J Tokyo Wom Med Univ
85(6) 208～217 (2015)

Original

Social Capital and Self-rated Health among Japanese-Peruvians

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(Accepted October 8, 2015)

Introduction: To clarify health determinant factors in the migrant Japanese-Peruvian community, we examined social capital assets and their association with self-rated health.

Subjects and Methods: Data were collected via the Internet (SurveyMonkey®) using self-administered and interviewer-administered questionnaires from December 2013 to July 2014. The questionnaire was anonymous and in Spanish. Data gathered included the short version of the Adapted Social Capital Assessment Tool, sociodemographic characteristics, self-rated health and comorbidities. Three hundred sixty six questionnaires from Japanese-Peruvians living in Japan and 72 from those living Peru were included in the final analyses. Multivariable logistic regression statistical analysis was applied.

Results: Self-rated health was classified as "good" and "poor". In the multivariate logistic regression analysis, poor health was statistically significantly related to comorbidities [odds ratio (OR), 5.41; 95% confidence interval (CI), 3.18-9.20]. Other factors including gender, age, type of housing, residential area, educational level attained in Peru, and having children did not show a statistically significant association. The OR for poor health was significantly lower when a high level of cognitive social capital (OR, 0.49; 95% CI, 0.26-0.95) and a high level of group membership (OR, 0.21; 95% CI, 0.05-0.98) were present. Social support and citizenship activities were not significantly associated. The social background of the 72 Japanese-Peruvians in Peru differed from that of those in Japan.

Conclusion: Cognitive social capital and group membership are determinants of self-rated health in the Japanese-Peruvian community. Further prospective and interventional studies with a sufficient sample size aiming to raise social capital among migrants are necessary for global health promotion.

Key Words: social capital, migrants, health promotion, self-rated health, international migration

Introduction

Interest in the effects of the quality and perception of communitarian human relationships on the health of populations has been increasing, and many studies on this topic have been replicated in the past several years[1)2)]. Among these studies, the 30-year prospective study of Roseto, an Italian-American town in Pennsylvania, is outstanding[3)]. The lower prevalence of heart disease in Roseto compared to a nearby town, despite similar levels of blood cholesterol, exercise and smoking, prompted this observational study. Social cohesion, social support and the morale of this community proved to protect against heart disease. Over time, the rapid process of cultural assimilation to a rather self-indulgent and competitive society reverted this effect[4)]. Further studies in non-migrant communities in several countries replicated the finding that coronary heart disease and hypertension are the most relevant diseases influenced by the quality of com-

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munitarian life as measured by indicators of social capital[5)6)].

Social capital measures human interactions in a communitarian lifestyle and is studied in relation to economic development, sustainability, welfare, education, and health outcomes. Although the essence of social capital remains to be clarified, we agree with Coleman's definition[7)] in which social capital is something that arises between and among people, is not material, and is not only individual, but also a communitarian good that facilitates the interaction between individuals.

Social capital has bonding and linking properties. Bonding social capital summarizes the strength of the relational perception in communitarian ties. It measures social cohesion and accounts for the cognitive values or feelings of belonging to the community, trust to rely on others, and perception of the level of communitarian harmony. Linking social capital is the ability or possibility to connect to others, insiders and outsiders to the community through networks of people, and reflects communication through networks. Assets of bonding and linking social capital have been related to better health outcomes as self-rated health scores, and improved mental health and chronic diseases[8)9)].

The experience of resettlement among international migrants, a growing phenomenon expanding worldwide, provides a natural setting to observe changes in the amount of social capital and its effects on health. Indeed, resettled migrants in the process of adjusting to a host society need either to establish new bonds and links or to reinforce their already-existing set of bonds and links to facilitate their actions in the new community. Novel frameworks of international migrant studies encourage consideration of the implications of migrants living as a transnational community affected by different country settings, policies, and childhood experiences[10)]. Exploring the effect of resettlement on social capital by measuring the amount of social capital and its relation to health outcomes directs our attention to social capital as an element of a healthy life for migrants that may be useful in preventive health approaches to such populations.

Moving to a country with lower income inequality has been associated with better health outcomes among migrants[11)], such as migration from South America to Japan. In addition, Japanese longevity seems to be related to its rich social capital. The resettlement experience might however also be affected by whether the host country has similar cultural or traditional roots. Changes in Japanese immigration policies in 1985 resulted in approximately a two-fold increase in immigration of Japanese descendants to Japan mainly from South America. The Association of Nikkei and Japanese Abroad website estimates the community of Japanese descendants in Japan at 250,000 persons[12)]. A previous study on Brazilian-Japanese migrants recognized that linking social capital assets were associated with better economic and educational outcomes for raising children in Japan[13)]. However, social capital and its components in relation to health outcomes in communities of Japanese descendants still have not been studied.

The aim of this study was to explore the relationship between the health of a community of Japanese descendants and their amount of social capital. For this purpose we selected Japanese-Peruvians living in Japan. The Japanese-Peruvian community that settled 116 years ago[14)] in Peru may be different from the Japanese-Peruvian community in Japan in terms of social capital and other socioeconomic factors. To ensure a simultaneous measure of comparison to the transnational environment[10)] of this community, we also included a sample of Japanese-Peruvians living in Peru.

Methods

Study design

A cross-sectional survey was conducted from December 2013 to July 2014. Study participants were 2nd and 3rd generation Japanese-Peruvians aged 15 years old over currently living in Japan. For convenience, participants were recruited through acquaintances using email and Internet tools, networks of the Japanese-Peruvian Association in Peru and Japan, and direct personal requests from the Consulate of Peru in Tokyo and its itinerancies outside Tokyo metropolitan area. A small sample of

Japanese-Peruvians living in Peru was also recruited.

A structured, self-administered, anonymous questionnaire survey in Spanish was conducted via the Internet using e-mail and the SurveyMonkey® website and its Facebook tool. For some participants living in Japan, interviews were conducted to collect responses to the questionnaire.

The study protocol was approved by the Research Ethical Committee at Tokyo Women's Medical University (approval number: 2945). Each survey had enclosed a brief explanation of the study design and purpose. Therefore, answering the questionnaire was considered implicit informed consent to participate in the study.

Sociodemographic data

Sociodemographic data included age, gender, educational level attained in Peru, type of housing, having children, and residential area. Educational level attained in Peru was dichotomized as high school or less and more than high school. Type of housing was categorized as ownership and renting. The residential area in Japan was classified into three categories with reference to Tokyo: the Tokyo metropolitan area, outside the Tokyo metropolitan area, and other prefectures in Japan. Number of years living in the present dwelling was categorized as less than and more than 5 years.

Social capital indicator

The short version of the Adapted Social Capital Assessment Tool (SASCAT), a social capital assessment tool validated for Peru, was selected to measure social capital[15]. This tool measures four categories of social capital: cognitive social capital, group membership, social support at the individual and group level, and citizenship activities for the past 12 months.

Cognitive social capital explores feelings of trust and belonging to the community and awareness of the state of communitarian harmony and was assessed through the following four questions: *In general, can the majority of people in this community be trusted? Do the majority of people in this community generally get along with each other? Do you feel as though you are really a part of this community? Do you think that the majority of the people in this community would try to take advantage of you if they got the chance?* Total item was scored between 0 and 4 points.

Group membership is an indicator of the number of groups to which people are affiliated and in which they are active, and was assessed through the following question: *In the last 12 months, have you been an active member of any of the following types of groups in your community?* The answer choices were: work-related/trade union, community association/co-op, women's group, political group, religious group, credit/funeral group, sports group, and other groups. Group membership was summed up 0 to 8 points.

Social support was divided into individual and group support and accounted for any help or support, material or otherwise. The question for support from groups was: *In the last 12 months, did you receive from the group any emotional help, economic help or assistance in helping you know or do things?* The same eight groups mentioned above were listed. Individual support was assessed with the following question: *In the last 12 months, have you received any help or support from any of the following, this can be emotional help, economic help or assistance in helping you know or do things?* Response choices were: family, neighbors, friends who are not neighbors, community leaders, politicians, government officials/civil servants, charitable organizations/non-governmental organizations, religious leaders, and others. We aggregated the individual and group social support scores into a total support score of between 0 and 17 points.

Citizenship activities are an indicator of activities performed jointly with community members to solve a problem and also of meeting local authorities on community issues. The following two questions were used to assess this item: *In the last 12 months, have you joined together with other community members to address a problem or common issue? In the last 12 months, have you talked with a local authority or governmental organization about problems in this community?* The score range for this item was from 0 to 2 points.

Subsequently, the total score for each item was categorized into levels. Cognitive social capital was categorized as low level for scores of 0, medium level for scores of 1 and 2, and high level for scores of 3 and 4. Group membership and social support were categorized as low level for scores of 0, medium level for scores of 1, and high level for scores of 2 or more. Citizenship activities were set as none for 0 and some for 1 or more points.

Health indicators

Self-rated health was considered the main health outcome in this study. As the indicator of self-rated health, the following question was asked due to its validity and association with mortality[16)17)] and also by its frequent use in epidemiological studies on social capital in different regions in the world: *In comparison with people of your same age, how would you consider your health?* Response choices were poor, fair, good, and very good[17)], and were dichotomized into poor (poor and fair) and good (good and very good). Another indicator of the current state of health was the presence or absence of the following comorbidities: diabetes, hypertension, cancer, bronchitis, psychiatric disease, cardiac infarction, cerebrovascular disease, and other if not mentioned above. Comorbidities were dichotomized as none if no disease was selected and some if at least one disease was counted.

Statistical analysis

Distribution of sociodemographic characteristics, comorbidities, and assets of social capital for Japanese-Peruvians was described by country (Japan and Peru). The Mann-Whitney test was applied for comparison of median scores and the Chi-square test for the comparison of proportions. Focusing on the participants living in Japan, univariate and multivariate analysis with a logistic regression model was used to assess potential factors of poor health measured by self-rated health; odds ratios (ORs) and their 95% confidence intervals (CIs) were calculated. The predictor variables included residential area, gender, age, comorbidities, social capital assets, educational level attained in Peru, type of housing, having children, and years living in the present dwelling. Participants with missing data were excluded from the analyses. All tests were two-tailed, and p values of <0.05 were considered statistically significant. Statistical analyses were conducted using JMP® 11 (SAS Institute Inc., Cary, NC, USA) and SPSS 21.0J (IBM Corp. Armonk, NY) software.

Table 1 Socio-demographic characteristics of Japanese-Peruvians living in Japan and Peru (n = 438)

		Japan (n = 366)	Peru (n = 72)	p* value
Mean age, years ± SD		40.1 ± 11.6	37.4 ± 11.7	0.057**
<40 years old, n (%)		180 (49.0)	41 (56.9)	0.228
≥40 years old		186 (51.0)	31 (43.1)	
Gender, male, n (%)		179 (48.9)	35 (48.6)	0.963
Education, n (%)				
High school or less		153 (41.8)	7 (9.7)	<0.001
More than high school		213 (58.2)	65 (90.3)	
Housing, n (%)				
Ownership		80 (21.9)	57 (79.2)	<0.001
Renting		286 (78.1)	15 (20.8)	
Having children, n (%)				
Yes		270 (73.8)	30 (41.7)	<0.001
No		96 (26.2)	42 (58.3)	
Present dwelling, years ± SD		5.5 ± 5.4	13.1 ± 12.9	<0.001**
≥5 years		151 (41.3)	50 (69.4)	
<5 years, n (%)		215 (58.7)	22 (30.6)	<0.001
Comorbidities, n (%)				
Some		126 (34.4)	26 (36.1)	0.784
None		240 (65.6)	46 (63.9)	
Social capital, n (%)				
Cognitive	High	187 (51.1)	35 (48.6)	0.921
	Medium	118 (32.2)	24 (33.3)	
	Low	61 (16.7)	13 (18.1)	
Group membership	High	14 (3.8)	16 (22.2)	<0.001
	Medium	106 (29.0)	37 (51.4)	
	Low	246 (67.2)	19 (26.4)	
Social support	High	71 (19.4)	35 (48.6)	<0.001
	Medium	123 (33.6)	31 (43.1)	
	Low	172 (47.0)	6 (8.3)	
Citizenship activities	Some	61 (16.7)	30 (41.7)	<0.001
	None	305 (83.3)	42 (58.3)	

*Chi-square test and **Mann-Whitney test. SD: standard deviation.

Results

After excluding 24 questionnaires with missing data, 438 out of 462 questionnaires were left for the analysis. Of these, 366 were from participants currently living in Japan. Socio-demographic data of our sample of Japanese-Peruvians in Japan and Peru are shown in Table 1. The mean age of the group living in Japan was 40 years, and the educational level attained in Peru was more than high school for 58%. Seventy eight % of the participants

Table 2 Factors associated with risk of poor self-rated health in Japan (n = 366)

		Total (n = 366)	Self-rated health		Univariate analysis		Multivariate analysis	
			Good n (%) 232 (63)	Poor n (%) 134 (37)	OR (95 % CIs)	p value	OR (95 % CIs)	p value
Gender								
Female		187	115 (62)	72 (38)	1.18 (0.77-1.81)	0.443	1.16 (0.72-1.88)	0.540
Male		179	117 (65)	62 (35)	reference		reference	
Age (10-year increments)					1.18 (1.00-1.40)	0.013	1.17 (0.93-1.48)	0.188
Education								
More than high school		213	137 (64)	76 (36)	0.91 (0.59-1.40)	0.663	0.62 (0.37-1.05)	0.076
High school or less		153	95 (62)	58 (38)	reference		reference	
Housing								
Ownership		80	52 (65)	28 (35)	0.91 (0.55-1.54)	0.735	0.76 (0.41-1.39)	0.366
Renting		286	180 (63)	106 (37)	reference		reference	
Having children								
Yes		270	163 (60)	107 (40)	1.68 (1.01-2.79)	0.046	1.46 (0.81-2.63)	0.206
No		96	69 (72)	27 (28)	reference		reference	
Residential area								
Outside of Tokyo		282	178 (63)	104 (37)	0.90 (0.43-1.88)	0.777	0.91 (0.38-2.19)	0.827
Other places in Japan		51	34 (67)	17 (33)	0.77 (0.31-1.91)	0.572	0.79 (0.28-2.24)	0.654
Tokyo metropolitan		33	20 (60)	13 (40)	reference		reference	
Present dwelling								
≥5 years		151	100 (66)	51 (34)	0.81 (0.53-1.25)	0.345	0.79 (0.47-1.32)	0.370
<5 years		215	132 (61)	83 (39)	reference		reference	
Comorbidities								
Some		126	51 (40)	75 (60)	4.51 (2.84-7.16)	<0.001	5.41 (3.18-9.20)	<0.001
None		240	181 (75)	59 (25)	reference		reference	
Social capital								
Cognitive	High	187	130 (70)	57 (30)	0.45 (0.25-0.82)	0.009	0.49 (0.26-0.95)	0.036
	Medium	118	71 (60)	47 (40)	0.68 (0.37-1.28)	0.232	0.72 (0.36-1.42)	0.343
	Low	61	31 (51)	30 (49)	reference		reference	
Group membership	High	14	11 (79)	3 (21)	0.42 (0.11-1.54)	0.190	0.21 (0.05-0.98)	0.046
	Medium	106	72 (68)	34 (32)	0.73 (0.45-1.17)	0.191	0.69 (0.38-1.25)	0.217
	Low	246	149 (61)	97 (39)	reference		reference	
Social support	High	71	46 (65)	25 (35)	0.83 (0.47-1.48)	0.529	1.40 (0.68-2.90)	0.364
	Medium	123	82 (67)	41 (33)	0.76 (0.47-1.24)	0.277	0.72 (0.41-1.26)	0.245
	Low	172	104 (60)	68 (40)	reference		reference	
Citizenship activities	Some	61	43 (70)	18 (30)	0.68 (0.38-1.24)	0.209	0.68 (0.31-1.45)	0.317
	None	305	189 (62)	116 (38)	reference		reference	

OR: odds ratio for poor health; 95 % CIs: 95 % confidence intervals.
Multivariate analysis adjusted for gender, age, educational level attained in Peru, type of housing, having children, residential area, years living in present dwelling, comorbidities and social capital items.

were housed on a rental basis, and 77% resided outside the Tokyo metropolitan area. More than 50% of the sample was from Kanagawa and Gunma Prefectures (Table 2).

In comparison with those living in Peru, those living in Japan had statistically significant differences in age, educational level attained in Peru, type of housing, having children and years living in the present dwelling. The number of years living in the present dwelling was almost half that of those currently living in Peru. Ninety % of those living in Peru attained more than a high school education, while only 58% of those living in Japan reached this level of education. Nonetheless, the presence of comorbidities was the same for participants of both countries.

Social capital items assessed by SASCAT showed that participants living in Japan had statistically significant lower levels of group membership, social support, and citizenship activity participation. In contrast, assets of cognitive social capital remained at equivalent values in both countries (Table 1). Uni-

Table 3 Sociodemographics of Japanese-Peruvians in Japan and Peru by group membership level (n=438)

	Group membership			p* value
	Low n (%)	Medium n (%)	High n (%)	
Country				
Japan	246 (67.2)	106 (29.0)	14 (3.8)	<0.001
Peru	19 (26.4)	37 (51.4)	16 (22.2)	
Gender				
Female	139 (62.1)	74 (33.0)	11 (4.9)	0.257
Male	126 (58.9)	69 (32.2)	19 (8.9)	
Age				
<40 years old	140 (52.8)	71 (32.1)	10 (4.5)	0.125
≥40 years old	125 (57.6)	72 (33.2)	20 (9.2)	
Education				
More than high school	150 (54.0)	104 (37.4)	24 (8.6)	<0.001
High school or less	115 (71.9)	39 (24.4)	6 (3.8)	
Housing				
Ownership	64 (46.7)	59 (43.1)	14 (10.2)	<0.001
Renting	201 (66.8)	84 (27.9)	16 (5.3)	
Having children				
Yes	182 (60.7)	100 (33.3)	18 (6.0)	0.564
No	83 (60.1)	43 (31.2)	12 (8.7)	
Present dwelling				
≥5 years	111 (55.2)	71 (35.3)	19 (9.5)	0.045
<5 years	154 (65.0)	72 (30.4)	11 (4.6)	
Comorbidities				
Yes	82 (54.0)	53 (34.9)	17 (11.2)	0.015
No	183 (64.0)	90 (31.5)	13 (4.6)	

*Chi-square test.

Table 4 Sociodemographics of Japanese-Peruvians in Japan and Peru by cognitive social capital level (n=438)

	Cognitive social capital			p* value
	Low n (%)	Medium n (%)	High n (%)	
Country				
Japan	61 (16.7)	118 (32.2)	187 (51.1)	0.922
Peru	13 (18.1)	24 (33.3)	35 (48.6)	
Gender				
Female	37 (16.5)	72 (32.1)	115 (51.3)	0.957
Male	37 (17.3)	70 (32.7)	107 (50.0)	
Age				
<40 years old	41 (55.4)	71 (50.0)	109 (49.1)	0.638
≥40 years old	33 (44.6)	71 (50.0)	113 (50.9)	
Education				
More than high school	48 (17.3)	85 (30.6)	145 (52.2)	0.553
High school or less	26 (16.3)	57 (35.6)	77 (48.1)	
Housing				
Ownership	27 (19.7)	45 (32.9)	65 (47.5)	0.507
Renting	47 (15.6)	97 (32.2)	157 (52.2)	
Having children				
Yes	54 (18.0)	96 (32.0)	150 (50.0)	0.661
No	20 (14.5)	46 (33.3)	72 (52.2)	
Present dwelling				
≥5 years	29 (14.4)	69 (34.3)	103 (51.2)	0.411
<5 years	45 (19.0)	73 (30.8)	119 (50.2)	
Comorbidities				
Yes	30 (19.7)	49 (32.2)	73 (48.1)	0.487
No	44 (15.4)	93 (32.5)	149 (52.1)	

*Chi-square test.

variate and multivariate logistic regression models for the dichotomized outcome of poor health of the total sample in Japan are shown in Table 2. 37% of those currently settled in Japan had poor/fair self-rated health. Poor health as an outcome in the univariate logistic regression was related to the following variables: age (10-year increments) (OR, 1.18; 95% CI, 1.00-1.40), having children (OR, 1.68; 95% CI, 1.01-2.79), and comorbidities (OR, 4.51; 95% CI, 2.84-7.16). The odds for poor health decreased when a high level of cognitive social capital was present (OR, 0.45; 95% CI, 0.25-0.82). In the multivariate logistic regression for gender, age, educational level attained in Peru, type of housing, having children, years living in the present dwelling, comorbidities, and all social capital items, poor health was significantly associated with comorbidities (OR, 5.41; 95% CI, 3.18-9.20). The odds for poor health were significantly less when a high level of cognitive social capital (OR, 0.49; 95% CI, 0.26-0.95) and a high level of group membership (OR, 0.21; 95% CI, 0.05-0.98) were present. Nagelkerke's R^2 was 0.234.

Categorized group membership and cognitive social capital by sociodemographic characteristics are displayed in Table 3, 4. Cognitive social capital levels did not differ statistically by any of the sociodemographic variables (Table 4). Categorized assets of group membership demonstrated statistically significant differences by country of residence, educational level attained in Peru, type of housing, years living in the present dwelling, and comorbidities (Table 3).

Discussion

According to our study, more than 30% of Japanese-Peruvians living in Japan have poor or fair self-rated health. A previous study of self-rated health in a migrant population, Japanese-Brazilians living in Japan[18], as well as a multinational sample of migrants in Greece[19] also observed that the prevalence of poor and fair self-rated health was higher

than 30%. This finding contradicts the so-called "healthy migrant effect" in which healthier persons are the ones to take on the challenge of emigration. There are several plausible explanations for our findings. Low access to language and culture sensitive health services for migrants could be one reason[20]. A high degree of poor self-rated health may be an indication of limited health care access for migrants in Japan. Finally, the low enrolment rates in universal health insurance of Latin American migrants in Japan, as shown in a recent study[21], may be another factor.

Only three factors were associated with odds of poor health in the multivariate logistic regression. Besides the presence of comorbidities, mitigating the odds for poor health are high levels of cognitive social capital and group membership. This finding may indicate that the health of those experiencing resettlement is at stake because, in addition to comorbidities, lower levels of social cohesion, trust and feelings of belonging to the host community are present, as represented by lower cognitive social capital. Cognitive social capital specifies contents of perception in mutual existence that are weakened by relocation.

Group membership is a measure of communitarian life since it reflects participation in groups. Participation in groups is related to better health outcomes in non-migrant communities in several regions, including Japan[22]. As an explanation of its relation to good health, prospective studies propose that participation in groups fosters the development of feelings of trust and belonging to a community, thereby raising cognitive social capital[23].

In an era of frequent population movements worldwide, a comprehensive understanding of health must include a relational perspective to others, as underlined by the core of the social capital concept, as well as a relational perspective to places[24]. Needless to say this integral understanding of health is in the best interest of health promotion. For example, in England, a prospective study on healthy aging showed that participation in groups was recognized as preventing cognitive decrease by 10 years in comparison with non-associating elderly. The authors concluded that the "we" matters for health[25].

As a trend noted in Table 1, our sample in Japan had lower participation in group meetings, social support from groups and peers, and citizenship participatory activities in comparison to their peers living in Peru. Former Japanese migrants and their descendants who settled in Peru were very active in terms of participation in groups. Half of the Japanese descendants participated in at least one organization for Japanese descendants and at least a quarter were active members[14]. In our sample, participation among Japanese-Peruvians in Peru was still strong in terms of groups meetings, social support from groups and peers, and citizenship participatory activities.

While cognitive social capital assets did not differ by any sociodemographic in the transnational sample analysis, group membership or participation in groups was related to several sociodemographic elements. The following factors were associated with group membership or participation: country of residence, educational level attained in Peru, type of housing, years living in the present dwelling and comorbidities. Worthy of note among them is educational level because it is potentially modifiable. Therefore, promoting access to education is likely to improve participation in groups in this community and subsequently decrease the odds of poor health.

There are several resettlement elements hampering the rise of social capital among Japanese-Peruvians in Japan. In comparison to the former Japanese migrants in Peru, factors against building assets of participation in groups in Japan are the dispersion of the community, the Japanese language as a communication barrier between the host community, faster rhythms of life and work, and foreseeing a rather short stay. Feelings of discrimination at work have also been described as a hindering element to integration concurrent to poor self-rated health in Japan[18]. The Japanese Government Cabinet Office opinion survey website states that 80% of Japanese support the integration of Japanese descendants as members of Japanese society[26].

Yet the feeble values of group membership shown in the present study of a group of Japanese descendants living in Japan emphasize the need for reinforcement and promotion of their integration.

Several interventional prospective studies have confirmed that social capital can be raised, exerting positive effects that enhance health and other outcomes through intergenerational programs in counties with high income inequality such as Brazil[27], support for HIV patients through participation in microfinance groups in deprived areas in Africa[28], and participation in groups for the elderly in Japan[29]. The path for applying these findings to interventional studies of health and international migration is open. The aging population and global population movements are creating a setting for a multiethnic and multicultural society in Japan, which has to date been an almost mono-ethnic society, and health promotion oriented studies on social capital and the health of migrants in Japan are turning out to be promising models for healthy living and integration.

Back to the study of the town of Roseto, social capital research highlights the importance of cohesion in communitarian life and morale[3)4)]. Healthy human beings do not seem to be self-oriented. There is a kind of "glue" that matters for health, a relational principle following the thoughts of Rielo[30].

This study had several limitations. The use of a sampling method by convenience could be a source of selection bias. We assumed this sampling method to be feasible for including sample participants living in dispersed and resettled communities in several Japanese municipalities and prefectures. Our statistical analysis used data gathered from structured, self-administered, and interviewer-administered questionnaires, which could be a source of detection bias. Another possible source of detection bias is the conceptual proximity of social capital and health. Nevertheless, it could be argued that the social capital concept measures relational levels of functionality and existence, usually not assessed in clinical settings, and emphasizes and acknowledges that health and "human" being is a condition that surpasses the physical body.

Conclusion

The relational perspective to others and to places is promising for health promotion outcomes in any population, but especially for migrants. Cognitive social capital and group membership are determinants of self-rated health for Japanese-Peruvians in Japan. In this study, we found lower group membership assets for Japanese-Peruvians in Japan in comparison to Japanese-Peruvians in Peru. Further research may consider prospective interventions aiming to foster participation in groups that would raise both group membership and cognitive social capital with a relational perspective to others and to the area of residence, such as the neighborhood. In general, increasing the awareness of the need for "investing" in these social assets of health among clinicians would help to attain a more integral view of and care for patients.

Acknowledgements

We are grateful for the cooperation of The Embassy of Peru in Japan, the Consulate of Peru in Tokyo, the Japanese-Peruvian Association in Peru, and the Japanese-Peruvian Association in Japan.

The authors declare that there are no conflicts of interest.

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日系ペルー人におけるソーシャル・キャピタルと主観的健康観

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〔緒言〕日系ペルー人コミュニテイにおけるソーシャル・キャピタルと主観的健康観の関連を検討し，移住先での健康決定要因を明らかにする．〔対象と方法〕2013年12月から2014年7月，ウェブアンケート（SurveyMonkey®）または，自記式質問票と面接調査票にて社会的要因，Short version of Adapted Social Capital Assessment Tool，主観的健康観，併存疾患をスペイン語で無記名にて調査した．日本在住の日系ペルー人366人と，比較群としてペルー在住日系ペルー人72人を対象にロジスティック解析を行った．〔結果〕主観的健康観を“good”と“poor”に分けて解析すると，併存疾患があるとき“poor health”のリスクは最も高く，オッズ比（OR）は5.41（95% CI，3.18–9.20）であった．性，年齢，住居，日本国内での在住地域，ペルーで受けた教育レベル，子供の有無とは関連がなかった．“poor health”のリスクは，認知的ソーシャル・キャピタル（cognitive social capital）が高レベルのとき（OR，0.49；95% CI，0.26-0.95），および組織への参加（group membership）が高レベルのとき（OR，0.21；95% CI，0.05-0.98），有意に低かった．一方，社会的支援（social support），社会的市民活動（Citizenship activities）とは有意な関連を認めなかった．また，ペルー在住日系ペルー人72人は，日本在住日系ペルー人と社会的背景が異なることが明らかとなった．〔結論〕日本在住日系ペルー人において，認知的ソーシャル・キャピタルと組織への参加が主観的健康観の決定要因となる可能性が示唆された．今後，十分なサンプルサイズの，前向き，あるいは介入研究が行われ，移民におけるソーシャル・キャピタルが健康促進に寄与することが期待される．