Loneliness, Depression and Health Status of the Institutionalized Elderly in Korea and Japan

Oksoo Kim1*, RN, PhD, Young-Soon Byeon2, RN, PhD, Jung-Hee Kim3, RN, PhD, Emiko Endo4, RN, PhD, Makoto Akahoshi5, RN, PhD, Hiromi Ogasawara6, RN, MS

1Professor, Division of Nursing Science, Ewha Womans University, Seoul, Korea
2Professor, Division of Nursing Science, Ewha Womans University, Seoul, Korea
3Full-time Lecturer, Department of Nursing, Woosuk University, Wanju-gun, Korea
4Professor, Musashino University, School of Nursing, Tokyo, Japan
5Professor, Miyazaki Prefectural Nursing University, Miyazaki, Japan
6Associate Professor, Miyazaki Prefectural Nursing University, Miyazaki, Japan

Purpose  The purpose of the study was to describe loneliness, depression, and health status in Korean and Japanese institutionalized elderly and explore differences between the countries. Also this study determined predictors of depression in each group.

Methods  Elderly subjects, aged 65–98 (n = 184), were recruited from private nursing homes in Korea and Japan. Subjects were interviewed on health status, loneliness, and depression.

Results  Korean subjects had higher loneliness scores than Japanese. More Korean elderly had depressive symptoms than Japanese elderly. The mean GDS score of Korean elderly was 8.07 and that of Japanese elderly was 5.21. Korean elderly had less physical function, and perceived their general health to be poor. Loneliness and perception of general health were significant predictors of depression in Korean and Japanese subjects.

Conclusion  It is necessary to assess the levels of loneliness and depression of institutionalized Korean elderly and pursue an intervention to reduce these problems. [Asian Nursing Research 2009;3(2):63–70]

Key Words  aged, depression, health status, loneliness

INTRODUCTION

In recent times, Korea has become an increasingly aging society. The elderly aged 65 and over constituted about 9.7% of the Korean population in 2005 and numbers are expected to reach more than 24.1% in 2030 (Korea National Statistical Office, 2005). In Japan, people over 65 years of age constituted 20.0% of the population in 2005, with an anticipated 31.8% in 2030 (National Social Security, 2006).
With the growing elderly population, an interest in physical and psychosocial health of the elderly has concomitantly increased.

Depression in the elderly is a widespread problem that is often not diagnosed and frequently under treated in Korea (Yang & Rim, 2006). The levels of depression of institutionalized Korean elderly are reported to be higher than those of community residing Korean elderly (Oh & Choi, 2005). Previous findings suggest that depression can be associated with an increased risk of incidence of dementia and ideation of suicide in the elderly (Devanand et al., 1996; Vannoy et al., 2007). Therefore, healthcare providers need to recognize the factors associated with depression in the institutionalized elderly so they can be prevented.

Loneliness and worsening health have been shown to be risk factors for depressive symptoms. Cacioppo, Hughes, Waite, Hawkley, and Thisted (2006) reported that higher levels of loneliness were associated with more depressive symptoms in older adults.

In the process of aging, elderly people experience decreasing physical function and worsened general health (Crews & Zavotka, 2006; Martin, Bishop, Poon, & Johnson, 2006). It has been found that when considering psychosocial status such depression has a relationship with health (Jeon, Kim, & Kim, 2005). Residents in nursing homes have many physical and psychosocial needs, as elderly people who move into nursing homes experience a rapid change in their psychophysical balance (Degenholtz, Kane, Kane, Bershadsky, & Kling, 2005; Scocco, Rapattoni, & Fantoni, 2006).

In Korea and Japan, the oldest son or daughter of a family traditionally takes care of their elderly parents. Today, this tradition is not being practiced to the same extent. The nuclear family is now the norm in Korea due to the rapid modernization of society. Many elderly people do not want to be a burden to their adult children. Therefore, the number of Korean elderly who want to enter nursing homes may increase in the future (Kim et al., 2005). The current knowledge is predominantly based on information from studies among community-dwelling elderly.

Few studies have examined loneliness and depression among nursing home clients.

Both countries are the most rapidly aging societies in Asia, and they share similar Confucian cultural traditions. Japan became an aging society earlier than did Korea, and the perspective on institutionalization of the elderly is more positive in Japan. Perspectives on nursing home institutionalization may influence psychological status in elderly people.

The purpose of this study was to investigate the differences in loneliness, depression, and health status in institutionalized Korean and Japanese elderly. In addition, the predictors of depression were examined in both groups.

METHODS

Participants and procedures

This study used a convenience sample of 184 institutionalized elderly. Eighty-one participants were Korean and 103 were Japanese. All were at least 65 years of age. Participants were recruited from two private nursing homes in Seoul, Korea and eight private nursing homes in Miyazaki, Japan. Directors’ approval were obtained from the institutions. Elderly people who could communicate with interviewers were included in this study. The participants were assured of anonymity and confidentiality. All participants gave written consent to participate in the study. All information was collected through face-to-face interviews using the questionnaires in Korean and Japanese by the investigators.

Measures

Loneliness was measured by the Revised UCLA Loneliness Scale (RULS; Russell, Peplau, & Cutrona, 1980). The RULS is a 20-item, 4-point scale ranging from never (1) to often (4), with a total score of 20–80. The RULS includes 10 items that reflect satisfaction with social relationships and 10 that reflect dissatisfaction (Russell et al.). The scores of items that were positively worded were reversed before summing. Reported Cronbach’s alpha was .94 (Russell et al.). In a validity test, loneliness scores
were significantly correlated with scores on the Beck Depression Inventory ($r=5.62$). Construct validity of the Korean version of the RULS was established and the reported Cronbach’s alpha was .93 (Kim, 1997). In this study, Cronbach’s alphas were .91 and .86 in the Korean and Japanese samples, respectively.

Depression of the subjects was assessed by the Geriatric Depression Scale-15. The Geriatric Depression Scale-15 (GDS-15) is a short, 15-item instrument specifically designed to assess depression in geriatric populations. Its items require a yes/no response. The Geriatric Depression Scale was first introduced by Yesavage (1992), and the short form (GDS-15) was developed by Sheikh and Yesavage (1986). A GDS score of 6 or higher, up to 15 is indicative of “probable” depression. Concurrent and discriminant validity of the Korean version of the GDS was established and the reported Cronbach’s alpha was .90 (Bae & Cho, 2004). Sensitivity and specificity of the Japanese version of GDS were reported (Schreiner, Hayakawa, Morimoto, & Kakuma, 2003). The reported Cronbach’s alpha was .85 in the Japanese GDS (Ide, 2000). In this study, Cronbach’s alphas were .81 and .80 in the Korean and Japanese sample, respectively.

Physical functioning and general health perception was measured to evaluate health status using SF-36 Version 1 (Stewart, Hays, & Ware, 1988). The 36-item Medical Outcome Short Form Health Survey (SF-36) questionnaire was designed as a generic indicator of health status for the general population, which allows it to be self-administered. Physical Functioning is assessed using a 10-item, 3-point scale and the General Health Perception is assessed using a 4-item, 5-point scale. For each scale, item scores are summed and transformed on a scale from 0 (worst possible health status) to 100 (best possible health status). Discriminant validity of the Korean and Japanese versions of SF-36 was established and reported Cronbach’s alphas were .93-.94 and .84-.86 in the Korean and Japanese version, respectively (Fukuhara, Bito, Green, Hsiao, & Kurokawa, 1998; Han, Lee, Iwaya, Kataoka, & Kohzuki, 2004). Cronbach’s alphas for Physical function were .93 and .92, and .66 and .84 for General Health Perception in the Korean and Japanese samples, respectively.

**Statistical analysis**

Statistical tests (two-tailed, $p<.05$) were carried out using SPSS (Version 15.0). Chi-square test and $t$-test were performed to show comparisons of Korean and Japanese elderly in demographic variables which included age, gender, education, marital status, the number of children and current illnesses. ANCOVA was conducted to assess a difference between Korean and Japanese elderly in study variables (loneliness, depression and health status). Age, gender, education and current illness were controlled as covariates. Simultaneous multiple regression analysis was used to test loneliness, physical function and general health perception had significant effects on depression in each group.

**RESULTS**

**General characteristics**

Table 1 shows a comparison between the background variables in Korean and Japanese elderly (age, gender, education, having a spouse, the number of children, and current illness). A significant difference was found between the average age of Korean elderly compared with that of the Japanese ($t=-3.07$, $p=.00$). The majority (93.8%) of Korean older adults institutionalized in Korean nursing homes were female, while 74.8% were female in Japanese nursing homes. Concerning educational level, the majority of the Korean elderly (90.0%) graduated from high school or higher constituted the greatest percentage in this variable. More Korean subjects reported having current illness (96.3%; $\chi^2 = 6.85$, $p = .01$) compared with Japanese (84.5%). No significant group differences were found for having a spouse and children.

**Level of loneliness, depression, and health status**

There was a significant difference in the level of loneliness between Korean and Japanese participants.
Korean subjects had higher loneliness scores than Japanese ($t=24.53, p=.00$).

In terms of loneliness, moderate loneliness was the most prevalent in the loneliness group of Korean elderly, while low loneliness was most common among the Japanese elderly.

In depression, the mean GDS score of Korean elderly was 8.07, while that of Japanese elderly was 5.21. However, there was no significant mean difference in the level of depression between the Korean and Japanese ($t=2.25, p=.14$). Notably, 66.7% of the Korean elderly scored ≥ 6 on the GDS, which indicates the need for further evaluation. This prevalence of depressive symptoms was higher than the rate of 41.7% among the Japanese elderly ($\chi^2 = 10.80, p=.00$). Fifty eight percent of the Japanese elderly were in the not depressed group.

The Korean elderly had less physical function ($t=6.66, p=.01$) and poor general health perception ($t=5.69, p=.02$).

### Table 1

*Differences in Background Characteristics in the Korean and Japanese Groups*

<table>
<thead>
<tr>
<th></th>
<th>Korean ($n=81$)</th>
<th>Japanese ($n=103$)</th>
<th>$t$ or $\chi^2$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (M ± SD)</strong></td>
<td>79.47 ± 6.28</td>
<td>82.57 ± 7.21</td>
<td>−3.07</td>
<td>.00</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>5 (6.2)</td>
<td>26 (25.2)</td>
<td>11.77</td>
<td>.00</td>
</tr>
<tr>
<td>Female</td>
<td>76 (93.8)</td>
<td>77 (74.8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td>73.87</td>
<td>.00</td>
</tr>
<tr>
<td>Elementary school or less</td>
<td>72 (90.0)</td>
<td>27 (26.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle school</td>
<td>4 (5.0)</td>
<td>31 (30.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High school</td>
<td>4 (5.0)</td>
<td>45 (43.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Having a spouse</strong></td>
<td></td>
<td></td>
<td>1.05</td>
<td>.27</td>
</tr>
<tr>
<td>Yes</td>
<td>15 (19.2)</td>
<td>14 (13.6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>66 (80.8)</td>
<td>89 (86.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Number of children</strong></td>
<td></td>
<td></td>
<td>4.21</td>
<td>.24</td>
</tr>
<tr>
<td>None</td>
<td>21 (25.9)</td>
<td>20 (19.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One</td>
<td>11 (13.6)</td>
<td>19 (18.4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two</td>
<td>12 (14.8)</td>
<td>25 (24.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three or more</td>
<td>37 (45.7)</td>
<td>39 (37.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Current illness</strong></td>
<td></td>
<td></td>
<td>6.85</td>
<td>.01</td>
</tr>
<tr>
<td>Yes</td>
<td>78 (96.3)</td>
<td>87 (84.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>3 (3.7)</td>
<td>16 (15.5)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### DISCUSSION

The purpose of this study was to identify the predictors of depression in Korean and Japanese elderly subjects dwelling in nursing homes by comparing each group’s depression, loneliness, physical function, and health perception.

**Multiple regression analysis**

Simultaneous multiple regression analysis was used to test which variables had significant effect on depression in each group. In these models, loneliness, physical functioning, and general health perception were entered as independent variables. Table 3 shows that loneliness and general health perception were significant predictors of depression for the Korean and Japanese subjects. Regression analysis indicated that 55% of the variance in depression scores was explained by these variables in the Korean elderly.
In this study, the level of loneliness in the Korean elderly was higher than that of the Japanese elderly. Furthermore, the level of loneliness that Korean institutionalized elderly experienced was higher than that of the Korean community-dwelling elderly (Kim, 2006). This may be because Korean institutionalized elderly do not have as many friendly relationships, compared with community-dwelling elderly, due to limitations in their social activities (Sung, 2006). One reason why the level of loneliness of the Korean elderly is higher than that of the Japanese is that Koreans view nursing homes very negatively. However, in Japan many view living in nursing homes as positive and may be seen as better than living in their own homes (Tsugaruya, 2004).

When classifying the level of depression, 66.7% of Korean elderly and 41.7% of Japanese elderly were depressed in this study. Jones, Marcantonio, and Rabinowitz (2003) reported that 20.3% of United States elderly dwelling in nursing homes were depressed, and Sherina, Rampal, Hanim, and Thong (2006) reported that 54% of the institutionalized elderly in Malaysia were depressed. Meanwhile, the level of depression of the Korean elderly is higher than that observed in the United States and Malaysia. In general, Koreans tend to consider living in nursing homes very negatively. A study by Kim et al. (2005) revealed that 62% of adult children did not intend to send their elderly parents to nursing homes. The reason given was that they

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**Table 2**

*Differences in Loneliness, Depression, Physical Function and General Health Perception in the Korean and Japanese Groups*

<table>
<thead>
<tr>
<th></th>
<th>Korean (n = 81)</th>
<th>Japanese (n = 103)</th>
<th>t or χ²</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loneliness</td>
<td>48.79 ± 9.39</td>
<td>36.35 ± 10.58</td>
<td>24.53</td>
<td>.00</td>
</tr>
<tr>
<td>Low</td>
<td>4 (6.1)</td>
<td>52 (50.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate</td>
<td>34 (51.5)</td>
<td>38 (36.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderately high</td>
<td>24 (36.4)</td>
<td>11 (10.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High</td>
<td>4 (6.1)</td>
<td>2 (1.9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depression</td>
<td>8.07 ± 3.84</td>
<td>5.21 ± 3.52</td>
<td>2.25</td>
<td>.14</td>
</tr>
<tr>
<td>GDS score &lt; 6</td>
<td>25 (33.3)</td>
<td>60 (58.3)</td>
<td>10.80</td>
<td>.00</td>
</tr>
<tr>
<td>GDS score ≥ 6</td>
<td>50 (66.7)</td>
<td>43 (41.7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical function</td>
<td>55.22 ± 16.65</td>
<td>69.75 ± 20.45</td>
<td>6.66</td>
<td>.01</td>
</tr>
<tr>
<td>General health perception</td>
<td>53.57 ± 15.15</td>
<td>68.98 ± 15.15</td>
<td>5.69</td>
<td>.02</td>
</tr>
</tbody>
</table>

Note. Because the comparison of loneliness group was performed by Fisher’s exact test, χ² was not presented.

**Table 3**

*Multiple Regressions Predicting Depression in the Korean and Japanese Groups*

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Korean</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>t</td>
</tr>
<tr>
<td>Loneliness</td>
<td>.61</td>
<td>5.83</td>
</tr>
<tr>
<td>Physical function</td>
<td>-.02</td>
<td>-.14</td>
</tr>
<tr>
<td>General health perception</td>
<td>-.22</td>
<td>-.203</td>
</tr>
</tbody>
</table>
believed that adult children should support their elderly parents.

The Korean elderly were found to have worse physical function and health status than the Japanese elderly. This corresponds to the results of a study that compared Korean community-dwelling elderly with Japanese community-dwelling elderly (Choi, Chae, Kim, & Jeon, 2006). This study found that the perceived health status of Korean elderly was lower than Japanese elderly. In Korea, when the elderly are healthy or economically stable, they tend not to dwell in nursing homes (Choi, 2002).

Depression was influenced by loneliness and general health status in Korean and Japanese elderly. This corresponds to the study results of Cacioppo et al., (2006) and Tiikkainen and Heillinen (2005). These studies examined United States middle-aged and elderly populations and reported that as the level of loneliness increased, both populations became more depressed. In a study by Rauch, Morales, Zubritsky, Knott and Oslin (2006) that targeted the Japanese elderly, it was revealed that the elderly who perceived themselves not to be in good health were more depressed. According to the results of a study by Lee and Kim (2005) concerning Korean low-income elderly, health status affected depression levels. The results of these two studies mentioned above indicate that poor health affects depression levels.

Aging has occurred in Japanese society earlier than in Korean society. Overall, the view regarding institutionalized elderly is more open and positive in the Japanese society. Hence, perceptions concerning institutionalized elderly are more positive in Japan. In Korea, when adult children cannot look after their elderly parents in their homes or when the elderly do not have enough money to support themselves, nursing homes are frequently used. Accordingly, Koreans are not likely to encourage their elderly parents to dwell in nursing homes because of Korean traditional filial piety. However, it is likely that the number of elderly dwelling in institutions such as nursing homes will increase because the number of elderly people in Korea is rapidly increasing. Therefore, it is necessary to assess the levels of loneliness and depression of institutionalized elderly and pursue an intervention to reduce these problems. In this study, the institutionalized duration was not considered as a factor affecting loneliness, depression, and health status. In future studies, institutionalized duration may be considered as an influencing factor.

In conclusion, elderly Koreans experience more loneliness than elderly Japanese. More Korean elderly had depressive symptoms than their Japanese counterparts. Additionally, physical function and health perception of elderly Koreans was found to be lower than the elderly Japanese in this study. To mediate depression in the elderly, health care providers need to assess the level of loneliness as a possible predictor of depression in the institutionalized elderly.

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