

Knowledge about Ageing and Attitudes towards Older Adults among Japanese Physiotherapy and Occupational Therapy Undergraduates

HISASHI MOCHIZUKI, AKIRA SHOBO, HIROKAZU NISHIKATA, SACHIKO OHASHI,
PAVAPRIYA PONVEL & DEVINDER KAUR AJIT SINGH

ABSTRACT

Japan has a hyper ageing community and there is a need for multidisciplinary team approach in the management of the increasing number of older adults in Japan. Acquiring knowledge about ageing and building positive attitude towards older adults will ensure quality care in this population. The aim of this study was to determine Japanese physiotherapy (PT) and Occupational Therapy (OT) undergraduates' knowledge of and attitudes towards older adults. This cross-sectional survey involved 205 undergraduates from 5 different health sciences universities. The Palmore's Fact of Aging Quizzes (FAQ) and Kogan's Attitude towards Older People (KAOP) were utilized. The independent *t*-test was carried out to examine the differences in scores between FAQ and KAOP based on gender, programs, and study year. The spearman correlation coefficient was used to determine the correlation between FAQ and KAOP. The results showed no significant differences in the scores of both questionnaires based on gender, programs, and study year. The mean scores of FAQ (14.8 ± 2.5) and KAOP (154.3 ± 17.8) results indicated moderate knowledge of ageing and positive attitude towards ageing among Japanese physiotherapy (PT) and Occupational Therapy (OT) undergraduates. A significant positive weak correlation between FAQ and KAOP, $r = 0.289$ ($p < 0.0001$) was shown. The study results suggest that Japanese PT and OT undergraduates had moderate knowledge about ageing and favorable attitudes towards older adults. Further increase in knowledge about ageing and cultivating positive attitudes towards older adults may be possible via enhancement of the current PT and OT undergraduates' curriculum.

Keywords: knowledge, attitude, students, older adults, Japan

ABSTRAK

Negara Jepun mempunyai komuniti yang mengalami penuaan dengan pantas dan terdapat keperluan untuk pendekatan multidisiplin dalam pengurusan peningkatan jumlah warga emas di Jepun. Memperolehi pengetahuan tentang penuaan dan pembinaan sikap positif terhadap warga emas akan memastikan penjagaan yang berkualiti dalam populasi ini. Objektif kajian ini adalah untuk menentukan pengetahuan dan sikap prasiswazah fisioterapi (PT) dan terapi carakerja (OT) di Jepun terhadap warga emas. Tinjauan hirisan lintang ini melibatkan 205 pelajar dari 5 universiti sains kesihatan yang berbeza. Kuiz Fakta Penuaan Palmore (FAQ) dan Sikap terhadap Warga Emas Kogan (KAOP) telah digunakan. Ujian-*t* bebas digunakan untuk menentukan perbezaan skor antara FAQ dan KAOP berdasarkan jantina, program dan tahun pengajian. Pekali korelasi spearman telah digunakan untuk menentukan hubungan antara FAQ dan KAOP. Hasil kajian menunjukkan tiada perbezaan yang signifikan dalam skor kedua-dua soal selidik. Skor purata FAQ (14.8 ± 2.5) dan KAOP (154.3 ± 17.8) menunjukkan pengetahuan yang sederhana dan sikap positif terhadap penuaan dalam kalangan prasiswazah PT dan OT di Jepun. Korelasi rendah yang signifikan antara FAQ dan KAOP, $r = 0.289$ ($p < 0.0001$) telah ditunjukkan. Hasil kajian mencadangkan bahawa prasiswazah PT dan OT di Jepun mempunyai pengetahuan yang sederhana mengenai penuaan dan sikap yang menggalakkan terhadap warga emas. Peningkatan pengetahuan mengenai penuaan dan memupuk sikap positif tambahan terhadap warga emas mungkin boleh digalakkan melalui penambahbaikan kurikulum prasiswazah semasa PT dan OT.

Kata kunci: pengetahuan, sikap, pelajar, warga emas, Jepun

INTRODUCTION

Ageing is a progressive and irreversible phenomenon (Arai et al. 2015). Out of all the developed countries, Japan has a rapid increase in ageing rate and has the highest life expectancy compared to other developed countries (Rockwood

et al. 2005). In the year 2015, 26.7% of the Japanese population were 65-year-old and above, making Japan a hyper ageing society (Ogawa 2017). By the year 2060, this population is expected to make up 40% of the Japanese community (Arai et al. 2015). The escalating number of older adults could linearly

increase the healthcare demand and medical cost (Kojima et al. 2016).

Healthcare practitioners are responsible in providing support and maintaining optimal function through independent participation in daily activities (Lyons et al. 2013). Results from the past studies showed that health sciences undergraduates have positive attitude towards older adults (Turan et al. 2016; Singh et al. 2018). Physiotherapy (PT) and occupational therapy (OT) are some of the essential rehabilitation services for the well-being of older adults (Adam et al. 2013). Therefore, it is important for PT and OT students to have adequate knowledge about ageing besides having positive attitudes towards older adults (Herdman 2002). Attitude signifies the perception developed by experience, meanwhile knowledge is obtained via education and practice (Lambrinou et al. 2009).

There is an association between knowledge about ageing and attitudes towards older adults among undergraduates (Singh et al. 2018) and such information is not known in Japan. In view of this, we conducted a survey to determine the knowledge about ageing and attitudes towards older adults among PT and OT undergraduates in Japan. Our findings would be useful for Japanese PT and OT undergraduate geriatric course curriculum improvement and foster better attitude towards ageing.

MATERIALS AND METHODS

This survey was approved by the Research Ethics Committee of the Bunkyo Gakuin University (2018-0001). This was a cross sectional study involving five PT and OT schools from Hokkaido, Miyagi, Tokyo, Saitama, and Fukuoka. The questionnaires were send using emails and mobile messages to the students together with an information and consent sheets regarding the survey to seek their participation. The responses for these questionnaires were collected through smartphones and computers using the Forms function of Office365™.

A total of 2320 undergraduates were invited to participate in the survey, but only 205 students returned their completed forms. The Japanese version of Palmore's The Fact of Aging Quizzes (FAQ) and Kogan's Attitude towards Older People (KAOP) were used. Palmore's The Fact of Aging Quizzes (FAQ) is a questionnaire assessing

physical, mental and social facts as well as the most common misinterpretations about ageing (Palmore 1998). It consists of 25 true/false statements and each correct answer were given a score of 1 and wrong answers were give a score of 0 (Eltantawy 2013). The scoring ranged from 0 to 25, with higher score indicating greater knowledge regarding ageing (Palmore 1998). The Japanese version of FAQ was used in this current study (Suzuki 2004) but its validity is not known.

The Japanese version of Kogan's Scale of Attitudes Towards the Elderly (KAOP) was used to identify the attitude of the students towards older adults. This scale comprises of 34 questions which are subcategorized into 17 positive and 17 negative statements. The scoring is a 6-point score scale; "1: Strongly disagree", "2: disagree", "3: Slightly disagree", "5: Slightly agree", "6: Agree", and "7: Strongly agree" (Ogiwara et al. 2007). A score of 4 was given to those failed to response or was unable to answer. The Japanese version of KAOP is highly reliable with Cronbach's Alpha of 0.87 (Ogiwara et al. 2007). The total score ranged between 34 to 238, with higher score indicating more favorable attitude towards older adults.

Data was analysed using Statistical Products and Service Solution (SPSS, Version 22.0, IBM Corp., Armonk, New York.). We compared the FAQ and KAOP by gender, course and study year by using independent *t*-test and one-way analysis of variance (ANOVA). Spearman's correlation coefficient was used to examine the correlation between FAQ and KAOP. In addition to that, we examined the items with highest and lowest scores for FAQ and KAOP.

RESULTS

Table 1 shows the socio-demographic details of the participants. The response rate of participation was approximately 9%. More than half of the participants were females and were from the PT program. Majority of the students were from first years. The mean score of FAQ was 14.8 ± 2.5 points indicating moderate knowledge towards older adults. The scoring was categorized based on the scoring scale proposed by Bleijenberg et al. (2012); low knowledge (0-8), moderate knowledge (9-17) and high knowledge (18-25).

The categorization of KAOP scoring is as proposed by Doherty et al. (2011) that shows score between

3-62.3, 62.4-90.7 and 90.8-119.1 representing very negative, negative and slightly negative respectively. While, 119.2-147.5, 147.6-175.9 and 176-204 was slightly positive, positive and very positive attitudes respectively. The mean score of

KAOP was 154.3 ± 17.8 that suggest positive attitudes of undergraduates towards older adults. Table 2 illustrates the differences in the scores of the questionnaires based on gender, course and study year.

TABLE 1. Sociodemographic Information of Participants

Variable	Total (N=205)
Gender, n (%)	
Males	63 (30.73%)
Females	142 (69.27%)
Program, n (%)	
Physiotherapy	148 (72.19%)
Occupational Therapy	57 (27.80%)
Undergraduates based on study year, n (%)	
1 st year	70 (34.15%)
2 nd year	43 (20.98%)
3 rd year	46 (22.44%)
4 th year	46 (22.44%)
FAQ Score, Mean (SD)	14.8 ± 2.5
KAOP score, Mean (SD)	154.3 ± 17.8

TABLE 2. Differences in FAQ and KAOP Scores Based on Gender, Courses and Study Year

Variable	FAQ	Significance value (p)	KAOP	Significance value (p)
Gender, Mean (SD)				
Males	14.7 ± 0.4	0.677	158.2 ± 17.8	0.153
Females	14.8 ± 0.2		154.3 ± 18.4	
Program, Mean (SD)				
Physiotherapist	14.6 ± 2.4	0.136	156.6 ± 16.7	0.859
Occupational Therapy	15.2 ± 2.7		157.1 ± 18.6	
Undergraduates based on study year, Mean (SD)				
1 st year	14.5 ± 2.5	0.230	154.1 ± 18.4	0.131
2 nd year	14.4 ± 2.3		157.7 ± 15.6	
3 rd year	15.2 ± 2.2		155.6 ± 18.7	
4 th year	15.2 ± 2.1		162.0 ± 18.3	

TABLE 3. Percentage of correct answers for FAQ among undergraduates.

Item	Rate
Lung capacity tends to decline in old age.	97.6%
The majority of old people feel miserable most of the time.	96.1%
Physical strength tends to decline in old age.	93.7%
Old people usually take longer to learn something new.	93.2%
The reaction time of most old people tends to be slower than reaction time of younger people.	91.7%
The majority of old people are working or would like to have some kind of work to do (including housework and volunteer work)	80.5%
The majority of old people (past age 65) are senile (i.e., defective memory, disoriented, or demented).	79.0%
The majority of old people are socially isolated and lonely.	76.1%
Over 30% of the Japan's population are now age 65 or over.	75.6%
In general, most old people are pretty much alike.	72.7%
The majority of older people have incomes below the poverty level (as defined by the federal government).	70.7%
All five senses tend to decline in old age.	66.3%
Older people are more depressed than younger people.	66.3%
Older workers have fewer accidents than younger workers.	63.4%
Elderly people are in poor health compared to younger people, and they are economically less income and savings.	54.1%
Most old people have no interest in, or capacity for, sexual relations.	53.2%
Most older workers cannot work as effectively as younger workers	51.7%
At least one-tenth of the aged are living in long-stay institutions (i.e., nursing homes, mental hospitals, homes for the aged, etc.).	49.3%
About 80% of the aged are healthy enough to carry out their normal activities.	45.9%
The majority of old people are seldom irritated or angry.	40.0%
Older people tend to become more religious as they age.	36.6%
The majority of old people are seldom bored.	23.4%
Aged drivers have fewer accidents per person than drivers under age 65.	22.4%
Most old people are set in their ways and unable to change.	19.3%
Most medical practitioners tend to give low priority to the aged.	6.3%

TABLE 4. Average scores of KAOP among undergraduates

Item	Mean Score
You can count on finding a nice residential neighborhood when there is a sizeable number of old people living in it.	5.9
Most old people tend to let their homes become shabby and unattractive.	5.7
One of the most interesting and entertaining qualities of most old people is their accounts of their past experiences.	5.5
There is something different about most people; it's hard to find out what makes them tick.	5.4
Most old people get set in their ways and are unable to change.	5.3
It is evident that most old people are very different from one another.	5.3
Most old people should be more concerned with their personal appearance; they're too untidy.	5.3
Most old people make one feel ill at ease.	5.1
It would probably be better if most people lived in residential units with younger people.	5.0
In order to maintain a nice residential neighborhood, it would be best if too many old people did not live in it.	4.9
Most old people are capable of new adjustments when the situation demands it.	4.8
Most old people are cheerful, agreeable, and good humored.	4.7
Most old people are very relaxing to be with.	4.7
Most old people bore others by their insistence on talking "about the good old days".	4.6
There are a few exceptions, but in general most old people are pretty much alike.	4.6
Most old people seem quite clean and neat in their personal appearance.	4.5
Most old people would prefer to continue working just as long as they possibly can rather than be dependent on anybody.	4.5
Most old people tend to keep to themselves and give advice only when asked.	4.4
Most old people are irritable, grouchy, and unpleasant.	4.4
It is foolish to claim that wisdom comes with age.	4.3
It would probably be better if most old people lived in residential units with people their own age	4.3
When you think about it, old people have the same faults as anybody else.	4.3
Most old people would prefer to quit work as soon as pensions or their children can support them.	4.2
If old people expect to be liked, their first step is to try to get rid of their irritating faults.	4.2
Most old people make excessive demands for love and reassurance than anyone else.	4.2
Most old people spend too much time prying into the affairs of others and giving unsought advice.	4.0

Old people should have power in business and politics.	4.0
Most old people can generally be counted on to maintain a clean, attractive home.	3.7
Old people have too much power in business and politics.	3.7
People grown wiser with the coming of old age.	3.6
Most old people are constantly complaining about the behavior of the younger generation.	3.2
One seldom hears old people complaining about the behavior of the younger generation.	3.1
Most old people need no more love and reassurance than anyone else.	3.1
Most old people are really no different from anybody else; they're as easy to understand as younger people.	3.0

The questions with correct response are as shown in Table 3. The highest score was recorded for the question; "Lung capacity tends to decline in old age" with a percentage of 97.6%. Conversely, the percentage of correct answer was the lowest (6.3%) for the following question; "Most medical practitioners tend to give low priority to the aged". Based on the KAOP scoring (Table 4), both PT and OT undergraduates had highest positive attitude to the following item; "You can count on finding a nice

residential neighborhood when there is a sizeable number of old people living in it" with a mean score of 5.9. Meanwhile the statement "Most old people are really no different from anybody else; they're as easy to understand as younger people" obtained the least mean score (3.0).

Spearman's correlation coefficient between FAQ and KAOP total scores was $r = 0.289$ ($p < 0.001$), indicating a significant positive weak correlation (Fig. 1).

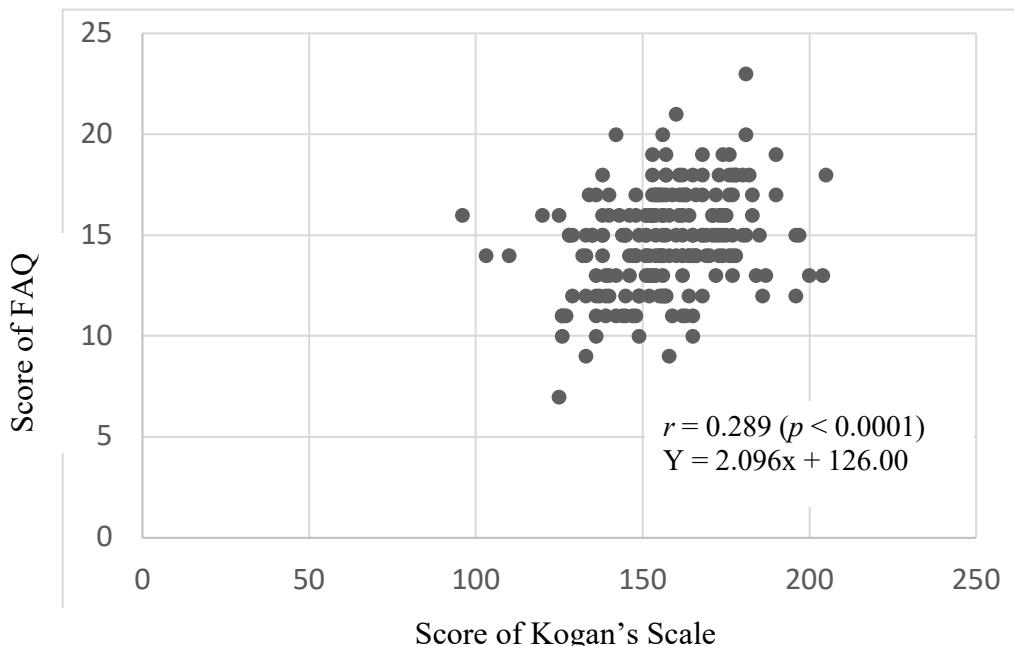


FIGURE 1. Correlation between FAQ and KAOP

DISCUSSION

The Japanese PT and OT undergraduates in our study have moderate knowledge and positive attitudes towards ageing regardless of age, programs, and study year. Similar findings were reported among PT and nursing undergraduates in Japan, Qatar and Hong Kong (Arai et al. 2015; Bressington et al. 2018). It is noteworthy that the PT group had increase in the mean score of knowledge of ageing (FAQ) by 1.6% after clinical training. Generally, rehabilitation profession such as PT were seen to have more positive attitude towards ageing compared to nursing and other health care students (Turan et al. 2015). The reason for this is not well understood but could be because of the difference in exposure to basic age-related health issues and opportunities to work and communicate with older adults (Cummings et al. 2006).

Knowledge and attitude towards ageing has been shown to have a significant correlation coherent with previous findings (Singh et al. 2018; Suh et al. 2012). This indicates that students acquiring sufficient knowledge regarding ageing, may develop more positive attitude towards older adults or vice versa. This may then increase the preference to work with older adults (Lambrinou et al. 2009).

Although we found no significant difference in knowledge and attitude towards older adults based on the year of study but the average score of FAQ and KAOP was highest among the final year students. This indicates that students tend to develop more positive attitude towards older adults after clinical exposure involving older population. Similar trend that showed better knowledge and attitude towards ageing was demonstrated with increasing level of education in previous studies (Turan et al. 2015; Soderhamn et al. 2001; Lambrinou et al. 2009; Milutinovic et al. 2015; Singh et al. 2018). This is probably due to clinical postings, specifically in geriatric settings during undergraduate training which provides real life exposure, experience and opportunities for practice and transfer of classroom learning (Singh et al. 2018). Engaging students onto geriatric care early in their undergraduate studies may be beneficial in fostering positive attitudes towards older adults.

Japanese PT and OT undergraduates in our study presented positive attitudes towards older

adults and this is consistent with the findings from other Asian countries such as Malaysia, Taiwan and Jordan (Singh et al. 2018; Wang et al. 2009; Hweidi et al. 2006). Similar cultural and religious values among the Asians are deduced to have led to these results (Singh et al. 2018; Wang et al. 2009; Hweidi et al. 2006). Respect towards older population is a central value among people in Eastern Asians such as Japan, Korea and China that has been nurtured at early ages for generations (Sung 2001).

The correct responses obtained from FAQ in the present study comprised of mainly physical function related statements. While, lower scores were recorded for the questions assessing psychosocial aspects. This could be because PT and OT education curriculum in Japan focuses mainly on physical related issues rather than psychosocial aspects (Zangoni & Thomson 2016, Ramakrishnan & Abukari 2019). Findings of current study call for integration of more psychosocial aspects in the teaching and learning of these undergraduates in Japan. However, this suggestion could also be taken into consideration by other educational providers in reviewing their PT and OT educational curriculums contents.

Contradictory to our findings, female health science students in the past studies were reported to have more positive attitude towards older adults (Bakirhan et al. 2017; Turan et al. 2016). The inconsistent number of female and male undergraduates in our study could have contributed to these results.

Limitations

Although we invited PT and OT undergraduates from 5 schools in Japan, the participation was very low even after a follow up in this study. Invitation to the undergraduates via the program/school coordinators could have provided a larger number of participations.

CONCLUSION

Japanese PT and OT undergraduates in our study have moderate knowledge about ageing and positive attitudes towards older adults. Knowledge of ageing and attitude towards older adults were interrelated, suggesting that promoting positive attitudes towards older adults and providing

knowledge related to care of older adults goes hand in hand. A more holistic interdisciplinary geriatric care curriculum may be beneficial in preparing health sciences undergraduates to ensure optimum healthcare provision for the ageing population in Japan.

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HISASHI MOCHIZUKI
 AKIRA SHOBO
 HIROKAZU NISHIKATA
 SACHIKO OHASHI
 Faculty of Health Science Technology,
 Bunkyo Gakuin University, Japan

PAVAPRIYA PONVEL
 DEVINDER KAUR AJIT SINGH*
 Physiotherapy Program,
 Centre for Healthy Ageing and Wellness,
 Faculty of Health Sciences,
 Universiti Kebangsaan Malaysia

*Corresponding author: devinder@ukm.edu.my