

Review

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Review

School-Based Physical Activity Levels Among School Children in Nigeria: A Scoping Review Protocol

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Abstract

Background Physical activity (PA) is a cornerstone of child and adolescent health, with well-established benefits across physical, cognitive, and psychosocial domains. Despite these benefits, global data show persistently low levels of PA among young people. In Nigeria, anecdotal reports and empirical studies suggest a similar decline in PA among school-aged children. This raises concerns about the adequacy of school environments in fostering healthy and active lifestyles among Nigerian youth. The aim of this scoping review is to systematically explore the current evidence on school-based physical activity in Nigerian schools. **Methods** We will follow a five-step scoping review framework and report the review according to PRISMA-ScR guidelines. A comprehensive search of academic databases and grey literature will be conducted. A scoping review approach is appropriate given the emerging and interdisciplinary nature of research on school-based physical activity (SBPA) in Nigeria. **Result** We expect to map the landscape of current research on SBPA in Nigeria, including levels of participation, enablers, and barriers as well as recommendations for improvements. This review is therefore expected to highlight both the promise and the current limitations of SBPA in Nigeria. By synthesizing available evidence, we aim to provide actionable insights for policymakers, educators, and health professionals on how schools can be leveraged to promote physical activity in children and adolescents.

Keywords: school-based physical activity; physical exercises; schools; education; children; Nigeria; scoping review

Trial registration: This protocol is registered on the Open Science Framework (OSF): <https://doi.org/10.17605/OSF.IO/GP5VK>

Introduction

Physical activity (PA) is a cornerstone of child and adolescent health, with well-established benefits across physical, cognitive, and psychosocial domains [1,2]. Regular PA improves cardiorespiratory fitness, muscular strength, bone health, and helps maintain a healthy weight [1]. It also supports mental well-being, enhancing self-esteem, cognitive performance, and reducing symptoms of depression and anxiety [2,3]. In childhood and adolescence, PA is particularly critical as it lays the foundation for lifelong health habits and reduces the risk of non-communicable diseases later in life [1,4].

Despite these benefits, global data show persistently low levels of PA among young people. A pooled analysis of 1.6 million adolescents from 146 countries found that over 80% did not achieve the World Health Organization (WHO) guideline of at least 60 minutes of moderate-to-vigorous physical activity (MVPA) daily [4]. The problem is especially pronounced in low- and middle-income countries (LMICs), where structural, cultural, and policy barriers limit children's opportunities for active lifestyles [5].

In Nigeria, anecdotal reports and empirical studies suggest a similar decline in PA among school-aged children [6,7]. Urbanization, insecurity, academic curriculum overload, limited infrastructure, and sociocultural barriers (especially restrictive gender norms) have been identified as key challenges [6,8,9]. This raises concerns about the adequacy of school environments in fostering healthy and active lifestyles among Nigerian youth.

Schools are recognized globally as critical settings for the promotion of PA, given their reach and influence during formative years [1,10]. School-based physical activity (SBPA) encompasses a range of opportunities, including structured physical education (PE), recess and active breaks, extracurricular sports programs, and active commuting initiatives [10,11]. Evidence from systematic reviews shows that SBPA interventions improve fitness, reduce adiposity, and enhance psychosocial outcomes [12,13]. Accordingly, the WHO's *Global Action Plan on Physical Activity 2018–2030* highlights schools as priority settings for achieving population-wide activity targets [1].

In Nigeria, however, provision of SBPA remains inconsistent. Studies have reported irregular PE implementation, variation in weekly timetabling, lack of trained teachers, and insufficient infrastructure, especially in public schools [7,8] as common barriers. Many schools also lack basic facilities such as playgrounds and sports equipment, while cultural norms and safety concerns further restrict participation particularly for girls and children with disabilities [6,9,14]. Conversely, positive enablers include supportive national policies, motivated teachers, community involvement, and extracurricular sports initiatives [15,16].

While individual studies exist, there has been no systematic mapping of SBPA in Nigerian schools. Existing reviews of PA in Africa have often aggregated Nigeria with other countries, thereby obscuring context-specific insights [5]. Furthermore, much of the evidence lies scattered across journal articles, theses, government reports, and NGO publications, without a consolidated synthesis.

This scoping review aims to map and systematically explore the current level of school-based physical activity in Nigerian schools. Specifically, it seeks to address the following research questions: (i) What are the reported levels of school-based PA among Nigerian children and adolescents? (ii) What factors enable or hinder the implementation of SBPA in Nigerian schools? (iii) How do SBPA opportunities vary by school type, geographic setting, and student characteristics? (iv) What gaps remain in the evidence base to guide policy and practice? (v) What recommendations have been proffered to foster improvements in SBPA?

Methods

This scoping review will follow the methodological framework proposed by Arksey and O'Malley [17] and further refined by Levac et al. [18], and will be reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) guidelines [18]. A scoping review approach is appropriate given the emerging and interdisciplinary nature of research on school-based physical activity (SBPA) in Nigeria, where evidence is diverse and derived from multiple methodologies, including quantitative, qualitative, mixed-methods, and grey literature sources. This protocol will be registered on the Open Science Framework (OSF) (<https://doi.org/10.17605/OSF.IO/GP5VK>)

Identifying Relevant Studies

Inclusion and exclusion criteria

The PCC (Population, Concept, Context) framework will guide the inclusion and exclusion criteria of this review. The PCC (Population, Concept, Context) framework will guide the inclusion and exclusion criteria of this review. Studies will be included if the participants are children and adolescents aged 5–19 years attending schools in Nigeria. In addition, studies involving school staff and parents of children and/or adolescents in Nigerian schools will also be considered. The concept of interest is school-based physical activity opportunities, including physical education (PE), recess, active breaks, extracurricular activities, and active commuting initiatives. The context is Nigerian

school settings across public and private institutions in both rural and urban areas. Eligible evidence will include empirical studies (quantitative, qualitative, or mixed-methods), reports, theses, or dissertations evaluating physical activity levels, enablers, or barriers in schools, as well as grey literature such as government or NGO reports, policy briefs, and unpublished but accessible institutional documents as well as studies published in languages other than English. Studies will be excluded if they do not focus on school-aged children or adolescents, were conducted outside Nigeria, are opinion pieces and commentaries without empirical data.

Search Strategy

We will search the following academic databases and grey literature sources: PubMed/MEDLINE, EMBASE, PsycINFO, CINAHL (EBSCO), Scopus, Web of Science, ERIC, and AJOL (African Journals Online). Grey literature will be identified through Nigerian Ministry of Education reports, WHO and UNICEF publications, NGO reports, ProQuest Dissertations & Theses, and institutional repositories of Nigerian universities. Search terms will combine keywords and subject headings for (School OR school-based OR school based OR primary school OR secondary school OR institution) AND (physical activity OR exercise OR sports OR physical education OR motor activity OR sedentary behaviour OR physical inactivity OR fitness OR extracurricular activities OR breaktime games OR playtime) AND (Students OR pupil OR child OR adolescent OR school children) AND (Nigeria). A preliminary search strategy for MEDLINE will be developed in consultation with an experienced librarian, and adapted to each database. The search will not be limited by publication year to capture both historical and contemporary data, though emphasis will be placed on studies published from 2010 onwards to ensure relevance. Reference lists of included studies will also be screened for additional eligible sources.

Study Selection

The study selection process will be documented and presented using a PRISMA-ScR flow diagram. Citation will be imported into Covidence for screening. Review authors (CO, KF, AO, MU, CE, AN and JE) will independently screen for eligible studies. We will pilot the titles and abstract screening to identify relevant citations. This is to minimize discrepancies between the review authors. Next, full-text screening will be conducted to identify study that meet our inclusion criteria. Any disagreements will be resolved through discussion between the review authors.

Data Charting

A standardized data extraction form will be developed and piloted by the review authors (CO, AO, MU, CE and KF). The following data will be extracted: authors, year, title, publication source, study design and methodology, geographic region or state, school type (public or private), urban or rural context, sample size, age range, sex distribution, disability status (if reported), type and characteristics of physical activity opportunities (PE, recess, extracurricular, active commuting; frequency, duration, intensity), measurement methods (questionnaires, accelerometers, pedometers, observation, policy review), reported outcomes (minutes/day of MVPA, PE minutes/week, steps, percentage meeting guidelines), enablers (supportive policies, teacher capacity, infrastructure, cultural acceptance, community engagement), barriers (lack of facilities, curriculum load, teacher shortages, pupil based motivational challenges gender or cultural norms, safety concerns), equity considerations (variations by sex, region, school type, socioeconomic status), and key findings including authors' recommendations.

Collating, Summarizing, and Reporting Results

The results will be presented in both narrative and tabular formats. We will summarize findings relevant to our research questions, including physical activity levels by region, school type, and demographic variables. Barriers and enablers of physical activity will be thematically analyzed and

coded against the socio-ecological model to capture influences at the individual, interpersonal, school, community, and policy levels. Evidence gaps will also be mapped to highlight under-researched populations such as girls, rural schools, and children with disabilities. In line with scoping review methodology, no quality appraisal of individual studies will be conducted. A completed PRISMA-ScR checklist will be included as a supporting document (Appendix II).

Discussion

We expect to map the landscape of current research on school-based physical activity (SBPA) in Nigeria, including levels of participation, enablers, and barriers. Given the increasing policy emphasis on promoting child and adolescent health through active schools, we anticipate that this scoping review will reveal a growing but still fragmented body of literature. We expect most of the available studies to be published within the past decade, reflecting both the global prioritization of physical activity and recent Nigerian educational and health policy initiatives.

The application of SBPA in Nigeria holds potential to improve health outcomes, academic performance, and social development among children. Schools provide an equitable platform for reaching large populations of young people, including those in underserved or rural communities where other forms of structured activity are limited. Evidence from other contexts demonstrates that integrating physical activity into the school curriculum enhances flexibility, convenience, and sustainability [10–13]. For instance, structured recess, classroom-based activity breaks, and extracurricular sports have been shown to improve physical fitness, cognitive performance, and psychosocial well-being.

It is likely that this review will find evidence of innovative low-resource strategies (e.g., teacher-led games, inter-house sports, and community-supported activities) but also highlight persistent gaps such as inadequate infrastructure, inconsistent PE implementation, shortage of trained personnel, and sociocultural barriers that restrict active participation among school children. While some Nigerian studies report supportive policies and motivated teachers as enablers, we anticipate that the implementation gap between national education policy and practice on the ground will emerge as a major theme.

We also expect this review to show that few studies use standardized measurement tools (e.g., accelerometers or validated PA questionnaires), which limits comparability across regions and school types. There may also be variability in PA provision between urban and rural schools, private and public institutions, and across Nigeria's diverse geopolitical zones. Issues of equity, such as gender disparities, disability inclusion, and socioeconomic status, are likely to be underexplored.

This review is therefore expected to highlight both the promise and the current limitations of SBPA in Nigeria. By synthesizing available evidence, we aim to provide actionable insights for policymakers, educators, and health professionals on how schools can be leveraged to promote physical activity in children and adolescents.

Conclusion

This scoping review will be the first to systematically map the evidence on school-based physical activity in Nigerian schools. It will provide a comprehensive overview of how SBPA is being delivered, the extent to which children are meeting recommended activity levels, and the contextual factors that enable or hinder participation.

The findings will be valuable to policymakers in the Federal Ministries of Education and Health, health professionals, and school administrators. By identifying strengths, weaknesses, and evidence gaps in SBPA provision, this review will help inform targeted interventions, guide curriculum reforms, and support the development of sustainable, context-sensitive strategies for promoting physical activity among Nigerian children.

Dissemination

The search and screening process for this scoping review is anticipated to be completed within three months of protocol registration. Data extraction and synthesis will follow over the subsequent two months, with the overall review expected to be finalized within six months. Findings will be submitted to a peer-reviewed journal in public health, education, or physiotherapy.

In addition, results will be disseminated at conferences relevant to school health, physical activity, paediatric health promotion and African child health policy. Policy briefs will also be prepared for the Nigerian Ministry of Education and relevant stakeholders. Lay summaries and infographics will be shared via institutional websites, social media, and community engagement platforms to ensure broad accessibility of the findings.

Author's contributions: CO conceived the original idea for the scoping review. KF, CE OA and JE contributed to the development and refinement of the research questions, study design, and search strategy. MU developed the search strategy. EKF and CE prepared the initial draft manuscript. (CO, KF, AO, MU, CE, AN and JE) reviewed, edited, and approved the final manuscript.

Data Availability: All data generated or analyzed during this study will be available from the corresponding author upon reasonable request.

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