Texila International Journal | Open Access | Peer Reviewed

Journal: Texila International Journal of Academic Research
https://doi.org/10.21522/TIJAR.2014.13.03.Art020

ISSN: 2520-3088
Volume 13 Issue 3, 2026

Barriers to Early Detection of Chronic Diseases among University Students in Nigeria: Evidence from a Cross-Sectional Survey

Taiwo Akhigbe[1*], Osede Ignis Iribhogbe[2]

[1]*Department of Public Health, Texila American University, Guyana*

[2]*Department of Pharmacology, College of Medical Sciences, Ambrose Alli University, Ekpoma, Edo State, Nigeria*

***Correspondence to be addressed:** E-mail - akhigbetaiwo@yahoo.com

Cite this article as: Akhigbe T, Iribhogbe OI. Barriers to early detection of chronic diseases among university students in Nigeria: Evidence from a cross-sectional survey. Texila Int J Acad Res. 2026;13(3).
https://doi.org/10.21522/TIJAR.2014.13.03.Art020

Received: 06.05.2026
Accepted: 02.06.2026
Published: 31.07.2026

Abstract *Chronic diseases are more than ever affecting young adults in developing countries and countries in the middle and low-income regions. Although early screening is vital for detecting such diseases, the participation rate among Nigerian university students in this screening is low. This study aimed to identify challenges in the early detection of chronic diseases among tertiary school students. A cross-sectional survey was conducted among 500 undergraduate students at a college in Nigeria. Data collection utilised structured, self-administered questionnaires that collected information on socio-demographic characteristics, awareness of conditions, risk perception, and barriers to screening. The analysis used descriptive statistics and chi-square tests at the 5% significance level. Of those who answered: 88.6% known about chronic diseases; only 40.2% understood enough; only 35.8% believed they were at risk. Key barriers included low susceptibility perception (64%), financial constraint (58.4%), fear of being diagnosed (55.2%), lack of screening services provided (52.6%), and lack of awareness of these services (49.8%). Institutional barriers, including long waiting time (46.2%) and limited on-campus health service (44%), were also observed. While many university students are aware of various chronic diseases, perceptions of risk with several structural issues are insufficient to allow for early detection. Enhancements of health education initiatives, improved availability of screening services, and supportive policy measures are all urgent issues. Chronic diseases, early detection, screening barriers, university students, Nigeria.*

Keywords *Chronic Diseases, Early Detection, Nigeria, Screening Barriers, University Students.*

This article is published under Creative Commons Attribution License (CC BY 4.0)

https://doi.org/10.21522/TIJAR.2014.13.03.Art020

Introduction

Chronic diseases (also called non-communicable diseases (NCDs) such as hypertension, diabetes mellitus, and cardiovascular disease, represent serious public health challenges worldwide. Their occurrence is increasing quite significantly in places like Nigeria, a low- and middle-income nation (World Health Organisation [1]. Traditionally linked to an older demographic, lifestyle shifts and urbanisation have led to an increase in incidence among the young. Early diagnosis through adequate screening is vital for curbing sequelae, improving quality of life, and lowering healthcare expenditure.

Although the literature exists to scrutinise the burden of chronic diseases in university students in Nigeria and other developing countries, the main trend in publications is to estimate prevalence or determine risk factors without examining the root causes of poor engagement in early detection [2]. Therefore, leaves some crucial questions (gaps) unresolved about why uptake remains significantly low despite the growing vulnerability of these populations. Also, the current research generally focuses on clinical indicators of medical conditions (e.g., blood pressure, BMI and glucose levels) and ignores broader institutional, socio-cultural, and psychological factors that affect health-seeking behaviour. Research on youth health behaviour does not consider the challenges posed by inadequate campus facilities and the inability to provide adequate screenings due to the absence of targeted preventive interventions [2].

The uptake is particularly low among young adults, such as university students, who may view themselves as healthy or at limited risk [3]. Different interlocking barriers, such as individual beliefs, institutional limitations, socio-cultural influences, and broader systemic issues like delayed diagnosis and treatment, markedly compound long-term disease burdens. This study was conducted in this regard, as this demographic group is understudied for its contribution to preventive care strategies in Nigeria. It sheds light on the challenges university students face in accessing early screenings for chronic disease. Poor knowledge and awareness. Inadequate knowledge of chronic conditions and risk factors is also a significant barrier to screening among university students in Nigeria. Most of the college students are less aware of conditions like hypertension and diabetes, but with the knowledge of symptoms and early signs, the importance of screening is low. Not getting help in terms of preventive services [3, 4]. Many of the learners in tertiary-level institutions do not have well-endowed income, and are receiving low allowances on a regular basis, which makes getting medical tests and travelling to healthcare for cancer screening in an environment like Nigeria a heavy burden. It is widely reported that financial constraints are among the main reasons for poor preventive health practices among university students in Nigeria. Many Nigerian universities have health centres that handle minor problems rather than comprehensive preventive medical treatment. In the absence of on-campus screening for diseases and diagnostic technologies, students are unable to detect chronic illnesses early [5]. Some Nigerians understand chronic disease as spiritual or genetic diseases that cannot be escaped. These perceptions result in the devaluation of screening services, thereby demotivating their utilisation [6].

This study addresses a critical gap in the existing literature by examining the multi-level barriers influencing the early detection of chronic diseases among university students in Nigeria, with a significant focus on the individual -level and structural determinants

Materials and Methods

Study Design

The study employed a descriptive cross-sectional analytical design to explore barriers influencing early chronic disease detection

among young adults in Nigerian tertiary institutions. This design entails collecting data from a defined population at a single point in time

Study Area and Population

The research targeted undergraduate students at Ambrose Alli University, Edo State, Nigeria, with a total enrolment of 27,388 [7].

Sample Size Determination

Utilising Yamane's formula [8] for finite populations:

Sample Size Calculation

$n = N / [1 + N(e^2)]$
Where:
n = required sample size
N = total population (27,388 students)
e = margin of error (0.05 at 95% confidence level)
Substituting the values:
$n = 27,388 / [1 + 27,388(0.05^2)]$

A minimum sample size of 394 was calculated for a population of 27,388, with a 5% margin of error. Ultimately, data from 500 students were collected, accounting for potential non-responses.

Sampling Technique

A multistage sampling approach was used to recruit participants from AAUs in three key states, and the study was conducted over 1 week. In the first stage, faculty members were selected at random from across different disciplines. In the second stage, a random department section was performed between the selected faculties. Moreover, in stage three, participant selection was conducted using systematic protocols based on an eligibility criterion, ensuring that diverse academic backgrounds were accurately represented. Through this approach, the risks of sampling bias were reduced, and a comprehensive representation of the sample from diverse academic contexts was promoted.

The reliability test of the two perceived-susceptibility items (probably the reversed-scored susceptibility item and the worry about consequences item) yielded a negative Cronbach's alpha of -0.113, based on only two items. A negative alpha indicates very low consistency of responses across the scale, unacceptable internal consistency, and does not meet the basic assumptions of the Cronbach alpha reliability model [9].

Data Collection Instrument

A structured self-administered questionnaire was developed, encompassing demographic characteristics, awareness regarding chronic diseases, risk perception and screening barriers

Data Analysis

Data analysis was performed using SPSS version 25 [10], in which descriptive statistics, including frequencies and percentages, were computed, along with chi-square analyses to identify statistically significant associations ($p < 0.05$). Independent predictors of chronic disease screening propensity were evaluated, and descriptive multivariate logistic regression and bivariate statistics were performed. Variables whose p-value < 0.20 were determined through bivariate analyses and were included in the regression model. AORs and 95% confidence intervals (CIs) were evaluated, and the significance level was determined to be $p < 0.05$.

Results

Socio-demographic Variables

A total of 500 students participated, as shown in Table 1, with a mean age recorded at 24.75 years; females comprised the majority at 51.8%, predominantly enrolled in their second or third year.

https://doi.org/10.21522/TIJAR.2014.13.03.Art020

Table 1. Gender of Participants

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Male	241	48.2	48.2	48.2
Female	259	51.8	51.8	100.0
Total	**500**	**100.0**	**100.0**	

In a broader sense, the gender distribution in the sample appears fairly balanced: 48.2% (n = 241) of participants were male, while 51.8% (n = 259) were female (Table 1).

Table 2. Age of Participants

Age	Frequency	Percent	Valid Percent	Cumulative Percent
16.00	7	1.4	1.4	1.4
17.00	16	3.2	3.2	4.6
18.00	20	4.0	4.0	8.6
19.00	31	6.2	6.2	14.8
20.00	31	6.2	6.2	21.0
21.00	36	7.2	7.2	28.2
22.00	39	7.8	7.8	36.0
23.00	35	7.0	7.0	43.0
24.00	23	4.6	4.6	47.6
25.00	32	6.4	6.4	54.0
26.00	41	8.2	8.2	62.2
27.00	30	6.0	6.0	68.2
28.00	33	6.6	6.6	74.8
29.00	26	5.2	5.2	80.0
30.00	33	6.6	6.6	86.6
31.00	38	7.6	7.6	94.2
32.00	29	5.8	5.8	100.0
Total	**500**	**100.0**	**100.0**	

Next, among the participants' sociodemographic characteristics, age is a key factor. At a glance, participants' ages range from 16 to 32 years. Table 2 shows that the total sample (N) is 500 respondents, and the valid percentages are equal across all categories, implying that there are no missing age values in the dataset (all 500 responses are valid). The age profile suggests that the sample is overall young, as the chart is concentrated in the early to late 20s. However, the distribution is fairly even across all ages, with a mild peak in the mid-20s. From the frequencies in Table 2, the mean age is approximately 24.75 years, and the median age is 25 years (since the middle respondent is 25). The most common age, i.e., mode, is 25 years. The table also reveals that age typically varies by about ~4.5 years from the mean, meaning that its standard deviation is approximately 4.48. The overall distribution is approximately symmetric, i.e., it is not strongly skewed towards older or younger ages. So, while respondents are spread across ages, the mid-20s, especially 22–26, is the strongest cluster.

https://doi.org/10.21522/TIJAR.2014.13.03.Art020

Awareness and Knowledge

While most respondents (88.6%) reported being informed about chronic diseases, only 40.2% demonstrated strong knowledge concerning associated risk factors or prevention methods.

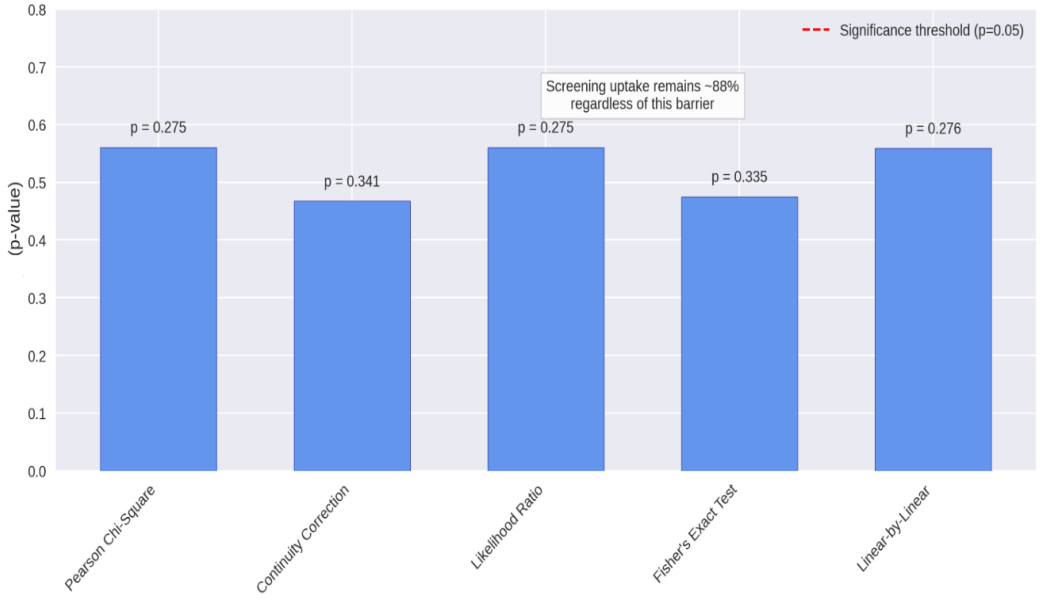

Figure 1. Chi-Square Results Barrier 1 - Lack of information

The chi-square test in Figure 1 shows that there is no statistically significant correlation ($\chi^2 = 1.189$, df = 1, p = 0.275). Other supporting statistics are the likelihood ratio (1.189, p = 0.275), Fisher's Exact Test (p = 0.335 two-sided), and continuity correction (p = 0.341), which are all in line with non-significance (Maria et al., 2024). Zero cells were expected to have fewer than 5 (i.e., at least 29.04), which met chi-square criteria and provided strong inference [11, 12, 20].

These findings directly impact the research objective (the assessment of individual, societal, and institutional barriers) and the research question (the identification of barriers to early detection). This non-association puts the perception of a lack of need as the major discouraging factor to the test and cements the idea that the institutional setting is dominant over the individual-level natural barriers in college settings.

Risk Perception

Only about one-third (35.8%) believed they were susceptible to developing chronic conditions; many tended to associate these illnesses primarily with older demographics.

Table 3. Barrier - Need Screening (Fear of Results or Stigma)

Fear of results/stigma	Statistic	.00	1.00	Total
No	Count	34	237	271
	% within Fear of results/stigma	12.5%	87.5%	100.0%
	% within screened_any	56.7%	53.9%	54.2%
Yes	Count	26	203	229
	% within Fear of results/stigma	11.4%	88.6%	100.0%
	% within screened_any	43.3%	46.1%	45.8%
Total	Count	60	440	500
	% within Fear of results/stigma	12.0%	88.0%	100.0%
	% within screened_any	100.0%	100.0%	100.0%

https://doi.org/10.21522/TIJAR.2014.13.03.Art020

The chi-square and cross-tabulation of the barrier "***Fear of results/stigma***" in Table 3 show a trend similar to that found at the individual level in this sample of 500 undergraduates. Among the 271 people who did not state fear of results or stigma as a deterrent (54.2%), 87.5% (n=237) had been screened, and 12.5% (n=34) had not. The reason is that, out of the 229 respondents (45.8) who actually affirmed this fear of a positive diagnosis or social stigma, screening uptake was also almost the same at 88.6% (n=203), with 11.4% (n=26) never screening at all.

The perception of screening was also extremely positive (88 per cent, 440/500), and the barrier itself was supported by a significant minority (45.8 per cent), indicating that the fear of the diagnosis outcome or stigmatisation is of moderate prevalence in this group of young adults. Surprisingly, even acknowledging fear contributed equally to screening as not acknowledging it, with an insignificant 1.1 percentage-point difference.

Logistic Regression

Table 4. Logistics Regression Results

Variables	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. Lower	95% C.I. Upper
Knowledge level (poor/fair/good)	-.279	.269	1.077	1	.299	.757	.447	1.281
Perceived susceptibility (reversed)	.073	.101	.528	1	.468	1.076	.883	1.310
I would be worried about the consequences if I were found to have a chronic disease.	.063	.097	.418	1	.518	1.065	.880	1.288
Age of Respondents	-.010	.032	.104	1	.747	.990	.930	1.054
Sex	-.365	.283	1.658	1	.198	.695	.399	1.210
Year of Study	-.085	.126	.455	1	.500	.918	.717	1.176
Residence	-.216	.167	1.666	1	.197	.806	.581	1.118
Constant	3.551	1.168	9.243	1	.002	34.850		

The regression analysis was applied to evaluate the relationship and impact of selected factors on the dependent variable shown in Table 4. Logistic regression estimates the magnitude of the relationship with Beta values, the explanatory power with R Square, and the significance of variables with t-statistics [13, 14]. The binary logistic regression (Step 1) model used was evaluated on predictors of screening uptake (dependent variable: ever screened vs never screened) in 500 undergraduate students with the inclusion of knowledge level, perceived susceptibility (reversed), perceived severity/worry, age, gender (sex), year of study, and residence. The model had low overall explanatory power ($R2 = 0.023$) and accounted for only a small proportion of the variance [14]. The constant was highly significant ($p = 0.002$), indicating a high probability of screening as a base. However, none of the predictors entered into the model achieved statistical significance (all are $p > 0.05$), indicating that none has an independent effect on screening uptake when adjusting for the others.

Discussion

This study indicates that although there was widespread awareness of chronic diseases among the university population, knowledge of risk perception was significantly reduced, corroborating other studies showing that mere

awareness is not enough to influence preventive health behaviours [4]. Low levels of perceived susceptibility emerged as the most significant barrier to increased risk, consistent with the Health Belief Model, which indicates that individuals may be less likely to comply with preventive behaviours unless they see them as personally helpful [15]. Sadly, the perception of chronic illness is mainly viewed through the perspective of age, with this group being less willing to do proactive screening to prevent these diseases. Financial constraints and access issues, as highlighted by a review of screening resources available in Nigeria, underscore systemic failures in the country's health care system. Beyond these barriers, anxiety related to screenings should also be addressed, and some psychological support devices should be designed to alleviate these fears. In the upcoming months, such interventions targeting uptake of the screening approach are planned to contribute to increased overall public health outcomes for this group and to help effectively address the barriers we identified earlier to timely identification, thereby improving overall management practices. Additional regression analyses suggest that some important predictors influencing these screening behaviours are observed in the sample. We identified perceived risk as the main predictor, thereby suggesting its importance in preventive health behaviour, as predicted by the Health Belief Model [15]. Initiatives to increase perceived susceptibility towards screening behaviours by university students may have a substantial impact on screening participation. Knowledge was also a significant predictor, and targeted health education campaigns may be helpful. Conversely, a lack of financial resources was shown to greatly limit engagement in screening activities, reflecting long-standing systemic barriers within health systems. The lack of resources and policy disparities reflect outcomes observed at other Nigerian tertiary facilities, where campus clinics are equipped with outdated devices and have inadequate staffing [16, 17].

The findings have also highlighted that fear of diagnosis, cultural beliefs and stigma play their role as cultural barriers that prevent students from seeking early detection services for their mental health issues. However, it is recommended that interventions be based on culturally sensitive approaches to prevent misconceptions and negative perceptions surrounding chronic diseases. The universities are required to adopt stigma-reduction approaches to normalise the health screening process among students and promote a positive attitude towards preventive care to the desired extent. This can be achieved through culturally appropriate messages, storytelling, and testimonials that closely resonate with the student's values and beliefs [18, 19].

Conclusion

Although a high level of awareness surrounding early detection methods targeting chronic health problems has improved among Nigerian undergraduate youth, limited perception of risk, as well as financial limitations and limited accessibility routes prevent a strong diagnostic capability that is critical, greatly hindering both immediate medical delivery, whilst adding further burden of long-term, re-harm to unaddressed condition in-and-out addressing on the issue that this direct approach to the problem will bring to them and focus on the health promotion aspect leading towards healthy living and the avoidance or prevention of future episodes that could cause even more direct repercussions of untreated medical problems directly leading to them in the future!

Recommendations

1. Universities must establish complementary or subsidised regular screening programs in their institutions. Health education efforts should not only concentrate on individual

risk assessment, but also change students' views on various conditions.

2. In parallel with allocating resources, campus health centres should also be improved to allow access pathways to services—this would better support their services. A system in which essential screening services are readily accessible on-site.
3. Policymaking should focus on developing policies and procedures that promote the implementation of preventive healthcare programs explicitly targeted for tertiary educational settings and that support students in taking an active role, identifying relevant prevention practices, and engaging in preventing the risks associated with health problems.
4. Further research is required on the methods of interventions that increase the rates of participation, closely linked to previously established contexts shaping underlying motivations driving behavioural changes, fostering healthier communities evolving continuously, adapting to meet emerging needs adequately, responding proactively whenever possible!

Ethical Approval

Ethical approval was obtained from the Ambrose Alli University Research Review Board. Participation was voluntary, and informed consent was obtained. Confidentiality and anonymity were strictly maintained.

Author Contributions

Taiwo Akhigbe conceived the presented idea, planned and carried out the data collection, analysed the data, and drafted the manuscript. Osede Ignis Iribhogbe, review the titles and supervise the manuscript development.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors declare that there is no conflict of interest.

Acknowledgement

The authors acknowledge several research assistants and young adults in Nigerian tertiary institutions s for providing necessary support during the conduct of this research.

Data Availability

The data for this study are available on direct request from the authors.

References

[1]. World Health Organization. Noncommunicable diseases: key facts [Internet]. Geneva: World Health Organization; 2023. Available from: https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases

[2]. Ige OK, Owoaje ET, Adebiyi OA. Non-communicable disease and risky behaviour in an urban university community in Nigeria. Afr Health Sci. 2013;13(1):62-7. https://doi.org/10.4314/ahs.v13i1.9

[3]. Omobuwa O, Alebiosu CO. Awareness of diabetes amongst undergraduates in a Nigerian university in Osun State, Nigeria. Afr J Med Med Sci. 2014;43(1):47-51.

[4]. Ghazali AK, Ayeni FA, Effiong DE. Knowledge of non-communicable diseases and risk factors among final-year students in a tertiary institution in Nigeria. J Adv Med Pharm Sci. 2021;23(6):1-9.

[5]. World Health Organization. Noncommunicable diseases country profiles [Internet]. Geneva: World Health Organization; 2022.

[6]. Airhihenbuwa CO. Health and culture: Beyond the Western paradigm. Thousand Oaks (CA): SAGE Publications; 1995.

[7]. Nutbeam D. Health literacy as a public health goal: A challenge for contemporary health education

and communication strategies into the 21st century. Health Promot Int. 2000;15(3):259-67. https://doi.org/10.1093/heapro/15.3.259

[8]. Yamane T. Statistics: An introductory analysis. New York: Harper & Row; 1967.

[9]. Cochran WG. Sampling techniques. 3rd ed. New York: Wiley; 1977.

[10]. Field A. Discovering statistics using IBM SPSS Statistics. 5th ed. London: Sage Publications; 2018.

[11]. Franke TM, Ho T, Christie CA. The chi-square test: Often used and more often misinterpreted. Am J Eval. 2012;33(3):448-58. https://doi.org/10.1177/1098214011426594

[12]. Turhan H. Chi-square test: Basic principles and applications in medical research. J Med Stat Inform. 2020;8(1):1-6.

[13]. Jeon J. The strengths and limitations of the statistical modeling of complex social phenomenon: Focusing on logistic regression. Int J Soc Behav Educ Econ Bus Ind Eng. 2015;9(5):1634-42.

[14]. Sperandei S. Understanding logistic regression analysis in behavioural health studies. Braz J Med Biol Res. 2014;47(3):1-8.

[15]. Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the Health Belief Model. Health Educ Q. 1988;15(2):175-83. https://doi.org/10.1177/109019818801500203

[16]. Coker OS, Akyala AI, Coker RB. Cardiovascular disease knowledge, risk perception, and lifestyle behaviors among university students in North-Central Nigeria: a cross-sectional study. BMC Public Health. 2025. https://doi.org/10.1186/s12889-025-26071-z

[17]. Olaniran A, Banke-Thomas A, Bar-Zeev S, Madaj B. Not knowing enough, not having enough, not feeling wanted: Challenges of community health workers providing maternal and newborn services in Africa and Asia. PLoS One. 2022;17(9):e0274110.

[18]. Fung K, Cheng SL, Ning X, Li ATW, Zhang J, Liu JJW, et al. Mental health promotion and stigma reduction among university students using the Reach, Efficacy, Adoption, Implementation, and Maintenance (RE-AIM) framework: Protocol for a mixed methods study. JMIR Res Protoc. 2021;10(8):e25592. https://doi.org/10.2196/25592

[19]. Oparah SO, Ezeh FE, Gado P, Adeleke AS, Gbaraba SV. Stigma reduction framework for improving community uptake of infectious disease and HIV diagnostic services. Int J Adv Multidiscip Res Stud. 2025;5(5):1349-60. https://doi.org/10.62225/2583049x.2025.5.5.5118

[20]. Cohen J, Cohen P, West SG, Aiken LS. Applied multiple regression/correlation analysis for the behavioral sciences. New York: Routledge; 2013. https://doi.org/10.4324/9780203774441