

OLDER ADULTS IN MALAYSIA: ARE THEY BEING PHYSICALLY INACTIVE?



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INTRODUCTION

- Malaysia has an increasingly aging population and will be classified as an aging nation by the year 2030 when 14% of the population will be ≥60 years, and this will further increase to 24% by 2050.¹
- Older adults are generally less physically active than younger adults. Physical inactivity in older adults is related to increased risk of chronic diseases, disability and various poor health outcomes.
- Regular physical activity in older people is important to improve overall health and promote healthy aging.
- This study aims to determine the prevalence of physical inactivity and its associated factors among older adults aged ≥60 years in Malaysia.

METHODS

- Data on older adults aged ≥60 years (n=3977) were obtained from the National Health and Morbidity Survey (NHMS) 2018: Elderly Health, a population-based cross-sectional survey using a two-stage stratified sampling design.
- Physical inactivity levels were assessed using the Global Physical Activity Questionnaire (GPAQ)² via face-to-face interview. Participants were classified as physically inactive (<600 MET minutes per week) and physically active (≥600 MET minutes per week) groups.
- Data were analysed by descriptive and logistic regression analyses with complex sampling design using SPSS version 22.

References

- International Council on Management of Population Programmes (ICOMP). Ageing – Thailand, Malaysia, Indonesia and Cambodia – Demographic Transition, Policy and Programmatic Responses. 2017. Kuala Lumpur: SP-Muda Printing Services Sdn Bhd. ISBN 978-983-3017-18-8.
- World Health Organization. Global Physical Activity Questionnaire (GPAQ) Analysis Guide. <http://www.who.int/ncds/surveillance/steps/GPAQ%20Instrument%20and%20Analysis%20Guide%20v2.pdf>. Accessed 21 March 2019.
- Win AM, Yen LW, Tan KH, Lim RB, Chia KS, Mueller-Riemenschneider F. Patterns of physical activity and sedentary behavior in a representative sample of a multi-ethnic South-East Asian population: a cross-sectional study. BMC Public Health. 2015; 15:318. doi:10.1186/s12889-015-1668-7.
- Koyanagi A, Stubbs B, Smith L, Gardner B, Vancampfort D. Correlates of physical activity among community-dwelling adults aged 50 or over in six low- and middle-income countries. PLoS ONE. 2017; 12(10): e0186992.
- Ethian P, Somrongthong R, Ahmed J, Kumar R, Chapman RS. Factors related to physical activity among the elderly population in rural Thailand. J Prim Care Community Health. 2017; 8(2): 71-76.

RESULTS

3 in 10 older adults aged ≥60 years in Malaysia are physically inactive

- Multivariable analysis showed that older age group (≥80 years, OR=2.23; 95% CI:1.42-3.48), of Bumiputera Sarawak ethnicity (OR=3.07; 95% CI: 2.19-4.28), unemployed/retirees/homemakers (OR=1.67; 95% CI:1.18-2.36), functional limitation (OR=1.75; 95% CI:1.31-2.34), diabetes mellitus (OR=1.39; 95% CI:1.11-1.74) and dementia (OR=1.64; 95% CI:1.21-2.21) were significantly associated with a higher risk of physical inactivity (Table 1).
- Women, with secondary education level and good social support were less likely to be physically inactive (Table 1).

DISCUSSION & CONCLUSION

- The prevalence of physical inactivity (29.8%) in this study is comparable to those reported in Singapore (29.0%, among age group 60-79 years), and is slightly higher than in China (24.1%, among age group ≥50 years) and India (22.0%, among age group ≥50 years).^{3,4}
- Prevalence of physical inactivity significantly increased as age increases.
- The current finding of women being more physically active than men is similar to findings from a study among the elderly population in Thailand.⁵ In Malaysian cultures, women in their late 50s and early 60s generally carry out more household chores, such as cooking, cleaning, sweeping and looking after grandchildren, which could be the reason for them being more physically active than men.
- Interventions that promote or maintain physical activity behaviour among older adults should be targeted to high-risk groups such as those with functional limitation, diabetes mellitus and dementia.
- Our findings suggested that a higher level of social support among older adults may be a key factor in motivating older people to participate in physical activity.

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Table 1: Prevalence and factors associated with physical inactivity among older adults in Malaysia, NHMS 2018

Variables	Total sample, N (%)	Physical activity status		Crude OR (95% CI)	p-value	Adjusted OR ^a (95% CI)	p-value
		Inactive, N (%)	Active, N (%)				
Sex							
Male	1872 (49.0)	618 (31.2)	1254 (68.8)	1.00		1.00	
Female	2097 (51.0)	680 (28.6)	1417 (71.4)	0.88 (0.74-1.05)	0.167	0.50 (0.38-0.66)	<0.001
Age group (years)							
60-69	2558 (66.5)	610 (22.6)	1948 (77.4)	1.00		1.00	
70-79	1102 (26.0)	469 (38.7)	633 (61.3)	2.16 (1.76-2.65)	<0.001	1.28 (0.98-1.67)	0.067
≥80	309 (7.5)	219 (62.8)	90 (37.2)	5.78 (3.81-8.76)	<0.001	2.23 (1.42-3.48)	0.001
Ethnicity							
Malays	2584 (57.7)	845 (29.6)	1739 (70.4)	1.00		1.00	
Chinese	709 (26.5)	202 (26.4)	507 (73.6)	0.85 (0.60-1.23)	0.388	1.05 (0.64-1.72)	0.861
Indians	126 (6.5)	31 (25.2)	95 (74.8)	0.80 (0.52-1.24)	0.314	0.64 (0.33-1.25)	0.192
Bumiputera Sabah	278 (3.7)	92 (35.3)	186 (64.7)	1.30 (0.76-2.22)	0.335	1.01 (0.60-1.72)	0.964
Bumiputera Sarawak	158 (3.8)	90 (56.4)	68 (43.6)	3.08 (2.11-4.49)	<0.001	3.07 (2.19-4.28)	<0.001
Others	114 (1.8)	38 (38.0)	76 (62.0)	1.46 (0.84-2.52)	0.175	1.31 (0.83-2.07)	0.245
Residential area							
Urban	1686 (73.1)	475 (27.1)	1211 (72.9)	1.00		1.00	
Rural	2283 (26.9)	823 (37.2)	1460 (62.8)	1.59 (1.19-2.12)	0.002	1.23 (0.88-1.71)	0.218
Marital status							
Married	2619 (68.0)	732 (25.8)	1887 (74.2)	1.00		1.00	
Unmarried/separated/divorced/widowed	1347 (32.0)	566 (38.5)	781 (61.5)	1.80 (1.44-2.25)	<0.001	1.32 (0.97-1.78)	0.075
Education level							
No formal education	805 (14.5)	385 (48.0)	420 (52.0)	1.00	<0.001	1.00	
Primary	1932 (43.5)	632 (32.8)	1300 (67.2)	0.53 (0.41-0.68)	<0.001	0.83 (0.57-1.20)	0.323
Secondary	967 (32.3)	206 (18.6)	761 (81.4)	0.25 (0.18-0.34)	<0.001	0.57 (0.37-0.87)	0.009
Tertiary	265 (9.7)	75 (26.7)	190 (73.3)	0.39 (0.26-0.59)	<0.001	1.23 (0.69-2.20)	0.480
Employment status							
Employed	1048 (24.3)	199 (18.5)	849 (81.5)	1.00	<0.001	1.00	
Unemployed/retiree/homemaker	2921 (75.7)	1099 (33.5)	1822 (66.5)	2.22 (1.67-2.95)	<0.001	1.67 (1.18-2.36)	0.004
Individual monthly income (MYR)							
<MYR1000	2512 (58.2)	923 (35.4)	1589 (64.6)	1.00	<0.001	1.00	
MYR1000-MYR1999	845 (21.5)	232 (24.7)	613 (75.3)	0.60 (0.47-0.77)	<0.001	0.85 (0.62-1.16)	0.291
≥MYR2000	567 (20.3)	125 (18.9)	442 (81.1)	0.42 (0.33-0.54)	<0.001	0.72 (0.50-1.04)	0.078
Functional limitation							
Yes	682 (17.0)	438 (60.2)	244 (39.8)	4.89 (3.72-6.44)	<0.001	1.75 (1.31-2.34)	<0.001
No	3279 (83.0)	857 (23.6)	2422 (76.4)	1.00		1.00	
Dependency in instrumental activities of daily living							
Yes	1923 (42.9)	859 (42.6)	1064 (57.4)	2.92 (2.30-3.71)	<0.001	1.15 (0.91-1.46)	0.249
No	2041 (57.1)	438 (20.3)	1603 (79.7)	1.00		1.00	
BMI status (kg/m²)							
Underweight (<18.5)	221 (5.2)	87 (32.7)	134 (67.3)	1.27 (0.82-1.96)	0.278	1.03 (0.68-1.56)	0.891
Normal (18.5-24.9)	1525 (40.2)	459 (27.7)	1066 (72.3)	1.00		1.00	
Overweight (25.0-29.9)	1292 (37.0)	348 (23.7)	944 (76.3)	0.81 (0.65-1.01)	0.061	0.92 (0.75-1.13)	0.426
Obese (≥30)	608 (17.6)	155 (25.7)	453 (74.3)	0.90 (0.69-1.18)	0.458	1.09 (0.73-1.62)	0.684
Consumption of fruits							
<2 servings/day	3572 (89.2)	1190 (30.7)	2382 (69.3)	1.55 (1.09-2.20)	0.015	1.11 (0.73-1.68)	0.636
≥2 servings/day	397 (10.8)	108 (22.3)	289 (77.7)	1.00		1.00	
Consumption of vegetables							
<3 servings/day	3536 (89.1)	1176 (30.2)	2360 (69.8)	1.26 (0.91-1.74)	0.170	1.03 (0.76-1.40)	0.842
≥3 servings/day	427 (10.9)	117 (25.7)	310 (74.3)	1.00		1.00	
Sedentary behavior							
Yes	959 (23.2)	423 (40.8)	536 (89.2)	1.94 (1.39-2.72)	<0.001	1.30 (0.89-1.90)	0.168
No	2998 (76.8)	866 (26.2)	2132 (73.8)	1.00		1.00	
Current smoker							
Yes	621 (13.3)	189 (31.6)	432 (68.4)	1.10 (0.86-1.42)	0.438	-	
No	3345 (86.7)	1108 (29.5)	2237 (70.5)	1.00		1.00	
Diabetes mellitus							
Yes	1017 (27.6)	380 (35.2)	637 (64.8)	1.42 (1.17-1.72)	0.001	1.39 (1.11-1.74)	0.004
No	2947 (72.4)	916 (27.7)	2031 (72.3)	1.00		1.00	
Hypertension							
Yes	2026 (51.1)	726 (34.1)	1300 (65.9)	1.53 (1.24-1.89)	<0.001	1.19 (0.96-1.48)	0.118
No	1938 (48.9)	570 (25.3)	1368 (74.7)	1.00		1.00	
Hypercholesterolemia							
Yes	1574 (41.8)	511 (31.0)	1063 (69.0)	1.10 (0.93-1.30)	0.258	-	
No	2390 (58.2)	785 (29.0)	1605 (71.0)	1.00		1.00	
Depressive symptoms							
Yes	484 (11.2)	259 (54.5)	225 (45.5)	3.58 (2.57-4.99)	<0.001	1.28 (0.90-1.84)	0.171
No	3284 (88.8)	902 (25.0)	2382 (75.0)	1.00		1.00	
Dementia							
Yes	405 (8.4)	243 (56.4)	162 (43.6)	3.75 (2.84-4.95)	<0.001	1.64 (1.21-2.21)	0.002
No	3364 (91.6)	919 (25.7)	2382 (74.3)	1.00		1.00	
Social support							
Low to fair (11-26)	1257 (30.7)	599 (43.4)	658 (56.6)	1.00	<0.001	1.00	
High (27-29)	1444 (36.0)	413 (26.0)	1031 (74.0)	0.46 (0.34-0.61)	<0.001	0.70 (0.55-0.89)	0.004
Very high (30-33)	1252 (33.3)	278 (21.3)	974 (78.7)	0.35 (0.28-0.45)	<0.001	0.62 (0.45-0.84)	0.002
Quality of life							
Lowest (5-42)	1302 (29.4)	582 (43.1)	720 (56.9)	1.00	<0.001	1.00	
Middle (43-47)	1220 (33.1)	321 (25.5)	899 (74.5)	0.45 (0.37-0.56)	<0.001	0.95 (0.71-1.27)	0.739
Highest (≥48)	1224 (37.5)	245 (18.4)	979 (81.6)	0.30 (0.23-0.39)	<0.001	0.77 (0.54-1.08)	0.128

OR, Odds ratio; CI, confidence interval; MYR, Malaysian Ringgit.

^aOdds ratios adjusted for all other variables with crude analysis p-value of less than 0.25.

