Zumba®, fat mass and maximum oxygen consumption: A systematic review and meta-analysis

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Abstract

Background and objectives: Obesity or overweight is associated with many health risk factors and preventable mortality. Even people with normal weight and without history of obesity or overweight should avoid weight gain to reduce health risks factors. In this regard Latin aerobic dances involved in Zumba® practice make this modality motivating for people. Apart from weight loss and VO2peak benefits, Zumba practice is also interesting by the increase in adherence which can also avoid weight regain. The aim was to systematically review the scientific literature about the effects of any randomized intervention of Zumba® practice on total fat mass (%) and maximum oxygen consumption (VO2peak), besides establishing directions for the clinical practice. Evidence ac-quisition: Two systematic searches were conducted in two electronic databases following the PRISMA guidelines. The eligibility criteria were (a) outcomes: body mass or VO2peak data including mean and standard deviation (SD) before and after Zumba® intervention, (b) study design: randomized controlled trial (RCT) and (c) language: English. GRADE guidelines were used to assess the quality of evidence. A meta-analysis was performed to determine mean differences. Nine and four studies were selected for fat mass percentage and VO2peak in the systematic review, respectively. However, only eight studies for fat mass percentage and three for VO2peak could be included in the meta-analysis. Evidence synthesis: The overall standardized mean difference for fat mass was −0.25 with a 95% CI from −0.67 to 0.16 with a p-value of 0.69, with large heterogeneity. On the other hand, the overall effect size for VO2peak was 0.53 (95% CI from 0.04 to 1.02 with a p-value of 0.03) with large heterogeneity. Conclusions: Based on the evidence, we cannot conclude that Zumba® is effective at reducing body mass but it may improve VO2peak. However, the limited number of studies that met the inclusion criteria makes it too early to reach a definite conclusion, so more research is needed.