Sport-for-Development Interventions: Whom Do They Reach and What Is Their Potential for Impact on Physical and Mental Health in Low-Income Countries?

Justin Richards and Charlie Foster

Noncommunicable diseases and mental health are growing problems in low-income countries,¹ and are of particular concern for urbanized and postconflict populations living in these settings.¹² Physical activity interventions that are locally adapted and directed toward adolescents may be an effective approach to addressing these health problems during a critical life-stage transition.³⁴ The sport-for-development sector claims to achieve this objective and has experienced rapid expansion in international investment since the UN International Year of Sport and Physical Education in 2005. However, there is a paucity of contextually relevant evidence supporting the positive rhetoric of sport-for-development advocates who often cite research from peaceful high-income countries to substantiate their claims of positive health impacts.⁵

In this commentary, we discuss the formative findings of a case-study evaluating a sport-for-development intervention in Gulu, Uganda. We explore who is actually reached by the intervention and the potential for impact on local physical and mental health needs. These are questions that sport-for-development organizations do not commonly address and the purpose of this commentary is to demonstrate the potential implications of these oversights.

Setting and Local Context

Gulu is located in northern Uganda and is a low-income setting recovering from more than 20 years of civil war that ended in 2006. The conflict was characterized by a high prevalence of internal displacement and the abduction of children who were forced to serve as soldiers and “wives.”⁶⁷ Consequently, a mental health deficit in the adolescent population is broadly assumed. During the postconflict period, Gulu has undergone relatively rapid socioeconomic development and urbanization.⁸ Gulu municipality now has approximately 150,000 inhabitants, making it the largest city and the primary commercial hub in northern Uganda.

Subjects and Intervention

We assessed the cardiovascular fitness and mental health of all attending students in sixth grade at the 10 most centrally located primary schools in Gulu municipality (boys: n = 873; girls: n = 1058). The multistage fitness test (MFT) was used to measure cardiovascular fitness. Mental health was assessed using the Acholi Psychosocial Assessment Instrument (APAI), which was a locally developed and validated tool sensitive to depression- and anxiety-like syndromes experienced in Gulu.⁹ A high score on the APAI indicated poor mental health.

Only the baseline measurements of adolescents eligible for the sport-for-development intervention (ie, able-bodied, 11–14 years age) were included in the analysis (boys: n = 615, girls: n = 841). Of these, 146 boys and 81 girls voluntarily registered for the inaugural season of a community based sport-for-development program known as the Gum Marom Kids League (GMKL). The intervention comprised a 9-week competitive football (soccer) league coupled with regular training and various community-building activities (eg, group litter clean-up in public places, theatrical performance about gender equity). The program objectives included improving the physical and mental health of the participating adolescents.

Whom Did the Intervention Reach?

The GMKL intervention appeared to reach the adolescents in Gulu who were already the most physically fit. Indeed, there was a significant difference in the maximum speed (km/hr) obtained in the MFT when comparing the girls who were registered (10.10, 95% CI: 9.89–10.31) vs nonregistered (9.70, 95% CI: 9.62–9.77) for the intervention. A similar trend was observed for the boys who were registered (11.12, 95% CI: 10.97–11.28) vs nonregistered (10.96, 95% CI: 10.87–11.05), but it was not statistically significant. In both genders the nonregistered group performed significantly worse than the
weighted global norms (boys: 11.20; girls: 10.25), but this was not the case for those who were reached by the intervention (Figure 1).

With regard to the mental health outcomes, the boys who were registered (29.20, 95% CI: 26.81–31.59) appeared to perform better than those who were nonregistered (31.35, 95% CI: 30.05–32.65), but this was not statistically significant. There was also no significant difference for the girls who were registered (39.95, 95% CI: 36.28–43.62) vs nonregistered (39.22, 95% CI: 38.07–40.37) for the intervention (Figure 1). However, it is worth noting that the boys demonstrated significantly better mental health outcomes than the girls and were more likely to register for the intervention.

**What is the Actual Potential for an Impact on Health?**

The under-performance of the majority of the population in the MFT when compared with global normative values indicates relatively low levels of cardiorespiratory fitness (Figure 1). This is consistent with the literature that reports declining levels of physical activity in urbanized low-income settings and suggests that there is a genuine need for intervention in Gulu.¹⁰ It is possible that sport-for-development programs could provide a locally appropriate leverage point for addressing the deficit in cardiorespiratory fitness. However, the voluntary registration process of the GMKL compromised the potential for impact on adolescent physical health by introducing a selection bias that neglected the population most in need.

Scatterplots of the fitness and mental health outcomes demonstrate large variations in both genders within the community. However, we observed no linear or curvilinear association between the fitness of the adolescents and their mental health at baseline (Figure 2). Assuming that the fittest adolescents were the most physically active, this formative analysis brings into the question the potential for mental health benefit from a sport-for-development intervention—at least under the present social conditions in Gulu. Specifically, a physical activity intervention for adolescents in this community may not have the same positive effect on depression- and anxiety-like symptoms as has been widely accepted in peaceful high-income settings.³⁴ We propose that physical activity is only part of the greater social phenomenon that surrounds it in sport-for-development interventions,¹¹ and the ability for such interventions to reduce the mental health deficit in children exposed to war, rape, abduction, displacement, and chronic poverty is more than likely minimal in the short term.

---

**Figure 1** — Graph of the baseline physical fitness and mental health scores for the adolescents who were voluntarily registered vs nonregistered for the intervention.