

FACTORS ASSOCIATED WITH LEISURE PARTICIPATION AMONG THE ELDERLY LIVING IN LONG-TERM CARE FACILITIES

Li Li¹, Hong-Jer Chang^{2†}, Hung-I Yeh^{3,4}, Charles Jia-Yin Hou³, Cheng-Ho Tsai^{3,4}, Jui-Peng Tsai^{3*}

¹Department of Nursing Home, Mackay Memorial Hospital, ²National Taipei College of Nursing,

³Cardiovascular Division, Department of Internal Medicine, Mackay Memorial Hospital,

⁴Mackay Medicine, Nursing and Management College, Taipei Medical University, Taipei, Taiwan.

SUMMARY

Background: A lack of participation in leisure activities often leads to depression in the elderly. This study investigated the factors impacting leisure participation among the elderly living in long-term care facilities.

Methods: This cross-sectional study recruited 309 individuals older than 65 years from six long-term care facilities located in the Taipei area. Structured in-person questionnaires were administered to assess their demographic characteristics, general self-rated health status, leisure constraints, and leisure participation.

Results: The average frequency of leisure participation was 27.20 ± 12.48 points. The top five most popular leisure activities were watching television, walking, chatting, reading, and participating in religious activities. Elderly subjects who tended to be female, have religious beliefs, have a high school education level, be married, perceive themselves in better health, demonstrate better cognitive function and have higher scores on activities of daily living and instrumental activities of daily living scales were more likely to participate in leisure activities ($p < 0.05$). In contrast, those who were older, had stayed in the facility for a longer time period and had more leisure constraints were less likely to participate in leisure activities ($p < 0.05$). Overall, the predictive factors for leisure participation included religious beliefs, educational level, cognitive skill, instrumental activities of daily living score, depression, personal inner constraints, and structural constraints. The entire model was significant ($F = 11.03$, $p < 0.001$).

Conclusion: Based on the self-reported interests, health status and level of cognitive skill of elderly residents, long-term care facilities should arrange appropriate leisure activities to prevent depression and to improve quality of life. [International Journal of Gerontology 2010; 4(2): 69–74]

Key Words: depression, elderly, leisure activities, long-term care, physically handicapped

Introduction

According to a report from the Ministry of the Interior of Taiwan, the elderly population (age > 65 years) had reached 2,402,000 by the end of 2008, indicating that

10.4% of the entire population was elderly, and the aging index was 61.5%. These numbers increase year by year, as does the demand for long-term care¹. Long-term care includes general health care, personal care and social services^{2,3}, and institutionalized care has become one of the major choices for long-term care among elderly subjects. Ideally, institutionalized care provides the elderly not only with physical care but also with mental stimulation; however, institutionalized elderly residents often lack access to activities, stimuli and recreation, and if these services are provided, they are usually not individualized. In addition to the basic physical care and



ELSEVIER

*Correspondence to: Dr Jui-Peng Tsai, Cardiovascular Division, Department of Internal Medicine, Mackay Memorial Hospital, 92, Section 2, Chung Shan North Road, Taipei 10449, Taiwan.

E-mail: amanda1015h2o@yahoo.com.tw

Accepted: January 19, 2010

†Co-first author

health care, long-term care facilities need to provide these residents with social contact and leisure activities to strengthen and promote positive autonomous behaviors^{3,4}.

Leisure can be defined as time spent relaxing and engaging in activities from which one derives pleasure and a feeling of release^{5,6}. Engaging in leisure activity has the potential to improve quality of life⁷. The top five most popular leisure activities among the elderly are watching television, taking a walk, reading newspapers, visiting relatives or chatting, and traveling⁸. Leisure activities among the institutionalized elderly include reading, talking with friends, watching television, listening to the radio, and taking a walk⁹. Research indicates that many elderly people can only participate in moderate activities, because their physical abilities do not allow them to perform more strenuous exercise¹⁰.

The functional independence of elderly individuals has been positively associated with participation in leisure activities¹¹. Those individuals whose health was worse participated in fewer activities, and their activities were less varied¹². Elderly persons with cognitive disability suffered deterioration of their self-caring ability. Some had comorbid conditions such as stroke, which impaired their physical ability and hence negatively impacted their daily living skills¹³. The primary self-reported constraints on engaging in leisure activities were "being ill" and "being old"¹¹. However, participation in a leisure activity depended on the individual's motivation and will¹⁴. Currently, leisure activities at a long-term care institution are arranged based on the institution's leisure services policy, and the elderly are seldom allowed to arrange their own activities. Even if the elderly could decide on their leisure activities, their choices would be limited by the availability of equipment and structural plans of the facility.

A review of the literature indicated that previous studies focused primarily on the types of leisure activities the elderly preferred, their motivation for participation, and how to categorize these activities. Few studies examined factors related to activity participation. Those that did focused exclusively on community-dwelling elderly people, omitting those who were institutionalized. This study aimed at filling this gap in the literature.

The objectives of this study were twofold: (1) to understand the current state of participation in leisure activities of the institutionalized elderly; and (2) to examine factors associated with their leisure participation.

Materials and Methods

Participants and questionnaires

From February 1 to May 31, 2007, using purposive sampling, we recruited 309 subjects aged older than 65 years who were capable of filling out a questionnaire or could respond clearly to questions. The study population came from six long-term care facilities in Taipei City and Taipei County. These facilities had been in operation for more than 1 year and had received accreditation by the local government or the Ministry of the Interior. Approval was obtained from the facilities, and the elderly were recruited in person with information about the study. Those who were willing to participate signed a consent form. The content of the questionnaire was explained to the participants, who then filled in the questionnaire by themselves, and the researchers could provide assistance if needed. The structured questionnaire was divided into two parts: demographics (including sex, age, birth place, educational level, religious beliefs, marital status, economic status, and duration of living in the facility) and health status. General self-rated health was assessed by answers to the question, "In general, would you say your health is excellent, very good, good, fair or poor?"¹⁵ Cognitive status was assessed using Pfeiffer's Short Portable Mental Status Questionnaire (range, 0–10; errors with 8–10, 6–7, 3–5, and 0–2 point ranges indicating intact cognitive function, mild, moderate, and severe cognitive dysfunction, respectively) with more than three education-adjusted errors indicating impaired cognition¹⁶. Functional status was measured using the Barthel index¹⁷. Participants were asked about their degree of dependency in performing the following basic activities of daily living (ADL): bathing/showering, personal hygiene, use of stairs, eating, walking, going to the toilet, dressing/undressing, transferring, and urinary/fecal continence. Participants were classified into the following categories: severe dependency (0–20 points), moderate dependency (21–90 points), mild dependency (91–99 points), and independent (100 points). The Older Americans Resource Scale for instrumental activities of daily living (IADL) and the Center for Epidemiologic Studies Depression (CES-D)¹⁸ scales were also administered, with 0–15, 16–20, 21–30, and 31–60 point ranges indicating normal, mild, moderate, and severe depressive symptoms, respectively. The leisure constraints scale was also administered, with scores ranging from 0 to 19; higher scores indicated more leisure constraints¹⁹. The leisure participation scale was

based on a range of 0 to 132 points²⁰. Based on leisure participation reports of the institutionalized elderly, 33 leisure activities were listed. Participants were asked to list the frequencies of their participation in these activities during the past month. Their answers were scored 0 point for no participation, 1 point for less than once per month, 2 points for 2–3 times per month, 3 points for 1–2 times per week, and 4 points for almost every day. The leisure participation scale ranged from 0 to 132; higher scores indicated higher leisure participation frequency.

Statistical analysis

Data analysis was performed using SPSS 14.0 (SPSS Inc., Chicago, IL, USA) for Windows. Descriptive statistics including cross-tabulation analysis were used for the independent and dependent variables and to check for logic and accuracy of the data. In addition, based on the purpose of the study, the average, standard error, percentage, univariate analysis for the variables, and the Pearson correlation coefficient and multivariate regression model were used for further analysis.

Results

Of the 309 institutionalized elderly, the largest proportions comprised those who were female ($n = 189$, 61.2%), not born in Taiwan ($n = 172$, 55.7%), unmarried ($n = 249$, 80.6%), had religious beliefs ($n = 223$, 72.2%), and lived in the facility at their own expense ($n = 288$, 93.2%). Most of the elderly had a college education level ($n = 76$, 24.6%). The average age was 81.6 years (standard deviation, 5.9 years), and average duration of living in the facility was 5.5 years (standard deviation, 5.5 years). Most of the elderly perceived their own health as fair (average score, 3.48 ± 1.99), and most had normal cognitive skill, as measured by Pfeiffer's Short Portable Mental Status Questionnaire (average score, 8.72 ± 1.53).

According to the results of the Barthel index (average Barthel index score, 98.61 ± 5.54), most subjects could perform all of their daily activities, and thus belonged to the mild dependency category. More than half (56.6%) reported that they were "totally independent" and 43.4% reported that they "needed assistance" for their IADL (average Older Americans Resource Scale for IADL score, 12.6 ± 12.13 , indicating assistance needed but independent). Based on the CES-D scale, the average score was 14.45 ± 7.49 ; 63% of the elderly were not

depressed (CES-D < 15), whereas 37% had symptoms of depression (CES-D ≥ 16).

The leisure constraints scale was 5.3 ± 3.52 points, with the average score for "intrapersonal constraints" ranked as the first, "structural constraints" as second, while "interpersonal constraints" had the lowest average score. The average score for the leisure participation scale, which ranged from 0 to 65, was 27.20 ± 12.48 . These results revealed a large variation in leisure participation among the institutionalized elderly. The top five most popular leisure activities were, in order, watching television, taking a walk, chatting, reading (newspapers, magazines, books, novels), and joining religious activities. The least popular leisure activities were playing sports, collecting, using computers, playing chess, and attending courses.

The results of the *t* test indicated that among female respondents, those with religious faith, those who remained married, and those staying longer at an institution participated in leisure activities more frequently than did their counterparts (Table 1). The result of one-way analysis of variance indicated that subjects with an education level at senior high school participated in leisure activities more than those with other levels of education. The results from the Pearson correlation analyses showed that those with better self-perceived health, more functional independence in terms of ADL and IADL, more intact cognition, less depressive mood, and less leisure constraints were positively associated with a higher frequency of leisure participation (Tables 1 and 2).

Findings from multivariate regression analyses showed that the overall model reached the significance level ($F = 11.03$, $p < 0.001$). The adjusted R^2 value suggested that the regression model explained 34.2% of the variance in leisure participation (Table 3). The results indicated that while controlling for other factors, the elderly with religious beliefs, higher levels of education, good cognition, less dependency in IADL function, less depressive mood, and fewer personal and structural constraints for recreation participated in leisure activities more frequently than their counterparts.

Discussion

The results of this study suggest that compared with institutionalized elderly subjects who do not hold religious beliefs, institutionalized elderly subjects with religious

Table 1. *Bivariate analysis of demographics and leisure participation (n = 309)*

Variable	Mean ± SD	<i>t</i>	<i>p</i>
Sex		2.09*	0.04
Female	28.38 ± 12.37		
Male	25.35 ± 12.48		
Age		-0.13 [†]	0.02
Birth place		-0.105*	
Born abroad	27.13 ± 12.10		
Born in Taiwan	27.28 ± 12.99		
Religious belief		-3.33*	0.001
No	23.45 ± 11.76		
Yes	28.65 ± 12.48		
Education level		6.96 [‡]	<0.001
Illiterate	19.59 ± 10.76		
Elementary school	28.29 ± 11.65		
Junior high school	28.75 ± 15.91		
Senior high school	29.74 ± 10.31		
College	27.28 ± 12.99		
Marital status		-2.70*	0.007
Unmarried	26.27 ± 12.50		
Married	31.07 ± 11.73		
Economic status		1.85*	
Government-reimbursed	22.33 ± 11.58		
Own expense	27.56 ± 12.49		
Duration of institutional living	5.52 ± 5.47	-0.13 [†]	0.02

*Independent sample *t* test; [†]Pearson product-moment correlation; [‡]one-way analysis of variance. SD=standard deviation.

beliefs were more likely to participate in leisure activities. Consistent with prior studies^{12,21}, those with higher educational levels were more likely to participate in leisure activities. It could be that individuals with higher educational levels know more about how to access information regarding leisure activities and better understand the associated benefits; that knowledge may further increase the probability of participating in leisure activities. Compared with government-reimbursed residents, those who stayed in long-term care facilities at their own expense participated more in leisure activities. Among community-dwelling older persons and the elderly who lived alone, better economic status contributed to greater participation in leisure activities²¹. Depression was negatively associated with leisure participation, and the depressed elderly participated in fewer leisure activities. More serious depression often caused deterioration of physical and social function, which in turn decreased their participation in activities in their lives as well as their desire to engage in leisure activities.

Several inferences can be drawn from this study. First, the leisure activities provided in the long-term care facilities should be designed based on the residents' interests and personal needs. In the survey regarding leisure constraints, the answer "I am not interested in the activities arranged" had the highest score, indicating that interest was important for leisure participation among the elderly. Second, the residents' personal background, e.g., religious beliefs, should be taken into consideration in the design of leisure activities. Long-term care facilities should have available space or rooms for various religious activities. In addition, the planning of leisure activities should also take into consideration the educational level. For the elderly with less education who may be unable to read, written descriptions of activities should be replaced with illustrations or verbal explanations. Activities should be varied to meet the needs of a diverse population. As the findings showed that both functional dependency and cognitive impairment may prevent the elderly from participating in

activities, activity professionals may want to design programs to address the variety of needs of their residents. The provision of a wide variety of categories of activities, as well as equipment, is a viable solution. When there is a sufficient budget for the facility, more free leisure activities and equipment, such as fitness areas and

videos (televisions), should be provided, as well as books, newspapers, magazines, vehicles, holiday dinner parties and travel activities. Activities for which a fee is charged should be eliminated. By avoiding fee-based activities, leisure participation could be improved among those residents with a less favorable economic status. Third, leisure activities should be designed to fit individual needs, because these activities are not only for recreational purposes. During our visits, we discovered that the residents' interests changed after they entered a long-term care facility. Before living at an institution, some people enjoyed painting, calligraphy, gardening and traveling, but they could no longer engage in those activities after entering the facility. The reasons given were that "there was no table big enough for painting," "there were no tools for calligraphy," "there was no space for planting," and "there was no one to take me on a travel tour." Because the institution was not aware of these personal needs and did not provide the space and equipment for them, the elderly were forced to abandon these activities. Fourth, delivery of information regarding leisure activities should be improved. One of the primary leisure constraints found in the survey was the answer, "I am not

Table 2. *Pearson correlation analysis for health status, leisure constraints, depression, and leisure participation (n = 309)*

Variable	<i>r</i> *	<i>p</i>
Health status		
Self-perceived health status	0.26	<0.001
Cognitive function score	0.37	<0.001
ADL	0.16	0.006
IADL	0.38	<0.001
Depression	-0.50	<0.001
Leisure constraints		
Personal internal	-0.32	<0.001
Interpersonal relationship	-0.13	0.02
Structural	-0.28	<0.001

*Pearson product-moment correlation. ADL = activities of daily living; IADL = instrumental activities of daily living.

Table 3. *Regression analysis for demographics, health status, leisure constraints, and leisure participation (n = 309)*

Variable	B	SE	β	<i>t</i>	Adjusted <i>R</i> ²	<i>F</i>
Constant	37.07	7.55			0.34	11.03*
Demographics						
Sex	-2.06	1.28	-0.08	-1.62		
Age	-8.70	0.11	-0.41	-0.77		
Birth place	-0.57	1.31	-0.02	-0.43		
Religious belief	3.78	1.36	0.14 [†]	2.79		
Education level	5.60	1.83	0.15 [†]	3.06		
Marital status	1.54	1.56	0.49	0.99		
Economic status	-3.29	2.60	-0.07	-1.27		
Duration of institutional living	-9.67	0.13	-0.04	-0.77		
Health status						
Self-perceived health status	-0.58	0.32	0.93	1.80		
Cognitive function	1.64	0.45	0.20*	3.62		
ADL	-0.26	0.14	0.62	-1.87		
IADL	1.09	0.41	-0.00*	2.69		
Depression	-0.33	0.12	-0.16 [†]	-2.83		
Leisure constraints						
Personal internal	-0.45	0.26	-0.09 [‡]	-1.72		
Interpersonal relationship	0.17	0.88	0.01	0.20		
Structural	-1.21	0.55	-0.12 [‡]	-2.22		

**p* < 0.001; [†]*p* < 0.01; [‡]*p* < 0.05. SE = standard error; ADL = activities of daily living; IADL = instrumental activities of daily living.

sure when the activities will be held.” Therefore, effective delivery of information about when and where leisure activities take place is definitely important. In the six facilities, the approaches for delivering information included using posters, broadcasting, and inviting the elderly in person. However, during our visits, some residents complained, “I am illiterate and I do not understand what the poster is saying,” “I heard the broadcast, but it was not clear,” or “They came to invite me unexpectedly and I did not have enough time to get prepared.” These complaints indicated that there were some problems in the information delivery process, which reduced the opportunity to participate in the leisure activities. Fifth, self-caring abilities should be improved through occupational therapy. Some meaningful occupational therapy activities should be designed based on the residents’ physical and mental functioning, interests or hobbies, prior experiences, and habits. Occupational therapy could slow functional degradation in many of the elderly. The occupational therapists could also design customized activities and group activities to encourage the participation of these institutionalized elderly.

This study has its limitations. Firstly, the purposive sampling scheme for recruiting respondents has limited the inferences of its findings. Caution ought to be exercised when applying them to residents of institutions in the area beyond Taipei city and county. Second, cross-sectional data for this paper were incapable of examining patterns of change in leisure activities for the institutionalized elderly experiencing functional decline over time.

In summary, arranging appropriate leisure activities in a long-term care facility could improve not only the elderly residents’ ADL but also their physical functioning. In addition, the improvement in their physical functioning could further contribute to better self-perceived health status and to the prevention of the onset of depression, thereby enhancing their quality of life in the care facility.

References

1. Department of Statistics, Ministry of the Interior, Taiwan. National Indicators Statistics in Taiwan. Available at: http://www.moi.gov.tw/stat/news_content.aspx?sn=2197&page=0 [Date accessed: 17 May 2009]
2. Lee SD. Introduction to long-term care. *Med Today (Taiwan)* 2001; 29: 60–9. [In Chinese]
3. Kane RA, Kane RL. *Long-Term Care: Principles, Program and Policies*. New York: Springer Publishing, 1987.
4. Kadushin G. Home health care utilization: a review of the research for social work. *Health Soc Work* 2004; 29: 219–44.
5. Godbey G. *Leisure in Your Life: An Exploration*, 5th edition. State College, PA: Venture Publishing, 1999.
6. Kelly JR. *Leisure*, 3rd edition. Boston: Allyn Bacon, 1996.
7. Austin DR. The health protection/health promotion model. *Ther Recreation J* 1998; 32: 109–17.
8. Shi CF, Chen WC, Fan LJ. Leisure experiences and the extent of leisure participation among the elderly in Kaohsiung City. *She Chu Fa Chan Chi Kan* 2000; 92: 346–58. [In Chinese]
9. Devi NP, Murugesan PT. Institutional care for the elderly. *J Indian Acad Geriatr* 2006; 2: 15–20.
10. Chang GD. Comparisons and analyses among studies regarding satisfaction of leisure exercise. *Ta Chuan Ti Yu* 1999; 45: 69–78. [In Chinese]
11. Lin CR. The impact of leisure participation on leisure satisfaction and life satisfaction among the elderly. *Ta Chuan Ti Yu* 2000; 51: 156–62. [In Chinese]
12. Lin TJ, Lee SC. A study on the leisure participation, leisure benefits and leisure satisfaction of the older adult in Nantou County. *J Sport Recreation Manage* 2008; 5: 35–6. [In Chinese]
13. Dai YC, Yeh BC, Huang GH, et al. The cognitive function of senior hospitalized patients. *Formos J Med* 1999; 3: 279–86.
14. Edginton CR, Jordan DJ, Degraaf DG, et al. *Leisure and Life Satisfaction: Foundational Perspectives*. Madison, WI: Brown Benchmark Publishers, 1995.
15. DeSalvo KB, Jones TM, Peabody J, et al. Health care expenditure prediction with a single item, self-rated health measure. *Med Care* 2009; 47: 440–7.
16. Pfeiffer E. A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *J Am Geriatr Soc* 1975; 23: 433–41.
17. Shah S, Vanclay F, Cooper B. Improving the sensitivity of the Barthel index for stroke rehabilitation. *J Clin Epidemiol* 1989; 42: 703–9.
18. Shah AK, Phongsathorn V, Bielawska C, et al. Screening for depression among geriatric inpatients with short versions of the Geriatric Depression Scale. *Int J Geriatr Psychiatry* 1996; 11: 915–8.
19. Raymore LA, Godbey GC, Crawford DW. Self-esteem, gender, and socioeconomic status: their relation to perceptions of constraint on leisure among adolescents. *J Leis Res* 1994; 26: 99–118.
20. Cheng ST, Chan AC. Detecting depression in Chinese adults with mild dementia: finding with two versions of the Center for Epidemiologic Studies Depression Scale. *Psychiatry Res* 2008; 159: 44–9.
21. Reichert FF, Barros AJ, Domingues MR, et al. The role of perceived personal barriers to engagement in leisure-time physical activity. *Am J Public Health* 2007; 97: 515–9.