

Non-Japanese, Japanese and Japanese descendant older adults in the Health, Wellbeing and Aging Study: functional and health conditions

Idosos não japoneses, japoneses e descendentes de japoneses no Estudo Saúde, Bem-Estar e Envelhecimento: condições funcionais e de saúde

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ABSTRACT: *Introduction:* The city of São Paulo has the largest community of Japanese descendants outside of Japan. *Objectives:* To compare the demographic, economic, functional, and health conditions of non-Japanese, Japanese, and their descendants; and to analyze comparatively the functional and health conditions of older adults born in Japan and their descendants born in Brazil. *Methods:* A cross-sectional study was carried out in the city of São Paulo, in 2010, with 1,345 older adults (≥ 60 years) participants in the SABE Study (Health, Welfare and Aging). The participants were classified as non-Japanese (not born in Japan), Japanese (born in Japan) or have reported being a direct descendant of Japanese. For the data analysis, χ^2 test with Rao-Scott correction was used. *Results:* Of the 1,345 older adults, 3.3% were Japanese or descendants. These differed from non-Japanese in terms of higher education and reported income sufficiency. Among older adults born in Japan, there was a higher proportion of oldest old (38.8%), cardiovascular diseases (48.9%) and cognitive decline (26.7%). *Conclusion:* It is noted that Japanese and descendants older adults presented better functionality when compared to non-Japanese. Among Japanese and descendants, differences in the profile of diseases were observed. It is believed that such results may be due to cultural influences.

Keyword: Aged. Activities of daily living. Japan.

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RESUMO: *Introdução:* A cidade de São Paulo conta com a maior comunidade de descendentes japoneses fora do Japão. *Objetivos:* Comparar as condições demográficas, econômicas, funcionais e de saúde de idosos não japoneses, japoneses e descendentes de japoneses, bem como analisar comparativamente as condições funcionais e de saúde de idosos nascidos no Japão e de seus descendentes nascidos no Brasil. *Métodos:* Estudo transversal realizado no município de São Paulo, no ano de 2010, com 1.345 idosos (≥ 60 anos) participantes do Estudo Saúde, Bem-Estar e Envelhecimento (SABE). Os idosos foram classificados em não japoneses (não nascidos no Japão), japoneses (nascidos no Japão) ou descendentes diretos de japoneses. Para a análise dos dados, utilizou-se o teste do χ^2 com correção Rao-Scott. *Resultados:* Dos 1.345 idosos, 3,3% eram japoneses ou descendentes. Esses se diferenciavam dos não japoneses quanto à escolaridade mais elevada e suficiência de renda. Entre os idosos nascidos no Japão, houve maior proporção de longevos (38,8%), portadores de doenças cardiovasculares (48,9%) e de declínio cognitivo (26,7%). *Conclusão:* Nota-se que os idosos japoneses/descendentes apresentaram melhor funcionalidade quando comparados aos não japoneses. Já entre japoneses e descendentes, observou-se diferenças no perfil das doenças. Acredita-se que tais resultados possam ser decorrentes das influências culturais.

Palavras-chave: Idoso. Atividades cotidianas. Japão.

INTRODUCTION

Although the process of population aging is a global phenomenon, there are differences in life expectancy among countries, even among those with similarities in their development. Culturally distinct populations present different forms of illness and death, possibly due to their habits and customs, which has been investigated more recently in studies that address migratory phenomena involving different nationalities or religions¹.

Japanese immigration to Brazil officially began on June 18, 1908, with the arrival of 733 people aboard the ship Kasato Maru at the Port of Santos. Over the last century, the Japanese-Brazilian community, also known as Nikkei, underwent major transformations and became part of Brazilian society².

Brazil is the country with the largest number of Japanese and their descendants outside of Japan. In a census conducted in the early 1960s, the Nikkei population was 429,413, of which 32% were immigrants³. Later studies⁴⁻⁷ pointed out that the majority of Nikkei were concentrated in the Southeast Region (79.4%) and that of the total of 72.23% Japanese-Brazilians living in the State of São Paulo, 40.39% lived in the capital and in the Metropolitan Region.

According to a study carried out by the Center for Japanese-Brazilian Studies⁵, in the period from 1987 to 1988, the Japanese-Brazilian population, according to the generation of offspring, had the following composition: 12.5% were Japanese born and 85.4% were Japanese descendants born in the country, of whom 31.7% were under 15 years of age, 57.5% were between 15 and 60 years and 9.7% were over 60 years.

Due to differences in the morbimortality of this group, compared to other populations, the Japanese have deserved special attention, besides representing one of the most long-lived populations of the world.

Thus, some authors⁸ affirm that immigrants present a pattern of mortality compatible with the degree of acculturation reached, since they tended to gradually modify their habits. Although heredity in the etiology of the disease is well established, environmental factors have great importance. There are biological, psychosocial, nutritional and cultural changes occurring through the interaction of these groups with culturally distinct environments, when compared to the profile of the residents of their place of origin.

The great migratory movement that the world is going through today, and the fact that Brazil is a country whose population is made up of immigrants and their descendants is of much relevance. Therefore, knowing the impact of acculturation on the change in the health and functional conditions of immigrants and their descendants is fundamental for the planning of public policies adapted to the different demands of the elderly population.

OBJECTIVES

This study aimed to compare the demographic, economic, functional and health conditions of non-Japanese, Japanese and Japanese descendants, as well as to compare the functional and health conditions of elderly people born in Japan and their descendants born in Brazil.

METHODS

This study is part of the Health, Wellbeing and Aging Study (SABE) and used the 2010 database of the aforementioned study, thus characterizing itself as exploratory, transversal and analytical.

The SABE Study began as a multicenter study in 2000, under the coordination of the Pan American Health Organization (PAHO), in order to outline the profile of the living and health conditions of the elderly in Latin America and the Caribbean. At that time, it was developed simultaneously in seven urban centers of the region: Buenos Aires (Argentina), Bridgetown (Barbados), São Paulo (Brazil), Santiago (Chile), Havana (Cuba), Mexico City (Mexico) and Montevideo (Uruguay). In Brazil, it was developed in the city of São Paulo and coordinated by the Department of Epidemiology of the School of Public Health of Universidade de São Paulo (USP). The funding source were the State of São Paulo Research Foundation (FAPESP) and the Ministry of Health. In 2000, 2,143 individuals aged 60 years or over were interviewed by means of probabilistic sampling by conglomerates in 2 stages, called the cohort A⁹.

In 2006, the SABE Study in São Paulo became longitudinal and multi-cohort. At that time, the cohort A seniors were located and interviewed again ($n = 1,115$), and a new probabilistic cohort of 60-64 year olds (cohort B) was introduced ($n = 298$). The same occurred in 2010, when 748 elderly people from cohort A and 242 from cohort B were located and again interviewed, and a new probabilistic cohort of 60-64 year olds (cohort C, $n = 355$) was introduced, making a total of 1,345 individuals. For the present study, the sample was constituted by the third wave performed in the year of 2010.

The dependent variable was the elderly being born in Japan or having referred to being a direct descendant of Japanese. The independent variables were: age; sex; marital status; perception of income sufficiency; years of study; self-report of hypertension, diabetes, heart disease, joint disease, chronic lung disease and/or cerebrovascular disease; presence of depressive symptoms; cognitive and functional decline; multimorbidity (≥ 2 diseases); lifestyle (smoking, alcohol intake, sedentary lifestyle); hospitalization and use of emergency services in the 12 months prior to the interview.

The presence of depressive symptoms was identified through the Brazilian version of the Geriatric Depression Scale, and the elderly with scores greater than 5¹⁰ were considered as positive for depression. The presence of cognitive decline was identified using the modified version of Mini Mental State Examination (MMSE), and the cut-off point was 12 or less¹¹.

The functionality was evaluated through the difficulty referred to the performance of basic activities of daily living (BADLs): feeding, bathing, dressing, using the toilet, being able to mobilize and transfer; and instrumental activities of daily living (IADLs), such as: taking care of one's own money, using transportation, buying food, phoning and taking one's own medicines. Elderly patients who reported difficulty in performing at least one of the activities were considered dependent.

Alcohol intake was classified into three frequency categories: low intake (less than one day per week); moderate ingestion (one to three days per week) and high ingestion (four or more days per week)¹². The practice of physical activity was evaluated by the activities of moderate and vigorous intensity of the short version of the International Physical Activity Questionnaire (IPAQ). The elderly who practiced 150 minutes or more of moderate activities per week or 75 minutes of vigorous activities per week – or an equivalent combination of moderate and vigorous activity – was considered active¹³.

Data analysis was performed in Stata Statistical Package 11.0. For the descriptive analysis of the study variables, proportions were used. The differences between the groups were estimated using the χ^2 test with Rao-Scott correction, which takes into account sample weights for estimates with population weights¹⁴. A significance level of 5% was established to estimate differences between groups.

The SABE Study was approved by the Research Ethics Committee (REC) of the School of Public Health of Universidade de São Paulo (USP), and obtained a favorable opinion in all the collections made.

RESULTS

Of the 1,345 elderly people evaluated in 2010, 3.3% were Japanese or Japanese descendants. The majority of Japanese or their descendants had higher education (62.2%) and reported income sufficiency (81.5%) when compared to others. When comparing the two groups, there was no difference between age, sex, marital status, depressive symptoms, physical activity and multimorbidity. However, there was a significant association between the report of difficulty in the performance of BADLs and IADLs, with Japanese and their descendants showing better functional performance. Although no statistical difference was found, non-Japanese elderly showed a higher prevalence of cognitive decline when compared to Japanese (Table 1).

In the total sample of this study (n = 41), 78.2% were Japanese descendants and 21.8% reported being born in Japan. Among the latter, a higher proportion of long-lived (38.8%), men (82.7%), married (62.8%) and more educated individuals (75.3%) was observed. Among their descendants, younger (59.3%), women (57.2%) and individuals with high schooling (82.3%) were present (Table 2).

Regarding health, the Japanese elderly presented worse conditions when compared to the descendants, in the variables cognitive decline (26.7%) and presence of cardiovascular diseases (48.9%). The descendants, on the other hand, presented higher proportions of

Table 1. Distribution (%) of non-Japanese and Japanese/Japanese descendants, according to socioeconomic, demographic and health characteristics. São Paulo, 2010 (n = 1,345).

Characteristics	Non-Japanese (%)	Japanese and Japanese descendant (%)	p-value
Age (years)			
60 to 69	54.4	54.2	0.990
70 to 79	30.6	30.0	
80 or over	15.0	15.8	
Sex			
Male	39.7	51.5	0.199
Female	60.3	48.5	
Marital status			
Partner	54.8	57.7	0.789
No partner	45.2	42.3	
Income sufficiency			
No	43.8	18.5	0.007
Yes	56.2	81.5	

Continue...

Tabela 1. Continuation.

Characteristics	Non-Japanese (%)	Japanese and Japanese descendant (%)	p-value
Years of schooling			
None	12.1	5.2	0.000
1 to 3	22.8	10.3	
4 to 7	38.2	18.3	
Over 8	26.9	62.2	
Cognitive decline	10.1	5.8	0.346
Presence of depressive symptoms	9.9	18.2	0.1449
Practice of physical activity (active)	38.3	51.5	0.205
Chronic diseases			
Arterial hypertension	67.0	60.6	0.485
Diabetes	24.8	33.7	0.345
Cancer	7.9	6.2	0.676
Chronic lung disease	9.5	0.0	0.059
Cardiovascular diseases	23.2	15.9	0.412
Cerebrovascular disease	7.3	0.0	0.112
Joint diseases	32.1	24.4	0.395
Osteoporosis	19.2	28.5	0.206
Multimorbidity	55.5	55.4	0.993
Commitment to at least one instrumental activity of daily living			
No	72.4	92.3	0.001
Yes	27.6	7.7	
Commitment to at least one basic daily life activity			
No	71.0	85.5	0.008
Yes	29.0	11.5	
Hospitalization*	11.2	5.1	0.131
Emergency services *	21.6	22.5	0.918
Total	100.0	100.0	

*Used this health service in the 12 months prior to the interview.

Source: SABE Study, 2010.

diabetes (41.2%), joint disease (30.4%) and use of emergency services (28%) in the 12 months prior to the interview (Table 3).

DISCUSSION

The present study allowed the comparative analysis of the health conditions of non-Japanese, Japanese and Japanese descendants. Japanese elderly reported higher schooling and income sufficiency and better functional performance than non-Japanese.

Table 2. Distribution (%) of Japanese and Japanese descendants born in Brazil, according to socioeconomic and demographic characteristics. São Paulo, 2010 (n = 41).

Characteristics	Japanese (%)	Japanese descendants (%)	p-value
Age (years)			
60 to 69	36.0	59.3	0.215
70 to 79	25.2	31.3	
80 or over	38.8	9.4	
Sex			
Male	82.7	42.8	0.055
Female	17.3	57.2	
Marital status			
Married	62.8	56.2	0.761
Divorced	0.00	13.3	
Widower	24.7	23.5	
Single	12.5	7.10	
Income sufficiency			
No	21.5	17.7	0.832
Yes	78.5	82.3	
Years of study			
None	9.9	3.9	0.448
1 to 3	14.8	8.9	
4 to 7	0.00	23.5	
Over 8	75.3	63.7	
Total	100.0	100.0	

Source: SABE Study, 2010.

Table 3. Distribution (%) of Japanese and Japanese descendants born in Brazil, according to health conditions. São Paulo, 2010 (n = 41).

Characteristics	Japanese (%)	Japanese descendants (%)	p-value
Self-classification of health			
Good/very good	49.7	57.6	0.831
Regular	50.3	40.7	
Bad/very bad	0.0	1.7	
Cognitive decline			
No	73.3	100.0	0.018
Yes	26.7	0.0	
Presence of depressive symptoms			
No	85.6	91.2	0.675
Yes	14.3	8.8	
Physical activity			
Inactive	50.1	48.1	0.933
Active	49.9	51.9	
Alcohol consumption			
Low	70.0	95.8	0.196
Moderate	19.8	4.2	
High	10.2	0.0	
Smoking			
No	85.5	69.8	0.401
Yes	14.5	30.2	
Chronic diseases (yes)			
Arterial hypertension	69.1	58.2	0.598
Diabetes	6.6	41.2	0.025
Cancer	12.7	4.4	0.406
Cardiovascular diseases	48.9	6.7	0.007
Joint disease	3.1	30.4	0.014
Osteoporosis	10.5	33.5	0.113
Multimorbidity	53.2	56.1	0.886
Fall in the last 12 months	9.3	33.0	0.127

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Tabela 3. Continuation.

Characteristics	Japanese (%)	Japanese descendants (%)	p-value
Commitment to at least one instrumental activity of daily living			
No	60.6	80.8	0.277
Yes	39.4	19.2	
Commitment to at least one basic daily life activity			
No	87.3	92.7	0.638
Yes	12.7	7.3	
Hospitalization*	0.0	6.5	0.481
Emergency services*	2.8	28.0	0.011
Total	100.0	100.0	

*Used this health service in the 12 months prior to the interview.

Source: SABE Study, 2010.

According to Hirano¹⁵, the Japanese consider school as an unquestionable instrument to point out the rules of civility and a means of social ascension. In view of this, Japanese immigrants mobilized to create schools and to cultivate the habit of reading books through collective community participation, thus guaranteeing education for their descendants.

The high schooling of the Japanese descendants could also be evidenced in our study, which contributes to their better economic condition. Suzuki¹⁶ describes that, although most of the immigrants belonged to economically disadvantaged classes, after arriving in Brazil, over time, they managed to ascend socially, which is observed by the higher level of schooling. Moreover, as Sakurai¹⁷ points out, in the 1950s to the mid-1970s, Brazil received about 50,000 Japanese, with a different profile from those who immigrated in the early twentieth century. These new immigrants had higher occupational qualifications and higher education levels.

Regarding functional capacity, non-Japanese elderly presented worse impairment in relation to the Japanese elderly and Japanese descendants. Sampaio et al.¹⁸ investigated fragility in Japanese women and in descendants of Japanese and Brazilian women, and found that native Brazilians may be more vulnerable and fragile because of the sociodemographic disadvantages they are exposed to and their lifestyle. It is interesting to note that, although the Japanese born are older than their descendants, there was no statistically significant difference between these two groups with respect to functionality.

In the present study, the elderly from Japan were older and predominantly males. The literature evidences the high male predominance in the migratory movements of the Japanese population¹; moreover, it is interesting to note that Japanese immigration occurred mainly before World War II. Also, the immigration policy adopted at the beginning of the last

century dictated that to be able to immigrate, one was required to have a family – or being a couple plus one other person, who was generally male¹⁹ – which may have contributed to these results among the Japanese born.

In a study carried out by the Center for Japanese-Brazilian Studies that included elderly Japanese descendants, it was found that approximately 77% of them were 65 to 79 years of age, and 46.6% were men²⁰. This proportion is similar to that found among the elderly in this study.

According to the World Health Organization (WHO), the Japanese, especially women, have the longest life expectancy in the world²¹. One of the justifications for this may be the genetic contribution and nutritional conditions. Yamori et al.²² point out that the higher consumption of fish and soybeans was significantly associated with higher levels of HDL-C and folate, possibly contributing to Japan's lower mortality from coronary heart disease and the longest life expectancy among developed countries. In addition, Japanese individuals who consume products derived from soy and fish are accustomed to a high sodium intake. Yamori et al.²³ describe that one of the adverse effects of sodium use is the significant positive association with mortality for cerebrovascular diseases.

When compared to their descendants, Japanese elderly presented worse conditions regarding the presence of cognitive decline (26.7%), which may be associated with their greater longevity. Otsuka et al.²⁴ evaluated 2,267 elderly people in the cities of Obu and Higashiura, Japan, and found that greater food diversity reduces the risk of cognitive decline. The incorporation of practices considered characteristic of the western lifestyle, despite the maintenance of some habits typical of the country of origin, entails gradual changes throughout the generations, largely linked to nutritional habits²⁵.

In relation to chronic diseases, attention is drawn to the high prevalence of cardiovascular diseases in Japanese and to diabetes and joint diseases among their descendants. Studies show that the Japanese, who originally presented low morbidity due to diabetes and cardiovascular diseases, after suffering sociocultural changes, started to present high risk^{26,27}.

Japanese elders of the first generation would have protection against diabetes because they maintained oriental customs, while offspring tended to move away from traditional Japanese habits, increasing the likelihood of having diabetes²⁷.

When comparing the dietary habits of Japanese and Nisei (second generation of offspring), Gimeno et al.²⁸ verified that there was a change in the typical Japanese diet in both generations, having been a major change in the latter, with the introduction of a typical Western diet. According to Tamura et al.²⁹, immigrants present a mortality pattern similar to the degree of acculturation reached, bringing them closer to the morbimortality profile of the Brazilian population.

The rupture with one's origin, determined by the need for social, cultural and economic readaptation; the gradual change in cultural habits, resulting in the transformation of the oriental diet and adoption of the food standard of the place of destination; and the presence of competitive risks of death represented by the specific diseases of São Paulo may increase the risk of Japanese and their descendants contracting both infectious and chronic diseases³⁰.

CONCLUSION

Japanese elderly and their descendants have income sufficiency, higher schooling, and better functional and health status than non-Japanese. The Japanese population is considered to have the longest life expectancy in the world. This has been attributed mainly to genetic, environmental and cultural factors. This fact was also observed in Japanese who immigrated to other countries and experienced a similar situation, extending this condition to their descendants.

In this study, it was observed that Japanese elderly are longer lived when compared to their descendants, which can be attributed to the lower immigration of people of that origin in the post-war period.

A higher prevalence of chronic diseases among the Japanese descendants was also observed, probably associated with acculturation. Thus, it can be inferred that, possibly, the descendants will evolve in a less satisfactory form than their relatives born in Japan.

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