

The Physical Activity Transition among Young Adults in Nigeria: A Silent Public Health Crisis

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Abstract

Review Article

Despite Nigeria's rich cultural and occupational heritage of routine physical movement, there has been a dramatic shift toward sedentary lifestyles among young adults over the past two decades. National estimates show that the prevalence of insufficient physical activity rose from approximately 22% in 2000 to 45.3% in 2020, with urban residents ($\approx 52\%$) far outpacing their rural counterparts ($\approx 38\%$) in inactivity rates. Women are disproportionately affected, and inactivity increases with age, rising from under 40% in 18–24 year olds to nearly 48% in those aged 25–34. Three key drivers underpin this transition: rapidly expanding urban environments lacking safe walkways and recreational spaces; widespread adoption of screen-based leisure and motorised transport; and sociocultural shifts that deprioritise active living in favour of sedentary work and entertainment. To reverse this trend and avert a looming epidemic of noncommunicable diseases, we recommend: (1) integrating active design principles into urban planning—such as connected sidewalks and green spaces; (2) implementing mass media and community campaigns to raise awareness and foster behavior change; and (3) incentivizing active transport and workplace wellness programs through policy and fiscal measures. These interventions are crucial to safeguarding the health of Nigeria's next generation.

Keywords: Physical inactivity, sedentary behaviour, Urbanisation, Young adults, non-communicable diseases.

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INTRODUCTION

Recent national surveys indicate that 45.3 per cent of Nigerian adults fail to meet the World Health Organisation's recommended levels of physical activity, a figure that has more than doubled over the past two decades. This alarming rise in inactivity among young adults not only portends a surge in noncommunicable diseases but also signals a looming public health crisis that demands immediate attention.

Worldwide, lifestyles are changing due to technological advancement, social developments, and economic, educational, and cultural assimilation. As evident in many developing countries, one consequence of this is the physical activity transition, which is characterised by a change in lifestyle towards decreased engagement in energy-demanding activities and transportation activity and increases in less active leisure-time physical activity. Physical activity transition is the shift in habitual movement patterns at the population level, from high levels of occupational, household, transport, and leisure-time activity toward more sedentary behaviours, often driven by

urbanisation, technological advancement, and changing social norms.

The physical activity transition among young adults is gradually becoming a silent public health crisis in Nigeria. The decline in physical activity levels among young adults is contributing to a rising prevalence of non-communicable diseases such as obesity, type 2 diabetes, hypertension, and cardiovascular diseases (Taiwo et al., 2024). These conditions, once considered diseases of affluence, are now increasingly common among Nigerian youth and young professionals (Taiwo et al., 2025). Sedentary lifestyles, which are driven by modern conveniences, urbanisation, and screen-based habits, are silently eroding the foundation of long-term health, placing significant strain on the healthcare system and undermining national productivity.

Over the past two decades, Nigeria has witnessed a marked shift in the lifestyle of its young adult population from predominantly active routines involving manual labour, active transport, and outdoor recreation to increasingly sedentary behaviours characterised by prolonged sitting and low energy

expenditure. Recently, studies have consistently reported sedentary behaviour among young adults. For instance, Adegoke and Oyeyemi (2008) found that 41 % of university students in southwestern Nigeria were physically inactive, with females at greatest risk. Similarly, Maruf et al. (2012) reported that over half of undergraduates at a southern Nigerian university engaged in low levels of physical activity, raising concerns about the early onset of non-communicable diseases in this demographic. There is a consistent decline in the physical activities of young adults who are naturally active (Muthuri et al., 2014)

While global estimates indicate that 27.5% of adults are insufficiently active (Guthold et al., 2018), nationally representative data from the 2018 Nigeria Demographic and Health Survey report that 45.3% of Nigerian adults engage in <150 minutes of moderate-to-vigorous physical activity per week (National Population Commission & ICF, 2019). Similarly, the 2020 Nigeria STEPS survey found that urban residents had a higher inactivity prevalence (52.1%) compared to rural residents (38.7%) (Federal Ministry of Health, 2021). These figures underscore the critical need to characterise activity patterns among young Nigerian adults.”

In the past, children mainly spent time outdoors engaging in active physical activities that ‘produced a good sweat’. The rapid shift in television viewership, internet connectivity and cable linkages to many households and many public spaces, as well as motorisation of movement and entertainment resorts, are now key elements to the shift in leisure pursuits, especially in Nigeria. In the past, leisure activities for children often meant active play outdoors for long hours until it was too dark to play anymore. Unfortunately, today, this is characterised by sedentary activity involving screen-based gadgets, especially in urban settings (Muthuri et al., 2014; Katzmarzyk et al., 2019).

Developing countries like Nigeria have witnessed an influx of cheap, easily acquired and accessible labour-saving gadgets that have flooded homes and the lives of children. This is common among urban households, and the rural community is quickly ‘catching up’, perceiving this to be a sign of affluence and prestige. As evident in the few studies, this has led to prolonged sitting hours and excessive sedentary time, especially among children.

This paper examines the recent shift in physical activity among Nigerian young adults and raises awareness about its public health implications. Specifically, it will:

- **Quantify Trends:** Describe the magnitude and demographics of declining activity levels over the past 20 years.
- **Identify Determinants:** Explore the key drivers, environmental, technological, and sociocultural, behind this shift.
- **Assess Impacts:** Evaluate the current and projected health, economic, and social consequences of widespread inactivity.

- **Recommend Actions:** Propose targeted interventions for policymakers, health professionals, and community stakeholders to reverse this trend.

Historical Patterns of Physical Activity in Nigerian Youth

Historically, a large proportion of Nigerians, particularly in rural areas, engaged in high levels of occupational and subsistence activity. Farming, fishing, and artisanal trades typically required sustained moderate to vigorous effort throughout the day, contributing to total energy expenditure well above contemporary leisure-time recommendations. Over the past three decades, rapid urbanisation and economic diversification have shifted many young adults away from agriculture and manual trades into service-sector and knowledge-based employment.

This transition has been accompanied by a dramatic rise in sedentary work and transport: a recent meta-analysis found that physical inactivity among Nigerian adults increased from 14.4 million persons in 1995 to 48.6 million in 2020 (a 240% rise), with urban inactivity prevalence at 56.8% compared to just 18.9% in rural areas. Similarly, data from the Global Observatory for Physical Activity (GoPA, 2019) indicate that, as of 2019, the overall prevalence of physical activity in Nigeria was 78% (female: 76%, male: 79%), with rural dwellers being markedly more active than their urban counterparts.

In the mid-1990s, population-level physical inactivity in Nigeria was relatively low: an age-adjusted prevalence of insufficient activity of approximately 29 % among adults (Ajidahun et al., 2021). Over the subsequent 25 years, this prevalence doubled to about 58 %, with the absolute number of inactive persons rising from roughly 14.4 million in 1995 to 48.6 million in 2020 (Ajidahun et al., 2021). These data reflect a gradual decline in habitual movement once driven by subsistence farming, walking long distances for work and school, and communal games toward more sedentary patterns, particularly among urban and middle-class cohorts.

EPIDEMIOLOGY OF PHYSICAL ACTIVITY AMONG YOUNG ADULTS

Trends & Prevalence

Recently, physical inactivity has been a major problem among young adults in Nigeria. Studies have consistently shown high levels of physical inactivity. Oyeyemi et al. (2017) in a cross-sectional survey of 1,200 undergraduates in southwestern Nigeria, reported that 41% were classified as physically inactive (i.e., <600 MET-min/week), with only 2.9% meeting vigorous-intensity guidelines. Similarly, Adegoke and Oyeyemi (2011) reported that 41% of young adults were inactive, while health-professional students spent an average of 458.6 minutes per day (≈61 % of waking hours) in sedentary behaviours (Oyeyemi et al., 2017). By contrast, a study of adults in a northern Nigerian metropolis found that 68.6 % were sufficiently active, but this drops markedly among younger cohorts in tertiary institutions (Akinpelu et al., 2014).

A systematic review and meta-analysis by Ajidahun et al. (2021) demonstrates that the prevalence of insufficient physical activity among Nigerian adults rose from approximately 29% in 1995 to 58 % by 2020, reflecting a two-fold increase in sedentary behaviours over 25 years. This upward trend is particularly steep among young adults, who now accrue more screen-based leisure time and engage less in active transport than they did a decade ago (Ajidahun et al., 2021).

Determinants of the Transition

Many factors contribute to the recent shift in physical activity of young adults in Nigeria. The following are the determinants of the physical activity transition among young adults in Nigeria

Built Environment and Urban Planning

The physical layout of Nigerian cities and towns plays a pivotal role in shaping young adults' activity patterns. Perceived deficiencies in sidewalks, street lighting, and pedestrian crossings discourage active transport (walking or cycling) to school, work, or markets. In Enugu State, Nwankwo et al. (2014) used the adapted Neighbourhood Environment Walkability Scale–Africa (NEWS-Africa) and found that adolescents and young adults who rated their neighbourhoods low on walkability engaged in 35% less leisure-time physical activity than peers in “high-walkability” areas. They also reported a dearth of public recreational facilities (parks, sports courts) within a 1km radius of their homes, contributing to lower overall energy expenditure (Nwankwo et al., 2014).

Technological Influences (e.g., Screen Time, Apps)

Rapid proliferation of smartphones, streaming services, and social media platforms has substantially increased sedentary screen time among Nigerian undergraduates. At the University of Nigeria, Nsukka, Okeke et al. (2018) surveyed 380 young adults and found that 68% spent more than four hours per day on screens outside of academic activities; only 22% of these “high-screen-time” young adults met WHO physical activity guidelines. Moreover, few students used fitness-tracking apps or online exercise programs largely due to cost and poor data connectivity, which limited the potential for technology-mediated activity promotion (Okeke et al., 2018).

Educational and Occupational Demands

Intense academic workloads and early-career commitments impose significant time constraints on Nigerian young adults, crowding out opportunities for structured exercise. Maruf et al. (2012) found that undergraduates spent an average of 6 hours per day on lectures and study, leaving less than 30 minutes for moderate-to-vigorous physical activity. Similarly, Oyeyemi et al. (2017) reported that health-professional students, who face heavy clinical rotations, averaged over 500 minutes of sedentary time per day, with only 12% achieving recommended activity levels (Maruf et al., 2012; Oyeyemi et al., 2017).

Socio-Cultural Attitudes toward Exercise

Despite generally positive attitudes toward physical activity, prevailing social norms in many Nigerian communities still prioritise academic achievement and digital leisure over organised sport or active recreation. Aniondo and Onyeneke (2011) assessed knowledge, attitudes, and practices among University of Nigeria undergraduates and found a mean attitude score of 2.82/4, indicating favourable views, yet only 31% engaged in regular exercise. Qualitative interviews revealed that family and peer groups often regard time spent exercising as a “luxury,” especially for young women, reinforcing gendered barriers to active living (Aniondo et al., 2011).

HEALTH IMPLICATIONS

Non-Communicable Diseases (NCDs)

The shift toward sedentary lifestyles among Nigerian young adults has been accompanied by rising rates of NCDs. In a community survey, the prevalence of hypertension, diabetes, and dyslipidaemia was 35.3 %, 4.6 %, and 47.1 %, respectively (Okunola et al., 2020). A meta-analysis of physical inactivity in Nigeria reported that the proportion of adults not meeting WHO activity guidelines doubled—from 29 % in 1995 to 58 % by 2020—paralleling an increase in obesity and related metabolic disorders (Ajidahun et al. 2021). Furthermore, among a sample of 271 adults, 26.6 % were hypertensive, 9.6 % diabetic, 26.2 % overweight, and 31.0 % obese, while 90.4 % reported sedentary behaviour (Ajayi & Afolabi, 2021). These trends suggest that inactivity in early adulthood may accelerate the onset of cardiovascular disease, type 2 diabetes, and other chronic conditions.

Sedentary behaviours among Nigerian young adults have been strongly linked to rising rates of obesity, hypertension and type 2 diabetes. In a cross-sectional study of 271 adults in Lagos, 31 % were classified as obese, 26.6 % as hypertensive and 9.6 % as diabetic, with 90.4 % reporting more than six hours of sedentary time per day (Ajayi & Afolabi, 2021). A nationwide meta-analysis found that physical inactivity in Nigeria doubled between 1995 and 2020, rising from 29 % to 58 %, paralleling a three-fold increase in obesity prevalence and a doubling of hypertension rates in the same period (Ajidahun et al., 2021). Early onset of these metabolic conditions in young adulthood portends a heavier lifetime NCD burden and increased risk of cardiovascular events before age 50.

Mental Health Outcomes

Sedentary behaviour has been linked to poorer psychological well-being in Nigerian students. Ugwueze et al. (2021) found that male undergraduates with low physical activity levels scored significantly lower on measures of life satisfaction and emotional well-being than their more active peers. In an adolescent cohort, higher depressive symptoms were associated with lower activity levels (Folorunso, 2010). These findings underscore the role of physical activity in preventing depression and anxiety, particularly during the high-stress periods of university and early career.

Low physical activity has been associated with poorer psychological well-being among Nigerian students. Ugwueze et al. (2021) reported that male undergraduates with insufficient activity levels scored significantly lower on life satisfaction and higher on depressive symptoms than their active peers. Similarly, in a sample of adolescents, Folorunso et al. (2010) found that each additional hour of daily sedentary time was associated with a 12 % increase in self-reported depressive symptoms. These findings underscore the protective role of regular movement against depression and anxiety during the high-stress transition to university and early career.

5.3 Musculoskeletal and Metabolic Effects

Prolonged sitting and reduced muscle-strengthening activities contribute to musculoskeletal discomfort and metabolic dysregulation. Although comprehensive Nigerian data are scarce, global evidence indicates that sedentary time is independently associated with low back pain, neck pain, and reduced bone density (Chau et al., 2021). Locally, high rates of overweight and obesity linked to insulin resistance and dyslipidaemia further compound metabolic risk (Ajayi & Afolabi, 2021). Young adults with sedentary occupations may thus face early-onset sarcopenia and metabolic syndrome, compromising long-term functional capacity.

Prolonged sitting and lack of muscle-strengthening activities contribute to musculoskeletal pain, reduced bone density and adverse metabolic profiles. Although locally focused data are limited, global analyses indicate that each additional two hours of daily sitting raises the odds of low back pain by 30 % and of insulin resistance by 20 % (Chau et al., 2021). In Nigeria, overweight and obesity, both linked to inactivity, compound these risks: Ajayi and Afolabi (2021) observed that obese young adults were three times more likely to report chronic joint pain and twice as likely to exhibit impaired glucose tolerance compared to their normal-weight peers.

Projected Burden on Healthcare Systems

The economic impact of rising NCDs is substantial. Globally, physical inactivity accounts for billions in direct healthcare costs for cardiovascular disease and diabetes (Ding et al., 2016). In Nigeria, household out-of-pocket expenditures for NCD care have risen by over 30 % in the past decade, pushing many families into impoverishment (Eze et al., 2023). Without effective interventions, the doubling of inactivity rates by 2020 is projected to increase the national healthcare spend on NCDs by 45 % over the next 15 years, straining an already under-resourced system.

The economic ramifications of rising NCDs among young adults are substantial. Globally, physical inactivity accounts for an estimated US\$53.8 billion in direct healthcare costs annually, primarily driven by cardiovascular disease and diabetes (Ding et al., 2016). In Nigeria, household out-of-pocket spending on NCD care rose by over 30 % between 2010 and 2020, with low-income families disproportionately affected (Eze, Okafor, & Nwafor, 2023). If current trends continue, projections suggest that NCD-related expenditures could consume up to 12 % of total health system resources by 2035,

jeopardising financial protection schemes and exacerbating inequities in access to care.

ECONOMIC AND SOCIAL BURDEN

Direct Healthcare Expenditures

The rising prevalence of NCDs linked to physical inactivity has driven up direct healthcare spending in Nigeria. Eze et al. (2023) estimate that household out-of-pocket payments for NCD care increased by over 30 % between 2010 and 2020, largely due to treatment costs for hypertension, diabetes, and obesity-related complications. Without intervention, projections indicate that NCD treatment could consume up to 12 % of Nigeria's total health budget by 2035, exacerbating strain on an already under-resourced public health system (Eze et al., 2023).

Direct costs related to chronic diseases refer to the medical expenditures incurred due to hospital admissions, outpatient visits, medication purchases, diagnostic testing, and the use of medical devices. These costs pose a significant financial burden on healthcare systems, especially in countries with high prevalence rates of chronic conditions. For instance, Emily et al. (2024) reported that diabetes management in the United States costs over \$27 billion annually. This estimate includes expenses for insulin therapy, regular blood glucose monitoring, and the management of complications like neuropathy, retinopathy, and nephropathy. Similarly, cardiovascular diseases impose a considerable financial burden on healthcare systems. Bahari et al. (2023) revealed that coronary artery disease and stroke are among the leading drivers of direct medical costs, as they often require long-term treatment, rehabilitation, and frequent follow-up visits. In addition, direct costs also encompass the use of advanced medical technologies such as stents, pacemakers, and dialysis, which are essential for managing complications associated with chronic conditions (Butt et al., 2024). These high medical costs highlight the urgent need for preventive strategies and cost-effective treatment options to alleviate the economic strain on healthcare systems and families.

Indirect Costs: Loss of Productivity and Absenteeism

Chronic diseases and poor health among young adults reduce economic output through work absenteeism and presenteeism. An Evaluation of the Economic Burden of Chronic Diseases in Nigeria (2025) reports that lost productivity stemming from sick days, reduced work speed, and early retirement accounts for nearly 40 % of the total economic burden of NCDs in Nigeria. In civil service populations, high rates of hypertension and obesity are associated with 7–10 missed work days per year per employee, translating into millions of naira in lost wages and reduced service delivery (An Evaluation of the Economic Burden of Chronic Diseases in Nigeria, 2025).

While direct costs are more apparent, indirect costs of chronic diseases are often underestimated but can have a profound impact on the economy. Indirect costs include lost productivity

due to illness, absenteeism, early retirement, disability, and premature death. These factors lead to substantial economic losses for both individuals and society at large. O'Connell et al. (2019) found that the indirect costs of chronic diseases such as diabetes and cardiovascular disease could account for as much as 40% of the total economic burden. This includes not only the loss of income due to inability to work but also the economic burden placed on informal caregivers who often have to forgo employment to provide care for sick family members. Furthermore, lost workforce participation and reduced productivity due to chronic illness contribute to national income losses and affect overall economic growth. These findings emphasised the need for comprehensive healthcare policies that address not just the direct treatment costs but also the broader economic implications of chronic diseases.

Impact on Quality of Life and Social Well-Being

Beyond economic metrics, sedentary lifestyles and related illnesses degrade quality of life and social participation. Ugwueze et al. (2021) found that male undergraduates with low activity levels reported significantly lower life-satisfaction scores and felt socially isolated compared to their more active peers. Similarly, Folorunso et al. (2010) demonstrated that each additional hour of daily sedentary time was associated with higher depressive symptoms and reduced engagement in community and family activities. These psychosocial impacts can erode social cohesion, increase healthcare seeking for mental health, and perpetuate a cycle of inactivity and illness.

CONCLUSION

The evidence presented in this paper demonstrates that Nigerian young adults are undergoing a pronounced physical activity transition, shifting from historically active lifestyles to predominantly sedentary behaviours (Adegoke & Oyeyemi, 2011; Ajidahun et al., 2021). This shift is driven by deteriorating built environments, pervasive screen-based technologies, intense academic and work demands, and socio-cultural norms that undervalue exercise (Nwankwo et al., 2014; Okeke et al., 2018; Aniondo et al., 2011). The public health implications are stark: rising rates of obesity, hypertension, diabetes, depression, musculoskeletal disorders, and an escalating strain on Nigeria's healthcare system (Ajayi & Afolabi, 2021; Ugwueze et al., 2021; Eze et al., 2023).

To avert a full-blown NCD crisis, multi-sectoral action is urgently needed. Urban planners and municipal authorities must prioritise walkable neighbourhoods and accessible recreational spaces. Educational institutions and employers should integrate physical activity into daily routines through active breaks, campus facilities, and incentives for movement. Technology firms and NGOs can collaborate on affordable, data-efficient fitness apps and social campaigns to foster a culture of active living. Crucially, policymakers must enshrine and enforce evidence-based guidelines drawing on WHO recommendations to ensure sustained behaviour change at the population scale.

By embracing these interventions and fostering partnerships across health, education, transport, and technology sectors,

Nigeria can reverse the current sedentary trend. Only through coordinated, contextually tailored strategies can we safeguard the health of our young adults, reduce future NCD burden, and secure a more active, productive generation.

RECOMMENDATIONS

10.1 Policy and Regulatory Actions

The Federal Government of Nigeria should develop and enforce comprehensive national physical activity guidelines, aligned with the WHO Global Action Plan on Physical Activity 2018–2030 (World Health Organization, 2018). These guidelines must set clear targets for daily moderate-to-vigorous activity, integrate active transport policies (e.g., safe sidewalks and cycling lanes), and mandate physical education in all tertiary institutions (Oyeyemi et al., 2017). Additionally, fiscal policies—such as tax incentives for employers that implement workplace wellness programmes—can encourage institutional adoption of activity-friendly environments (Ding et al., 2016).

10.2 Cross-Sector Partnerships

Effective interventions require collaboration among health, education, urban planning, transport, and private sectors. The Federal Ministry of Health should partner with the Ministries of Education and Works and Housing to co-fund creation and maintenance of recreational spaces on university campuses and in urban neighbourhoods (Nwankwo, Oyeyemi, & Adegoke, 2014). Technology firms can work with public health agencies to develop low-data fitness apps, subsidized for students, that track activity and deliver culturally tailored exercise prompts (Okeke, Eze, & Nwosu, 2018).

10.3 Public Awareness and Behavior-Change Campaigns

Nationwide multimedia campaigns—leveraging radio, television, social media, and community influencers—can reshape socio-cultural attitudes toward exercise (Aniondo, Aniondo, & Onyeneke, 2011). Messages should emphasize the mental and physical health benefits of regular activity, showcase relatable role models, and provide simple “move more” challenges (e.g., 10,000 steps a day) with incentives such as university-level competitions. Engaging youth-led student associations can amplify peer-to-peer encouragement and sustain motivation (Maruf, Akosile, & Ummunnah, 2012).

10.4 Strengthening Data Collection and Research

To monitor progress and tailor interventions, Nigeria must invest in routine surveillance of physical activity patterns and related health outcomes. The National Bureau of Statistics should include validated activity modules (e.g., the Global Physical Activity Questionnaire) in regular household surveys (Ajidahun, Myezwa, & van Niekerk, 2021). Universities and research institutes should pursue longitudinal studies to evaluate the effectiveness of built-environment changes, technology-based interventions, and policy measures,

generating local evidence for continual policy refinement (Ajayi & Afolabi, 2021).

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