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ABSTRACT

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**RELATIONSHIP BETWEEN ENERGY ADEQUACY LEVEL AND MACRO
NUTRITION WITH UNDERWEIGHT EVENTS IN TODDLERS**

**(OBSERVATIONAL STUDY OF TODDLERS AGED 24-59 MONTHS IN
KARANGANYAR SUB-DISTRICT, KAWALU CITY, TASIKMALAYA, 2023)**

Underweight is one of the three criteria of malnutrition that describes growth failure. One of the causes of underweight is inadequate nutrient intake which causes a decrease in muscle mass and basal metabolic rate. This study aims to determine the relationship between the adequacy level of energy, carbohydrates, protein, and fat with underweight events in toddlers. This research used a cross-sectional study. Sampling under five was carried out by proportional random sampling from all Integrated Healthcare Centers (Posyandu) with a total sample of 52 subjects. Data collection was carried out using a 3x24-hour non-consecutive food recall. Data analysis used the chi-square test. The results showed a relationship between the level of energy adequacy and the incidence of underweight ($p = 0.031$), the level of adequacy of carbohydrates and the incidence of underweight ($p = 0.011$), the level of adequacy of protein and the incidence of underweight ($p = 0.023$), and the level of adequacy of fat and the incidence of underweight ($p = 0.033$). This study concludes that there is a relationship between the level of adequacy of energy, carbohydrates, protein, and with underweight events in toddlers aged 24-59 months.

Keywords: *Underweight, energy adequacy level, carbohydrate adequacy level, protein adequacy level, fat adequacy level*