ORIGINAL ARTICLE

THE LEVEL OF KNOWLEDGE AND ATTITUDE REGARDING IDEAL WEIGHT MAINTENANCE AMONG ADULTS IN KUALA LUMPUR, MALAYSIA

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ABSTRACT

Maintaining an ideal weight is critical for overall health and well-being, particularly in urban areas like Kuala Lumpur, where lifestyle factors contribute to rising obesity rates. Understanding the relationship between knowledge and attitudes regarding weight maintenance is essential for developing effective public health strategies. Knowledge encompasses awareness of dietary habits, exercise, and the implications of weight on health, while attitudes reflect individuals' beliefs and feelings towards these practices. Previous studies have shown that higher levels of knowledge are often associated with more positive attitudes towards weight management; however, gaps in understanding can lead to misconceptions and unhealthy behaviors. The objective of this study is to determine the level and association between knowledge and attitude regarding ideal weight maintenance among adults in Kuala Lumpur. For this study, 331 adult residents were recruited. Knowledge and attitude on ideal weight maintenance were assessed using questionnaire and the level of physical activity was assessed using IPAQ. The study design was cross sectional study and the data was analyzed using SPSS 20.0. Results shows that there is mean difference ($p<0.001$) in attitude score on dietary habit between high and poor knowledge group. Sociodemographic factors play an important role in the rates of obesity and shape how people understand and feel about maintaining a healthy weight. Increased knowledge leads to better attitudes about managing body weight. Enhancing understanding can lead to more favorable views and encourage healthy habits that help in reaching and keeping a desirable body weight.

keywords: *Knowledge, Attitude, Ideal weight maintenance, Obesity, Kuala Lumpur*

INTRODUCTION

Sustaining a healthy weight is a crucial aspect of health management, especially in cities such as Kuala Lumpur, where lifestyle choices and dietary practices greatly affect public health. The urban development in this city progressed quickly, resulting in alterations in food consumption, exercise habits, and general lifestyle patterns. These transformations have led to an increased occurrence of obesity and being overweight, which pose significant health dangers, such as diabetes, heart disease, and various other metabolic issues. It is vital to comprehend how awareness regarding weight management and perspectives shape these trends, as this understanding is a key component in creating successful health programs 1-2.

Grasping how to maintain a healthy weight involves many factors, including understanding nutrition, knowing about the requirements for physical exercise, and recognizing the physiological impacts related to obesity. Earlier studies indicate that individuals who possess a solid understanding of these topics tend to engage in behaviors that promote health more consistently. However, having knowledge alone does not ensure positive health results; personal attitudes play a significant role as well. Attitudes pertain to an individual's beliefs, motivations, and feelings regarding weight management issues, which can either encourage or discourage healthy habits[3-6].

In Kuala Lumpur, there has not been a comprehensive investigation into the relationship between knowledge and attitudes regarding weight management. This lack of research presents a chance to examine how these elements are interconnected among adults in the region. By analyzing knowledge and attitudes together, researchers can uncover challenges in successful weight management and develop strategies aimed at addressing misunderstandings while encouraging healthier lifestyle choices. [7-9].

A wide range of research conducted in various cultural settings has identified an affirmative link between knowledge and perspectives regarding health-related practices. For example, individuals who possess greater awareness of the advantages of

a nutritious diet and consistent physical activity generally exhibit a more favorable mindset towards weight management. However, misconceptions regarding ideal weight and effective weight reduction methods may cultivate negative perceptions, resulting in harmful behaviors. Furthermore, in urban environments where easy access often takes precedence over health-related factors, grasping these dynamics becomes increasingly important. [9-10].

Cultural elements significantly influence perceptions regarding body weight and image. In Malaysia, societal norms and peer pressure affect individuals' views on what constitutes an ideal weight and their approaches to managing their weight. Studies have shown that cultural values can either facilitate or obstruct health awareness, affecting how willing people are to embrace suggested health behaviors. Therefore, it is essential to consider cultural contexts when exploring beliefs and understanding about weight management in Kuala Lumpur. [10-11].

Grasping the relationship between knowledge and attitudes and how strong this connection is for effective weight management is essential in addressing the obesity crisis in Kuala Lumpur. Recognizing gaps in knowledge and the presence of detrimental attitudes enables the development of targeted strategies that promote healthier behaviors among the city's adult population. The ultimate goal is to cultivate a healthier community, reduce the occurrence of obesity-related issues, and improve the overall health of society. [12-13].

The aspiration for optimal health and an attractive appearance drives many people to keep their ideal weight. Research indicates that the pursuit of leanness is closely linked to societal pressures for a specific body type, the regularity of physical activity, dissatisfaction with one's appearance, and the intake of dietary supplements. Additionally, studies reveal that individuals from lower socioeconomic backgrounds face a heightened risk of obesity, generally stemming from limited educational attainment, lower social class in employment, and impoverished neighborhoods. Nonetheless, the role of knowledge in regulating ideal weight is infrequently evaluated as a contributing factor to the issues of being overweight and obese. [16-17].

Sustaining an optimal body weight is fundamental for the prevention of long-term illnesses like diabetes, high blood pressure, heart diseases, and various cancers. Although there are extensive awareness initiatives, numerous adults find it challenging to regulate their weight due to a lack of information, misunderstandings regarding what constitutes "ideal weight," and opposing views influenced by cultural standards, social media, and various lifestyle elements. By examining both knowledge and attitudes, the research connects the divide between awareness and actions, providing understanding into the reasons behind adults' successes or failures in achieving and maintaining an ideal weight. Thus, the objective of this study is to identify knowledge and attitudes towards keeping an ideal weight in adults.

METHODS

Study design and location

The cross-sectional study was carried out in residents of Kg Pandan in Kuala Lumpur. Participants were informed of the study and took voluntary participation.

Sampling and sample size

The systematic random sampling technique was utilized in the selection of the participants. The description of the selected subjects is given below: Inclusion criteria: People from Kg Pandan, Kuala Lumpur, more than/equal to 18 years of age. Exclusion Criterion: Patients with a medical condition that requires a special intake of nutrition or illiterate individuals. The sample size was calculated through Open Epi Software [18.] After applying the formula, 331 samples were determined with a 20% attrition rate in order for the study to take place.

Instruments

Anthropometric measurements

Participants were weighed and height was measured using calibrated devices, a weighing scale and measuring tape. Weight in kilograms divided by the square of the height in meters gave the body mass index (BMI). The subjects were categorized into underweight, normal weight, overweight, and obese.

Questionnaire

We used a questionnaire that comprised of interviews and asked about; Socio-demographic information (e.g., household income), Knowledge and attitudes toward maintaining ideal weight. The attitude and knowledge cumulative scores were 33 and 17, respectively. Scores of knowledge were categorized in the range of poor (0-9), moderate (10-12), and good (13-17), and Self-reported level of physical activity, measured through the International Physical Activity Questionnaire (IPAQ). The short form (IPAQ-S7S) of the questionnaire was utilized in the assessment of the level of physical activity in the preceding 7 days. The level of activity was scored as low, moderate,

or high through the IPAQ Scoring Protocol (short form).

Data Collection and Analysis

Before data collection, informed written consent was received from everyone taking part and the study adhered to the rules of the local ethics committee. All respondents who agreed to participate in this stud have been interviewed by the researcher with a response rate of 92.7%. Statistical analysis was carried out using SPSS version 20.0. A descriptive analysis was performed for all included Variables. Then t-test, ANOVA & Chi sqare were used in this study for the inferential statistics.

Ethical Considerations

Ethical approval for this research was received from the University of Cyberjaya Research Ethics Committee. Participation was entirely voluntary, and written informed consent was obtained from all respondents prior to data collection. Confidentiality and anonymity were strictly maintained by avoiding collection of personal identifiers. Participants were informed of their right to withdraw at any time without consequences.

RESULTS

The study included 331 participants, mostly female (59.5%) and of Malay ethnicity (56.8%), followed by Chinese (31.1%) and Indian (11.2%). Over half had secondary education (53.5%), while smaller proportions attained primary (26.6%), tertiary (13.6%), or no education (6.3%). Nearly half were pensioners, housewives, or unemployed (48.9%), with others mainly engaged in services and sales (29.0%). This indicates a sample largely composed of females, Malays, with secondary education, and predominantly non-professionally employed. (Table 1).

Table 1: Socio-demographic details (N=331)

Variables	N (%)
Gender	
Male	134 (40.5)
Female	**197 (59.5)**
Race	
Malay	**188 (56.8)**
Chinese	103 (31.1)
Indian	37 (11.2)
Others	3 (0.9)
Education	
Primary	88 (26.6)
Secondary	**177 (53.5)**
Tertiary	45 (13.6)
No education	21 (6.3)
Occupation	
Professionals	20 (6.0)
Clerical support workers	23 (6.9)
Services & sales workers	**96 (29.0)**
Skilled workers	10 (3.0)
Armed forces	5 (1.5)
Elementary workers	15 (4.5)
Pensioner/ Housewife/ Unemployed	**162 (48.9)**

The analysis showed no significant difference in knowledge scores between males and females ($p = 0.754$). However, educational level was significantly associated with knowledge ($p = 0.002$), with those with tertiary education, scoring the highest and those without formal education scoring the lowest. This indicates that higher education is strongly linked to better knowledge of pre-eclampsia.

Table 2: Mean difference between knowledge on maintaining ideal body weight and socio-demographic

Variable	n	Mean Score (SD)	Mean score difference (95% CI)	t-statistic (df)	p-value
Gender (N=331)			-0.512	-1.673 (329)	0.754
Male	134	10.58(2.729)	(-1.11, 0.09)		
Female	197	11.09(2.732)			
Educational level					
No education				5.17 (3; 327)	0.002
Primary		21	8.91 (2.737)		**
Secondary		88	10.77 (2.594)		
Tertiary		177	10.97 (2.732)		
		45	11.67 (2.671)		

***One-way ANOVA test, p<0.05 significant at CI 95%*

By using ANOVA test, table 3 shows that the results showed no significant difference in attitude scores between males and females (p = 0.899). However, household income was significantly associated with attitudes (p = 0.001), with those from higher-income households demonstrating more favorable attitudes toward pre-eclampsia compared to those from moderate- and low-income groups.

Table 3: The mean difference between attitude on maintaining an ideal body weight and gender

Variable	n	Mean Score (SD)	t-statistic (df)	p-value
Gender (N=331)			-1.27 (329)	0.899
Male	134	3.44(0.81)		
Female	197	3.45(0.80)		
Total household income group (N=331)			6.78(2; 330)	0.001**
• Low	320	3.47 (0.78)		
• Moderate	7	3.43 (0.79)		
• High	4	2.00(1.83)		

***One-way ANOVA test, p<0.05 significant at CI 95%*

Table 4 demonstrates that there is a significant difference in mean attitude scores across knowledge levels for all lifestyle-related variables. Participants with good knowledge consistently reported higher mean attitude scores compared to those with poor or moderate knowledge. Specifically, significant associations were observed for ideal body weight maintenance ($F(2,328) = 4.53$, $p = 0.01$), dietary habits ($F(2,328) = 9.15$, $p < 0.001$), avoiding oily food ($F(2,328) = 4.27$, $p = 0.02$), consumption of high-fiber foods ($F(2,328) = 3.83$, $p = 0.02$), taking breakfast daily ($F(2,328) = 8.56$, $p < 0.001$), and attitudes "for good health" ($F(2,328) = 6.79$, $p < 0.001$).

Table 4: Mean difference in attitude score between knowledge categories

	Mean attitude scores				
Variables	**Poor**	**Moderate**	**Good**	**F**	**P-value***
Ideal body weight maintenance	3.24±0.92	3.55±0.76	3.51±0.71	4.53(2,328)	0.01
Dietary habit	19.42±4.29	20.89±4.82	22.18±4.45	9.15(2,328)	<0.001
Avoid oily food	2.54±1.18	2.82±1.14	3.00±1.04	4.27 (2,328)	0.02
Take high fiber food 2-3 times a day	2.55±1.05	2.75±1.19	2.98±1.04	3.83(2,328)	0.02
Take breakfast everyday	2.70±1.23	3.04±1.15	3.36±0.97	8.56 (2,328)	<0.001
For good health	3.28± 0.96	3.55 ±0.76	3.67 ±0.60	6.79	<0.001

**One-way ANOVA*

The results in table 5 indicate that sources of information were significantly associated with knowledge levels about obesity. For self-sourced information, a higher proportion of respondents with high knowledge (32.7%) reported relying on themselves compared to those with poor knowledge (26.4%) or moderate knowledge (40.8%), with a statistically significant association ($x^2 = 9.87$, $p = 0.01$).

Similarly, family as an information source was strongly linked to knowledge levels ($x^2 = 12.94$, $p < 0.001$). Participants who reported family as a source were more likely to have higher knowledge (43.9%) compared to those who did not (25.0%).

Mass media also showed a significant association with knowledge ($x^2 = 17.04$, $p < 0.001$). Respondents who cited mass media as a source demonstrated higher proportions of good knowledge (47.4%) compared to those who did not (26.1%).

Table 5: Association between family's motivation on ideal body weight maintenance and the knowledge level

	Poor	Moderate	High	Chi2	P-value
Self					
Yes	75±(26.4)	116±(40.8)	93±(32.7)	9.87	0.01
No	23±(48.9)	14 ±(29.8)	10±(21.3)		
Family					
Yes	29± 27.1	31 ±29.0	47 ±43.9	12.94	<0.001
No	69± 30.8	99 ±(44.2)	56 ±(25.0)		
Mass media	11± (14.1)	30 ±(38.5)	37 ±(47.4)	17.04	<0.001
Yes	87 ±(34.4)	100 ±(39.5)	66 ±26.1		
No					

** Chi-Square test , p<0.05 as significant at 95% CI*

Table 6 shows that there was no significant association between gender and knowledge levels on obesity ($x^2 = 1.65$, $p = 0.44$), with knowledge distribution being fairly similar between males and females. Similarly, household income was not significantly related to knowledge ($x^2 = 0.95$, $p = 0.92$).

In contrast, educational level was significantly associated with knowledge ($x^2 = 21.25$, $p = 0.02$). Respondents with tertiary education demonstrated the highest proportion of moderate (56.7%) and high knowledge (24.4%), while those with only primary education were more likely to fall into the low knowledge group (36.4%). These findings indicate that education is a key determinant of knowledge about obesity, whereas gender and income do not appear to exert significant influence.

Most of our participants were found to be obese and accounted for 48.6% of the sample, followed by 29.6% with a normal body mass index (BMI), 17.8% who were found to be overweight and 3.9% were underweight. Additional exploration of the relationship between sociodemographic factors and the connection of obesity identified weak relationships with age ($r = 0.17$, $p < 0.05$) and family income ($r = -0.112$, $p < 0.05$) in terms of BMI scores.

Table 6: Association between gender, education, and total household income with knowledge level

Variable	knowledge			Ch2	P value
	Low N(%)	Moderate N(%)	High N(%)		
Gender					
Male (134)	29 (21.6)	68 (50.7)	37 (27.6)	1.65	0.44
Female (197)					
Education					
Primary	32 (36.4)	27 (20.7)	29 (33.0)		
Secondary	35 (19.8)	87 (49.2)	55 (31.1)	21.25	0.02
Tertairy	4 (8.9)	30 (56.7)	11 (24.4)		
Income					
Low (N=320)	73 (22.8)	148 (46.2)	99 (30.9)		
Moderate (n=7)	2 (28.6)	4 (57.1)	1 (14.3)	0.95	0.92
High (n=4)	1 (25.0)	2 (50.0)	1 (25.0)		

DISCUSSION

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The significant increase in obesity today poses a major risk for various health issues, particularly heart disease. While several past studies in Malaysia have examined the causes of obesity and ways to reduce its risk factors, no research has assessed the understanding and perspectives on proper weight management in low-income urban areas. [19-20] This current study aimed to determine the knowledge and attitudes of the residents of Kampung Pandan in Kuala Lumpur regarding optimal weight control.

A total of 331 respondents from the Kampung Pandan community were interviewed. Most respondents were female (59.5%), Malay (56.8%), unemployed (42.6%), and had completed their education up to secondary level (53.5%). The average total household income was RM 1823.74, which is considered low in Malaysia, as households earning less than RM 4000 fall into this category. Among the respondents, 161 (48.6%) were classified as obese, with an average BMI of 25.795 kg/m^2.

Good and appropriate knowledge of maintaining a perfect body weight has a considerable effect on one's daily lifestyle. Most of the community from Kampung Pandan presented a moderate (39.3%) and a good knowledge (31.1%) of ideal weight control, but the rate of obesity is high. Literature has observed that the knowledge is widened but fewer actions were implemented in sustaining long-term interventions like lifestyle changes. Respondents in the study recognized the dietary recommendations for a healthy lifestyle appropriately. A recent report by Alahmari (2024) also reflected that higher consumption of high-fiber food is capable of lowering the risk of obesity, cardiovascular disease, and diabetes mellitus [21].

Surprisingly, 85.2% of the community was unaware that the body mass index (BMI) is an accurate method for body measurement. Many individuals do not recognize this measurement, even though most have regular medical check-ups at hospitals or clinics. This finding aligns with other studies conducted in various parts of the world regarding patients' understanding of BMI. A significant majority of respondents provided incorrect definitions of specific BMI levels and their meanings [22-24].

Our data analysis revealed that individuals with secondary and tertiary education levels had higher mean knowledge scores regarding maintaining ideal body weight compared to those with primary education. This indicates a relationship between education level and knowledge of weight management. Numerous studies support this finding, showing that individuals with higher education levels are less likely to be overweight or obese. Conversely, they tend to exercise more and adopt healthier eating habits [25-27].

Our study found a significant mean difference in attitude scores regarding the importance of maintaining body weight among different knowledge groups. This is supported by research conducted by Tod et al. (2013), which indicated that exercise frequency, dieting, pressure to attain an ideal appearance, and athletic spirit play important roles in maintaining ideal body weight[14]. We observed that the studied community, which demonstrated good knowledge, had a positive attitude towards dietary habits, primarily avoiding oily foods, increasing fiber intake, and consuming breakfast daily.

According to a study by Vaughan (2018), [28], indicated that individual's dietary habits are influenced by their knowledge. Regular breakfast consumption has been reported more frequently among those who successfully maintain their weight. It is suggested that eating breakfast can reduce hunger and provide better energy for daily activities. Increasing dietary intake of fruits, vegetables, whole grains, and legumes is a crucial step in preventing obesity in developed countries[28-29] .

Significant associations were found between self-motivation, family support, and mass media influence with participants' levels of knowledge. Those who received support from their parents demonstrated greater motivation to maintain their ideal body weight[30]. Additionally, a study reported positive outcomes—such as greater weight loss, increased physical activity, and higher consumption of fruits and vegetables—linked to social media engagement[31]. Our study indicates that a moderate level of physical activity (46.5%) had the highest frequency compared to high and low levels of activity. However, this finding is inconsistent with previous research, which concluded that the majority of Malaysians are not active, with only a few practicing regular and adequate physical activity[32].

In this study, the prevalence of obesity among adolescents was found to be 48.6%, which is higher than the 27.2% reported in the Fourth National Health and Morbidity Survey (NHMS IV) in Malaysia conducted in 2011 among adults aged 18 and older. The discrepancy may be attributed to the socioeconomic characteristics of the target population. The participants in our study were from a low socioeconomic group, a previous studies reported on sociodemographic and health-lifestyle

determinants of obesity risks have reported that Malaysians from low total household income groups are more likely to be obese [33-34].

The high prevalence of obesity in Kuala Lumpur prompted an evaluation of its association with various factors, one of which is the level of knowledge about ideal weight management. However, our current study found no significant association between knowledge levels regarding ideal weight management and obesity. This aligns with a very recent study conducted in 2025, which showed that overweight or obese patients exhibited inadequate knowledge, negative attitudes, and unhelpful practices related to weight management. These findings underscore the need for targeted educational interventions to enhance weight management knowledge and foster positive attitudes, ultimately leading to improved health practices within this population [35].

Also, our work did not find a considerable connection between motivational factors and obesity. Even participants with active support from family and friends for normal body weight maintenance had the same rates of obesity compared with participants with no support of this kind. Conversely, a lack of support and lack of self-motivation has been found in other United States and Canada studies to unfavourably affect body weight control [36-37].

Physical activity has been proposed many a time to be a very crucial factor in the control of obesity; nonetheless, our study observed no considerable relationship between the level of physical activity and obesity. This implies that both the non-obese and the obese respondents are undertaking comparable levels of physical activity, with almost half of them undertaking moderate physical activities. This may be a result of a very high awareness of the necessity of physical activity by the obese respondents in achieving a body weight that is ideal.

CONCLUSION

Sociodemographic elements significantly influence obesity prevalence and affect how individuals perceive and approach the maintenance of a healthy weight. Research indicates that greater awareness leads to enhanced perspectives on weight management. To effectively address this challenge, it is crucial to establish more educational initiatives focused on healthy weight maintenance. By fostering awareness, we can cultivate a constructive attitude and promote healthier lifestyle choices, ultimately aiding individuals in achieving and sustaining their target body weight.

Moreover, this investigation ought to encompass a broader demographic to ensure that the results genuinely reflect the overall populace of Malaysia. To mitigate potential language barriers, the surveys should be designed for written interviews and made available in the three main languages prevalent in the country.

COMPETING INTERESTS

The authors declare no competing interests.

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