portion of participants (women of smaller stature and diminished cardio-vascular health induce by endemic exposure to soil borne helminths and malaria) were unable to complete. For site Kindu, YMCA step test (lower step and slower cadence) was implemented. All participants completed the test. The primary limitation of YMCA is lack of calibrated VO2max data, and thus derived work capacity metrics must be a direct function of heart rate.

**Findings:** For site Idjwi and QC: 24% of participants post step-test heart rate was <120 bpm, 36% between 120 and 130 bpm, 10% between 130 and 140 bpm, 25% between 140 and 150 bpm, with 6% greater than 150. For site Kindu and YMCA: 4% of participants post step-test heart rate was <120 bpm, 36% between 120 and 130 bpm, 37% between 130 and 140 bpm, 19% between 140 and 150 bpm, with 0% greater than 150.

**Interpretation:** The YMCA step test did yield improved results for participant heart rates, with fewer unduly high heart rate post step test (QC 41% > 130 bpm, YMCA: 19% > 140). Lack of VO2max data for YMCA minimized usefulness of results. Therefore, a measure of work capacity is required with similar characteristics (limited equipment), is calibrated to accepted physiological measures (VO2max or other), and that considers study population characteristics (smaller stature), and cultural considerations (minimal tradition of purposeful exercise, and sensitivity to underdress for purpose of test administration). Such a test is being researched/developed.

**Funding:** None.

**Abstract #:** 2.059_HRW

---

**Level of hepatitis B virus protection of first year medicine and nursing students in Mbarara University**

*S. Wakibi, B. Kaye; Mbarara University of Science and Technology, Uganda*

**Background:** Worldwide 2 billion people are exposed to hepatitis B infection, 350 million have chronic infection, 65 million in sub Saharan Africa. In Uganda the prevalence of hepatitis B Infection is estimated at 11%. A 2010 study found that 60.1% of healthcare workers had evidence of hepatitis B infection and only 6.2% of Ugandan health workers were vaccinated. A university study indicates an exposure of 79.6% of Makerere students in the first clinical year, therefore students, through their clinical work are at high risk of acquiring HBV infection. Although HBV immunization for students is recommended, it’s not strictly enforced. Routine childhood vaccination was begun in 2002. However this protection only applies to individuals under age of 12. The main objective of the study was to determine the level of hepatitis B virus protection of first year medicine and nursing students in Mbarara University.

**Methods:** Data collection was done in October of 2014. It was an exploratory study in Mbarara University of Science and Technology, Uganda, convenience sample of first year medical and nursing students; A six item questionnaire was used. Frequencies and descriptive statistics were run on variables. The study was approved at the department of nursing.

**Findings:** 122 students were invited. 73 students completed the questionnaires, 29 females, 44 males, average age 23.2 years, 49 first year medicine and 24 first year nursing students. 54 direct students from high school and 19 students who joined with a prior diploma. 78.1% had never been vaccinated (n = 57), 2.7% had received one dose (n = 2), 6.8% had received two doses (n = 5) and 12.3% were fully immunized with three doses (n = 9).

**Interpretation:** The data indicates that direct medical and nursing students from high school have no prior HB protection and only students who have a prior diploma in medicine or nursing had...