UNIVERSITI TEKNOLOGI MARA

FOOD PREFERENCE OF CHILDREN WITH AUTISM SPECTRUM DISORDER IN SELANGOR AND KUALA LUMPUR

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ABSTRACT

Nutrition is one of the important contributors to the well-being of children with disability. Given the various data on the nutritional status of autism spectrum disorder (ASD) children, it is imperative to conduct a detailed nutritional assessment of the local population. This study compares ASD with typical developing (TD) children to determine the weight status, association of mealtime behaviour with dietary intake, food preference, and weight status predictors. This cross-sectional study recruited 106 children (ASD, n = 55; TD, n = 51) aged five to nine years old. Sociodemographic were assessed through self-administered questionnaires, and the body mass index (BMI) was computed from collected weight and height. A three-day food record, Brief Autism Mealtime Behaviour Inventory (BAMBI), and food frequency questionnaire data were obtained from the caretakers. More than one-third (39%) of the ASD children were overweight or obese compared to TD children (23%). Meanwhile, the total energy intake was statistically significant (X^2=9.53, p=0.008) when the higher proportion of children with ASD, specifically 58.5%, exhibited excessive energy intake in comparison to TD children (41.8%). The majority (88.2%) of ASD children experience problems in mealtime behaviour characteristically limited food acceptance with a mean score of (28.78±6.80). Mealtime behaviour was not associated with energy, carbohydrate, protein, and fat when the p>0.05. Food preferences were evaluated by the frequency taken in a period of day, week, and month. As rice is a typical food in Malaysia, a total of 43.1% of ASD children consumed more than four times daily, compared to TD children who mostly took two-three times daily (92.7%). While in protein sources, fried chicken was the most preferable in ASD groups, 13.7% of them took it more than four times daily, and 39.22% took it five-six times per week. The findings indicate that a significant proportion (88.2%) of children with ASD have never consumed lamb, in contrast with TD children (49.1%) who frequently consumed at least once per month. Furthermore, most of the ASD (70.59%) and TD (61.82%) groups never took *sayur kacang* and the most preferred fruits were apple (33.3%) and banana (61.8%) respectively. A minority of ASD children (7.84%) ate sugar every day, while a greater percentage of 29.41% took it once a week or 27.45% never did. In contrast to TD children, most consumed sugar more than four times per week accounting for 10.9% in total. None of the tested factors affected ASD children's weight. Even while mealtime behaviour did not affect dietary intake and no characteristics could predict weight status, excessive daily calories significantly affected BMI. Nutritional interventions would improve AS children's nutritional status because growth factors influence physical development.

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CHAPTER 1

INTRODUCTION

This chapter of the introduction presents a comprehensive summary of the description of autism spectrum disorder, the global and Malaysian prevalence data, and the associated comorbidities. In addition, this chapter also emphasises the research questions, which are aligned with the study objectives, derived from the described problem statements.

1.1   Background of the Study

Autism Spectrum Disorder (ASD) is defined as a neurodevelopmental condition that impaired communication skills, restricted, repetitive patterns, and behaviour as well as lack of interest in activity which often associated with multiple comorbidities such as gastrointestinal symptoms, eating behaviour, and disruptive behaviour (American Psychiatric Association., 2013 & Peverill et al., 2019). While in a study done by Barthélémy & Bonnet-Brilhault (2016), ASD is categorized into three groups which are social interaction, social communication, and social imagination.

The case of a child diagnosed with ASD are in increasing trends. Typically, it is diagnosed within the first three years of life, specifically at the ages of three and four. It is more prevalent in males than females. In the United States (US), the prevalence rate of ASD is 1 in 59 children (Baio et al., 2018). The prevalence of ASD increases from 23% in 2006 to 78% compared with 2002 (Centers for Disease Control and Prevention, 2014). The epidemiology studies suggest the rate of ASD were 1 in 100 children (Yates & Le Couteur, 2016) and from the National Institute of Health and Clinical Excellent (NICE) data suggest that the ASD was diagnosed 3% of the children population. While ASD prevalence in Malaysia has not yet been identified. Nevertheless, a feasibility study carried out by the Ministry of Health (MOH) on Malaysian children with ASD aged 18 to 36 months discovered that the prevalence of children with ASD was predicted to be 1.6 per 1000 children (Clinical Practice