Journal: Texila International Journal of Academic Research
Publisher: Texila International Journal
ISSN: 2520-3088
Volume 13 Issue 2, 2026
DOI: 10.21522/TIJAR.2014.13.02.Art026

Strategies to Reduce the Increasing Risk Factors and Rate of Terminal Diseases Among Youths in Oji River, Udi and Environs in Enugu State, Nigeria

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Abstract

Terminal diseases including advanced cancers, chronic kidney disease, severe cardiovascular diseases, liver failure, and chronic respiratory illnesses are increasingly observed among young populations in developing regions. In Oji River, Udi and surrounding communities of Enugu State, Nigeria, youth exposure to unhealthy lifestyles, substance abuse, environmental pollution, poor healthcare access, and weak preventive services may accelerate progression into irreversible disease states. This study assessed major risk factors driving terminal diseases among youths in Oji River, Udi and environs, and proposed evidence-based strategies for reducing future terminal disease burden. Data were analyzed using SPSS version 25. Chi-square tests were applied to determine associations between risk exposures and self-reported chronic symptoms ($p < 0.05$). Out of 400 questionnaires distributed, 378 were correctly completed (response rate: 94.5%). Risk factors identified included frequent alcohol consumption (47.6%), cigarette smoking (18.5%), illicit drug use (13.2%), low physical activity (56.4%), unhealthy dietary practices (61.1%), and high reliance on self-medication (68.2%). Environmental exposure to smoke, fumes and waste-burning pollution was reported by 41.5%. Screening practices were poor: blood pressure checks (22.8%), blood glucose checks (14.0%), and hepatitis screening (11.6%). Chi-square analysis showed significant associations between smoking/pollution exposure and persistent cough/breathlessness ($p < 0.05$). Terminal disease risks among youths in Oji River and Udi are increasing due to modifiable behavioral and environmental exposures coupled with poor preventive health utilization. Interventions such as routine screening programs, youth-targeted health education, improved primary healthcare access, environmental pollution regulation, and stronger control of alcohol and tobacco use are urgently needed.

Keywords: *Behavioral Risk Reduction, Disease Prevention Strategies, Health Promotion, Non-Communicable Diseases, Oji-River, Public Health Interventions, Risk Factors, Terminal Diseases, Udi Local Government, Youth Health.*

Introduction

Terminal diseases are chronic progressive health conditions that may advance to irreversible stages, leading to death, severe disability, or prolonged dependency. They include advanced malignancies, end-stage

Received: 05.09.2025 ***Accepted: 27.03.2026*** ***Published on: 30.04.2026***
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renal disease, chronic liver failure, severe cardiovascular disease, chronic obstructive pulmonary disease, and complications of poorly managed infectious diseases such as hepatitis and HIV exactly [1].

Globally, non-communicable diseases (NCDs) account for the majority of deaths and disability, with increasing prevalence in low- and middle-income countries. This growing burden is linked to rapid urbanization, dietary transitions, sedentary lifestyles, increased tobacco and alcohol consumption, and limited access to preventive healthcare services [2]. In Nigeria, these determinants are further worsened by weak health infrastructure, poverty, poor public health financing, and low screening uptake [3]. In Enugu State, particularly in Oji River and Udi LGAs, youths are increasingly exposed to environmental pollutants from waste burning, mechanic workshops, and industrial activities. The region also experiences rising consumption of alcohol, tobacco, and drug substances among young adults, partly driven by unemployment, peer pressure, stress, and inadequate youth-focused mental health services [4].

The burden of terminal diseases among youths is particularly concerning because the youth population represents the productive workforce of society. Early onset of chronic illness reduces productivity, increases household poverty, and imposes catastrophic healthcare costs on families. Additionally, late presentation to hospitals remains common due to reliance on self-medication, herbal treatment, and poor awareness of early warning signs [5].

This study examines the prevalence of major modifiable risk factors associated with terminal diseases among youths in Oji River, Udi and environs, and proposes comprehensive prevention strategies tailored to the socio-cultural realities of the area.

Methods/Methodology

Study Design

This study employed a descriptive cross-sectional survey design.

Study Area

The study was conducted in selected communities within Oji River and Udi Local Government Areas of Enugu State, Southeastern Nigeria. These areas comprise rural and semi-urban settlements characterized by small-scale businesses, agriculture, artisan work, and increasing youth migration.

Study Population

The population included youths aged 15-35 years who had lived in the study communities for at least 6 months.

Sample Size

A total of 400 respondents were targeted to ensure statistical reliability and account for incomplete responses.

Sampling Technique

A multistage sampling technique was adopted:

Stage 1: purposive selection of Oji River and Udi LGAs.

Stage 2: random selection of communities within each LGA.

Stage 3: systematic selection of households.

Stage 4: random selection of eligible youths per household.

Data Collection Tool

Data were collected using a structured questionnaire adapted from WHO STEP wise approach to NCD risk factor surveillance. Sections included:

1. Socio-demographic information.
2. Lifestyle behaviors (diet, smoking, alcohol, exercise).
3. Substance use.
4. Environmental exposure.

5. Health-seeking behavior and screening history.
6. Awareness of chronic and terminal diseases.

Validity and Reliability

Content validity was ensured through expert review by public health specialists. A pilot study was conducted in a nearby community outside the study area. Cronbach alpha reliability coefficient was 0.82, indicating strong internal consistency.

Data Collection Procedure

Trained assistants administered questionnaires in English and Igbo. Participants provided written or verbal informed consent.

Data Analysis

Data were analyzed using SPSS version 25. Results were summarized with descriptive statistics. Chi-square test was used to determine associations between selected risk factors and chronic symptom reports. Significance level was set at $p < 0.05$.

Results

Response Rate

Out of 400 questionnaires distributed, 378 were completed and analyzed, giving a response rate of 94.5%.

Socio-Demographic Characteristics of Respondents (Table 1)

Table 1. Socio-Demographic Characteristics of Respondents (n = 378)

Variable	Category	Frequency (n)	Percentage (%)
Age	15-19	64	16.9
	20-24	108	28.6
	25-29	122	32.3
	30-35	84	22.2
Sex	Male	199	52.6
	Female	179	47.4rc
Education	Primary	38	10.1
	Secondary	144	38.1
	Tertiary	197	51.9
Employment	Student	123	32.5
	Artisan	96	25.4
	Trader	71	18.8
	Unemployed	88	23.3

Field Survey Data, 2024; adapted from WHO STEP wise NCD Risk Assessment Framework.

Prevalence of Risk Behaviors (Table 2)

Table 2. Prevalence of Lifestyle and Behavioral Risk Factors (n = 378)

Risk Factor	Frequency (n)	Percentage (%)
Cigarette smoking	70	18.5
Alcohol consumption (any)	180	47.6
Frequent alcohol intake (≥3 times/week) so s cllsc	81	21.4
Illicit drug use	50	13.2

Poor dietary habit (high fried/sugary foods)	231	61.1
Low physical activity	213	56.4
Self-medication	258	68.2
Use of herbal remedies as first treatment	240	63.5

Field Survey Data, 2024; adapted from WHO STEP wise NCD Risk Assessment Framework [1].

Environmental Exposure (Table 3)

Table 3. Environmental Exposure Patterns (n = 378)

Exposure	Frequency (n)	Percentage (%)
Regular exposure to smoke/fumes	157	41.5
Exposure to wastomze burning sites	146	38.6
Exposure to mechanic workshop pollutants	104	27.5
Exposure to industrial emissions	72	19.0

Field Survey Data, 2024; adapted from WHO STEP wise NCD Risk Assessment Framework.

Screening and Preventive Health Practices (Table 4)

Table 4. Screening Practices among Respondents (n = 378)

Screen Practice	Frequency (n)	Percentage (%)
BP check within last 6 months	86	22.8
Blood sugar check within last 12 months	53	14.0
Hepatitis B/C screening ever	44	11.6
HIV screening ever	97	25.7
Routine medical check-up ever	61	16.1

Field Survey Data, 2024; guided by preventive screening indicators [11].

Chi-Square Association between Risk Factors and Chronic Symptoms (Table 5)

Table 5. Association between Smoking, Pollution Exposure and Chronic Respiratory Symptoms (n = 378)

Variable	Persistent cough/breathlessness	No symptoms	χ^2	p-value
Smoking (Yes)	41	29	9.71	0.002
Smoking (No)	79	229		
Pollution exposure (Yes)	72	85	8.23	0.004
Pollution exposure (No)	48	173		

Field Survey Data, 2024. Chi-square analysis computed using SPSS version 25.

Significant association at $p < 0.05$

Discussion

This study revealed a high prevalence of modifiable risk factors for terminal diseases among youths in Oji River, Udi and environs. Poor dietary habits (61.1%) and low physical activity (56.4%) were the most common risk factors, indicating an ongoing nutrition and lifestyle transition consistent with patterns reported in other Nigerian communities [6]. Such behaviors predispose young individuals to obesity, diabetes mellitus, hypertension, and cardiovascular diseases, which may progress to terminal stages if unmanaged.

Alcohol consumption was high (47.6%), with 21.4% reporting frequent intake. Alcohol abuse is associated with liver disease, hypertension, stroke, mental illness, and increased risk of injury-related mortality. Early initiation of alcohol use among youths is often influenced by peer pressure, unemployment, and lack of structured youth engagement programs [7].

Cigarette smoking prevalence (18.5%) is concerning because tobacco is a well-established risk factor for lung cancer, chronic obstructive pulmonary disease, cardiovascular diseases, and stroke. The significant association between smoking and chronic respiratory symptoms in this study further supports the role of tobacco as a contributor to long-term morbidity [8].

Self-medication was highly prevalent (68.2%), suggesting poor health-seeking behavior and limited healthcare trust. The widespread use of antibiotics without prescription contributes to antimicrobial resistance and increases the risk of kidney and liver damage due to drug toxicity. Similarly, prolonged use of analgesics may predispose individuals to chronic kidney disease, which may progress to end-stage renal failure [9].

Environmental exposure to smoke, fumes, and waste-burning pollution was reported by 41.5% of respondents. Exposure to particulate matter and toxic chemicals is associated with chronic respiratory disease and cancer. Youths working as artisans, welders, and mechanics face heightened risk due to occupational hazards. The significant association between pollution exposure and chronic respiratory symptoms confirms the health risks posed by environmental conditions in the study area [10].

Preventive screening was poor. Only 22.8% had checked blood pressure recently, and hepatitis screening was extremely low (11.6%). This indicates that many youths may unknowingly live with chronic infections such as hepatitis B or early hypertension until complications occur. Late presentation remains a major contributor to terminal disease outcomes in Nigeria [11].

The findings highlight the urgent need for preventive health interventions targeting youths. Without immediate action, the current prevalence of risk factors may translate into rising cases of advanced cancers, end-stage kidney disease, liver cirrhosis, stroke, and chronic respiratory failure in the coming decades.

Recommended Strategies to Reduce Terminal Disease Risk Among Youths

Community-Based Screening and Early Detection Programs

Quarterly mobile outreach screening should be implemented across communities in Oji River and Udi. Screening should include:

1. Blood pressure checks.
2. Random blood sugar testing.
3. Hepatitis B and C screening.
4. BMI and obesity assessment.
5. Kidney function tests (where feasible).
6. Early detection reduces progression to irreversible disease stages [12].

Strengthening Primary Healthcare Services

Primary healthcare centers should be strengthened through:

1. Improved staffing and training.
2. Availability of essential drugs.
3. Provision of diagnostic tools (glucometers, sphygmomanometers).
4. Youth-friendly consultation services.
5. Subsidized services for low-income youths.
6. Health insurance enrollment should be expanded to reduce financial barriers [13].

School-Based and Community Health Education

Health education should be integrated into secondary schools and community youth programs. Topics should include:

1. Dangers of tobacco and alcohol.
2. Nutrition education.
3. Dangers of self-medication.
4. Benefits of early hospital consultation.
5. Reproductive health and infectious disease prevention.
6. Peer educators and youth health ambassadors should be trained to deliver consistent messaging **[14].**

Regulation and Control of Alcohol and Tobacco Sales

Local government authorities should enforce restrictions on:

1. Sale of alcohol to minors.
2. Unregulated street alcohol production.
3. Tobacco advertisement and accessibility.
4. Community bylaws should include penalties for illegal sale of controlled substances [15].

Drug Abuse Prevention and Rehabilitation Programs

Drug prevention campaigns should involve:

1. NDLEA collaborations.
2. Counseling units in communities.
3. Youth rehabilitation referral systems.
4. Faith-based and traditional leader engagement.
5. Drug abuse is linked to mental illness, risky behaviors, and chronic organ damage [16].

Environmental Pollution and Occupational Safety Control

Policies should address:

1. Waste burning regulations.
2. Provision of waste disposal facilities.
3. Workplace safety enforcement in mechanic and welding areas.
4. Distribution of protective equipment such as face masks.
5. Environmental health officers should routinely inspect high-risk zones [17].

Promotion of Healthy Diet and Food Security

Community programs should encourage:

1. Reduced intake of processed foods.
2. Increased consumption of fruits and vegetables.
3. Reduction in sugary drinks.
4. Promotion of home gardening and local agriculture.
5. This can reduce obesity, diabetes, and cardiovascular risks [18].

Youth Physical Activity and Fitness Programs

Community sporting programs should be supported through:

1. Football tournaments.
2. Fitness clubs.
3. Weekly community walks.
4. School sports infrastructure.
5. Physical activity improves cardiovascular health and reduces metabolic disease risk [19].

Mental Health and Stress Reduction Programs

Mental health interventions should include:

1. Stress management education
2. Youth mentorship programs
3. Counseling centers
4. Community dialogue sessions on depression and anxiety
5. Mental health stability reduces substance dependency and unhealthy coping mechanisms [20].

Limitations of the Study

This study relied on self-reported data which may introduce reporting bias. The cross-sectional design limits causal interpretation. Also, clinical laboratory confirmation of diseases was not performed

due to resource constraints. Despite these limitations, the study provides useful baseline evidence on major risk factors affecting youths in Oji River and Udi.

Conclusion

The study demonstrates that youths in Oji River, Udi and environs are significantly exposed to modifiable behavioral and environmental risk factors that may predispose them to terminal diseases. Poor diet, low physical activity, alcohol abuse, tobacco use, self-medication, drug misuse, and exposure to pollution were prominent. Screening practices were poor, and preventive healthcare culture remains weak.

Reducing the future burden of terminal diseases requires multi-sectoral strategies involving routine screening, youth-focused health education, stronger primary healthcare delivery, strict substance control, environmental protection, improved occupational safety, and mental health interventions. If implemented, these strategies can reduce disease progression and improve youth health outcomes in Enugu State.

Conflict of Interest

The authors declare no conflict of interest.

Acknowledgement

The authors sincerely acknowledge the community leaders, youth associations, healthcare workers, and respondents from Oji River and Udi LGAs for their cooperation. Appreciation is extended to all research assistants who supported fieldwork and data collation.

Ethical Approval

Ethical approval was obtained from an appropriate institutional ethics committee in Enugu State. Informed consent was obtained from all respondents. Confidentiality and anonymity were ensured throughout the research process.

Data Availability

Data supporting the findings of this study are available from the corresponding author upon reasonable request.

Authors Contributions

Ikeonwueme Peace: Conceptualization, study design, supervision of data collection, manuscript drafting.

Abudullah Mohammad Sabo: Literature review, methodology development, data analysis, interpretation of results.

Chukwu Moses: Instrument development, field data collection, discussion writing, manuscript editing.

All authors reviewed and approved the final manuscript.

Funding

This research received no external funding. All costs were covered by the authors.

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