

ORIGINAL ARTICLE

ATTITUDE TOWARDS AGEING AND PHYSICAL PERFORMANCE AMONG ADULTS 55 YEARS OLD AND ABOVE

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ABSTRACT

Negative attitudes towards ageing are reported to be associated with greater functional impairment in older adults. There is limited information regarding attitudes towards ageing and physical performance in regard to adults aged 55 to 64 years. The objective of our study was to examine the association of attitude towards ageing on physical performance which includes mobility, agility and falls risk. This cross sectional study was conducted at five senior citizen clubs around Klang Valley in Malaysia. A total of 154 community dwelling adults aged 55 and above (mean:65.8±6.82) participated in this study. Attitude towards ageing was measured using Kogan's Attitude towards Older People Questionnaire (KAOP). Mobility and agility were measured using gait speed test and ten step test respectively. Risk of falls was assessed using physiological profile approach (PPA). Approximately 75% of the participants had positive attitude towards ageing with high to very high risk of falls. A significant ($p<0.05$) correlation was demonstrated between attitude towards ageing, falls risk and gait speed. Regression analysis showed that attitudes toward ageing had a relationship with falls risk, explaining 6% of the variance, $F(1, 152) = 10.26$, $p<0.01$. The results of this study suggest that there is some relationship between attitude towards ageing and falls risk measured using a combination of physical performance test. Positive attitude towards ageing should be promoted among adults in an earlier age for overall physical health among older adults.

Keywords: attitudes towards ageing, gait speed, agility, falls risk, older adults

INTRODUCTION

The world's population is rapidly ageing from 8% in year 1950 to 12% in year 2013¹. Similarly, in Malaysia the growth of greying population is expected to increase from 6.3% in year 2000 to 15% by the year 2035^{2,3}. This will tag Malaysia as an ageing nation. Ageing is linked with physiological, morphological and psychosocial alterations. These predispose older adults to progressive muscle weakness, decrease in functional ability, depression, poor quality of life, increased mortality⁴ and is associated with ageism⁵.

Ageism is a judicious attitude against older adults that is experienced in many societies and culture^{6,7}. These includes difference in treatment which is less favourable in manner compared to another person solely due to age, which is not justifiable. Negative attitude towards ageing can have an impact on mental and physical health of

older adults such as reduced involvement in healthy behavioral activities, increased functional impairment and stress related conditions in older adults^{8,9}. Furthermore, in a study conducted among 200 older adults, a strong relationship was found between attitude towards ageing, sleeping behavior and overall quality of life¹⁰.

Asian cultures hold more positive views of ageing compared to Western counterparts¹¹. Open-mindedness and tolerance were demonstrated in Hong Kong⁷ and a tendency of positive attitude towards older adults in Malaysia, indicated using Attitude to Ageing Questionnaire¹⁰. Ageing display a significant relationship with physical performance that begin in age 40s¹².

In general, physical performance related to ageing leads to reduced mobility that can result in poor balance and agility^{13,14}. Impaired or decreased mobility, balance and agility with advancing age is

closely related to falls and other negative consequences such as injuries, fractures, increase the risk of dependency in activities of daily living and requiring long-term nursing care^{15,16}. Older adults with less negative stereotypes about ageing had more stability in balance and better walking speed¹⁷.

Older adults' attitudes towards ageing may affect their physical performance. There is limited information to support this view for adults aged 55 to 64 years. The aim of this study was to examine the association between attitudes towards ageing and physical performance among community dwelling older adults aged 55 years and above.

METHODOLOGY

Participants from five senior citizens clubs at Klang Valley, Malaysia were invited to participate in this study. Ethical approval was obtained from the Medical and Research Ethics Committee of Universiti Kebangsaan Malaysia (NN-115-2010). The inclusion criteria includes adults aged 55 years old and above, and able to walk independently without walking aids. Participants who met the inclusion criteria were given verbal and written information regarding the study and an informed written consent was obtained. Adults with severe physical illnesses, neurological and musculoskeletal dysfunction, uncorrected vision and hearing problems, severe depression based on the Geriatric Depression score of more than 11, and severe fear of falls based on the Short Falls efficacy score of more than 22 were excluded from this study.

A total of 165 potential participants were screened. Eleven participants were excluded due to severe depression (n=9) and high levels fear of falls (n=2). Hundred and fifty four adults (106 females and 48 males) over 55 years of age participated in this cross sectional study. Participants provided their socio-demographic data. The Modified Baecke physical activity Questionnaire and Kogan's Attitude towards Older People Questionnaire was administered. Participants were required to perform physical performance tests consisting of Physiological profile assessment, Gait speed Test and Ten step test. Participants were given a practice trial before the tests to minimise learning effect and a rest period was provided between each tests.

Screening and measurements

Geriatric Depression Scale -Short Form (GDS-15)¹⁸
GDS-15 was used as a screening tool. GDS-15 has been reported to have good reliability and validity among Malaysian older adults¹⁹. Participants were required to answer each statement that was based on their past weeks' experience with a "yes" or "no". Scores are categorized as normal, mild to moderate and severe depression with a score above 11 indicating depression.

Short Falls Efficacy Scale - International Questionnaire (Short FES -1)²⁰
Short FES -1 assesses fear of falls. It consists of basic activities of daily living and social activity with 7 items from original FES-I (items 2, 4, 6, 7, 9, 15, and 16). Participants choose from a four-point likert scale, ranging from one (not at all concerned) to four (very concerned) for each activity and the sum score ranges from 7 to 28. The internal and test-retest reliability of Short FES-I was reported as excellent (Cronbach's alpha 0.92 and intra-class coefficient 0.83). The correlation between short FES-I and the original FES-I was found to be 0.97.

Kogan's Attitude towards Older People Questionnaire (KAOP)²¹
KAOP consists of 34 statements with half framed positively and the other half framed negatively. The negative items include characteristics of residential patterns, personality, cognitive styles, personal appearances and discomfort with older people. Participants were required to indicate their level of agreement or disagreement using a 6-point Likert scale (strongly disagree, disagree, not sure but probability disagree, not sure but probability agree, agree and strongly agree). The scores is from 34 to 204 with higher scores representing a more positive attitude and 102 denoting a neutral range attitude score²². Good reliability coefficients for negative and positive scales ranged from 0.73-0.83 and 0.73-0.77 respectively²³. The translated Malay version of KOAP showed a Cronbach Alpha of 0.8.

The Modified Baecke Questionnaire (MBQ)²⁴
MBQ measures habitual physical activity. This included questions on household, sports, and leisure time activities performed by older adults. Each of the questions consists of five possible answers. The correlation coefficient between this questionnaire and the physical activity ratio (PAR) was 0.54 (95% CI 0.22-0.66)²⁵. The reliability of Malay version Modified Baecke questionnaire had a Cronbach Alpha value 0.7.

Physiological Profile Approach (PPA)²⁶ PPA measures falls risks and includes vision, proprioception, muscle strength, reaction time and balance tests. Reliability of PPA tests has been reported to have an intraclass correlation coefficient (ICC) of 0.50 to 0.97. Its accuracy to identify falls risk in older adults was established at 75%.

Gait Speed Test (GST)²⁷

GST measures functional mobility in older adults. Gait speed had a significant relationship to TUG ($r = -0.75$), weight shifting ($r = -0.49 - 0.72$), and the Berg Balance Scale ($r=0.81$). It is the distance walked in meters divided by the time in seconds required to cover this distance. Participants were instructed to walk at their comfortable pace on a marked 30 feet pathway. A stop watch was used to time from the participant's foot touched the 5th feet mark till the 25th feet mark. This approach allow for acceleration and deceleration before and after to record the comfortable 20 feet walking speed. The test was done twice with a rest period in between. The highest score was taken as the result.

Ten Step Test (TST)²⁸

TST is a test of agility performance. Test-retest reliability of TST was reported to have an intraclass correlation coefficient (ICC) of 0.86. Participants step up and down on a 10cm block using alternate feet. Time in seconds to complete 10 repetitions was recorded using a stop watch. Participants perform the test twice and

were allowed one practice before the test. A rest was provided between all tests. The quickest time of the two tests was taken as the measurement.

Data Analysis

Data was analysed using Statistic Product for Statistical Solutions (SPSS, SPSS Inc. Chicago, USA) version 19.0. Pearson's correlation and multiple linear regression were used to examine the association between attitude towards ageing, falls risk, gait speed and agility. Normality of data tested using Kolmogorov Smirnov Test.

RESULTS

Table 1 presents the demographic characteristics, falls risk, attitudes towards aging and physical performance of the participants based on age groups. Approximately 70% of the participants were females and about $\frac{3}{4}$ of them were of Malay race. Almost $\frac{3}{5}$ of the participants were in the overweight and obese category ($BMI > 25$). 45.5% of participants reported moderate and 54.5% low levels of physical activity based on their submission to Modified Baecke physical activity Questionnaire. Based on responses to the Kogan's Attitude towards Older People Questionnaire (KAOP), 78.4% of respondents between the age of 55-65 years and those >65 years of age reported positive attitude towards ageing. 90.5% of respondents between the age of 55-65 years reported moderate to very high risk of falls and it rose to 100% for those >65 years of age.

Table 1: Demographic characteristics, falls risk, attitudes towards aging and physical performance of the participants based on age groups.

Variables	55-64(n=74)	≥65(n=80)	Total(N=154)
Age; Median (IQR)	59.00(58.00-61.25)	71.00(68.00-71.00)	65.00(59.75-71.00)
Male	16(21.6)	32(40.0)	48(31.2)
Female	58(78.4)	48(60.0)	106(68.8)
Race; n(%)			
Malay	63(85.1)	55(68.8)	118(76.60)
Others	11(14.9)	25(31.3)	36(23.40)
BMI (Mean ± SD)	26.76±4.80	24.96±3.74	25.82±4.36
Underweight (<18.5)	1(1.4)	3(3.8)	4(2.6)
Normal Weight (15.8-24.9)	26(35.1)	37(46.3)	63(40.9)
Overweight (25-29.9)	27(36.5)	29(36.3)	56(36.4)
Obese (≥30)	20(27.0)	11(13.8)	31(20.1)
Employment Status; n (%)			
Retired	13(17.6)	32(40.0)	45(29.2)
Housewife	52(70.3)	41(51.2)	93(60.4)
Still Working	9(12.2)	7(8.8)	16(10.4)
MBQ			
Low	47(63.5)	34(42.5)	81(52.6)
Moderate	27(36.5)	46(57.5)	73(47.4)
High	0	0	0
GDS (Mean ± SD)	4.35±2.41	4.89±2.33	4.63±2.38
GDS score<5; n (%)	40(54.1)	35(43.8)	75(48.70)
GDS score≥5; n (%)	34(45.9)	45(56.3)	79(51.30)
KAOP: Intensity of Attitudes			
Very Negative	0(0)	0(0)	0(0)
Negative	0(0)	1(1.3)	1(0.6)
Slightly Negative	16(21.6)	16(20.0)	32(20.8)
Slightly Positive	54(73.0)	59(73.8)	113(73.4)
Positive	4(5.4)	4(5.0)	8(5.2)
Very Positive	0(0)	0(0)	0(0)
Gait Speed, m/s (mean ± SD)	1.54±0.36	1.26±0.37	1.39±0.39
TST, seconds(mean ± SD)	18.99±4.46	20.61±4.03	19.83±4.31
PPA, score (mean ± SD)	1.81±1.42	2.96±1.47	2.41±1.55
Falls Risk;			
Low	7(9.5)	0(0)	7(4.50)
Moderate	15(20.3)	8(10.0)	23(14.90)
High	22(29.7)	15(18.8)	37(24.00)
Very High	30(40.5)	57(71.3)	87(56.50)

Abbreviations: BMI:Body mass index, Modified Baecke Questionnaire (MBQ), GDS: Geriatric Depression Scale, KAOP: Kogan's Attitude towards OlderPeopleQuestionnaire, TST: Ten Step test, PPA: Physiological Profile Approach.

Table 2 depicts the correlation results between attitude towards ageing and physical performance. A significant ($p<0.05$) correlation was

demonstrated between attitude towards ageing, falls risk and gait speed.

Table 2: Correlation coefficients between attitude towards ageing and physical performance measures of fall risk.

Variables	KAOP
Attitude toward ageing (KAOP)	1.00
Falls Risk (PPA)	-.25**
Mobility (Gait Speed)	.22**
Agility (TST)	-.07

KAOP- Kogan's Attitude towards Older People Questionnaire, TST-Ten Step Test, PPA: Physiological Profile Approach. Significance *p < 0.05 and ** p < 0.01

Stepwise multiple linear regression analysis (Table 3) showed that attitudes toward ageing had a

relationship with falls risk, explaining 6% of the variance, $F(1, 152) = 10.26, p < 0.01$.

Table 3 . Factors associated with attitudes towards aging and fall risk.

Factor	B	P value	R ²
Falls Risk	-0.25	0.002**	0.06

Significance ** p < 0.01

DISCUSSION

The results of this study confirm that three quarter of the participants age 55 and greater who lived in Malaysia possessed positive attitude towards ageing. This finding is consistent with thereport by Doherty et al.²⁹. Similar results were reported among studies involving Asian population^{10,30}. Chinese older adults had positive attitude towards ageing, influenced by their Confucian values of filial piety and practice of ancestor worship. Among Malay, older adults are regarded to have a higher status in the family due to their increase wisdom with age.

This Malaysian population study which consist of 75% Malay and the rest were Chinese and Indian support the importance of Asian values that promote positive ageing perception and high self-esteem among older adults. Negative attitudes among North American older adults include loneliness, dependency, poor psychological and physical health^{31,32}. The Western societies commonly treasure youthful behaviour, thus leading to a negative perceptions related to ageing³³. The differences in ageing perception between Western and Asian countries has been described by a number of researchers due to differences in cultural, religion and population structure^{7,11,34}. Health promotors in Malaysia should embrace Asian values to create programs that allow older adults to age gracefully and remain physically active to avoid risk of falls.

Both negative and positive attitude towards ageing can lead to impence or facilitate the actions of

older adults³⁵. Positive attitudes towards aging results in high levels of acceptance, greater self-satisfaction, more positive physical and psychosocial health, greater physical performance, autonomy, control and coping status linked to successful ageing in society³⁶. However, ageing related negative attitudes leads to unfavorable effects on physical and mental health among older adults³⁷. Physical functional status is an important prepositioning factor linked to positive attitude towards aging or vice versa³⁸.

Our results found risk of falls among older person that was significantly associated with attitudes towards ageing. Participants with positive attitude had lower falls risk measured using PPA. PPA is a composite test comprising of vision, muscle strength, proprioception, reaction time and balance tests²⁶. To the best of our knowledge, there is no information regarding relationship in relation to attitudes towards ageing and falls risk. Our results can be linked to 'stereotyped-matching effect' model that links positive attitudes of aging to encouraging outcomes³⁹.

Older adults with positive attitude towards ageing walked faster than those with negative attitude. Our result are in agreement with others^{40,41}. Older adults with good outdoor walking ability and who walked more than one kilometer daily had more positive self-esteem⁴⁰, good health and resonable balance⁴¹. The findings of our study provide health promotors direction to embrace Asian values and to develop physical activity programs among community dwelling adults aged 55 and above in Malaysia.

Limitation of this study is attitudes towards ageing among older adults is cultural and population specific, multidimensional and dynamic³⁵. The results of our study should be applied with caution as studied in 154 older adults which may not represent the multiracial urban community dwelling older adults who live in Malaysia.

CONCLUSION

The results of this study add to the knowledge regarding the relationship of attitude of ageing and physical function in Asian cultures. It is empirical to adopt positive attitude towards ageing in an earlier age by embracing asian values for favorable physical function outcomes among older adults.

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