

## **"Prevalence of Glucose 6 Phosphate Dehydrogenase Deficiency in Newborns at 300-Bedded Pyin Oo Lwin General Hospital"**

Khin Moe Aung\*, Myint Myint Khaing\*, Tin Moe Khaing\*, Su Su Myaing\*,  
Htay Htay Kywe\*, Moe Kyaw Myint\*, May Thet Naing\*\*

Department of Medical Research (Pyin Oo Lwin Branch)\*  
Department of Medical Services\*\*

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Glucose-6-phosphate dehydrogenase (G6PD) deficiency is one of the most common human enzyme deficiencies in the world. It is particularly common in populations living in malaria-endemic areas, affecting more than 400 million people worldwide. This hospital and laboratory-based, cross-sectional descriptive study was conducted with the aim of determining the prevalence of G6PD deficiency among 200 newborns which were delivered by any form of delivery in labor at 300-bedded Pyin Oo Lwin General Hospital during January to March 2017. The participants were 103 cases (58.5%) in female and 97 cases (41.5%) in male respectively. Both qualitative and quantitative measurements by using Brewer's method and G-SIX kit method were used for the diagnosis of G6PD deficiency. Severity of G6PD deficiency was determined according to classification of G6PD deficiency (WHO 1989). Total serum bilirubin level was estimated by using Bilirubinometer and Data entry and analysis was done by SPSS software 20.0 version. Of the 200 newborns, 21 (10.5%) were G6PD-deficient. Prevalence of G6PD deficiency was concentrated predominantly among male children (80.95%). Male sex was significantly correlated with G6PD deficiency among the children studied ( $P = 0.01$ ). The male to female ratio is 4:1 in deficient group. Moderate deficiency (10-60%) was 16 cases (76.19%) and mild deficiency (60-100%) was 5 cases (23.81%) respectively. Out of 21 G6PD deficient newborns, distribution of peak serum bilirubin level showed 5 cases in no hyperbilirubinaemia, 4 cases in mild hyperbilirubinaemia, 3 cases in moderate hyperbilirubinaemia and 9 cases in severe hyperbilirubinaemia respectively. This study showed that a significant correlation was found between the severity of hyperbilirubinaemia and G6PD activity ( $P < 0.05$ ). Taking into consideration of the above results, this study recognized the high prevalence of these data can be useful for providing appropriate prevention and early treatment of complications in routine neonatal screening in this area.