

**Association Of Lifestyle Habits and Visceral Fat Accumulation Among UniSZA Staff****Nor Hannah Aqila Ab Hadi<sup>1\*</sup>, Sakinah Harith<sup>1</sup>**<sup>1</sup>School of Nutrition and Dietetics, Faculty of Health Sciences, Universiti Sultan Zainal Abidin, Gong Badak

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An increase in visceral fat, known as fat that surrounds the abdominal organs deep within the body causes obesity, particularly abdominal obesity [1]. National Health and Morbidity Survey 2019 has reported 1 in 2 adults in Malaysia had abdominal obesity [2]. The increased incidence of abdominal obesity raises the risk of cardiovascular disease [2]. Visceral fat accumulation has been linked to unhealthy lifestyle and is frequently accompanied with metabolic imbalance and fluid retention because of insulin resistance, which can lead to metabolic syndrome [4]. Visceral fat accumulation is influenced by socio-demographic factors and lifestyle habits. However, only a few studies have looked at the relationship between lifestyle choices and visceral fat accumulation.

This cross-sectional study aimed to investigate the association between lifestyle habits and accumulation of visceral fat among staff in Universiti Sultan Zainal Abidin. A total of 107 staff who work at department or faculty in UniSZA aged 18 to 59 years old were recruited using a purposive sampling method. Information on socio-demographic, anthropometric, mealtime pattern, physical activity, sedentary behavior and working hour were obtained. NHMS 2014 questionnaires were used to measure lifestyle habits of the participants.

The respondents (mean age: 37.7 ± 8.1 years) were predominantly male (50.5%), Malay (100%), married (77.6%), highest education in bachelor's degree (35.5%), and a monthly salary of RM 1000 and above. The study revealed half (54.2%) of the respondent from the overweight and obese category of BMI. The percentage of overweight is

36.4 while obese is 20.6. However, half of them had a normal visceral fat range, 54.2%. Waist circumference and waist-hip ratio at risk is highest among female (62.3%) and male (55.6%), respectively.

Parameters	Mean±SD	n (%)
Age (years)	37.7 ± 8.1	
Gender		
Male	54 (50.5)	
Female	53 (49.5)	
Ethnicity		
Malay		
Marital status		
Never married	21 (19.6)	
Married	83 (77.6)	
Divorced	2 (1.9)	
Others	1 (0.9)	
Education level		
SPM	28(26.2)	
Foundation/ Matriculation/ STPM/ STAM	5(4.7)	
Diploma	29 (27.1)	
Bachelor's Degree	38 (35.5)	
Master	4 (3.7)	
PhD	3(2.8)	
Monthly income		
<1000	1 (1.0)	
1000-1999	19 (19.6)	
2000-2999	34 (35.1)	
3000-3999	22 (22.7)	
4000-4999	8 (8.2)	
BMI		
Underweight (18.4 kg/m <sup>2</sup> )	1 (0.9)	
Normal (18.5-24.9 kg/m <sup>2</sup> )	45 (42.1)	
Overweight (25.0 –29.9 kg/m <sup>2</sup> )	39 (36.4)	

Obese (>30.0 kg/m <sup>2</sup> )	22 (20.6)
Visceral fat range	
Normal (≤9)	58 (54.2)
High (>9 - 14)	36 (33.6)
Very high (>14)	13 (12.1)
Waist circumference	
Male (≥90 cm)	33 (61.1)
Female (≥80 cm)	33 (62.3)
Waist-Hip-ratio	
Male (≥0.95)	30 (55.6)
Female (≥0.85)	21 (39.6)

The study shows high prevalence of overweight/ obese and abdominal obesity indicate the respondent has high risk of chronic disease such as diabetes, high blood pressure and heart disease. Thus, it is suggested that future intervention programs should focus on preventing overweight/obesity and abdominal obesity to prevent from problems related to chronic diseases.

### Keywords

Visceral fat, Abdominal obesity, Lifestyle habits, Staff

### References

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