

UNIVERSITI TEKNOLOGI MARA

**ASSESSING THE EFFECTIVENESS OF A NUTRITION EDUCATION
MODULE FOR PRESCHOOLERS: KIDS EARLY EDUCATION ON
NUTRITION (KEEN)**

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ABSTRACT

Childhood nutrition is critical for lifelong health, and early intervention is essential. This study assesses the effectiveness of the Kids Early Education on Nutrition (KEEN) module. Involving 27 preschoolers aged 5 to 6 years from Tadika Dzul Iman Smart Khalifah in Puncak Alam, Selangor, it measures changes using the Children's Eating Behaviour Questionnaire (CEBQ), Nutrition Quotient for Preschoolers (NQ-P), and Hedonic Scale for Fruits and Vegetables. Significant improvements were observed in food approach subscales: Enjoyment of Food (EF) (mean difference: -0.39, 95% CI: -0.54, -0.24, $t = -5.21$, $p < 0.001$), Food Responsiveness (FR) (mean difference: -0.35, 95% CI: -0.49, -0.21, $t = -5.18$, $p < 0.001$), and Desire to Drink (DD) (mean difference: -0.26, 95% CI: -0.47, -0.05, $t = -2.59$, $p = 0.016$). Reductions in Emotional Undereating (EUE) (mean difference: 0.22, 95% CI: 0.05, 0.39, $t = 2.66$, $p = 0.013$) and Food Fussiness (FF) (mean difference: 0.26, 95% CI: 0.12, 0.40, $t = 3.89$, $p < 0.001$) were noted. The overall NQ-P score increased (mean difference: -5.83, 95% CI: -8.79, -2.86, $t = -4.04$, $p < 0.001$), with improvements in balance ($p = 0.002$) and moderation ($p = 0.002$). Preferences for green beans (mean difference: 0.60, $p = 0.023$) and bell peppers (mean difference: 0.88, $p < 0.001$) improved. The KEEN module is effective and could be integrated into preschool curricula to promote long-term health benefits.

Keywords: childhood nutrition, dietary behaviours, nutrition education, preschoolers,, early intervention

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CHAPTER 1

INTRODUCTION

This chapter reports on the background and problem statement of the research, providing a comprehensive context for understanding the significance of the study. It discusses the research justification and significance, highlighting the importance of investigating dietary behaviors among preschoolers aged 5-6 and the impact of early nutrition education. The chapter outlines the research questions that guide the study, followed by the objectives aimed at assessing the effectiveness of the nutrition education module (KEEN). Additionally, it presents the hypothesis and assumptions underlying the research, acknowledges the limitations of the study, and concludes with the conceptual framework

1.1 Research background

Children are individuals from birth to 12 years old, divided into four main groups including infants, toddlers, preschoolers, and school-aged children. Infancy spans from birth to 12 months, toddlers are children aged 1 to 3 years, preschoolers aged 3 to 5 years, and school-age children typically aged 6 to 12 years (Sevayatanhospital, 2023). A preschool also known as a nursery school, pre-primary school, or play school is an educational establishment or learning space offering early childhood education to children before they begin compulsory education at primary school. It may be publicly or privately operated and may be subsidized from public funds. The typical age range for preschool in most countries is from 2 to 6 years (Wikipedia, 2024). Preschoolers, particularly those aged 5 to 6 years, require balanced diets rich in essential nutrients to support their rapid growth and development. Proper nutrition during these formative years is crucial, as it lays the foundation for lifelong health by promoting healthy growth, supporting the immune system, and preventing chronic diseases.