

# **Serum Trace Elements between Pre-eclamptic Women and Apparently Healthy Pregnant Women**

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Pre-eclampsia is a leading cause of maternal mortality and morbidity. This hospital- and laboratory-based comparative study was conducted at Department of Medical Research (Pyin Oo Lwin Branch) and Central Women's Hospital (Mandalay) from September 2010 to February 2011. The purpose of this study was find out the role of serum trace elements in the diagnosis of pre-eclampsia. Fifty pre-eclamptic pregnant women of any gestational period admitted to the Obstetric. Wards of Central Women's Hospital (Mandalay) were enrolled as participants (50 cases) and fifty apparently healthy pregnant women attending the antenatal clinics with those same age, parity and gestational period were also enrolled as control group (50 cases) and systematic sampling procedure was used in this study. Diagnosis and severity of disease was classified according to American College of Obstetrician and Gynaecologist (ACOG) guideline. The serum trace elements levels were determined by Atomic Absorption Spectrophotometer. Serum magnesium and zinc levels in normal, mild and severe patients were  $34.38 \pm 8.28$  mg/l,  $35.40 \pm 11.55$  mg/l  $35.79 \pm 11.34$  mg/l and  $0.57 \pm 0.14$  mg/l,  $0.63 \pm 0.14$  mg/l,  $0.63 \pm 0.17$  mg/l, respectively. There was no significant difference in mean serum magnesium and zinc levels between normal women and women with mild and severe pre-eclampsia ( $p > 0.05$ ). Areas under the receiver operating characteristics curve (ROC curve) for serum magnesium and zinc were 0.43 and 0.37 and these markers did not reach the acceptable limit for applying as the diagnostic test.