

UNIVERSITI TEKNOLOGI MARA

**MODELLING A SOCIAL MEDIA
INTERVENTION FRAMEWORK ON
LIMITING CONSUMPTION OF
HIGH ENERGY-DENSE (HED)
FOODS AND SUGAR-SWEETENED
BEVERAGES (SSB) AMONG
ADOLESCENTS**

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ABSTRACT

In Malaysia, one out of three adolescents are overweight or obese, one in three consume carbonated beverages daily, and one in ten eat fast food at least three days per week. Adolescents were more exposed to foods and beverages that contain excess amount of fat and sugars on social media. The majority of children between the ages of 5 and 17 use smartphones to access the Internet, and most students between the ages of 13 and 17 have social media profiles. Hence, various nutrition intervention has been done using digital platforms such as social media. However, despite the potential benefits of social media for nutrition and health interventions, some studies show low engagement rates and small significant results. Therefore, this study aimed to develop a framework based on the theoretical framework for social media intervention on limiting HED foods and SSBs consumption among adolescents. This is a three phases qualitative study: 1) Needs analysis through systematic literature review and in-depth interview among 15 adolescents; 2) Design and development utilising Fuzzy Delphi Method among 12 social media content creator and policymaker; and 3) Validity assessment employing Nominal Group Technique with eight nutritionist and dietitians. Findings for phase I highlighted the lack of any digital or technologically related models or theories in nutrition interventions, with social media being the most popular venue for delivering nutrition interventions among adolescents. Besides that, 19 factors influencing adolescents in using social media for nutrition interventions have been found such as user characteristics, environmental factor and social media features. Phase II reported that all items to be included in the framework were accepted by the expert panel following the three conditions which are threshold value, experts' agreement percentage and fuzzy score with no additional items. Phase III revealed the overall result of the study where the framework was validated by the experts with percentage of agreement between 91% and 98% for each item and no new items added. To conclude, the social media intervention framework on limiting consumption of HED foods and SSBs among adolescents were developed and validated. This framework will provide the healthcare professionals and providers, policymakers, organizations and stakeholders with the knowledge to develop and optimize the effectiveness of a social media intervention aims to promote healthy eating by limiting HED foods and SSBs intake among adolescents.

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CHAPTER 1

INTRODUCTION

1.1 Research Background

Energy-dense dietary pattern which consists of energy-dense food containing saturated fatty acid and beverages containing free sugars are associated with higher risk of developing obesity especially among late adolescents (Livingstone et al., 2021). Although there are various factors that cause obesity such as biological, genetic, environmental and developmental factors, the root cause of these problems is increased intake of foods high in fat and sugars with lack of physical activity which causes energy imbalance between energy consumed and energy expended (Taillie et al., 2017; World Health Organization, 2021). High energy-dense (HED) foods contain high fat content which leads to the increase in energy intake for each meal (Poppitt & Prentice, 1996). Whereas, sugar-sweetened beverages (SSBs) are made up of energy-dense sweeteners like sucrose (50% glucose, 50% fructose), high-fructose corn syrup (most commonly 45% glucose, 55% fructose), or fruit juice concentrates that typically contain more than 25 calories per 8 fluid ounces which were added by manufacturers, establishments, or individuals (Malik et al., 2013).

According to World Health Organization (2021), the number of obese people globally in 2016 has increased almost three times since 1975 with 39% of 18 years old and older were overweight and 13% of the adult were obese. Whereas, more than 340 million children and adolescents aged 5 to 19 years old were overweight or obese. In the last 10 to 15 years, prevalence of overweight and obesity in South-East Asia shows an alarming increasing trend where Malaysia appeared as the highest prevalence of obesity with 50.1% of adult population (Institute for Public Health, 2019). This prevalence indicates an alarming condition of their health. Institute for Public Health (2022) reported that one in three adolescents are overweight or obese, four in five lacks of fruits and vegetables, one in three drinks carbonated beverages every day, one in ten consume fast food at least three days in a week.

Based on 12 surveys conducted in South-East Asia that nationally represents 75% of the population, it was found that individual aged 20 years old and more consumed 0.37 servings of SSBs daily in 2010. The highest consumption was from