

Vitamin d status in late pregnancy was related to pregnancy outcomes: a multi-ethnic cohort study in Indonesia and Malaysia

ABSTRACT

In Southeast Asian countries, where vitamin D deficiency is common, available data on the association between low 25(OH)D concentrations and adverse pregnancy outcomes are limited. This study aimed to identify the relationship between vitamin D levels of pregnant women and pregnancy outcomes in Indonesia and Malaysia. The study applied a prospective cohort approach, including 775 mother-infant pairs from selected public health facilities in West Sumatra (Indonesia) and Selangor and Kuala Lumpur (Malaysia). Blood samples were collected to evaluate serum 25(OH)D concentrations during the third trimester of pregnancy. Generally, the mean concentration of 25(OH)D throughout pregnancy was 18.04 ± 9.97 ng/ml and the prevalence of the vitamin D deficiency, insufficiency, and sufficiency status were 30.50%, 40.10%, and 29.40%, respectively. Infants born to mothers with higher 25(OH)D concentrations had increased birth weight and head circumference ($p < 0.05$), although no significant correlation was found with length at birth. Furthermore, a significant percentage of pregnant women in Indonesia and Malaysia had insufficient vitamin D status. Maternal vitamin D status is associated with newborn anthropometric measurements in birth weight and head circumference. However, additional studies are needed to confirm these results.