Obesity, Knowledge and Healthy Lifestyle Behaviour among Nursing Students: Implication towards Nursing Education in Malaysia

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Abstract

The increasing rates of people being overweight and obese are recognized as global public health concerns. Nurses and nursing students have a significant role in educate public who are obese or overweight and should help them to practice healthy lifestyles. However, a lot of study suggests that nurses and nursing students fail to engage in healthy lifestyles. Recently evidence showed healthcare workers especially nurses fail to practice healthy lifestyle and increasing numbers of obese health workers, therefore this put nurses and nursing students in a precarious position when they become role model to overweight and obese people to adopt healthy lifestyles. This study aimed to determine obesity level, nursing students' obesity risk knowledge, and their own healthy lifestyle behaviors. A descriptive correlational study was used. The study done at one private healthcare university College in Malaysia. A total of 297 nursing students enrolled on a college university nursing course in years 1, 2, 3and 4. were involved in this study. Data were collected using Obesity Risk Knowledge Scale, and the Healthy Lifestyle Profile as valid and reliable

questionnaires. Dependent variables were correlated with independent variables. Results showed that nursing students engage in unhealthy lifestyle. Nursing students had poor knowledge on obesity risk.35% of nursing students in this sample BMI shows they were obese and overweight. Conclusions: This result gave evidence towards implication to nursing educational program to strengthen the credibility and suitability of nursing curriculums for nursing students as future nurses in health promoting activities of patients who are overweight and obese.

Keywords: Knowledge, obesity, Healthy lifestyle, nursing students, Nursing education

Introduction

Malaysia appears to be the fattest country in ASEAN, with medical costs associated to obesity accounting for 10–20 percent of the country's healthcare spending ,according to the Economist Intelligence Unit, (2017). Obesity costs the health-care system and society a significant amount of money since it puts a person at a higher risk of having various co-morbidities such cardiovascular disease, type 2 diabetes, hypertension, sleep apnea, and osteoarthritis (Hruby & Hu, 2015). According to the most recent data from the Institute for Public Health, National Institutes of Health, Ministry of Health Malaysia (2020), the prevalence of overweight and obesity has reached such alarming proportions that it now affects half of Malaysia's adult population (50.1%). Recognizing the prevalence of overweight and obesity in Malaysia, numerous studies have been conducted on overweight individuals in a variety of settings, including the home, community, school, and workplace, focusing on biometric data, changes in diet and lifestyle practises, and a pre- and post-intervention period (Mazloomy-Mahmoodabad, Navabi, Ahmadi, &Askarishahi, 2017; Ministry of Health Malaysia, 2015). Obesity among healthcare professionals (HCWs) is also a significant issue, as it affects HCWs' morbidity. Obesity among health-care workers (HCWs) is a serious problem that can damage their health as well as their capacity to do their jobs. Although adult obesity is linked to workplace characteristics, there are few studies on the obesity of Malaysian health-care professionals and if different health-care job categories are linked to obesity. A few studies have been conducted to determine obesity among healthcare personnel. Doctors (house officers, medical officers, specialists), nurses, and other job types were among the HCWs represented (pharmacists, medical assistants, occupational therapists, physiotherapists, health assistants, medical laboratory technologists, dietitians, and nutritionists). Nurses have the highest rates of obesity among healthcare workers, according to the findings. According to a study conducted by Coomarasamy et al 2014 on 1006 nurses in Malaysia, the majority (33.55 percent) of the respondents were pre-obesity and 17% were obese. Some (0.6 percent) were classified as Class III obese. The nurses' average BMI was 25.36 (SD 4.7).

Nurses are increasingly expected to be role models for healthy behaviours in national and international policy and from professional bodies, with the argument that there is a link between nurses' personal health and patient adoption of healthier behaviours. This could be due to patients being inspired by and modelling the nurse's evident healthy lifestyle, or it could be due to nurses being more inclined to promote their patients' health by providing

public health or health promotion advice and directing them to support resources. It is critical to consider the impact of health education on lifestyle behaviour, knowledge, obesity risk attitude, and obesity prevention. Nursing students are the nurses of the future. As a result, this study was conducted to evaluate obesity among this prospective nurse population in order to prevent obesity in children at an early age. Intervention in health education to improve Successful weight management requires a healthy lifestyle (Kebbe, Damanhoury, Browne, Dyson, McHugh & Ball, 2017). To alter behaviour, this necessitates a shift in information, attitude, belief, value, and practise. As a result, health care experts should provide instruction to people who want to lose weight. Nurses play an important role in health promotion and public education about how to live a healthy lifestyle. Despite a wealth of research demonstrating the beneficial effects of exercise and adequate diet on health, many practising nurses have been found to be overweight or obese in various nations. Nurses and midwives have a greater frequency of overweight and obesity than the overall population, according to a study conducted in Australia, New Zealand, and the United Kingdom (Bogossian et al 2012).

Obesity and overweight rates have reached epidemic levels, according to the World Health Organization (2017). Obesity and overweight are substantial risk factors for many chronic diseases, including cancer, diabetes, and heart disease, and should be treated as worldwide public health issues. Being overweight or obese, on the other hand, raises the risk of acquiring a variety of additional health problems, such as a lower back injury (Reed et al., 2014). Obese people, compared to non-obese adults, were referred for various investigative procedures and to allied health professionals more frequently, according to Marquez et al. (2017). The costs of dealing with the health problems that come with being overweight or obese are significant. Obesity is a preventable condition, despite its prevalence and severity. Obesity and overweight are described as abnormal or excessive fat accumulation that can have a negative impact on one's health. good health (World Health Organisation, 2017). The Body Mass Index (BMI), which is defined as weight divided by square of height (kg/m2), is the most extensively used indicator of obesity. A person is considered overweight if their BMI is 25–29.9, obese if their BMI is 30–39.9, and extremely obese if their BMI is 40 or higher. (Health Assured, 2019).

Literature Review

Literature searches were conducted by hand-searching reference lists of retrieved papers in the electronic databases ProQuest, Science Direct, Sage, and PubMed. The following key words and phrases were searched utilising the Boolean operators 'AND' and 'OR' to maximise search effectiveness and efficiency: obesity, overweight, nurses, nursing students' knowledge, healthy living, and health promotion. A total of 286 research articles were discovered to be relevant to the topic, with 37 being particularly useful. Articles were omitted if they were not written in English or were older than ten years. Obesity prevention, nurse and nursing student lifestyles, and obesity risk information among nursing students were all topics covered in the articles chosen. As a result, only papers that were related to the study's objectives were included in the final debate. Several studies have demonstrated that component lifestyle intervention programmes for obesity prevention have a positive impact

on nursing students' knowledge, attitude, and practise. Knowledge about healthy eating, food groups, balanced diets, and good food choices was implanted in the intervention group during the scheduled programme. Thiabpho et al. (2018) undertook a weight-loss lifestyle modification programme for 60 obese Thai women. The participants received instruction on obesity and its co-morbidities, the health effects of lifestyle modification and the barriers to change, exercise, eating out methods, food labels, and a food swap list. The intervention group exhibited a larger improvement in Knowledge, Attitude, and Practice (KAP) as well as overall weight reduction, waist circumference, and blood pressure following the programme, whereas the control group showed minimal improvement. This demonstrates that by altering the participants' KAP through education, they can lose a large amount of weight. To properly promote a goal habit, participants should first develop a desirable attitude by determining their level of obesity risk knowledge. As a result, the College or instructors can better plan the curriculum to help nursing students become better nurses in the future. Obesity prevention education allows people to recognise both the effects of current conduct and the rewards of desirable behaviour (Zizzi et al., 2016). Mazloomy-Mahmoodabad et al. (2017) conducted a weight loss educational intervention. They discovered that the average attitude score before and after the educational intervention was much higher. Mazloomy-Mahmoodabad et al. (2017) became more self-aware and realised that their body weights were putting them at risk for obesity. Such attitudes are necessary for kids to adopt a healthy lifestyle. Following the instructional session, the subject's behaviour improved. More people were willing to eat three servings of veggies and two servings of fruits.

However, even having appropriate knowledge and a positive attitude about weight loss does not guarantee that they will be turned into actual weight loss action. A cross-sectional study of 91 overweight adults in the United Kingdom backs this conclusion.Even though the majority of them were aware of their weight status and had adequate understanding about overweight and obesity, participation in weight control and reduction programmes proved to be extremely low in Nigeria (Bolarinde, Henry, & Daniel, 2018). According to another study conducted by Blake et al. in 2011, many nurses and nursing students are overweight or obese. Bogossian et al. (2012) showed that 61.9 percent of nurses and midwives in New Zealand, Australia, and the United Kingdom were overweight or obese in a 2012 survey of 4996 nurses and midwives in New Zealand, Australia, and the United Kingdom (32.8 percent overweight, 24.7 percent obese, 3.4 percent morbidly obese). In a study of 411 Scottish nurses, Kyle et al. (2016) discovered that 69 percent were overweight or obese. In a study of 422 nurses in England, Kyle et al. (2017) discovered that 25% of nurses were obese and 61% were overweight. Nurses, when compared to other healthcare professions, have the highest rate of obesity, according to the study. Fillingham et al. (2014) stated that nurses must be equipped and confident to intervene with patients when obesity is a health issue. The attitude of healthcare workers regarding obesity, according to Pearl et al. (2012), can influence the effectiveness of such an intervention. Obesity stigma is widespread, and people who are obese face discrimination from health providers, employers, and schools (World Health Organisation, 2017). Zhu et al. (2011) found that normal weight physicians viewed overweight and obese patients more unfavourably than clinicians who were overweight themselves. According to Creel and Tillman (2011), if nursing students have negative

attitudes toward obese patients, the quality of care they provide may suffer. Malaysia is a rapidly developing country with a diverse population. In order to meet the challenges of modern living, residents must be more conscious of the need of adopting healthy lives. Malaysia's economy, which was once primarily based on agriculture, is now increasingly reliant on industries. The prevalence of overweight (BMI 23-27.5 kg/m2) among people in Penang state, Malaysia, was 37.3 percent, the highest among Malaysia's 15 states. Indians were the most obese ethnic group (43.5%), followed by Malays (35.4%) and Chinese (33.4%). (21.9 percent). Female, government/semi-government employment, and monthly salary of RM9000–RM9999 are other sociodemographic factors linked to a high obesity rate (Ministry of Health Malaysia, 2015). Given this tendency, obesity prevention measures for Malaysians are essential. Nurses are the closest healthcare workers to the public, and they need to be good role models for healthy living. Nursing students' training time should be used to inculcate good healthy lifestyle practises.

Nursing students in training to become professional qualified nurses must study both theory and practical skills in order to provide excellent care to all patients. Nursing students can also serve as role models for patients or the general public, advising them on how to avoid becoming obese. Numerous pieces of evidence indicate the need of increased physical activity and good nutrition at the individual and community levels in the majority of public health programmes addressing the physical and psychological components of obesity (Telles, Gangadhar, & Chandwani, 2016). Lifestyle or behavioural training, food modification for calorie restriction, and increased physical activity should all be included in a complete, multi-component, and modern lifestyle strategy (Bray, Frühbeck, Ryan, & Wilding, 2016). Speeches, questions and answers, group discussion, reviewing situations, video, role-play, and PowerPoint presentations can all be used to give healthy living education, while instructional resources such as booklets, pamphlets, and brochures can also be used. A weight-loss intervention that primarily focused on teaching and did not include any lifestyle changes was shown to be ineffective. To prevent obesity, educational content should include (a) understanding of obesity, risk factors, and complications; (b) positive attitude development; (c) role of nutrition and exercise; and (d) increasing social supports and self-efficacy. Mazloomy Mahmoudabad et al., 2017, conducted a study that found this educational intervention to be effective in weight loss. After the educational intervention, the individuals' BMI, weight, and waist circumference all decreased significantly (p 0.001).

Research Background

Noncommunicable diseases will be the leading cause of death in Southeast Asia and the Western Pacific region by 2020, according to the World Health Organization (WHO). Non-communicable diseases are exacerbated by obesity. Overweight and obese adults accounted for 1.5 billion persons worldwide in 2018. Nearly 300 million of the obese women were included in this number. In Malaysia, both men and women were overweight or obese in 47.9% of the population. Females accounted for about 51.2 percent of the total. Malaysia (14%) has about quadruple the rate of overweight and obesity as China (5.7%), Japan (5%), and the Philippines (6.3%), and is nearly twice as high as Singapore (6.7%). (7.1 percent). The worrisome rise in Malaysia's obesity rate must be addressed. Nurses play an important

role in public health promotion and education about how to live a healthy lifestyle. Nurses (together with other physicians) play a critical role in tackling the public health priority of reducing obesity and overweight rates (Nicholls et al., 2016). The promotion of healthy lifestyles is critical to this job. Nurses' health-related behaviours influence both how much they engage people in health-promoting activities like eating and exercise (Fie et al., 2013) and how much they accept the advice they give (Hicks et al., 2008). Evidence suggests that nurses have poor health-related behaviours such as low physical activity (Malik et al., 2011), unhealthy diets heavy in sugar and fat, and low intakes of fruits and vegetables (Blake et al., 2011).

However, noncommunicable diseases such as heart disease, cancer, and diabetes are now the focus of attention. All of these illnesses are closely linked to Malaysians' shifting lifestyles. In 2009, two out of every five Malaysian adults were obese, according to the National Morbidity Survey. This frightening statistic has spurred the Malaysian government to implement a slew of initiatives aimed at encouraging people to live healthier lifestyles, particularly by increasing their physical activity. The Ministry of Health's 10,000 Steps Program, which began in July 2009, and Malaysia Cergas, or A Fit Malaysia, which began in 1985, are two of the programmes. However, there is little evidence to establish the efficiency of these activities due to a dearth of studies on the subject. Nonetheless, the rising number of obese Malaysians as well as patients with heart disease, cancer, and diabetes demonstrate that these measures have generally failed to achieve their goals. Nurses have a critical role in persuading the general people to adopt healthy lifestyles in order to retain excellent health. Nurses are the key players in Malaysia's health promotion activities, both supplying and conducting them. They are frequently sought out for advice on health issues by not only their own patients, but also members of the public. As a result, it's critical for nurses to "walk the walk." According to studies, student nurses' inability to encourage patients to be more physically active is due to a lack of regular physical activity. Many Malaysian universities and the Ministry of Health provide training to guarantee that the nursing workforce is well-educated and compassionate. Nurses' levels of physical activity and health-promoting lifestyles, on the other hand, have been the subject of few studies. Furthermore, determining whether existing nursing school programmes in Malaysia encourage nurses to be physically active and maintain a healthy lifestyle is extremely difficult, if not impossible. Studies on the fundamentals of Malaysian nurses' physical activity levels and lifestyle habits are needed. More detailed information on nurses' physical activity levels, such as daily walking distance and calories burned, would provide a better understanding of their lifestyle. Nurses must keep a healthy lifestyle to assist prevent excessive weight gain, which can lead to noncommunicable diseases in adults such as hypertension, coronary heart disease, diabetes, stroke, and cancer.

The Theory of Planned Behaviour provided the theoretical underpinning for this research. According to this hypothesis, a person's desire to undertake a behaviour is the strongest predictor of actual behaviour. The three distinct constructions of information that can impact their attitude, subjective norms, and perceived behavioural control determine such intention. Subjective norms reflect an individual's impression of how others expect them to execute the

behaviour, and perceived behavioural control is an individual's perception of how much control they have over hand how they perform the behaviour (Ajzen, 2011). Subjective norms can be used to define the expected behaviour of a group, such as nursing students. When people believe they are a part of a group, they are more likely to act in ways that conform to the group's social norms rather than their own personal attitudes. According to the Theory of Planned Behaviours, people are more inclined to engage in certain behaviours if they believe there are a lot of benefits and few drawbacks (Swift et al., 2006). The Theory of Planned Behaviour has been shown to accurately predict health-related behaviours including diet and exercise (Chung and Fong, 2015). While there are many other reasons why people become overweight or obese, one of the most important health goals is to encourage people to increase their physical activity and lower their caloric intake. Nurses and nursing students can use the Theory of Planned Behaviour as a framework to consider their own lifestyle and attitudes, as well as their intentions to promote a healthy lifestyle in others or to the public, and may be able to influence the factors that are thought to predict behaviour change in the patients they care for (McKenzie and Brown, 2014).

The main objective of this study is to determine nursing students' obesity risk knowledge, and their own self-reported healthy lifestyle practise towards obesity .

There are three focused research questions inherent in this objective:

1. What is the level of healthy life style practise among nursing students?

2. What is the level of nursing students' knowledge regarding the health risks associated with obesity?

3. What is the level of BMI among nursing students?

Methods

Study design

This was a cross-sectional study that used an online questionnaire to collect data on nursing students from a private healthcare college in Malaysia. Online questionnaire were used to explore participant' obesity risk knowledge (ORK) and healthy lifestyle behaviors to prevent obesity among Nursing students from Private healthcare College in Malaysia . Participants were recruited and data collection took place from September to October 2021.Due to the pandemic Covid 19, potential participants were contacted at random through email and WhatsApp Group and assigned to fill out a questionnaire via an online google form. Before consenting to participate in the study, the participants were informed about the study's goals and objectives. After evaluating similar validated questionnaires from previously published studies, such as the study by Gormley et al 2020 to match this study's inclusion/exclusion criteria and research scope, the survey was self-developed to assess knowledge and healthy living behaviour to prevent obesity. Nursing students are the next generation of registered nurses, and they will play an essential role in the healthcare sector in the future (Klainin-Yobas et al., 2015). Promoting healthy living behaviours in nursing students may help them fulfil their duty as health promoters (Deasy et al., 2016). To help nursing students establish

good attitudes toward overweight and obese people, they must first learn about the physical and mental health consequences of being overweight or obese. Nursing students should be prepared to provide complete patient care in patients who are overweight or obese, including the provision of health-promoting lifestyle activities, if they have such awareness and understanding of obesity prevention (Mangold and Markiewicz, 2014).

Instruments

The survey questionnaire that was utilised in this study was adapted in English with permission. In each segment, the correction system for the Obesity risk knowledge questions was one (1) point for a valid answer and zero (0) points for an erroneous answer, similar to prior KAP research. The final score was calculated and divided into the following four categories: Students were asked to complete three questionnaires: the Obesity Risk Knowledge scale (ORK-10) (Swift et al., 2006), and 23 items from the Walker et al., 1995-developed Health Promoting Lifestyle Profile, which focused on health activity and diet.

The ORK-10 scale is a ten-item questionnaire that assesses knowledge of obesity-related health hazards. The obesity-related comorbidities included in the item pool are relevant instances of physical health implications in which obesity is a recognised risk factor in the Malaysian population and has significantly increased disease burden. "Obesity does not enhance the chance of having high blood pressure" and "Obesity increases the risk of bowel cancer" are among the items on the scale. The scale is self-administered, with respondents determining whether the claims are 'True' or 'False' based on their educational understanding. Responses are scored as dichotomous variables, with correct responses receiving one point and incorrect responses receiving zero. The ORK-10 scale has a range of zero to ten points, with higher scores signifying higher levels of knowledge. With a Cronbach alpha of 0.83, the ORK-10 scale has been reported to be reliable, discriminant, and valid (Swift et al., 2006). The original HPLP is a 52-item summated behaviour rating scale that uses a 5-point response format to assess the frequency of self-reported health-promoting behaviours, which are defined as a multi-dimensional pattern of self-initiated actions and perceptions that help an individual maintain or improve his or her level of wellness, self-actualization, and fulfilment. "Exercise vigorously for 20 or more minutes at least three times a week" and "Limit sweets and sugar-containing foods" are among the suggestions. The scale runs from 1 (never) to 5 (always) (routinely). The mean of the respondent's responses to the questions is used to calculate an overall score; the higher the score, the healthier the claimed lifestyle. The HPLP was tested using item analysis, factor analysis, and reliability measures by the developers, and has a Cronbach alpha of 0.92. While the healthy lifestyle adapted questionaires used in this study were developed following a pilot study and evaluated by a content expert, they include a wide range of behaviours, participants were only asked about the 23 scale items relating to physical activity and nutritional consumption. According to Gupta and Gaur (2016), these items are clearly related to the study's goal and are an appropriate strategy because no other specific measures exist to assess nurses' nutritional intake and exercise patterns. Because Malaysia has numerous ethnic groups such as Malay, Indian, Chinese, and others, data on demographic factors such as age, gender, and race were also collected to

enable for the examination of differences within the student population. All healthy living behaviours are frequently influenced by the ethnic and racial backgrounds of one's family.

A pilot study was done with 50 randomly selected nursing students to validate the survey, and these nursing students were excluded from the real study. The subjects gave their informed permission voluntarily. The pilot study's updated version of the questionnaire was provided to expert content for final approval and feedback on the survey's clinical content.

Study populations.

Nursing students in a private healthcare facility make up the study population. Participants were drawn from a Malaysian private healthcare university with students from various socioeconomic backgrounds. The study's target population was all full-time nursing students (N = 1150). There were no conditions for exclusion. The number of participants required for the study was determined using the Krejci Morgan Table. With a population of 1150 students, a sample size of 286 was needed to get findings that were representative of the target population.

Size of the sample

A total of 297 surveys were distributed online, and 297 were returned (Response Rate = 27%), satisfying the sample size calculator's criteria for achieving data representative of the target demographic. The demographic characteristics of study participants are shown in Table 2

Analytical statistics

The data was first uploaded to Microsoft Excel for coding, and then to SPSS version 26 for statistical analysis from online Google form speared sheets. Demographic factors, knowledge, and healthy lifestyle behaviour among nursing students were all described using descriptive statistics. Analyses were performed that were both inferential and descriptive. Inferential statistics examine if the findings from the population can be generalised, while frequency statistics reveal the distribution of the scores (Spector et al., 2014). The Kolmogorov-Smirnov statistic (Table 1) revealed a significant value of 0.000, indicating that the assumption of normality had been violated (Pallant, 2016). The ORK-10 and the HPLP were used to conduct parametric statistical tests because the data were normally distributed. To see if there were any links between nursing students' health behaviours and their awareness of obesity risk, Pearson correlation coefficients were assessed.

Ethical considerations

The University College Research Management Committee (RMC) received ethical approval, and the Head of School of Nursing granted administrative authority to conduct the study. Participants were contacted via email and given a Participation Information Sheet with an explanation of the study and a clear statement that if they completed the online questionnaire, they were assumed to have granted consent. Because no personally identifiable information was used, the nursing students anonymity was guaranteed.

Data collection

Participants' data was collected via an online survey hosted on the Google Forms platform, and surveys took about 20-30 minutes to complete. After one week, the nursing students received a reminder e-mail, followed by a final reminder e-mail one week later. Between August and October of 2021, all data managed to gather.

Results

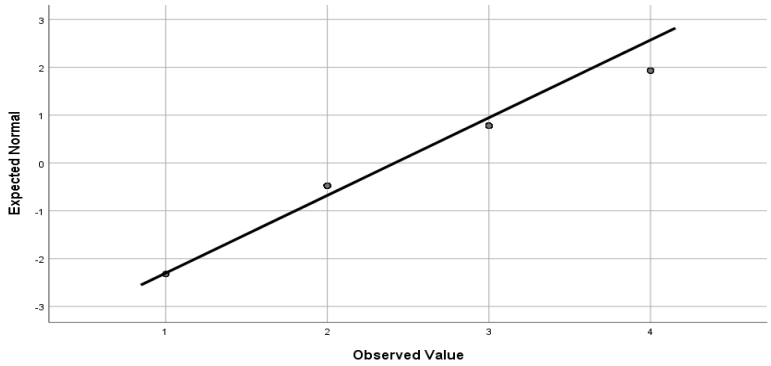
The first part of the study were collected detailed of descriptive information of demographic data, the second part is the list question s about obesity risk knowledge and the last part is on the level of healthy lifestyle behaviour of nursing students.

Table 1 shows the results of normality test and Table 2 explain of demographic data

Table 1
Test of normality.

Item	Kolmogorov-Smirnov		
	Statistic	df	Sig.
Obesity Risk Knowledge	.367	297	.000
Lifestyle	.350	297	.000

Normal Q- Q plot for Knowledge Obesity Risk



Normal Q-Q plot of Healthy lifestyle Behaviour

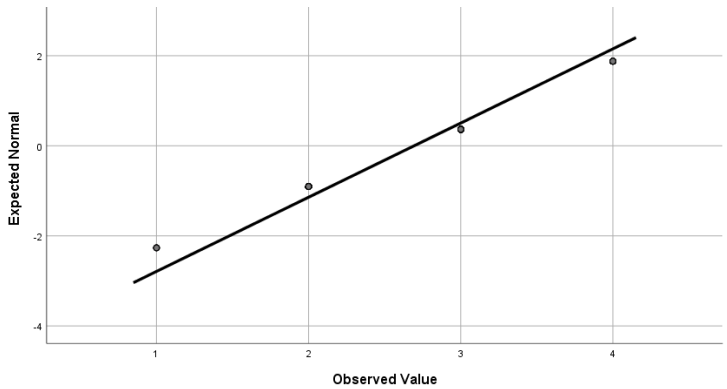


Table 2:

Demographic variables Characteristics of study participants (n = 297)

Demographic variables	Frequency	Percent
AGE	n	%
18	55	18.5
19	104	35.0
20	35	11.8
21	25	8.4
22	26	8.8
23	20	6.7
24	9	3.0
25	10	3.4
26	7	2.4
27	6	2.0
GENDER		
Female	265	89.2
Male	32	10.8
Race		
Malay	254	85.5
Chinese	3	1.0
Indian	26	8.8
Others	14	4.7
BMI		
Underweight	23	7.7
Normal	180	60.6
Overweight	56	18.9
Obese	38	12.8

According to the findings, 23 students (7.7%) are underweight. 180 (60.6%) are normal, whereas 56 (18.9%) are overweight. Obesity affects 38 (12.8%) of the population. A total of 94 (31.7%) of them are overweight and obese, which is concerning because this group of nursing students will eventually face multiple risks of a variety of non-communicable diseases in future. (Table 2)

Table 3 Healthy lifestyle score

Healthy lifestyle score	Frequency	Percent
Very poor healthy lifestyle behaviour	6	2.0
Poor healthy lifestyle behaviour	96	32.3

Good healthy lifestyle behaviour	178	60.0
Very good healthy lifestyle behaviour	17	5.7
Total	297	99.3

Scores on the Healthy lifestyle behaviour is determined by summated behaviour rating scale that uses a 5-point response format to assess the frequency of self-reported healthy lifestyle behaviours among nursing students, the score showed ranged from 23 to 45 as very poor healthy lifestyle behaviour. Based on the scores, only 2% of students presented with poor practice of healthy lifestyle. 32.3% poor healthy lifestyle behaviour (60% good) and 17% practice very good healthy lifestyle behaviour (Table 3). These scores are exemplified by individual items.

Table 4 ORK score range.

ORK range	Score description	frequency	percentage
0- 3	Very poor knowledge	5	1.7
4-5	Poor knowledge	178	59.9
6-7	Good knowledge	99	33.3
9-10	Very good knowledge	15	5.1
	Total	297	100

The scale is self-administered, with respondents determining whether the claims are 'True' or 'False' based on their educational understanding. Responses are scored as dichotomous variables, with correct responses receiving one point and incorrect responses receiving zero. The ORK-10 scale has a range of zero to ten points, with higher scores signifying higher levels of knowledge. The score range is determined by dividing the total ORK score into quartiles (table 4). The result showed only 1.7% had very poor knowledge 59.9% had poor knowledge while 33.3% had good knowledge. Whereas only 5.1% had very good knowledge on Obesity risk knowledge.

Scale correlations

Pearson Correlation was used to explore the association between overall Healthy Lifestyle Behaviours scores and Obesity Risk Knowledge ORK. There is Significant correlation have been discovered. P value 0.043

Correlations

		Knowledge	Healthy lifestyle
Knowledge	Pearson Correlation	1	.117*
	Sig. (2-tailed)		.043
	N	297	297

Healthy lifestyle	Pearson Correlation	.117*	1
	Sig. (2-tailed)	.043	
	N	297	297

*. Correlation is significant at the 0.05 level (2-tailed).

This correlation result was the one considers and applied to the philosophy of health promotion models, one can infer that it confirms the Theory of Planned Behaviour's (TPB) assertion that knowledge and behaviour are inextricably linked (Ajzen, 2011). According to the TPB, three variables (attitudes, subjective norms, and perceived behavioural control) influence a person's behavioural intention, which determines whether the desired behaviour is displayed. The findings revealed that awareness of the risk of obesity can predict respondents' behaviour based on core beliefs, such as the individual's judgement of susceptibility to sickness, severity, and cost. The HBM, like the TPB, implies that health motivation and perceived control are important aspects to consider when predicting behaviour.

Discussion

The purpose of this study was to see if there were any correlations between nursing students' knowledge of obesity and their self-reported healthy lifestyle behaviours, particularly physical activity, and nutritional intake. This study has several flaws. The findings are based on self-reported data from a sample of nursing students at a single college, and some respondents may under- or over-report specific healthy lifestyle behaviours. The poll was, however, completely anonymous, and participants admitted to partaking in unhealthy habits. Nursing students must display a positive healthy lifestyle to the public as a role model, according to the Nursing and Midwifery Council (2018). Given that all the study's participants were nursing students, there's a chance that bias influenced their responses. A qualitative component might have been included in the design to gather additional in-depth and context-rich data that could have aided in the interpretation of the survey results. Finally, the ORK replies could have been guesses in this scale, thus extrapolating these findings is dangerous.

Adults aged 18 to 64 should engage in at least 150 minutes of moderate-intensity aerobic physical activity or 75 minutes of vigorous-intensity aerobic physical activity per week, according to the World Health Organization (2010). The findings of this study revealed a lack of evidence of exercise activity among nursing students, correlating with those of Rodriguez-Gazquez et al. (2016), who employed a lifestyle assessment questionnaire on 380 nursing students in a cross-sectional study. The physical activity sub-scale earned the lowest score (mean = 1.74), according to Geok et al. (2015), who employed the HPLP-II on a cohort of Chinese nursing students. Nurses and nursing students in the UK were compared by Malik et al. (2011). Nursing students were found to be less likely than registered nurses to engage in regular physical activity, citing reasons such as "I don't have time to be physically active" (71.5%) and "I can't be bothered" (32 percent). A healthy lifestyle has been linked to a lower risk of a variety of diseases, as well as the maintenance of a healthy weight and increased

self-esteem (Department of Health, 2011). According to the World Health Organization (2017), being overweight or obese causes at least 2.8 million deaths per year. Overweight and obesity are known risk factors that include a lack of physical exercise and a bad diet (Stephens et al., 2014). Several dietary factors, including skipping breakfast, have been identified as important in the aetiology of obesity, according to Leidy (2013). This study found that nearly a quarter of nursing students never eat breakfast and have a low consumption of fruits and vegetables. In total, 36% of people did not satisfy the UK National Health Service's 5 A Day (Fruit & Vegetables) requirement, which are considered a minimum diet need for maintaining a healthy weight and heart (National Health Service, 2018). Young adults who eat breakfast have a higher-quality diet, eat less unhealthy snacks, have better body weight management, and have better glucose control throughout the day, according to Leidy (2013). In addition, according to Rodriguez-Gazquez et al. (2016), 90.3 percent of nursing students consume junk food on a daily basis. One possible explanation for this is that nursing students' study schedules, paired with their placement and financial constraints, may lead to a diet high in convenience foods, increasing their risk of becoming overweight or obese.

Nurses and nursing students must understand the causes of overweight and obesity in order to prevent acquiring weight bias towards their patients and peers. Oversimplifying the causes of obesity contributes to weight prejudice, according to the World Health Organization (2017). While the focus should be on the individual's behaviour, nurses should not overlook the role of social and environmental factors in contributing to such behaviour. Weight stigma can lead to bad eating habits, worsening obesity and over-weight. Evidence suggests that knowledge and skills are built at the undergraduate level (Keyworth et al., 2013), and that nurse education has an impact on future health care practise quality. Nursing students will make up most of our future nursing workforce, so nursing research and education must adapt to incorporate an emphasis on obesity prevention. It is well established that establishing a shared educational learning area has a significant impact on learning (Elkington and Bligh, 2019). It brings people together, stimulates discovery, collaboration, and conversation on a variety of issues in a non-judgmental environment, and can frame an unconscious message of exclusion, disconnectedness, and disengagement, according to Elkington and Bligh (2019).

Conclusions

The goal of this study was to see if there were any correlation between nursing students' knowledge of obesity and their self-reported healthy lifestyle behaviours (specifically, physical activity and dietary intake). The majority of nursing students in this study have a poor understanding of obesity, as well as poor physical activity and dietary health habits. Because of the relationship between lifestyle factors and chronic disease, it's crucial to know how common these habits are among nursing students to encourage behaviour change and healthy lifestyle choices. Nursing students in the United Kingdom are required to reflect on their attitudes and follow the Nursing and Midwifery Council's professional code of conduct, which should ensure that all patients receive non-biased care regardless of weight. Registered nurses serve as role models for nursing students, and their attitudes may influence nursing students' biases; however, there is a risk of inherent weight bias among registered nurses as

well. In future research, it might be interesting to measure or explore any associations between students' own BMI and any biases held towards obese people in order to gain a better understanding of their beliefs.

Today's nursing students will become future registered nurses, and they should become a good role model behaviours that improve and protect their own health so that they can provide effective health promotion and education to their patients and community . This could indicate that the nursing curriculum should place a greater emphasis on healthy lifestyle behaviours. Creating a shared educational space that allows nursing students to engage with all perspectives associated with overweight and obesity in a non-judgmental manner, emphasising nurses' personal, professional, and societal responsibilities to live healthy lifestyles, could be a progressive step toward achieving a healthier nursing workforce and patient population in the future.

Malaysia, as it is known, appears to be the fattest country in the ASEAN region.According to the Economist Intelligence Unit, medical costs related to obesity have accounted for 10–20 percent of the country's healthcare spending (2017).With the current focus on the lack of physical activity among Malaysians in general, healthcare workers, particularly nurses, should focus on their role in promoting healthy lifestyles to the public in order to prevent obesity. Future research could focus on how to design, evaluate, and emphasise the impact of interventions to increase physical activity levels. Future research could focus on educators and parents' involvement, as the importance of a healthy lifestyle is best imprinted on young minds. These new generations of youth, including nursing students, are tech savvy and spend a significant amount of time surfing the Internet, networking through smart phones, playing computer games, and tinkering with electronic devices. As youth's lifestyles become more sedentary, it's critical to implement appropriate interventions to ensure that they learn the value of exercise and a healthy lifestyle. Student nurses should be role models for adopting a healthy lifestyle so that they can provide encouragement to their patients and community members.It is strong suggestion that in the future, an educational obesity prevention programme should be implemented actively. The lectures, activities, and education will be delivered via text messaging can be done in more interesting ways, incorporating state-of-the-art technology (mobile application), especially for young adults, and involving a greater number of people communication between the researcher and the participants in both directions. Health educators, nurses, nutritionists, and dietitians are examples of professionals. It is suggested that all the healthcare workers take on seriously their role of project leader for such health promotion programmes and adopt the study's findings or methodology into care plans for their potential patients.

The findings from this study can be used as evidence to improve nursing curriculum to improve nursing education in the future. Another impediment to the World Health Organization's enactment. The current preparedness of future nurses is the organization's vision for the redress of existing barriers among nurses when they themselves are obese will be high risk for health complications due to non-communicable disease that can affect their nursing services to the continued reorientation of the health service. Early concerns about the profession's readiness for its role in health promotion still resound to some extent today.

Perhaps because of the naive belief that including health promotion as a topic in the nursing curriculum would suffice to meet the current demand. Nursing students, on the other hand, need experience and understanding of their role as health promoters to function in it, which for some is still at the most abstract level. The findings support the theory that premature exposure to in-depth consideration of health promotion principles may limit students' learning. Nurse educators should think of these ideas as developmental, perhaps incorporating them into a curriculum that is based on health promotion principles and then reflecting on them during module delivery and practical experience in the final years of nursing school. All this will bring a big implication towards nursing education for better development as future nurses to become good role model to practise healthy lifestyle to prevent obesity.

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Ethical approval

The authors confirm that all required ethical approvals have been obtained.

Declaration of competing interest

The authors declare that there is no conflict of interest.

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