels of use of formal support. Asian American caregivers also reported a lower quality of relationship with the care recipient, and were more likely to use emotion-focused coping. In this type of coping, caregivers try to deal with their stress by eliminating unpleasant emotions by denial, wishful thinking, or rethinking the emotion in a positive way through relaxation. In contrast, caregivers, using problem-focused coping, take action to modify the underlying stressful situation. As a result, Asian American caregivers had higher levels of depression, did not feel satisfied from caregiving, and had poorer physical health as compared with European American caregivers [43]. In a study of Korean American caregivers, these caregivers felt a higher degree of caregiving burden and lower levels of emotional and practical support as compared with European American caregivers [39]. Researchers from these studies hypothesized that Asian American caregivers, largely daughters-in-law or daughters bound by a sense of obligation and respect for their elders, may find themselves in stressful roles vis-à-vis their elderly relatives. As Asian American elderly continue to expect that their children will take care of them, the younger generation will find themselves conflicted between their sense of duty to their extended family and the adoption of American values that focus on individuality and the nuclear family. Placing their elderly relatives in a nursing home may not feel like an option to this

generation; they may find themselves “sandwiched” between the expectations of taking care of their elders with having to take care of their own families. Combined with the practicalities of caregiving, this may result in a higher degree of caregiving burden, and eventually, caregiver burnout.

Future Directions and Clinical Implications

Ultimately, more research is needed on the prevalence of anxiety and depression among older Asian Americans. In addition, much research to date has focused on East Asian groups, such as the Korean, Japanese, and Chinese, and little is known about Southeast Asian and South Asian elderly groups. Given the unique characteristics of each group with regard to language abilities, educational level, and generational and immigration status, researchers may consider expanding their attention to include other specific ethnic groups in the future.

Multiple practical and cultural barriers to care exist for Asian American elderly. For the Asian American elderly and their families, these include limited knowledge about available services, which may not be sensitive to cultural needs. They also suffer from a lack of financial resources and access to transportation. Finally, cultural norms may play a role, including a strong belief and preference for family care. In the Family Caregiving in the US survey, Asian American caregivers identified numerous barriers to getting supportive services for their elderly care recipients. Reasons for not being able to get appropriate services for their elders include issues with service unavailability, cost and eligibility, personal feelings of guilt for not fulfilling family obligations, and pride in self-sufficiency [44]. Researchers must better understand help-seeking patterns of older Asian American adults and their families, examine who they turn to for assistance and support, and evaluate the types of services that are provided to those who seek help.

Effective culturally appropriate prevention and treatment strategies must be developed that incorporate services geared to meet specific needs of Asian American elders and their caregivers. We must consider developing services in Asian languages, and incorporating cultural values such as respect for elders and cooperation in our interventions. In addition, we must consider providing social support for caregivers, making available information regarding diagnoses of mental health disorders and community resources, and developing initiatives to screen for dementia and depression in primary care offices and community centers. As the Asian American elderly population grows in the twenty-first century, increasing the availability of culturally competent formal services such as nursing homes or assisted living will be critical.

In the meantime, understanding the particular dilemmas that Asian American elderly face will enable clinicians to better serve this population. Awareness of the individual’s particular sociocultural background, acculturation stressors, and

expectations for aging will enable clinicians to better engage with their Asian American elderly patients and their families. The knowledge that mental health issues are prevalent and yet underrecognized for this population must prompt us to renew our efforts to reach out to this underserved population at risk.

References

1. Hetzel L and Smith A. The 65 years and over population: 2000. Census 2000 Brief, Washington DC, 2001. Accessed on March 17, 2007 at <http://www.census.gov/prod/2001pubs/c2kbr01-10.pdf>.
2. Census of Population: Asian and Pacific Islanders in the United States. US Census Bureau, Washington DC, 1990. Accessed on March 17, 2007 at <http://www.census.gov/prod/cen1990/cp3/cp-3-5.pdf>
3. Manton KG. Longevity and long-lived populations. In: Birren JE, ed. *Encyclopedia of gerontology: Age, aging, and the aged*. San Diego, Academic Press, 1996: 83–95.
4. Health, United States 2006. Center for Disease Control, Atlanta, 2006. Accessed on March 17, 2007 at <http://www.cdc.gov/nchs/data/hus/hus06.pdf#summary>
5. Singh GK and Miller BA. Health, life expectancy, and mortality patterns among immigrant populations in the United States. *Canadian Journal of Public Health* 2004; 95(3): 14–21.
6. Kalavar JM and Willigen JV. Older Asian Indians resettled in America: Narratives about households, culture and generation. *Journal of Cross-Cultural Gerontology* 2005; 20: 213–230.
7. Mui AC and Kang SY. Acculturation stress and depression among Asian immigrant elders. *Social Work* 2006; 51(3): 243–255.
8. Zhang AY and Snowden LR. Ethnic characteristics of mental disorders in five US communities. *Cultural Diversity and Ethnic Minority Psychology* 1999; 5(2): 134–146.
9. Blazer DG, Kessler RC, McGonagle KA and Swartz MS. The prevalence and distribution of major depression in a national community sample: The National Comorbidity Survey. *The American Journal of Psychiatry* 1994; 151(7): 979–986.
10. Takeuchi DT, Chung RC, Lin KM et al. Lifetime and twelve-month prevalence rates of major depressive episodes and dysthymia among Chinese Americans in Los Angeles. *The American Journal of Psychiatry* 1998; 155(10): 1407–1414.
11. Mui AC, Burnette D and Chen LM. Cross-cultural assessment of geriatric depression: A review of the CES-D and the GDS. *Journal of Mental Health and Aging* 2001; 7(1): 137–164.
12. Gallo JJ and Lebowitz BF. The epidemiology of common late-life mental disorders in the community: Themes for a new century. *Psychiatric Services* 1999; 50: 1158–1166.
13. Yamamoto J, Machiaawa S, Araki F et al. Mental health of elderly Asian Americans in Los Angeles. *The American Journal of Social Psychiatry* 1985; 5: 37–46.
14. Iwamasa GY, Hilliard KM and Osata SM. Conceptualizing anxiety and depression: The older Japanese American adults perspective. *Clinical Gerontologist* 1998; 19: 13–26.
15. Mui AC. Depression among elderly Chinese immigrants: An exploratory study. *Social Work* 1996; 41: 633–645.
16. Pang KYC. Symptoms of depression in elderly Korean immigrants: Narration and the healing process. *Culture, Medicine and Psychiatry* 1998; 22: 93–122.
17. Stokes SC, Thompson LW, Murphy S, and Gallagher-Thompson D. Screening for depression in immigrant Chinese-American elders: Results of a pilot study. *Journal of Gerontological Social Work* 2001; 36(1/2): 27–44.
18. Jang Y, Kim G and Chiriboga D. Acculturation and manifestation of depressive symptoms among Korean American older adults. *Aging and Mental Health* 2005; 9(6): 500–507.

19. Mui AC and Kang SY. Acculturation stress and depression among Asian immigrant elders. *Social Work* 2006; 51(3): 243–255.
20. Mui AC. Stress, coping and depression among elderly Korean immigrants. *Journal of Human Behavior in the Social Environment* 2001; 3(3/4), 281–299.
21. Shibusawa T and Mui AC. Stress, coping, and depression among Japanese American elders. *Journal of Gerontological Social Work* 2001; 36(1/2): 63–81.
22. Lee MS, Crittenden KS and Yu E. Social support and depression among elderly Korean immigrants in the United States. *International Journal of Aging and Human Development* 1996; 42: 313–327.
23. American Association of Retired Persons (AARP). *Depression in later life*. Washington DC: American Association of Retired Persons, 1997.
24. Leong FTL, Leach MM, Yeh C and Chou E. Suicide among Asian Americans: What do we know? What do we need to know? *Death Studies*, 2007; 31(5): 417–434.
25. Baker FM. Suicide among ethnic minority elderly: A statistical and psychosocial perspective. *Journal of Geriatric Psychiatry* 1994; 27: 241–264.
26. McKenzie K, Serfaty M, and Crawford M. Suicide in ethnic minority groups. *British Journal of Psychiatry* 2003; 183: 100–101.
27. Shiang, J., Blinn, R., Bongar, B., Stephens, B., Allison, D., and Schatzberg, A. Suicide in San Francisco, CA: A comparison of Caucasian and Asian groups: 1987–1994. *Suicide and Life-Threatening Behavior* 1997; 27(1): 80–91.
28. Bartels SJ, Coakley E, Oxman TE et al. Suicide and death ideation in older primary care patients with depression, anxiety, and at-risk alcohol use. *American Journal of Geriatric Psychiatry* 2002; 10(4): 417–427.
29. Mills TL and Henretta JC. Racial, ethnic and sociodemographic differences in the level of psychosocial distress among older Americans. *Research on Aging*, 2007; 23(2): 131–152.
30. Diego AT, Yamamoto J, Nguyen LH, and Hifumi SS. Suicide in the elderly: Profiles of Asians and Whites. *Asian American and Pacific Islander Journal of Health* 1994; 2:49–57.
31. Watari K and Gatz M. Dementia: A cross-cultural perspective on risk Factors. *Generations* 2002; Spring: 32–38.
32. Graves AB, Larson EB, White LR, Teng EL and Homma A. Opportunities and challenges in international collaborative epidemiologic research of dementia and its subtypes: Studies between Japan and the U.S. *International Psychogeriatrics* 1994; 6: 209–223.
33. Gilman SC, Justice J and Saepharn K et al. Use of traditional and modern health services by Laotian refugees. *Western Journal of Medicine* 1992; 157: 310–315.
34. Espino DV and Lewis R. Dementia in older minority populations: Issues of prevalence, diagnosis, and treatment. *American Journal of Geriatric Psychiatry* 1998; 6: S19–S25.
35. Hinton L, Franz C, Yeo G and Levkoff S. Conceptions of dementia in a multiethnic sample of family caregivers. *JAGS* 2005; 53: 1405–1410.
36. Ross GW, Abbott RD, Petrovitch H et al. Frequency and characteristics of silent dementia among elderly Japanese-American men. The Honolulu-Asia Aging Study. *JAMA* 1997; 277(10): 800–805.
37. Dilworth-Anderson P and Gibson BE. The cultural influence of values, norms, meanings, and perceptions in understanding dementia in ethnic minorities. *Alzheimer Disease and Associated Disorders* 2002; 16(2): S56–S63.
38. National Alliance for Caregiving (NAC) and the American Association of Retired Persons (AARP). *Family caregiving in the US: Findings from a national survey*. Washington DC: NAC, AARP, 1997.
39. Youn G, Knight BG, Jeong HS and Benton D. Difference in familism values and caregiving outcomes among Korean, Korean American and White American dementia caregivers. *Psychology and Aging* 1999; 14(3): 355–364.
40. Segall MH, Lonner WJ, and Berry JW. Cross-cultural psychology as a scholarly discipline: On the flowering of culture in behavior research. *American Psychologist* 1998; 53: 1101–1110.

41. Sung K. Motivations for parent care: The case of filial children in Korea. *International Journal of Aging and Human Development* 1992; 34: 109–124.
42. Young HM, McCormick WM and Vitaliano PP. Attitudes toward community-based services among Japanese-American Families, *The Gerontologist* 2002; 42(6): 814–825.
43. Pinquart M and Sorensen S. Ethnic differences in stressors, resources, and psychological outcomes of family caregiving: A meta-analysis. *The Gerontologist* 2005; 45(1): 90–106.
44. Li H. Barriers to and unmet needs for supportive services: Experiences of Asian-American Caregivers. *Journal of Cross-Cultural Gerontology* 2004; 19:241–260.