

UNIVERSITI TEKNOLOGI MARA

**MATERNAL PRENATAL FACTORS AND DIETARY INTAKE THAT
POSE AN EARLY RISK OF DEVELOPMENTAL DELAY IN THEIR
OFFSPRING AMONG PREGNANT MOTHERS IN KUALA
SELANGOR**

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ABSTRACT

Developmental delays in children are increasingly recognized as a public health concern, particularly in low- and middle-income countries. This study investigated maternal prenatal factors and dietary intake that may pose a risk of developmental delay in offspring, focusing on 118 pregnant women in their third trimester attending community clinics in Kuala Selangor. Results showed a significant prevalence of inadequate intake of iron, folate, and dietary fiber. Over half of the participants were overweight or obese, with many exhibiting inappropriate gestational weight gain (GWG). Notably, 31.4% reported anxiety, and 20.3% reported depression. Key associations included employed women having higher odds of being overweight or obese (OR = 8.360, 95% CI: 1.331–52.497, $p = 0.024$) and women aged 30–45 being more likely to experience excessive GWG (OR = 5.864, 95% CI: 1.763–19.501, $p = 0.004$). Tertiary education was linked to higher GWG (OR = 4.887, 95% CI: 1.233–19.374, $p = 0.024$). Older maternal age was a strong predictor of gestational diabetes (OR = 6.362, 95% CI: 2.239–18.082, $p < 0.001$), and secondary education was associated with dietary fiber deficiency (OR = 2.452, 95% CI: 1.032–5.831, $p = 0.041$). These findings highlight the need for early interventions targeting maternal health and nutrition.

Keywords: Global developmental delay, Maternal health, Prenatal BMI, Dietary intake, Dietary Inflammatory Index, Gestational weight gain, Mental health, Socioeconomic status

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CHAPTER 1: INTRODUCTION

1.1 Research Background

The World Health Organization (WHO) estimates that approximately 52.9 million children under the age of five worldwide experience developmental disabilities, which encompass sensory impairments, intellectual disabilities, and autism spectrum disorders. Alarmingly, 95% of these children live in low- and middle-income countries (Salomone et al., 2019). Furthermore, the report reveals that in 2019, 317 million children and adolescents were affected by health issues related to developmental disabilities. This situation raises significant concerns regarding the holistic development of children and their future well-being.

Global Developmental delay (GDD) in a child is recognized when the child fails to achieve any area of development, be it gross motor, fine motor, language, or social skills, by the expected age (Bishwokarma et al., 2022). In Malaysia, the overall prevalence of developmental delay in children aged 6 to 59 months is reported to be 3.3% (NHMS, 2016). For example, developmental delay occurs when a child does not reach developmental milestones in comparison to peers in the same age group (Khan & Leventhal, 2023). This issue is concerning as data from the National Center for Health Statistics indicate that the prevalence of developmental delay among children aged 3 to 17 years increased in the United States from 2019 to 2021 (Zablotsky et al., 2023). Furthermore, a systematic review found that the prevalence of developmental delay in low and middle-income countries is significantly higher than that observed in high-income countries. Early identification of developmental delay is crucial for enabling interventions that can reduce or prevent the risk of developmental delays in infancy, particularly among populations with low socioeconomic status.