IMPACT OF PRENATAL CARE ON PERINATAL MORTALITY IN HO CHI MINH CITY

NGUYEN TRONG HIEU

Master of Science Thesis

in Epidemiology

Prince of Songkla University

1994

Title: **Impact of Prenatal Care on the Perinatal Mortality in Ho Chi Minh City**

Author: **Nguyen Trong Hieu**

Programme: **Epidemiology**

Academic Year: **1994**

ABSTRACT

During the period April to September 1993, a 250-cluster sampling design stratified on rural/urban residence was used to obtain a sample of mothers who had given birth during the year 1992 in Ho Chi Minh City, in order to determine the perinatal mortality rate (PMR). Data pertaining to all births and perinatal deaths (PD) in the sample were collected from birth registers and medical records. Of the 4809 births in the sample, 48 were still births, and 66 live births resulted in early neonatal death. PMR per thousand births was 21 among the urban population and 34 among the rural population. The overall PMR for the city was 25 per thousand births with a 95% confidence interval (95% CI) of 20-29 per thousand. The major causes of PD were: prematurity 33%, congenital malformation 15%, perinatal asphyxia 12%, perinatal infection 11%, birth injury 4%, others 8% and unknown 16%.

A nested case-control study was undertaken to explore the association between PD and prenatal care (PC). Three controls were selected systematically from the same community as each of PD group, providing a total of 103 cases and 309 controls. Univariate analysis revealed positive associations between PD and fewer years of formal education, lower economic score, non-use of oral contraceptive, non-use of injectable contraceptive (DMPA), previous abortion, previous PD and short interval between the previous 2 deliveries. No association was found for maternal age, age at marriage, marital status, occupation, maternal smoking habit, previous IUD insertion, use of condom, surgical sterilization and previous pre-term birth. Seventy five per cent of controls, but only 43% cases, sought PC during the index pregnancy, a crude odds ratio of 0.24 (95% CI: 0.15-0.38). Risk of PD was significantly related to the amount of PC received, and this was best explained by the time of onset of PC and number of prenatal visits. Starting PC within the 1st trimester compared with no PC or starting PC later in pregnancy gave a crude odds ratio of 0.04 (95% CI: 0.02-0.11), and a number of visits from 4 to 8 gave a crude odds ratio of 0.06 (95% CI: 0.03-0.14). After adjustment for economic level, previous birth interval, husband's smoking amount, history of preterm delivery and history of previous abortion, using unconditional logistic regression, the odds ratio for starting prenatal care during the first trimester was 0.11, with a 95% CI of 0.02-0.61, and for 4-8 visits was 0.15 (95% CI: 0.03-0.67). It is concluded that early onset of prenatal care and having 4 to 8 visits provide significant protection against perinatal mortality.

Key words: Perinatal mortality, perinatal mortality rate, perinatal death, late fetal death, early neonatal death, prenatal care.