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Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate
Nursing Students in UNIMAS

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DECLARATION

I declare that the work in this thesis was carried out in accordance with the regulations of University of Malaysia Sarawak. Except where due acknowledgements have been made, the work is that of the author alone. The thesis has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.



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ABSTRACT

Problematic eating behaviours (PEBs), including binge eating, emotional eating, and restrictive dieting, are increasingly prevalent among university students, particularly those in high-stress programs such as nursing. These behaviours can adversely impact both physical and mental health. Understanding nursing students' knowledge and attitudes toward PEBs is crucial, as they are future healthcare providers expected to promote healthy behaviours and provide compassionate care to patients with eating-related concerns. A cross-sectional quantitative study was conducted among 163 undergraduate nursing students at Universiti Malaysia Sarawak (UNIMAS), selected through simple random sampling. Data were collected using a self-administered questionnaire consisting of socio-demographic data, a 10-item knowledge assessment on PEBs, and the Eating Attitudes Test-26 (EAT-26) to assess attitudes. Data were analysed using IBM SPSS version 27, including descriptive statistics and Spearman correlation to examine the relationship between knowledge and attitudes. Majority of the nursing students demonstrated moderate knowledge (73.6%), while 16.6% had good knowledge and 9.8% had poor knowledge regarding PEBs. Regarding attitudes, 83.4% of respondents demonstrated positive attitudes toward eating behaviours, while 16.6% exhibited negative attitudes (EAT-26 scores ≥ 20). A weak, statistically non-significant negative correlation was found between knowledge and attitudes ($r_s (163) = -.132, p = .092$), indicating that increased knowledge does not necessarily translate to more favourable eating attitudes. Although majority of students possessed moderate knowledge and positive attitudes, the absence of a significant correlation between knowledge and attitudes suggests that knowledge alone is insufficient to foster positive behavioural attitudes. This finding has important implications for nursing education, indicating that educational interventions should address not only information gaps but also psychological, cultural, and social influences on eating behaviours. These findings

support the development of comprehensive, culturally sensitive educational and mental health interventions for nursing students that go beyond traditional knowledge-based approaches.

Keywords: Problematic eating behaviours, nursing students, knowledge, attitudes, EAT-26, nursing education, Malaysia

ABSTRAK

Tingkah laku pemakanan bermasalah (Problematic Eating Behaviours, PEBs) seperti pemakanan berlebihan (binge eating), pemakanan emosi (emotional eating), dan diet sekatan (restrictive dieting) semakin berleluasa dalam kalangan pelajar universiti, terutamanya mereka yang mengikuti program bertekanan tinggi seperti kejururawatan. Tingkah laku ini boleh memberi kesan negatif terhadap kesihatan fizikal dan mental. Memahami tahap pengetahuan dan sikap pelajar kejururawatan terhadap PEBs adalah penting kerana mereka merupakan bakal penyedia penjagaan kesihatan yang akan mempromosikan amalan gaya hidup sihat serta memberikan rawatan yang berbelas ihsan kepada pesakit yang mengalami isu berkaitan pemakanan. Satu kajian kuantitatif keratan rentas telah dijalankan melibatkan 163 orang pelajar kejururawatan prasiswazah di Universiti Malaysia Sarawak (UNIMAS), yang dipilih melalui persampelan rawak mudah. Data dikumpul menggunakan borang soal selidik yang dijawab sendiri oleh responden, yang merangkumi maklumat sosiodemografik, penilaian pengetahuan mengenai PEBs sebanyak 10 item, serta ujian Eating Attitudes Test-26 (EAT-26) bagi menilai sikap pelajar terhadap tingkah laku pemakanan. Analisis data dijalankan menggunakan perisian IBM SPSS versi 27, termasuk statistik deskriptif dan korelasi Spearman untuk mengkaji hubungan antara pengetahuan dan sikap. Majoriti pelajar kejururawatan menunjukkan tahap pengetahuan yang sederhana (73.6%), manakala 16.6% mempunyai pengetahuan yang baik dan 9.8% menunjukkan pengetahuan yang lemah terhadap PEBs. Dari segi sikap, 83.4% responden mempunyai sikap positif terhadap tingkah laku pemakanan, manakala 16.6% menunjukkan sikap negatif (skor EAT-26 \geq 20). Terdapat korelasi negatif yang lemah dan tidak signifikan secara statistik antara pengetahuan dan sikap ($r_s(163) = -.132, p = .092$). menunjukkan bahawa peningkatan pengetahuan tidak semestinya membawa kepada sikap pemakanan yang lebih positif. Walaupun majoriti pelajar mempunyai

tahap pengetahuan yang sederhana dan sikap yang positif, ketiadaan hubungan yang signifikan antara pengetahuan dan sikap menunjukkan bahawa pengetahuan sahaja tidak mencukupi untuk membentuk sikap tingkah laku yang positif. Penemuan ini membawa implikasi penting dalam pendidikan kejururawatan, yang menunjukkan bahawa intervensi pendidikan perlu merangkumi bukan sahaja pengisian jurang maklumat, tetapi juga faktor psikologi, budaya, dan sosial yang mempengaruhi tingkah laku pemakanan. Hasil kajian ini menyokong keperluan pembangunan intervensi pendidikan dan kesihatan mental yang menyeluruh serta peka budaya dalam kalangan pelajar kejururawatan, melebihi pendekatan pengajaran berasaskan pengetahuan semata-mata.

Kata kunci: Tingkah laku pemakanan bermasalah, pelajar kejururawatan, pengetahuan, sikap, EAT-26, pendidikan kejururawatan, Malaysia

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LIST OF ABBREVIATIONS

EAT	Eating Attitude Test
PEB	Problematic Eating Behaviours
UNIMAS	University of Malaysia Sarawak

CHAPTER 1: INTRODUCTION

1.0 Introduction

This chapter presents the background of the study in section 1.1, 1.2 present problem statements, section 1.3 present research aim and objectives while section 1.4 presents research questions. Besides, section 1.5 presents research hypothesis, section 1.6 presents significance of the study and 1.7 presents operational and conceptual definitions. Lastly, summary present in section 1.8.

1.1 Study Background

Eating behaviours comprises a range of actions related to food intake, vary from normal to problematic eating behaviours (Beaumont, 2024). According to Beaumont (2024), problematic eating behaviours refer to a spectrum of maladaptive eating patterns that can adversely affect an individual's physical and mental health condition. These behaviours often demonstrate in various forms, which include emotional eating, overeating, restrictive dieting and disordered eating patterns, and can lead to significant health issues such obesity, malnutrition, and eating disorder (Nembhwani & Winnier, 2019).

Globally, evidence indicates that nursing students often adopt restrictive eating patterns as a response to their educational environment. Research by Tanton et al. (2015) mentioned that approximately 31.6% of British university students exhibited problematic eating behaviours, highlighting the need for targeted interventions. While a study by Chua et al. (2022) estimated that about 18.5% to 23.8% of the Malaysian university students is at risk for problematic eating behaviours based on the Eating Attitude Test 26 (EAT-26) questionnaire. Problematic eating

behaviours such as overeating, emotional eating and skipping meals, are recognized as significant contributors to various health issues, including obesity (Costa et al., 2019). Globally, obesity prevalence among university students is reported at 33.3% in Saudi Arabia (Jalal et al., 2021), 26.4% in Southern Morocco (Boukrim et al., 2021), 25.5% in China (Gu et al., 2021). In Malaysia, 39.1% of university students in Sarawak have been classified as obese (Pitil & Ghazali, 2022). In a study conducted by Oo et al. (2019), 52% of nursing students in Malaysia are found overweight. The highest prevalence rates can be attributed to various factors, including the high level of stress, intense academic environment and the social pressures to conform to certain body image standards, which are particularly pronounced in nursing students (Mazzaia & Santos, 2018). The most prevalent problematic eating behaviours among university students in global perspective are emotional eating which is characterized by consuming food in response to emotional distress rather than biological drive for food (Kalika et al., 2022). However, in Malaysia the highest problematic eating behaviours that can be found among university students are binge eating which involves consuming large quantities of food in a short period linked to addictive-like behaviours and can result in significant psychological and physical health consequences (Costa et al., 2019).

Since nursing students will be a future nurse, they may also face so many stresses which can lead to problematic eating behaviours. A study by Ramadhani and Mahmudiono (2021) found that 64.5% of students with high academic stress exhibited emotional eating, compared to only 28.8% of those with lower stress levels. This suggests a clear link between academic pressures and unhealthy eating habits, highlighting the need for interventions that address stress management and promote healthier coping strategies among nursing students. Additionally,

Almarwani (2024) research indicates that negative academic experiences contribute to increased perceived stress among nursing students. Phillips and Logiudice (2019) noted that stress can trigger binge eating among nursing students, underscores the need for supportive educational environments that foster resilience and healthy coping mechanisms. Therefore, self-awareness in nursing students regarding their eating behaviours and habits is crucial for several reasons, impacting both their personal health and their effectiveness as healthcare professional. Firstly, self-awareness enables nursing students to identify the barriers they face in maintaining healthy eating habits (Cheong et al., 2022). Research by Cheong et al. (2022) highlights that factors such as lack of motivation, self-confidence, and self-control significantly impede healthy eating among nursing students. When nursing students are aware of these barriers, they can take proactive steps to manage them, such as seeking help from colleagues or involve in health-promoting programs. This self-reflection is essential for fostering a healthier work environment and promoting a culture of wellness within healthcare settings.

Therefore, this study focuses on the knowledge and attitudes toward problematic eating behaviours among undergraduate nursing students at University of Malaysia Sarawak (UNIMAS). Findings from this study could guide the development of educational programs or interventions to promote healthier eating habits and reduce the prevalence of problematic eating behaviours among nursing students. This, in turn, could positively impact their personal well-being and their capacity to serve as role models for healthy living in their future careers.

1.2 Problem Statement

Problematic eating behaviours are a growing concern among nursing students, due to the unique stressors associated with their academic and clinical environment. Globally, the

prevalence of problematic eating behaviours among nursing students has been reported to be as high as 30.6%, indicating a substantial risk for developing eating disorder (Tavolacci et al., 2018). In Brazil, approximately 25% of nursing students were at risk for developing problematic eating behaviours, even among those with normal body weight (Oliveira et al., 2021). Similarly, a cross-sectional study in Malaysia revealed that 23.5% of nursing students were at risk for eating disorders, emphasizing the widespread nature of these issues (Tran, 2024).

High levels of stress and perfectionism have been linked to problematic eating behaviours among nursing students (Mahmoud & Ibrahim, 2021). A study conducted by Al-Dalaeen et al. (2024), emphasizes that nursing students often resort to unhealthy eating habits during examinations periods due to heightened stress levels, which may lead to consumption of fast food and sugary snacks. These findings highlight the increased risk of nursing students developing problematic eating behaviours, particularly during times of high stress and disruption.

Moreover, the psychological aspects of nursing education also contribute to these problematic eating behaviours (Shrestha, 2024). The pressure to maintain a certain body image, coupled with the stress of academic demands, can lead to unhealthy coping mechanisms, such as binge eating or restrictive dieting (Mazzaia & Santos, 2018). Other than that, Chin et al. (2020) highlighted that negative body image is a significant factor of problematic eating behaviour among Malaysian university students, particularly among females. Their research found that students who perceived themselves as overweight had higher odds of developing problematic eating behaviours. Chan et al. (2020) also indicated that changes in societal values and norms could contribute to the rising prevalence of problematic eating behaviours among

nursing students. Factors such as cultural expectations and the stigma surrounding body image further complicate the issue, making nursing students particularly vulnerable to developing problematic eating behaviours (Mazzaia & Santos, 2018). This suggests a cyclical relationship where stress leads to unhealthy eating, which in turn exacerbates stress and body image concerns.

Globally, studies have indicated that nursing students often exhibit inadequate knowledge about problematic eating behaviour, which can lead to stigmatizing attitudes towards affected individuals. For instance, a study by Philips and LoGiudice (2020) highlighted that many nursing students feel unprepared to screen for problematic eating behaviours, despite having received some education about health and nutrition. This gap in knowledge can perpetuate negative attitudes and hinder effective patient care, as nurses may unconsciously blame patients for their conditions due to a lack of understanding of the complexities involved in problematic eating behaviours (Salzmann-Erikson & Dahlen, 2016). Additionally, cultural perceptions of problematic eating behaviours as predominantly affecting women, leading to underreporting and a failure to recognize the issue among male students (Khalid et al., 2017).

Despite the high prevalence of problematic eating behaviours among university students, studies specifically examining nursing students' knowledge and attitudes towards these behaviours in Malaysia remains limited. Even though, there is research about the lack of current educational practice equipping nursing students with essential knowledge about healthy eating in Taiwan (Hwang et al., 2021). There is no similar study conducted in Malaysia to examine whether nursing students are adequately equipped with knowledge to promote healthy eating behaviours among individuals who facing these behaviours. Addressing these issues is critical

in promoting healthier lifestyles among nursing students and ensuring they are well-prepared to encourage healthy eating practices and good perceptions towards individuals with problematic eating behaviours in their future nursing careers.

1.3 Research Objectives

The research aim is to examine the level of knowledge and attitude on problematic eating behaviours among undergraduate nursing students in UNIMAS. The study objectives are:

1. To assess the level of knowledge on problematic eating behaviours among undergraduate nursing students in UNIMAS.
2. To identify the attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS.
3. To examine the relationship between knowledge and attitudes of problematic eating behaviours among undergraduate nursing students in UNIMAS.

1.4 Research Questions

1. What is the level of knowledge on problematic eating behaviours among undergraduate nursing students in UNIMAS?
2. What is the attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS?
3. Is there any relationship between knowledge and attitudes of problematic eating behaviours among undergraduate nursing students in UNIMAS?

1.5 Research Hypothesis

Alternate hypothesis (H_A): There is a significant relationship between knowledge and attitudes of problematic eating behaviours among undergraduate nursing students in UNIMAS.

Null Hypothesis (H_0): There is no significant relationship between knowledge and attitudes of problematic eating behaviours among undergraduate nursing students in UNIMAS.

1.6 Significance of the study

Nursing students face high levels of academic and clinical stress, which often lead to unhealthy eating behaviours, affecting their physical and mental well-being. By assessing their knowledge and attitudes, this study is to identify areas where nursing students may need educational support to adopt healthier eating habits.

As future healthcare providers, nursing students will play a crucial role in promoting and educating patients on healthy eating practices and recognize early signs of problematic eating behaviours. Therefore, equipping them with a strong understanding of healthy eating is essential for their professional development and effectiveness in patient counselling.

This study also contributes to the limited research on eating behaviours among nursing students, particularly within Malaysia. This study could lay the foundation for developing targeted educational interventions and practical initiatives such as stress management and nutrition workshops. These initiatives can help nursing students manage their health more effectively, improving their resilience during high-stress periods and reducing the risk of long-term health issues related to poor eating habits. Ultimately, the insights gained from this study

could support nursing students in becoming well-informed, healthy, and capable future healthcare providers.

1.7 Operational and Conceptual Definition

1.7.1 Knowledge

Knowledge refers to awareness, understanding, and information that individuals have on a particular subject (Zagzebski, 2017). In this study, the levels of knowledge about problematic eating behaviours among UNIMAS nursing students will be assessed using Knowledge on Problematic Eating Behaviours questionnaire.

1.7.2 Attitude

Attitude refers to an individual's overall evaluation of an idea, behaviour, or object often involving feelings, beliefs and behavioural tendencies. Attitudes can be positive, negative, or neutral and are influenced by personal experiences, social context, and knowledge (Kong & Yuen, 2022). In this study, the level of attitudes towards problematic eating behaviours among UNIMAS nursing students will be assessed using Eating Attitude Test 26 (EAT-26).

1.7.3 Problematic Eating Behaviours

Problematic eating behaviour refers to maladaptive or harmful eating patterns that negatively affect one's physical and mental health (Beaumont, 2024). This can include behaviours such as binge eating, emotional eating, restrictive dieting, and irregular eating habits (Beaumont, 2024). In this study, problematic eating behaviours among UNIMAS nursing students can be measured using the Eating Attitude Test 26 (EAT-26) which assess their presence and frequency of specific eating behaviours.

1.8 Summary

This chapter establishes the prevalence of problematic eating behaviours globally and in Malaysia, specifically among nursing students, linking them to academic stress and societal pressures. It outlines the research objectives: to assess the knowledge and attitudes of UNIMAS nursing students towards PEBs and to examine the relationship between these two factors. The chapter also defines key terms and highlights the study's significance in guiding educational interventions to foster healthier eating habits among nursing students.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

This chapter provides a comprehensive review of existing literature related to knowledge and attitudes regarding problematic eating behaviours. It explores previous research findings which published within 10 years (2015 until 2025) that inform the current study's conceptual framework.

2.1 Knowledge on Problematic Eating Behaviours

Globally, the prevalence of problematic eating behaviours among nursing students is alarming due to majority of the nursing students may have poor knowledge about these behaviours (Manju et al., 2023). For instance, a study conducted behaviours, which is indicative of a broader trend observed in healthcare students (Shrestha, 2024) This prevalence is echoed in various studies across different countries, including Turkey, where Celik et al. (2015) reported a significant association between depression levels and abnormal eating attitudes among nursing students. Such findings underscore the urgent need for educational initiatives aimed at increasing awareness and understanding of problematic eating behaviours within nursing programs.

Research indicates that nursing students often possess limited knowledge regarding problematic eating behaviours. A study by Ali et al. (2020) highlighted that while many nursing students believe they are knowledgeable about problematic eating behaviours, their understanding is often superficial and lacks depth regarding the complexities of these conditions. This gap in knowledge can lead to inadequate support for peers and patients

experiencing problematic eating behaviours. Furthermore, Sh et al. (2019) revealed that nursing students frequently underestimate the prevalence and seriousness of problematic eating behaviours, which can hinder their ability to recognize symptoms and provide appropriate care.

Moreover, cultural influences are particularly relevant in the Malaysian context, where societal norms and expectations regarding body image can affect eating behaviours (Chin et al., 2020). Chin et al. (2020) reported that negative body image is a significant cause of problematic eating behaviour among Malaysian university students, including nursing students. This finding suggests that cultural pressures can hinder awareness and promote unhealthy eating behaviours, highlighting the need for culturally sensitive educational interventions.

Other than that, the psychological aspects of eating behaviours are also crucial. A study by Hamaideh (2024) found that levels of self-awareness through education could potentially improve students' understanding of their eating habits and those of their patients. Additionally, research by Mostafazadeh (2024) indicates that insufficient nutrition literacy among nursing students correlates with unhealthy eating behaviours, emphasizing the need for improved nutrition education within nursing programs.

Several studies have consistently highlighted knowledge gaps among nursing students in key aspects of problematic eating behaviours. In a study conducted by Subedi (2018), nursing students demonstrated limited knowledge of the diagnostic criteria for such behaviours, while Batool et al. (2022) reported a similar deficiency in defining the different types of problematic eating behaviours. Additionally, Manning and Greenfield (2022) revealed that nursing students had limited knowledge about the signs and symptoms of these behaviours. Furthermore, Seah et al. (2017) stated that there is a limited knowledge on identifying the levels of importance of

various problematic eating behaviours management strategies. These findings indicate the present of gap in nursing education, which may be due to insufficient curricular coverage, limited practical exposure, or a lack of prioritization of eating disorders in nursing programs.

Studies have shown that participation in awareness programs can enhance understanding among students. For instance, research by Kalibatseva et al. (2021) demonstrated that nursing students that attended outreach events related to problematic eating behaviours exhibited greater knowledge and reduced stigma surrounding these issues. Therefore, educational interventions play a pivotal role in shaping nursing students' knowledge about eating behaviours. A study by Aul (2017) emphasizes the effectiveness of using technology, such as food and fitness applications, to enhance obesity awareness among nursing students. This suggests that integrating technology into nursing education can improve students' understanding of healthy eating practices and the implications of obesity. Additionally, the Malaysia Nursing Board encourages continuous professional education, which can enhance nursing students' competencies in recognizing and addressing problematic eating behaviours (Abusafia, 2024). Such educational frameworks are crucial in providing future nurses with the essential skills to handle patients with problematic eating behaviours effectively.

2.2 Attitude towards Problematic Eating Behaviours

Attitude is a multifaceted psychological construct that encompasses an individual's evaluations, feelings, and behaviours toward a particular object, person, or situation which can be positive, negative, or neutral (Hamtzani et al., 2022). According to the Li et al. (2018), attitudes consist of three components which are affective (feelings), behavioural (actions), and cognitive (beliefs). This model illustrates how attitudes are formed and how they influence

behaviour. For example, an individual may feel positively (affective) about a healthy lifestyle, believe in its benefits (cognitive), and engage in regular exercise (behavioural) as a result (Li et al., 2018). Therefore, attitudes play an important role in shaping behaviour and decision-making processes.

Globally, the prevalence of problematic eating behaviours is on the rise, with cultural factors playing a significant role in shaping nursing students' attitudes towards eating behaviours. A study by Kabir et al. (2018) highlighted differences in self-assessment regarding eating behaviours among female university students in Japan, Korea, and Austria, indicating that cultural perceptions significantly influence dietary habits and attitudes. Since Malaysia is a multicultural country comprising Malay, Chinese, Indian, Bumiputera Sarawak and Bumiputera Sabah, this presents a unique landscape where attitudes toward eating, and body image can vary widely among different ethnic group. Research by Pike and Dunne (2015) suggests that ethnic Malays may be at greater risk for developing problematic eating behaviours compared to Chinese counterparts due to experience different societal pressures regarding body image. In many cultures, thinness is often equated with beauty and success, leading to a higher prevalence of problematic eating behaviours among students (Anton-Solanas et al., 2021). A study in Malaysia found that cultural norms surrounding body image significantly influenced nursing students' eating behaviours and attitudes towards weight management (Shrestha, 2024). Understanding these cultural nuances is essential for developing effective interventions tailored to the diverse student population in Malaysian nursing programs. This suggests that interventions must be culturally sensitive to effectively address problematic eating behaviours in diverse populations.

Other than that, traditional beliefs about health and body image can influence how nursing students perceive problematic eating behaviours. A study in Malaysia where being overweight is frequently viewed positively among the Malay community, as it can symbolize affluence and well-being (Nor et al., 2018). According to Nor et al. (2018), this cultural perspective is reflected in the traditional saying being fat is healthy, which suggests that a fuller body is associated with good health and vitality. This belief is particularly prevalent in rural areas, where larger body sizes are often linked to the ability to afford more food and a higher social standing within the community. Consequently, individuals who are overweight may be perceived as more prosperous and capable, which can lead to a reluctance to pursue weight loss or dieting behaviours (Lindsay et al., 2017). This cultural dichotomy can complicate nursing students' understanding of what constitutes healthy eating and body image, potentially leading to ambivalence or misunderstanding regarding problematic eating behaviours (Mazzaia & Santos, 2018). Educational programs that address these cultural factors can help students develop a more nuanced understanding of eating behaviours and disorders.

Nursing students' attitudes toward problematic eating behaviours is important because it may directly impact their ability to provide compassionate and effective care to patients with problematic eating behaviours. Research by Bizri et al. (2020) indicated that stigmatization levels were high among medical students, which could extend to nursing students as well (Çelik et al., 2015). Negative attitudes may lead to stigmatization and inadequate support for individuals struggling with these issues (Mengi & Semerci, 2022). This stigma may result in a lack of empathy towards individuals with eating disorders, hindering effective communication and support. Research indicates that nursing students in Malaysia who possess a positive attitude

toward problematic eating behaviours are more likely to engage in supportive behaviours and provide appropriate referrals for treatment (Flaudias et al., 2020). Therefore, it is crucial to address these attitudes through targeted educational programs that promote understanding and compassion within nursing education since positive attitudes among nursing students may foster healthier attitudes and behaviours regarding eating.

Furthermore, nursing students may serve as role models for their peers and future patient because their attitudes toward eating behaviours can influence the health behaviours around them. A study by Hinojo-Lucena et al. (2019) emphasizes the importance of nursing students as a role model in healthy eating behaviours and positive attitudes toward body image to promote a culture of health within their communities. This role modelling can have a ripple effect, encouraging healthier behaviours among patients and peers alike. A study by Çelik et al. (2015) emphasize that establishing peer support initiatives within nursing programs in Turkey can create a safe space for students to discuss their experiences and challenges related to eating behaviours. These initiatives can promote positive peer relationships and encourage healthy eating practices (Çelik et al., 2015). Research indicates that peer support can significantly improve students' attitudes toward eating behaviours and overall well-being (Mazzaia & Santos, 2018).

Then, nursing students that are equipped with positive attitudes toward problematic eating behaviours are more likely to advocate for mental health resources and nutritional education within their healthcare settings. This advocacy is essential for creating supportive environments for individuals with problematic eating behaviours and promoting awareness of these issues among healthcare professionals in Malaysia (Ali et al., 2020). The relationship

between mental health and eating attitudes is critical in the context of nursing education. Since nursing students are at a heightened risk for mental health issues, including anxiety and depression, this can adversely affect their attitudes toward eating behaviours. Research by Kalibatseva et al. (2021) revealed that nursing students with higher levels of anxiety exhibited more negative attitudes toward healthy eating practices. This suggests that addressing mental health within nursing education is essential for fostering healthier attitudes and eating behaviours among nursing students.

2.3 Relationship between Knowledge and Attitudes towards Problematic Eating Behaviours

Studies examining the relationship between knowledge and attitudes toward problematic eating behaviours have yielded contradictory findings. A study by Manju et al. (2023) reported a negative correlation, indicating that increased knowledge did not lead to more favourable attitudes among nursing students. Conversely, Datta et al. (2018) found a positive correlation, suggesting that higher knowledge fosters improved attitudes. Therefore, these disparities suggest that knowledge and attitudes are influenced by different factors. This highlights the importance of integrating emotional, cultural, and psychological components into educational interventions to align knowledge acquisition with positive attitudinal changes.

Further research is required to investigate the mediating factors and develop strategies for bridging the gap between knowledge and attitudes. In a study by Reas (2017) highlighted that healthcare professionals often lack sufficient knowledge about binge eating disorder (BED), which can lead to negative attitudes and inadequate treatment for affected individuals. According to Çelik et al. (2015) lack of knowledge can lead to negative attitudes. A study by

Shrestha (2024) found that over 60% of nursing students in Malaysia had inadequate knowledge about problematic eating behaviours, which correlated with negative attitudes towards individuals experiencing these conditions. Nursing students that have lower levels of knowledge about problematic eating behaviour exhibited more stigmatizing attitudes towards individuals with these conditions and can hinder effective communication and support for patients (Mazzaia & Santos, 2018). This gap in knowledge emphasizes the necessity for comprehensive training programs and education within nursing curricula that equip healthcare providers and nursing students with the necessary understanding to foster supportive attitudes towards patients with problematic eating behaviours (Negeera & Ali, 2016).

The social environment among nursing students can significantly impact their attitudes towards eating behaviours. Peer dynamics often dictate eating habits and attitudes, with students frequently conforming to the behaviours of their peers (Kalibatseva et al., 2021). Research by Ali et al. (2020) stated that nursing students that involve in supportive peer groups exhibited healthier eating attitudes compared to those in competitive or unsupportive environments. This highlights the importance of fostering positive peer relationships within nursing programs to encourage healthy eating behaviours and supportive attitudes towards eating disorders.

Moreover, the influence of social media on eating behaviours is also significant in knowledge and attitudes towards problematic eating behaviours. Social media platforms serve as critical channels for disseminating information about nutrition and eating behaviours, which can shape both knowledge and attitudes among nursing students, who are often at the forefront of health education and may be more susceptible to the influences of social media due to their educational background and professional aspirations (Basir et al., 2022). However, due to the

rise of influencer marketing globally and in Malaysia, this has been shown to affect food choices significantly, with many young adults gravitating towards unhealthy options promoted online (Aleid, 2024). This trend underscores the importance of integrating social media literacy into nursing education, equipping nursing students with the skills to discern credible information from harmful content. Furthermore, Basir et al. (2022) found that while social media can contribute to unhealthy eating habits, it may also provide a space for users to receive encouragement and share strategies for maintaining healthy diets. This duality emphasizes the need for nursing students to critically evaluate the information they encounter on social media and to understand its potential impact on their attitudes towards eating.

Research by Mostafazadeh (2024) indicates that nursing students in Malaysia often possess varying levels of knowledge regarding problematic eating behaviour, which directly impacts their attitudes towards these conditions. Çelik et al. (2015) highlighted a positive relationship between nutrition literacy and healthy eating behaviours among nursing students, suggesting that increased knowledge on nutrition literacy leads to more positive attitudes towards eating practices. Therefore, educational curriculum plays a crucial role in shaping nursing students' knowledge and attitudes towards problematic eating behaviours. Studies have shown that nursing programs that incorporate comprehensive nutrition education and training on problematic eating behaviours are more significantly improve students' knowledge and reduce stigma (Shrestha, 2024). For instance, a study by Hwang et al. (2022) demonstrated that innovative educational strategies, such as gamified learning about nutrition and healthy eating practices, significantly enhanced nursing students' knowledge nursing students who received targeted education on problematic eating behaviours exhibited more positive attitudes and

greater empathy towards patients with these conditions. Likewise, organizing awareness campaigns and workshops on eating disorders can help diminish stigma, enhance understanding among nursing students, and create a more supportive atmosphere for those experiencing problematic eating behaviours (Kalibatseva et al., 2021). The Malaysian Nursing Board may also encourage nurses to involve in Continuing Professional Education (CPE) activities to boost their knowledge, skills, and attitudes (Erfanian et al., 2022). This emphasis on lifelong learning is crucial for ensuring that nursing students remain informed about the latest developments in nutrition and eating disorders, thereby improving their ability to provide effective care. This suggests that integrating evidence-based content on problematic eating behaviours into nursing curricula is essential for fostering a supportive and informed future workforce.

In conclusion, understanding the relationship between knowledge and attitudes towards problematic eating behaviours can enhance interprofessional collaboration in healthcare settings. According to Flaudias et al. (2020), nursing students who are knowledgeable about problematic eating behaviours can work more effectively with other healthcare professionals, such as dietitians and mental health specialists, to provide comprehensive care for patients. This collaborative approach is essential for addressing the multifaceted nature of eating disorders and promoting holistic patient care (Flaudias et al., 2020).

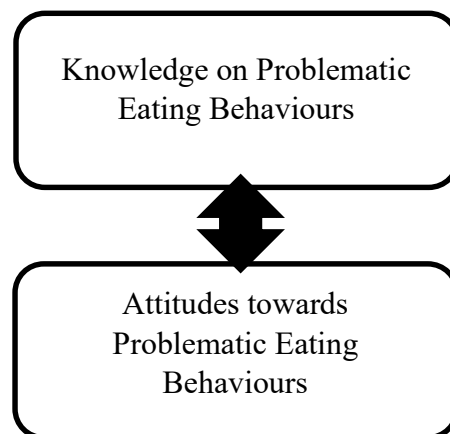
2.4 Conceptual Framework

The conceptual framework for the study titled Knowledge and Attitudes towards Problematic Eating Behaviour among Nursing Students focuses on examining the relationship between undergraduate nursing students' knowledge and attitudes towards problematic eating behaviours. The independent variables in this framework are the students' knowledge and

attitudes. Knowledge includes their understanding of problematic eating behaviours, along with awareness of the causes, symptoms, consequences, and preventive measures. Attitudes encompass their personal beliefs, perceptions, stigma, empathy, and willingness to engage in discussions or interventions related to such behaviours. The dependent variable is the problematic eating behaviours among nursing students, which may be influenced by stress, academic pressure, or social factors. For the relationship, the more knowledge that the nursing student has about problematic eating behaviours, the more positive attitudes they will show. This framework provides a structured approach to understanding how these variables interact and impact problematic eating behaviours among nursing students. Figure 1 shows the conceptual map adapted from a study by Batool et al. (2021).

Figure 2.1

Conceptual Framework for Knowledge and Attitudes towards Problematic Eating Behaviours



2.5 Summary

This chapter delves into the current understanding of knowledge about problematic eating behaviours, attitudes towards problematic eating behaviours, and the established relationships between knowledge and attitudes in various populations, with a specific focus on nursing students. It also presents the conceptual framework that guides the research.

CHAPTER 3: METHODOLOGY

3.0 Introduction

This chapter presents the research design in section 3.1, 3.2 present research setting, section 3.3 present population, sampling method and sample size while section 3.4 presents study instrument. Ethical considerations are explained in section 3.5. Data collection procedure present in section 3.6, followed by data analysis in section 3.7 and summary in section 3.8.

3.1 Research Design

This research was employed a cross-sectional quantitative research design. According to Bhandari (2020), quantitative research involves systematic collection and analysis of numerical data. A cross-sectional study is designed to gather data from a significant number of individuals simultaneously and this study design is cost-effective and efficient (Thomas, 2020).

3.2 Research Setting

This study was conducted at Faculty of Medicine and Health Sciences (FMHS), University of Malaysia Sarawak (UNIMAS), located at Jalan Datuk Mohammad Musa, 94300 Kota Samarahan Sarawak.

3.3 Population, Sampling Method and Sample Size

3.3.1 Population

For the target population, these studies are targeting only undergraduate nursing students from year 1 until year 4. There are a total of 236 undergraduate nursing students excluding the researcher comprises 51 in Year 1, 64 in Year 2, 58 in Year 3 and 63 in Year 4. For inclusion criteria, this study was only involving undergraduate that enrolled in nursing program in

University of Malaysia Sarawak (UNIMAS) which are from year 1 until year 4 nursing students. For exclusion criteria, this research was excluding those participants that participate in pilot study.

3.3.2 Sampling Method

Simple random sampling method was used in this study to choose participants. The benefit of simple random sampling is it ensures that each of the individual of a population will have an equal chance to be selected as the response and to reduce the probability of research biases (Thomas, 2023). A name list of nursing students from year 1 to year 4 was obtained from academic office FMHS, UNIMAS. The names on the name list were arranged in number by using Excel. Then, imported to SPSS. In SPSS, select “data”, then select “select cases”, after that select “random sample of cases, then click “sample” and select a specific number of cases.

3.3.3 Sample Size

The sample size was calculated using Taro Yamane (1973) simplified formula. The sample size calculation will be showed in Table 3.1.

Table 3.1

Calculation of Sample Size

$n = \frac{N}{1 + Ne^2}$
<p>n = Sample size N = Total population e = Margin of error (0.05), reliability level 95%</p>
$n = \frac{236}{1 + (236)(0.05)^2}$

$$\begin{aligned}
&= \frac{236}{1 + \frac{(236)(0.0025)}{236}} \\
&= \frac{236}{1.5925} \\
&= 148.2 \\
&= 148 \text{ participants}
\end{aligned}$$

Based on this formula, estimated sample size for this study is 148 participants. However, the researcher must consider participant's compensation such as those who refuse to participate, therefore the researcher must add 10% to the sample size (Das et al., 2016). Therefore, to cover the missing data in the sample, another 10% of attrition rate was added. After adding in 10%, the total sample size for this study is 163 participants. The calculation was as the following:

Table 3.2

Calculation of Sample Size with Attrition Rate

$$\begin{aligned}
&\text{Attrition rate: } 10\% \\
&\text{Total sample size: } 149 \text{ participants} \\
&\text{Final sample size} = (\text{Attrition rate} \times \text{Total sample size}) + \text{Total sample size} \\
&= (10\% \times 148) + 148 \\
&= 14.8 + 148 \\
&= 162.8 \\
&= 163 \text{ participants}
\end{aligned}$$

In conclusion, the total of participants in this study are 163 undergraduate nursing students.

3.4 Study Instrument

In this research, a self-administered questionnaire was adapted from Monteleone (2024) for assessing the knowledge on problematic eating behaviours and EAT-26 adopted from Garner et al. (1982) for assessing the attitude towards problematic eating behaviours. The questionnaire divides into 3 sections which is Section A: Socio-demographic Data, Section B: Knowledge on Problematic Eating Behaviours and Section C: Eating Attitude Test -26 (EAT-26). Section A gathered information on the participant's socio-demographic, including the respondent's age, gender, ethnicity, year of study and body mass index (BMI). In Section B, knowledge on problematic eating behaviours was assessed using 10 items with dichotomous scale with the options true=1, false=0. Participants that score correct answers less than 50% indicate having poor knowledge, 50% to 79% have moderate knowledge and 80% to 100% have good knowledge. While in Section C, eating attitude was assessed using 26 questions with the 6-points Likert scale with the options: Always = 3, Usually = 2, Often = 1, Sometimes =0, Rarely =0, Never = 0. Those participants that score 0 to 19 indicate positive attitudes while, 20 to 78 indicate negative attitudes.

3.5 Ethical Consideration

A letter of ethical approval from the Research and Ethics Committee of the Faculty of Medicine and Health Sciences, University Malaysia Sarawak (UNIMAS) was obtained before conducting this study. A formal informed consent was obtained prior to the study to the participants that are willing to take part in this study and the participants have their rights to withdraw from this study anytime without any consequences or penalty. All data collected in this study remained private and confidential. No personal identifying information was disclosed,

and data was only be used for research purposes. Access to the data was restricted to the researcher and supervisor. Participants were anonymized using numbers rather than names to maintain confidentiality throughout the study.

3.6 Data Collection Procedure

3.6.1 Pilot Study

Pilot study was conducted before the actual study for those who meet the inclusion criteria to test the reliability and validity of the questionnaire. Those participants participated in pilot study was excluded from the actual study. The data was analysed using Cronbach's alpha to measure the instruments consistency and reliability. The pilot study was conducted on 10% of the final sample size which are 15 Participants (Elfseyie, 2024). 15 participants for this pilot study were comprises from four students in each year. Below is the calculation for pilot sample size:

Table 3.3

Calculation of Pilot Sample Size

$\begin{aligned} \text{Pilot sample size} &= 10\% \times \text{Final sample size} \\ &= 0.1 \times 148 \\ &= 14.8 \\ &= 15 \text{ participants} \end{aligned}$
--

3.6.2 Validity and Reliability

To ensure the accuracy and consistency of the research instrument, both validity and reliability were assessed. Content validity was established by consulting subject matter experts in nursing and nutrition, who reviewed the questionnaire items to confirm their relevance, clarity, and alignment with the study objectives. A pilot study was then conducted among 15 undergraduate nursing students who were not included in the actual study. Feedback from the pilot study was used to refine the questionnaire further. For reliability testing, internal consistency was measured using Cronbach's alpha. The reliability for knowledge scale is found good (10 items; KR-20 co-efficient = .801), while the reliability for attitude scale is found to be excellent (26 items; $\alpha = .903$). These results demonstrate that the instrument was both valid and reliable for assessing knowledge and attitudes towards problematic eating behaviour among UNIMAS undergraduate nursing students.

Table 3.4

Cronbach alpha for knowledge on problematic eating behaviours and EAT-26

	Cronbach's Alpha	Alpha Based on Standardized Items	N of Items
Knowledge on PEB	.820	.834	10
EAT -26	.903	.889	26

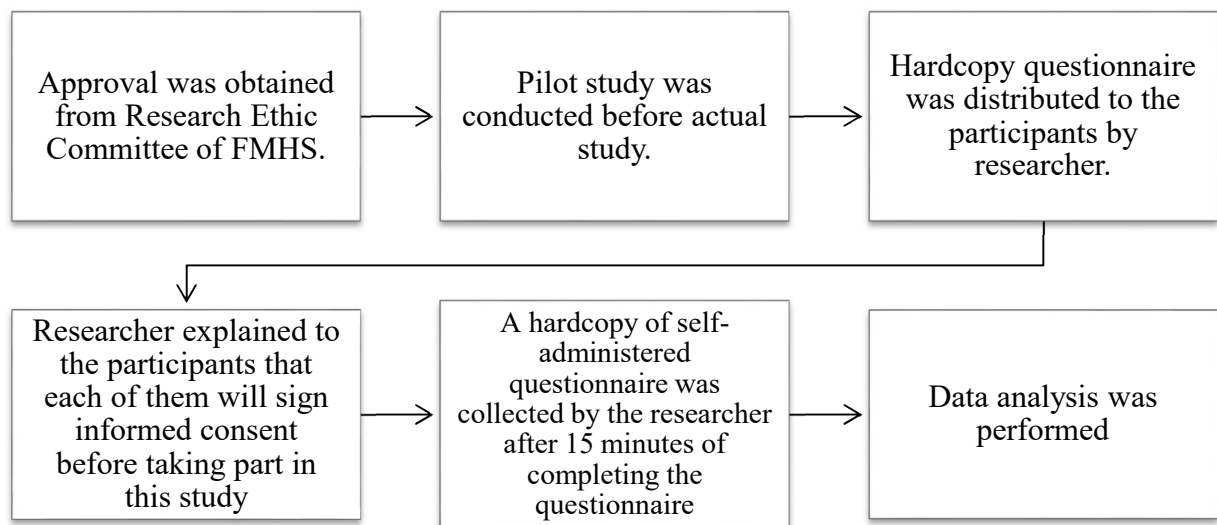
3.6.3 Actual Study

Figure 3.1 shows the data collection procedure. Before the commencement of the study, each participant had signed the informed consent before they take part in this study so that the participants know their right in this study. A printed hardcopy self-administered questionnaire

was prepared in English language. Researcher approached the participants at their classroom during their recess time. Then printed hardcopy questionnaires were distributed to the participants one by one. The questionnaire was taking about 15 minutes to complete. The contact number of the researcher was provided in the consent form for the participants to communicate with the researcher if they have any question on the questionnaire. This data collection was taken in March 2025 for 1 months.

Figure 3.1

Data collection procedure



3.7 Data Analysis

In this study the data collected was analysed using statistical software which is Statistical Package for the Social Science (SPSS) version 27 IBM. Kolmogorov-Smirnov test was used to test the normality of the continuous data as the sample size of this research study are more than

50. Categorical data in this study like gender, ethnicity, year of study, level of knowledge on problematic eating behaviours and attitudes towards problematic eating behaviours was report in frequency and percentage and shown in the bar chart. For continuous data, the data are not normally distributed was reported in median and interquartile range. To analyse the relationship between knowledge and attitudes towards problematic eating behaviours, the data are not normally distributed, nonparametric test was used such as Spearman Correlation Coefficient.

3.8 Summary

The outlines of this chapter are quantitative cross-sectional study design, the research setting at Universiti Malaysia Sarawak (UNIMAS), and the sampling method used (simple random sampling to select 163 undergraduate nursing students). It describes the self-administered questionnaire, which included socio-demographic data, a 10-item knowledge assessment, and the Eating Attitudes Test-26 (EAT-26). This chapter also details the ethical considerations, data collection procedures, pilot study, validity measures, and the statistical analysis methods using IBM SPSS version 27, including descriptive statistics and Spearman correlation.

CHAPTER 4: RESULTS/FINDINGS

4.0 Introduction

This chapter presents the findings derived from the data analysis, addressing each of the research objectives and hypotheses. It provides a statistical overview of the study's outcomes.

4.1 Sociodemographic Characteristics of the Respondents

A total of 163 respondents of UNIMAS undergraduate nursing students have participate in this study. Table 4.1 shows the sociodemographic characteristics of the respondents. The response rate reached 100% which were 163 respondents. The minimum aged for the respondents of this study were 20 years old while the maximum age is 26 years old ($M=21.89$, $SD=1.32$). Out of the 163 participants, 24 (14.7%) were male and 139 (85.3%) of them were female. The most represented ethnic group was Malay, comprising 65 (39.9%) of the participants, followed by Sarawak Native 52 (31.9%), Sabah Native 37 (22.7%) and Chinese 9 (5.5%). The smallest proportion of participants were in Year 1, comprising 40 (24.5%) of the sample. This was followed by participants in Year 2, Year 3 and Year 4, each making up 41 (25.2%) respectively. Most of the respondents had normal BMI 102 (62.6%), followed by pre-obesity 24 (14.7%), underweight 21 (12.9%), obesity class I 10 (6.1%) and obesity class II 6(3.2%).

Table 4.1*Sociodemographic characteristics of the respondents (N=163)*

Variables	M (SD)	Min (Max)	n (%)
Age	21.87 (1.32)	20(26)	
Gender			
Male			24 (14.7%)
Female			139 (85.3%)
Ethnicity			
Malay			65 (39.9%)
Chinese			9 (5.5%)
Indian			0 (0%)
Sarawak Native			52 (31.9%)
Sabah Native			37 (22.7%)
Year of Study			
Year 1			40 (24.5%)
Year 2			41 (25.2%)
Year 3			41 (25.2%)
Year 4			41 (25.2%)
BMI			
Underweight			21 (12.9%)
Normal Weight			102 (62.6%)
Pre-obesity			
Obesity Class I			24 (14.7%)
Obesity Class II			10 (6.1%)
Obesity Class III			6 (3.7%) 0 (0%)

4.2 Level of Knowledge on Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

Table 4.2 shows the level of knowledge regarding problematic eating behaviours among undergraduate nursing students in UNIMAS. The level of knowledge was divided into 3 category which were poor knowledge (< 50%), moderate knowledge (50% to 79%) and good knowledge (80% to 100%). It shows that majority of the undergraduate nursing students had moderate knowledge (73.6%), 16.6% had good knowledge and 9.8% had poor knowledge. The median score among the participants is 6 points (*IQR* = 2 points). The maximum score is 9 points while the minimum score is 2 points. The range is 7 points. The mode score is 6 points.

Table 4.2

The level of knowledge toward problematic eating behaviours among undergraduate nursing students in UNIMAS (N=163)

	Level of Knowledge			Min (Max)
	< 50%	50% -79%	80%-100%	
	Poor knowledge	Moderate knowledge	Good knowledge	
	n (%)			
UNIMAS undergraduate nursing students	16 (9.8%)	120 (73.6%)	27 (16.6%)	2 (9)

Figure 4.1

Bar chart of level of knowledge toward problematic eating behaviours among undergraduate nursing students in UNIMAS.

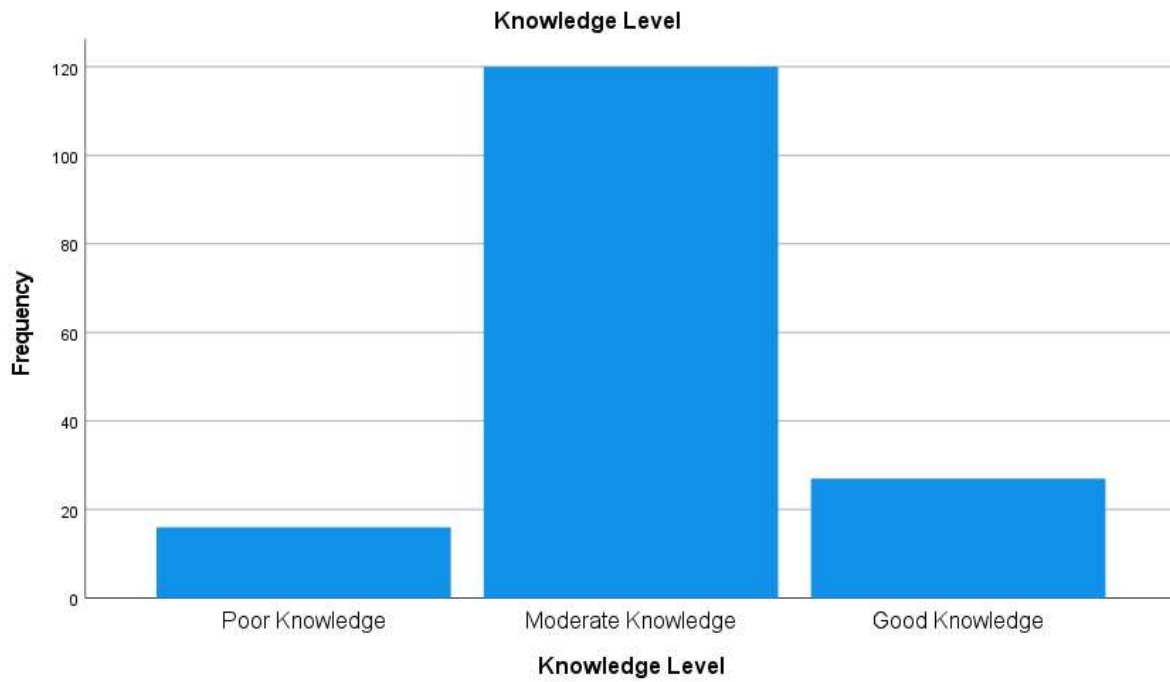


Table 4.3 presents the distribution of knowledge levels regarding problematic eating behaviours according to year of study. The findings indicate that Year 2 (5.5%) and Year 4 nursing students demonstrated higher levels of knowledge, with 9.9% from each year. However, it is noteworthy that Year 2 students also accounted for the highest number of students with poor knowledge (3.7%), suggesting variability within the group.

Table 4.3*Level of knowledge according to year of study*

	Level of Knowledge		
	Poor Knowledge	Moderate Knowledge	Good Knowledge
	n (%)		
Year 1	3 (1.8 %)	32 (19.6%)	5 (3.1%)
Year 2	6 (3.7%)	26 (16 %)	9 (5.5%)
Year 3	3 (1.8%)	34 (20.9%)	4 (2.5%)
Year 4	4 (2.5%)	28 (17.1%)	9 (5.5%)
Total	16 (9.8%)	120 (73.6%)	27 (16.6%)

Table 4.4 presents the total mean score response of respondents for knowledge towards problematic eating behaviours. The total mean score for the 10 items questions knowledge towards problematic eating behaviours among UNIMAS undergraduate nursing students was 6.17 with standard deviation of 1.335. The item “The term ‘binge’ means eating a large amount of food in a short time.” reported to have the lowest mean score, which was 0.05 with a standard deviation 0.217, meanwhile the item “Problematic eating behaviours may be due to the beauty models promoted by the mass media.” have the highest mean score which was 0.98 with a standard deviation 0.135.

Table 4.4*Total mean score of respondents for knowledge towards problematic eating behaviours (N = 163)*

Items	Correct		Incorrect		M (SD)
	n	%	n	%	
The term ‘binge’ means eating a large amount of food in a short time.	8	4.9	155	95.1	0.05 (0.22)
Anorexia nervosa is a problematic eating behaviour in which characterised by an	158	96.9	5	3.1	0.97 (0.17)

abnormally low body weight, an intense fear of gaining weight and a distorted perception of weight.					
Problematic eating behaviour is only present in individuals with underweight.	147	90.2	16	9.8	0.90 (0.30)
It is easy to notice if a person has ever had problematic eating behaviours.	60	36.8	103	63.2	0.37 (0.48)
Problematic eating behaviours may be due to excessive sensitivity to judgement.	156	95.7	7	4.3	0.96 (0.20)
Problematic eating behaviours may be due to the beauty models promoted by the mass media.	160	98.2	3	1.8	0.98 (0.14)
Problematic eating behaviours occurs due to friendship with wrong or untrustworthy people.	45	27.6	118	72.4	0.28 (0.45)
Problematic eating behaviours occurs due to drug use.	34	20.9	129	79.1	0.21 (0.41)
Problematic eating behaviours can be diagnosed simply from the person's appearance.	85	52.1	78	47.9	0.52 (0.50)
Problematic eating behaviours only affect women.	152	93.3	11	6.7	0.93 (0.25)
Total Mean Score					6.17 (1.34)

4.3 Level of Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

Table 4.5 presents the levels of attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS. The levels of attitude were divided into two category which were negative attitude (≥ 20) and positive attitude (< 20). Most respondents scored positive attitude which were 136 respondents (83.4%), meanwhile the negative attitude have the least respondents which were 27 respondents (16.6%). The minimum score of attitudes towards problematic eating behaviours among undergraduate nursing students was 0 and the maximum score was 33.

Table 4.5

Level of attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS (N=163)

	Level of attitude towards problematic eating behaviours		
	>19	<19	Min (Max)
	Negative Attitude	Positive Attitude	
	n (%)		
UNIMAS undergraduate nursing students	27 (16.6%)	136 (83.4%)	0 (33)

Figure 4.2

Bar chart of level of attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS

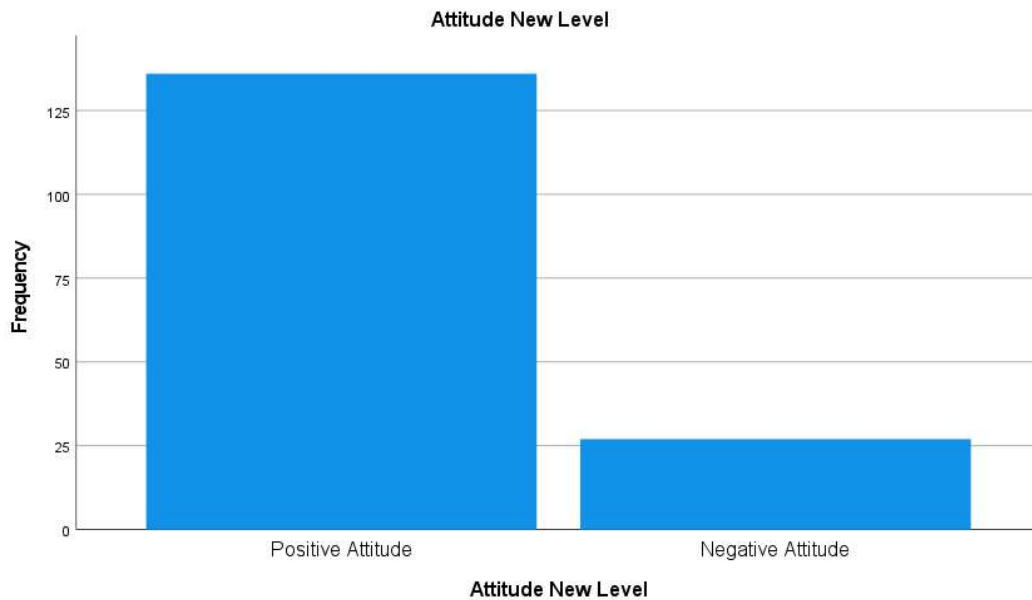


Table 4.6 shows subscale for EAT-26. The EAT-26 is composed of three subscales: Dieting, Bulimia and Food Preoccupation, and Oral Control. In this study, the Dieting subscale showed the highest scores, with a median of 5.0 ($IQR= 9$), indicating a moderate level of concern related to dieting and weight control among the students. The Bulimia and Food Preoccupation subscale had a median score of 1.0 ($IQR = 2$), suggesting low levels of bingeing behaviour and food-related preoccupation. Meanwhile, the Oral Control subscale recorded a median of 2.0 ($IQR = 4$), reflecting a generally low but slightly more variable perception of self-control and external pressures related to eating. These findings suggest that dieting concerns were more prominent than bulimic tendencies or oral control among the participants.

Table 4.6*Subscale of EAT 26*

Subscale	No. of Items	Possible Score Range	Observed Median	IQR
Dieting	13	0-39	5.0	9
Bulimia and Food Preoccupation	7	0-21	1.0	2
Oral Control	6	0-18	2.0	4

Table 4.7 shows the total mean response of respondents for attitude towards problematic eating behaviours. The total mean score for 26-items questions to assess level of attitude towards problematic eating behaviours among undergraduate nursing students in UNIMAS was 11.19 with standard deviation 9.16. The item “Vomit after I have eaten.” reported to have the lowest mean score, which was 0.04 with standard deviation of 0.23. Then, the item “I am terrified about being overweight.” have the highest mean score which was 1.18 with a standard deviation of 1.22.

Table 4.7*Total mean score of respondents for attitudes towards problematic eating behaviours (N = 163)*

Items	Never	Rarely	Sometimes	Often	Usually	Always	M
	(0)	(0)	(0)	(1)	(2)	(3)	(SD)
n (%)							
I am terrified about being overweight.	13 (8.0%)	19 (11.7%)	38 (23.3%)	31 (19.0%)	24 (14.7%)	38 (23.3%)	1.18 (1.22)
Avoid eating when I am hungry.	41 (25.2%)	54 (33.1%)	47 (28.8%)	12 (7.4%)	8 (4.9%)	1 (0.6%)	0.19 (0.54)

Find myself preoccupied with food.	11 (6.7%)	27 (16.6%)	76 (46.6%)	39 (23.9%)	9 (5.5%)	1 (0.6%)	0.37 (0.62)
Have gone on eating binges where I feel that I may not be able to stop.	26 (16%)	48 (29.4%)	56 (34.4%)	24 (14.7%)	8 (4.9%)	1 (0.6%)	0.26 (0.58)
Cut my food into small pieces.	20 (12.3%)	44 (27.0%)	50 (30.7%)	31 (19%)	16 (9.8%)	2 (1.2%)	0.42 (0.72)
Aware of the calorie content of foods that I eat.	24 (14.7%)	44 (27%)	45 (27.6%)	28 (17.2%)	11 (6.7%)	11 (6.7%)	0.51 (0.90)
Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)	35 (21.5%)	58 (35.6%)	47 (28.8%)	9 (5.5%)	12 (7.4%)	2 (1.2%)	0.24 (0.64)
Feel that others would prefer if I ate more.	34 (20.9%)	34 (20.9%)	46 (28.2%)	24 (14.7%)	9 (5.5%)	16 (9.8%)	0.55 (1.0)
Vomit after I have eaten.	113 (69.3%)	36 (22.1%)	8 (4.9%)	5 (3.1%)	1 (0.6%)	0 (0%)	0.04 (0.23)
Feel extremely guilty after eating.	72 (44.2%)	35 (21.5%)	32 (19.6%)	7 (4.3%)	8 (4.9%)	9 (5.5%)	0.31 (0.80)
I am preoccupied	38 (23.3%)	33 (20.2%)	45 (27.6%)	24 (14.7%)	10 (6.1%)	13 (8.0%)	0.51 (0.90)

with a desire to be thinner.

Think about burning up calories when I exercise.	13 (8%)	20 (12.3%)	52 (31.9%)	37 (22.7%)	24 (14.7%)	17 (10.4%)	0.83 (1.03)
Other people think that I am too thin.	63 (38.7%)	35 (21.5%)	30 (18.4%)	11 (6.7%)	7 (4.3%)	17 (10.4%)	0.47 (1.0)
I am preoccupied with the thought of having fat on my body.	28 (17.2%)	29 (17.8%)	44 (27%)	26 (16%)	21 (12.9%)	15 (9.2%)	0.69 (1.0)
Take longer than others to eat my meals.	23 (14.1%)	47 (28.8%)	44 (27%)	25 (15.3%)	9 (5.5%)	15 (9.2%)	0.54 (1.0)
Avoid foods with sugar in them.	20 (12.3%)	42 (25.8%)	59 (36.2%)	23 (14.1%)	13 (8%)	6 (3.7%)	0.41 (0.8)
Eat diet foods.	9 (5.5%)	44 (27%)	67 (41.1%)	29 (17.8%)	9 (5.5%)	5 (3.1%)	0.38 (0.73)
Feel that food controls my life.	41 (25.2%)	46 (28.2%)	41 (25.2%)	16 (9.8%)	12 (7.4%)	7 (4.3%)	0.37 (0.8)
Display self-control around food.	18 (11%)	32 (19.6%)	65 (39.9%)	28 (17.2%)	13 (8%)	7 (4.3%)	0.46 (0.8)
Feel that others pressure me to eat.	57 (35%)	57 (35%)	29 (17.8%)	8 (4.9%)	8 (4.9%)	4 (2.5%)	0.22 (0.65)
Give too much time	32 (19.6%)	36 (22.1%)	49 (30.1%)	24 (14.7%)	15 (9.2%)	7 (4.3%)	0.46 (0.83)

and thought to food.							
Feel uncomfortable after eating sweets.	45 (27.6%)	44 (27%)	30 (18.4%)	17 (10.4%)	14 (8.6%)	13 (8%)	0.52 (1.0)
Engage in dieting behaviour.	21 (12.9%)	41 (25.2%)	53 (32.5%)	22 (13.5%)	16 (9.8%)	10 (6.1%)	0.52 (0.91)
Like my stomach to be empty.	60 (36.8%)	34 (20.9%)	36 (22.1%)	17 (10.4%)	7 (4.3%)	9 (5.5%)	0.36 (0.81)
Have the impulse to vomit after meals.	115 (70.6%)	30 (18.4%)	11 (6.7%)	1 (0.6%)	4 (2.5%)	2 (1.2%)	0.09 (0.46)
Enjoy trying new rich foods.	5 (3.1%)	24 (14.7%)	45 (27.6%)	40 (24.5%)	21 (12.9%)	28 (17.2%)	0.66 (0.84)
Total mean score							11.19 (9.16)

4.4 Relationship between Knowledge and Attitudes of Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

4.4.1 Normality Test

The knowledge scores had a median of 6 points ($IQR= 2$), and scores ranged from 2 to 9 points, within a possible range of 0 to 10. The mode was also 6 points. Figure 4.3 shows the distribution was negatively skewed, indicating that more students scored at the higher end of the scale. In contrast, the attitude scores, measured using the EAT-26, showed a median of 8 points

($IQR = 12$), and scores ranged from 0 to 33 points, within the possible range of 0 to 78. The mode was 2 points. Figure 4.4 shows the distribution was positively skewed, suggesting that most students reported lower levels of disordered eating attitudes, with fewer scoring higher.

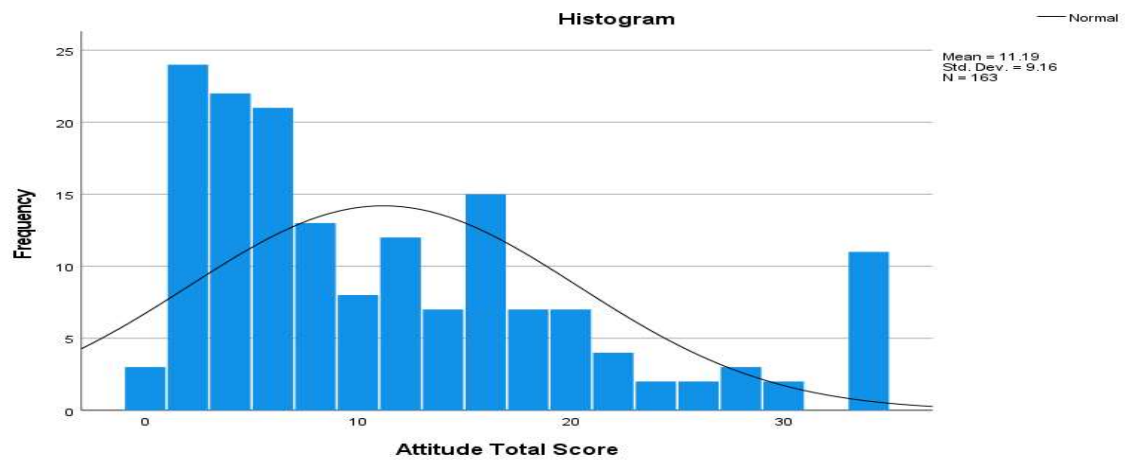
Figure 4.3

Skewness of total score of knowledge



Figure 4.4

Skewness of total score of attitudes



Prior to correlation analysis, normality testing was conducted using the Kolmogorov-Smirnov test, appropriate for sample sizes greater than 50. Both knowledge scores ($D(163) = .162, p < .001$) and attitude scores ($D(163) = .145, p < .001$) demonstrated significant departures from normal distribution. Consequently, nonparametric statistical analysis using Spearman correlation coefficient was employed to examine the relationship between variables.

Table 4.8

Normality Test Results for Knowledge and Attitude Scores

Variable	Kolmogorov-Smirnov	Shapiro-Wilk	Distribution
Knowledge Score	$D(163) = .162, p < .001$	$W(163) = .946, p < .001$	Non-normal
Attitude Score	$D(163) = .145, p < .001$	$W(163) = .884, p < .001$	Non-normal

4.4.2 Spearman Correlation Coefficient

The Spearman correlation analysis revealed weak negative relationship between knowledge and attitude scores ($r_s(163) = -.132, p = .092$). This correlation was not statistically significant at the $\alpha = 0.05$ level, indicating no significant linear relationship between knowledge of problematic eating behaviours and eating attitudes among the nursing students in this sample.

Table 4.9

Spearman Correlation Result

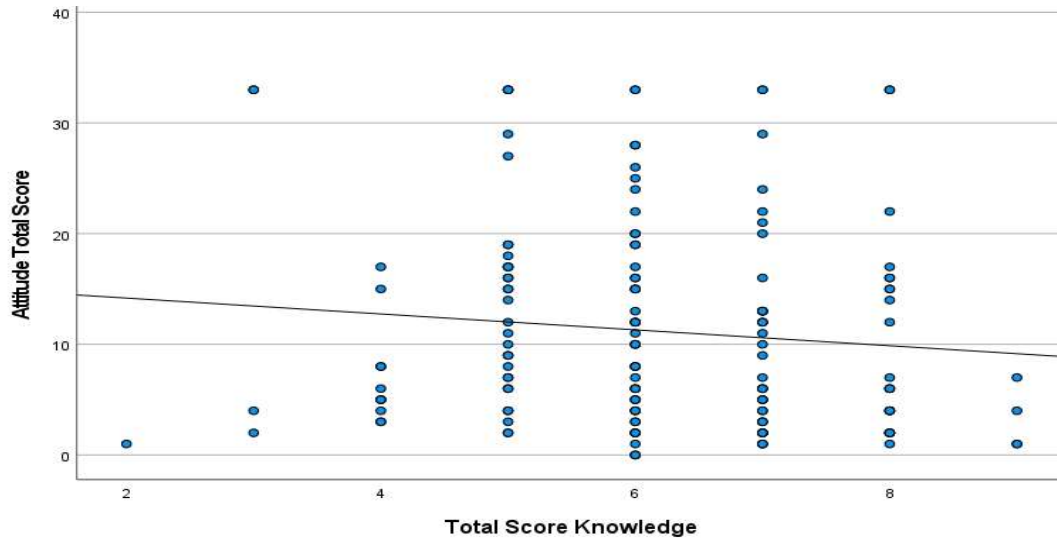
Variables	N	Spearman Correlation Coefficient (r_s)	p value	95% CI	Interpretation
Knowledge × Attitude	163	-.132	.092	[-.284, .007]	Weak negative, nonsignificant

Effect Size Interpretation: According to Cohen's (1988) guidelines for correlation effect sizes, the observed correlation coefficient ($r_s = -.132$) represents a small effect size, suggesting that knowledge accounts for less than 1% of the variance in eating attitudes ($r^2 = .0174$).

Figure 4.5 shows the overall correlation was non-significant, examination of the scatter plot distribution revealed no obvious non-linear patterns or subgroup clustering that might suggest hidden relationships. The data points were relatively evenly distributed across the range of both knowledge and attitude scores, supporting the conclusion of no meaningful relationship between these variables in this sample. The absence of a statistically significant correlation between knowledge and attitudes carries important implications for nursing education. Firstly, the findings suggest that increased knowledge does not necessarily translate into changes in attitude; in other words, students' factual understanding of problematic eating behaviours does not reliably predict their personal attitudes or risk of disordered eating. This highlights a key limitation of traditional, knowledge-based teaching methods, as they may be insufficient to foster healthier attitudes or prevent problematic eating behaviours among nursing students. From an educational perspective, this indicates the need for more holistic and psychologically informed approaches, such as integrating reflective practice, emotional coping strategies, and value-based discussions into the curriculum. Furthermore, these findings raise concerns for screening and early intervention, as knowledge assessments alone may not effectively identify students who are at risk of developing problematic eating attitudes. A broader assessment strategy that includes emotional, social, and behavioural components may therefore be more appropriate for addressing this issue.

Figure 4.5

Scatter plot distribution for total score attitude over total score knowledge



4.4.3 Null Hypothesis Testing Results

The null hypothesis (H_0) stated that there is no significant relationship between knowledge and attitudes of problematic eating behaviours among undergraduate nursing students in UNIMAS, while the alternative hypothesis (H_A) proposed that a significant relationship does exist. Based on the results of the statistical analysis, the p-value was .092, which is greater than the significance level ($\alpha = .05$). Therefore, the null hypothesis is retained, indicating that there is insufficient evidence to conclude a statistically significant relationship between knowledge and attitudes toward problematic eating behaviours in this sample. This suggests that, within the context of this study, students' level of knowledge may not be a strong predictor of their eating-related attitudes.

4.4.4 Additional Exploratory Analysis Knowledge Level and Attitude Categories Cross-Tabulation

Table 4.10 present the cross-tabulation analysis which confirmed that attitude distribution was relatively consistent across knowledge levels, further supporting the absence of a meaningful relationship between these variables. Chi-square test: $\chi^2 (2) = 1.044, p = .593$.

Table 4.10

Knowledge level and attitude categories cross-tabulation

Knowledge Level	Positive Attitude (EAT-26 < 20)		Negative Attitude (EAT-26 ≥ 20)		Total
	n	%	n	%	
Poor (n=16)	14	87.5	2	12.5	16
Moderate (n=120)	99	82.5	21	17.5	120
Good (n=27)	23	85.2	4	14.8	27
Total	136	83.4	27	16.6	163

4.5 Summary

This chapter presents the sociodemographic characteristics of the respondents and the key findings regarding the level of knowledge and attitudes towards problematic eating behaviours among UNIMAS undergraduate nursing students. It reports that majority of students had moderate knowledge (73.6%) and positive attitudes (83.4%). The chapter also details the results of the normality test and Spearman correlation analysis, showing a weak, statistically non-significant negative correlation between knowledge and attitudes ($r_s (163) = -.132, p =$

.092). The results of the null hypothesis testing and additional exploratory analysis are also presented.

CHAPTER 5: DISCUSSION

5.0 Introduction

This chapter interprets the findings presented in Chapter 4, discussing their implications in the context of existing literature and the study's objectives. It aims to provide a deeper understanding of the observed knowledge and attitudes among nursing students regarding problematic eating behaviours.

5.1 Level of Knowledge on Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

The findings of this study revealed that most undergraduate nursing students at UNIMAS demonstrated a moderate level of knowledge (73.6%) regarding problematic eating behaviours, while 16.6% exhibited a good level of knowledge and 9.8% showed poor knowledge. These findings are consistent with previous international studies, by Batool et al. (2022) in Lahore, which reported similar patterns among nursing students. This cross-cultural consistency highlights a global trend in which students possess general awareness of eating disorders, yet often lack in-depth, clinically applicable knowledge essential for nursing practice. This might affect the preparedness of future nurses to address eating disorders effectively in clinical environments. For instance, a study by Gamlath et al. (2024) emphasizes that many nurses lack the necessary preparation and training, which greatly affects their ability to care for individuals struggling with eating disorders. Furthermore, Ma et al. (2021) report that emergency medicine physicians express a need for better educational resources and training in assessing and managing eating disorders, reinforcing the necessity for enhanced educational efforts across medical and nursing curricula.

Despite the presence of general knowledge, item-level analysis revealed specific knowledge gaps among respondents. Notably, only 4.9% of students correctly understood the term ‘binge’ as referring to the consumption of large amounts of food within a short period. In contrast, a significant proportion (79.1%) incorrectly believed that problematic eating behaviours result from drug use. These misconceptions are particularly concerning, as they may influence the accuracy of their training and understanding of the multifactorial origins of eating disorders, which encompasses psychological, societal, and cultural considerations (Erden et al., 2023). This is echoed in literature highlighting substantial misconceptions surrounding eating disorders within healthcare training environments and it has been observed that many health professionals may have a basic awareness but lack critical, applicable knowledge necessary for effective patient care. The findings in a study by Pursey et al. (2022) further contextualize the situation, showing that a lack of training and resources is widespread, with educators and professionals feeling the burden of a crowded curriculum that often neglects specific issues such as eating disorders. This aligns with the observation that Malaysian nursing curricula have historically focused on health issues perceived as more immediate or localized, potentially leaving students inadequately prepared to recognize and address less familiar conditions like eating disorders (Ma et al., 2021).

As Malaysian society becomes increasingly urbanized and influenced by global cultural norms, the visibility of eating disorders is escalating. This societal shift necessitates an urgent re-evaluation of nursing education to include comprehensive training on such behaviours. A study by Viljoen et al. (2023) emphasizes that patient care quality improves when professionals are well-versed in the complexities of eating disorders, suggesting that enhancing the nursing

curriculum to address these knowledge gaps would be beneficial both for students and the patients they serve. Moreover, the psychological implications of the current curriculum on nursing students must not be overlooked. Stressful work environments can exacerbate unhealthy eating behaviours among nurses, as previous studies have defined eating disorders as a mechanism of coping with stress and negative mood (Gürkan et al., 2021). This reinforces the idea that nursing education must not only focus on knowledge acquisition but also on fostering positive attitudes and resilient coping strategies to prepare students for the emotional demands of their future roles. Integrating programs that emphasize mental health, and well-being could significantly enhance the efficacy of future healthcare professionals in managing complex eating disorders and ensuring holistic patient care (Labrague, 2022).

Therefore, these findings resonate with broader research indicating that while nursing students may possess a superficial understanding of eating disorders, there are alarming gaps in practical and clinically relevant knowledge. The educational strategies in Malaysia must adapt to address these gaps by incorporating comprehensive training focused not only on recognizing but also on understanding and managing eating disorders, thus better preparing nursing graduates for their critical roles in patient care.

5.2 Level of Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

The findings of this study highlight that a significant majority, 83.4%, of nursing students displayed positive eating attitudes, as indicated by EAT-26 scores below 20. However, the 16.6% who scored 20 or higher raise concerns regarding the potential for developing eating disorders. This aligns with previous research indicating that certain segments of young adults,

particularly female university students, exhibit varying degrees of problematic eating attitudes across different cultural contexts. For instance, Damtie Aserese et al. (2025) noted that 88.5% of female university students in Southern Ethiopia reported EAT-26 scores below the threshold, suggesting a positive attitude towards eating behaviours similar with this current study. Conversely, Ali et al. (2020) observed a problematic score prevalence of 26.5% among female university students in Saudi Arabia, illustrating the diversity of eating attitudes driven by cultural and demographic factors (Jeżewska-Zychowicz & Plichta, 2022). The slightly lower percentage in this study may reflect cultural factors specific to Malaysian society or the predominantly female nursing student population.

Importantly, the clinical implications of the 16.6% identified with problematic attitudes cannot be overlooked, considering their future roles as healthcare providers. These individuals may not only struggle with maintaining professional objectivity while caring for patients with similar issues but may also unintentionally reinforce unhealthy behaviours in their patients (Brown et al., 2022). The significant variability in EAT-26 scores emphasizes that even within a population primarily exhibiting positive attitudes, there are noteworthy individuals who may require targeted interventions to prevent potential eating disorders.

Cultural factors appear to significantly influence eating attitudes. In Malaysia, traditional norms tend to value fuller body types, which may cushion against the impacts of Westernized standards of thinness (Hamid et al., 2023). However, exposure to global beauty ideals through social media is changing the landscape, potentially leading to evolving perceptions among young adults toward more problematic norms that favour thinness. This transition is supported by research highlighting how sociocultural pressures do affect young adults' eating behaviours

(Juwita & Mateha, 2024). The multicultural context of Malaysia, where differing ethnic backgrounds contribute to unique culinary traditions and body image ideals, complicates an understanding of these attitudes even further (Cho et al., 2021).

Therefore, the results of this study may reflect a predominantly healthy perspective among nursing students, the presence of a significant minority with potentially problematic eating attitudes underscores the necessity for early identification and interventions. Addressing these concerns refers not only to the educational spheres of nursing but also to the broader understanding of how interwoven cultural perceptions of health and body image can shape individual behaviours toward eating in young adults. A study by Lafave et al. (2023) indicated there is a pressing need to integrate cultural awareness in the educational training of future health professionals to foster both awareness and effective interventions concerning disordered eating behaviours.

5.3 Relationship between Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

One of the key findings of this study is there are no significant relationship between knowledge and attitudes related to eating behaviours ($r_s (163) = -.132, p = .092$). This challenges the common belief that increasing knowledge alone is enough to improve attitudes and behaviours. The lack of a strong link between knowledge and attitudes suggests a more complex relationship, which is consistent with the Theory of Planned Behaviour. This theory emphasizes that attitudes are influenced by not only knowledge but also social norms, perceived behavioural control, and personal experiences (Liu et al., 2021). These results are partly in line

with previous studies that have shown mixed outcomes. For example, Manju et al. (2023) found no significant relationship ($r_s = -0.72$) between knowledge and attitude among female college students, while Datta et al. (2018) reported there is a significant correlation among college students in Kolkata. These findings suggest that knowledge and attitudes may be influenced by different and independent factors.

Several explanations could account for this no significant relationship. A study by Jezewska-Zychowicz and Plichta (2022) reported similarly non-significant correlations among different populations, indicating that knowledge and attitudes toward eating may not be directly interwoven as previously assumed. This calls into question the efficacy of solely knowledge-based interventions for changing eating behaviours. Instead, it suggests a need for a more nuanced approach that also considers the influence of emotional, social, and cultural factors on dietary choices. Emotional issues, such as stress and psychological well-being, can significantly affect eating attitudes; coping mechanisms often manifest in unhealthy eating patterns, as corroborated by the insights from Brown et al. (2022), who examine how stress influences maladaptive eating behaviours.

Furthermore, the role of cultural influences cannot be understated, especially in the context of Malaysia's multiethnic society. Cultural practices and social norms play a pivotal role in shaping dietary behaviour. As noted by Hamid et al. (2023), an educational context that respects and integrates local cultural values tends to foster better knowledge and more positive attitudes toward healthy eating in adolescents. Cultural associations with food, particularly in Malay and Chinese Malaysian cultures, reflect deep-seated values such as hospitality and familial bonding, which can often complicate the straightforward application of nutritional

knowledge in daily eating practices (Juwita & Mateha, 2024). Consequently, personal experiences and familial legacies about food often overshadow educational interventions focused solely on knowledge dissemination.

Therefore, the findings illustrating no significant relationship between knowledge and attitudes imply that efforts to modify eating behaviours must encompass a broader array of factors, including emotional well-being, cultural influences, and social contexts. As highlighted by various studies, including those by Cho et al. (2021) and Lafave et al. (2023), the frameworks for understanding eating behaviours should integrate these diverse influences to adequately address the multifaceted nature of dietary choices and promote healthier eating habits.

5.4 Summary of Findings of the Study

This cross-sectional study examined knowledge and attitudes toward problematic eating behaviours among 163 undergraduate nursing students at Universiti Malaysia Sarawak (UNIMAS). The research yielded several important findings that contribute to our understanding of eating disorder awareness in Malaysian nursing education. Most of UNIMAS nursing students (73.6%) demonstrated moderate knowledge about problematic eating behaviours, with 16.6% showing good knowledge and 9.8% showing poor knowledge. While encouraging that most students possess basic awareness, significant knowledge gaps were identified, particularly regarding the definition of binge eating and misconceptions about causative factors. Then, most students (83.4%) exhibited positive eating attitudes as measured by the EAT-26, while 16.6% demonstrated potentially problematic attitudes (scores ≥ 20). This minority represents a concerning group that may be at risk for developing eating disorders themselves. Contrary to common educational assumptions, no significant correlation was found

between knowledge and attitudes ($r_s (163) = -.132, p = .092$). These finding challenges traditional knowledge-based educational approaches and suggests that attitude formation involves complex factors beyond factual understanding.

5.5 Implications, Recommendations and Future Research

5.5.1 Implications

The findings indicate that current nursing education, which often focuses mainly on knowledge delivery, may not be enough to address complex health behaviours like eating disorders. A more holistic and transformative approach is needed to support both intellectual and behavioural development among nursing students. Traditional lecture-based methods should be enhanced with experiential learning, self-reflection activities, and strategies that encourage attitude change. The lack of a strong link between knowledge and attitude suggests that simply delivering facts is not sufficient. Therefore, nursing education should adopt varied teaching methods that promote critical thinking, empathy, and personal growth to better prepare students for real-life practice.

In the Malaysian context, it is important for nursing education to include culturally sensitive elements. Given Malaysia's diverse cultural background, understanding how culture influences food choices, body image, and health beliefs is essential. Integrating cultural competence into the curriculum can help future nurses provide care that respects and matches the cultural needs of different patients. This helps prepare students to work effectively in a multicultural healthcare setting.

At the same time, nursing institutions should provide strong support systems for students, especially in terms of mental health. The challenges of nursing education may affect students' emotional well-being and increase the risk of problematic eating behaviours. Accessible and confidential support services are necessary to help students cope with these issues and maintain their overall well-being, which is important for both learning and future practice.

To make these changes effective, nursing educators must also be supported. Training programs should be provided to help them recognise signs of eating disorders and apply culturally appropriate teaching approaches. Well-prepared educators are crucial in guiding students, identifying their needs, and acting as role models for professional behaviour.

These improvements in nursing education also bring implications for clinical practice. Future nurses must be trained to provide quality care for patients with eating disorders and to understand their influence as role models of healthy behaviour. This involves including specific learning objectives in the curriculum, such as nutrition counselling and therapeutic communication. Practical training in these areas allows students to build confidence and communicate with patients in a respectful and non-judgmental manner.

Lastly, the role of nurses as health behaviour role models should be clearly addressed in nursing education. Students should be encouraged to maintain a balanced and healthy lifestyle without promoting unrealistic standards. Emphasising personal well-being in professional practice supports the idea that nurses who care for themselves are better prepared to care for others. This approach helps build credibility with patients and supports long-term effectiveness in the nursing profession.

5.5.2 Recommendations

The findings of this study carry significant and far-reaching implications for nursing education and practice in Malaysia. To address eating disorders effectively, a multi-dimensional approach is required, beginning with meaningful curriculum enhancement. Eating disorder-related content should be integrated throughout all years of the nursing program instead of being limited to psychiatric nursing modules. Teaching methods need to go beyond traditional lectures by including interactive workshops, case-based learning, role-playing, and simulation exercises that allow students to experience realistic patient scenarios. These approaches can better equip students to understand and respond to the complexities of eating disorders in clinical practice. At the same time, cultural competence must be embedded within the curriculum. Considering Malaysia's multicultural society, locally relevant case studies should be used to explore how different ethnic and cultural perspectives influence body image, eating habits, and health beliefs. This prepares students to provide care that is culturally sensitive and appropriate for diverse populations.

To bridge the gap between knowledge and attitudes, nursing education must also include elements of self-reflection and personal awareness. Structured self-assessment activities and small group discussions can help students examine their own beliefs and biases regarding eating behaviours and body image. Beyond curriculum development, institutional support is essential for promoting student well-being. Nursing programs should implement regular mental health screenings that include tools like the EAT-26, with clear referral systems for students identified at risk. Comprehensive support services should offer targeted counselling for eating and body image issues, while peer support groups and wellness programs can provide students with

healthy coping strategies and stress management skills. These efforts are particularly important, given the high levels of stress often experienced in nursing education.

Faculty development plays a key role in supporting these changes. Nursing educators must be trained to identify early signs of disordered eating in students, apply trauma-informed teaching practices, and follow appropriate protocols for providing support. Well-prepared educators not only improve teaching outcomes but also serve as role models for students' professional development. In addition, integrating technology can enhance the learning experience. Digital tools such as e-learning modules, mobile apps, and virtual reality simulations can offer interactive, flexible learning opportunities. Training in telehealth is also becoming increasingly important, enabling students to develop skills in remote patient communication, screening, and ethical digital practice, particularly in the context of eating disorders.

For these changes to be sustainable, a phased implementation strategy is recommended. The first year should focus on faculty training and curriculum planning, followed by pilot testing of selected interventions in the second year. By the third year, full integration and outcome evaluation can be carried out. This process should be supported by partnerships with mental health organisations, the use of diverse funding sources, and efficient use of digital resources. Continuous monitoring, regular evaluation, and adherence to evidence-based practice will help ensure quality and consistency across the program.

Finally, supporting nurses' professional growth beyond graduation is essential. A long-term learning framework should provide opportunities for continuing education, mentorship, and pathways for specialisation in eating disorder care. Connecting graduates with national and international organisations can further enhance their expertise and confidence in this area.

Dissemination of best practices through conferences, academic journals, and policy briefs will help other institutions adopt similar approaches. At the same time, public engagement through media, government collaboration, and community partnerships can raise awareness and reduce stigma around eating disorders. Altogether, this comprehensive and integrated approach has the potential to strengthen nursing education in Malaysia and improve the quality of care for individuals affected by eating disorders.

5.5.3 Future Research

Future research is vital to deepen understanding and improve how eating attitudes are addressed within Malaysian nursing education and clinical practice. Longitudinal studies are particularly important to observe how students' knowledge and attitudes evolve throughout their training and into their early professional roles. This will offer important insights into the lasting effects of educational interventions over time. To further enrich understanding, qualitative research should be emphasized such as focus groups and interviews especially to explore how cultural values and beliefs shape eating attitudes within Malaysia's diverse population. These insights are necessary for designing strategies that are both culturally sensitive and practically relevant.

Based on this, future studies should also focus on developing and testing targeted educational interventions that are suited to local cultural contexts. These interventions should aim to improve knowledge, shape positive attitudes, and encourage healthier behaviours in relation to eating disorders. Collaboration across multiple nursing institutions in Malaysia will be essential to ensure that findings are applicable across different settings, improving the overall reach and relevance of the research. Using mixed methods approaches, which combine both

quantitative and qualitative data, will offer a more complete picture of how knowledge, attitudes, and culture interact. Follow-up studies involving nursing graduates will also be important to evaluate whether the skills and attitudes taught during their education are effectively applied in clinical settings, helping to ensure that research efforts directly contribute to better preparation for nursing practice in eating disorder care.

5.6 Limitations of the Study

This study has several limitations that should be considered when interpreting the results. Firstly, since the study was conducted in only one institution, the findings may not reflect the experiences or perspectives of nursing students in other programs across Malaysia or in different international settings. This points to the importance of future studies involving multiple institutions to improve generalizability. Then, since this study used a cross-sectional design, it cannot determine cause-and-effect relationships or capture how knowledge and attitudes change over time. To better understand these changes, longitudinal research would be more appropriate. The use of self-administered questionnaire also brings some risk of bias, as participants may have responded in ways they believed were socially acceptable, especially given the sensitivity of topics like eating behaviours. Additionally, some of the tools used in the study were originally developed in Western contexts and may not fully align with the cultural beliefs or behaviours related to eating in Malaysia. This could affect how accurately the instruments reflect local experiences. Lastly, even though the study achieved a full response rate, participation was voluntary. This raises the possibility of selection bias, as students who were more open or interested in the topic may have been more likely to take part.

5.7 Conclusion

This study provides meaningful insights into the knowledge and attitudes of Malaysian nursing students toward problematic eating behaviours. While most participants showed moderate levels of knowledge and generally positive attitudes, the most notable finding is there are no relationship between these two factors. This suggests that attitude development is complex and cannot be fully influenced through knowledge alone. It highlights the limitations of education that focuses only on information delivery, emphasizing the need for a more comprehensive approach that includes emotional, social, and cultural dimensions. Rather than discouraging educational efforts, this finding should encourage the design of more holistic and multi-dimensional interventions to support student learning and development.

The 163 nursing students involved in this study represent the upcoming generation of healthcare professionals in Malaysia. Preparing them to identify, understand, and respond sensitively to eating disorders is essential, as it can lead to better support for individuals and families affected by these conditions. As Malaysia continues to develop and face new public health issues, including the possibility of rising eating disorder cases, the nursing field must adapt accordingly. This study contributes valuable evidence that can help shape future improvements in nursing education. The effort to provide high-quality care for eating disorders begins with strong, well-rounded educational foundations. By focusing on both knowledge and attitude formation, Malaysian nursing programs have the potential to train culturally aware, clinically competent, and empathetic nurses who are ready to meet the demands of a diverse and evolving healthcare system.

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APPENDICES

Appendix A: Ethical Approval

Pejabat Akademik
Fakulti Perubatan dan Sains Kesihatan
Academic Office
Faculty of Medicine & Health Sciences
☎: 581000 samb 7768
☎: 665152

UNIVERSITI MALAYSIA
SARAWAK
94300 Kota Samarahan

MEMORANDUM

Reference : UNIMAS/NC-21.05/03-03 Jld. 8(133)

To : Adrienne Augustine (78642)
Bachelor of Nursing with Honours
Faculty of Medicine and Health Sciences

From : Dean
Faculty of Medicine and Health Sciences

Date : 05 March 2025

Subject : **Final Year Project - Research Approval: Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS**

The above matter is referred.

The Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS) has granted the **RESEARCH APPROVAL** for this Final Year Project research based on the appraisal by the Department of Nursing, Faculty of Medicine and Health Sciences, Universiti Malaysia Sarawak (UNIMAS) on 24 February 2025. The Final Year Project research details stated below:

Student Name : Adrienne Augustine

Student ID : 78642

Programme : Bachelor of Nursing with Honours

Research Title : *Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS*

Supervisor Name : Madam Bong Yi Lin

Supervisor H/P : +60 11-3660 6380

All records and data are to be kept strictly **CONFIDENTIAL** and can only be used for the purpose of this study. All precautions are to be taken to maintain data confidentiality. Permission from the all relevant heads of departments/units where the study will be carried out must be obtained prior to the study.

Please note that the approval is valid from **February 2025** to **November 2025** only. The *reference* number for this letter must be stated in all correspondence related to this study to facilitate the process.

Thank you with regards and well wishes.

Yours sincerely,



Professor Dr. Asri bin Said
Dean

e.e : Deputy Dean of Undergraduate
: Head of Nursing Department
: Bachelor of Nursing with Honours
: MDJ4653 Final Year Project 1 Course Coordinator

Appendix B: Cover Letter

Adrienne Augustine,

Faculty Medicine and Health Sciences,

Universiti Malaysia Sarawak,

94300 Kota Samarahan,

Sarawak.

The Chairman,

Medical Research Ethics Committee,

Faculty Medicine and Health Sciences,

Universiti Malaysia Sarawak,

94300 Kota Samarahan,

Sarawak.

15th December 2024

Professor/Associate Professor/Dr/Sir/Madam,

REQUEST FOR APPROVAL TO CONDUCT RESEARCH PROJECT

I am a final-year student pursuing a Bachelor of Nursing with Honours at the Faculty of Medicine and Health Sciences, UNIMAS. I enrolled in MDJ 4653 Final Year Project I, in which the course is coordinated by Madam Shalin Lee Wan Fei. Please find my details as follows:

Full name: Adrienne Augustine

Matrix number: 78642

IC No.: 010327-12-0266

I would like to request for the kind approval from the Faculty of Medicine and Health Sciences Medical Research Ethics Committee to conduct the following study:

Research title: Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in University of Malaysia Sarawak (UNIMAS)

Supervisor's name: Madam Bong Yi Lin


Email address: ylbong@unimas.my

Supervisor's HP number: 01136606380

Please find the required documents as appended for your kind consideration and approval.

Thank you.

Yours sincerely,



(Adrianne Augustine)

Appendix C: Participant Information Sheet



PARTICIPANT INFORMATION SHEET

Title of the study : **Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS**

Main Researcher : **Adrienne Augustine**

Supervisor : **a) Course coordinator: Madam Shalin Lee Wan Fei/Miss Feryante**
b) Main research supervisor: Madam Bong Yi Lin/Madam Christina

Institution : **Department of Nursing**
Faculty of Medicine & Health Sciences Universiti Malaysia Sarawak

Name of sponsor : **No external funding**

PARTICIPANT INFORMATION SHEET AND INFORMED CONSENT FORM

(for adult subjects)

1. Introduction:

It is important that you understand why the research is being done and what it will involve. Please take your time to read through and consider this information carefully before you decide if you are willing to participate. Ask the study staff if anything is unclear or if you would like more information. After you are properly satisfied that you understand this study, and that you wish to participate, you must sign this informed consent form.

Your participation in this study is voluntary. You do not have to be in this study if you do not want to. You may also refuse to answer any questions you do not want to answer. If you volunteer to be in this study, you may withdraw from it at any time. If you withdraw, any data collected from you up to your withdrawal will still be used for the study. Your refusal to participate or withdrawal will not affect any medical or health benefits to which you are otherwise entitled.

This study has been approved by the Medical Research and Ethics Committee, Ministry of Health Malaysia.

2. What is the purpose of the study?

The purpose of this study is to investigate nursing students' understanding and attitude of problematic eating behaviours. By assessing their knowledge and attitudes, this research seeks to identify areas that require additional education or awareness, helping to ensure that nursing students are better prepared to address these challenges in their professional roles. Furthermore, the findings aim to provide valuable insights that could guide curriculum development and the creation of more effective strategies for promoting healthier attitudes and behaviours among future healthcare professionals.

This research will be conducted for duration of six months (25 January 2025 until 30 June 2025). The expected number of participants is 163 individuals.

3. Who can participate in this study?

This study targeting students from the Faculty of Medicine and Health Sciences, UNIMAS. Inclusion criteria comprise undergraduate nursing students from Year 1 until Year 4. For the exclusion criteria will be those participants that involve in pilot study.

4. What are my responsibilities when taking part in this study?

It is important that you answer all the questions asked by the study staff honestly and completely which will take about 15 minutes of your time.

You will be given a hard-copy questionnaire form to be answered. This form contains three sections which will enquire about sociodemographic, including your weight and height, knowledge on problematic eating behaviour and attitudes towards problematic eating behaviour.

5. What are the potential risks and side effects of being in this study?

Participation to this study will not affect your treatment, and the risk is minimal. You are free to decline to answer any of the questions that you feel uncomfortable with.

6. What are the benefits of being in this study?

There may or may not be any benefits to you. Information obtained from this study will help you in addressing biases and misconceptions, it fosters more accurate perceptions and reduces stigma about problematic eating behaviours. Furthermore, the findings can enhance your preparedness become a future nurse, equipping with the knowledge and attitudes necessary to effectively address problematic eating behaviours in clinical practice. Additionally, this study can help you become good role models by adopting healthier eating behaviours, setting positive examples for your peers and patients.

7. Who is funding the research?

This study does not receive any external funding. You will not be paid for participating in this study.

8. Will my medical information be kept private?

All your information obtained in this study will be kept and handled in a confidential manner, in accordance with applicable laws and/or regulations. When publishing or presenting the study results, your identity will not be revealed without your expressed consent. Individuals involved in this study, qualified monitors and auditors, and governmental or regulatory authorities may inspect the study data, where appropriate and necessary.

9. Who should I call if I have questions?

If you have any questions about the study or if you think you have a study related injury and you want information about this study, please contact the main researcher, Adrienne Augustine at telephone number 013-9041700 or the supervisor of this study, Madam Bong Yi Lin, who can reach through the email address ylbong@unimas.my.

If you have any questions about your rights as a participant in this study, please contact: The Secretary, Medical Research & Ethics Committee, Ministry of Health Malaysia, at telephone number 03-3362 8407/8205/8888.

Appendix D: Informed Consent Form

INFORMED CONSENT FORM

Title of Study: Knowledge and Attitudes towards Problematic Eating Behaviours among Undergraduate Nursing Students in UNIMAS

By signing below, I confirm the following:

- I have been given oral and written information for the above study and have read and understood the information given.
- I have had sufficient time to consider participation in the study and have had the opportunity to ask questions and all my questions have been answered satisfactorily.
- I understand that my participation is voluntary, and I can at anytime free withdraw from the study without giving a reason and this will in no way affect my future treatment. I am not taking part in any other research study at this time. I understand the risks and benefits, and I freely give my informed consent to participate under the conditions stated. I understand that I must follow the study doctor's (investigator's) instructions related to my participation in the study.
- I understand that study staff, qualified monitors and auditors, the sponsor or its affiliates, and governmental or regulatory authorities, have direct access to my medical record in order to make sure that the study is conducted correctly, and the data are recorded correctly. All personal details will be treated as STRICTLY CONFIDENTIAL
- I will receive a copy of this subject information/informed consent form signed and dated to bring home.
- I agree/disagree* for my family doctor to be informed of my participation in this study.
*(*delete which is not applicable)*

Subject:

Signature:

I/C number:

Name:

Date:

Investigator conducting informed consent:

Signature:

I/C number:

Name:

Date:

Impartial witness:

Signature:

I/C number:

Name:

Date:

Appendix E: Questionnaire

Section A: Socio-demographics

Instruction: Please complete all the following questions by ticking (✓) the appropriate box or fill in the blank spaces.

1. Age: _____
2. Gender:
 - Male
 - Female
3. Year of study:
 - Year 1
 - Year 2
 - Year 3
 - Year 4
4. Ethnicity:
 - Malay
 - Chinese
 - India
 - Bumiputera Sarawak
 - Bumiputera Sabah
 - Other: _____
5. BMI
 - Below 18.5 (Underweight)
 - 18.5 – 24.9 (Normal Weight)
 - 25.0 – 29.9 (Pre-obesity)
 - 30.0 – 34.9 (Obesity Class I)
 - 35.0 – 39.9 (Obesity Class II)
 - Above 40 (Obesity Class III)

Section B: Knowledge on problematic eating behaviour

Instructions: Please complete all the following questions by ticking (✓) the most appropriate response in the box.

No	Information on the knowledge of problematic eating behaviours	False 0	True 1
1.	The term 'binge' means eating a large amount of food in a short time.		
2.	Anorexia nervosa is a problematic eating behaviour in which characterised by an abnormally low body weight, an intense fear of gaining weight and a distorted perception of weight.		
3.	Problematic eating behaviour is only present in individuals with underweight.		
4.	It is easy to notice if a person has ever had problematic eating behaviours.		
5.	Problematic eating behaviours may be due to excessive sensitivity to judgement.		
6.	Problematic eating behaviours may be due to the beauty models promoted by the mass media.		
7.	Problematic eating behaviour occurs due to friendship with wrong or untrustworthy people.		
8.	Problematic eating behaviour occurs due to drug use.		
9.	Problematic eating behaviour can be diagnosed simply from the person's appearance.		
10.	Problematic eating behaviours only affect women.		

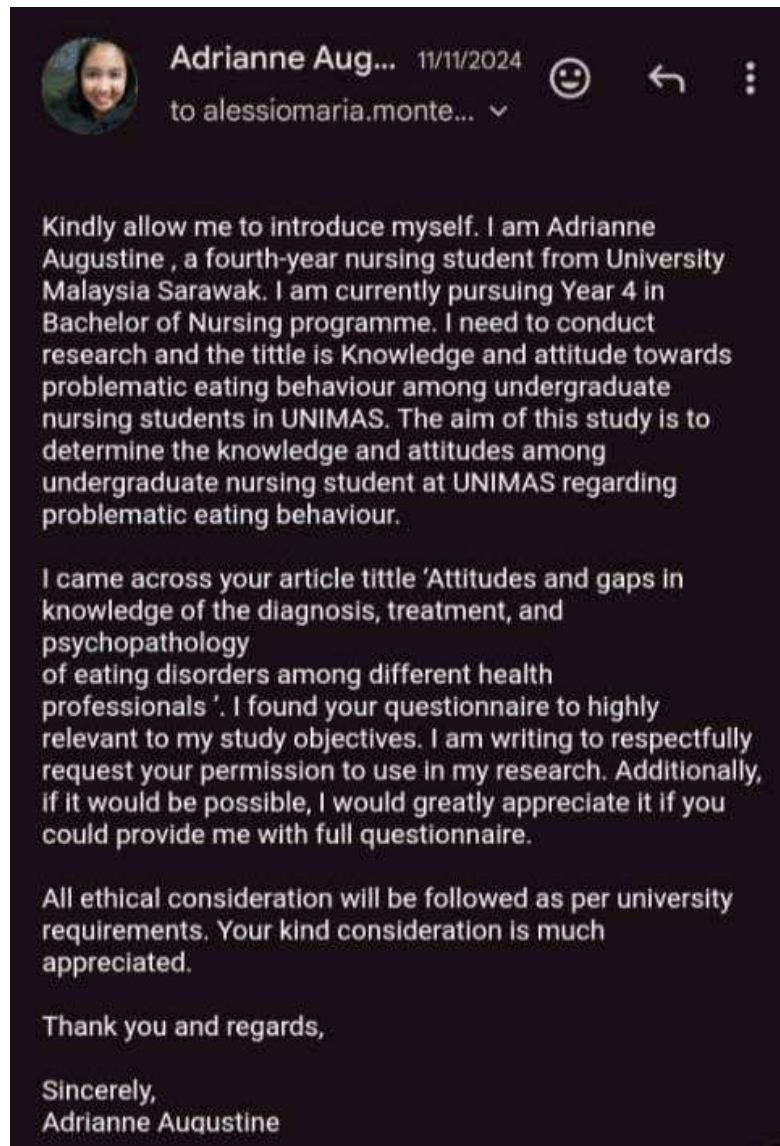
Section C: Eating Attitude Test 26 (EAT-26)

Instructions: Please complete all the following questions by ticking (✓) the most appropriate response in the box.

Questions	Always	Usually	Often	Sometimes	Rarely	Never
Am terrified about being overweight.						
Avoid eating when I am hungry.						
Find myself preoccupied with food.						
Have gone on eating binges where I feel that I may not be able to stop.						
Cut my food into small pieces.						
Aware of the calorie content of foods that I eat.						
Particularly avoid food with a high carbohydrate content (i.e. bread, rice, potatoes, etc.)						
Feel that others would prefer if I ate more.						
Vomit after I have eaten.						
Feel extremely guilty after eating.						
Am preoccupied with a desire to be thinner.						
Think about burning up calories when I exercise.						
Other people think that I am too thin.						
Am preoccupied with the thought of having fat on my body						
Take longer than others to eat my meals.						
Avoid foods with sugar in them.						
Eat diet foods.						

Feel that food controls my life.						
Display self-control around food.						
Feel that others pressure me to eat.						
Give too much time and thought to food.						
Feel uncomfortable after eating sweets.						
Engage in dieting behaviour						
Like my stomach to be empty.						
Have the impulse to vomit after meals.						
Enjoy trying new rich foods.						

Appendix F: Permission Obtained from Original Author to Use Questionnaire



Appendix G: Gantt Chart

Activities	Month									
	2024			2025						
	OCT	NOV	DEC	JAN	FEB	MAC	APR	MAY	JUNE	JULY
Determination of research title	■	■								
Literature review	■	■	■	■	■	■	■	■	■	■
Meeting supervisor	■	■	■	■	■	■	■	■	■	■
Submit oral defence slide			■							
Submission of first draft of FYP I			■							
FYP I: Submission of research				■						
Data collection						■				
Data analysis							■	■		
Writing up report							■	■	■	
Submission of first draft of FYP II								■		
Submission of final draft									■	
FYP 2: Submission of final report										■

Appendix H: Budget

Items	Unit price (RM)	Quantity	Total price (RM)
Materials			
Printing Questionnaire form	0.10/page	4 pages x 178 = 712 pages	71.20
Printing proposal defence draft	0.10/page	30 pages	3.00
Printing FYP project book	0.10/page	100 pages	10.00
Binding	0.80/ring	1 ring	0.80
Transparent Cover	0.40/page	2 pages	0.80
Poster	39.00/page	1 page	39.00
Others			
SPSS software	5	1	5
Internet	40/month	8 months	320.00
Total (RM)			449.80

Appendix I: Turnitin

FYP2_Adrianne		
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