

3736671 PPHP/D : MAJOR: PUBLIC HEALTH NUTRITION; Dr.P.H.

KEY WORDS : PREGNANT WOMEN / PROTEIN INTAKE / BIRTH WEIGHT
BIRTH LENGTH / GESTATIONAL AGE

SUWALEE LOWIRAKORN: THE RELATIONSHIPS BETWEEN PROTEIN INTAKE DURING THE SECOND AND THIRD TRIMESTERS OF LOW WEIGHT GAIN PREGNANT WOMEN AND FETAL OUTCOMES. THESIS ADVISORS: MANDHANA PRADIPASEN, Dr.P.H., REWADEE CHONGSUWAT, Ph.D., JUNYA PATTARAARCHACHAI, Sc.D. 217 P ISBN 974-664-076-3

The study is aimed to determine the effect of quantity and quality of protein intake during the second and third trimesters in pregnant women with low weight gain before the 20th week of gestation. The study design was a prospective cohort study. An interview of dietary intake was conducted twice during the second and the third trimesters. Participants of this study were healthy pregnant women who had low weight gain at the time of recruitment and attended an antenatal care clinic regularly until delivery at Maternal and Child Hospital, Khon Kaen Regional Hospital Srinakarini Hospital, Khon Kaen University, from March 1998 to July 1999. One hundred and seventy subjects were sampled.

The maternal socioeconomic and health-related information and delivery data were collected using an interview and from medical records. The interview of dietary intake was employed with food frequency, 24-hour dietary recalls and food records. Gestational weight gain was collected from the initial pregnancy until delivery.

This study showed that there were no statistical differences of birth weight, birth length and gestational age among different socioeconomic characteristics. Energy intake and essential nutrient intakes were adequately consumed, compared with 75% RDA except for calcium and iron intake. Mean birth weight and birth length were not significantly different among groups of different protein intake. Gestational age was significantly different among the protein intake groups. There were no significant differences in birth weight, birth length and gestational age among groups of different percentage caloric intake from protein. The protein quality was also compared. No significant difference was found. A regression analysis was employed and results showed that total weight gain and prepregnancy weight were correlated positively with birth weight and birth length. The higher vegetable protein in the second trimester and the less vegetable protein intake in the third trimester were found to have better birth weight and length of infants. In addition, the higher of total protein intake in the second trimester, the longer gestational age was. Therefore, the pregnant women are recommended to consume high protein intake in the second trimester and moderate protein intake in the third trimester.