

We reviewed all autopsies conducted at our institution between 2000 and 2003 at the Tsukuba Medical Examiner's office (n = 178). Persons aged 65 years and over were included in the study. Cases of death with obvious causes or processes were excluded from the study and cases due to unnatural death, death from clear disease pathology or no family information, traffic accidents, drowning, suffocation, poisoning and alcoholism, other accidents, clear disease, pathology, and solitary living alone were included.

For the sample cases, we obtained the family caregiving information from the administration autopsy case records. We decided on the family caregiving information based on abuse-associated factors from previous studies. The investigative reports, autopsy findings, and all 178 cases were reviewed, and nine cases were classified as elder neglect.

Ethics

The study protocol was exempted from review by the institutional review board at the University of Tsukuba and Tsukuba Medical Examiner's office.

C. RESULTS

Final samples

Our research revealed nine autopsy cases of suspected elder neglect. Of the 178 cases (134 males and 44 females), 53 involved people aged 65 years or older (30%). A careful investigation of these 53 autopsy reports (39 males and 14 females) allowed us to exclude the obvious causes of death and unsuspected abuse. Excluded cases were 44 cases of traffic accidents (n = 21), drowning (n = 4), suffocation (n = 1), poisoning and alcoholism (n = 3), other accidents (n = 2), clear disease pathology (n = 1), solitary living (n = 2). The final sample of suspected neglect comprised of nine autopsy cases (three males and six females) (Fig.2).

Elder's characteristics

The neglected victims' median age was 83 years (3 males and 6 females; range, 68–91 years). According to the autopsy reports, two cases were severely starved, two were putrefied or mummified, three had pressure sores, two had dementia, and three had difficulty performing the activities of daily living.

Family member's characteristics and family background

The age of caregivers' (8 males, 1 female) ranged in age from 27 to 76 years with a median age of 52 years. Each victim had lived with one family member: their sons in five cases, and a grandson, brother, wife or husband in one case each. The caregiver's health conditions were depression (n = 2), alcoholism (n = 1), dementia (n = 1) and chronic illness (n = 1). The caregiver's backgrounds were unemployed (n = 5) or the family incomes were very low (n = 3). All cases had two family members. Their economical situations were social security (n = 2) and unable to pay rent (n = 1) (Table. 1.2).

D. DISCUSSION

This report focused on the family background of the elderly who were neglected by family members acting as their caregivers. We found that people who neglected the elderly were almost always males, especially sons. Moreover, all cases had two family members. Some caregivers were depressed, alcoholic, and unemployed, whereas some elderly had dementia and pressure sores.

Risk factors of elderly neglect

Our study has indicated that, in many of the cases where neglect had been suspected, the elderly victims were living with their male family members, especially their sons. In the present study, all cases occurred in two-people households. According to the studies conducted so far in Japan, the majority of abusers have been presumed to be victims' spouses or daughters-in-law who are engaged in caregiving; however, this result seems to be influenced by the fact that the majority of these preceding studies conducted in Japan are based on small-scale samples. In addition, the bias pertinent to sampling problems may also have influenced the result. A Japanese nationwide survey implemented in 2004¹⁹ on domestic abuse against the elderly revealed that 32.1%, i.e. the majority of the total cases of recognized elder abuse were perpetrated by victims' sons. The result obtained in the present study therefore has concurred with that of the nationwide survey with respect to the identity of the abusers.

We have postulated why the majority of suspected family abusers had been male caregivers, particularly victims' sons, to be as follows. The first would be the changing role of gender in the conventional Japanese perception in which family care was deemed to be particularly a task mainly for women. In general, male caregivers have had little experience in housework compared with their female counterparts²⁴, thus probably feel more burdens from daily household chores than women do. Besides, it is highly likely that men are benefiting less from

social support than women are. This is also evidenced by the aforementioned nationwide survey on domestic elder abuse. In terms of the caregiving environment for each relative, 25.7% of son caregivers, i.e. the highest, responded that they had “no one to cooperate or consult with regarding their caregiving”. In addition, all of the cases in the present study occurred in two-people households, which indicates inferior care and exacerbates the risk of abuse by few human contacts.

Furthermore, the family members living with the elderly in the present study included cases of depression, alcoholism and mental retardation. Homer has reported that alcoholism of caregivers is the most palpable predictor of elder abuse²⁵. According to Wolf¹⁴, 31% of alleged abusers have a previous history of mental disorder, whereas 43% have suffered from drug-related problems. As evidenced by the above, the results of the present study correspond to those of the preceding studies with regard to the risk factors from the perspective of caregivers. In addition, almost all of the subject family members living with the elderly in the present study were unemployed, hence signifying the possibility that they had been living under severe economic conditions with no sundry livelihood support such as welfare service. In other words, it appears highly likely that the subjects in the cases of the present study had been in a state of social isolation.

Change in family structure in recent years has resulted in an increasing number of male caregivers, and the trend is believed to be intensifying. According to a large-scale survey on caregiving for the elderly implemented by the National Alliance for Caregiving (US), male caregivers accounted for 27% of the total²⁶. The figure in Japan was reported to be 28.1% in the National Livelihood Survey conducted in 2007²⁷. In parallel with population strategy, it will be imperative to take active measures for such high-risk targets as identified in the present study, that is to say male caregivers who are engaged in caregiving under an environment where little or no support is available.

The issues and provision of policy for elder abuse and neglect in Japan

In Japan, the first national survey of elder abuse in the home was conducted in 2003. Moreover, a provision for the prevention of abuse, neglect and exploitation was established in “The elder abuse prevention and caregiver support law” in 2004. However, this law imposes an obligation to notify authorities to those who discovered the abuse only when the elderly are in serious jeopardy. Besides, there are no punitive clauses specifying the penalty for neglecting this obligation with some clauses merely encouraging discoverers to make the effort to report.

Nevertheless, the fact that such a law was enacted is of extreme significance as it clearly manifests a grave human rights violation stemming from elder abuse, which has been occurring behind closed doors. The law therefore has enlightenment value. It is also deemed to be the law intended to support caregivers, further epitomising its epoch-making nature. Nonetheless, the prevention and early detection of elder abuse through more effective enforcement of this law requires more active engagement in bureaucratic reduction, discovery effort, and reporting.

Limitations and future research

The present study has a few limitations that need to be addressed. First, the data reported here might not be representative of elderly population in terms of at least autopsy cases. In previous studies pointed out that autopsy cases population were low social classes. Therefore, our sample of elderly and family may be possibility bias. Second, final sample size of the present study were small. Further research should be increased ~~in~~ data sample. Third, we were unable to examine by rural area. Further research should explore other location, such as urban, semi-urban area.

On the other hands, despite these limitations, the present study has noted strength and will enhance the literature of elder abuse. In sum, the data of the present study has autopsy cases data, reliable by comparison with data in other studies that subject in investigation were family caregiver or public health nurse. This study, therefore, is considered to confirm an important aspect of the support for the family caregivers.

E. CONCLUSION

This investigation indicated that elderly parents living with their sons are a high-risk group for neglect. A recent study on elderly abuse also reported that the majority of the assailants were sons. This survey of autopsy cases revealed that provision of family support, especially for the socially isolated cases are required. Autopsy cases provide valuable information for public health. We should use this information effectively for the prevention of autopsy cases in the future.

F. ACKNOWLEDGEMENTS

The authors thank Dr. Ohashi, at the University of Teikyo Heisei (former Tsukuba Medical Examiner's office) for his academic comments as a specialist of Forensic Medicine. This study was partially supported by the Grant-in-Aid for Scientific Research of the Ministry of Health, Labour and Welfare (H24-Chikyukibo-ippan-001) Challenges of global ageing without borders: Studies on the recommendations by an interdisciplinary network originating in Japan to support the sharing of experiences and mutual respect. And the authors thank members in Department of Health Service Research in Faculty of Medicine, University of Tsukuba, for their kind advice regarding the analyses and discussion.

G. 研究発表

1. 論文発表 なし
2. 学会発表 なし

H. 知的財産権の出願・登録状況

(予定を含む。)

1. 特許取得 なし
2. 実用新案登録 なし
3. その他 なし

I. REFERENCES

- [1] WHO. Abuse of the elderly. In: Krug E, Dehlberg LL, Mercy JA, Zwi AB, Lozano R, eds. *World report on violence and health*. Geneva: WHO Press, 2002
- [2] Mark S. Lash, Christianna S. Williams, Shelley O'Brien, MS. The mortality of elder mistreatment. *JAMA*. 1998;280(5):428-432.
- [3] Pillemer K, Finkelhor: The prevalence of elder abuse: A random sample survey. *Gerontologist*. 1988; 28(1):51-57.
- [4] Podlkieks: National survey on abuse of the elderly in Canada. *J elder abuse neglect* 1992;4:5-58.
- [5] Ogg J, Bennett G. Elder abuse in Britain *BMJ*. 1992;305:988-9.
- [6] Toronstam L: Abuse of the elderly in Denmark and Sweden: results from a population study. *J elder abuse neglect* 1989;1:35-44.
- [7] Lash MS, Berkman L, Fulmer T, et al. A prospective community-based pilot study of risk factors for the investigation of elder mistreatment. *J Am Geriatr Soc* 1994;42:169-173.

- [8] The State of Aging and Implementation of Measures for an Aging Society in FY 2006.
- [9] Shinya Matsuda, Mieko Yamamoto: Long-term care insurance and integrated care for the aged in Japan. *Int J Integr Care* 2001;1.
- [10] Mosqueda L, Burnight K, Liso S, KemB. Advancing the field of elder mistreatment: a new model for integration of social and medical services. *Gerontologist* 2004 ; 44:703-708.
- [11] Teruko Ueda. Inadequate care by family caregiver of frail elderly living at home. *Japanese Journal of Public Health*. 2000;47:264-274.[in Japanese]
- [12] Pillemer K. The dangers of dependency: new findings on domestic violence against the elderly. *Social problems* 1985;33:146-151.
- [13] Wolf RS, Godkin MA, Pillemer K: Elder abuse and neglect: Final report from three model projects. Worcester, MA, University of Massachusetts Medical center 1984.
- [14] Gregory J. Pavaza, Donna Cohen, Carl Eisdorfer et al. Severe family violence and Alzheimer's disease: Prevalence and risk factors. *The Gerontologist*. 1992;32(4):493-497.
- [15] Coyne AC, Reichman WE, Berbig LJ. The relationship between dementia and elder abuse. *Am J Psychiatry* 1993.150.643-646.
- [16] Pillemer K, Suitor JJ: Violence and violent feelings: what causes them among family caregivers? *J Gerontol* 1992;47:S165-172.
- [17] Godkin MA, Wolf RS, Pillemer KA. A case-comparison analysis of elder abuse and neglect. *Int J Aging Human Develop*. 1989;28.207-225.
- [18] Terry Fulmer, Gregory Paveza, Carla VandaWeerd et al. Neglect assessment in urban emergency departments and confirmation by an expert clinical team. *Journal of Gerontology* 2005;60(8):1002-1006.
- [19] Institute for Health Economics and Policy. A survey of elder abuse in the home. 2004.
- [20] Eisenmenger W. Zur Begutachtung von Decubitalulzera. *Beitra Gerichtl Med* 47.345-347.1989.[in Germany]
- [21] Tsokos M, Heinemann A, Püschel K: Pressure sores: epidemiology, medico-legal implications and forensic argumentation concerning causality. *Int J Legal Med* 2000;113: 283-287.
- [22] Kayoko Akaza, Yasuo Bunal, Masatake Tsujinaka et al. Elder abuse and neglect: social problems revealed from 15 autopsy cases. *Legal Medicine* 2003; 5:7-14.

- [23] Bao-Li Zhu, Shigeki Oritani, Kaori Ishida et al. Child and elderly in forensic autopsy during a recent 5 year period in the southern half of Osaka city and surrounding areas. *Forensic Science International* 2000;113:215-218.
- [24] Maryam Navaie-Waliser, Aubrey Spriggs, Penny H. Feldman. Informal caregiving: Differential experiences by Gender. *MEDICAL CARE* 2002;40(12):1249-1259.
- [25] Homer AC, Gilleard C: Abuse of elderly people by their carers. *BMJ* 1990; 301;1359-1362.
- [26] National Alliance for Caregiving and AARP. Caregiving in the U.S. 2004
- [27] Ministry of Health, Labour and Welfare. National Livelihood Survey. 2007
<http://www.mhlw.go.jp/toukei/list/20-19.html>

Fig.1 System of Forensic Autopsies in Japan

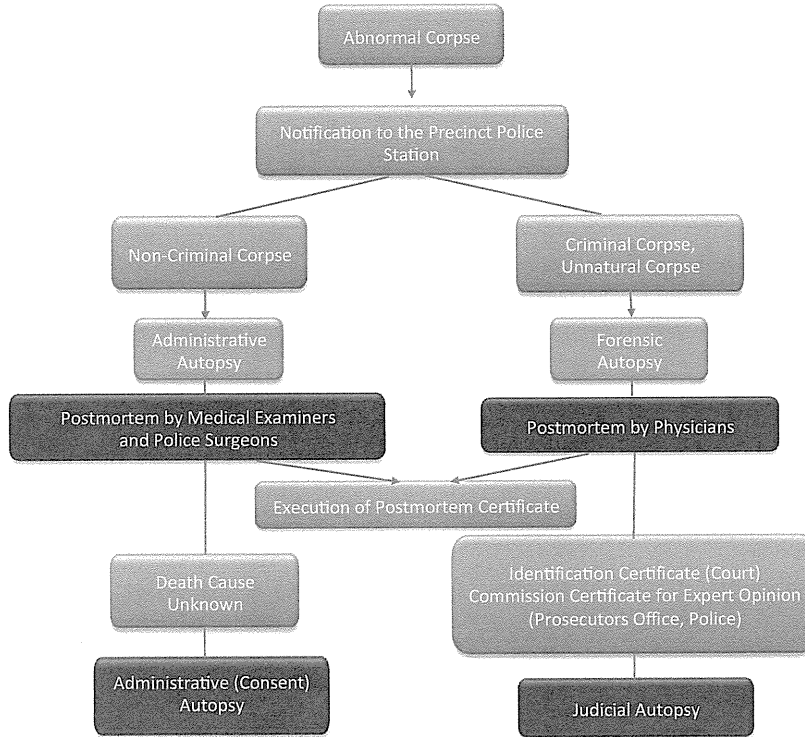


Fig.2 Autopsy sample selection and recruitment

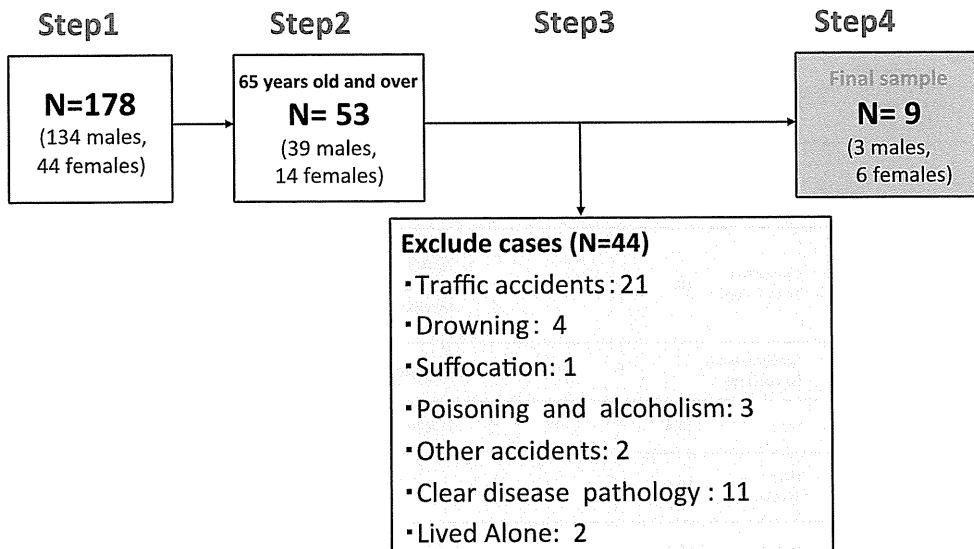


Table.1 Characteristics of suspected elderly neglect and family member (n = 9)

Variable	Elderly people		Family member	
Median age (range)	83 years (68–91)		52 years (27–76)	
Sex	Male	3	Male	8
	Female	6	Female	1
Relationship to elderly people			Son	5
			Wife	1
			Husband	1
			Brother	1
			Grandson	1
Health status*	Bed ridden	3	Depression	2
	Dementia	2	Alcoholic	1
	Pressure sores	3	Mental retardation	1
	Severely starved	2	Chronic illness	1
	Putrefied Mummified	2		
Household	Two	9		
Financial status	Social security	2		
	Unemployed	5		

*multiple answer

Table.2 Characteristics of suspected elder neglect and family member of 9 cases

Case	Elderly people									Family caregiver				Household		
	Age (years)	Sex	Cause of death	Previous illness	BMI	Dementia	Bed ridden	Pressure sore	Other	Caregiver	Age (years)	Job	Physical condition	Other	Family member	Financial condition
1	68	M	Suspected congestive heart failure	Depression		–	–	–	Putrefied	Brother	66		Depression		2	
2	75	M	Chronic alcohol liver disease	Liver disease	17.1	–	–	–	Severely starved	Son	42		Alcoholic		2	
3	78	F	Coronary thrombosis	High blood pressure		–	–	–		Husband		no			2	Social security
4	81	F	Suspected parkinson's disease	Parkinson's disease		–	+			Son		no	Depression	Committed suicide (by hanging)	2	
5	83	F	Congestive heart failure	Congestive heart failure	18.1	–	+	+	Bruises and scratches on the body, severely starved	Son	49		Mental retardation	No bathed in 10years	2	Social security
6	83	M	Unknown	Cerebrovascular accident		+	–	–	Mummified	Wife	76	no			2	Expulsion order
7	89	F	Pneumonia	No	13.4	–	+	+	Fractured rib	Son	52	no			2	
8	91	F	Coronary arteriosclerosis	Heart hypertrophy	18.6	+		+		Son	58	No	Chronic illness		2	
9	91	F	Fire	Unknown	15.4					Grandson	27			No communication	2	

Predictors of volunteerism: A study of older adults in Japan

研究分担者 陳礼美 関西学院大学 人間福祉学部社会福祉学科 准教授

研究要旨

Volunteerism has risen steadily as a viable activity at old age in Japan for it gives older adults ways to contribute to society as well as enhancing their quality of life. It has also been addressed by the national government and adopted by many local municipalities under the long-term care insurance program as a health promotion and preventive care activity.

However, studies examining why older adults volunteer and why some don't are limited. Using a modified version of Baltes and colleagues' model of competence, this study examines the predictors of volunteerism among older adults in Japan. Data from a city located northeast of Tokyo was used (n=703). Results indicated that basic competence does not predict volunteerism, but rather competence gained from experiences. To increase the number of older volunteers, the study suggests that civic engagement must start at an earlier age coupled with financial stability.

A. 研究目的

There are good reasons for Japan to promote senior volunteerism. Reasons to promote senior volunteerism are a by-product of three intersecting points. First, Japan's aging population has reached 23% and has become a super-aging society. Moreover, Japanese are living longer with better health, which means that there will be older adults who are capable of being independent and productive. Today, approximately one out of every five adults ages 50 years and above volunteers in Japan, a higher rate than for their younger counterparts. Volunteerism is concentrated mainly among older adults in their 50s and 60s (25.2% and 25.1%), and the rate declines for those 70 years and older (14.1%) (Ministry of Health Welfare and Labour, 2002).

Second, volunteerism may become the solution to a decreasing national social spending. Japan's real spending growth has outpaced sluggish real GDP-growth since 1990, so much that the public social expenditure-to-GDP ratio increased from 11.3% in 1990 to 18.7% in 2007 (Adema, Fron, & Maxime, 2011). The government foresees that older volunteers will play an important role in providing community-based social services (Ministry of Health Welfare and Labour, 1999). According to the White Paper on Older Adult's Lifestyle and Social Contribution by the Cabinet Office (2006), areas of interest for volunteering include nature and environmental protection, local and neighborhood activities, and caring for older adults and persons with disabilities.

Thirdly, volunteerism is considered as a healthy activity. Studies conducted in the United States show that volunteering decreases depressive symptomatology among older adults (Musick & Wilson, 2003). Local municipalities – responsible for planning and implementing long-term care insurance services – have increasingly added older adults' volunteerism as an activity to promote health and

prevent long-term care needs.

When compared to older adults in other countries, Japanese older adults still volunteer at a lower rate. The number of older volunteers are growing, but only 2% in five years (46.6% in 2005, 48.3% in 2010) (Cabinet Office, 2011). A five country comparison study examined the percentage of older adults who have never participated in volunteer activities. In their sample, Japan had the second highest rate (51.7%) of older adults who have never participated in volunteerism or other civic activities after South Korea (74.2%). The three other countries - Germany (42.9%), USA (33.1%), and Sweden (28.3%) - had more than half of their older adults volunteering or engaging in civic activities (Cabinet Office, 2010).

In the same study of the five countries, the top two reasons for not volunteering were “too occupied psychologically and time-wise,” (32.2%) and “health reasons and lack of confidence in physical strength” (31.5%). While the top reason for all the other four countries was “not interested” (United States 45.8%, South Korea 47.6%, Germany 37.3%, and Sweden 28%), only 15.9% of older Japanese answered the same. Similar results were found from the data collected for this study on community-dwelling older adults living in a City, located 60 kilometers northeast of Tokyo. As shown in Table 1, the top two reasons for not participating in any type of volunteerism were “not having the time” (19.2%) and “don’t have the chance” (15.5%), while 6.2% of the older respondents answered “not interested” or “bothersome.” These studies suggest that Japanese non-volunteers have an interest in volunteerism, but don’t think they are competent enough psychologically and physically to deal with volunteer activities. Studies have reported that the hierarchical progression in loss of competence exists as people age (Diehl, 1998). In face of a super-aging society, this suggests that there is a need among older adults wishing to participate in volunteerism.

Baltes and colleagues (1993) define the role of competence in face of everyday life. The model is separated into two components. The first component is basic competence, includes those activities that individuals must do to maintain health and independence in the community. They are defined by the individual on the basis of biological needs and sociocultural norms. Baltes and colleagues operationalized this basic component on the items of selected Activities of Daily Living (ADLs) (Katz, Ford, Moskowitz, Jackson, & Jaffe, 1963) and Instrumental Activities of Daily Living (IADLs) (Lawton & Brody, 1969). The second component, expanded competence was hypothesized to include the broader range of activities that are determined by individual preferences, motives, and interests.

Despite the importance of volunteering, the determinants of older adults’ participation in volunteerism in Japan are still largely unknown. There is a need for more empirical research to determine ways to promote older adults’ engagement with volunteer activities. As shows in Table 1, the review of the Japanese literature on why older adults decide to volunteer show that the number of studies are limited.

However, from what we know, there are three additional areas pertaining to Japan that may

require scrutiny. In addition to Baltes and colleagues' model on competence, there are two more components which may influence human competence. First, various experiences seem to motivate volunteerism. Current and past membership in other local community organizations and activities predict volunteerism (Okamoto, 2006; Okuyama, 2009). Furthermore, personal challenging experiences such as caregiving which motivate older adults to extend their assistance to others. Japanese experienced with caregiving for older adults or for children were more involved in volunteerism (Atoda & Fukushige, 2000; Nakajima, Nakano, & Imada, 2005). Personal experiences seem to motivate them to care for others through volunteerism.

Another aspect which is considered highly related is the evidence of mental health issues. A study on middle-aged and older Japanese men reported that participating in either volunteer work or paid work was associated with decreasing depressive symptoms (Sugihara, Sugisawa, Shibata, & Harada, 2008). Men who lost their paid work roles reported more depressive symptoms, and volunteer work attenuated the negative effect of losing these roles. As for women, paid or volunteer work had no independent association with depressive symptoms. However, engaging in multiple productive roles, in comparison with doing only housework, was related to fewer depressive symptoms.

In addition to the above, the third component of interest is work. In Japan, the employment rate for Japanese older adults is among the highest in OECD nations, exceeding the OECD average rate. Japanese men aged 55-59 had the second highest employment rate (89.2%), and those aged 60-64 (72.5%) and 65-69 (47.8%) had the third highest percentages among OECD nations. A survey on Japanese aged 55-69 showed that a greater percentage worked into old age for financial reasons (men 79.2%, women 67.6%). The Japanese national pension seems to promote work at old age. According to an OECD report (2007), the average gross replacement rate for mandatory pensions in OECD countries was 58.7%, while Japan (36.8%) had one of the lowest replacement rates for average earners along with the U.K. (34.4%) and Ireland (38.2%). Prior to the reform, the pension income replacement rate in Japan was 41% of average earnings, which was already below the average for OECD countries. That being said, studies show that older adults who are financially well-off or satisfied were more likely to volunteer (Atoda & Fukushige, 2000; Nakajima, et al., 2005), and those who were receiving a monthly working wage (i.e., employed) were less likely to volunteer (Ono, 2012).

The research aims to contribute to the literature in three ways. First, a sociodemographic profile of volunteers and non-volunteers is constructed to examine any differences in the two groups. Moreover, reasons stated by older adults who have not volunteered in the past five years are reported. Second, the research attempts to examine what characteristics of older adults affect their decision to volunteer. This study will examine the predictability of competence, especially expanded competence with additional variables including financial, mental, and experiential competencies for engaging in volunteer activities.

B. 研究方法

Source of data

This study uses data collected for a city located 60 kilometers northeast of Tokyo, the capital city of Japan. The data collection is mandated by the Long-term Care Insurance Law for the use of municipal planning of elderly social services. The data collection consists of four target groups: (1) older adults ages 65 and older who are not long-term care insurance program beneficiaries, (2) community-dwelling older beneficiaries who are certified for use of long-term care insurance services, (3) adults ages 40 to 64 years old, and (4) care managers who work in the city's social service agencies. The data collection was done by mail between February 1 to 14th, 2011. The average response rate for all four target groups was 51.5%. For this study, data collected from older adults who are not beneficiaries of the long-term care insurance program was used. The surveys were mailed to 1,400 adults, and the response rate was 62.1% (n=869).

Analysis

SPSS version 21 was used for the analysis. First, variables forming two components of competence were created. Factor analysis was conducted with oblique rotation to determine the factor structure within each standardized subscale to test for the two components of competence. Maximum likelihood estimation was performed to determine the factor loadings. An item was identified to load on a given factor if the factor loading was .40 or greater. Cronbach's alpha was computed as a reliability test for each subscale with a standardized caling. The cutoff point was .60.

Next, descriptive statistics was obtained to create the profile of the two groups of older adults who have volunteered and those who have not volunteered in the past five years.

Finally, logistic regression was used to examine the predictor variables of engagement in volunteer activity in the past 5 years (yes=1, no=0).

Variables

A modified version of Baltes and colleagues will be used to examine the competence. Basic competence was measured by the following two summed scores. First, physical competence was measured by five 3-point Likert questions on whether one can do the following activities-of-daily living: "bathing," "toileting," "changing clothes," "washing or brushing your teeth," and "going to bed." Physical competence ranged from 0 to 10 and Cronbach's alpha was .96. Second, instrumental competence was measured by four 3-point Likert questions asking whether one can do the following four instrumental activities of daily living: "paying bills," "shopping for daily items," "depositing or taking money out," and "going out alone on a bus or train." Instrumental competence ranged from 0 to 8 and Cronbach's alpha was .80.

Expanded competence was measured with the following two summed measures. First, social competence was measured by six yes/no questions which ask whether one is able to "provide advice to your family and friends," "initiate a talk with a young person," "visit friends home or see friends

outside,” “feel meaning in life,” “visit a sick person,” and “have a hobby.” Social competence ranged from 0 to 6, and Cronbach’s alpha was .74. Intellectual competence was measured by 3 yes/no questions on whether one is able to, “read the newspaper,” “read books or magazines,” and “fill out forms for pension or other documents.” It ranged from 0 to 3, and Cronbach’s alpha was .64.

Additionally, three more variables will be examined. To see how past or current experiences in other community-related activities or membership influence participation in volunteerism, a variable examining the summed score of participated local activities will be used. This will be called experiential competence. To examine the role of mental health, a summed score of questions related to mental health will be used. Mental health was measured by four yes/no questions which asks whether one feels “lack of enjoyment in what one used to enjoy,” “bothersome about something you used to enjoy,” “useless,” and “lethargic for unknown reasons.” It ranged from 0 to 4, and Cronbach alpha was .76. To examine financial competence, a question, “Are you interested if there is paid work available?” will be used to figure out the interest of the older adult in paid work.

Available demographic variables included age, sex, living arrangement (living with a spouse, no. of cohabiting family members), whether the respondent is alone during the day, self-rated health, self-rated happiness will be also included.

C. 研究結果

Table 3 shows the descriptive statistics of the two groups, volunteers and non-volunteers. Volunteers was younger (71.8, SD=5.0) than the non-volunteers (73.9, SD=6.3). More males than females were volunteers (58.7% vs. 41.3%), while more females than males were non-volunteers (47.4% vs. 52.6%). As for living arrangement, volunteers had fewer cohabiting members (3.2 vs. 3.6), but were living with a spouse (89.3% vs. 74.8%) compared to non-volunteers. Chances that volunteers were alone during the day were more frequent than non-volunteers (1.8 vs. 1.9, 1= frequently ~ 3= never).

In the scale of 0 to 10 (as 10 being happiest), volunteers were happier than non-volunteers (7.4 vs. 6.8). There was no difference by health, but difference was found for drinking. Non-volunteers drank more frequently than volunteers (2.8 vs. 2.5).

As for basic competence, there was no difference in ADLs between the two groups, but difference was detected for IADLs. Volunteers were slightly more competent than non-volunteers in performing instrumental activities of daily living (7.7 vs. 7.0). As for expanded competence, differences were found for both intellectual and social competences. Volunteers scored higher for intellectual (2.9 vs. 2.5) and social (5.7 vs. 5.0) than non-volunteers.

Interestingly, volunteers had slightly higher mental health issues than non-volunteers (3.5 vs. 3.3). And, financial competence explained by interest in paid work showed a difference. Volunteers were also more interested in paid work compared to non-volunteers (33.6 vs. 18.6). Experiential

competence as explained by number of participated local activities showed that volunteers had higher total score than non-volunteers (2.1 vs 1.3).

Table 4 shows the results of the logistic regression model was conducted using a binary dependent variable (yes=1, no=0) asking whether the respondent volunteered in the past 5 years. Three models were conducted to examine the effects of the control variables, the competence variables (variables of interest), and the full model (with control and competence variables). ADL as a basic competence was dropped because there was no significant difference between the two groups. Age, living with a spouse, self-rated happiness, and a component of basic competence – IADL was significant. Persons who were younger, not living with a spouse, and had a higher rating for subjective happiness were more likely to volunteer. More competence in IADLs was also more likely to volunteer.

When examining the modified expanded competence, financial competence explained by persons interested in paid work were less likely to volunteer. Persons with higher score on intellectual competence and higher number of participated local activities were also more likely to volunteer.

Finally, in the full model, out of seven significant variables, four variables: age, self-rated happiness, interest in paid work, and number of participated local activities remained statistically significant.

D. 考察

Strengthening the range of human competence of older adults and their social and physical environments is mutually beneficial to them, as well as other members of the younger generations. In this study, a modified version of Baltes and colleagues' competence was used to examine their relation to whether an older adult volunteers or not. Results shows that both basic competence explained by IADLs and expanded competence explained by intellectual, financial, and experiential competence were found to be important to volunteers. However, when controlled for sociodemographic variables, self-rated happiness, financial and experiential competencies remained significant. This may suggest that the original competencies by Baltes and colleagues are not necessarily important for older adults to volunteer.

Simply, one being happy is important for him/her to take on volunteer activities. A positive subjective well-being seems to be the key to being motivated to make others happy as well. Happiness is defined differently by person, so it will be a challenge as to how to increase happier people. One way is financial stability. Persons uninterested in paid work were more likely to volunteer. Persons who are financially stable at old age have more elbowroom to take on a non-paid activity like volunteerism.

Earlier or current experiences in local activities seem to encourage older adults to volunteer. Being involved in the community is the closest door in civic engagement such as local festivals,

school events, and neighborhood activities. The more involved you are in your own community, the more likely you will be connected to the people, information, and opportunities in volunteerism than those who are not involved in local activities. Competence gained from experiences suggests increased confidence in taking on volunteer activities at old age. Hence, it may be more important to help people to start early in participating in local activities, so they can also be engaged in volunteering at old age.

E. 結論

As volunteerism is viewed as an activity necessary for Japan's super-aging society, this study indicates that financial security, better quality of life, and experiences in civic engagement are necessary to fostering volunteerism at old age. These aspects are more likely to be fostered over time, even before people reach old age. In order to create a larger cadre of older volunteers, Japanese policy must take on a lifecourse perspective in bettering the lives of people for preparation of old age. In this regard, maintaining the current social security structure is important. Additionally, as Japanese society has become increasingly losing ties amongst each other, creating and strengthening a role for community is important. As the community plays a larger role in society, it subsequently invites community members to take part in the activities. More children and younger adults need to be involved in such activities so that they are trained to become lifelong volunteers.

F. 健康危険情報

特記すべきことなし

G. 研究発表

1. 論文発表

1. Chen, L. (2012, September). Senior volunteerism in Japan: A policy perspective. *Ageing International*. DOI 10.1007/s12126-012-9168-. Pp.1-11.
2. Chen, L. (2013, April 17). "Long-term care in a Global Aging Society." Special Report on G30 Borderless Challenge towards a Global Aging by Young Power. Faculty of Humanities and Social Sciences & Faculty of Medicine, University of Tsukuba. Pp. 126-127.

2. 学会発表

1. Chen, L. (2012, November). The role of senior universities in Japan to promote the civic engagement of older adults. Poster presented at the 65th Annual Scientific Meeting of the Gerontological Society of America, San Diego, CA.
(発表誌名巻号・頁・発行年等も記入)

H. 知的財産権の出願・登録状況

(予定を含む。)

1. 特許取得、2. 実用新案登録、3. その他、特記すべきことなし

Reference:

- Adema, W., Fron, P., & Maxime, L. (2011). Is the European Welfare State Really More Expensive?: Indicators on Social Spending, 1980-2012; and a Manual to the OECD Social Expenditure Database (SOCX). *OECD Social, Employment and Migration Working Papers*, 1-131. Retrieved from <http://www.oecd-ilibrary.org/docserver/download/5kg2d2d4pbf0.pdf?expires=1362045591&id=id&accname=guest&checksum=CF113D1C245590DE816BAB9035D63548>
doi:10.1787/5kg2d2d4pbf0-en
- Atoda, N., & Fukushige, M. (2000). Participation behavior of middle and old age volunteers. *Shakai Hosho Kenkyu*, 36(2), 246-255.
- Baltes, M. M., Mayr, U., Borchelt, M., Maas, L., & Wilms, H.-U. (1993). Everyday competence in old and very old age: The inter-disciplinary perspective. *Ageing and Society*, 13, 657-680.
- Cabinet Office. (2006). *Heisei 18 White Paper on People's Lives: Older Adult's Life and Social Contribution Activities*. Retrieved from http://www5.cao.go.jp/seikatsu/whitepaper/h18/10_pdf/01_honpen/pdf/06ksha0303.pdf.
- Cabinet Office. (2010). *Seventh International Study of the Lifestyles and Values of Senior Citizens*. Retrieved from <http://www8.cao.go.jp/kourei/ishiki/h22/kiso/zentai/index.html>.
- Cabinet Office. (2011). *Heisei 23 White Paper on Aging Society* Retrieved from <http://www8.cao.go.jp/kourei/whitepaper/w-2011/zenbun/html/s1-1-1-02.html>.
- Diehl, M. (1998). Everyday competence in later life: current status and future directions. *Gerontologist*, 38(4), 422-433.
- Katz, S., Ford, A. B., Moskowitz, R. W., Jackson, B. A., & Jaffe, M. W. (1963). Studies of Illness in the Aged. The Index of Adl: A Standardized Measure of Biological and Psychosocial Function. *JAMA*, 185, 914-919.
- Lawton, M. P., & Brody, E. M. (1969). Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*, 9(3), 179-186.
- Ministry of Health Welfare and Labour. (1999). *Heisei 11 White Paper on Health, Welfare and Labour*. Tokyo: Retrieved from <http://www.hakusyo.mhlw.go.jp/wpdocs/hpaz199901/body.html>.
- Ministry of Health Welfare and Labour. (2002). *Heisei 12 White Paper on Older Adults and Society*. Retrieved from <http://www.hakusyo.mhlw.go.jp/wp/index.htm>
- Musick, M. A., & Wilson, J. (2003). Volunteering and depression: The role of psychological and social resources in different age groups. *Social Science & Medicine*, 56, 259-269.
- Nakajima, T., Nakano, S., & Imada, S. (2005). Labor supply of our country's volunteerism. *PRI Discussion Paper Series*, 05A-02, 1-114.
- Okamoto, H. (2006). Correlates of volunteer activities by city-dwelling older adults.
- Okuyama, N. (2009). Determinants of volunteer activities in local communities: An empirical analysis using JGSS-2006. *JGSS Research Series*, 6, 107-122.
- Ono, A. (2012). Research on older adults' social contribution activities *Research on older adults' social contribution activities* (Vol. 142): The Japan Institute for Labour Policy and Training.
- Sugihara, Y., Sugisawa, H., Shibata, H., & Harada, K. (2008). Productive roles, gender, and depressive symptoms: Evidence from a national longitudinal study of late-middle-aged Japanese. *Journals of gerontology: Psychological sciences*, 63B, 227-234.

Table 1. Empirical research examining predictors of volunteerism among older adults.

Authors, Year	Sample	Data	Methods	Independent variables	Significant variables
Atoda & Fukushige, 2000	Age 40≤ living in Tokyo (n=694), Nagano (n=407), or Oita (n=526)	Survey on the middle-aged and older adults' lifestyle and the function of social security 1997	Probit model	Age, sex, spouse, no. of children, oldest child (spouse or respondent), outpatient, inpatient, caregiving, education, annual income, wealth	Tokyo: no. of children (+), high school graduate (+), college (+) graduate, wage (-); Nagano: outpatient (+); Oita: no. of children (+), caregiving (+), high school graduate (+), wealth (+)
Nakajima, Nakano, & Imada, 2005	Unemployed women (or men), unemployed women (or men) with spouse, employed women (or men) with spouse, self-employed with spouse 10≤	Survey on Time Use and Leisure Activities 1981, 1986, 1991, 1996, 2001	Multinomial logit model	Age, spouse, education, housing type, total income, having child(ren) under 6, having older adult(s) 65+, having a family member requiring caregiving, 2 days off from work per week or not, area of residence, having a spouse who volunteers	Education (+), Own home (+), Higher total income (+), 2 days off from work per week (+), Women having child(ren) under 6 (-) while men having child(ren) under 6 (+), having older adult(s) 65+ depends on work, having a family member requiring caregiving (+), area of residence especially big cities (-) but depends on work, having a spouse (+), having a spouse who volunteers (+)

Authors, Year	Sample	Data	Methods	Independent variables	Significant variables
Okamoto, 2006	Older adults 65-84 living in A City, (ave. age 71.7) Chiba (n=755)	Mailed survey 2009	Logit model	Preferred life style, IADL, subjective health, wanting to contribute to community, wanting to have contact with younger generation, skills/knowledge/certified, volunteer experience at middle age, no. of close friends or group of friends, awareness of volunteer activity information, age, sex	IADL (+), wanting to contribute to community (+), volunteer experience at middle age, no. of close friends or group of friends (+), awareness of volunteer activity information (+)

Authors, Year	Sample	Data	Methods	Independent variables	Significant variables
Okuyama 2009	Age 20-89 participating in cleaning activity (n=1,239), recycling activity (n=806), patrol activity (n=1,217)	JGSS 2006	Probit model	Sec, age, age (log), spouse, female household, female x household (with child, with spouse, with live-in parent), having a child requiring compulsory education, education, area of residence, housing type, years of residence, satisfaction with area of residence, health satisfaction, intent of continuing to live in same area, membership to organized group, weekly working hours, income wage rate, rate of nuclear family households, rate of single person households, no. of city parks per 100 persons, rate of garbage recycle, no. of crimes per 100 persons, opinion about government spending, and local municipality's expenditures	<p>Cleaning activity: female, age, age (log), spouse, female x household, having a child requiring compulsory education , education (college/ grad school), area of residence (with lots of shopping and offices), area of residence (with old neighborhoods), health satisfaction, housing type (apartments), membership in organized group (trade), membership in organized group (volunteer), membership in organized group (grassroots), rate of single person households, no. of crimes per 100 persons, opinion about government spending (environmental problems), local municipality's expenditures x opinion about government spending (environmental problems)</p> <p>Recycling activity: female, age, age (log), spouse, having a child requiring compulsory education, housing type (apartments), membership in organized group (volunteer)</p> <p>Local patrol activity: Age, age (log), spouse, having a child requiring compulsory education, education (college/ grad school), health satisfaction, satisfaction with area of residence, membership in organized group (volunteer), membership in organized group (grassroots), no. of crimes per 100 persons, opinion about government spending (environmental problems), opinion about government spending (crimes), local municipality's expenditures x opinion about government spending (safety)</p>