



## THE EFFECT OF CULTURE ON MATERNAL LIFESTYLE DURING PREGNANCY ON THE INCIDENCE OF STUNTING IN TODDLERS AGED 1-3 YEARS

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### ABSTRACT

**Background:** Food taboos and cultural beliefs and practices of mothers during pregnancy have negative impacts on the mother and her unborn baby, causing the baby to be malnourished and at risk of stunting. **Method:** This study used an observational method with a case-control research design, simple random sampling technique. The subjects of the study were biological mothers of toddlers aged 1-3 years in the Hilisatara Health Center Working Area, Toma District, South Nias Regency, North Sumatra Province, totaling 114 respondents. The independent variables of the study were maternal food taboos during pregnancy and maternal cultural beliefs and practices during pregnancy obtained using a questionnaire. **Results:** The study showed that 50.0% of maternal food taboos during pregnancy were in the good category and there was a significant influence OR 72.250 ( $p = 0.001$ ) on the stunting status of toddlers and maternal cultural beliefs and practices during pregnancy were 50.9% in the good category and there was a significant influence OR 88.400 ( $p = 0.001$ ) on the stunting status of toddlers. **Conclusion:** There is an influence of maternal food taboos during pregnancy on stunting and there is an influence of maternal cultural beliefs and practices during pregnancy on child stunting.

**Keywords:** Culture, Lifestyle, Pregnant Women, Stunting

### Introduction

Becoming a mother is a joyous time for every woman. Optimal nutrition is crucial and must be considered by pregnant women. Optimal nutritional intake during pregnancy significantly impacts and supplies the nutritional needs of fetal

growth. Various communities in Indonesia have diverse cultures, especially during pregnancy.

Indirectly, culture is a factor that influences nutritional status, which can affect pregnant women. The community needs to pay attention to the nutritional



needs of pregnant women as a form of social support and still adhere to food taboos that should be avoided by pregnant women, as well as the mother's cultural beliefs and practices during pregnancy. If these beliefs are violated, it can have negative consequences for both the mother and the baby, putting malnourished toddlers at risk of stunting (Juariah, 2018). Stunting is a long-term nutritional problem that impacts the health of the fetus, mother or expectant mother, infant, and toddler, including illnesses experienced by toddlers. The Z-index score for height-for-age (H/A) is used to diagnose stunting, also known as short stature, a condition in which a person's height is disproportionate to their age. If a person's H/A Z-index score is less than -2 SD (standard deviation), they are considered stunted. Research findings indicate that several variables, including maternal nutritional expertise, maternal parenting patterns, immunization history, history of infectious diseases, maternal nutritional status during pregnancy, and family poverty, can impact stunting (Handayani et al., 2022).

A pregnant woman needs support not only for herself but also for the fetus she is carrying during her pregnancy (Marmi, 2020). Fetal development may be influenced by the mother's nutritional status both before and during pregnancy. A woman is more likely to give birth to a healthy, full-term baby with a normal weight if her nutritional status is normal before and during pregnancy. Toddlers are also affected by poor nutrition during pregnancy. Stunting can have direct negative effects on the body, including metabolic diseases, impaired physical growth, and decreased IQ due to impaired brain development. Stunted children also have an increased risk of diabetes, obesity, heart and blood vessel disease, cancer, stroke, and disability in old age. These are just some of the long-term impacts of this disorder. It also weakens the immune system, making them more susceptible to disease (Rosida and Kusmiati, 2023).

## Research Method

This study used a retrospective case control methodology with an analytical observational research paradigm. Analytical observational research aims to explain a phenomenon or event by studying it without involving the research subjects, namely pregnant women. In contrast, retrospective research involves first collecting data on the dependent variable before measuring causal factors that occurred in the past, for example, a year ago (Manurung, 2022).

The population in this study is the entire object with certain qualities and characteristics to be studied and then conclusions drawn. The population of this study was pregnant women and those with children aged 1-3 years at the Hilisatara Community Health Center. The sampling procedure used in this study was carried out through Consecutive Sampling. The sample is a portion of the population with the characteristics it possesses. For this study, only a portion of the population considered representative of the population was used (Sinaga, 2022).

The selection of research individuals who are used as representative research samples and meet the requirements is carried out using inclusion criteria to become part of the research. The data analysis used includes descriptive and analytical analysis. The data will be analyzed to determine the frequency distribution. The data examined for correlation between maternal consumption patterns and stunting incidence is nominal data. The statistical tests used will be SPSS.

## Result

The general data from the research results are a description of the characteristics of respondents which include gender aged 1-3 years, child birth weight, ANC examination during pregnancy, mother's knowledge, mother's age, mother's weight before pregnancy, mother's height, mother's BMI before pregnancy, mother's occupation, parents' income, mother's highest education. 97 mothers (89.8%) regularly had ANC, while a



small proportion, 11 mothers (10.2%) rarely had ANC check-ups during pregnancy.

Data on maternal nutritional status during pregnancy in table 5.12 shows that of 108 mothers aged 1-3 years in the working area of the Hilisataro Nias Health Center, the majority experienced poor nutritional status during pregnancy (54 mothers (50%), normal nutritional status during pregnancy (40 mothers (37%), and overweight nutritional status during pregnancy (14 mothers (13%). This is in line with research in Bangladesh in 2010 that malnourished women have a higher risk of adverse pregnancy outcomes. The risk of malnutrition in pregnant women can be influenced by age, education, and monthly household income (Milton, Shahidullah, Smith, Hossain, & Hasan, 2010). Maternal nutritional status before and during pregnancy plays an important role in the early process of fetal development and neonatal growth (Pelizzo et al., 2014). Researchers assume that the majority of maternal nutritional status during pregnancy in the Kenjeran Community Health Center (Puskesmas) in Surabaya is poor due to inadequate nutrition during pregnancy, difficulties in accessing information due to maternal education, insufficient family status during pregnancy can put the fetus at risk, leading to low birth weight, and the child being at risk of stunting. income, and insufficient nutritional needs during pregnancy. Poor maternal nutritional

Based on the table, it shows that from 108 children aged 1-3 years, data was obtained that half of mothers who have children aged 0-12 months in the working area of the Hilisataro Nias Health Center experienced poor maternal nutritional status during pregnancy, as many as 54 mothers (50.0%), almost half of the mothers' nutritional status during pregnancy was normal, as many as 40 mothers (37.0%) and a small portion of the mothers' nutritional status during pregnancy was more, as many as 14 mothers (13.0%).

## Discussion

This study was designed to provide an overview of the interpretation and reveal the relationship between maternal nutritional status during pregnancy and the incidence of stunting at the age of 1-3 years in the working area of the Kenjeran Surabaya Community Health Center. Based on the research results, the category of maternal nutritional status during pregnancy was more than normal with a total of 11 children (78.6%). Nutrition is a problem in the life cycle, starting from pregnancy, infancy, toddlerhood, adolescence, to the elderly.

Problems in a particular age group will affect nutritional status in the next period of the life cycle. Adequate nutritional fulfillment, both macro and micro nutrients, is needed to avoid or minimize the risk of stunting (T. Rahman et al., 2016)

Researchers assume that paying attention to nutritional intake during pregnancy plays a very important role in reducing the risk of stunting, but mothers will likely be at risk of obesity due to overnutrition during pregnancy. The category of maternal nutritional status during pregnancy was more than normal with a total of 3 children (21.4%), while there was no category of maternal nutritional status during pregnancy with a total of very short stunting. Economic improvement and improvement in nutritional status have a reciprocal relationship, socioeconomic conditions influence nutritional intake patterns (Aramico, Sudargo, & Susilo, 2013).

The prevalence of stunting is significantly higher among children of mothers engaged in unpaid work compared to mothers engaged in paid work (Zapata-Fajardo & Mayta-Trista, 2019). Researchers assume that parental income plays a significant role in maternal nutritional status during pregnancy as well as child growth and development. This is because most parents' income is below the minimum wage in Surabaya, making their income insufficient to cover their expenses. To meet adequate nutritional needs, mothers must spend more than they need to cover their daily needs.



The results of the Spearman rho statistical test with a significance value of  $\rho = 0.000$  with a significance level of  $\rho = 0.01$  ( $\alpha < 0.05$ ) can be concluded that the results indicate a relationship between maternal nutritional status during pregnancy and the incidence of stunting in children aged 0-12 months in the working area of the Hilisataro Nias Health Center with a correlation coefficient analysis of  $\gamma = 0.602$ . Based on the results of the cross-tabulation of the study in table 5.14, it shows that there is a relationship between maternal nutritional status during pregnancy and the incidence of stunting in children aged 0-12 months in the working area of the Hilisataro Niasdan Health Center, the results showed that out of 108 respondents, the maternal nutritional status during pregnancy was categorized as less with the incidence of very short stunting as many as 20 people (37.0%), the maternal nutritional status during pregnancy was less with the incidence of short stunting as many as 24 people (44.4%), the maternal nutritional status during pregnancy was less with the incidence of normal stunting as many as 10 people (18.5%), the maternal nutritional status during pregnancy was normal with the incidence of very short stunting as many as 2 people (5%), the maternal nutritional status during pregnancy was normal with the incidence of short stunting as many as 5 people (12.5%), the maternal nutritional status during pregnancy was normal with the incidence of normal stunting as many as 33 people (82.5%), the maternal nutritional status during pregnancy was more with the incidence of short stunting as many as 3 people (21.4%), and the maternal nutritional status during pregnancy was more with the incidence of normal stunting as many as 11 people (78.6%).

## Conclusion and Suggestion

### 1. Conclusion

This study demonstrates a significant association between maternal cultural lifestyle during pregnancy and the incidence of stunting among children aged 1-3 years in the working area of Hilisataro Health Center, South Nias Regency. Two primary components of

maternal culture—food taboos and traditional beliefs—were found to have a substantial impact on child growth outcomes. Specifically, mothers who observed positive food practices and avoided harmful dietary restrictions during pregnancy were significantly less likely to have stunted children. Likewise, adherence to culturally rooted practices that support maternal health was associated with reduced stunting and its influence on maternal nutrition and prenatal behavior. Culturally tailored health interventions are essential to bridge traditional beliefs with evidence-based practices, ensuring better maternal and child health outcomes.

### 2. Suggestion

Based on the study's findings, the following recommendations are proposed:

1. For Healthcare Providers
  - Strengthen health promotion and counseling programs that address the nutritional needs of pregnant women, with an emphasis on correcting harmful cultural misconceptions.
  - Utilize culturally sensitive communication strategies to respect local traditions while guiding communities toward healthier practices.
2. For Public Health Authorities
  - Design and implement maternal and child health programs that integrate local wisdom and cultural contexts, especially in rural or indigenous areas
  - Foster collaboration between community leaders, traditional birth attendants, and healthcare professionals to promote nutritional awareness during pregnancy
3. For Families and Communities
  - Encourage active involvement of family members, especially spouses and elders, in supporting pregnant women's health and nutrition
  - Conduct community dialogues and participatory workshops to critically



assess cultural practices and replace those that are detrimental to maternal and child health

4. For Educational Institutions and Researchers
  - Promote further interdisciplinary research on the interplay between maternal culture and childhood nutrition in diverse sociocultural settings.
  - Develop culturally relevant educational materials for use in health education campaigns and prenatal care services
5. For Pregnant Women
  - Empower women with accurate, science-based knowledge about prenatal nutrition to enable informed decision-making during pregnancy.
  - Encourage self-awareness and confidence in navigating cultural pressures, ensuring that maternal well-being and fetal development remain a top priority

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