

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

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Abstract

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 at 300-bedded Pyin Oo Lwin General Hospital during January to March 2017. The participants were 103 girls (58.5%) and 97 boys (41.5%). Both qualitative and quantitative measurements by using Brewer's method and G-SIX kit method were applied for diagnosis of G6PD deficiency. Severity of G6PD deficiency was determined according to classification of G6PD deficiency (WHO 1989). Total serum bilirubin level was measured by Bilirubinometer and Data entry and analysis was done by SPSS software 20.0 version. Of the 200 newborns, 21 (10.5%) were G6PD-deficient. The overall prevalence of G6PD deficiency was 10.5% (21/200) and male was predominant than female (17.5% vs 3.9%). Out of 10.5% (21/200) G6PD deficient newborns, 5 (23.8%) and 16 (76.2%) were mild and moderate G6PD deficiency respectively. Regarding hyperbilirubinaemia, 9 (42.9%), 3 (14.3%), 2 (9.5%) and 5 (23.8%) were severe, moderate and mild hyperbilirubinaemia and normal bilirubin respectively. This study showed that a significant correlation between the severity of hyperbilirubinaemia and G6PD activity ($P < 0.05$). Taking into consideration of the above results, the high prevalence can be useful for providing appropriate prevention and early treatment of complications in routine neonatal screening in this area.