VALIDITY OF CLINICAL AND ULTRASOUND ESTIMATION OF FETAL WEIGHT IN PREDICTING ACTUAL BIRTH WEIGHT AT KAIRUKI HOSPITAL IN DAR ES SALAAM TANZANIA FROM JANUARY 2015 TO SEPTEMBER 2015

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ABSTRACT

BACKGROUND

Estimation of fetal weight is an important component of maternity care management especially in counseling, differential diagnosis, and planning of delivery mode. Accurate estimation of fetal weight is therefore of paramount importance in the management of labor and delivery [1].

Complications related to delivery of macrosomic fetus include prolonged labor, obstructed labor which may result into fistula, shoulder dystocia, brachial plexus palsy, bone injury/fracture, birth asphyxia, postpartum hemorrhage (PPH) and Caesarian delivery.

The perinatal morbidity and mortality rates are very high in our environment and this problem is largely related to prematurity and low birth weights which are the most important parameters that determine neonatal survival.

In developed countries like the UK, it is routine obstetric practice to estimate fetal weight by measuring the symphysio-fundal height at each antenatal visit and to refer on for a sonographic estimation if it varies from the normal range for the gestation. Estimation of fetal weight by palpation of the abdomen is rarely done in clinical practice as we have come to rely heavily on ultrasonography, which is usually not readily available in some remote areas.

OBJECTIVES; The main objective was to Determine and compare the correlation of clinical and ultrasound estimation of fetal weight in predicting actual birth weight at Kairuki Hospital in Dar es salaam, Tanzania, from January 2015 to September 2015.

STUDY DESIGN

Hospital based cross-sectional study

MATERIAL AND METHODS

All pregnant women admitted in maternity ward for elective delivery and met inclusion criteria were recruited in the study, structured questionnaires were used to fill data. Ultrasound for estimation fetal weight was done and clinical assessment by Dares formula was done, the interval of estimation was within 24 hours.

RESULTS

During the study period a total of 335 pregnant women met the inclusion criteria for the study. Majority of women (86.6%) were at (37-40 weeks). About (39.4%) were scheduled for elective delivery due to previous scar. The mean actual birth weight was 3283±519g, while the mean estimated fetal weight by clinical and ultrasound methods were 3300±361g and 3640 ±349g respectively, paired t-test on mean ultrasonically calculated weight reveal significant difference (t = -16.201, P = .000), mean clinical weight calculated revealed no significant difference (t= 6.63, p = 0.09) The mean absolute percentage errors of both clinical and ultrasound methods were 5% and 17% respectively, the mean absolute percentage error was higher in ultrasound method , since the difference was statistically significant.

CONCLUSIONS This study confirms the usefulness of clinical estimation of fetal weight. This has implications for clinical practice in areas where ultrasound is not readily available, such as in the developing world.