

Factors Affecting the Long-Term Care Preferences of the Elderly in Taiwan

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This study sets out to investigate the preferences of the elderly in northern Taiwan with regard to various types of long-term care services. Taking into consideration sociodemographics, health condition, and access to such medical care services, our study examined both economic and family factors in an attempt to gain an understanding of the knowledge of and attitudes toward, the various types of long-term care among the elderly. An interview survey was carried out by local public health nurses among a sample of 562 elderly Taiwanese residents (people aged 65 years or older) from 7 counties/cities in northern Taiwan, all of whom had been selected by means of multistage sampling. The survey was conducted using a questionnaire based on the Andersen and Newman model of health care utilization, with the intention being to gain a better understanding of the related factors. The results indicate that both ethnic background and the requirement for additional medical care services had significant effects on the long-term care preferences of the elderly in Taiwan, a finding that should help to provide a better understanding of the preferences for and availability of such long-term care services among the elderly. Such improved understanding could result in improving the quality of life for the elderly, particularly if they feel that their preferences have been taken into consideration and their needs have ultimately been met. (*Geriatr Nurs* 2008;29:293-301)

Introduction

Taiwan is currently confronting a potentially major crisis in terms of its ability to meet the health care needs of its elderly popula-

tion.¹ A combination of urbanization, changes in family structure (married, double-income couples with fewer children), longer life spans, and changing patterns of illness among the elderly means that the traditional pattern of elderly care by family members is increasingly being replaced by long-term institutional care.

At the beginning of the 21st century, Taiwanese citizens over the age of 65 years were accounting for 9.7% of the total population,² and according to a health survey carried out among the elderly, approximately 75% of this elderly population in Taiwan is suffering from 1 or more chronic diseases.³ Nevertheless, despite being afflicted with such chronic diseases, as long as they are capable of taking care of themselves within the community, these elderly residents still do not wish to consider long-term institutional care.⁴

The purpose of this study is therefore to explore the preferences for long-term care among the elderly, taking into consideration both economic and family factors. We believe that the findings of this study may help to provide a better understanding of the policy initiatives required with regard to appropriate long-term institutional health care service priorities.

The current long-term health care system for the elderly in Taiwan comprises of 3 major forms, home care, community-based care, and institutional care. The government-sponsored elderly home care system includes paid home care services and in-home care, including regular visits by qualified nurses to provide assistance with specific needs, such as the supervision of medication, changing of nasogastric or Foley tubes, direct medical care, rehabilitation, and other nursing services provided within the home aimed at maintaining optimal functioning.

Community-based care services include day and temporary care, with nursing staff providing care during the day for those with high-functional status in a setting that offers both medical treatment and rehabilitation. Day-care facilities aim to encourage the elderly to become involved in social activities, to provide a safe environment for exercise, and to help the elderly with their daily activities.

Institutional care services include nursing homes, which offer 24-hour nursing care for elderly patients who are seriously ill, and residential shelters, where the elderly are provided 24-hour living care services. The examination in this study of the long-term care service preferences expressed by the elderly in Taiwan is based on these 3 types of long-term care services.

Rabiner⁵ argued that elderly people's attitudes and beliefs will directly influence their choice of health care system, and indeed, according to Andersen and Newman's⁶ health beliefs model, factors such as demographic characteristics, including age, sex, ethnicity, educational background and attitudes (predisposing factors), as well as marital status, number of offspring, frequency of contact with relatives, health insurance, family income, and personal possessions (enabling factors), all have some influence on such choices.

When the elderly find themselves encountering functional difficulties that ultimately render them incapable of living independently, they have a requirement for both personal and health care services. By collecting information on such personal "predisposing" and "enabling" factors, as well as "personal needs" factors, we should be able to gain a clearer understanding of the long-term care preferences of the elderly.

The population of Taiwan comprises 3 major ethnic groups: the Holo, regarded as native Taiwanese; the Hakka, descended from the Han groups of southern China who intermarried with Fukienese and Cantonese; and the Mainlanders, descendants of the followers of Chiang Kai-Shek who fled the Chinese mainland in 1949. The Hakka maintain a stronger emphasis on the traditional Confucian value of filial piety than the other groups, which affects the preferences for long-term care among the elderly in this particular group.⁷

Methods

Design and Sampling

Our subjects were selected by means of multistage random sampling from 12 of the 88 administrative districts in northern Taiwan making up Taipei City, Taipei County, Hsinchu City, Hsinchu County, Keelung City, Taoyuan County, and Ilan County. The study districts were selected on the basis of the percentage of persons aged 65 years or older within the total population of each of the 88 districts; the 12 districts selected were identified as having a suitable elderly population for the purpose of this study.

Fifty subjects were randomly selected from each district, resulting in a total sample of 600 elderly residents. The inclusion criteria comprised age (65 years or older), intact cognition, competence in verbal communication, and consent to be interviewed by public health nurses. Thirty-eight subjects were excluded from the study as a result of missing data. Following the checking of the goodness of fit and the comparison of our data with the annual report on elderly citizens in northern Taiwan,⁸ we found no significant difference between our study subjects and the general elderly population in terms of gender or age distribution.

Instrument

An appropriate structured questionnaire had previously been designed for use in our prior studies.⁹⁻¹¹ The questionnaire was appraised for content validity by 5 scholars working in the fields of public health and long-term care. Our instrument, the structured questionnaire, comprised 3 parts: 1) a background section detailing the subjects' sociodemographic characteristics (predisposing variables), including age, gender, ethnic origin, marital status, education level, religion, living arrangements, and economic condition; 2) the subjects' general health condition (based on their subjective report and self-assessment) and access to medical services, including perceived health status, chronic diseases, outpatient visits, emergency visits, hospitalization history, regular physical examinations, and preferred medical and rehabilitation services; and 3) the subjects' understanding of and

attitudes toward the available long-term care services.

The participants also reported their preferences for long-term care arrangements, having been asked, "If you needed long-term care services, taking every factor into practical consideration, which kind of long-term care would you feel more inclined to accept?" Our survey proposed 3 long-term care options: institutional care, community-based care, and home care. To avoid any misunderstanding among the subjects with regard to the difference between each category of long-term care, the interviewer clearly defined and explained the specific characteristics of each of the 3 categories.

The subjects were interviewed in their homes by public health nurses from local health centers; the interviewers had previously received a full day's preinterview training to ensure the uniformity of data collection and the reliability, consistency, and stability of the interviews. Any questionnaires judged by the head nurse to be either incomplete or ambiguous were returned to the interviewers for correction. The data collection was carried out between September 1999 and February 2000.

Statistical Analysis

SPSS 12.0 software for Windows was used to perform the statistical analyses, with descriptive statistics being calculated and frequency and percentage indications also being noted. The chi-square test was initially adopted for use with the inferred statistical data; in cases in which significant differences were noted between the variable measurements, multinomial logistic regression analysis was also employed. For the dependent variables affecting long-term care, home care was taken as the reference group, and institutional care and community-based care were regarded as the comparative groups. To account for the influence of other variables, the adjusted odds ratio (OR) was determined for each of the independent variables on the long-term care arrangement choices. The significance level (α value) was set at .05.

Results

Following the exclusion of 38 of the original 600 subjects as a result of missing data, the final sample comprised 562 study subjects aged 65 or

older. The subjects' sociodemographic characteristics are summarized in [Table 1](#).

The majority of the subjects (54.6%) were male, married (69.6%), with an average age of 72.8 years. Over half of the study subjects (53.7%) were Taiwanese Holo, a significant minority (32.6%) had received less than an elementary school education, and 40.7% followed the Taoist religion. Most of the subjects (85.3%) were currently unemployed, and a significant proportion (40.2%) reported that they were living with their spouse and their children, with 45.7% reporting a son and daughter-in-law as the primary caregivers. Over half of the subjects (54.8%) did not receive any subsidies, either from the government or from other institutions.

Chi-square analysis was carried out to investigate the associations between the long-term care preferences of the elderly and their sociodemographic characteristics, with the results indicating that their long-term care preferences had statistically significant associations with gender, ethnic origin, educational level, religion, co-residents, primary caregiver, and receipt of medical assistance.

The relationships between the health of the subjects and their preferences for home care or community-based care are summarized in [Table 2](#), which shows that slightly less than half of the subjects (47.7%) described their overall physical condition as fair. The vast majority (82.0%) reported that they were suffering from chronic diseases, with hypertension being reported by almost half of the respondents (47.4%), followed by a quarter of the subjects (25.8%) who were suffering from diabetes.

Although three quarters of the subjects (75.2%) had visited a doctor within the previous 3 months, a significant majority (85.2%) had not used any emergency medical services within the previous year, and 83.5% reported that they had not been hospitalized within the previous year. Slightly more than half (52.4%) stated that they had received regular physical examinations, whereas 51.9% indicated that they did not need any medical services, and 87.0% said that they had no requirement for any physical services (rehabilitation).

When questioned about their understanding of and attitudes toward long-term care, a majority of the subjects (68.4%) stated that they had heard of residential shelters; however, 77.9% had never heard of day care. More than 60%

Table 1.
Associations Between Subjects' Sociodemographic Characteristics and Preferred Type of Long-Term Care (N = 562)

Variables	Home Care (n = 414) n (%)	Community-Based Care (n = 54) n (%)	Institutional Care (n = 94) n (%)	P*
Gender				
Male	214 (51.7)	31 (57.4)	62 (66.0)	<.05 [†]
Female	200 (48.3)	23 (42.6)	32 (34.0)	
Age				
65–69 years	150 (36.2)	17 (31.5)	36 (38.3)	.09
≥70 years	264 (63.8)	37 (68.5)	58 (61.7)	
Ethnic origin				
Taiwanese Holo	236 (57.0)	27 (50.9)	39 (41.4)	<.01 [†]
Mainlanders	97 (23.4)	13 (24.1)	47 (50.0)	
Taiwanese Hakka	80 (19.6)	13 (24.1)	8 (8.5)	
Marital status				
Married	281 (67.9)	38 (70.3)	72 (76.6)	.25
Single/widowed/divorced	133 (32.1)	16 (29.7)	22 (23.4)	
Educational level				
Barely literate	146 (35.3)	16 (29.6)	21 (22.3)	<.05 [†]
Elementary school/literate	173 (41.8)	27 (50.0)	40 (42.6)	
High school or above	95 (22.9)	11 (20.3)	33 (35.1)	
Religion				
None	57 (13.8)	8 (14.8)	24 (25.5)	<.05 [†]
Taoism	179 (43.2)	21 (38.9)	29 (30.9)	
Others	178 (43.0)	25 (46.3)	41 (43.6)	
Co-residents				
Spouse and children	169 (40.8)	24 (44.4)	45 (47.9)	<.05 [†]
Spouse only	75 (18.1)	10 (18.5)	18 (19.1)	
Children only	113 (27.3)	17 (31.5)	14 (14.9)	
Others	37 (8.9)	3 (5.6)	17 (18.0)	
Primary caregiver				
Spouse	166 (40.1)	21 (38.9)	38 (40.4)	<.05 [†]
Son/daughter-in-law	200 (48.3)	25 (46.3)	32 (34.0)	
Others	48 (11.6)	8 (14.8)	24 (25.5)	
Monthly income (NT\$)				
12,000 or less	208 (53.3)	23 (46.9)	36 (39.1)	.69
12,001 to 18,000	42 (10.8)	8 (16.3)	17 (18.5)	
≥18,001	140 (35.9)	18 (36.7)	39 (42.4)	
Receipt of medical assistance				
No	169 (40.8)	25 (46.3)	59 (62.8)	<.01 [†]
Yes	245 (59.2)	29 (53.7)	35 (37.2)	

*Chi-square tests.

[†]Statistically significant.

were unaware that the National Health Insurance program in Taiwan did not cover the costs of day care, nursing homes, and residential shelters. Given a scenario in which such care were to become necessary, 36.9% said that they would be willing to accept home-based care, whereas almost half of the subjects (46.7%) said they would not be willing to enter residential shel-

ters. Among the older subjects, 37.9% stated that their decision would be largely dependent on the situation.

The potential confounders for each of the factors considered for further exploration within the sets of 2 comparative scenarios (home care vs. community-based care, and home care vs. institutional care) were all controlled for (Tables 2

Table 2.
Associations Between Elders' Health, Medical Conditions, and Preferred Type of Long-Term Care (Home Care vs. Community-Based Care)

Variables	N		Odds Ratio (95% CI)*
	Home Care	Community-Based Care	
Perceived health status			
Healthy	119	17	Ref (—)
Fair	199	22	0.89 (0.44–1.81)
Unhealthy	96	15	1.29 (0.59–2.82)
Seen a doctor within previous 3 months			
No	106	14	Ref (—)
Yes	308	40	1.00 (0.51–1.98)
Used emergency medical services within previous year			
No	355	48	Ref (—)
Yes	59	6	0.73 (0.29–1.81)
Hospitalized within previous year			
No	344	49	Ref (—)
Yes	70	5	0.49 (0.19–1.30)
Regular physical examination			
No	191	25	Ref (—)
Yes	223	29	0.92 (0.50–1.69)
Medical services			
No need for additional medical care	211	16	Ref (—)
Visiting medical care team	137	19	2.12 (1.02–4.40)*
Self-care information and others	66	19	4.39 (2.07–9.32)*
Physical services			
Not needed	359	43	Ref (—)
Needed	55	11	1.82 (0.86–3.84)
Activity			
Limited	284	36	Ref (—)
Not limited	130	18	1.06 (0.56–2.03)
Suffering from chronic disease			
No	74	6	Ref (—)
Yes	340	48	2.11 (0.84–5.34)

CI = confidence interval; Ref = reference group.

*Age, gender, and all significant variables in Table 1 were adjusted.

and 3). Of all the potential confounders, only the variable “required medical services” was found to be statistically significant. In the comparison between home care and community-based care, those subjects who stated a preference for community-based care were those who were in need of the services of a visiting medical care team (OR: 2.12, 95% confidence interval [CI]: 1.02–4.40). Furthermore, the subjects who needed “self-care information and other” showed an even stronger preference for community-based care, with an OR of 4.39 (95% CI: 2.07–9.32) (Table 2).

With regard to the comparison between home care and institutional care (nursing homes or residential shelters), the subjects who required treatment by a visiting medical care team had significantly lower preferences for institutional care to meet their long-term needs (OR: 0.45, 95% CI: 0.24–0.84) (Table 3). On the whole, after proper controls are put into place for the potentially confounding sociodemographic characteristics, our analysis indicates that the immediate need for medical services is the major determinant of preferences for long-term care among elderly people in Taiwan.

Table 3.
Associations Between Elders' Health, Medical Conditions, and Preferred Type Of Long-Term Care (Home Care vs. Institutional Care)

Variables	N		Odds ratio (95% CI) [^]
	Home Care	Institutional Care	
Perceived health status			
Healthy	119	24	Ref (—)
Fair	199	47	1.39 (0.78–2.49)
Unhealthy	96	23	1.22 (0.62–2.41)
Seen a doctor within previous 3 months			
No	106	21	Ref (—)
Yes	308	73	0.97 (0.54–1.74)
Used emergency medical services within previous year			
No	355	75	Ref (—)
Yes	59	19	1.39 (0.76–2.55)
Hospitalized within previous year			
No	344	78	Ref (—)
Yes	70	16	0.85 (0.45–1.61)
Regular physical examination			
No	191	47	Ref (—)
Yes	223	47	0.76 (0.47–1.25)
Medical services			
No need for additional medical care	211	59	Ref (—)
Visiting medical care team	137	17	0.45 (0.24–0.84)*
Self-care information and others	66	18	0.85 (0.45–1.60)
Physical services			
Not needed	359	87	Ref (—)
Needed	55	7	0.52 (0.22–1.25)
Activity			
Limited	284	73	Ref (—)
Not limited	130	21	0.65 (0.37–1.14)
Suffering from chronic disease			
No	74	16	Ref (—)
Yes	340	78	0.78 (0.41–1.49)

CI = confidence interval.

*Age, gender, and significant variables in Table 1 were adjusted.

Discussion

Our findings demonstrate that among elderly persons living in the community, as long as they are capable of caring for themselves, those afflicted by chronic diseases would not consider long-term care. As a result, the focus in this study was on an investigation into the types of long-term care services preferred by elderly people under a condition in which they were seriously ill or functionally incapable. In such a way, we might be able to gain a better understanding of the potential long-

term care needs of elderly people living within the community.

Our results indicate that more than 70% of the study subjects preferred home care, 20% were willing to accept institutional care (nursing homes or residential shelters), and only 10% would elect to receive community-based care. We therefore explored the preference for home care among those subjects receiving privately paid home care (44.7%) and government-sponsored in-home care (28.5%); privately paid home care service is a unique feature among Taiwanese people. Although the government

does not officially provide paid in-home care services, these services are nevertheless entrenched within Taiwanese communities.

Most of the subjects considered in-home long-term care to be their preferred delivery method, providing that the costs were reasonable and their medical condition was stable. According to a survey undertaken by the Ministry of the Interior in Taiwan,¹ despite the inability of some elderly residents (aged 65 years or older) to take care of themselves, they are generally reluctant to enter a residential shelter when they have the alternative of receiving care at home. It is clear that most elderly residents within Taiwanese communities are remaining at home and receiving appropriate care from their family members.

Among our study subjects, the second choice for long-term care was institutional care (16.7%), with residential shelters accounting for 12.1% and nursing homes for only 4.6%. Although most chronically ill elderly patients were aware of the advantages of home care, they were nevertheless reluctant to impose any social or psychological burden on their family over an extended period of time. Furthermore, it is natural that many family members would not have the necessary professional skills and abilities that would enable them to provide complex medical services¹²; in such circumstances, the preference for institutional care was higher than that for home care services.

We have already shown in [Table 1](#) that the preference for institutional care is greater among Mainlanders than Taiwanese Hakka; this generally reflects the strong traditional values of filial piety among the latter group. Thus, the preference for children providing home care for their parents is much stronger within Taiwanese Hakka communities than in communities with greater representation by other ethnic groups. However, it also appears to be the case that Mainlanders do not regard their children as lacking in filial piety if they decide to place their elderly parents in institutions as the means of ensuring their long-term care. It is clear that the diverse cultural values within the various ethnic groups in Taiwan appear to have important effects on overall preferences for long-term care services.

The dominant characteristics of our study subjects were Taiwanese Holo, married, with an average age of 72.8 years, a low level of formal education, and adherence Taoist religion. These results are similar to the findings of other surveys of elderly residents within Taiwanese communi-

ties.¹³ This study has found that a significant proportion of elderly people in Taiwan are currently living with their spouses, children, or grandchildren (or a combination of these), with only 10.1% of such people living alone.

Other studies have reported that adult offspring are the most common caregivers for elderly Taiwanese people in poor health, with the spouse as the second most common caregiver.^{13,14} Our study has also found that children are the major source of income (57.2%) for elderly residents living within the community, although retirement pensions (25.8%) and personal savings (24.6%) also provide some element of economic stability for such elderly people in Taiwan (data not shown). This finding provides support for the study undertaken by Hung and colleagues¹³ in the 1990s, which reported that most elderly people in Taiwan were cared for by family members and also received financial support from their children. Our findings are also corroborated by the study undertaken by Cornman et al.¹⁵ on the perceptions among elderly people of the social support networks available in Taiwan.

It is interesting to observe the percentage differences for each choice and the associations with the various sociodemographic and personal factors ([Table 1](#)). For example, relatively few subjects (9.6%) stated a preference for community-based care, with most of the subjects who did prefer such care being male, Taiwanese Holo, married, literate, already in receipt of medical assistance, and well informed about the various care options.

The considerable majority who indicated a preference for home care were also Taiwanese Holo and were already in receipt of medical assistance; however, they were generally low-income people, aged over 70 years, and married. Those subjects who preferred institutional care (either nursing homes or residential shelters) were mostly male and Mainlanders, and they held such preferences irrespective of the fact that a large percentage of them were married with children. Because this subgroup generally had little experience of receiving medical assistance, it is therefore possible that when they become severely ill or disabled, they may regard any form of institutional care as a reasonable choice.

In summary, we have found that home care is the type of long-term care services that is clearly preferred among elderly people in Taiwan. Our

study also indicates that the preference for institutional care is greater among Mainlanders than Hakka residents. However, elderly people requiring additional medical services are also found to have a preference for institutional care over home care services; thus, both ethnic origin and the requirement for additional medical care services are found to have important effects on long-term care preferences.

Furthermore, we have found that those elderly people in Taiwan who are willing to enter a residential shelter also have a much more positive attitude toward institutional care in general. We therefore suggest that public health nurses should take into consideration the ethnic traditions and attitudes of the elderly when discussing their preferences for long-term care.

Some limitations of the present study should be considered. These include the relatively small sample size, the constraints that led to the geographic districts examined in this study being limited to the northern Taiwan area, and the fact that the study method used involved nurse or subject interviews (or both), thereby providing either self-evaluation or subjective data. Any future studies in this area should aim to overcome these limitations.

Recommendations

As of the early part of this century, the elderly in Taiwan are clearly demonstrating a strong preference for paid in-home services. Public health nurses should be aware of this need and actively engage in enhancing the technical and caring quality of caregivers within the home, whether paid or unpaid. Yeh et al.¹⁶ identified continuing education for nurses and intensive nursing research as critical requirements for improving the overall quality of geriatric nursing in Taiwan because most caregivers are seen as lacking specific training in the care of the elderly, in both home and community settings.

Better training and a deeper understanding of the special concerns of the elderly will improve long-term care planning, as well as both the type and quality of the care received.¹⁷ We suggest that the government should consider a cost-effectiveness study that specifically takes into account quality of life—not only for the elderly but also for their caregivers. In the meantime, public health nurses should intensify their

efforts to understand the different preferences of the elderly for their long-term care and encourage family members to discuss all of the issues with them before they become functionally limited or seriously ill.

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