

Thesis Title Low Birthweight Babies: A Case-Control Study
of Maternal Risk Factors in a Bangkok Maternity
Hospital

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Date of Graduation 21 May B.E. 2536 (1993).

Abstract

The aim of this case-control study was to identify and measure the effect of infant sex, height, pre-pregnancy weight, age, socio-economic status, marital status, parity, birth-interval, history of prior still-birth/neonatal death/low birthweight babies, anaemia, episodic illness, cigarette smoking, alcohol consumption, coffee consumption and antenatal-care in expectant mothers on babies born low birthweight.

This study was conducted in Rajavithi Hospital from 20th.Jan 1992 to 31st.March 1992. The analysis involved information on 144 cases of low birthweight singleton babies and 288 singleton controls who were born during the study period. The

participants were randomly selected and the study used data derived from interviews with the post-partum mothers, using standard, structured questionnaires and hospital records. The results were analyzed using descriptive statistics in terms of numbers and percentages to compare the trend in the cases and the controls. Analytic study to see the effect of associations between the various maternal risk factors and low birthweight was done using OR, 95%CI and p-values. All risk exposures showing significant risk for low birthweight were finally adjusted for their potential confounding factors using software programme Mult-LR.

Crude analytic study showed six of the seventeen risk factors studied to be significantly associated with low birthweight. They were:

-mothers <18yrs. old when compared to mothers aged between 18-35 yrs. were 2.1 times more at risk of delivering a LBW.(OR = 2.1, 95%CI of OR = 1.03,4.29, p-val. = 0.0403).

-mothers weighing <45kgs. before pregnancy were 2.09 times more at risk of delivering a LBW when compared to mothers weighing >55kgs before pregnancy. (OR = 2.09, 95%CI of OR = 1.01 4.37, p-val. = 0.0460).

-mothers whose frequency of antenatal-care visit was <4 were 1.71 times more at risk of delivering a LBW than mothers whose frequency of ANC visit was ≥ 4 . (OR = 1.71, 95% of OR = 1.05,2.79 p-val. = 0.0313). Whereas mothers with no ANC visit were 2.99 times more at risk of delivering a LBW as compared to mothers who had ≥ 4 ANC visits (OR = 2.99, 95% of OR = 1.42,6.34, p-val. =

0.0026).

-mothers with a past history of having delivered a LBW were 2.07 times more at risk of again delivering a LBW as compared to mothers with no such history. (OR = 3.27, 95% of OR = 1.32,8.09, p-val. = 0.0063).

-expectant mothers who were in contact with cigarette smokers for >12hrs./day were 3.17 times more at risk of delivering a LBW as compared to expectant mothers who were in contact for <3hrs./day (OR = 3.17, 95% of OR = 1.27,11.1, p-val. = 0.0128).

-babies who were born with gestational age <37wks were 15.9 times more at risk of being of low birthweight than those babies who were born at term. (OR = 15.9, 95% of OR = 8.43,30.8, p-val.= <0.0001.

After simultaneously adjusting for their potential confounders, of the six significant factors in the crude analysis only two were significant:

-gestational age (OR = 15.85, 95% of OR = 8.6,29.1, p-val. = <0.001).

-past h/o LBW (OR = 3.69, 95% of OR = 1.59,8.56, p-val. = 0.0022).

In conclusion, mothers' past history of having delivered a low birthweight and her gestational age are risk factors for delivering a low birthweight baby independent of her age, pre-pregnancy weight, frequency of her ANC visits and duration of her smoking or in contact with cigarette smokers.

The findings of this study is limited to Rajavithi Hospital and cannot be generalized to all of Thailand. Anyway, this study can be used as a rough guide to future studies on the topic in Thailand.