

Efficacy of Premarital Genotype Screening and Counseling on Knowledge and Attitude Toward Sickle Cell Disease Among University Students in Dodoma Tanzania: Uncontrolled Quasi-Experimental Study

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Background: Sickle Cell disease is one of the biggest health challenges worldwide. Globally, about 300,000 children with SCD are born every year. Moreover, about 5% of the population in the world carries hemoglobinopathy genes that cause SCD. **Objective:** The main objective was to determine the efficacy of premarital genotype screening and counseling on knowledge and attitude toward Sickle Cell disease among university students in Dodoma, Tanzania.

Methods: A quasi-experimental non-controlled study with pre and post-test design was conducted from June to August 2020 among 697 randomly recruited first-years university students from the University of Dodoma. SPSS version 20 was used to analyze both descriptive and inferential statistics data. Charts, tables, and figures are used to present the findings.

Results: The mean age of participants was 23.20 ± 2.00 years. Of all the participants, males were 59.7% (n=416). The prevalence of the Sickle Cell trait was 15.6% (n=109). The level of knowledge at pretest was 37.3% which improved to 68.4% at post-test. The mean knowledge score at pretest was 0.009 ± 1.014 , which improved to 0.365 ± 0.901 on the post-test, with a statistically significant difference ($t=6.965$, $p<0.01$). There was a mean attitude score difference at pretest and post-test responses with pretest -0.086 ± 0.996 and improved to 0.017 ± 0.999 on the post-test, with a statistically significant difference ($t = 12.417$; $p < 0.01$). The results showed that knowledge change was not statistically associated with other predictors ($p>0.05$). The attitude changes was significantly predicted with change of knowledge ($B=0.089$, $p<0.05$; 95% C.I:0.016, 0.161), and head of the family ($B= 0.246$, $p<0.05$; 95% C.I:0.017, 0.475).

Conclusion: The study determined that premarital genotype screening and counseling on knowledge and attitude towards Sickle Cell disease were effective for premarital genotype Sickle Cell screening among university students.

Keywords: efficacy, premarital, Sickle Cell disease, knowledge, attitude, university students

