ThE profile of anthRopometRy and psyChosocial issuEs on campus (TERRACE) study: A study protocol and preliminary results

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ABSTRACT

Background: Obesity among the youth is a major public health problem. Globally, the burden of obesity has been on the increase, particularly among young persons, with associated psychosocial issues. This study aimed to present the rationale and design of ThE profile of anthRopometRy And psyChosocial issuEs on campus (TERRACE) Study and as well report some preliminary findings obtained on the anthropometric and psychosocial profile of young persons in some tertiary institutions in Oyo State, Nigeria.

Methods: This study first described the methodology of the main study (TERRACE Study) and also provided a report of the preliminary data. The TERRACE study adopted a cross-sectional design of eligible and consenting adults between 16–35 years of age. A three-stage multi-stage sampling technique was used to recruit the participants. Questionnaire, weighing scales, and other tools were used to collect data on socio-demographic, cardiovascular profile, sleep, anthropometric, and psychological variables. Descriptive and inferential statistics were used for data analysis, using SPSS version 23 software.

Result: The preliminary data were obtained from 225 participants recruited from three tertiary institutions in Ibadan metropolis, with mean age of 21.5 ± 3.8 years. The majority were females (77.3%) and self-employed, with an average income less than 10,000 naira monthly (less than $25/month at an exchange rate of 400 naira/dollar). The males had higher systolic blood pressure compared to females and constituted a higher proportion of current smokers compared to females (was significant ($p < 0.0001$ and 0.011 respectively). A fifth (20.4%) of the population were underweight, while overweight and obese people accounted for 12%. They were mostly depressed, (183(87.9%) were moderate to severe depression), more of the females compared to males were anxious.

Conclusion: The preliminary results revealed a high burden of underweight, obesity and psychosocial issues among the young people in Ibadan, Nigeria. Further findings to be obtained from the TERRACE Study would enhance the development of an effective public intervention in addressing anthropometric- and psychosocial-related health problems as well as provide baseline data for further studies among this population.

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1. Introduction

Obesity is a serious problem among young adults globally [1–4]. The prevalence in the low and middle-income countries (LMICs) ranges from 2.3–28.8 % while in the high-income countries such as the United Kingdom and the United States it ranges from 22.0 to 35.0 % [2,5]. By 2030, overweight and obese adults were projected to grow to as much as a total of 2.16 billion and 1.12 billion people, respectively [6]. Nigeria is not excluded from the obesity epidemic with previous overweight and obesity prevalence ranging from 20.3%–35.1% and 8.1%–22.2%, respectively [1–3]. With the aforementioned, complications such as stroke, sleep apnoea, osteoarthritis, kidney diseases, heart diseases, and certain types of cancers associated with obesity are likely [7,8].

The obesity epidemic among college and university students—who are predominantly young people—is driven by the transitional nature of that stage of development as well as the enormous change in lifestyle that they undergo around this developmental stage [5,9,10]. They generally undergo a sense of 'loss' and 'discontinuity of their identity' as they leave behind familiar contexts at this stage, thereby imposing enormous psychosocial strain which can predispose them to increased energy intake thus increased anthropometry [5]. Some of the identified issues at this stage include leaving home, going to university/college, commencing work, developing relationships, co-habitating or marrying, pregnancy, and child-rearing [5]. Furthermore, the increased anthropometry comes with attendant psychosocial issues which include depression, stress, low self-esteem, body image, and anxiety disorders [11–13]. All these issues tend to perpetuate obesity [11,12,14].

1.1. Problem statement

It appears increased anthropometry and psychosocial issues are in a cycle and appear to operate in perpetuity in the young [11,12,13,14]. Therefore, the understanding of the profile of psychological factors and outcomes and insight into the burden associated with athropometry among young persons in Nigeria would help the formulation of policy and planning of intervention by the relevant stakeholders.

1.2. Study objectives and rationale

ThE profile of anthRopometRy And psyChosocial issuEs on campus (TERRACE) study was designed to determine the baseline profile of psychosocial factors and anthropometry among young persons in tertiary institutions in Ibadan, Oyo State, Nigeria. Specifically, the anthropometric profile, sleep and sleep related factors, psychosocial issues (depression, anxiety, self-esteem, body dissatisfaction, eating disorders, sleep and emotional problems), among young persons were assessed.

Furthermore, we presented the rationale and methodology of the whole study in addition to the preliminary findings on the anthropometric indices and psychosocial issues among a sub-sample of young persons in tertiary institutions in Ibadan, South West Nigeria. The rationale for providing information on the methodology of the main study is to provide a resource on how the study was conducted and a reference for subsequent reports from the TERRACE Study, as this paper is the first research output from the TERRACE Study. Also, preliminary data were presented in this paper to demonstrate the findings obtained from the project so far.

2. Material and methods

2.1. Study design

This was a cross-sectional study design.

2.2. Participants

2.2.1. Study setting/population

The main study (TERRACE Study) would be carried out in seven selected tertiary institutions in Ibadan metropolis, Oyo State, which is located in the southwestern part of Nigeria. The study sites were chosen randomly from among 21 tertiary institutions owned by the federal government,Oyo state government, private organizations or individuals in Ibadan, Oyo state, Nigeria (Table 1).

2.2.2. Sample size

A sample size of five hundred (500) participants was determined for the TERRACE Study using the Kish formula, using the prevalence of obesity in developing countries which ranged from 2.3–28.8 %, and a predicted non-response rate of 40% [3]. However, in the preliminary report, only the first 225 participants who were recruited from the first three institutions recruited into the main study were included; all the three institutions were monotechnics: College of Nursing and Midwifery; Federal School of Statistics; and Oyo State College of Health Science and Technology.

2.2.3. Sampling technique

The sampling technique adopted was a three-stage multistage sampling technique. These three stages are described below:

2.2.3.1. First stage.
For proportionality and adequate representation of all types of tertiary institutions in Ibadan, at least two institutions per institution type (i.e. university, polytechnic, and mono-technic) were selected for the study. Two universities, out of the five universities in Ibadan, were randomly selected through a raffle draw. Two polytechnics, out of the four polytechnics in Ibadan, were randomly selected through a raffle draw. Three monotechnics, out of the ten monotechnics in Ibadan, were selected through a raffle draw. Hence, a total of seven tertiary institutions were included in this study (Table 1).

2.2.3.2. Second stage.
In this stage of sampling, the selection of academic departments from the included tertiary institutions was done. Through a raffle draw, two academic departments were randomly selected from each of the

Table 1
Institutions included in the sampling frame.

Item	Name of Institution	Institution type	City/town of location
1.	University of Ibadan	University	Ibadan
2.	Lead City University	University	Ibadan
3.	Dominican University	University	Ibadan
4.	Kola Daisi University	University	Ibadan
5.	First Technical University	University	Ibadan
6.	The Polytechnic	Polytechnic	Ibadan
7.	City Polytechnic	Polytechnic	Ibadan
8.	Tower Polytechnic	Polytechnic	Ibadan
9.	Bolmor Polytechnic	Polytechnic	Ibadan
10.	Al-Ibadan College of Education		Ibadan
11.	Oyo State College of Education		Ibadan
12.	Federal College of Forestry	Monotechnic	Ibadan
13.	Federal College of Animal Health and Production Technology, Moor plantation Ibadan	Monotechnic	Ibadan
14.	Federal College of Animal Health and Production Technology	Monotechnic	Ibadan
15.	Federal College of Agriculture	Monotechnic	Ibadan
16.	Federal Cooperative College	Monotechnic	Ibadan
17.	Federal School of Statistics	Monotechnic	Ibadan
18.	Oyo State College of Nursing and Midwifery	Monotechnic	Ibadan
19.	Oyo State College of Health Science and Technology	Monotechnic	Ibadan
20.	Perioperative Nursing School, University College Hospital	Monotechnic	Ibadan
21.	School of Nursing, University College Hospital, Ibadan	Monotechnic	Ibadan

included universities while three and two academic departments/units/divisions were selected from the polytechnics and monotechnics, respectively.

2.2.3.3. Third stage. Twenty-five students per selected academic department were randomly recruited for the study using a table of random numbers. The list contained the name, sex, age, academic level/year, and contact address of all students in such department.

Different categories of the educational institutions were selected to allow for adequate representation. If a participating entity (be it an institution or an academic department or a student) that is eligible to partake in the study declined participation, another entity of same category was randomly selected to replace such entity. This procedure was repeated till the desired outcome was achieved.

2.2.4. Ethical consideration

Ethical clearance was obtained from the Ethics Review Committee, Oyo State Ministry of Health in accordance with the National Code of Health Research Ethics Committee (NHREC)(AD 13/479/1776[B]) before the commencement of the study. Written permission to recruit eligible students was obtained from the heads of the selected institutions, while verbal as well as written consent were obtained from the study participants. Participation in this study was completely voluntary. No participant was coerced to participate in the study. All participants were given the exclusive right to opt-out of the study at any time, even if they had started participation. The benefits of the research were clearly explained to the participants. There was no harm done to the participants. The identity of the participants (students) was not included in the instrument and their personal information was kept on a passworded computer to ensure confidentiality. The password was only accessible to the investigators and data clerk.

2.3. Study instruments

The instruments used for this study were questionnaire, standard stadiometer, standard weighing scale, standard non-stretching tape measure and digital blood pressure machine (Hem-8712 Omron BP Monitor).

Questionnaire: The questionnaire was a semi-structured type and was piloted among students at one of the institutions in Ibadan. The current questionnaire has various sections which obtained data on the following: sociodemographic features (age, date of birth, gender, level of study, course of study, marital status, number of children, academic status [full-time vs. part-time], and employment status), self-reported anthropometry, smoking habit, alcohol intake, physical activity, anthropometric measure body image, fast-food exposure, and general, mental and psychosocial health. Patient Health Questionnaire (PHQ-9), Social physique anxiety scale, Generalized Anxiety Disorder-7(GAD-7), Pittsburgh sleep quality index, sleep and sleep apnea, and Reese figure rating scale were objectively used to assess depression, anxiety, and sleep quality.

2.4. Procedures

Questionnaires were administered to all the participants through face-to-face contact between February 2021 and September 2021. The questionnaire administration was done by trained research assistants. The research assistants obtained anthropometric measurements of the interviewed participants, as described below. To avoid erroneous measurement which may occur as a result of stress, a research assistant was only allowed to obtain study data from a maximum of 20 participants per day. The research assistants also received a comprehensive training on anthropometric measurements. Approaches on how to avoid parallax errors were made known to them. Also, the standardized stepwise procedures to be adopted when taking measurement with the devices (such as stadiometer, blood pressure measuring device, etc.) used in this study.

Neck circumference: This was measured under the laryngeal prominence in male and from the mid-point between the base of the neck and the upper part of the sternum in females using a non-stretch measuring tape.

Height: This measurement was taken with stadiometer when the participant is standing erect and recorded to nearest 0.1 metre.

Weight: This was measured to the nearest 0.1 kilogram using a weighing scale.

Blood pressure: Blood pressure was generally measured in ambient and familiar environment to the participants while each participant sat down, relaxed on a chair after have having waited for not less than three minutes before taking a measurement. Three measurements were taken in both upper arms and recorded using Omron digital sphygmomanometer that were placed at level of the heart.

2.5. Definition of terms and variables

a) Body Mass index
   BMI (kg/m^2) was categorized using the World Health Organization (WHO) definitions: (i) Normal BMI: 18.5–24.9 kg/m^2 (ii) Overweight: 25.0–29.9 kg/m^2 (iii) Obesity: ≥ 30.0 kg/m^2, Obesity was further sub classified into class 1 (30.0–34.9 kg/m^2), class 2 (35.0–39.9 kg/m^2) and class 3 (≥ 40.0 kg/m^2)

b) Hypertension
   Hypertension was defined as systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg

c) Depression
   Depression was determined using Patient Health Questionnaire-9 (PHQ-9) tool, a multipurpose instrument for screening, diagnosing, monitoring and measuring the severity of depression. Each of the variable were grade 1–5. Each score is added together and the final score divided into mild depression (1–4), moderate depression (5–9), moderately severe depression (10–14), moderately severe depression (15–19) and severe depression (20–27) [15].

d) Body Mass Index (BMI)
   Body mass index (BMI) was calculated using a participant's height and weight. It was reported as BMI = kg/m^2 where kg is a participant's weight in kilograms and metre^2.

e) Social anxiety was measured using Social Physique Anxiety Scale (SPAS), a 12-item self-reported scale previously validated among Nigerian population [16]. Each item is scored as a 5-point Likert-type scale and all the items were summed for a total Social Physique Anxiety Score that can range from 12 (low SPAS) to 60 (high SPAS) [16].

f) Sleep
   Sleep was assessed in term of duration of onset of sleep and night wakefulness by the Pittsburgh sleep quality index while Obstructive sleep apnoea (OSA) was screened using STOP-Bang Questionnaire [17,18]. STOP-Bang questionnaire is an eight (8) item questionnaire red which assessed risk as low risk if Yes is answered to 0 to 2 questions, intermediate risk if 3 to 4 questions and high risk if 5 to 8 questions are answered as Yes.

g) Body Image
   Body image was assessed with 19 item body-image questionnaire and Reese figure rating scale [19].

2.6. Data analysis and management

The questionnaires administered were checked after obtaining information from each participant to correct errors and ensure completion before he/she left. Data were entered into an electronic database. Data was analysed using Statistical Package for the Social Sciences (SPSS) version 23. We anticipated that future data analysis from this data set may also involve utility of STATA IC 12.1 software by STATA Corp . Descriptive and summative statistics were generated and presented in frequency tables. Means and standard deviations were used for continuous variables if normally distributed. Skewed data were reported as median and interquartile range. Chi test/Fisher's exact test were appropriately used to test association between qualitative variables. An independent sample t-test was

subsequently used to compare quantitative outcomes. Statistical significance was set at 0.05.

3. Results

Preliminary data obtained from 225 participants, from 3 institutions are presented in this study (Table 1). The overall mean ± SD age of the participants was 21.5 ± 3.8 years, and majority of them were females 174 (77.3%), p < 0.0001 (Table 2).

Most of the participants were self-employed and earned an average income less than 10,000 naira monthly (less than $25/month at exchange rate of 400naira/dollar). The majority had normal weight while the percentage of those with obesity was 2.0%. Nearly half of participants had moderate to severe depression (Table 3).

Significant cardiovascular risk factors were found among the male participants as they had higher systolic blood pressure (SBP) and constituted more of the current smokers (p < 0.0001 and 0.011, respectively). A fifth (20.4%) of the population were insignificantly underweight with about a tenth being overweight and obese (12%). They were mostly depressed 183(87.9%), having moderate to severe depression; however, a higher proportion of the females were anxious (Table 3).

4. Discussion

Overweight and obesity within the younger age group in low and middle income countries (LMIC) form a threat to stem the tide of rising overweight and obesity burden globally [20]. The preliminary report of the TERRACE study reported the baseline data of 225 participants, anthropometric measures and some of the psychosocial factors in the study population.

This overall mean age of 21.5 ± 3.8 years (20.8 ± 3.3years vs. 21.7 ± 3.9 years for male and female respectively) with majority being females. The work by Ezeh et al, a South Western Nigeria study revealed mean ± standard deviation of 20.8 ± 3.3 years and 21.7 ± 3.9 years vs. 22.8 ± 2.3 years and 23.1 ± 2.1 years for male and female, respectively, although

reported a predominant male student population [21]. Also Ojewale et al., reported a similar mean age of participants (mean age was 21 ± 2.9 years) and female preponderance (60%) [22]. We are not surprised with the female predominance in our study population due to the fact that two of the three institutions in this report were in health workers training institutions which tend to attract female population [23].

The prevalence of obesity in this population was 4.0% while a fifth (20.4%) of the population were underweight with about a tenth being overweight and obese (12%). The obesity burden of 4.0% is similar to finding by Ezeh et al of 3.6% among medical students in Ibadan [21]. A South East Nigerian report by Ukegbu et al. found a higher prevalence of overweight and obesity (13.4% and 6.5% respectively) although similar to this study, they reported a higher female preponderance of students with obesity and overweight [24]. Also obesity in female was commoner than obesity in male which is expected [25]. This difference is not unconnected with sex differences in pregnancy-associated weight gain combined with higher parity, dietary intakes, lifestyle/physical activities hormonal signaling related to energy expenditure, variation of fat distribution, physical activity levels, alcohol consumption, depression, and sociocultural factors [25,26]. We anticipate further exploration of the TERRACE data to interrogate these factors related to obesity in future reports.

This study highlighted the double burden of obesity and undernutrition. There was reduced anthropometry in one out of ten participants which may not be unconnected with low self-reported income less than national minimum wages even though a high proportion have holiday jobs. While obesity burden maybe on the rise, it appears undernutrition also remain as the current data have shown and this is similar to what is found in another clime [27]. Low BMI is not unassociated with health challenges such as mental health especially depression among others. Understanding the drivers of these burden would be further explored in the TERRACE data.

With respect to psychosocial issues, this study found that female students were insignificantly more anxious than males. The female students significantly had some to severe sleep problems, with moderate to severe

Table 2
Basic sociodemographic data.

Variables	Gender		Total	P-value
	Male	Female		
Centre (225) n(%)				**<0.0001**
College of Nursing and Midwifery	6 (11.8)	69 (39.7)	75 (33.3)	
Federal School of Statistics	31 (60.8)	44 (25.3)	75 (33.3)	
Oyo State College Health Science and Technology	14 (27.5)	61 (35.1)	75 (33.3)	
Age mean ± standard deviation years	20.8 ± 3.3	21.7 ± 3.9	21.5 ± 3.8	**<0.0001**
Level or year of study (225) n(%)				
Year One	25 (49.0)	102 (58.8)	127 (56.4)	0.554
Year Two	22 (43.1)	56 (32.2)	78 (34.7)	
Year Three	3 (5.9)	12 (6.9)	15 (6.7)	
Year Four	1 (2.0)	14 (2.3)	5 (2.2)	
Marital status(223) n(%)				
Never married	50 (98.0)	156 (90.7)	206 (91.6)	0.129
Currently married	1 (2.0)	16 (9.3)	17 (7.6)	
Current academic status (223) n(%)				
Student (Full-time)	50 (98.0)	170 (98.8)	220 (98.7)	0.543
Part-time student	1 (2.0)	2 (1.2)	3 (1.3)	
Employment status n(%)				0.492
Employed (full time)	1 (3.8)	2 (3.4)	3 (1.3)	
Employed (part time)	3 (11.5)	3 (5.1)	6 (2.7)	
Employed but on study leave	2 (7.7)	12 (20.3)	14 (6.2)	
Self-employed	20 (76.9)	41 (69.5)	61 (27.1)	
Employed	0 (0.0)	1 (1.7)	1 (0.4)	
Monthly income (earned income, pocket money, gift) (126) n(%)				0.379
0–10,000 naira	15 (55.6)	46 (63.9)	61 (27.1)	
11,000–20,000	7 (25.9)	17 (23.6)	24 (10.7)	
21,000–30,000	3 (11.1)	2 (2.8)	5 (2.2)	
31,000 and above	2 (7.4)	7 (9.7)	9 (4.0)	
Holiday job(Yes) (186) n(%)				0.185
	15 (33.3)	33 (23.4)	48 (21.3)	

Table 3
Anthropometric profile and other participant factors assessed.

Variables	Gender		Total	P-value
	Male	Female		
Previous self-measure weight (Yes) (219) n(%)	22 (43.1)	106 (60.9)	128 (56.9)	**0.024**
Self-reported weight (99) mean ± standard deviation years	58.5 ± 9.7	57.6 ± 10.7	57.7 ± 10.5	0.724
Perception of weight n(%)				0.904
Underweight	2 (4.3)	4 (2.6)	6 (2.7)	
Normal in weight	36 (76.6)	114 (75.0)	150 (66.7)	
Overweight	1 (2.1)	5 (3.3)	6 (2.7)	
Don't know	8 (17.0)	29 (19.1)	37 (16.4)	
Currently smoke any tobaccos, such cigarette, cigars or pipes(Yes) (224) n(%)	3 (5.9)	0 (0.0)	3 (1.3)	**0.001**
Currently smoke tobacco products daily? (225)	3 (5.9)	0 (0.0)	3 (1.3)	**0.011**
Weight mean ± standard deviation Kg	61.8 ± 10.2	55.0 ± 11.4	56.6 ± 11.5	**<0.0001**
Height mean ± standard deviation metre	1.73 ± 0.77	1.62 ± 0.74	1.65 ± 0.86	**<0.0001**
Hip mean ± standard deviation centimetre	88.9 ± 6.4	89.8 ± 9.0	78.4 ± 8.6	0.123
Waist mean ± standard deviation centimetre	80.1 ± 6.4	77.9 ± 9.1	89.6 ± 8.5	0.506
BMI (221) n(%)	35.8 ± 5.5	33.9 ± 6.7		0.135
Underweight	7(13.7)	39(22.9)	46(20.4)	
Normal Weight	41(80.4)	107(62.9)	148(65.8)	
Overweight	2(3.8)	16(9.4)	18(8.0)	
Obesity	1(2.0)	8(4.7)	9(4.0)	
Systolic blood pressure (216) mean ± standard deviation mmHg	115.1 ± 11.0	106.0 ± 11.9	108.1 ± 12.3	**<0.0001**
Diastolic blood pressure (215) mean ± standard deviation mmHg	69.3 ± 9.3	69.4 ± 9.3	69.3 ± 9.3	0.946
Heart rate mean ± standard deviation beats/minutes	72.7 ± 9.4	80.6 ± 10.5	78.8 ± 10.7	**<0.0001**
Cuff size mean ± standard deviation cm	35.6 ± 2.5	31.7 ± 2.0	33.0 ± 2.6	**<0.0001**
Severity of depression n(%)				0.152
Mild depression	5 (10.2)	20 (12.6)	25 (12.0)	
Moderate depression	17 (34.7)	55 (34.6)	72 (34.6)	
Moderately severe depression	21 (42.9)	45 (28.3)	66 (31.7)	
Severe depression	6 (12.2)	39 (24.5)	45 (21.6)	
PHQ score mean ± standard deviation	15.2 ± 4.2	16.0 ± 5.6	15.0 ± 5.3	0.625
GAD 7 score mean ± standard deviation	12.1 ± 4.5	12.1 ± 5.1	12.1 ± 4.9	0.972
SPAS 12 score mean ± standard deviation	34.7 ± 5.8	35.6 ± 7.0	35.4 ± 6.8	0.418
Sleep quality n(%)				**0.045**
Severe sleep difficulty	1(2.1)	10(6.2)	11(4.9)	
Some sleep problem	26(54.2)	110(67.9)	136(60.4)	
Good sleep	16(33.3)	37(22.8)	53(23.6)	
Excellent sleep	5(10.4)	5(3.1)	10(4.4)	

depression. Various studies have examined the prevalence of psychosocial issues among young adults with varying reports. Ojewale had reported anxiety and depression in 41.5% and 31.9%, respectively, although they found students in the health related faculty being less anxious [22]. Unlike the work by Ojewale and that of Falade et al, this study found similar mean scores for anxiety for male and female (12.1 ± 4.9, 12.1 ± 4.5 and 12.1 ± 5 respectively for total mean age, male and female scores respectively) [22,28]. The burden of depression in this study (21.6% for severe depression) is higher than the study by Falade et al where it was reported as 14.3% among medical students [28]. This study also found a low prevalence of risk factors to depression such as poor sleep (4.9%) in comparison to the moderate anxiety (12.1 ± 4.9) from the GAD7 scale that connotes multiple domains of involvement (Kronke et al, Spitzer et al) which has been shown to be similar to the level of depression on PHQ-9 [29,30].

A close link between psychosocial stress and obesity has been opined by Ford et al, therefore a combined approach at tackling these intertwined menaces within the vulnerable population is key to reducing the attendant cardiometabolic complications [25]. A holistic approach that involves physical and mental health assessments of underweight, overweight and obesity needs to be put into consideration bearing that psychosocial issues can be a causal as well as maintaining factor for obesity [19]. This has also been affirmed by the findings that showed melancholia and anxiety are factors associated with obesity [31].

The study of anthropometry among young person is very important for planning preventive intervention. Inability to stem the tide of increased anthropometry among young persons have serious implications on successful reversing the obesity epidemic once it has begun [25]. Understanding trend of increased anthropometric in developing country like Nigeria has implication on global reduction effort of obesity as well as WHO efforts to cut obesity burden by year 2025 [25].

5. Conclusion

This paper has presented the rationale and methodology of the TERACE Study—the main study—together with some findings obtained from the preliminary data obtained from a sub-sample of participants recruited into the main study. Ultimately, further findings from the TERRACE study would provide reports with broader and deeper insights of body image, anthropometric indices, and psychosocial health and wellbeing of young persons in Ibadan, Nigeria.

Declaration of Competing Interest

The authors declare that there is no conflict of interest.

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