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Effects of Volunteering at Welfare Facilities in Japanese Senior Citizens on Their Own Well-being

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Although volunteering has attracted attention in Japan as a useful measure for evaluating the level of senior citizens' self-rated health and satisfaction, no study has focused on the benefits of volunteering by Japanese senior citizens. To elucidate the effects of volunteering by Japanese women on their own well-being, we collected data from 106 volunteers and 60 non-volunteers aged 60 years or over using a self-administered questionnaire that included questions about sociodemographic characteristics, physical conditions, self-rated health, meaning and satisfaction in life, and emotional support network. Significant differences were observed between the volunteer group and the non-volunteer group in "self-rated health," "frequency of consulting doctors," and "frequency of communicating with friends." Also, total score of "source of meaning and satisfaction in life" and total score of "emotional support network" were significantly higher in the volunteer group than in the non-volunteer group. After adjusting for the effects of other factors, "frequency of consulting doctors" and "emotional support network" remained significantly associated with the frequency of being a voluntary worker. The present study suggests that volunteering might partially contribute to improving the well-being of senior citizens. Further studies are needed to clarify the effects of volunteering on the well-being of senior citizens in an aging society.

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Introduction

A national survey of volunteer work status in 1996[1] indicated that volunteers aged 60 years or over accounted for 51.7% of all Japanese volunteers. Another national survey[2] reported the proportion by age of people engaged in different kinds of volunteering as follows: 30.5% of people aged 60-64 years; 31.4% of those aged 65-69 years; and 25.5% of those aged 70 years or over. The latter survey also indicates the proportion by age of volunteers engaged in "activities targeting senior citizens" as follows: 7.5% of those aged 60-64 years; 8.8% of those aged 65-69 years; and 8.9% of those aged 70 years or over, indicating that volunteer work by senior citizens for senior citizens is considerable.

Though not demonstrating a causal relationship, several Western studies indicated that appropriate levels of volunteering might be beneficial to senior citizens for their well-being.[3-8] Musick et al.[9] demonstrated, based on the Americans' Changing Lives Study (ACLS), which was conducted three times, an association of moderate volunteering activity with lowered mortality risk. Thoits and Hewitt[10] found, from the panel data of ACLS of 1995, a relationship between volunteering in the community and six aspects of personal well-being, i.e., happiness, life satisfaction, self-esteem, sense of control over life, physical health, and depression. Furthermore, Howell et al.[11] showed that senior volunteers spending more time volunteering feel higher levels of well-being.

In Japan, although a relationship between volunteering and well-being has been postulated, reliable data are unavailable. Moreover, no reports have yet clarified the benefits of volunteering, focusing on the character of each volunteer or on the contents of volunteering, as was done in the Western reports.[7,9-11] In Japan, volunteering is gen-

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erally regarded as one element of social activity. Matsuda et al.[12] demonstrated that social activity was a factor in making Japanese senior citizens find their lives worth living. Furthermore, there is another report[13] demonstrating in Japanese senior citizens that roles in groups and social activity were related to enhancement and retention of their self-rated health.

Recently, volunteering has been focused on in Japan as a useful measure for evaluating the status of senior citizens' self-rated health and the degree to which they find their lives worth living. Demura et al.[14] demonstrated an association between volunteering and the level of satisfaction with life in Japanese senior citizens. However, no report in Japan has focused on the benefits of volunteering in Japanese senior citizens.

In 1984, the World Health Organization (WHO) proposed to use the degree of autonomy of functioning as a new index for the health of senior citizens and to evaluate their living function comprehensively from the viewpoints of physical, mental, social, and economic conditions. From this, we considered it necessary to evaluate the well-being of senior citizens from the viewpoints of physical, mental, and social conditions. Although research on the well-being of senior citizens conducted to date has regarded physical and mental functions as important, we think that social well-being not only maintains social function but also improves physical and mental functions.

To elucidate the effects of volunteering in Japanese women aged 60 years or over on their well-being, we conducted the present study aimed at clarifying whether those who volunteer and who do not differ with respect to the following three factors: the state of physical well-being (i.e., number of chronic diseases and frequency of consulting doctors), the state of mental well-being (i.e., self-rated health, and meaning and satisfaction in life), and the state of social well-being (i.e., frequency of going out, frequency of communicating with others, and being in an emotional support network).

Participants and Methods

Participants

This study, consisting of two groups, was conducted from January 2003 to January 2004 in Kitakyushu city in Fukuoka Prefecture, where the proportion of people aged 65 years or over is highest (20.2%) among the 15 largest cities in Japan. One group, designated hereafter as the volunteer group, consisted of women living in the city and aged 60 years or over who had been volunteering at welfare facilities for elderly people. The other group, designated hereafter as the non-volunteer group, consisted of women living in the city and aged 60 years or over who had no experience of volunteering.

We defined volunteering as voluntary activity for the welfare of local community, individuals, or organizations using one's own physical ability, skill, and time without any returns. The participants in the volunteer group of the present study will contribute to evaluating the effects of not only volunteering but also attending senior citizens on the well-being of elderly women since the latter activity dominates volunteering in Japan.

Data collection

Data were collected using a self-administered questionnaire including questions about sociodemographic characteristics, physical conditions, self-rated health, meaning and satisfaction in life, and emotional support network.[15]

To collect data from the volunteer group, we first contacted welfare facilities for elderly people in the city and requested collaboration with the present study by explaining its outline. Among them, 8 facilities (4 special nursing homes for the elderly, 3 health care facilities for the elderly, and 1 nursing home for the elderly) accepted our request, and we visited them to explain the details of the study to volunteers. We received written informed consent from each of 120 female volunteers and handed the questionnaire to each, requesting that they complete it. We collected the completed questionnaires through the facilities.

For the non-volunteer group, we collected data with the help of welfare commissioners of the respective districts. We passed out 100 questionnaires and written informed consent forms to them, and requested that they find as many women as possible satisfying the above-mentioned eligibility criteria for the non-volunteer group and ask them to complete the questionnaire.

Out of 120 women of the volunteer group to whom we gave the questionnaire, 111 responded and 106 (95.5%) remained for analysis after excluding those with incomplete responses or those who did not regularly volunteer at least once per month. With regard to the non-volunteer group, 77 women responded and 60 (77.9%) remained for analysis after excluding those with incomplete responses or those who were regularly volunteering at least once per month. The distribution of age was similar in the groups that remained for analysis; the mean (standard deviation) was 69.8 (6.3) years and 69.7 (6.3) years in the volunteer and non-volunteer groups, respectively.

The study was approved by the Ethics Committee of Nagasaki University Graduate School of Biomedical Sciences (No. 15062331).

Questionnaire

Taking the definition of health by WHO into consideration, we asked about self-rated health, current chronic diseases, frequency of consulting doctors in the last month, frequency of going out for pleasure, frequency of communicating with friends, source of meaning and satisfaction in life, and emotional support network. We also asked about family members and whether they had jobs. In addition to these questions, we asked members of the volunteer group about the year when they started the current activity, the factor that prompted their choice to be a volunteer worker, the current activities, and the time they spend on volunteer work. The participants

were asked to choose the most appropriate single response among several choices following each question except the one about current chronic diseases, on which allowed multiple choices.

Self-rated health was classified into four categories: 1. Bad; 2. Not well; 3. Well; and 4. Very well, where the numerals denote the score assigned to the respective categories.

With respect to current chronic diseases, the participants were asked to choose appropriate ones among 15 diseases including hypertension and diabetes mellitus.

Frequency of consulting doctors in the last month was classified into the following categories: 1. No; 2. Once or twice; 3. Three or four times; 4. Five times or more; and 5. Having been hospitalized, where the numerals denote the score assigned to the respective categories.

Frequency of going out for pleasure and that of communicating with friends were both classified into 6 categories: 1. Almost every day; 2. Two or three times a week; 3. Once a week; 4. Two or three times a month; 5. Once a month; and 6. Very few, where the numerals denote the score assigned to the respective categories.

The items we asked the participants regarding what gives them meaning and satisfaction in life were the following[15]: 1. Work; 2. Connection with colleagues; 3. Relation with spouse and family members; 4. Growth of children and grandchildren; 5. Hobbies and sports; 6. Relation with fellows in hobby or sports; 7. Participation in activities of community or other groups; and 8. Help or service to others. For each item, the participants were asked to choose the most appropriate one among the following three responses: A. "Yes, it is a source of meaning and satisfaction"; B. "No, it is not a source of meaning and satisfaction"; and C. "Neither yes or no". We assigned the score of 1 to response A and 0 to responses B and C.

With respect to the emotional support network, we asked the participants whether they have persons in the following 8 categories[15]: 1. Those who make you feel calm and safe when you see them; 2. Those who are always sensitive to noticing how you feel; 3. Those who always appreciate your work; 4. Those who trust you and let you do what you want to do; 5. Those who are delighted with your growth and success; 6. Those to whom you can confide your feelings and secrets; 7. Those with whom you can talk mutually about ideas and the future; 8. Those whom you can be dependent on; 9. Those who support you by approving your actions and ideas; and 10. Those you can mutually understand. We assigned the score of 1 or 0 to each item if the response was "Yes" or "No," respectively.

Regarding the situations that prompted starting volunteering, we asked the volunteer group to choose appropriate ones (multiple choices allowed) among the following eight categories: 1. Flyer, PR magazine, or newspaper; 2. Information from friends; 3. Attending a class about volunteering; 4. Retirement; 5. Death of spouse; and 6. Others.

The categories of current activities we asked the volunteer group to choose were the following nine: 1. Assistance in feeding; 2. Assistance in transfer; 3. Assistance in bathing and/or dressing; 4. Cleaning house and washing clothes; 5. Assistance in miscellaneous small needs; 6. Assistance in visiting hospital; 7. Visiting facilities to give comfort and pleasure to elderly; 8. Keeping elderly persons company; and 9. Other.

Statistical analysis

In the comparison of the distribution of factors between volunteer and non-volunteer groups, we used Fisher's exact test for factors with two categories, e.g., solitary living, while we used the Wilcoxon rank-sum test for factors with three or more ordinal categories, e.g., self-rated health and the total score of responses to the questions about the source of meaning and satisfaction in life and about emotional support network. The effects of factors on the frequency of being a voluntary worker were analyzed with logistic regression analysis by dichotomizing the categories of factors on the basis of their distribution in the non-volunteer group; we set the cutoff point at the category that approximately halves the participants.

FREQ, LOGISTIC, NPAR1WAY, and UNIVARIATE in the SAS® system were used for the calculations.

Results

The volunteer group had from less than 1 to 38 years' experience in volunteering activity with the mean (standard deviation) of 9.1 (6.8) years. The frequency of volunteering activity per month varied from 1 to 12 times with the mean (standard deviation) of 3.4 (2.6) times, and volunteers spent 1-4 hours with the mean (standard deviation) of 2.2 (0.6) hours in each activity. Table 1 shows the situations that prompted them to start volunteering activity and their current activities. More than one third of them began volunteering after being motivated by information from friends or attending a class about volunteering. The most dominant current volunteering activities were cleaning house and washing clothes, and visiting facilities to give comfort and pleasure to the elderly, in which more than one third of the volunteer group were engaged; 31 (29.3%) were engaged in assistance in feeding, transfer, bathing, or dressing.

No significant difference was observed between the volunteer and non-volunteer groups in the frequency of solitary living (p = 0.5634, Fisher's exact test) or having jobs (p = 0.8295, Fisher's exact test); 22 (20.8%) members of the volunteer group and 15 members (25.0%) of the non-volunteer group were living alone, and 17 (16.0%) and 11 (18.3%) of the members of the volunteer and non-volunteer groups had jobs, respectively.

Table 2 compares the volunteer and non-volunteer groups with respect to self-rated health, number of chronic diseases, frequency of consulting doctors in the last month, frequency of going out for pleasure and of communicating with friends. A significant difference was observed between the volunteer group and the non-volunteer group except for the number of chronic diseases.

Table 1. Situations that prompted the volunteer group to begin volunteer activity and current activities[a]

Item	Category	Number of participants (%)
Impetus for starting volunteer activity	Flyer, PR magazine, or newspaper	0
	Information from friends	41 (38.7)
	Attending a class about volunteering	37 (34.9)
	Retirement	5 (4.7)
	Death of spouse	5 (4.7)
	Others	27 (25.5)
Current activities	Assistance in feeding	9 (8.5)
	Assistance in transfer	15 (14.2)
	Assistance in bathing or dressing	18 (17.0)
	Cleaning house and washing clothes	46 (43.4)
	Assistance in miscellaneous small needs	3 (2.8)
	Assistance in visiting hospital	4 (3.8)
	Visiting facilities to give comfort and pleasure to elderly	39 (36.8)
	Keeping elderly company	16 (15.1)
	Others	29 (27.4)

[a]Multiple choices were allowed.

Table 2. Comparison of the volunteer group and non-volunteer group with respect to factors

Factor	Group		*p*-value[a]
	Volunteer (N=106)[b]	Non-volunteer (N=60)[c]	
Self-rated health	13 (12.3)[d]	2 (3.4)	
Very well	70 (66.0)	32 (54.2)	
Well	19 (17.9)	18 (30.5)	
Not well	4 (3.8)	7 (11.9)	0.0014
Bad			
Number of chronic diseases	27 (25.5)	16 (26.7)	
0	46 (43.4)	19 (31.7)	
1	19 (17.9)	17 (28.3)	
2	14 (13.2)	8 (13.3)	0.5248
3 or more			
Frequency of consulting doctors	40 (38.1)	14 (23.3)	
Never	48 (45.7)	25 (41.7)	
1 or 2 times	11 (10.5)	12 (20.0)	
3 or 4 times	6 (5.7)	6 (10.0)	
5 times or more	0	3 (5.0)	0.0048
Having been hospitalized			
Frequency of going out for pleasure	15 (14.2)	3 (5.0)	
Almost every day	47 (44.3)	23 (38.3)	
2 or 3 times a week	14 (13.2)	9 (15.0)	
Once a week	15 (14.2)	6 (10.0)	
2 or 3 times a month	12 (11.3)	6 (10.0)	
Once a month	3 (2.8)	13 (21.7)	0.0055
Very few			
Frequency of communicating with friends	15 (14.4)	5 (8.3)	
Almost every day	42 (40.4)	15 (25.0)	
2 or 3 times a week	20 (19.2)	15 (25.0)	
Once a week	15 (14.4)	8 (13.3)	
2 or 3 times a month	8 (7.7)	6 (10.0)	
Once a month	4 (3.9)	11 (18.3)	0.0033
Very few			

[a]Based on Wilcoxon rank-sum test.
[b]One participant and two participants did not provide the frequency of consulting doctors and of communicating with friends, respectively.
[c]One participant did not provide information on self-rated health.
[d]Number of participants, with percentage in parentheses.

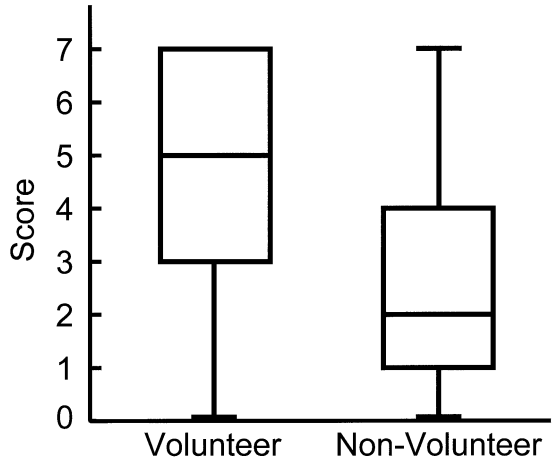

Figure 1. Box-and-whisker plots of the total score for "source of meaning and satisfaction in life" in the volunteer and non-volunteer groups. The bottom and top ends of the box and the bar inside the box correspond to the 1st, 3rd, and 2nd quartiles, respectively.

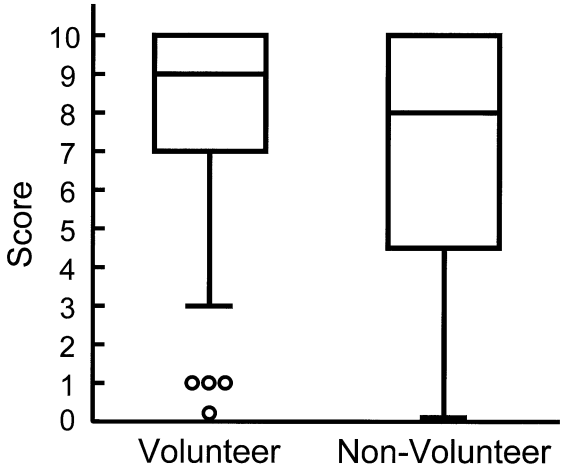

Figure 2. Box-and-whisker plots of the total score for "emotional support network" in the volunteer and non-volunteer groups. Each open circle denotes an extreme value called "outside." See Figure 1 for the details of the plots.

The distribution of the total score of "source of meaning and satisfaction in life" is shown in Figure 1; in the calculation of total score for this question, we excluded the response to the last item (8. Help or service to others), which implies volunteering activity. The total score varied from 0 to 7 in both groups with medians of 5 and 2 in the volunteer group and non-volunteer group, respectively, and a formal test demonstrated that the total score was significantly higher in the former group than in the latter group ($p <$ 0.0001, Wilcoxon rank-sum test). Similar results held for the total score for emotional support network (Figure 2); the total score was significantly higher in the volunteer group than in the non-volunteer group ($p = 0.0149$, Wilcoxon rank-sum test). The two instruments for "meaning and satisfaction in life" and for emotional support network were confirmed to be reliable; Cronbach's alpha was 0.83 and 0.88 for the former and latter instruments, respectively.

On the basis of the distribution of factors in the non-volunteer group shown in Table 2, we dichotomized the respective factors and assigned the scores as follows: self-rated health—1 if the response was "well" or "very well," and 0 if "not well" or "bad"; number of chronic diseases—1 if 1 or fewer, and 0 if 2 or more; frequency of consulting doctors—1 if twice or less, and 0 if 3 times or more or having been hospitalized; frequency of going out for pleasure—1 if 2 or 3 times a week or more, and 1 otherwise; and frequency of communicating with friends—1 if once a week or more frequent, and 0 otherwise.

The factors that showed individually a significant association with the frequency of being a voluntary worker by simple logistic regression were as follows (p-values were all based on the likelihood ratio test): self-rated health ($p = 0.0058$), frequency of consulting doctors ($p = 0.0068$), frequency of communicating with friends ($p = 0.0388$), total scores for source of meaning and satisfaction in life ($p < 0.0001$), and for emotional support network ($p = 0.0034$); frequency of going out for pleasure was marginally significant ($p = 0.0614$).

Since the total scores for "source of meaning and satisfaction in life" and for "emotional support network" were significantly correlated (Spearman's rank correlation coefficient = 0.51, $p < 0.0001$) and since the former is strongly dependent on subjective judgment compared to the latter, we evaluated the following factors by multiple logistic regression analysis regarding the simultaneous association with the frequency of being a voluntary worker: self-rated health, frequency of consulting doctors; frequency of going out for pleasure; frequency of communicating with friends, and total score for emotional support network. The results are presented in Table 3, which indicates that the associations of "frequency of consulting doctors" and "total score for emotional support network" with the frequency of being voluntary worker remained significant after adjusting for the effects of other factors.

Table 3. Simultaneous effects of factors on the frequency of being a voluntary worker

Factor	Comparison	Estimated odds ratio	95% CI
Self-rated health	Very well or well *vs* Not well or Bad	1.60	0.720-3.512
Frequency of consulting doctors	2 times or less *vs* 3 times or more	2.32	1.025-5.296
Frequency of going out for pleasure	2 or 3 times a week or more frequent *vs* otherwise	1.30	0.607-2.768
Frequency of communicating with friends	Once a week or more frequent *vs* otherwise	1.30	0.563-2.955
Total score for emotional support system	By 1-point increment	1.14	1.005-1.310

Discussion

In an aging society, the need for support of daily activity for senior citizens is definitely increasing. Simultaneously, participation of healthy senior citizens in supporting other senior citizens, possibly as volunteers, is a social demand. In this study, more than one third of volunteers started volunteering after obtaining information from friends or attending a class about volunteering, suggesting that active communication is an important factor for senior citizens who are interested in volunteering. On the other hand, none of the volunteers were prompted to volunteer by flyers, PR magazines, or newspapers. These findings suggest that in order to increase volunteering by senior citizens, careful consideration is needed with respect to publicizing the need for volunteers.

As far as we know, this is the first study that evaluates the benefits of volunteering in Japanese senior citizens. We showed significant differences between volunteer and non-volunteer groups with respect to self-rated health, frequency of consulting doctors, and frequency of going out for pleasure. These results suggest that volunteering might partially improve the physical well-being, mental well-being, and social well-being of senior citizens themselves, consistent with previous Western studies.[3-8]

Our current results suggest that active participation in volunteering is useful for the senior volunteers themselves, as well as for society. On the other hand, we could not show a significant difference between the two groups with respect to number of chronic diseases. This might due to the fact that several chronic diseases, such as hypertension, diabetes mellitus, and hyperlipidemia, tend to lack apparent symptoms if they are moderate to mild or well controlled.

Thoits and Hewitt[10] demonstrated a reciprocal relationship between the time spent on volunteering and various measures of personal well-being, including physical health and depression, showing that spending more time on volunteering enhances personal well-being and that people with greater well-being spend more time volunteering. They argue that well-being facilitates engagement in volunteering involvement and that engagement in volunteering subsequently augments well-being—that is, social causation and social selection operate simultaneously. In this study, we could not evaluate the relationship between the time spent on volunteering (or frequency of volunteering) and well-being. Further studies are needed to clarify the effects of volunteering on well-being.

The present study showed that total scores for emotional support network and for source of meaning and satisfaction in life were significantly higher in the volunteer group than in the non-volunteer group. No significant difference, however, was observed between the volunteer and non-volunteer groups in the frequency of solitary living or having jobs. In an aging society, construction of an emotional support network as well as improvement in finding one's life worth living is quite important for senior citizens. Although causal relationships should carefully be considered, our current results suggest that through volunteering, emotional support network and well-being might be improved in senior citizens.

In this study, multiple logistic regression analysis showed that "frequency of consulting doctors" and "total score for emotional support network" were significantly associated with volunteering after adjustment for the effects of other factors. However, we could not evaluate the reasons why the study participants consulted doctors. Since one might consult a doctor three times a week for continuous shoulder pain, while another might consult a doctor once a month for the control of chronic diseases such as hypertension, evaluating only "frequency of consulting doctors" might not reflect physical well-being exactly. Further evaluation is needed to clarify these issues.

There are several limitations in this study. Since the number of male volunteers was significantly limited, we could enroll only female volunteers in this study. There might be a bias in the selection of the non-volunteer group since we entrusted the selection to welfare commissioners of respective districts. Furthermore, a causal explanation of the present results regarding the effects of volunteering is quite difficult; among senior citizens in the present study, healthier people may have participated more frequently in volunteering. However, the following results available in the present study could be informative with respect to this issue. Members of the volunteer group were requested to respond to the same questions regarding "meaning and satisfaction in life" and "emotional support network" by recalling how they felt before starting volunteering. The total score for "source of meaning and satisfaction in life" increased significantly from 4.2 ± 2.2 (mean ± standard deviation) to 4.6 ± 2.2 after starting volunteering ($p < 0.0001$, Wilcoxon signed-rank test). Similarly, the total score for emotional support network significantly increased from 7.9 ± 2.8 to 8.3 ± 2.7 ($p < 0.0001$, Wilcoxon signed-rank test). These results might suggest a contribution of volunteering itself to the improvement of well-being and social network. If possible, however, a well-designed longitudinal study is desirable to clarify this issue.

In conclusion, we showed that volunteering might partially contribute to improving the well-being of senior citizens. Further studies are needed to clarify the effects of volunteering in creating an aging society that enhances the well-being of senior citizens.

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