

# Effects of physical activity interventions on the body mass index of children and adolescents in Latin America: A protocol for a systematic review and meta-analysis

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Introduction In Latin America, the number of children and adolescents who are overweight or obese has significantly increased in recent decades, and this situation has become a major public health concern. To address this problem, several intervention programmes, based on factors such as physical activity and nutrition, have been implemented, and body mass index (BMI) has been widely used as a means of measuring the impact of such interventions. Although some Latin America-based systematic reviews have been performed, there have been no previous meta-analyses of findings regarding the effect of physical activity interventions on BMI. Thus, the objective of the systematic review and meta-analysis will be to provide an up-to-date synthesis of the effects of physical activity interventions on BMI of Latin American children and adolescents aged 4-18 years.

Methods and analysis This systematic review and meta-analysis protocol is based on the Preferred Reporting Items for Systematic Review and Meta-Analysis Protocols statement. The literature search will involve MEDLINE, EMBASE, Cochrane Library, Web of Science and Scielo for articles published up to July 2019. This search will include randomised controlled trials (RCTs), non-randomised experimental studies and single-arm pre-post studies. Further, the Cochrane Collaboration's tool for RCT studies and the Quality Assessment Tool for Quantitative Studies for non-randomised experimental and single-arm pre-post studies will be used to assess the risk of bias among the studies included in the systematic review. For the meta-analysis, the statistical program STATA V.14 will be used, and standardised mean differences are calculated as the primary

outcomes. Subgroup analyses will then be performed based on the characteristics of the interventions and populations included in the studies examined. Ethics and dissemination This systematic review protocol is designed to provide updated evidence regarding the effects of physical activity interventions on the Latin American population; such evidence may be useful for institutions responsible for the development of public health policies and for those tasked with implementing such interventions among children and adolescents in Latin America. The results should be disseminated through publication in a peer-reviewed journal. Since the data used in systematic reviews of this type will be extracted exclusively from published studies, approval from an ethics committee will not be required. PROSPERO registration number CRD42019077702. © Author(s) (or their employer(s)) 2019. Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

adolescents

BMI

children

Latin America

physical activity

adolescent

Article

body mass

child

health care policy

human

intervention study

meta analysis

outcome assessment

peer review

physical activity

quality assessment tool

quantitative study

randomized controlled trial (topic)

risk assessment

South and Central America

systematic review