

# The Prevalence of Physical Inactivity and Association with Abdominal Obesity among Married Adults in Sepang, Selangor, Malaysia

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## ABSTRACT

*Lifestyle factors such as physical inactivity is heavily correlated with the development of many chronic diseases and this might also contribute to abdominally obese among married people. Therefore, this study was conducted to determine the prevalence of physical inactivity and the association with abdominal obesity among married adults in the residential area of Salak, Sepang, Selangor.*

*A cross-sectional study was conducted among community who were selected through a simple random sampling. Malaysian, aged more than 18-year-old and fulfill the inclusion & exclusion criteria were interviewed using a set of validated questionnaires. The data were analyzed using JASP.*

*Almost 46% of the respondents were physically inactive and majority were female (50.6%), ≥60 age (58.8%) and retiree (60%) with lack of time was the most common barrier (60%). However, there was no significant association between physical activity and abdominal obesity.*

*Therefore, more awareness program should be focused on physical inactivity and married life.*

**Keywords:** *physical inactive, abdominal obesity, waist circumference, married, Selangor*

## INTRODUCTION

Worldwide, one in four adults do not currently meet the global recommendations for physical activity set by the World Health Organization (WHO). As countries develop economically, levels of inactivity increase. Thus, in some countries, levels of inactivity

can be as high as 70%, due to changing patterns of transportation, increased use of technology and urbanization (WHO, 2018).<sup>[1]</sup> As there has been no improvement in global levels of physical activity since 2001, in 2018 the WHO launched a global action plan to promote physical activity (GAPPA) to reduce physical inactivity by a relative 10% by 2025, and 15% by 2030 (GAPPA, 2018).<sup>[2]</sup>

A study done among Individuals with chronic disease showed that the prevalence of chronic diseases such as myocardial infarction (40%), diabetes (36%), kidney disease (31%), stroke (31%), and COPD (26%) were higher among those who were physically inactive.<sup>[3]</sup> In another study, it was also stated that the most common Non-Communicable Disease risk factors were physical inactivity (77.8%)<sup>[4]</sup> Similarly, cross-sectional studies in Malaysia showed among physically inactive respondents, 23.2% of them have hypertension, whereas 39.4% respondents with diabetes had low physical activity (Fairuz et al., 2020).<sup>[5][6]</sup> The rate of death was also significantly higher among the physically inactive group (4.1%,  $P < 0.001$ ),<sup>[7]</sup> and this was consistent with other study on physical activity and its associated factors among breast cancer patients, which reported 39% of the breast cancer survivors had a sufficient level of physical activity.<sup>[8]</sup>

In India, the prevalence of physical inactivity among the married was 42.0% [9] Whereas, studies done in Malaysia showed that the prevalence of physically inactive among married adults were 14.4% and 22.1%, respectively. [10][11] Studies in Korea and Malaysia also found that there was an association between marriage and physical activity with  $p < 0.001$  and  $P = 0.002$ , respectively. [12][13]

Abdominal obesity is strongly associated with marital status [14] and a study done in Kg Bukit Bangkong, Selangor showed that among the physically inactive respondents (24.8%), 69.4% had abdominal obesity and 26.5% were married. [15]

Thus, this study was designed to determine the prevalence of physical inactivity and the association with abdominal obesity among the married adults in residential area of Salak, Sepang, Selangor.

## MATERIALS AND METHODS

A cross-sectional study was conducted in a residential area in Salak, Sepang, Selangor, which has 3000 residents with 700 houses. Majority of the residents were Malay population. The neighborhood comprises of single and double storey houses with the total number of single-storey houses being 40%.

The housing area has been stratified earlier before systematic random sampling was conducted to choose the respondents' houses, followed by simple random sampling to select the respondent within the household. All Malaysian who were living in the area for at least six months, aged more than 18 years, not mentally retarded, deaf and mute, were selected as respondents. Respondents who refused to participate in the survey or were not there during the survey after two visits, will be considered as non-respondents

Data was collected through face to face interview using a validated questionnaire from National Health Morbidity Survey 2019. [16] The data has been analyzed using descriptive statistics to

get the frequency and relative frequency (percentage) for waist circumference and also sociodemographic variables. The waist circumference was calculated and classified as follow: Male  $\geq 90$  cm, Female  $\geq 80$  cm. [17] The association between status of physical activity and abdominal obesity was determined by Pearson chi-square test. The level of significance was set at  $p < 0.05$  and confidence level at 95%.

## RESULT

A total of 187 participants participated in this study, giving an overall response rate of 100%. All respondents were Malays.

Majority of the respondents were still married 155 (82.9%). Among the respondents who were married 45.8% were physically inactive.

**Table 1: Physical activity status by socio-demographic (N=155)**

Socio-demography	Physical activity status		
	Yes n (%)	No n (%)	Total n (%)
General	84 (54.2)	71 (45.8)	155 (100.0)
<b>Age (p=0.151)</b>			
≤ 29	12 (75.0)	4 (25.0)	16 (100.0)
30 – 39	15 (44.1)	19 (55.9)	34 (100.0)
40 – 49	29 (61.7)	18 (38.3)	47 (100.0)
50 – 59	21 (51.2)	20 (48.8)	41 (100.0)
≥ 60	7 (41.2)	10 (58.8)	17 (100.0)
<b>Gender (p=0.177)</b>			
Male	41 (60.3)	27 (39.7)	68 (100.0)
Female	43 (49.4)	44 (50.6)	87 (100.0)
<b>Education (p=0.995)</b>			
1 <sup>0</sup> and 2 <sup>0</sup>	45 (54.2)	38 (45.8)	83 (100.0)
3 <sup>0</sup>	39 (54.2)	33 (45.8)	72 (100.0)
<b>Occupation (p=0.384)</b>			
Private	32 (65.3)	17 (34.7)	49 (100.0)
Government	9 (52.9)	8 (47.1)	17 (100.0)
Self employed	14 (51.9)	13 (48.1)	27 (100.0)
Unemployed	4 (66.7)	2 (33.3)	6 (100.0)
Retiree	8 (40.0)	12 (60.0)	20 (100.0)
Housewife	17 (47.2)	19 (52.8)	36 (100.0)
<b>Monthly household income (p=0.399)</b>			
B40	48 (53.9)	41 (46.1)	89 (100.0)
M40	28 (50.9)	27 (49.1)	55 (100.0)
T20	8 (72.7)	3 (27.3)	11 (100.0)

**Table 2: Barriers to be physically active among the physically inactive married respondents**

Barriers	n	%
Lack of time	36	60.0
Lazy	9	15.0
Medical conditions	4	6.7
Lack of motivation	3	5.0
Old age	3	5.0
Pain	3	5.0
Tiredness	2	3.3
<b>Total</b>	<b>60</b>	<b>100</b>

Missing -11

The higher prevalence of physically inactive is among the age group  $\geq 60$  (58.8%), female (50.6 %) and retiree (60%) (Table 1).

Lack of time and lazy are the common barrier factors towards physically active among married respondents (60% and 15%, respectively) (Table 2).

**Table 3: Association between physical activity and abdominal obesity**

Physical activity status	Abdominal obesity		Total n (%)	Odd Ratio (CI)	P value
	Yes n (%)	No n (%)			
Active	62 (73.8)	22 (26.2)	84 (100)	1	0.342
Inactive	57 (80.3)	14 (19.7)	71 (100)	1.4 (0.675, 3.091)	

Physically inactive married respondents have a higher prevalence (80.3%) and 40% at risk of getting abdominal obesity. However, statistically there is no significant association ( $p > 0.05$ ) between physical activity and abdominal obesity among married respondents (Table 3).

## DISCUSSION

Our study showed that the prevalence of physical inactivity among married respondents was 45.8% and majority were female (50.6%). These were consistent with a study done in Malaysia by Chan et al., (2014) which reported that female respondents have a notably higher prevalence more than male.<sup>[18]</sup> Similarly, studies done in Brazil and Eastern Ethiopia showed that females have a higher prevalence of physical inactivity (53.3% and 49.4%),<sup>[19][20]</sup> as majority of female with a career were busy spending their time working and thus preventing them from being active.<sup>[21]</sup> For those who are full housewives, the higher prevalence of physical inactivity (52.8%) might be due to lack of time as they are more focused on their other responsibilities such as doing household chores.<sup>[22]</sup>

People emphasize physical appearance when one is starting a relationship,<sup>[23]</sup> therefore one of the main motivations to be physically active is to improve their appearance.<sup>[24]</sup> However, marriage causes people to let their guard down in keeping good physical appearance as they are complacent and satisfied with their appearance<sup>[25]</sup> and this leads to lack of motivation for them to be physically

active.<sup>[26]</sup> Other study stated that male participants were more satisfied with their bodies than females, which might contribute to the physically inactive among married male.<sup>[27]</sup> Moreover, as males are usually the breadwinner of the house,<sup>[28]</sup> they spent more energy and time for their work, as our study stated that lack of time (60.0%) and feeling tired (3.3%) were the barriers to be physically active.<sup>[29]</sup>

A study in India has reported that the highest prevalence of physical inactivity was among the elderly and retired, as most retired people come from an older age group.<sup>[9]</sup> Our retirees and respondents aged more than 60 years old, were three times and 4.3 times respectively, most likely to be physically inactive. These are most likely due to old age (5.0%) and pain (5.0%), as old age causes physical limitation and having mild pain.<sup>[30]</sup> Another study done among older adults also concluded that pain is associated with physical inactivity.<sup>[31]</sup>

Disability is also common among the older people as most of them have chronic disease and physical inactivity is significantly associated with several clinical disorders such as heart and back problems.<sup>[32][33]</sup> Increasing in age is strongly associated with biologically driven aging process, in which the low levels of physical inactivity could be attributed to poor self-rated health regardless the presence of chronic conditions.<sup>[34][35]</sup> Other than health related conditions, older adults who did not own a car were more likely to be inactive as they may be prone to sedentary and engaged less in social activities.<sup>[36]</sup>

Obesity was found to be significantly associated with age, ethnicity,

educational level and marital status. [37] A study which was conducted in Northeast China reported there was a positive association between physically active married respondents and abdominal obesity. [38] However, a cross-sectional study done in Iran and Malaysia showed a significant association statistically between married and abdominal obesity but none between physical activity and abdominal obesity which was consistent with our study. [14][39]

## CONCLUSION

The prevalence of physically inactive among married residents is relatively high with lack of time and laziness were found to be the commonest barriers.

Therefore, it is very crucial to ensure that married residents are receiving ample exposure and knowledges on importance to be physically active by including persistent health promotions and thorough interventions. Simple and timesaving exercises that is feasible for couple as well as can fit into their daily schedule should be introduced in an attempt to be physically active.

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## REFERENCES

1. WHO. 2018. More Active People for a Healthier World, Global Action Plan on Physical Activity 2018-2030. Geneva, UK: World Health Organization.
2. GAPP (Global action plan on physical activity). 2018. 2018–2030: More active people for a healthier world: 2018-2030.
3. Brawner, Clinton, A., Churilla, James, R., Keteyian, Steven, J. 2016. Prevalence of Physical Activity is Lower among Individuals with Chronic Disease. *Medicine & Science in Sports & Exercise*, 48(6):1062-1067.
4. Agaba, E. I., Akanbi, M. O., Agaba, P. A., Ocheke, A. N., Gimba, Z. M., Daniyam, S., Okeke, E. N. 2017. A survey of non-communicable diseases and their risk factors among university employees: a single institutional study. *Cardiovascular Journal of Africa*, 28(6):377-384
5. Ain, N.S.Z., Afiqah Z., Sarah M.A., Nur Syazwina T., Sarah N.Z., M. Rashidi, Fazal A.H., Sabariah A.H. 2020. Physical Activity and Hypertension among Community at Mukim Salak, Sepang, Selangor, Malaysia. *International Journal of Education and Research*, 8(12):23-32.
6. Fairuz, F.R., Surajudeen, A.A., Fatimah, S.K.M., Rashid. A. 2020. Prevalence and factors associated with prediabetes and diabetes in fishing communities in Penang, Malaysia: A Cross- Sectional Study. *Public Library of Science*, 15(2):1-17.
7. Chanyang, M. Dae Myong, Y., Hye Wee, J., Hyo-Jeong, L., Soo Hwan, B., Hyo Geun, C. 2020. Mortality and cause of death in physical activity and insufficient physical activity participants: a longitudinal follow-up study using a national health screening cohort. *BioMed Central Public Health*, 20(1469):1-10.
8. Rufa'i, A.A., Yen, S.H., Wan Muda, W.A.M. 2019. Prevalence of Physical Activity and its Associated Factors among Breast Cancer Patients in Peninsular Malaysia: A Multi-Centre Cross-Sectional Study. *Journal of Biomedical & Clinical Science*, 4(1):16-25.
9. Ariarathinam, N., Natesan, M., Zile S., Ramesh, C.C., Anandan, V., Manikandan M. 2017. Factors Associated with Physical Inactivity among Adult Urban Population of Puducherry, India: A Population Based Cross-sectional Study. *Journal of Clinical & Diagnostic Research*, 11(5):15-17.
10. Iylia, A.A.H., Elda E.A.A., Aiyman, M.A., Sabariah, A.H. 2019. Physical Inactivity Status and BMI Level among Community in Salak, Sepang, Selangor, Malaysia. *International Journal of Scientific and Research Publications*, 9(7):509-514.

11. NHMS. 2019. National Health and Morbidity Survey (NHMS) 2019: NCDs – Non- Communicable Diseases: Risk Factors and other Health Problems, 1: 28-29.
12. An, K.Y. 2019. Physical Activity Level in Korean Adults: The Korea National Health and Nutrition Examination Survey 2017. *Epidemiology and Health*, 41(2019047):1-10.
13. Aisyah Waheeda, R., Rhesara, S., Nik Nasreen, N.K., Sabariah, A.H. 2018. Physical Activity Status of Community in Kg Hulu Chuchoh, Sungai Pelek, Sepang, Selangor, Malaysia. *International Journal of Education and Research*, 6(10):37-46.
14. Tabrizi, J.S., Sadeghi-Bazargani, H., Farahbakhsh, M., Nikniaz, L., Nikniaz, Z. 2018. Prevalence and Associated Factors of Overweight or Obesity and Abdominal Obesity in Iranian Population: A Population-based Study of Northwestern Iran. *Iran Journal Public Health*, 47(10): 1583-1592.
15. Syahirah, N.A.O., Aliuddin, M.Z., Izyan, N.L.A.R., Afiqah, N.M.M.R., Nuraina, S.R., Sabariah A.H. 2020. Physical Activity and Abdominal Obesity Status Among Community at Kg Bukit Bangkong, Sepang, Selangor, Malaysia. *International Journal of Education and Research*, 8(6): 61-70.
16. National Health & Morbidity Survey (NHMS). 2019. Vol I: Methodology and General Findings. Institute for Public Health, Ministry of Health, Malaysia. 1:290.
17. Clinical Practice Guideline (CPG). 2004. Management of Obesity. Kementerian Kesihatan Malaysia, 15.
18. Chan, Y.Y., Lim, K.K., Teh, C.H., Lim, K.H., Hamizatul Akmal, A.H., Mohd Azahadi, O., Noor Ani, A., Kee, C.C. 2014. Prevalence and Factors Associated with Physical Inactivity among Malaysian Adults. *Southeast Asian Journal of Tropical Medicine and Public Health*, 45(2):467.
19. Saulo, V.S., Aline, R.B., Tania, M.A. 2018. Leisure-Time Physical Inactivity among Healthcare Workers. *International Journal of Occupational Medicine and Environmental Health*, 31(3):251-260
20. Melkamu, M.M., Hirbo, S.R., Behailu, H.A., Addisu, S.B. 2019. Level of physical activity among urban adults and the socio-demographic correlates: a population-based cross-sectional study using the global physical activity questionnaire. *BMC Public Health*, 19(1160):1-11
21. Flannery, C., McHugh, S., Anaba, A.E., Clifford, E., O’Riordan, M., Kenny, L. C., McAuliffe, F. M., Kearney, P. M., Byrne, M. 2018. Enablers and barriers to physical activity in overweight and obese pregnant women: an analysis informed by the theoretical domains’ framework and COM-B model. *BMC Pregnancy Childbirth*, 18(178): 1-13.
22. Yuhaniz, M., Mahmud M.J. 2015. The Role and Activities of Malay Housewives and their Influence on Housing Design Preferences. *Procedia-Social and Behavioral Sciences*, 222: 720-728.
23. Rahbari, L. 2019. Beauty or the beast? Academics’ perceptions of women’s physical appearance and academic achievements in Iran. *Journal of International Women’s Studies*, 20(2): 309–323.
24. Hoare, E., Stavreski, B., Jennings, G.L., Kingwell, B.A. 2017. Exploring Motivation and Barriers to Physical Activity among Active and Inactive Australian Adults. *Sports Basel, Switzerland*, 5(3): 47
25. Shaheen, A., Kumar, H., Ali, U., Rasool, I. 2017. Body mass index as a predictor of marital satisfaction in married adults. *Journal of the Liaquat University of Medical and Health Sciences*, 16(4):228-232
26. Herazo-Beltrán, Y., Pinillos, Y., Vidarte, J., Crissien, E., Suarez, D., García, R. 2017. Predictors of perceived barriers to physical activity in the general adult population: a cross-sectional study.
27. Quittkat, H. L., Hartmann, A. S., Düsing, R., Buhlmann, U., Vocks, S. 2019. Body Dissatisfaction, Importance of Appearance, and Body Appreciation in Men and Women Over the Lifespan. *Frontiers in Psychiatry*, 10:1-12.
28. Gonalons-Pons, P., Gangl, M. 2021. Marriage and Masculinity: Male-Breadwinner Culture, Unemployment, and Separation Risk in 29 Countries. *American Sociological Review*, 86(3): 465–502.
29. Skrebutėnaitė, I. E., Karanauskienė, D. 2019. Perceived Physical Activity Benefits and Barriers in Sedentary Adults. *Baltic Journal of Sport and Health Sciences*, 2(113): 28-38.
30. Daniel, V.O., Caio, R.M., José, R.A.N.J., Gabriel, L.D.R., Diogo, A.S., Cláudia, R. C.

2018. Barriers for physical activity in older adults' users of fitness zones. *Revista Brasileira de Atividade Física & Saúde*, 23:1-8.
31. Shunsuke, M., Takehiko, D., Ryuichi, S., Ryo, N., Tsunenori, I., Aoi, E., Yuki, K., Yamato, T., Kohtaroh, T., Akimasa, F., Rei, O. 2019. Association Between Objectively Measured Physical Activity and the Number of Chronic Musculoskeletal Pain Sites in Community-Dwelling Older Adults. *Pain Medicine*, 20(4):717-723.
32. Sanjay, B., Abby, C.K. 2013. Disability and Chronic Disease Among Older Adults in India: Detecting Vulnerable Populations Through the WHO SAGE Study. *American Journal of Epidemiology*, 178(11):1620-1628
33. Adelle, M.R.S., Gerda, G.F., Sergio L.B. 2015. Prevalence and Correlated of Physical Inactivity among Older Adults in Rio Grande do Sul, Brazil. *Plos One*, 10(2):1-14
34. Ingram, D.K. 2000. Age-related decline in physical activity: generalization to nonhumans. *Medicine & Science in Sports and Exercise*, 32(9): 1623-1629.
35. Dogra, S. 2011. Better self-perceived health is associated with lower odds of physical inactivity in older adults with chronic disease. *Journal of Aging and Physical Activity*, 19(4):322-335.
36. Elaine, M.M., Marie, H.M, Niamh, M.M., Catherine, W., Alan, M.N., Aoife, L. 2015. Prevalence and Correlates of Physical Inactivity in Community-Dwelling Older Adults in Ireland. *Plos One*, 10(2):1-11.
37. Sidik SM, Rampal L. 2009. The prevalence and factors associated with obesity among adult women in Selangor, Malaysia. *Asia Pac Fam Med*. 9:8 (1):2.
38. Shiwen, Y., Liying, X., Zhi, D., Yuanmeng, T., Li, J., Han, Y., Min, L., Boqiang, Z., Shuang, L., Yaping, P., Chen, L. 2019. Prevalence of Obesity and Associated Risk Factors and Cardiometabolic Comorbidities in Rural Northeast China. *BioMed Research International*, 2019 (6509083): 1-9.
39. Ain, N.M., Norhafizah, A.B.M., Sabariah, A.H., Ahmad, F.M., Kamaliah, M.N., Abd Rahim, M., Krishna, G.R. 2020. Prevalence and Factors Associated with Abdominal and Overall Obesity in Sepang, Malaysia. *International Journal of Pharmaceutical Research*, 12(4):1-11.

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