Assessment of fitness and training among East African universities swimming athletes

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Background and Purpose
The role of university sports includes developing skills and fitness for competition and for healthy lifestyles. Fitness and training recommendations for competition and for healthy lifestyles are well documented and have been subjected to continuous review:

• Blending aerobic exercise and strength training exercise for cardiorespiratory and muscular fitness and overall health and function (ACSM, 2015).
• Individualized training regimen for developing efficient stroke technique, covering appropriate training volume—without overreaching, proper nutrition, and effective day-of-competition strategy (Richmond et al., 2015).
• Various land-based training exercises with mechanical relevance to the swimming action—the arm pull, leg kick, dive and turn movements are required (Brandon, 2002).
• Developing confident and competent swimmer through progressive stages, and a lifelong love of water, ASA (2003).

However, there is paucity of information on how various local sports teams comply with these guidelines. This work sheds light on extent to which East African universities (EAU) swimming athletes meet fitness, health and training guidelines, and highlights the areas that require improvement.

The purpose was to assess extent to which East African universities swimming athletes meet fitness, health and training guidelines.

Methods
Questionnaire and fitness assessment tests were used to collect data among 32 (18 male and 14 female) East African universities swimming athletes during East African Universities Games (EAUG) competition period. The data was evaluated to ascertain the extent they were meeting various fitness, health and training recommendations (ACSM, 2015; Richmond et al., 2015; ASA, 2003; Brandon, 2002). Best performances of each event were evaluated against international standard times (FINA, 2015).

Results
Descriptive analyses (Mean ± Std. Dev) yielded the following results for Male(M) and Female(F) swimming athletes:

Age: 23.1 ± 2.1(M), 21.2 ± 1.6(F) [yrs], Training frequency: 2.5 ± 0.92(M), 2.5 ± 0.86(F) [per week], Waist circumference: 74.2 ± 12.4(M), 72.1 ± 7.7(F) [cm], Waist Hip Ratio: .80 ± .04(M), .72 ± .05(F), Body Mass Index: 22.56 ± 1.82(M), 23.69 ± 3.89(F), Body fat: 19.78 ± 5.33(M), 35.00 ± 5.79(F) [%], Hand grips dynamometry right and left hands average: 31.94 ± 6.35(M), 16.39 ± 4.86(F) [kg], Leg dynamometry: 105.28 ± 24.52(M), 66.21 ± 17.34(F) [kg], Back dynamometry: 109.50 ± 23.71(M), 75.50 ± 18.66(F), Push-ups: 24.1 ± 5.9(M), 19.1 ± 4.6(F) [reps], Sit-ups: 33.7 ± 9.17(M), 20.00 ± 9.67(F) [reps], Back-scratch: .00 ± .284(M), -1.59 ± 2.41(F) [Inches], Sit-and-reach: 12.06 ± 7.83(M), 13.61 ± 8.78(F) [cm], and Body balance -stock stand on right and left feet average: 8.31 ± 3.22(M), 6.64 ± 4.50(F) [sec], Best times as a ratio of FINA’s standard time: 1.45(M), 1.58(F) [average ratio].

No land-based, gym or cross training program was evident.

Conclusions
While most of the fitness variables values met the recommended health levels, the training frequency and fitness did not meet the athletics levels recommended for high competitive levels. The study recommends that the East African universities swimmers enrich their training to get fit for their events, not to rely solely on fitness acquired in the swimming activities. Swimming talent scouting and development training programs should be put in place to enhance performance at competitive levels in the region, in line with recommendations and international standards.

Literature cited

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