**Background**

Physical fitness outcomes are considered major health biomarkers to assess and monitor exercise-based interventions across the lifespan. Recent studies provide evidence that many adult and childhood chronic diseases should have their origins in gestational or fetal life. To date, a few pioneering studies have showed associations between prenatal predictors and selected physical fitness tests (strength and cardiorespiratory). Nevertheless, there is a lack of knowledge about the influence of prenatal factors on childhood performance on a comprehensive fitness test battery including speed and coordination. The innovative purpose of the current study is to analyse the relative weight of prenatal predictors on schoolchildren’s physical fitness outcomes.

**Methods**

We obtain data from 1188 children (571 girls) aged 6-11 years and 1020 adolescents (495 girls) aged 12-17 years. Prenatal predictors (gestational anemia, gestational diabetes and length of gestation) were self-reported from offspring’s mothers. The ALPHA fitness test battery for youth was used to assess offspring’s physical fitness (muscular strength, motor fitness and cardiorespiratory fitness). Regression analysis were performed to predict the different physical fitness outcomes.

**Results**

The main findings of the present study indicate that the presence of gestational anemia significantly predicted lower scores of lower-body explosive muscular strength (standing long jump) and motor fitness (4x10-m shuttle run) and predicted moderately lower scores of upper-body isometric muscular strength (handgrip strength test). (p>.005; p>.008; p>.075 respectively). Moreover, gestational anemia better predicted lower scores of muscular strength and motor fitness in children than in adolescents (standing long jump, handgrip strength test, 4x10-m shuttle run) (p>.001; p>.051; p > 0.18, respectively). While gestational age and length of gestation (>34- ≤42 weeks) predict better cardiorespiratory fitness (20 m shuttle-run test) (p>.023; p>.023 respectively) and motor fitness (4x10 m shuttle; moderately for length of gestation) (p>.020; p > 0.55 respectively).

**Conclusion**

This evidence suggests that preventive strategies by health-care institutions, policy makers and technicians must be two-fold: a) to effectively reduce gestational anemia in order to prevent offspring’s predisposition to low levels of physical fitness, and b) to intervene with toddlers and children at risk to provide tailored physical activity programs and regular physical fitness evaluation.

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**Settings-based physical activity interventions**

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**O4-1 A scoping study of the international implementation of the World Health Organisation’s global physical activity action plan**

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**Background**

Published in 2018, the World Health Organisation’s Global Action Plan for Physical Activity (GAPPA) sets out 20 actions across 4 objectives (Active Societies, Active Environments, Active People, Active Systems) to reduce global inactivity by 15% by 2030. GAPPA takes a whole-systems approach (WSA), calling for cross-sectoral collaboration to address physical inactivity levels. This study sought to explore implementation to date, highlighting progress made and areas that require further focus.

**Methods**

A desk-based scoping study, using a systematic, but flexible approach, identified sites and personnel implementing GAPPA or a WSA. Methods of collection included a review of existing literature, snowball sampling of key individuals and internet
The implementation of an ambitious and integrated HEPA policy: ‘Programa Academia Carioca’ (PAC). This policy supports regular Health-Enhancing Physical Activity (HEPA) policy: ‘Programa Municipal Health Department of RJ implemented since 2009 a multidisciplinary way. Therefore, this study aims to evaluate the implementation of this policy.

Results (effects/changes)
After 11 years, the PAC has 142,969 participants, 80% of whom were demonstrated in 90% of hypertensive patients. weight loss, have NCDs. Among its participants, blood pressure control was achieved in 86% and 98% of participants, respectively. Physical activity free of charge, in Primary Care Health Units. 58 minutes/week. A small improvement was reported in those with moderate activity (n = 269) increased by 11.6% no change) with a 60% reduction in cardiovascular risk classification, and a 60% reduction in cardiovascular risk classification, and a 60% reduction in cardiovascular risk classification, and a 60% reduction in cardiovascular risk classification.

Conclusions
Preliminary findings suggest that GAPPA’s implementation currently varies greatly internationally. Some nations, including Finland and Scotland have embraced a WSA, taking steps to actively map their PA system. Elsewhere, countries such as Ireland and Australia are exploring practical approaches to implementing a WSA. GAPPA was only published in June 2018 and thus, where action is taking place, these countries offer important implementation evidence and opportunities for transferable learning. Regarding GAPPA’s objectives, our review concludes that in nations that have embraced GAPPA, the Active Societies and Active Environments objectives are being actioned or have plans in development for action, while progress towards behaviour and system change objectives (Active People and Active Systems) appear less evident.

Conclusions
There is some promising evidence drawn from GAPPA’s early implementation, although we conclude that if WHO targets are to be reached, wider adoption is needed. It appears that the nations who have best applied GAPPA, are those who arguably have pre-existing cross-sectoral networks in PA and public health. Therefore, perhaps a crucial first step in nationally implementing GAPPA is the establishment of these networks, laying foundations for collaborative action. Furthermore, the generation and dissemination of research by some of the early adopters is crucial to both reinforce knowledge transfer and guide others towards a whole-systems approach.

Keywords: GAPPA, systems, whole-system approach