Prevalence and Awareness of Thalassemia Among a Selected Cohort of Students of the Faculty of Allied Health Sciences, University of Peradeniya

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Thalassemia is one of the most common inherited hemoglobinopathies globally and remains a significant public health concern in Sri Lanka due to lifelong treatment burdens, psychosocial impact, and economic costs. Early carrier identification and increased public awareness are key prevention strategies. This study aimed to determine the prevalence of beta thalassemia carriers and assess knowledge, attitude, and practice (KAP)-based awareness of thalassemia among second-year undergraduates of the Faculty of Allied Health Sciences, University of Peradeniya. A descriptive cross-sectional analytical study was conducted from September to October 2025 among second-year undergraduates. Carrier status was assessed in 151 students using full blood count indices (MCV<80 fL; MCH<27 pg), followed by HPLC confirmation (HbA2>3.5%), with results obtained from the Thalassemia Unit, National Hospital, Kandy. Awareness was assessed separately in 161 students from the same population using a structured, self-administered KAP questionnaire. Knowledge, attitude, and practice scores were combined into an overall awareness score and categorized using modified Bloom's cut-off criteria. Of the 151 students screened, 12 (7.9%) showed hypochromic microcytic indices, of whom 3 (2.0%) were confirmed as beta thalassemia carriers, with a mean HbA2 of 4.8%. Among the 161 students assessed for awareness, 96.9% had heard of thalassemia, but only 21.7% demonstrated good knowledge, 39.1% positive attitudes, and 10.6% good preventive practices revealing a gap between superficial awareness and actionable understanding. Knowledge level differed significantly by academic department ($p<0.001$), with Medical Laboratory Science students showing higher knowledge, likely due to greater academic exposure. Gender was significantly associated with attitude ($p=0.005$) and practice ($p=0.002$). Weak positive correlations were found among the knowledge, attitude, and practice domains ($r=0.177–0.266$). In conclusion, this study found a 2.0% prevalence of beta thalassemia carriers among second-year undergraduates. While students showed positive attitudes, they lacked detailed knowledge and preventive practices. Limitations include a relatively small sample size and inability to detect silent carriers via FBC. University awareness programmes, genetic education, and regular screening are recommended to reduce the future burden of thalassemia.

Keywords: thalassemia, awareness, carrier prevalence, undergraduate students, Sri Lanka