

Revitalising Indigenous Games: A Systematic Review on Their Role in Health Promotion and Obesity Prevention Among Youth in South Africa

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ABSTRACT

Physical inactivity and obesity among youth represent growing public health challenges in South Africa. Indigenous games, historically embedded in daily life and cultural practices offers a culturally relevant approach to promoting physical activity and preventing obesity. However, evidence on their integration into health promotion interventions remains fragmented. This study systematically reviewed the role of indigenous games in health promotion intervention strategies and obesity prevention programmes among youth in South Africa. A systematic review was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines and guided by the Joanna Briggs Institute methodological framework. A comprehensive search of PubMed, Google Scholar, African Journals Online (AJOL), and Web of Science was undertaken to identify studies published between 2012 and 2025. A total of 25,986 studies were initially identified and after screening based on eligibility criteria. 25 studies were included in the final synthesis. Findings indicate that indigenous games are culturally meaningful forms of physical activity that enhance youth engagement, social cohesion, and participation in school and community settings. While most studies reported positive health promotion outcomes, direct evidence linking indigenous games to measurable obesity-related outcomes among youth was limited. Indigenous games show strong potential as culturally grounded health promotion strategies for South African youth. However, robust intervention studies measuring obesity-specific outcomes are required to strengthen their integration into formal health promotion and obesity prevention programmes.

Keywords: Indigenous Games, Obesity, Obesity Prevention, Physical Activity.

INTRODUCTION

The rising prevalence of obesity and lifestyle-related health challenges among youth is a growing public

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health concern that needs Indigenous responsiveness strategies.¹ In South Africa, many young people are leading increasingly sedentary lifestyles characterised by prolonged periods of inactivity.² As highlighted by Blair and Kohl et al, physical inactivity is a significant and alarming concern.³ Alternative strategies, such as the revival of Indigenous games, could be pivotal in mitigating these health issues in South Africa. The standpoint of this study is that the decline in physical activity among youth. Revitalising indigenous games will help counter the rising obesity rates and associated health issues.

In ancient times, indigenous games played a crucial role in maintaining physical health and preventing overweight among children and youth in South Africa.⁴ Unlike today's reactive approaches that rely on rehabilitation programs and clinical interventions. Traditional societies emphasise proactive health through daily physical play embedded in cultural practices. Games such as *kgati* (rope skipping), *diketo* (stone games) and *drie stokkies* (jumping games) were not merely recreational.⁵ They were functional activities that fostered endurance, coordination and agility. These games ensured that children remained physically active, built social cohesion, and engaged in routines that naturally regulated body weight.⁶ Akbar et al. note that Indigenous games are natural tools for promoting physical development and well-being among youth.⁷ Studies indicate that youth in South Africa's urban areas are becoming increasingly inactive, with inactivity rates increasing rapidly.⁸ This decline in physical activity stands in contrast to rural provinces, where young people are more likely to engage in traditional games, helping them remain more active.⁹ This discrepancy highlights the pressing need to revitalise culturally rooted physical activities to address health and social challenges.

In response to this challenge, there is a renewed interest in culturally appropriate, sustainable interventions that engage youth in physical activity while fostering a sense of identity.¹⁰ Indigenous games such as *Kgati*, *Drie Stokkies*, and *Musangwe* are deeply rooted in cultural heritage.¹¹ They offer a promising

¹ Hazzaa M Al-Hazaa et al., "Lifestyle Factors Associated with Overweight and Obesity among Saudi Adolescents," *BMC Public Health* 12, no. 1 (2012): 354.

² Vhonani Margaret Ntsieni, "Relationship between Sedentary Lifestyle Patterns and Obesity among Adults in Ha-Tshikundamalema Area of Limpopo Province, South Africa" (University of Venda, 2018).

³ Steven N Blair, "Physical Inactivity: The Biggest Public Health Problem of the 21st Century," *British Journal of Sports Medicine* 43, no. 1 (2009): 1–2; Harold W Kohl et al., "The Pandemic of Physical Inactivity: Global Action for Public Health," *The Lancet* 380, no. 9838 (2012): 294–305.

⁴ Musa Lewis Mathunjwa et al., "Indigenous Games and Physical Activity for Preventing Non-Communicable Diseases in African Communities: A Public Health Perspective," *Frontiers in Sports and Active Living* 7 (2025): 1674875; Nduduzo Msizi Shandu et al., "The Need for Indigenous Games to Combat Noncommunicable Diseases in South Africa: A Narrative Review," 2024.

⁵ David L Bogopa, "The Importance of Indigenous Games: The Selected Cases of Indigenous Games in South Africa," *Indilinga African Journal of Indigenous Knowledge Systems* 11, no. 2 (2012): 245–56; C. Burnett, "Traditional Sports and Games in Eastern, Central and Southern Africa," in *Sport in the African World* (Routledge, 2018), 121–45.

⁶ P.K. Mulibana, M. Keim, and C. De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa," *African Journal for Physical Activity and Health Sciences (AJPHEs)* 31, no. 3 (September 2025): 452–72, <https://doi.org/10.37597/ajphes.2025.31.3.5>; Munyangane Osia Livhuwani et al., "The Role of Indigenous Diets and Recreational Activities in Promoting Healthy Ageing and Managing Age-Related Diseases: A Scoping Review," *International Journal of Research in Business and Social Science* (2147- 4478) 14, no. 6 (August 13, 2025): 255–69, <https://doi.org/10.20525/ijrbs.v14i6.4260>.

⁷ Lamia Akbar, Aleksandra M Zuk, and Leonard J S Tsuji, "Health and Wellness Impacts of Traditional Physical Activity Experiences on Indigenous Youth: A Systematic Review," *International Journal of Environmental Research and Public Health* 17, no. 21 (2020): 8275.

⁸ P T Katzmarzyk, Ian Janssen, and C I Ardern, "Physical Inactivity, Excess Adiposity and Premature Mortality," *Obesity Reviews* 4, no. 4 (2003): 257–90; H Salome Kruger et al., "Physical Inactivity Is the Major Determinant of Obesity in Black Women in the North West Province, South Africa: The THUSA Study," *Nutrition* 18, no. 5 (2002): 422–27.

⁹ Peggy Edwards and Agis D Tsouros, *Promoting Physical Activity and Active Living in Urban Environments: The Role of Local Governments* (WHO Regional Office Europe, 2006); Anush Yousefian et al., "Active Living for Rural Youth: Addressing Physical Inactivity in Rural Communities," *Journal of Public Health Management and Practice* 15, no. 3 (2009): 223–31.

¹⁰ Mulibana, Keim, and De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa."

¹¹ Cora Burnett and Wim J Hollander, "The South African Indigenous Games Research Project of 2001/2002," *South African Journal for Research in Sport, Physical Education and Recreation* 26, no. 1 (2004): 9–23.

avenue for promoting physical activity in an enjoyable, socially engaging and within the social and health system in South Africa.¹²

Equally crucial to the above, it's worth noting that these traditional games not only stimulate cardiovascular health and muscle strength.¹³ Despite evidence and community-level initiatives suggesting the benefits of indigenous games, there is a limited body of scientific research evaluating their role in structured health promotion programs within the South African health system, especially in the context of obesity prevention among youth in South Africa.

Most existing studies are qualitative with limited empirical data linking traditional games to measurable health outcomes.¹⁴ Moreover, few studies explore how these games can be formally integrated into school programs or national health policies. This gap highlights the need for a systematic review that consolidates existing evidence and evaluates the potential of Indigenous games as sustainable, culturally rooted interventions for promoting youth health and preventing obesity. This study sought to systematically review and evaluate the role of indigenous games in health promotion intervention strategies and obesity prevention programs for South African youth.

METHODOLOGY

Study design

This study employed a systematic review design to investigate the role of indigenous games in promoting health and preventing obesity among youth in South Africa. The review focused on empirical studies that investigated indigenous games implemented as structured or semi-structured physical activity interventions among youth. The review adhered to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines.¹⁵ It was informed by the Joanna Briggs Institute (JBI) methodological framework.

Review Question

What evidence exists on the role of indigenous games in promoting health and preventing obesity among youth in South Africa?

To guide the development of the review question and eligibility criteria, the Population–Concept–Context (PCC) framework, as recommended by the Joanna Briggs Institute, was applied:

- **Population (P):** South African youth, including children and adolescents.
- **Concept (C):** Indigenous games and traditional physical activities used as strategies for health promotion and obesity prevention.
- **Context (C):** School, community, and informal settings within South Africa.

¹² Tshilidzi Norah Mudzielwana, "Factors Influencing Non-Participation of Youth in Indigenous Games in Thulamela Municipality of Vhembe District, Limpopo Province" (University of Venda, 2020); Abenathi Ivy Ntelezi, H K N Bama, and Gift Muresherwa, "Indigenous Games as a Catalyst for Sport Tourism Development in South Africa," in *International Conference on Tourism Research*, vol. 7 (Academic Conferences International Limited, 2024), 453–60; M Sakala and C J Roux, "An Afro-Centric Perspective on Physical Activity: A Systematic Review of the Role of Indigenous Games among Learners in South Africa," *African Journal for Physical Activity and Health Sciences (AJPHEs)* 30, no. 2 (2024): 268–88.

¹³ Shandu et al., "The Need for Indigenous Games to Combat Noncommunicable Diseases in South Africa: A Narrative Review"; Maria Beatriz Rocha Ferreira and M Beatriz, "Indigenous Games: A Struggle between Past and Present," *Bulletin. Journal of Sport Science and Physical Education* 67 (2014): 48–54; Mulibana, Keim, and De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa."

¹⁴ Gugu F Sibandze and Meshack N Dlodlu, "Interfacing Indigenous Knowledge with Scientific Knowledge for Improved Health Outcomes: Lessons from Eswatini," in *Socio-Ecological Systems and Decoloniality: Convergence of Indigenous and Western Knowledge* (Springer, 2023), 33–49.

¹⁵ Matthew J Page et al., "The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews," *BMJ*, March 29, 2021, n71, <https://doi.org/10.1136/bmj.n71>.

The PCC framework enabled a structured and comprehensive synthesis of evidence examining how indigenous games contribute to health promotion and obesity prevention among youth in the South African context.

Eligibility criteria

The PCC framework (Population, Concept, Context) was used to identify studies based on specific inclusion and exclusion criteria as presented in Table 1.

Table 1: Systematic review inclusion and exclusion criteria

PCC Element	Inclusion Criteria	Exclusion Criteria
Population	Studies involving South African youth, including children and adolescents	Studies focusing on adults or youth outside South Africa
Concept	Studies examining indigenous games or traditional physical activities used for health promotion and obesity prevention	Studies not addressing indigenous or traditional games, or not linked to health promotion or obesity prevention
Context	Studies conducted in school, community, or informal settings within South Africa	Studies conducted outside the South African context
Study Design	Empirical studies employing qualitative, quantitative, or mixed-methods approaches, Systematic and scoping review, thesis	Non-empirical studies, such as editorials, commentaries, or opinion pieces
Outcomes	Studies reporting physical activity levels, obesity-related indicators, or physical health outcomes	Studies not assessing physical health or obesity-related outcomes
Publication Period	Peer-reviewed studies published between 2012 and 2025	Studies published before 2012 or after 2025
Language	Studies published in English	Studies published in languages other than English

Search Strategy

The search strategy was developed using the Population–Concept–Context (PCC) framework to identify studies examining indigenous games (Concept) used for health promotion and obesity prevention among youth (Population) in South Africa (Context). The strategy was designed to capture empirical evidence from diverse methodological approaches. A systematic literature search was conducted across four electronic databases: Google Scholar, AJOL, Web of Science and PubMed.

Search terms were combined using Boolean operators and keywords such as:

((((Indigenous games OR traditional games OR cultural games OR indigenous play OR traditional physical activities AND (y_10[Filter]))) AND (youth OR children OR adolescents OR learners AND (y_10[Filter]))) OR (health promotion OR physical activity OR obesity prevention OR overweight OR body mass index AND (y_10[Filter]))) AND (South Africa AND (y_10[Filter]))) Filters: in the last 13 years

Additionally, manual searches of the reference lists of included studies were conducted to identify relevant articles not captured in the initial database search.

Study Selection Process

Two reviewers (M.O.L., and L.K.) independently screened the titles and abstracts of all identified records using Rayyan software. Screening was conducted in accordance with the predefined inclusion and exclusion criteria, according to the Population–Concept–Context (PCC) framework. Any discrepancies arising during the screening process were resolved through discussion and where consensus could not be reached, a third reviewer (M.J) was consulted. Full-text articles of potentially eligible studies were subsequently retrieved and assessed for inclusion.

Data Extraction

Data were extracted using a standardised and piloted data extraction form to ensure consistency across all included studies. Extracted information included study identification details such as author(s), year of publication, study setting within South Africa, and population characteristics, including age group, gender, target population, and sample size where applicable. Information related to indigenous games was recorded, including the type of indigenous or traditional game, the setting of implementation and, where reported, the frequency and duration of participation. The methodological characteristics of each study were documented, including study design and approach, such as quantitative, qualitative, mixed-methods, systematic and scoping reviews. Study outcomes were extracted and categorised according to health promotion and obesity-related indicators.

Quality Assessment

The methodological quality and risk of bias of included studies were assessed using the Joanna Briggs Institute (JBI) Critical Appraisal Checklists, with tools selected according to study design. These checklists are widely endorsed for their applicability across qualitative, quantitative, and mixed-methods. The review studies are recommended for evidence synthesis to enhance methodological rigour.¹⁶ The appraisal assessed key domains such as the study design, clarity of research objectives and inclusion criteria, validity and reliability of outcome measures and ethical considerations. Two reviewers (M.O.L, L.K.) independently conducted the quality appraisal using the JBI tools with outcomes categorised as “Yes,” “No,” “Unclear,” or “Not Applicable.” Discrepancies were resolved through discussion with a third reviewer (M.J), where necessary, to minimise bias and enhance inter-rater reliability. From the 21 included studies, 18 were rated as high quality, two as moderate quality, and one as low quality due to unclear methodology and inconsistent reporting of outcomes. The use of JBI appraisal tools supports rigorous yet inclusive assessment across diverse methods and strengthens the credibility of the findings.

Data Synthesis

A narrative synthesis was undertaken to summarise and integrate findings from the included studies.¹⁷ Study findings were grouped according to key outcome domains relevant to the review objectives. This includes physical activity and obesity-related outcomes, broader health promotion outcomes and factors such as school versus community-based settings. Where sufficient homogeneity in study design, population, and outcome measures was observed, quantitative data were synthesised using meta-analytic techniques. A random-effects model was applied to account for methodological and contextual heterogeneity across studies. This combined narrative and quantitative approach enabled a comprehensive synthesis of evidence.¹⁸

Ethical considerations

This study did not require ethical clearance, as it is a systematic review based solely on secondary data. There was no collection of new data or direct interaction with human or animal subjects.

PRESENTATION OF FINDINGS

Study selection

A systematic search of Google Scholar, African Journals Online (AJOL), Web of Science, and PubMed identified a total of 25,986 records. Following the removal of 6,486 duplicate records, 19,500 titles and abstracts were screened against the predefined eligibility criteria. Of these, 18,920 records were excluded at the title and abstract screening stage for not meeting the inclusion criteria, resulting in 580 studies being

¹⁶ Edoardo Aromataris and Zachary Munn, *JBI Manual for Evidence Synthesis* (Adelaide: JBI, 2020), <https://doi.org/10.46658/JBIMES-20-01>.

¹⁷ Jennie Popay et al., “Guidance on the Conduct of Narrative Synthesis in Systematic Reviews,” *A Product from the ESRC Methods Programme Version 1*, no. 1 (2006): b92.

¹⁸ Popay et al., “Guidance on the Conduct of Narrative Synthesis in Systematic Reviews.”

retained for full-text assessment. Subsequent full-text screening led to the exclusion of 555 studies due to reasons including lack of focus on indigenous games, absence of youth as the target population, failure to report health promotion or obesity-related outcomes or being conducted outside the South African context. Ultimately, 25 studies met the eligibility criteria and were included in the final synthesis. The study selection process is summarised in the PRISMA flow diagram (Figure 1).

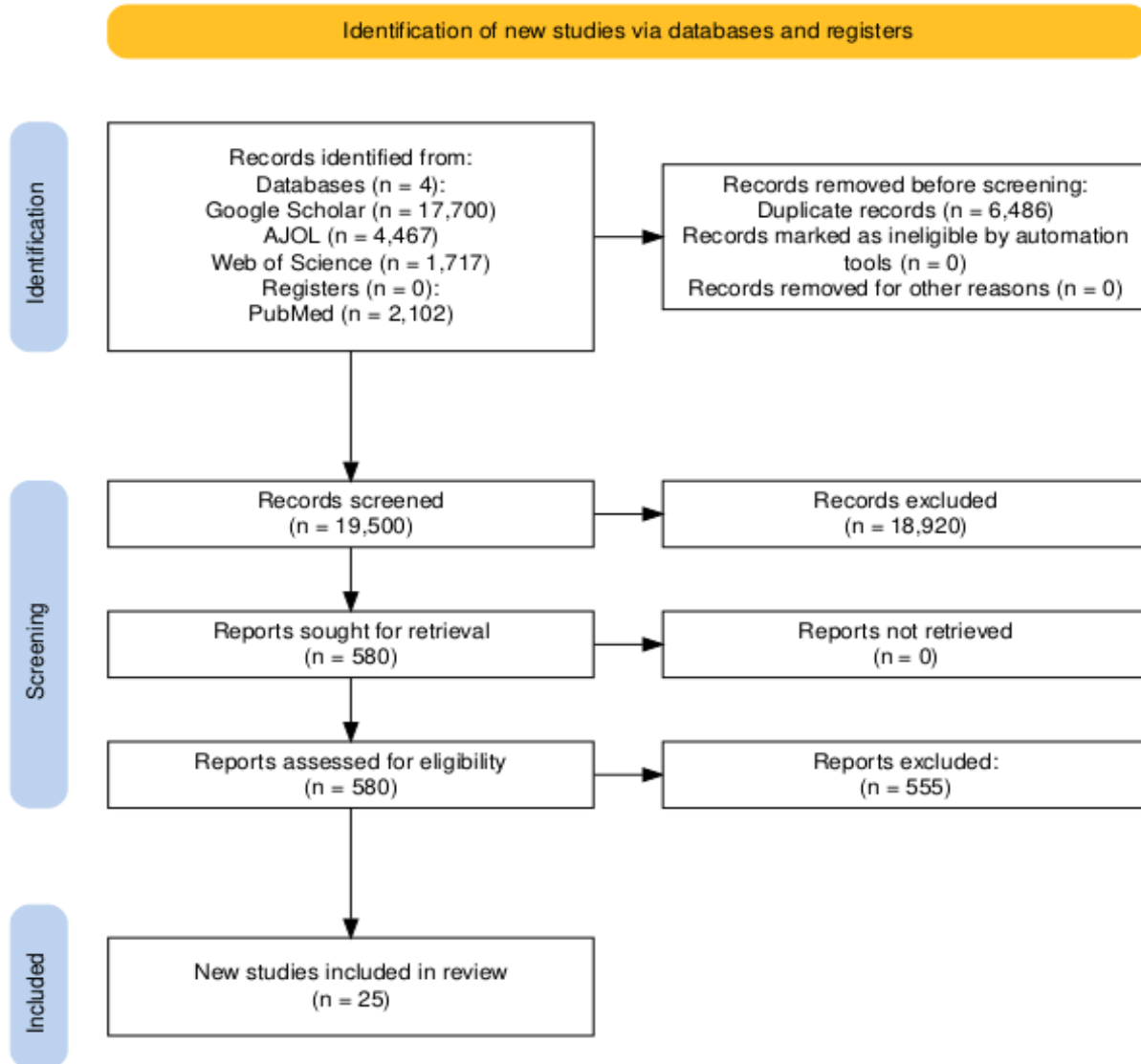


Figure 1: PRISMA Flow Diagram of Study Selection¹⁹

Study Characteristics

The included studies comprise a different body of literature examining indigenous games, traditional physical activities, and related health outcomes across South Africa. The evidence base spans publications from 2012 to 2025 and includes qualitative case studies, quantitative cross-sectional surveys, mixed-methods and

¹⁹ Neal R Haddaway et al., “PRISMA2020: An R Package and Shiny App for Producing PRISMA 2020-compliant Flow Diagrams, with Interactivity for Optimised Digital Transparency and Open Synthesis,” *Campbell Systematic Reviews* 18, no. 2 (2022): e1230.

intervention studies, scoping and narrative reviews, systematic reviews, and postgraduate theses, reflecting the multidisciplinary nature of research on indigenous games and health.

Several studies adopted qualitative and ethnographic approaches to explore the cultural significance, meanings and social value of indigenous games within communities. Early work by Bogopa highlighted the importance of indigenous games for cultural continuity, social cohesion, and education in South Africa.²⁰ Community-based qualitative case studies further examined indigenous games within specific cultural contexts, including the Vhavenda community, focusing on cultural preservation, adaptation to modern contexts, and community benefits.²¹ Additional qualitative research explored indigenous games in educational settings, documenting teachers' experiences and perceptions of their value in early grades,²² as well as youth participation, cultural identity, and declining engagement with traditional games in community contexts.²³

Doctoral studies also examined the digitisation of traditional games as a strategy for cultural heritage preservation.²⁴ The factors influencing youth non-participation in indigenous games in rural municipalities.²⁵ A few studies focused on older populations, investigating the role of indigenous games in promoting wellbeing and social inclusion among older adults. These included qualitative intervention-based doctoral research in the North-West Province²⁶ and empirical work examining indigenous music and choral performance as a means of enhancing mental wellbeing and social connectedness in later life.²⁷ Scoping review evidence further situated indigenous recreational activities, alongside indigenous diets, as contributors to healthy ageing and the management of age-related diseases.²⁸

The review also included several quantitative cross-sectional studies that provided contextual evidence on physical activity, obesity, and non-communicable disease (NCD) risk in South Africa. National and community-based surveys documented physical activity levels and their socio-demographic correlates among adults.²⁹ They also documented sedentary lifestyle patterns and obesity in rural Limpopo communities.³⁰ National survey data further indicated the burden of NCDs and associated risk factors in South Africa. Underscoring the public health relevance of culturally appropriate physical activity

²⁰ Bogopa, "The Importance of Indigenous Games: The Selected Cases of Indigenous Games in South Africa."

²¹ T J Daswa, Vhonani Olive Netshandama, and P E Matshidze, "Moving the Traditional Games to the Fourth Industrial Revolution: A Case of Vhavenda Community," *Gender and Behaviour* 17, no. 1 (2019): 12390–404; Mulibana, Keim, and De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa."

²² Blanche N. Hadebe-Ndlovu, "Teachers' Experiences of Indigenous Games in the Early Grades," *South African Journal of Childhood Education* 12, no. 1 (September 20, 2022), <https://doi.org/10.4102/sajce.v12i1.931>.

²³ S. Segwapa, "Participation of Indigenous Games by Youth in Ga-Ledwaba Village, Lepelle-Nkumpi District" (University of Limpopo, 2019); L. Zide, "Youth Participation in Sports: Reconsidering the Lost Culture of Indigenous Games in Libode, Eastern Cape" (Nelson Mandela University, 2024).

²⁴ Thizwilondi Joanbeth Madima, "Exploring the Cultural Heritage Preservation through Digitisation: A Case Study of Traditional Children's Games in Limpopo Province, South Africa" (2021).

²⁵ Mudzielwana, "Factors Influencing Non-Participation of Youth in Indigenous Games in Thulamela Municipality of Vhembe District, Limpopo Province."

²⁶ M. S. Mogamisi, "Indigenous Games, Dance, and Music for Promoting Health and Wellbeing of the Aged in the North-West Province" (North-West University, 2022).

²⁷ Ntshengedzeni Evans Netshivhambe, "Promoting Elderly Wellbeing through Indigenous Music and Choral Performance," *EXPLORE* 21, no. 3 (May 2025): 103145, <https://doi.org/10.1016/j.explore.2025.103145>.

²⁸ Livhuwani et al., "The Role of Indigenous Diets and Recreational Activities in Promoting Healthy Ageing and Managing Age-Related Diseases: A Scoping Review."

²⁹ Pasmore Malambo et al., "Prevalence and Socio-Demographic Correlates of Physical Activity Levels among South African Adults in Cape Town and Mount Frere Communities in 2008-2009," *Archives of Public Health* 74, no. 1 (December 29, 2016): 54, <https://doi.org/10.1186/s13690-016-0167-3>; Lungelo Mlangeni et al., "Factors Associated with Physical Activity in South Africa: Evidence from a National Population Based Survey," *The Open Public Health Journal* 11, no. 1 (2018); Adewale L. Oyeyemi et al., "Measurement of Physical Activity in Urban and Rural South African Adults: A Comparison of Two Self-Report Methods," *BMC Public Health* 16, no. 1 (December 22, 2016): 1004, <https://doi.org/10.1186/s12889-016-3693-6>.

³⁰ Ntsieni, "Relationship between Sedentary Lifestyle Patterns and Obesity among Adults in Ha-Tshikundamalema Area of Limpopo Province, South Africa."

interventions.³¹ Although these studies did not directly evaluate indigenous games as interventions, they provided essential background evidence supporting the need for culturally grounded approaches to health promotion.

Mixed-methods and intervention-oriented studies examined structured health promotion initiatives incorporating indigenous or community-based activities. Mphekgwana et al. evaluated a community action model for cardiovascular disease prevention in Limpopo Province, combining quantitative health indicators with qualitative community engagement processes.³² School-based mixed-methods research investigated the integration of indigenous games into physical activity delivery programmes for primary school learners, reporting positive physical and holistic health outcomes.³³

Several review-based studies synthesised existing evidence on indigenous games and health promotion. Narrative and systematic reviews focused on the role of indigenous games in increasing physical activity and preventing non-communicable diseases in communities.³⁴ Broader scoping and narrative reviews extended this perspective beyond South Africa, examining traditional dance and games in relation to cardiovascular health across low- and middle-income countries,³⁵ and situating indigenous games within a wider African public health context.³⁶ A historical overview of traditional games further contextualised indigenous physical activities as long-standing forms of physical engagement and social organisation in South Africa.³⁷

The included studies demonstrate that indigenous games are examined through diverse methodological lenses. This is done across different population groups, highlighting their potential contribution to health promotion and obesity prevention. While this also shows the gaps in intervention standardisation, youth-focused obesity outcomes, and rigorous evaluation designs.

³¹ Obasanjo Afolabi Bolarinwa et al., “Prevalence of Non-Communicable Diseases and Associated Factors in South Africa: Evidence from National Income Dynamics Survey, 2008-2017.” December 8, 2020, <https://doi.org/10.21203/rs.3.rs-118228/v1>.

³² P. M., Mphekgwana et al., “Screening and Interventions for Cardiovascular Disease Prevention in Limpopo Province, South Africa,” *Metabolites* 12, no. 11 (2022): 1067.

³³ M. Sakala, “Indigenous Games as Part of School-Based Physical Activity Delivery Programmes: Prospects for Optimum Implementation for Primary School Learners’ Holistic Health Outcomes” (University of Johannesburg, 2023).

³⁴ M.-L. Mokoena and C. K. Moroka, “Indigenous Games in South Africa: A Review of the Literature,” *International Journal of Humanities and Social Sciences* 5, no. 2 (2019): 11–24; Sakala and Roux, “An Afro-Centric Perspective on Physical Activity: A Systematic Review of the Role of Indigenous Games among Learners in South Africa”; Shandu et al., “The Need for Indigenous Games to Combat Noncommunicable Diseases in South Africa: A Narrative Review.”

³⁵ Adiele Dube et al., “Impact of Traditional Dance and Games on Cardiovascular Health: A Scoping Review of Outcomes Across Diverse Low-and Middle-Income Countries,” *International Journal of Environmental Research and Public Health* 22, no. 3 (2025): 440.

³⁶ Mathunjwa et al., “Indigenous Games and Physical Activity for Preventing Non-Communicable Diseases in African Communities: A Public Health Perspective.”

³⁷ Burnett, “Traditional Sports and Games in Eastern, Central and Southern Africa.”

Table 1: The characteristics of the included studies

Author (Year)	Design	Population	Setting	Sample and Sampling technique	Intervention	Outcomes
Bogopa ³⁸	Qualitative case study	Community members and indigenous game practitioners	South Africa	Not explicitly stated; purposive sampling	Participation in indigenous games	Cultural value, social cohesion, educational relevance
Bolarinwa et al. ³⁹	Quantitative cross-sectional	South African adults	National (South Africa)	Large national sample; probability sampling (NIDS)	None	Prevalence of NCDs and associated risk factors
Burnett ⁴⁰	Descriptive qualitative review	African communities	Eastern, Central, and Southern Africa	Not applicable	Traditional sports and games	Physical activity, cultural preservation, social well-being
Daswa et al. ⁴¹	Qualitative case study	Vhavenda community members	Limpopo Province, South Africa	Community participants; purposive sampling	Digitisation and adaptation of indigenous games	Cultural continuity, youth engagement
Dube et al. ⁴²	Scoping review	Diverse populations	Low- and middle-income countries	Not applicable	Traditional dance and games	Cardiovascular health outcomes
Hadebe-Ndlovu ⁴³	Qualitative phenomenological study	Foundation phase teachers	South Africa	Not explicitly stated; purposive sampling	Use of indigenous games in early grades	Learner engagement, physical activity, cultural learning
Livhuwani et al. ⁴⁴	Scoping review	Older adults	Global	Not applicable	Indigenous diets and recreational activities	Healthy ageing, management of age-related diseases
Madima ⁴⁵	Qualitative case study	Children and community stakeholders	Limpopo Province, South Africa	Not explicitly stated; purposive sampling	Digitisation of traditional children's games	Cultural heritage preservation

³⁸ Bogopa, "The Importance of Indigenous Games: The Selected Cases of Indigenous Games in South Africa."

³⁹ Bolarinwa et al., "Prevalence of Non-Communicable Diseases and Associated Factors in South Africa: Evidence from National Income Dynamics Survey, 2008-2017."

⁴⁰ Burnett, "Traditional Sports and Games in Eastern, Central and Southern Africa."

⁴¹ Daswa, Netshandama, and Matshidze, "Moving the Traditional Games to the Fourth Industrial Revolution: A Case of Vhavenda Community."

⁴² Dube et al., "Impact of Traditional Dance and Games on Cardiovascular Health: A Scoping Review of Outcomes Across Diverse Low-and Middle-Income Countries."

⁴³ Hadebe-Ndlovu, "Teachers' Experiences of Indigenous Games in the Early Grades."

⁴⁴ Livhuwani et al., "The Role of Indigenous Diets and Recreational Activities in Promoting Healthy Ageing and Managing Age-Related Diseases: A Scoping Review."

⁴⁵ Madima, "Exploring the Cultural Heritage Preservation through Digitisation: A Case Study of Traditional Children's Games in Limpopo Province, South Africa."

Malambo et al. ⁴⁶	Quantitative cross-sectional study	South African adults	Urban and rural communities	Community-based sample; stratified sampling	None (observational)	Physical activity levels and socio-demographic correlates
Mathunjwa et al. ⁴⁷	Narrative public health review	African communities	Africa-wide	Not applicable	Indigenous games as physical activity	NCD prevention, health promotion
Mlangeni et al. ⁴⁸	Quantitative cross-sectional survey	South African adults	National (South Africa)	Population-based sample; probability sampling	None (observational)	Determinants of physical activity
Mogamisi ⁴⁹	Qualitative intervention study	Older adults	North-West Province, South Africa	Small community sample; purposive sampling	Indigenous games, dance, and music	Health, wellbeing, social inclusion
Mokoena and Moroka ⁵⁰	Narrative literature review	Not applicable	South Africa	Not applicable	Indigenous games	Health, education, cultural relevance
Mphekgwana et al. ⁵¹	Mixed-methods intervention study	Community members	Limpopo Province, South Africa	Community-based sample; purposive sampling	Community Action Model intervention	Cardiovascular risk reduction, health awareness
Mudzielwana ⁵²	Qualitative exploratory study	Youth	Limpopo Province, South Africa	Youth participants; purposive sampling	Indigenous games (participation barriers)	Factors influencing non-participation
Mulibana et al. ⁵³	Qualitative community-based study	Vhavenda community members	Limpopo Province, South Africa	Community participants; purposive sampling	Indigenous games	Social cohesion, community wellbeing
Netshivhamb e ⁵⁴	Qualitative intervention study	Older adults	South Africa	Not explicitly stated; purposive sampling	Indigenous music and choral performance	Mental wellbeing, social connectedness

⁴⁶ Malambo et al., "Prevalence and Socio-Demographic Correlates of Physical Activity Levels among South African Adults in Cape Town and Mount Frere Communities in 2008-2009."

⁴⁷ Mathunjwa et al., "Indigenous Games and Physical Activity for Preventing Non-Communicable Diseases in African Communities: A Public Health Perspective."

⁴⁸ Mlangeni et al., "Factors Associated with Physical Activity in South Africa: Evidence from a National Population Based Survey."

⁴⁹ Mogamisi, "Indigenous Games, Dance, and Music for Promoting Health and Wellbeing of the Aged in the North-West Province."

⁵⁰ Mokoena and Moroka, "Indigenous Games in South Africa: A Review of the Literature."

⁵¹ Mphekgwana et al., "Screening and Interventions for Cardiovascular Disease Prevention in Limpopo Province, South Africa."

⁵² Mudzielwana, "Factors Influencing Non-Participation of Youth in Indigenous Games in Thulamela Municipality of Vhembe District, Limpopo Province."

⁵³ Mulibana, Keim, and De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa."

⁵⁴ Netshivhamb e, "Promoting Elderly Wellbeing through Indigenous Music and Choral Performance."

Ntsieni ⁵⁵	Quantitative cross-sectional study	Adults	Limpopo Province, South Africa	Community-based sample; probability sampling	None (observational)	Sedentary behaviour and obesity
Oyeyemi et al. ⁵⁶	Quantitative methodological study	Urban and rural adults	South Africa	Adult participants; stratified sampling	Physical activity measurement tools	Validity of self-report physical activity methods
Sakala ⁵⁷	Mixed-methods intervention study	Primary school learners	South Africa	School-based sample; purposive sampling	Indigenous games in school programmes	Physical activity, holistic health outcomes
Sakala and Roux ⁵⁸	Systematic review	Learners	South Africa	Not applicable	Indigenous games	Physical activity, health promotion
Segwapa ⁵⁹	Qualitative case study	Youth	Limpopo Province, South Africa	Community youth; purposive sampling	Participation in indigenous games	Youth engagement, cultural participation
Shandu et al. ⁶⁰	Narrative review	South African population	South Africa	Not applicable	Indigenous games	NCD prevention, public health relevance
Zide ⁶¹	Qualitative case study	Youth	Eastern Cape, South Africa	Community youth; purposive sampling	Indigenous games	Cultural identity, youth participation

⁵⁵ Ntsieni, “Relationship between Sedentary Lifestyle Patterns and Obesity among Adults in Ha-Tshikundamalema Area of Limpopo Province, South Africa.”

⁵⁶ Oyeyemi et al., “Measurement of Physical Activity in Urban and Rural South African Adults: A Comparison of Two Self-Report Methods.”

⁵⁷ Sakala, “Indigenous Games as Part of School-Based Physical Activity Delivery Programmes: Prospects for Optimum Implementation for Primary School Learners’ Holistic Health Outcomes.”

⁵⁸ Sakala and Roux, “An Afro-Centric Perspective on Physical Activity: A Systematic Review of the Role of Indigenous Games among Learners in South Africa.”

⁵⁹ Segwapa, “Participation of Indigenous Games by Youth in Ga-Ledwaba Village, Lepelle-Nkumpi District.”

⁶⁰ Shandu et al., “The Need for Indigenous Games to Combat Noncommunicable Diseases in South Africa: A Narrative Review.”

⁶¹ Zide, “Youth Participation in Sports: Reconsidering the Lost Culture of Indigenous Games in Libode, Eastern Cape.”

DISCUSSION

Indigenous Games as Health Promotion Intervention Strategies for Youth

This systematic review evaluated the role of indigenous games as health promotion intervention strategies for South African youth on their potential contribution to obesity prevention. Across the included studies, indigenous games were consistently identified as culturally meaningful and socially embedded forms of physical activity that align with the lived realities of South Africans. Community-based studies demonstrated that indigenous games promote active participation, enjoyment and social interaction, which are key determinants of sustained engagement in physical activity.⁶²

The cultural resonance of indigenous games differentiates them from conventional exercise-based interventions, which are often perceived as externally imposed. As highlighted by Burnett, traditional sports and games have historically functioned as informal systems of physical conditioning and socialisation in Africa.⁶³ This cultural embeddedness enhances the acceptability of indigenous games as health promotion interventions, particularly in rural area where participation in structured sport is limited.

School- and Community-Based Interventions Targeting Youth

Evidence from school and community suggests that indigenous games can be integrated into youth-focused health promotion interventions. Teachers reported positive experiences using indigenous games in early grades, noting increased learner engagement, enjoyment and culturally responsive learning environments.⁶⁴ Similarly, school-based intervention research demonstrated that incorporating indigenous games into physical activity programmes contributed to improved participation and holistic health outcomes among learners.⁶⁵

However, several studies also identified challenges related to youth participation. Research conducted in rural Limpopo and other community settings revealed declining engagement in indigenous games among youth, influenced by modernisation, limited institutional support, and competition from sedentary leisure activities.⁶⁶ These findings suggest that while indigenous games have strong potential as intervention strategies, their effectiveness depends on intentional revitalisation, structured implementation, and alignment with contemporary youth interests. Digitisation initiatives explored by Madima offer innovative approaches for reintroducing indigenous games in ways that resonate with modern youth while preserving cultural integrity.⁶⁷

Indigenous Games and Obesity Prevention Outcomes

Despite strong support for indigenous games as facilitators of physical activity, direct evidence linking indigenous games to obesity prevention outcomes remains limited. None of the included youth-focused studies reported consistent measurement of obesity-specific indicators. This gap constrains the ability to draw firm conclusions regarding the effectiveness of indigenous games as obesity prevention interventions.

⁶² Bogopa, "The Importance of Indigenous Games: The Selected Cases of Indigenous Games in South Africa"; Daswa, Netshandama, and Matshidze, "Moving the Traditional Games to the Fourth Industrial Revolution: A Case of Vhavenda Community"; Mulibana, Keim, and De Coning, "Transforming Usual Traditional Activities for Community Benefits: Meaningful Social Outcomes of Indigenous Games among Vhavenda People in Limpopo Province, South Africa."

⁶³ Burnett, "Traditional Sports and Games in Eastern, Central and Southern Africa."

⁶⁴ Hadebe-Ndlovu, "Teachers' Experiences of Indigenous Games in the Early Grades."

⁶⁵ Sakala, "Indigenous Games as Part of School-Based Physical Activity Delivery Programmes: Prospects for Optimum Implementation for Primary School Learners' Holistic Health Outcomes."

⁶⁶ Mudzielwana, "Factors Influencing Non-Participation of Youth in Indigenous Games in Thulamela Municipality of Vhembe District, Limpopo Province"; Segwapa, "Participation of Indigenous Games by Youth in Ga-Ledwaba Village, Lepelle-Nkumpi District"; Zide, "Youth Participation in Sports: Reconsidering the Lost Culture of Indigenous Games in Libode, Eastern Cape."

⁶⁷ Madima, "Exploring the Cultural Heritage Preservation through Digitisation: A Case Study of Traditional Children's Games in Limpopo Province, South Africa."

Nevertheless, contextual quantitative studies provide compelling justification for the inclusion of indigenous games in obesity prevention strategies. National and community-based surveys document high levels of physical inactivity, sedentary behaviour, obesity, and non-communicable disease risk in South Africa.⁶⁸ Given that indigenous games involve physical activity and promote regular movement. They represent a promising, culturally relevant modality for addressing risk factors among youth when incorporated into intervention programmes.

Broader Health Promotion Evidence Supporting Youth Interventions

Although the focus of this review was youth, evidence from adult and older populations strengthens the argument for indigenous games as viable health promotion tools. Studies among older adults demonstrate that indigenous games contribute to health.⁶⁹ Scoping review evidence further indicates that indigenous recreational activities support healthy ageing and disease management.⁷⁰ These findings reinforce the health benefits of culturally embedded physical activity across the life course, supporting its adaptation for youth obesity prevention.

Synthesis of Review Evidence and Policy Implications

Review-based studies concluded that indigenous games are underutilised yet highly relevant tools for health promotion in South Africa.⁷¹ Broader public health perspectives further support the role of indigenous games in improving cardiovascular health.⁷² These reviews advocate for integrating indigenous games into mainstream health promotion and obesity prevention frameworks rather than treating them as informal or supplementary activities.

Research Gaps and Future Directions

Despite promising evidence, gaps remain in the youth-focused obesity prevention literature. There is a lack of rigorously designed intervention studies evaluating indigenous games using standardised obesity-related outcomes. There is limited reporting on intervention intensity and minimal use of longitudinal designs. Structural barriers such as insufficient policy support, limited educator training and weak integration between health further constrain the implementation of indigenous game-based interventions.

CONCLUSION

In alignment with the study objective, this review demonstrates that indigenous games have potential as health promotion intervention strategies for youth in South Africa. Particularly through their capacity to increase physical activity in culturally meaningful ways. While direct evidence for obesity prevention

⁶⁸ Malambo et al., "Prevalence and Socio-Demographic Correlates of Physical Activity Levels among South African Adults in Cape Town and Mount Frere Communities in 2008-2009"; Mlangeni et al., "Factors Associated with Physical Activity in South Africa: Evidence from a National Population Based Survey"; Oyeyemi et al., "Measurement of Physical Activity in Urban and Rural South African Adults: A Comparison of Two Self-Report Methods"; Ntsieni, "Relationship between Sedentary Lifestyle Patterns and Obesity among Adults in Ha-Tshikundamalema Area of Limpopo Province, South Africa"; Bolarinwa et al., "Prevalence of Non-Communicable Diseases and Associated Factors in South Africa: Evidence from National Income Dynamics Survey, 2008-2017."

⁶⁹ Mogamisi, "Indigenous Games, Dance, and Music for Promoting Health and Wellbeing of the Aged in the North-West Province"; Netshivhambe, "Promoting Elderly Wellbeing through Indigenous Music and Choral Performance."

⁷⁰ Livhuwani et al., "The Role of Indigenous Diets and Recreational Activities in Promoting Healthy Ageing and Managing Age-Related Diseases: A Scoping Review."

⁷¹ Mokoena and Moroka, "Indigenous Games in South Africa: A Review of the Literature"; Sakala and Roux, "An Afro-Centric Perspective on Physical Activity: A Systematic Review of the Role of Indigenous Games among Learners in South Africa"; Shandu et al., "The Need for Indigenous Games to Combat Noncommunicable Diseases in South Africa: A Narrative Review."

⁷² Dube et al., "Impact of Traditional Dance and Games on Cardiovascular Health: A Scoping Review of Outcomes Across Diverse Low-and Middle-Income Countries"; Mathunjwa et al., "Indigenous Games and Physical Activity for Preventing Non-Communicable Diseases in African Communities: A Public Health Perspective."

remains limited. The collective findings support the integration of indigenous games into structured health promotion and obesity prevention programmes. Strengthening evidence base will require well-designed interventions that measure obesity-related outcomes and leverage the cultural relevance of indigenous games to promote sustainable youth engagement.

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The views expressed in this article are those of the authors and do not necessarily reflect any affiliated author organisation's official policy or position.

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