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Impact of interactive digital educational modules in creating rheumatic heart disease awareness among Kenyan primary school children

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Introduction: Rheumatic heart disease (RHD) is the most common cardiovascular disease in Kenya, and mainly affects children aged 5-15 years (school-going children). Being preventable, educating the community will significantly contribute to the reduction of its incidence. Educational programs for adults exist, but there are limited programs targeting children - who are key in combating this disease. The role of interactive technology to create RHD awareness amongschool-going children is not known. The current project therefore sought to assess this, using an interactive digital module from WiRED international, a US based organization working in Kenya.

Methods: Upper primary pupils from a Nairobi school were and only assigned to control (n=50) and experimental (n=50) groups. They filled in baseline questionnaires with their demographic details. The experimental group was then trained on RHD using the digital interactive computer module from WiRED International, while the control group did not have any teaching. Both groups then answered 23 multiple choice questions (MCQs). During a follow-up visit one week later, the same students were re-administered with the same final MCQ exam. Scripts were marked out of 23, and Analysis of Variance done using SPSS version 16.0.

Results: The mean age of the students was 12.71 years. On the first test, the experimental group had a higher average score compared to the control group (16.3±2.5 vs.10.5±2.3 marks), and this difference was highly significant ($p<0.001$). There was no significant difference on test performance with age, level of class or sex. The scores were maintained during the follow-up visit, with experimental group scoring 15.7±2.7 marks, while the controls stayed at 10.4±2.4 marks. This difference was still highly significant ($p<0.001$).

Conclusion: The experimental group scored highly on average as compared to the control group, and maintained the information presented. Therefore, interactive digital modules to train children on RHD aimed at increasing knowledge and awareness, are feasible, efficacious, and sustainable in school-going children.

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