

Prevalence of Hb E among adolescents in Basic Education High School, Anisakhan, Pyin Oo Lwin Township

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Haemoglobin (Hb) E is the most common Hb variant found among Southeast Asian populations. Myanmar also has high prevalence of important haemoglobinopathies: Hb E - 1 to 28.3% accounting for 1 to 4.9 births per 1000 infants with a major haemoglobinopathy. This study was conducted to determine the prevalence of Hb E among adolescents in Basic Education High School, Anisakhan, Pyin Oo Lwin Township. This community-based cross-sectional descriptive study was done in Myanmar adolescents in 2017. A total 290 apparently healthy high school students in which male 140 (48.3%) and female 150 (51.7%) studying in Basic Education High School, Anisakhan, Pyin Oo Lwin Township, Mandalay District, Myanmar were involved. Then, three millilitres of venous blood samples were taken and Hb E by NESTROFT (Naked Eye Single Tube Red Cell Osmotic fragility test) and DCIP (Di Chlorophenol Indol Phenol precipitation) test were done for screening and then Isoelectric focusing (IEF) method was done for confirmation of Hb E to above either of the two positive screening samples. Data entry and analysis was done by SPSS software 20.0 version. The overall prevalence of Hb E trait and Hb E disease was 15.5% (45/290) and, 19 cases observed in male (42.2%) and 26 cases were found in female (57.8%) in this study. Among 290 participants, 53 (18.3%) were positive with NESTROFT but not with the DCIP; 17 (5.9%) were negative with the NESTROFT but positive with DCIP; 61 (21.0%) were positive with both tests and 159 participants (54.8%) were negative with both tests. Among 131 either of the two positive cases, both positive (Positive/ Positive) 61 cases gave 23 cases (37.7%), (Positive/Negative) 53 cases gave 16 cases (30.2%) and (Negative/Positive) 17 cases gave 6 cases (35.3%) as identified as Hb E of total 45 cases (45/131, 34.3%) in which 41 samples (31.3%) were Hb E trait and 4 samples (3.1%) were Hb E disease. Therefore, this study highlighted that one of the main causes of anaemia was haemoglobinopathy and remains a common health problem among adolescents.

