PERSONNEL'S EXPERIENCE AND THE ACCURACY OF CLINICAL FETAL WEIGHT ESTIMATION

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Objectives: To compare the accuracy of clinical fetal weight estimation (FEW) by experience of examiners.

Methods: The population in this analytical cross sectional study consisted of 1880 pregnant women who admitted for deliver in Thammasat University hospital between June 1996 and June 1999. Clinical FEW was performed by final year medical students and the researcher. Both estimation made were blinded each other and no data from the prenatal record was available before examination. The accuracy of clinical FEW was determined by error using actual birth weight (BW) as the goal standard, consiste3d of percentage error, absolute percentage error and proportion of accurate estimation within 10% of actual BW. Comparison of the accuracy between experience of examiners was assessed by pair t test, comparison of correlated variances, Wilcoxon signed-rank test, Student t test, and X2 test to adjust for comparison between groups, as appropriate, P<0.05 was considered statistically significant.

Result: The actual BW in the study population averaged 3077 ± 503g (mean±SD) and ranged between 1060 and 4940 g. In the entire population , the mean percentage error of both estimates was not significantly different from zero, meaning no systematic error. There were no significant differences in mean percentage and absolute percentage errors between both estimates. The rates of estimates within 10% of BW by both estimates were high (72 and 69% for FEW by experienced and non-experienced examiner respectively), but no significantly different. IN the low BW group (<2500 g) both estimates systematically overestimated the actual BW. All mean errors of FEW by non-experienced examiner. In the middle range of BW group (2500-4000 g), thee was no systematic error in the mean percentage error from

both estimates in the high BW group (>4000 g), both estimates systematically underestimated the actual BW. But there were no significant difference in all mean errors and the rates of estimates with 10% of BW between both estimates in these two groups of population. Conclusion: Experience of examiners generally has no effect on the accuracy of clinical FEW. Both estimates have high accuracy that approximately 70% of estimates were within ±10% of actual BW. However, in the low BW group (<25000 g), FEW by experienced examiner is significantly more accurate.