THE ASSOCIATION BETWEEN SOCIODEMOGRAPHIC CHARACTERISTICS AND BREAKFAST CONSUMPTION PATTERN AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN

BY

ANIS NABILA BINTI MD NOOR

Dissertation submitted in partial fulfilment of the requirements for the degree of Bachelor of Health Sciences (Honours) (Dietetics)

JULY 2024

THE ASSOCIATION BETWEEN SOCIODEMOGRAPHIC CHARACTERISTICS AND BREAKFAST CONSUMPTION PATTERN AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN

BY

ANIS NABILA BINTI MD NOOR

SCHOOL OF HEALTH SCIENCES

UNIVERSITI SAINS MALAYSIA

JULY 2024

CERTIFICATE

This is to certify that the dissertation entitled “THE ASSOCIATION BETWEEN SOCIODEMOGRAPHIC CHARACTERISTICS AND BREAKFAST CONSUMPTION PATTERN AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN” is the bona fide record of research work done by Ms ANIS NABILA BINTI MD NOOR during the period from October 2023 to July 2024 under my supervision. I have read this dissertation and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and in quality, as a dissertation to be submitted in partial fulfilment for the degree of Bachelor of Health Science (Honours) (Dietetics).

DECLARATION

I hereby declare that this dissertation is the result of my own investigations, except where otherwise stated and duly acknowledged. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at Universiti Sains Malaysia or other institutions. I grant Universiti Sains Malaysia the right to use the dissertation for teaching, research and promotional purposes.

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LIST OF ABBREVIATIONS

PPSP	School of Medical Sciences
PPSG	School of Dental Sciences
PPSK	School of Health Sciences
SD	Standard Deviation
SPSS	Statistical Package for Social Sciences
USM	Universiti Sains Malaysia

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HUBUNGKAIT ANTARA CIRI-CIRI SOSIODEMOGRAFI DAN CORAK PENGAMBILAN SARAPAN PAGI DALAM KALANGAN PELAJAR SARJANA MUDA DI UNIVERSITI SAINS MALAYSIA, KAMPUS KESIHATAN, KUBANG KERIAN, KELANTAN

ABSTRAK

Kajian ini mengenal pasti perkaitan antara ciri-ciri sosio-demografi dan corak pengambilan sarapan pagi dalam kalangan pelajar sarjana muda di Kampus Kesihatan Universiti Sains Malaysia di Kubang Kerian, Kelantan. Objektif utama adalah untuk menentukan hubungkait di antara sosiodemografi dengan corak pengambilan sarapan pagi dalam kalangan pelajar. Kajian keratan rentas telah dijalankan dalam kalangan pelajar sarjana muda, menggunakan soal selidik yang diedarkan kepada sampel pelajar. Responden direkrut melalui pensampelan mudah dan 116 respon dimasukkan dalam analisis. Antara 116 responden, majoriti adalah wanita (94%) dan Melayu (75%), dengan umur antara 19 hingga 28 tahun. Kebanyakan peserta berada di tahun ketiga pengajian, dan 97.4% tinggal di asrama. Dari segi corak pengambilan sarapan pagi, kajian mendapati sebahagian besar (55.2%) mengambil sarapan kurang daripada tiga kali seminggu, dengan waktu pilihan antara pukul 8:00 hingga 10:00 pagi. Selain itu, 75% pelajar membelanjakan antara RM2 hingga RM5 untuk sarapan, dan 65.5% lebih suka mengambilnya di rumah atau di asrama mereka. Dapatan kajian menunjukkan tiada hubungan signifikan antara beberapa parameter sociodemografi iaitu umur, bajet harian untuk makanan, dan penajaan semasa pengajian dengan corak pengambilan sarapan

dalam kalangan pelajar universiti. Namun begitu, parameter lain menunjukkan hubungan signifikan dengan corak pengambilan sarapan. Antaranya, hubungan signifikan secara statistik ditemui antara etnik dan kekerapan pengambilan sarapan dalam seminggu (nilai p=0.001). Akhir sekali, adalah penting untuk mempromosikan tabiat sarapan pagi yang sihat dalam kalangan pelajar universiti, dengan mengambil kira faktor sosio-demografi.

THE ASSOCIATION BETWEEN SOCIODEMOGRAPHIC CHARACTERISTICS AND BREAKFAST CONSUMPTION PATTERN AMONG UNDERGRADUATE STUDENTS OF UNIVERSITI SAINS MALAYSIA, HEALTH CAMPUS, KUBANG KERIAN, KELANTAN

ABSTRACT

This study identified the association between socio-demographic characteristics and breakfast consumption patterns among undergraduate students at the Health Campus of Universiti Sains Malaysia in Kubang Kerian, Kelantan. The main objective is to determine the association between sociodemographic characteristics and breakfast consumption patterns among students. A cross-sectional study was carried out among undergraduate students in, utilizing a questionnaire distributed to a sample of undergraduate students. The respondents were recruited through convenience sampling and 116 responses were included in the analysis, utilizing a structured questionnaire in collecting data. Among the 116 respondents, a majority were female (94%) and Malay (75%), with ages ranging from 19 to 28 years. Most participants were in their first, second and third year of study, and 97.4% lived in hostels. In term of breakfast consumption patterns, the study found that a considerable proportion (55.2%) consumed breakfast fewer than three times a week, with the preferred timing between 8:00 and 10:00 AM. Additionally, 75% of students spent between RM2 and RM5 on breakfast, and 65.5% preferred consuming it at home or in their hostel. The study findings indicate no

significant association between several sociodemographic parameters, such as age, daily food budget, and sponsorship during studies, with breakfast consumption patterns among university students. However, other parameters show significant associations with breakfast consumption patterns. Among them, a statistically significant association was found between ethnicity and the frequency of breakfast consumption per week (*p* value=0.001). Lastly, it is important to promote healthy breakfast habits among university students, considering socio-demographic factors.

CHAPTER 1 INTRODUCTION

1.1 Background of Study

Breakfast consumption has been widely recognized as a significant factor in overall dietary quality and lifestyle behaviours (Uzhova et al., 2018). Breakfast consumption is important among university students to maintain their energy intake, increase their overall well- being and also for long- term health. This is because, breakfast is the first meal of the day and comprised of 20% to 35% of calories of total daily energy requirements (Timlin and Pereira, 2007). In addition, breakfast consumption is frequently associated to health-related behaviours, this is due to studies have indicate that skipping breakfast can encounter some negative impact on metabolism, weight, and cardiac health (Heo et al., 2021). This is because, individuals who skip breakfast are less likely to get adequate nutrients are more likely to expose themselves to metabolic problems (Jayaveloo et al., 2021).

However, breakfast consumption was usually reported as the most frequently skipped meals and received less attention usually among university students (Jayaveloo et al., 2021). Skipping breakfast often happens among university students due to their busy schedules, desire to lose weight, and not having enough time to eat breakfast (Jayaveloo et al., 2021). Apart from that, it has been found that sociodemographic characteristics can influence breakfast consumption pattern among individuals. Socio-demographics referring to the combination of social and demographic characteristics that identify persons within a certain group or population (Abdullahi, 2020). It includes age, gender, ethnicity, education, income, marital status, employment status, and place of residence. A recent study found that sociodemographic characteristics such as gender,

ethnicity, education, and region of residence were associated with different breakfast food patterns (Siega-Riz et al., 2000).

1.2 Problem Statement

Breakfast has been proven to improve energy levels, better weight management, high physical performance and lower risk of non-communicable disease such as cardiovascular disease, diabetes, and obesity (Jayaveloo et al., 2021). However, breakfast is most frequently skipped compared to other meals. Skipping breakfast has been related to a variety of negative effects, including mood swings, mental discomfort, and inability to focus on studies, difficulty in solving problems,fatigue, and laziness (Jayaveloo et al., 2021). University students are more prone to skipping breakfast and having poor dietary habits. According to the study conducted at the Saudi Arabian College of Health Sciences, most students consumed only two main meals a day, with breakfast being eaten three to four times a week by 38.7% of the students and daily by 49.9% (Seedat & Pillay, 2020).

In a study from Pedersen et al., (2013), teenagers who had poor breakfast intake when they were 15 years old continued to do so until the age of 19 and 27 years old. Besides, a recent study conducted by Jayaveloo et al., (2021) revealed that although students generally have better nutritional knowledge about breakfast consumption, they still struggle to practice breakfast consumption in their daily routines particularly among Malay. Besides, Malay students had lower breakfast consumption compared to other groups which is Chinese and Indian (Jayaveloo et al., 2021). This might be due to sociodemographic factors that might influence the intake of breakfast among university students. Other sociodemographic factors reported to influence breakfast consumption pattern among university students include gender, year of study, and living situation.

Therefore, this study is conducted to investigate sociodemographic characteristics and breakfast consumption among undergraduate students of Universiti Sains Malaysia,

Health Campus, Kubang Kerian, Kelantan. The study also aimed to explore the relationship between sociodemographic characteristics and breakfast consumption pattern. These findings can help to identified and targeted for further emphasis on specific sociodemographic characteristics which associated with breakfast consumption pattern among university students. Furthermore, this study can be used to pattern to see the relevancy and potential practicality of healthy breakfast consumption interventions in campus setting.

1.3 Rationale and Justification of Study

The significance of this study lies in its contribution to the understanding of breakfast consumption habits and their relationship to sociodemographic and lifestyle factors among undergraduate students at Universiti Sains Malaysia (USM) Health Campus. The findings can be used to raise awareness regarding healthy breakfast consumption patterns among undergraduate students and can be used to inform nutrition and health interventions for undergraduate students, particularly those studying in the health sciences. Additionally, the study provides a valuable contribution to the literature on breakfast consumption habits among university students in Malaysia. This will be useful data for anticipating and generating strategies to be used suitable to promote breakfast consumption and contribute to overall improvements in dietary habits and health outcomes among students.

Besides that, researchers can identify the specific sociodemographic factors that influence breakfast consumption pattern such as gender, ethnicity, year of study and living arrangement. Lastly, the findings of this study will be useful in developing a more comprehend strategies to enhance breakfast consumption pattern in maintaining healthy lifestyle, as well as tackle issue of lack in practice of breakfast consumption among undergraduate students in Universiti Sains Malaysia (USM) Health Campus.

1.4 Research Questions

1. What is socio-demographic characteristics among undergraduate students in Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan?
2. What is breakfast consumption patterns among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan?
3. Is there any association between breakfast consumption pattern and sociodemographic characteristics among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan?

1.5 Research Objectives

1.5.1 General Objective

To determine the association between sociodemographic characteristics and breakfast consumption pattern among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan.

1.5.2 Specific Objectives

1. To determine sociodemographic characteristic among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan.
2. To determine breakfast consumption pattern among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan.
3. To determine the association between breakfast consumption pattern and sociodemographic characteristics among undergraduate students of Universiti Sains Malaysia, Health Campus, Kelantan.

1.6 Research Hypothesis

Null hypothesis (H_0): There is no significant association between sociodemographic characteristics and breakfast consumption pattern among undergraduate students in Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan.

Alternative Hypothesis (H_A): There is a significant association between sociodemographic characteristics and breakfast consumption pattern among undergraduate students in Universiti Sains Malaysia, Health Campus, Kubang Kerian, Kelantan.

1.7 Conceptual Framework

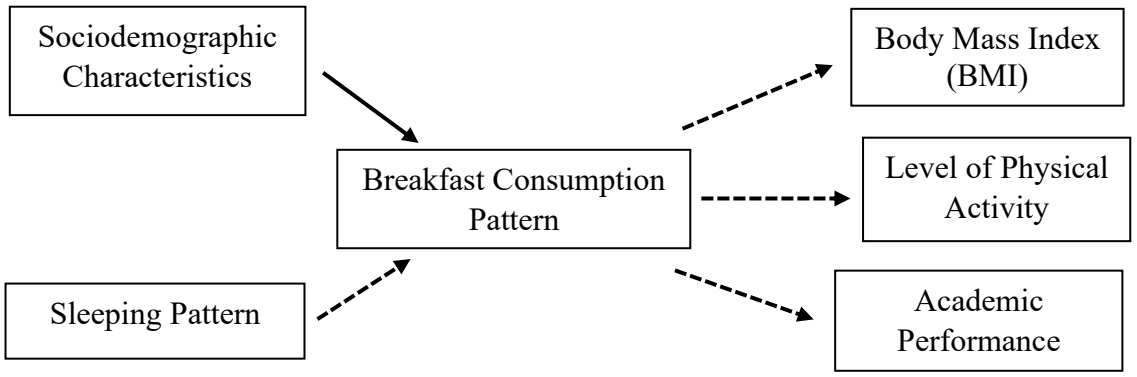
Figure 1.1 showed the conceptual framework of the current study. As the objective of determining the association between sociodemographic characteristics and breakfast consumption pattern, sociodemographic characteristics is independent variable whereas breakfast consumption pattern is dependent variable. Previous study suggests that some demographic characteristics are significantly associate with breakfast consumption pattern (Siega-Riz et al., 2000). The sociodemographic characteristics that found to have associated with breakfast consumption pattern is gender, ethnicity, year of study, and living arrangement (Skeer et al., 2016., Larson et al., 2013).

Besides, sleeping pattern was also associated with breakfast consumption pattern. Sleeping pattern is independent variable while breakfast consumption is dependent variable. Those who have irregular sleep patterns may be less likely to prioritize breakfast. Individuals with low sleep quality or insufficient sleep time are more prone to have irregular eating habits, such as skipping breakfast (Faris et al., 2022). Furthermore, those who sleep late or poorly are more prone to change their eating patterns, such as missing

or being late for meals, which can lead to weight gain, shows a greater likelihood of skipping breakfast (Xian et al., 2023).

Breakfast consumption has been found to be associated with body mass index (BMI) and level of physical activity. Based on observational evidence suggests that regular breakfast consumption pattern has been associated with a lower BMI status and reduced risk of obesity (Sievert et al., 2019). Frequent breakfast intake is associated with higher moderate-to-high physical activity (MPVA) as compared to infrequent breakfast consumption (Zakrzewski-Fruer et al., 2019).

In the other hand, breakfast consumption patterns have been found to influence academic performance. Breakfast consumption pattern is independent variable while academic performance is dependent variable. Previous study shows that healthy breakfast consumption relates to enhanced learning, cognition, and attention span in students, all of which have a good effect on academic achievement (Javaid, 2020). In addition, students who skipped breakfast can easily lose their focus and concentration as well as reduce their motivation in class due to hunger because of skipping breakfast (Gao et al., 2021).



Solid line arrow represents variables that included in this study.

Dotted line arrow represents variables that not included in this study.

Figure 1.1: Conceptual Framework of Study

CHAPTER 2 LITERATURE REVIEW

2.1 Sociodemographic Characteristics and Undergraduate Students

Sociodemographic characteristics involved the social and demographic as elements which determine an individual within a certain group or population (Abdullahi, 2020). It includes age, gender, ethnicity, education, income, marital status, employment status, and place of residence. University students are often in their late teens to early twenties. It is reported that young adults do not have the appropriate nutritional knowledge and experience to make healthy food choices (Ansari et al., 2012). In addition, university students are a vulnerable group that is prone to developing a poor eating habit.

2.2 Definition of Breakfast Consumption Pattern

Breakfast is literally known as the meal that breaks the fast. Breakfast is defined as any food or beverages taken before 10 a.m on first eating occasion after an overnight fast (Timlin and Pereira, 2007). Breakfast is an essential meal of the day, as it provides the body with the energy to start the day (Xiao, 2023). Breakfast consumption pattern defined as the frequency and timing of consuming a meal identified as breakfast within a specified time frame (Afeiche et al., 2017).

Breakfast consumer or breakfast skipper usually classified according to the frequency of breakfast consumption by individuals. Breakfast skipping was characterised in some research as not eating breakfast at least once per week or eating breakfast less than seven days per week (Sjoberg et al., 2003). Other study suggested that breakfast skippers are those who rarely or never eat breakfast and those who eat breakfast two or less days per week (Smith et al.2013).

2.3 Breakfast Consumption Among University Students

Breakfast is an essential aspect of dietary habits which plays a crucial role in the overall well-being and academic performance of university students (Xiao, 2023). A study has been conducted to evaluate the breakfast consumptions pattern of university students and it shown that breakfast consumption patterns can be influenced by a variety of factors, including sociodemographic characteristics, lifestyle habits, and academic demands (Seedat & Pillay, 2020). Furthermore, study from Abdul Karim et al., (2021) declared that breakfast consumption has positive effects on academic performance and cognitive skills among Malaysian university students. Despite the various benefits of eating breakfast, it is still recognized as the most often skipped meal (Pendergast et al., 2016). This is due to time constraints, lack of appetite, financial problem, weight control or other factors (Chawla et al., 2019).

2.4 Prevalence of Breakfast Consumption Pattern

A cross-sectional study conducted among students in Universiti Kebangsaan Malaysia reported 63% of the girls were breakfast skippers and 37% were breakfast consumers (Jayaveloo et al., 2021). A cross-sectional study was conducted among private university students in Shah Alam, Malaysia found that only 38.8% respondents had the habit of taking breakfast every day (Sundaram et al., 2018). Another cross-sectional study done among college students in Saudi Arabia found that most students consumed only two main meals a day, with breakfast being eaten three to four times a week by 38.7% of the students and daily by 49.9% (Al-Rethaiaa et al., 2010). Apart from that, another cross-sectional study conducted among undergraduate students in the School of Health Sciences at the University of KwaZulu-Natal. This study found that from 80.5% of students who consumed breakfast only 50.7% of them consumed breakfast daily (Seedat & Pillay,