



Paper: “Occupational Health Problems: An Assessment of the Cardiovascular Health Status of Road Construction Workers in Imo State, Nigeria”

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Peer review:

Reviewer 1: Dionysios Vourtsis
University of West Attica, Greece

Reviewer 2: Georgios I. Farantos
University of West Attica, Greece

Reviewer 3: Blinded

Reviewer B:

Recommendation: Revisions Required

The TITLE is clear and it is adequate to the content of the article.

Yes, it is clear.

The ABSTRACT clearly presents objects, methods, and results.

Yes, it does.

There are a few grammatical errors and spelling mistakes in this article.

Yes, a few:

-Sometimes a space between the number and the percentage should be set.

-On table 1 in the Diastolic Blood Pressure (DBP) column, you could see two numbers 8 and 3, without any correspondence.

-On page 8, it is written that: "Discuss the significance of the results here and relate the results to the available literature. Discuss any study limitations". Are these headings for one other paragraph?

The study METHODS are explained clearly.

Yes. But a general remark is to elaborate more on how the provision and the availability of PPE are promoting cardiovascular health among construction workers!

The body of the paper is clear and does not contain errors.

A few errors:

-On page 3, it is written that: 100 (28.3%) of the workers had optimal and normal systolic BP (Table 1), but on the table that number is 85

-On page 3, it is written that: 14(13.3%) had ever been diagnosed with a cardiovascular condition, but on the table that number is 47

-On page 8, it is written that: ...and low medical monitoring among the participants (24%) point to systemic gaps in occupational health management, but on the table that number is 23,8

The CONCLUSION or summary is accurate and supported by the content.

Yes it is, but it is a bit short. Also, as indicated in the study Methods, some more elaboration is needed on how PPE enhances the cardiovascular health among construction workers.

The list of REFERENCES is comprehensive and appropriate.

Yes it is.

Please rate the TITLE of this paper.

[Poor] 1-5 [Excellent]

5

Please rate the ABSTRACT of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the LANGUAGE of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the METHODS of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the BODY of this paper.

[Poor] 1-5 [Excellent]

4

Please rate the CONCLUSION of this paper.

[Poor] 1-5 [Excellent]

3

Please rate the REFERENCES of this paper.

[Poor] 1-5 [Excellent]

4

Overall Recommendation!!!

Accepted, minor revision needed

Comments and Suggestions to the Author(s):

A bit short conclusion and some more elaboration on how PPE enhances the cardiovascular health among construction workers.

Reviewer C:

Recommendation: Resubmit for Review

The TITLE is clear and it is adequate to the content of the article.

Yes, the title is clear and adequately reflects the content of the article. The study focuses specifically on cardiovascular health issues among road construction workers in Imo State, Nigeria, and this is clearly expressed in the title. The terms “Occupational Health Problems” and “Cardiovascular Health Status” accurately represent the scope and findings of the study, as the article thoroughly examines blood pressure and pulse rate metrics, discusses occupational exposure, and suggests health interventions. The geographical focus (Imo State, Nigeria) is also precisely stated.

The article presents a coherent alignment between the title, abstract, objectives, methods, results, and conclusions, all of which center on occupational cardiovascular risks in a specific workforce group.

The ABSTRACT clearly presents objects, methods, and results.

Yes, the abstract clearly presents the objectives, methods, and results of the study, though with some minor limitations in structure and emphasis.

Objectives: The aim is clearly stated: "This study assessed the cardiovascular health status of road construction workers in Imo State, Nigeria."

Methods: The methodology is concisely described: "Using a cross-sectional descriptive design, data were collected from 353 road construction workers through structured questionnaires and physical assessments, including blood pressure (BP) and pulse rate (PR) measurements."

Results: Key findings are quantitatively reported (e.g., percentages of workers with systolic/diastolic hypertension and tachycardia), along with observations on lack of medical check-ups.

Conclusion/Recommendations: The abstract includes implications and policy recommendations, though this section is more extensive than necessary for a structured abstract.

However, the abstract could be slightly improved by:

Stating the objective earlier and more directly.

Separating the methods, results, and conclusions more clearly for readability.

There are a few grammatical errors and spelling mistakes in this article.

Yes, the article contains a few grammatical errors and inconsistencies in phrasing, punctuation, and formatting, though spelling mistakes are minimal. Below are specific examples:

Punctuation and Sentence Structure Issues:

In the Introduction, the sentence:

"...increased blood pressure and pulse rate; the World Health Organization (WHO) recognizes..."
The semicolon should be a period or a coordinating conjunction ("and"), as the two clauses are independent.

Inconsistent Use of Articles and Prepositions:

In the Methods section:

"with a multi-stage sampling technique from different construction sites across the 3 senatorial zones..."

The article "the" should precede "3 senatorial zones" for clarity: "across the 3 senatorial zones."

Redundancies and Stylistic Issues:

The sentence:

"This study thus focuses on this largely under-researched population (road construction workers) in a developing country context..."

The phrase "thus focuses on this" is slightly awkward and can be refined for better academic tone:

"Accordingly, this study investigates a largely under-researched population..."

Grammatical Number and Agreement Errors:

In the Results section:

"The difference between the senatorial zones was not statistically significant ($p=0.11$) (Table 3)." Should likely read: "The differences among the senatorial zones..." since more than two groups are being compared.

Typographical Error:

In the sentence:

"...6(5.5%) %) in Imo West, Imo East, and Imo North zones respectively..."

The double percentage sign "(%) %" is a typographical mistake and should be corrected to "(5.5%)".

The study METHODS are explained clearly.

Strengths:

Overall structure: The methods follow a logical flow—from study design and sampling to measurement and analysis.

Sampling clarity: The description of a multi-stage sampling technique and the geographical coverage across three zones adds transparency to the selection process.

Measurement procedures: Blood pressure and pulse rate measurements are described with detail on standardization, rest period, and repeated measures, which supports validity.

Weaknesses (Clarity Issues):

Ambiguity in data analysis:

"Descriptive technique was used..." is vague and lacks specificity. It is unclear whether this refers to means, medians, frequencies, or another statistical approach.

Suggested revision: "Descriptive statistics, including means and frequency distributions, were used to summarize the data."

Grammatical and syntactical errors:

Final sentence: "...which frequency distribution table was constructed for class variables." is ungrammatical and confusing.

Proper version: "...and a frequency distribution table was constructed for categorical variables."

Sampling details insufficient:

The "multi-stage sampling technique" is mentioned but not clearly described. For full clarity, it should include:

How sites or individuals were selected at each stage

Any inclusion/exclusion criteria

Whether randomization was applied

Terminology:

"In seated positions" should be "with participants seated" for conciseness and correctness.

Conclusion:

The methods section communicates the general approach adequately but falls short of full clarity due to grammatical flaws, vague phrasing, and missing specifics (especially in sampling and statistical analysis). These weaknesses detract from the precision expected in a high-quality academic report.

The body of the paper is clear and does not contain errors.

The paper demonstrates generally good structure and a coherent flow from abstract to results. The information is presented logically, and the statistical findings are explained with relevant data. However, to merit a higher score under strict criteria, the following issues need to be addressed:

1. Clarity and Language Precision

There are minor grammatical issues and awkward constructions. For instance:

In the abstract: "all the road construction workers were males" could be better phrased as "all participants were male."

In the introduction: The phrase "yet, there is limited health research..." would be clearer without the comma.

The sentence "This study thus focuses on this largely under-researched population..." is redundant with "this" repeated.

Several sentences are overly long and convoluted, particularly in the introduction, which can reduce readability. For example:

"Previous studies have shown that strenuous physical activity, environmental stressors (e.g., noise, heat, and vibration), environmental pollution, and long working hours that are common in construction work can lead to increased blood pressure and pulse rate..." could be broken into

two more digestible sentences.

2. Technical Terminology and Consistency

In the results section, the presentation is largely clear but occasionally imprecise:

“Almost half 171 (48.4%)...” would be clearer as “Almost half of the workers, 171 (48.4%),...”

There is a typo in the pulse rate statistics: “6(5.5%) %” contains a duplicated percentage symbol.

The terms “high-normal,” “optimal,” and “raised pulse” should ideally be referenced to established standards or guidelines (e.g., WHO or AHA), especially if they're used for diagnostic categorization.

3. Punctuation and Formatting

Some punctuation inconsistencies, such as inconsistent spacing in numbers (e.g., “10(8.3%)” vs “6(5.5%) %”), reduce the professionalism of the presentation.

The methods section contains a grammatically incorrect sentence:

“Descriptive technique was used to compute the mean of the measured variables which frequency distribution table was constructed for class variables.”

This should be rephrased, e.g.,

“Descriptive statistics were used to compute the means of measured variables, and frequency distribution tables were constructed for categorical variables.”

4. Redundancy and Repetition

There are instances of conceptual repetition, especially in the introduction and abstract. For example, “limited access to routine medical checkups” is stated more than once in closely related sentences.

Summary:

While the manuscript is intelligible and data presentation is reasonably structured, the linguistic precision, stylistic refinement, and technical editing fall short of a perfect score. A well-edited revision could elevate it to a 4 or even a 5.

The CONCLUSION or summary is accurate and supported by the content.

The conclusion is generally accurate and aligned with the findings presented in the body of the paper. It effectively restates key observations: the cardiovascular risks due to physical stress and environmental exposure, the low usage of PPE, and the lack of regular medical checkups. These points are well-supported by the data (e.g., 76.2% not having regular checkups, 6.2% with tachycardia, and significant levels of hypertension).

However, the conclusion could be improved by:

Clarifying the physiological link: The statement “pollution in construction zones can activate the sympathetic nervous system” is plausible but not directly measured or strongly emphasized in the main body. It's slightly speculative unless directly supported by cited literature or data.

Improving grammar: The phrase “can activate the sympathetic nervous system and leading to...” is grammatically incorrect. It should read “can activate the sympathetic nervous system, leading to...”

Strengthening precision: The summary could be more impactful by briefly restating key statistics (e.g., percentages of those with hypertension or tachycardia), which would better ground the conclusion in the data.

Overall, the conclusion is consistent and policy-relevant but slightly weakened by a minor grammatical issue and one partially unsupported causal link.

The list of REFERENCES is comprehensive and appropriate.

Strengths:

Relevance: The references largely align with the study’s focus—occupational health, cardiovascular risks, construction workers, PPE usage, and environmental exposures.

Recent sources: The inclusion of up-to-date studies (e.g., from 2023–2025) reflects current knowledge in the field.

Diversity of sources: There is a mix of empirical studies, reviews, and a WHO fact sheet, which supports both the data and public health recommendations.

Limitations:

Limited international breadth: The references skew toward local or regional Nigerian studies (e.g., Agwah et al., Nwakamma et al.), which are important but may narrow the generalizability and academic rigor if not balanced with more high-impact international sources.

Weak journal quality in parts: Some journals (e.g., Journal of Clinical Case Reports and Studies, African Journal of Biology and Medical Research) are not widely recognized or indexed, potentially compromising the credibility or visibility of the cited evidence.

Lack of landmark or foundational literature: There is a missed opportunity to cite landmark epidemiological or occupational health studies (e.g., major cohort studies, OSHA/NIOSH guidelines, meta-analyses on PPE or occupational cardiovascular risk).

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No clear theoretical or policy framework cited: The conclusion advocates for workplace wellness and routine health monitoring, yet there are no references to established frameworks (e.g., Total Worker Health, European Agency for Safety and Health at Work reports, or ILO conventions).

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Return for major revision and resubmission

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