UNIVERSITI TEKNOLOGI MARA

ASSOCIATION BETWEEN ULTRA-PROCESSED FOOD CONSUMPTION AND DIETARY INTAKE WITH THE RISK OF OVERWEIGHT AND OBESITY AMONG COLLEGE STUDENTS

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ABSTRACT

Overweight and obesity have become more prevalent in Malaysia in recent years, putting Malaysians' health at risk. It has been reported that processed and ultra-processed foods are low in fiber, vitamins, and minerals and high in energy, sugar, and unhealthy fats, all of which increase the risk of obesity. This research aims to determine the association between dietary intake and ultra-processed food consumption with the risk of overweight and obesity among college students in Universiti Teknologi Mara (UiTM) Puncak Alam. A cross-sectional study involving college students aged 19 to 26 years old was conducted in UiTM Puncak Alam, Selangor (n=339). Sociodemographic profile and food frequency questionnaire (FFQ) was collected using a self-administered questionnaire. Furthermore, the data collection was also conducted through researcher-administered interviews over two days of 24-hour diet recall. The results showed that there was a statistically significant difference in total energy, protein, fat, potassium, calcium, iron, folate, and fiber intake between the normal-weight (NW) group and the overweight/obese (OW/OB) group. However, there was no statistically significant difference in carbohydrate, sodium, sugar, and vitamin D intake between the NW group and the OW/OB group. Additionally, there was no statistically significant association between ultra-processed food consumption and the risk of overweight and obesity among college students in UiTM Puncak Alam. In conclusion, enhancing awareness towards dietary intake and highly consumed types of ultra-processed food associated with overweight and obesity is crucial to reduce the obesity rate among university students. Development of intervention programs to address this issue is substantial.

Keywords: ultra-processed food, dietary intake, overweight, obesity, college students

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CHAPTER 1 – INTRODUCTION

1.1 Research Background

Ultra-processed foods are formulations of ingredients derived from foods and additives, combined with substances such as colourings, flavourings, sweeteners, and emulsifiers (Ares et al., 2016). This definition includes beverages with added sugar, candies, ice cream, chocolates, savoury snacks, burgers, processed meat, and frozen meals. Ultra-processed foods are usually more affordable, readily available, long-lasting, and aesthetically pleasing than other food groups. Typically, they are aggressively marketed and carefully packaged. They are generally high in energy, low in protein, dietary fiber, micronutrients, and several bioactive compounds, and fatty, sugary, or salty.

Ultra-processed food is accessible and available in the food industry, and it has become a significant part of Malaysia's economy. All-cause mortality and increased risk of chronic diseases such as depression, irritable bowel syndrome, postmenopausal breast cancer, teenage asthma and wheezing, frailty, metabolic syndrome, overweight and obesity, overall cardiovascular disease, coronary heart disease, cerebrovascular disease, and hypertension were associated with increased consumption of ultra-processed foods (Chen et al., 2020).

Obesity is a significant global concern because it increases the clinical burden on nations. Malaysia had the highest adult obesity rate among Southeast Asian countries (Kasirye et al., 2020). Overweight was prevalent among Malaysian adults in 2011 and 2015 at 29.4% and 30%, respectively, while obesity was prevalent at 15.1% and 17.7%, respectively (Mohamad Nor et al., 2018). According to the National Health and Morbidity Survey (NHMS) 2023, the current obesity prevalence among Malaysian adults was 54.4%.