Service Priorities and Programmes

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Changing model for antenatal care – inverted pyramid

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Introduction

Tradition model of prenatal care focuses more frequent visits in the late gestation to detect complications. With advancements in obstetric care, more investigations and assessment can be done in early gestations with precision to triage low and high risk pregnancies.

Objectives

To provide integrated first hospital visit to all pregnancies to define specific risk level for each pregnant woman to improve pregnancy outcomes.

Methodology

An integrated antenatal first visit was arranged to all pregnant women in a regional hospital. A team of midwives coordinated case management after initial clinical assessment according to standard protocol. Universal Down syndrome screening was offered to those women booked before 20 week of gestations. To overcome shortage of clinic space in ambulatory care center, midwives utilized the clinic area in early morning while doctors conducted clinic consultations later after ward rounds. Pregnant women stratified as low risk were transferred to Maternal and Child Health Centre (MCHC) or hospital midwifery team for shared care. High risk pregnancies were triaged to the multiple pregnancy clinic, fetal assessment clinic or high risk pregnancy clinic whenever appropriate. Pregnancy outcomes were audited.

Result

Results: A total of 12,750 entitled pregnant women had integrated first visit from 1 July 2010 to 30 June 2012. First and second trimester combined Down syndrome screening were performed for 8,660 and 1,140 women respectively with an overall high sensitivity of 93.5% and a false positive rate of 6.1%. Besides, 42 cases with major fetal structural abnormalities were detected by ultrasound during Down screening. Seventy-five screening results were identified with abnormal maternal serum markers including 69 abnormal PAPP-A or free beta hCG which were known to

be associated with adverse obstetric outcomes including intrauterine growth retardation, pre-eclampsia, low birth weight and preterm delivery. All these cases were referred to the Maternal Fetal Medicine Team for close surveillance and management. The perinatal mortality rate (per 1000 total deliveries) was decreased by 0.24 from 4.4 in 2009 to 4.16 in 2011. Conclusions: With team work and in collaboration with ambulatory care center, it is feasible to provide integrated first antenatal care to all pregnancies in hospital, and implement a new model of inverted pyramid which allows an early detection of most major fetal abnormalities, identification of high risk pregnancies, and shifting antenatal care from a series of routine visits to a more individualized patient and disease-specific approach both in terms of the schedule and content of such visits.