Effects of Quality of Service and Activities on Life Satisfaction of Residents in Nursing Homes

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Abstract
With the ageing of population and social changes, more and more older people are living in nursing homes in Malaysia. Yet there is still a dearth of research on institutional living arrangement among older Malaysians. This paper aims to examine the effects of quality of service, and number of daily activities on the life satisfaction of older persons living in nursing homes to provide some inputs for service providers to improve their services to cater to the needs of the residents. A survey was carried out in 2010 to solicit information from 173 residents of 24 nursing homes in the Klang Valley, the administrative, commercial and industrial hub of Malaysia. The finding shows that seven independent variables, age, sex, education, marital status, health status, quality of service, and daily activity participation, accounted for 22.6% of the variation in the life satisfaction. Quality of service is the most important predictor in the life satisfaction of residents, and hence it is crucial to have quality service in the nursing homes. Having recreational activities in the homes is also one of the ways to enrich the life of residents in nursing homes.

Keywords: activity, quality of service, nursing homes, life satisfaction

1. Introduction
The continuing decline in mortality and fertility has resulted in population ageing in Malaysia. The percentage of population aged above 60 increased from 5.5% in 1970, to 5.9% in 1991 and 6.3% in 2000. The number of persons above 60 years old has increased from 546 thousand in 1970 to 1.0 million in 1991, 1.4 million in 2000 (Pala, 2005), and is projected to reach 4.4 million in 2025 (United
Nations, 2007). Rapid economic development, migration and changes in family structure have weakened family support and care for older persons. While families remain the principal provider of care and support for older persons, an increasing number of older persons are living alone or in nursing home.

Various studies have found negative effects of institutional care on older persons’ health and well-being. Rigid hierarchical structure and general routine in the institutions give rise to dissatisfaction towards the quality of service, erosion of personal autonomy, loss of meaning and sense of belonging in life among the residents in nursing home, who feel isolated and lonely (Berglund, 2007; Bowling & Formby, 2002; Brooker, 2008; Kim, Jeon, Sok, & Kim, 2006; Lee, 1997). In the past, children in traditional Chinese society were duty-bound to provide personal and support their parents. However, with modernization and the rat race in the work place, placing parents in institutional care is no longer viewed as being un-filial in contemporary Chinese society (Tang, Wu, Yeung, & Yan, 2009). Institutional care for older persons is becoming an increasingly acceptable option to family elder care (Lloyd-Sherlock & Redondo, 2009). The surveys of attitudes about caring for older people in India also found a discernible shift in caring for older people over time (Jamuna, 2003; Lloyd-Sherlock & Redondo, 2009). For example, the percentage of adult children who considered taking care of elderly parents as their responsibility had declined to 77% in 1994, from 91% in 1984 (Jamuna, 2003). On the other hand, the percentage of children who supported the idea of sending older persons to nursing homes had increased from none to 23% during the same period (Jamuna, 2003). The high cost and quality of professional care in private institutions, and various benefits provided by private institutional care have changed the perception toward institutional care for older persons from stigma to privilege (Zhan, Feng, & Luo, 2008). Among individuals who have the financial means and access, private institutional elder care has become one of the familial care options in urban Malaysia (Dahlan, Nicol, & Maciver, 2010). Residents in nursing home are reported to have higher life satisfaction than those who resided at home alone or even with children (Zhan, Liu, & Bai, 2005).

Having knowledge of nursing homes might engender favorable attitudes toward institutional living arrangement (Tang, et al., 2009). Studies have shown that positive attitudes and perceptions toward nursing homes increase the odds of subsequent utilization of nursing homes services (Rabiner, 1996; Schoenberg & Coward, 1997) and acceptance of institutional care for the old parents (Tang, et al., 2009). In addition, spending money to acquire better care services for elderly parents is also viewed as one of filial behavior (Tang, et al., 2009). More and more older persons know that nursing homes are able to provide high quality and comprehensive caring services, especially for those with physical or mental disabilities.

Residents in nursing homes are seldom consulted in the programs planning for them to remain active to achieve a better quality of life. Kelly (1993) argued that it is important for old people to be engaged regularly, as activity is the context of the relationship and communication, and sharing with others are a central component of the meaning of the activity (Kelly, 1993). A better knowledge of the services and care received by residents in nursing homes and their engagement in activities and life satisfaction would provide useful inputs for service providers to enhance the quality of services and care provided to meet the expectation of older people living in these homes.

There is a dearth of research on the quality of services and life satisfaction of residents in nursing home in Malaysia. Elsewhere, studies have been carried out to examine the satisfaction with private nursing homes among older persons with brain stroke in Croatia (Brjakovic, Godan, & Godan, 2009), and hospital rehabilitation among older persons with hip or knee injuries in Italy (Franchignoni, Ottonello, Benevolo, & Tesio, 2002). The 30 older men and women in the study by Brjakovic and others (2009) reported high quality of life as they were very satisfied with the living conditions in the private nursing home. Patients’ satisfaction with the perceived quality of service contributed significantly to their life satisfaction (Franchignoni, et al., 2002). The studies cited above were on the
older persons with certain disabilities in private nursing homes and rehabilitation centres. To fill the lacuna in knowledge, there is a need to conduct research on nursing homes in Malaysia where the residents are of different socio-demographic background as well as health status. It is hope that our findings will contribute to the literature on elderly care in nursing homes.

Bottom-up approach on life satisfaction and activity theory provide the frameworks for examining the relationship between domain satisfaction, daily activity participation and life satisfaction of residents in nursing homes. Life satisfaction is one of the components of subjective well-being (Diener, Suh, Lucas, & Smith, 1999). The underlying assumption of bottom-up approach is that life satisfaction is the sum of the momentary pleasures and pains (Diener, 1984). It focuses on the influence of bottom-up factors such as demographics, external events and situations affecting happiness (Diener, et al., 1999), and also domain satisfaction on life satisfaction (Campbell, Converse, & Rodgers, 1976; Headey, Veenhoven, & Wepari, 2005; Krause, 1991; Schimmack, Diener, & Oishi, 2009; Yamada, King, Heo, & Fu, 2009). This paper will investigate the effect of quality of service provided by nursing home on the life satisfaction of residents.

The activity theory postulates that older people should continue to participate in activities to achieve higher life satisfaction. The relationship between activity participation and life satisfaction of older persons has been extensively studied (Baker, Cahalin, Gerst, & Burr, 2005; Chen, 2001; Gautam, Saito, & Kai, 2007; Iannuzzelli & England, 2000; Iwasaki, 2007; Jang, Mortimer, Haley, & Graves, 2004; Lloyd & Auld, 2002; McGuinn & Mosher-Ashley, 2001; Menec, 2003; Riddick & Stewart, 1994; Rubenstein, 1987; Sener, Terzioglu, & Karabulut, 2007; Sparks, Zehr, & Painter, 2004; Steinkamp & Kelly, 1985; Subaşı & Hayran, 2005), but few of these studies were on older persons in nursing homes. The effect of the number of activities participated on the life satisfaction of older persons is not consistent across different studies. Rubenstein (1987) and Baker et al. (2005) found that satisfaction is derived from participating in a wide variety of activities, not just one or two. The number of activities participated and the commitment of time in activities were found to be positively related with life satisfaction (Baker, et al., 2005). In another study, however, the number of activities engaged in was found to have no effect on life satisfaction of older adults in long-term care facilities (McGuinn & Mosher-Ashley, 2001).

This paper aims to examine the effects of quality of service and the number of daily activities on the life satisfaction of older persons living in nursing homes. The hypotheses to be tested are:

(i) Quality of service has positive effect on life satisfaction; and
(ii) Life satisfaction increases with the number of daily activities.

2. Methods

2.1 The sample and the survey

A list of nursing homes in Klang Valley was obtained from the Social Welfare Department and from the internet. Some of the nursing homes were no longer in existence or have refused to take part in this survey. A total of 24 nursing homes were visited in November and December 2010. Face-to-face interviews were carried out with 173 residents in the nursing homes using a structured questionnaire to solicit information on respondent’s background, health status, care and services received, activities and life satisfaction. The respondents were identified by the managers of the nursing homes for the interview.

2.2 Variables
Various socio-demographic variables and perceived health status were included as control variables in assessing the effects of quality of service and daily activity participation on life satisfaction. These variables are age, sex, education, marital status and perceived health status.

A 24-hour activity chart was used to capture the activities of the respondents. The daily activity participation is measured by the number of activities participated in a typical day. The score of quality of service is computed from responses to the following eight questions:

(a) Is your bedroom comfortable?
(b) Is your bedroom clean?
(c) Do the nursing staff treat you with respect?
(d) Is the food provided sufficient for you?
(e) Is the food provided suitable for you?
(f) Is there any in-house physician?
(g) Is there adequate number of staff in this home?
(h) Is there any recreational activity in this home?

A score of 1 is given to respondents who answered ‘yes’ and 0 for ‘no’. Answers for all the 8 questions are summed to obtain the score for quality of service. A higher score indicates better quality of service.

The dependent variable, life satisfaction index was created using the 10 items of the Life Satisfaction Inventory-Z (LSI-Z) (Neugarten, Havighurst, & Tobin, 1961). The following ten statements were asked:

(a) As I grow older, things seem better than I thought they would be
(b) I am just as happy as I was when I was younger.
(c) These are the best years of my life
(d) Most of the things I do are boring or monotonous
(e) The things I do are as interesting to me now as they ever were
(f) As I look back my life, I am fairly well satisfied
(g) When I think back over my life, I didn’t get most of the important things I wanted
(h) I feel old and somewhat tired
(i) I have gotten pretty much what I expected out of life
(j) In spite of what people say, the lot of the average man is getting worse, not better

A score of 1 is given to respondents who agreed with the statement and 0 for disagreeing with it. Answers for the negative items (items d, g, h, and j) were reverse-coded and then the 10 statements are summed to obtain the life satisfaction index. A higher score indicates higher life satisfaction. The Cronbach’s alpha value is 0.73.

2.3 Data Analysis

The ordinary least squares multiple regression analysis is used to estimate the life satisfaction of older persons according to the quality of service and daily activity participation, controlling for socio-demographic factors and perceived health status.
3. Results

3.1 Socio-demographic and perceived health status of respondents

The survey covered 173 residents from 24 non-government organizations (NGOs) and private-run nursing homes. A total of 81 respondents are from the NGOs and the rest are from the private nursing homes. The respondents in the sample consist of 82 males and 91 females aged 45 to 102 years old. The mean age of respondent is 75.5 with standard deviation of 10.2. In terms of ethnicity, 159 of the respondents are Chinese, 10 are Indians, and there is only one Malay respondent, while the remaining 3 are of other ethnic groups. A rather high percentage (42%) of the residents in nursing home were never married, while slightly more than half (56%) were currently married, and there were only 2 divorced men in the sample. For those who had ever married, the mean number of children is 3.4 with standard deviation of 2.4. Among the ever married respondents, 11% of them have no children, nearly one-third have 1-2 children, 30% have 3-4 children, and 26% have 5 children or more. Close to one in three respondents considered themselves to be in ‘very good’ health, a quarter in ‘good’ health, 36% have ‘moderate’ health, and only 6% perceived themselves to be in poor health. Females were more likely than males to perceive themselves to be in very good health. Among the respondents, about four out of ten had been ill during the last 6 months. The health problems reported by the respondents include knee problem, osteoporosis, high blood pressure, diabetes, dementia, asthma, stroke, gastritis and others. However, most of the respondents reported having good eyesight and good hearing, and are able to remember things.

3.2 Services and activities in nursing homes

The length of stay in the nursing homes varies substantially among the residents, with 28% having lived there for at least 5 years, a quarter between 2 to 3 years, another one-fifth between 1 to 2 years, and 29% for less than a year. Most respondents found their bedrooms to be comfortable and clean, and were satisfied with the food. Only a few require special diets. Almost all respondents opine that there is adequate number of staff in the home, and about one-third reported that there is an in-house physician. The score for quality of service ranges from 3 to 8, with an overall mean of 6.2 and standard deviation of 1.1. One in five respondents had a score of below 6, 44% had a score of 6, and 36% scored above 6.

Besides providing the basic services and health care, the nursing homes also organize various activities for the residents. Of the 24 nursing homes in this survey, about two-thirds of the homes reported having 1 to 4 scheduled activities for their residents. For those homes that do not have scheduled activities, the residents are free to carry out their own activities. The survey results show that respondents were most likely to be engaged in chit-chatting with other residents or receiving visitors. They also spent much of their time watching television or video or VCD or DVD, listening to the radio, or reading newspapers, but only one in five spent their time reading magazines or books. Data show that about half of the respondents spent their free time on physical activities such as walking, gardening, tai chi, qigong, dancing, etc. The residents in the nursing homes were mainly home-bounded, and only few of them went out shopping, visiting friends/relatives, and even fewer had spent their time in social or community meetings, and movies, theater or concerts. The number of activities participated by respondents in a day ranged from 0 to 6 activities, with a mean of 2.2 and standard deviation of 1.3. Generally, the older people in the homes were not very active, and it is worth noting that one in ten residents in the nursing homes did not have any activity. Overall, close to half of the respondents took part in only 1 or 2 activities, and about 38% had 3 or 4 activities, but only 3% had 5 or 6 activities. The mean number of activities of older persons in the homes is lower than that of older persons in the general population, with a mean of 3 activities in a day (Ng, 2010). This discrepancy may be explained by the older age and higher degree of disability among those in the nursing homes.
To the question on the types of activities they would like to have in the home, most respondents did not give any suggestion. Only 6% of the respondents would like the homes to organize activities, such as exercise, singing, dancing, watching television program and having a pet.

### 3.3 Life satisfaction

The life satisfaction index ranges from 0 to 10. The overall mean life satisfaction of respondents in this sample was 6.8 with standard deviation of 2.38. About one in five respondents had a score of 4 or below, and about a quarter had a score of between 9 and 10 (Table 1). The mean life satisfaction is similar to the mean life satisfaction of older persons in the general population, as found by Ng (2010).

<table>
<thead>
<tr>
<th>Life Satisfaction Index</th>
<th>Per cent</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>2.3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>3.5</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>3.5</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>8.7</td>
<td>15</td>
</tr>
<tr>
<td>5</td>
<td>2.9</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>15.0</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>19.1</td>
<td>33</td>
</tr>
<tr>
<td>8</td>
<td>16.2</td>
<td>28</td>
</tr>
<tr>
<td>9</td>
<td>17.3</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>10.4</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>173</strong></td>
</tr>
</tbody>
</table>

### 3.4 Bivariate Analysis and Multiple Regression Analysis

The Pearson correlation coefficient between the quality of service index and life satisfaction is 0.380 and it is statistically significant at the 0.001 level, implying a positive linear relationship between the two. The higher the quality of service index, the higher the life satisfaction and vice versa. However, the number of daily activities participated by respondents has no significant correlation with life satisfaction. The Pearson correlation coefficient of 0.112, implies that a weak linear relationship between the two.

Multiple regression model is used to determine the effects of quality of service and number of daily activities on the life satisfaction of residents in the nursing homes, controlling for socio-demographic factors and perceived health status. The socio-demographic factors and perceived health status are defined as follows:

- **AGE** Representing the actual age of respondents.
- **SEX** Is a dummy variable which takes the value of 1 if the respondent is a male, 0 for female.
- **EDU** Representing educational level of respondents. Two dummy variables were used.
EDU1 = 1 for primary education, 0 otherwise; EDU2 = 1 for secondary education or higher, 0 otherwise. The reference group is no schooling.

**MARRIED**  Representing the current marital status of respondents. It is a dummy variable which takes the value of 1 if the respondent is currently married, 0 for currently not married.

**PHEALTH**  Representing the perceived health status of respondents. It is a dummy variable which takes the value of 1 if the respondent’s perceived health status is good, 0 for poor health.

**SERVICE**  Representing the score of quality of service.

**ACTIVITY**  Representing the actual number of daily activities.

The dependent variable, life satisfaction is a quantitative discrete variable, ranging from 0 to 10, giving a total of 11 response categories, and it is appropriate to use the ordinary least square multiple regression analysis (Berry, 1993). Five main assumptions for multiple regression analysis had been tested and fulfilled. The assumptions are (a) linearity of the phenomenon; (b) constant variance of the error term (homo-scedasticity); (c) independence of the error term (no autocorrelation); (d) no perfect multicollinearity; and (e) normality of the error term distribution.

The parameter estimates of the model are shown in Table 2. The ANOVA F-test show that the model is statistically significant at the .001 significance level \((F(8,164)=7.3, p<0.001)\). The adjusted \(R^2\) of 0.226 shows that the socio-demographic factors, perceived health status, quality of service and number of daily activity participation explain 22.6% of the variation in life satisfaction of respondents. The low explanatory power is due to the discreet random variable ranging from 0 to 10.

**Table 2. Multiple Regression Model on Life Satisfaction of Respondents by Quality of Service and Number of Daily Activities Controlling for Socio-demographic Factors and Perceived Health Status**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>(B)</th>
<th>(SE) (B)</th>
<th>(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-1.322</td>
<td>1.667</td>
<td></td>
</tr>
<tr>
<td>AGE**</td>
<td>0.0444</td>
<td>0.017</td>
<td>0.192</td>
</tr>
<tr>
<td>SEX=1</td>
<td>-0.407</td>
<td>0.335</td>
<td>-0.086</td>
</tr>
<tr>
<td>EDU1=1*</td>
<td>0.933</td>
<td>0.419</td>
<td>0.183</td>
</tr>
<tr>
<td>EDU2=1</td>
<td>0.447</td>
<td>0.426</td>
<td>0.090</td>
</tr>
<tr>
<td>MARRIED=1***</td>
<td>-0.933</td>
<td>0.350</td>
<td>-0.195</td>
</tr>
<tr>
<td>PHEALTH=1*</td>
<td>0.806</td>
<td>0.364</td>
<td>0.168</td>
</tr>
<tr>
<td>SERVICE***</td>
<td>0.659</td>
<td>0.159</td>
<td>0.303</td>
</tr>
<tr>
<td>ACTIVITY*</td>
<td>0.224</td>
<td>0.125</td>
<td>0.123</td>
</tr>
</tbody>
</table>

*Notes: Adjusted \(R^2 = 0.226, \*p<0.05, \**p<0.01, \***p<0.001.*

The null hypothesis that the coefficient of SERVICE is less than or equal to zero is rejected \((p<0.001)\). SERVICE has positive coefficient of 0.659 means that the increase of one unit in the score of quality of service would cause the increase of mean life satisfaction by 0.659, with other variables in the models being held constant. This implies that quality of service has positive effect on the life satisfaction of residents in the nursing homes.
The coefficient of ACTIVITY is statistically significant ($p<0.05$). The null hypothesis that the coefficient of ACTIVITY is less than or equal to zero is rejected. The positive coefficient of ACTIVITY indicates an increase in the life satisfaction if respondents participate in more daily activities.

4. Discussion

The primary objective of this paper is to examine the effects of quality of service and number of daily activities on the life satisfaction of residents in the nursing homes in Klang Valley, Malaysia. The results of the analyses provide partial support for the two hypotheses. The first hypothesis that quality of service would be positively related to life satisfaction was supported by data at both the bivariate level and multivariate level. The second hypothesis was not supported by data at the bivariate level, but after controlling for selected socio-demographic characteristics, the effect of number of daily activities on life satisfaction was statistically significant, i.e. the greater number of daily activities, the higher the life satisfaction.

In general, quality of service and number of daily activities are important predictors for the life satisfaction of residents in the nursing homes. These findings are consistent with the existing research that suggests satisfaction with quality of service leads to a greater life satisfaction (Brajkovic, et al., 2009; Franchignoni, et al., 2002) and participation in more activities in a day enhances life satisfaction (Baker, et al., 2005). Hence, both bottom-up theory and activity theory are supported in this study.

Having comfortable and clean bedroom, treating residents with respect, providing sufficient and suitable food, having in-house physician, adequate number of staff and having more recreational activities in the nursing homes are important for all the residents. This reflects the need for nursing homes to improve their quality of service and the authority concerned should ensure that the quality of service is met in every nursing home. Engagement in activities daily is important for the residents in the nursing homes. Other than the usual leisure activities, it is necessary to encourage the public to visit the nursing homes. School and university/college student bodies can arrange for their members to visit nursing home and have some programs for the residents. Thus, the youth will be more aware of the issues related to the support and care of the older persons.

The limitation of this study is the survey coverage. Klang Valley is the most developed region in Malaysia. The expectation of residents from the service providers would be much higher than those from other parts of the country. A nation-wide survey on the residents of nursing homes should be given top priority in the research agenda of the relevant authorities, to provide a better understanding of the needs of residents in nursing homes in Malaysia so that appropriate measures can be taken to improve the quality of life of older Malaysians, in line with the objective of the fourth National Key Result Area propagated by the Government to improve the quality of life of the low income groups.

References


