Perceived Health, Life Satisfaction, and Cardiovascular Risk Factors among Elderly Korean Immigrants and Elderly Koreans

ABSTRACT

Acknowledging that changes in socio-cultural environment influence health status, the purpose of this study was to compare perceived health, life satisfaction, and cardiovascular health in elderly Korean immigrants and elderly Koreans. In this cross-sectional study, a convenience sample of 88 elderly Korean immigrants and 295 elderly Koreans 65 and older were recruited from Korean communities in the United States and Korea. Respondents’ perceived health was measured by self-assessment; life satisfaction was self-assessed using a dichotomous scale of general satisfaction with life; and cardiovascular health status was surveyed by self-report of major diagnosed cardiovascular risk factors (i.e., hypertension, hyperlipidemia, diabetes mellitus) and body mass index measurement for obesity. Despite having better perceived health and life satisfaction, elderly Korean immigrants also had higher prevalence of cardiovascular risk factors. The findings provide health care providers with useful information for effective health assessment of minority immigrants.
SOCIOCULTURAL ENVIRONMENT HAS A POWERFUL INFLUENCE ON INDIVIDUALS’ SUBJECTIVE WELL-BEING (E.G., PERCEIVED HEALTH, LIFE SATISFACTION) AND CARDIOVASCULAR HEALTH STATUS (HELLIWELL & PUTNAM, 2004). ACCORDING TO THE SOCIO-ECOLOGICAL MODEL OF HEALTH PROMOTION, ONE’S HEALTH AND WELL-BEING ARE DETERMINED BY A COMPLEX INTERPLAY OF ENVIRONMENT AND THE INDIVIDUAL (McLEROY, BIBEAU, STECKLER, & GLANZ, 1988). VOLUNTARY IMMIGRATION, SUCH AS FROM EAST ASIA TO THE UNITED STATES, RESULTS IN CHANGES IN SOCIOCULTURAL ENVIRONMENT (E.G., WESTERN CULTURE, LIVING CONDITIONS, SOCIOECONOMIC STATUS, LANGUAGE, SOCIAL NETWORKS, ROLE CHANGES, FAMILY STRUCTURE AND FUNCTION), EXPOSURE TO ASPECTS OF WESTERNIZED LIFESTYLES (E.G., UNHEALTHY DIET, SEDENTARY LIFESTYLE), AND LIMITED ACCESS TO HEALTH CARE RESULTING FROM LANGUAGE BARRIERS, LACK OF KNOWLEDGE ABOUT THE U.S. HEALTH CARE SYSTEM, AND LACK OF HEALTH INSURANCE.


THE HEALTH CONSEQUENCES OF IMMIGRATION CAN BE HIGH FOR MANY ELDERLY KOREAN IMMIGRANTS WHO MOVED TO THE UNITED STATES TO REUNITE WITH THEIR CHILDREN, PARTICULARLY FOR THOSE LACKING ADEQUATE PREPARATION FOR LIFE IN A NEW COUNTRY. IN ADDITION TO ACTUAL HEALTH CONSEQUENCES, SOCIOCULTURAL CHANGES HAVE BEEN SHOWN TO ALTER IMMIGRANTS’ PERCEPTION OF THEIR HEALTH. THIS STUDY EXAMINED THE EFFECTS OF SOCIOCULTURAL CHANGES IN PERCEIVED HEALTH, LIFE SATISFACTION, AND CARDIOVASCULAR RISK FACTORS BY COMPARING PERCEPTIONS AMONG ELDERLY KOREAN IMMIGRANTS IN THE UNITED STATES AND ELDERLY KOREANS IN SOUTH KOREA. IT WAS HYPOTHESIZED THAT ELDERLY KOREAN IMMIGRANTS WOULD HAVE POORER HEALTH, LIFE SATISFACTION, AND CARDIOVASCULAR HEALTH STATUS THAN ELDERLY KOREANS, DUE TO THE EFFECTS OF SOCIOCULTURAL CHANGES ON THE IMMIGRANT POPULATION.

LITERATURE REVIEW

PERCEIVED HEALTH STATUS

Perceived health status is defined as one’s general assessment of one’s own health and reflects one’s evaluation of medical, psychological, and social conditions (MOLARIUS & JANSON, 2002). Perceived health status reflects aspects of health not detected by objective biomedical examinations and is a major determinant of quality of life in most individuals (ERIKSSON, UNDÉN, & ELOFSSON, 2001). It has been viewed as a useful and inexpensive way of measuring the health status of adult populations and researched as a predictor of several health-related variables (SCHULZ ET AL., 1994).

Several studies have reported a strong association between perceived health status and morbidity and mortality in older adults (CHEUNG, 2000; DEEG & Kriegsman, 2003). Perceived health status varies with race, gender, and sociocultural environment (WEN, HAWKLEY, & CACIOPOPO, 2006). For example, African American individuals consistently report poorer health than Caucasians, even when education, income, and other health status indicators are controlled (CAGNEY, BROWNING, & WEN, 2005). Women tend to have lower perceived health status than men (PARSLOW, JORM, CHRISTENSEN, JACOMB, & RODGERS, 2004).

Environmental factors also have an important role in people’s perception of health and health management behaviors. Perceptions of the accessibility of the local environment were positively associated with self-rated health: Perceived access to leisure facilities was associated with increased participation in sports activities, and perceived access to a post office was associated with increased walking (Poortinga, 2006). Immigration results in an unfamiliarity with the environment and limited social boundaries for elderly Korean immigrants, which can have a significant influence on their perceptions of health.

LIFE SATISFACTION

Life satisfaction, an individual’s cognitive evaluation of his or her life, is used to assess overall feelings about one’s life. Factors such as having good social resources and close friendships, marital status (i.e., being married), financial status (i.e., being wealthy), role continuity (i.e., a continued sense of usefulness in old age), and active participation in leisure activities are related to higher levels of life satisfaction in older adults (BISHOP, MARTIN, & POON, 2006; LI & LIANG, 2007). Sociocultural environment also influences life satisfaction in later life. For example, people in poorer countries tend to possess lower life satisfaction than those in wealthier ones (DIENER, Suh, Lucas, & Smith, 1999). In American culture, individual happiness is considered very important in one’s life and thus people participate in socialization to fulfill their own needs; whereas in Korean culture, people socialize to fulfill responsibilities to their families, communities, and country (DIENER, DIENER, & DIENER, 1995). The differences in socialization priorities between cultures may be one reason for reports of less life satisfaction among Asians than European Americans (OKAZAKI, 2000).

It is possible that elderly Korean immigrants who lack fluent language skills and established social networks might have difficulty adjusting to life in America. Although previous studies report the influential role of sociocultural environment on life sat-
satisfaction in Caucasians (Schneider et al., 2004; Stein & Heimberg, 2004), this has not been examined in elderly Korean immigrants and elderly Koreans.

Cardiovascular Risk Factors

Researchers have reported high prevalence of cardiovascular disease (CVD) and mortality in Korean immigrants (Cho & Juon, 2006). CVD risk factors are highly prevalent among elderly Korean immigrants relative to other age-matched groups such as Caucasians and Hispanics who live in the United States, as well as in Koreans who reside in South Korea (Koya & Egede, 2007; Sin et al., 2009). The association between changes in cardiovascular risk factors (e.g., increased body mass index [BMI], sedentary lifestyle) and immigration are well documented in other populations such as Mexicans and other Asian ethnicities (Abbott et al., 2008; Bates, Acevedo-Garcia, Alegría, & Krieger, 2008). Living in a foreign country with a different personal environment (e.g., access to health care systems) and exposure to aspects of Westernized lifestyles (e.g., easy access to high-fat diet, automobile as a necessary tool for daily life) may affect health status and health management behaviors of elderly Korean immigrants. Despite the high prevalence of health risk factors, detection, awareness, and control of health problems are lacking in immigrant populations. Early identification and interventions are critical to promote health of this minority population.

STUDY PURPOSE

This study examined the effects of sociocultural changes in perceived health, life satisfaction, and cardiovascular risk factors by comparing elderly Korean immigrants and elderly Koreans to better assist health care providers fully address the anticipated health needs of their clients.

METHOD

A cross-sectional design was used for this study to compare perceived health, life satisfaction, and cardiovascular risk factors in elderly Korean immigrants and elderly Koreans. This study was approved by the investiga-

Living in a foreign country with a different personal environment...and exposure to aspects of Westernized lifestyles...may affect health status and health management behaviors of elderly Korean immigrants.

In Korea, 294 elderly Koreans were recruited from senior centers and social welfare centers in Seoul and Kangwon provinces by researchers (Y.-R.C., M.-A.C., J.K., M.-Y.J.) and trained research assistants. The research team in Korea (who are faculty members at Korean universities) obtained cooperation from the directors of the senior centers. Like in the United States, a research booth was set up in the senior centers. Data were collected between June and July 2004 by trained research assistants under the guidance of researchers.

Data Collection

Data collection in the United States and Korea was not done concurrently because of separate grant funding. The same trained research assistants were assigned to obtain designated physical measures throughout the data collection period to reduce measurement errors in both groups. Inclusion criteria for participants in both groups were age 65 or older and a Mini-Mental State Examination (Folstein, Folstein, & McHugh, 1975) score ≥23.

Instruments

The same instruments and protocol were used for data collection in both the United States and Korea. Perceived health status was assessed in a self-report interview format using well-known ordinal ratings of global self-rated health by asking “How would you rate your overall health?” Respondents selected from choices of 1 (poor), 2 (fair), 3 (good), or 4 (excellent). Good test-retest reliability using a single-item self-rated health instrument has been reported (Lungberg & Manderbacka, 1996). In other sociocultural contexts, perceived health status has been shown to be a valid indicator of later health outcomes, particularly among older adults. In the United States, older adults with poor self-rated health tend to have higher mortality (Idler & Benyamini, 1997; Wolinsky & Johnson, 1992) and poor physical functioning (Idler & Kasl, 1995).
compared with those rating their health as excellent or good.

Life satisfaction was measured in a self-report interview format with a dichotomous (yes/no) rating by asking “Are you satisfied with your life?” Satisfactory test-retest reliability and validity have been reported for this single-item global measure of overall life satisfaction (Andrews & Withey, 1976; Sousa & Lyubomirsky, 2001). The validity of global life satisfaction has been supported by examining its correlations with other health characteristics of individuals (Cohen, Doyle, Turner, Alper, & Skoner, 2003; Kiecolt-Glaser, McGuire, Robles, & Glaser, 2002).

Some of the cardiovascular risk factors were assessed in a self-report interview format. Participants were asked whether they had been diagnosed by health care providers with any of the following diseases: hypertension, hyperlipidemia, and diabetes mellitus. Overweight/obesity was defined by individuals’ BMI, obtained from weight and height measurements. Body weight was measured with a body fat monitor (Tanita® BF682W, Arlington Heights, IL) and height with a tape measure posted on a wall. BMI was evaluated using the World Health Organization (WHO) categories of Asian BMI (WHO Expert Consultation, 2004). Asian BMI has been shown to be an accurate measure of cardiac risk in Asian individuals (WHO Expert Consultation, 2004).

Data Analysis
All statistical analyses were performed using SPSS version 15.0. The level of significance was set at 0.05 in a two-tailed analysis. Descriptive statistics were performed to describe distributions of sample characteristics. Chi-square analyses were done to compare perceived health, life satisfaction, and cardiovascular risk factors between elderly Korean immigrants and elderly Koreans. Perceived health status categories (poor, fair, good, excellent) with small frequencies were combined into similar categories (poor/fair, good/excellent) to increase cell size.

RESULTS
Sample Characteristics
Eighty-eight elderly Korean immigrants and 295 elderly Koreans participated in this study. As shown in Table 1, significant group differences were found in age, living situation, educational level, and presence of health insurance. More elderly Korean immigrants were older, lived alone, and had higher education than elderly Koreans. All (100%) elderly Koreans had health insurance compared with 86.4% of elderly Korean immigrants.

Perceived Health Status
More elderly Korean immigrants (64.8%) reported better (good/excellent) perceived health than elderly Koreans (52.5%) (Table 2). Slightly fewer elderly Korean immigrants (13.6%) reported poor perceived health than elderly Koreans (14.6%). More older men reported having better (good/excellent) perceived health than older women in either the United States (79.5% men versus 46.2% women) or Korea (59.3% men versus 49% women).

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**Table 1**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Elderly Korean Immigrants (n = 88)</th>
<th>Elderly Koreans (n = 295)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men (n = 49)</td>
<td>Women (n = 39)</td>
</tr>
<tr>
<td>Mean age (SD)</td>
<td>78 (6.58)</td>
<td>74 (5.39)</td>
</tr>
<tr>
<td>Mean number of years living in the United States (SD, range)</td>
<td>17 (7.9, 1 to 35)</td>
<td>17 (7.9, 1 to 35)</td>
</tr>
<tr>
<td>Married (n, %)</td>
<td>37 (75.5)</td>
<td>16 (41)</td>
</tr>
<tr>
<td>Live alone (n, %)</td>
<td>12 (24.5)</td>
<td>23 (59)</td>
</tr>
<tr>
<td>Educational level (n, %)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>21 (42.9)</td>
<td>25 (64.1)</td>
</tr>
<tr>
<td>High school</td>
<td>11 (22.4)</td>
<td>10 (25.6)</td>
</tr>
<tr>
<td>Beyond high school</td>
<td>17 (34.7)</td>
<td>4 (10.3)</td>
</tr>
<tr>
<td>Has medical insurance (n, %)</td>
<td>43 (87.8)</td>
<td>33 (84.6)</td>
</tr>
<tr>
<td>Receives regular health check-ups (n, %)</td>
<td>24 (49)</td>
<td>21 (53.8)</td>
</tr>
</tbody>
</table>

Note. Descriptive statistics were used.
Life Satisfaction
As shown in Table 2, 90.9% of elderly Korean immigrants reported satisfaction with life, compared with 31.5% in elderly Koreans. No significant gender differences were found with life satisfaction in both elderly Korean immigrants and elderly Koreans.

Cardiovascular Risk Factors
Obesity, high blood pressure, and diabetes were highly prevalent in both elderly Korean immigrants and elderly Koreans. Among those, obesity and high blood pressure were dominant health problems. Approximately 80% of elderly Korean immigrants and 70% of elderly Koreans were overweight or obese (Table 3). Women in both groups had significantly higher mean BMI scores (26.3 versus 24.6, p = 0.002 in elderly Korean immigrants, 25.4 versus 23.8, p < 0.001 in elderly Koreans). Approximately 65% of elderly Korean immigrants and 55% of elderly Koreans had high blood pressure; 34.1% of elderly Korean immigrants and 18.3% of elderly Koreans had diabetes; and 19.3% of elderly Korean immigrants and 3.7% of elderly Koreans had hyperlipidemia.

DISCUSSION
Sample Characteristics
More elderly Korean immigrants were living alone (39.8%) than elderly Koreans (19.3%), possibly due to the availability of low-income senior housing and federal housing assistance. More elderly Korean immigrants had college or graduate education than elderly Koreans. Large numbers of Koreans immigrated to the United States after the United States changed its immigration policy in 1965 (Yoon, 1997). Those immigrants were more likely to be from urban, college-educated, and white-collar occupational backgrounds (Yoon, 1997). The elderly Korean group had a higher percentage of female participants than the elderly Korean immigrant group (65.1% versus 44.3%). One possible explanation about the difference in participation between genders in this study relates to the use of senior centers in Korea and the United States as recruitment sites. In the researcher’s observation in this study, higher numbers of women attended senior centers in Korea, whereas higher numbers of men attend senior centers in the United States. In addition, issues of transportation may have contributed to the lower participation of women in the United States. The majority of elderly Korean women in this generation do not know how to drive, thus limiting their access to senior centers in the United States (Jeon, Jang, & Rhee, 2009). In contrast, many senior centers in Korea are located within walking distance and are common gathering places for older women’s social activities. Since health insurance is handled by the government in Korea, 100% of the elderly Koreans in this study had health care coverage. Approximately 14% of elderly Korean immigrants did not have health care coverage, which can be a major barrier for preventive and diagnostic health assessment (Song et al., 2010).

Perceived Health Status
Contrary to other studies on immigration and health (Koya & Egede, 2007; McLeroy et al., 1988), more elderly Korean immigrants had better perceived health than elderly Koreans in this study. The hypothesis that elderly Korean immigrants would have poorer perceived health than elderly Koreans was not supported. Perceived health status is subjective and can be a reflection of

<table>
<thead>
<tr>
<th>TABLE 2</th>
<th>PERCEIVED HEALTH STATUS AND LIFE SATISFACTION OF ELDERLY KOREAN IMMIGRANTS AND ELDERLY KOREANS</th>
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<tbody>
<tr>
<td></td>
<td>Elderly Korean Immigrants (n = 88)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Men (n = 49)</td>
</tr>
<tr>
<td>Perceived health status</td>
<td></td>
</tr>
<tr>
<td>Poor</td>
<td>4 (8.2)</td>
</tr>
<tr>
<td>Fair</td>
<td>6 (12.2)</td>
</tr>
<tr>
<td>Good</td>
<td>33 (67.3)</td>
</tr>
<tr>
<td>Excellent</td>
<td>6 (12.2)</td>
</tr>
<tr>
<td>Life satisfaction</td>
<td>44 (89.8)</td>
</tr>
</tbody>
</table>

Note. Chi-square analysis was used.
people’s evaluations of many medical, psychological, and social conditions in their lives (McLeroy et al., 1988; Molarius & Janson, 2002). As the socio-ecological model of health promotion illustrates (McLeroy et al., 1988), better social welfare systems (e.g., monthly stipend from the federal government, independent living status) (Sin, LoGerfo, Belza, & Cunningham, 2004) could have influenced better perceived health in elderly Korean immigrants, as well as geographical selection of participants and convenience sampling. Similar to study findings in other countries (Asfar et al., 2007; Parslow et al., 2004), men in both groups had better perceived health than women. In both groups, more men were married and lived with a spouse. Other studies have reported a positive relationship between social support, including marriage, and perceived health (Fry, 2001; Joutsenniemi et al., 2006; Rutledge, Matthews, Lui, Stone, & Cauley, 2003).

Life Satisfaction
Contrary to the hypothesis of this study, more elderly Korean immigrants had better life satisfaction than elderly Koreans. The socio-ecological model of health promotion and several other studies report a significant association between an individual’s sociocultural environment and life satisfaction (Diener, Sandvik, Seidlitz, & Diener, 1993; Stein & Heimberg, 2004). People living in wealthier and individualistic countries had better life satisfaction than those in poorer and collectivistic countries (Diener et al., 1995). Financial assistance from the government and the independence afforded from access to low-income housing (Sin et al., 2004; Wilson, Mottram, & Sixsmith, 2007), as well as adoption of the conventionally presumed American way of thinking and coping strategies (e.g., socialization for self-satisfaction), could have influenced better life satisfaction in elderly Korean immigrants. Contrary to other studies (Hutchinson et al., 2004; Ritsner, Ponizovsky, Nechamkin, & Modai, 2001), no gender differences were found for life satisfaction in this study.

Cardiovascular Risk Factors
Obesity, high blood pressure, and diabetes were commonly found health problems in both elderly Korean immigrants and elderly Koreans. Despite the better perceived health of elderly Korean immigrants, more elderly Korean immigrants than elderly Koreans had been diagnosed with hyperlipidemia, diabetes, and high blood pressure, supporting the hypothesis of this study. This supports the high prevalence of CVD risk factors and mortality found among immigrants (Cho & Juon, 2006; Sin et al., 2009). The socio-ecological model of health promotion might explain the high prevalence of CVD risk factors among immigrants.

Although the prevalence of overweight/obesity between elderly Korean immigrants and elderly Koreans was not significantly different, it was the dominant health problem (79.6% in elderly Korean immigrants, 70.2% in elderly Koreans), followed by high blood pressure in both groups. More than half of the participants in both groups were above normal weight range, according to Asian BMI criteria (WHO Expert Consultation, 2004). Obesity is a primary risk factor for the development of high blood pressure, high blood cholesterol, and diabetes mellitus (Janssen,

<table>
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<tr>
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</tr>
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<tbody>
<tr>
<td></td>
<td>% Men (n = 49)</td>
<td>Women (n = 39)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>31 (63.3)</td>
<td>26 (66.7)</td>
</tr>
<tr>
<td>Hyperlipidemia</td>
<td>6 (12.2)</td>
<td>11 (28.2)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>17 (34.7)</td>
<td>13 (33.3)</td>
</tr>
<tr>
<td>BMI</td>
<td>0.37</td>
<td></td>
</tr>
<tr>
<td>&lt;18.5</td>
<td>1 (2)</td>
<td>1 (2.6)</td>
</tr>
<tr>
<td>18.5 to 22.9</td>
<td>7 (14.3)</td>
<td>9 (23.1)</td>
</tr>
<tr>
<td>23 to 27.4</td>
<td>37 (75.5)</td>
<td>15 (38.5)</td>
</tr>
<tr>
<td>&gt;27.5*a</td>
<td>4 (8.2)</td>
<td>14 (35.9)</td>
</tr>
</tbody>
</table>

Note. Chi-square analysis was used. Percentages may not total 100 due to rounding. *BMI >27.5 is considered obese.
Katzmarzyk, & Ross, 2004; Snijder et al., 2004).

In addition to the influence of aging on decreased muscle and increased body fat (Westerterp & Meijer, 2001; Wickramasinghe, DeFilippis, Lloyd-Jones, & Blumenthal, 2003), environment and lifestyle have a significant influence on weight gain and obesity (Whitaker, 2002). Participants’ length of residency in the United States ranged from 1 to 35 years. Several studies have reported a significant relationship between long-term immigration and a high risk of obesity among immigrants in the United States (Kaplan, Huguet, Newsom, & McFarland, 2004; Neuhouser, Thompson, Coronado, & Solomon, 2004). One study reported a positive association between overweight and length of residence in Korean American adults in California (Cho & Juon, 2006).

Most Koreans who participated in this study had small body frames with lack of apparent fat. Although Asians tend to have a lower BMI, they do have a higher percentage of body fat and different fat distribution than Caucasians with the same BMI (Martorell, Malina, Castillo, Mendoza, & Pawson, 1988). Health care providers not familiar with these physiological differences may overlook signs of obesity and its negative consequences in elderly Korean immigrants. These findings might be useful for health care providers for better health risk assessment of Asian Americans.

Women in this study had a higher prevalence of overweight/obesity than men, which is similar to findings from previous studies (Sharkey & Branch, 2004). This observation may reasonably be concluded as one of the reasons for a higher mortality rate from CVD (Rosamond et al., 2007). It further supports the lower perceived health status in women versus men in this study. This study supports the necessity for more studies on health management behaviors and emotional well-being of women to promote their health.

High blood pressure was the second most common health problem in both groups, as reported in another study on elderly Korean immigrants (M.T. Kim, Juon, Hill, Post, & Kim, 2001). More than 50% of elderly Korean immigrants and elderly Koreans had high blood pressure. Many factors, such as environment (e.g., increased sodium intake, physical inactivity) and race, might have influenced high blood pressure incidence (Reusser & McCarron, 2006). Increased blood pressure has been strongly associated with increased salt intake in other racial and ethnic groups (Franco & Oparil, 2006; Yamori et al., 2002). Koreans tend to have high dietary sodium intake. According to the Korean Food and Drug Administration, Koreans eat 4.9 grams of sodium on average every day, nearly twice the recommended level of less than 2.4 grams set by the WHO (Park, Paik, Skinner, Spindler, & Park, 2004). Main sources of sodium include traditional Korean foods such as kimchi, soybean paste, and soy sauce. High sodium intake might have a significant relationship with the high prevalence of high blood pressure in Koreans. Dietary assessment and counseling are needed to better manage high blood pressure in both elderly Korean immigrants and elderly Koreans.

According to the American Heart Association (AHA; n.d.b), nearly one in three U.S. adults has high blood pressure, but one third of these people are not aware of having it. In addition, poorly controlled blood pressure was reported among people taking high blood pressure medications (Lloyd-Jones et al., 2000). Only 51.1% of elderly Korean immigrants in this study had a regular health check-up. It is possible that many elderly Korean immigrants were not aware of their potential for having high blood pressure because they did not experience or recognize any associated symptoms. Considering the high prevalence of high blood pressure in elderly Korean immigrants, more attention on blood pressure management is needed by health care providers.

Diabetes mellitus was the third most prevalent health problem diagnosed in both elderly Korean immigrants and elderly Koreans. More elderly Korean immigrants had diagnosed diabetes mellitus than elderly Koreans (34.1% versus 18.3%). Changes in health management behaviors (e.g., sedentary behavior) and health status (e.g., overweight) may be two of the factors influencing higher prevalence of diabetes in elderly Korean immigrants. Elderly Korean immigrants’ poor recognition and control of diabetes may be due

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**KEYPOINTS**


1. Immigration had a significant influence on cardiovascular risk factors in elderly Korean immigrants.

2. Despite having better perceived health and life satisfaction, more elderly Korean immigrants in the United States had cardiovascular health risk factors such as overweight/obesity, high blood pressure, diabetes mellitus, and high blood cholesterol than did elderly Koreans in Korea.

3. Early identification of and intervention for asymptomatic risk factors in elderly Korean immigrants are desperately needed.
to poor health care utilization (Sohn, 2004). Diabetes mellitus was the cause of death of 73,965 Americans in 2003 (AHA, n.d.a), and thus early detection, awareness, and proper control are needed to prevent adverse effects of undermanaged diabetes in elderly Korean immigrants.

Approximately 19% of elderly Korean immigrants and nearly 4% of elderly Koreans reported having high blood cholesterol (hyperlipidemia). Although this is a significant finding, the prevalence of high blood cholesterol in elderly Korean immigrants may actually be higher than the results reported in this study, mostly due to lack of awareness (Lee, Yeo, & Gallagher-Thompson, 1993) and poor health care utilization (Sohn, 2004). Data from the 2000 Korean American Health Survey, a survey of 1,660 Korean Americans living in Los Angeles County, showed that 31% had never visited a medical doctor within the past 12 months for a check-up or consultation (Sohn, 2004).

Dietary pattern has a significant relationship with high cholesterol levels (Lee et al., 1993). The traditional Korean diet is based on rice and vegetables with rare consumption of saturated fats. A significant relationship between immigration and less consumption of Korean foods at home has been reported (J. Kim & Chan, 2004; K.K. Kim et al., 2004). Diet is critical in preventing many chronic diseases, especially cardiovascular disease. Given the reported increase in the number of CVD risk factors, studies of dietary patterns in this growing segment of older adult minorities is compelling because of its potential for CVD risk factor prevention.

LIMITATIONS

The study findings may be biased due to the use of single-item measures of perceived health and life satisfaction, self-reported measures of cardiovascular health status (i.e., high blood pressure, high blood cholesterol, diabetes), and use of a geographically limited convenience sample. Although single-item measures have satisfactory reliability (but do not allow the estimation of internal consistency) and validity, they can be more susceptible to social desirability biases (Sousa & Lyubomirsky, 2001). From a Korean cultural perspective, maintaining personal dignity (che-myun) is important for elderly Koreans (Sin et al., 2004), which may have resulted in this group responding more positively. More objective measurement of physical health status might increase the validity of the current findings.

The use of convenience sampling methods results in disproportionate numbers of men and women and personal characteristics (e.g., educational level) in both groups. Use of probability sampling can be a challenge in studies involving minority immigrants because of a limited pool of the population. Due to this study’s convenience sample, generalizability of the findings is limited to elderly Koreans with characteristics similar to those of the participants.

IMPLICATIONS FOR HEALTH CARE PROVIDERS

Health care providers need to offer minority immigrants health-related preventive, diagnostic, and educational programs. Without any apparent signs and symptoms of health problems, many elderly Korean immigrants may not seek health services. Health promotion and disease prevention were not popular concepts in the generation of elderly Korean immigrants surveyed (Sin et al., 2004). Living in a foreign country with limited language skills and lack of health insurance might contribute to lack of preventive health care use in elderly Korean immigrants. In addition, many minority immigrants may not be fully aware of how the American health care system works and may have limited access to health care resources.

Expanding and improving accessibility and availability of health care services to these minority immigrants is necessary. For example, developing culturally sensitive church- or community-based programs (e.g., health fairs, preventive education programs, placement of health materials in churches) can be a useful strategy. Many Koreans attend church, and thus church-based health fairs and education programs can be considered. In addition, use of volunteer nursing students at such health fairs can increase their cultural awareness and understanding of health issues in a minority community.

Since lack of English skills is one major barrier for preventive and diagnostic health care, health care providers with Korean cultural backgrounds and Korean language skills might provide effective health care delivery for this minority immigrant population. Furthermore, proper education of health care providers on the high prevalence of CVD risk factors in Korean immigrants, different body structures of Asians in comparison to Caucasians, and different health management behaviors based on culture (i.e., preventive health assessment not a popular concept among Koreans) is necessary for effective health assessment.

CONCLUSION

Despite having better perceived health and life satisfaction, more elderly Korean immigrants had cardiovascular health risk factors such as overweight/obesity, high blood pressure, diabetes mellitus, and high blood cholesterol than did elderly Koreans. Women were significantly more overweight and had poorer perceived health compared with men. Social welfare systems could have influenced perceived health and life satisfaction, and immigration had a powerful influence on cardiovascular risk factors.

Thus, early identification of and intervention for asymptomatic risk factors in elderly Korean immigrants are desperately needed. More studies on health management behaviors and emotional well-being of Korean women are needed to promote their health. The study findings serve as a
useful baseline for further interventions and study possibilities.

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