



SDI FINAL EVALUATION FORM 1.1

PART 1:

Journal Name:	<u>International Journal of TROPICAL DISEASE & Health</u>
Manuscript Number:	Ms_IJTDH_32392
Title of the Manuscript:	PREVALENCE AND ATHEROGENIC INDEX OF PLASMA AS A PREDICTOR OF CARDIOMETABOLIC SYNDROME AMONGST ROAD TRANSPORT WORKERS
Type of Article:	

PART 2:

FINAL EVALUATOR'S comments on revised paper (if any)	Authors' response to final evaluator's comments
FINAL COMMENTS - The manuscript is still scientifically unsound and methodologically flawed and was rejected by this reviewer as detailed out in the reviewer's comments. - Although the manuscript has irreparable deficiencies, authors haven't addressed the technically issues inherent in the research instead they started debate on type 1 and 2 errors which they didn't have sufficient knowledge on the context, concept and operationalization[See authors response] - The comments of this reviewer were not respected by the authors. - Authors lack comprehension of what constitute type 1 and 2 errors and power of a study which are applicable to all research design and scientific inquiry especially in predictive research the authors claimed they carried out. - The errors committed by the authors are <u>IRREMEDIABLE AT THIS STAGE</u>. It requires conducting the study afresh with appropriate title, study design, population triad, sample size formula, etc. - AT THIS REVIEW AND RE-REVIEW STAGE THE MANUSCRIPT IS	FINAL COMMENTS - The Reviewer started very well with his review comments which we found useful in the revision and thus, increase the value of the manuscript. The point in dispute is his so called Type 1 and Type 2 error which we have addressed. And further to it, it was clear in our revised manuscript that 23 respondents have cardiometabolic syndrome whereas 97 do not have. Thus the PCA regression modelling considered the two groupings –Group-1 (23 participants) and Group -2 (the combined participants = 120). - The technical issues raised by the reviewer was properly addressed. - The comments of the reviewer was taken in good fate and was treated accordingly. GENERAL COMMENTS Given that the Reviewer has sent back his earlier review comments for the attention of the Editorial board we Equally forward our earlier comment for both to be taken together. - The title of the study is acceptable and reflects the content of the study. a) Prevalence and metabolic syndrome cannot be a discordant study. It is out of 120 respondents the prevalence value was determined. Prior to the study the number of respondents having metabolic syndrome was unknown (if known abi nitio, the study is unnecessary). Thus, the same population for prevalence could serve for cardiometabolic study.



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RIPPLED WITH ISSUES OF MORAL HAZARDS, MANIPULATION, ALTERATION AND FALSEFICATION OF DATA AAND PERVERSION OF RESULTS 7. Accepting this manuscript with all the post-hoc substitution with manipulated data and distorted results and interpretation of results constitute a research misconduct and gross misconduct. GENERAL COMMENTS The manuscript is technically unsound and has gross type 1 and 2 errors that threaten its scientific validity and acceptability. 1. The title of the study is ambiguous and inappropriate. It has two discordant study components that have different study designs. Read this..... PREVALENCE AND ATHEROGENIC INDEX OF PLASMA AS A PREDICTOR OF CARDIOMETABOLIC SYNDROME AMONGST ROAD TRANSPORT WORKERS..... 2. There are two issues here a. PREVALENCE of cardio-metabolic syndrome amongst road transport workers.....[This connotes a prevalence study. Prevalence study design cannot be used for prediction; study population can be subjects with or without Cardio-metabolic syndrome.....sample size formula for prevalence study is stated by the authors is appropriate assuming this is a prevalence study for example [See sample size formula] $N = Z^2 P(1-P) / T^2$ b. ATHEROGENIC INDEX OF PLASMA AS A PREDICTOR of cardio-metabolic syndrome.....[This is an analytical study that can be used for prediction.[Authors committed type 1 error by using prevalent study design and study protocol] Study population should be	b) The issue of Types-1 and 2 error have been sorted out. In the revised manuscript AIP computation has been corrected and the 23 respondents at risk against 120 population were analysed and modelled separately using various statistical tools. And the results/ output eventually compared. Ordinarily on issue of type-1 and 2 errors, a type-1 error occurs when we reject say a hypothesis when it should be rejected while type -2 error is to accept when we should reject a hypothesis. We seem to be at variance with the reviewer on his definition of errors. 3) Sample size has been determined from the appropriate formula. The dependent variable AIP and the various independent variables were duly analysed using appropriate statistical tools for data analysis as reflected in the revised version. 4) This study was based on International Diabetes Federation (IDF) Criteria. Yes, Lipid dysregulation may be seen as an inflammatory process. Yet it is difficult to ignore the role of lipid fractions. 5) According to the USA Dietary Guideline Advisory Committee which indicated that cholesterol is not considered a nutrient of concern for overconsumption. However, this statement may be too general as it does not acknowledge conflicting findings in literature regarding cardiovascular risk in certain population. Current research suggests that dietary cholesterol may increase a subject's risk of developing diabetes, increases a diabetic patient's risk of cardiovascular diseases, and may worsen coronary risk factors in subjects who are "hyper-responders" to dietary cholesterol. We suggest that a more cautious approach to dietary cholesterol intake be warranted especially in high- risk populations (Williams, K. A. Sr; Krause, A. J; Shearer, S; Devries, S. (2015). The Dietary Guideline Advisory Committee Report Concerning Dietary Cholesterol. Am. J. Cardiol. Vol.116 (9): 1479-80. Thank you. 6) Same as authors' comment to Reviewer Question 4. Specific Comments Abstract: The Abstract has been written to cover the scope, methodology and a major find. The issue of type-1 and type-2 errors does not apply to the
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subjects with cardio-metabolic syndrome, in the manuscript, the subjects with cardiometabolic syndrome=21; Authors erroneously studied 99 subjects without cardiometabolic syndrome and 21 subjects with metabolic syndrome[Type 2 errors]. The sample size for the study should be based on mean NOT proportion since AIP values are continuous variable with ratio scale of measurement. The sample size formula also should include power of the study for the purpose of prediction[Authors erroneously used sample size formula for prevalence study[Type 1 error]. 3. If appropriate study design, study population and sample size formula were used, authors should have focused on subjects with cardiometabolic syndrome(AIP) which will form dependent variable for principal component analysis, scree plotting and Logistic Probit Regression Analysis with WC, BMI, AGE, PP, MABP, FBS, DBP, SBP as explanatory variables (Cardiometabolic components/parameters). The analyses have several interchangeability of dependent and independent variables. 4. Authors should also appreciate the current trend on cholesterol debate/saga visa-viz cardiovascular/cardio-metabolic atherosclerosis visa-viz general population without evidence of markers of atheroma. The important question the authors should answer presently in the light of the above ...Is lipid dysregulation an inflammatory process? 5. Currently there is black hole of information on cholesterol, and that cholesterol is no longer a nutrient of concern and has been removed from the naughty list by USA Dietary Guideline Advisory Committees. 6. Authors should also appreciate the epidemiological trend on	Abstract. Introduction: Additional literature references have been added (5 No.) Materials and Methods: The issue of types-1 and 2 errors have been overtaken by the new approach in the revised version. 1) The study population separated into 2 data sets. 23 respondents at risk of cardiometabolic syndrome and data set-2 (120 respondents at risk and non-risk). 2) The sample size formula resulting to 120 participants is adequate for the purpose of this study. 3) Data set-1 for 23 at risk have been isolated for cardiometabolic syndrome study, so the issue of type-2 error is overtaken. 4) The 10 research assistance job definition has been properly discussed in Sub-section 2.7.1 Results: 1) The error in the AIP risk table (see Table 5) has been updated and the percentage at risk for the two data-sets has been equally updated. 2) In Appendix A1, the AIP column has been updated with the correct formula: $AIP = \log (TG/HDLc)$ 3) The appropriate standard risk categorization for AIP has been adopted (see Table 5) Suggested references have been added. DISCUSSION SECTION: More appropriate discussion is reflected in the revised version based on data sets-1 & 2. CONCLUSION: Appropriate based on revised version. REFERENCES: More references have been added to increase the value of the subject matter.
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dyslipidaemia for example The release of National Cholesterol Education Program-Adult Treatment Panel[NCEP(ATP IV)] which was delayed since 2009 lend credence to the black hole of information on cholesterol studies. The National Cholesterol Education Program-Adult Treatment Panel[NCEP(ATP III)] was released in 2004. The delay culminated on the statement by USA Dietary Guideline Advisory Committees.

SPECIFIC COMMENTS

ABSTRACT SECTION

This section is inappropriate because of type 1 and type 2 errors in methodology and result sections

INTRODUCTION SECTION

This section is grossly deficient. There is poverty of literary information on AIP and its relationship with cardiometabolic syndrome from previous studies in Nigeria and other parts of the world.

MATERIALS AND METHODS SECTION

This section is grossly marred by type 1 and 2 errors

1. Study population: inappropriate. Authors should have studied only subjects with cardiometabolic syndrome.
2. Sample size formula is wrong for predictive/analytic studies
3. Sampling technique is not clear. Authors included subjects without metabolic syndrome.[Type 2 error]
4. Use of ten research assistants would increase the frequency of procedural/methodological errors[type 2 error]

RESULT SECTION

This section is inappropriate due to type 1 and 2 errors

1. THE CONTENT OF TABLE 7 IS WORRISOME. AIP RISK STRATIFICATION[SEE TABLE 7]

AIP Range

<0.011.....low risk



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0.011 – 0.021.....medium risk >0.021.....High risk The AIP range in the stratification is either arbitrary or the source of this classification is inappropriate or incorrect 2. SEE UNDER APPENDIX A, TABLE A1, ALL All the values in AIP Column Were 0.0.....something except column 73 with 2.19. The IMPLICATION IS THAT ALL THE VALUES IN AIP column IS LESS THAN 0.1 WHICH IS LOW RISK ACCORDING TO THE STANDARD BY Dobiášová M et al. The author's erroneously classify these low values under medium and high risk!!!!!!!!!!!!!![See table 7] 3. Appropriate and standard risk categorization for AIP is the categorization by Dobiášová M et al which stratified the AIP risk into low risk(<0.11); medium risk(0.11-0.24); high risk(>0.24) SEE REFERENCES 1. Dobiášová M, Frohlich J, Šedová M, Cheung MC, Brown BG. Cholesterol esterification and atherogenic index of plasma correlate with lipoprotein size and findings on coronary angiography. J Lipid Res 2011;52(3):566–571. doi:10.1194/jlr.P011668 2. Dobiášová M, Frohlich J. The plasma parameter log (TG/HDL) as an atherogenic index: correlation with lipoprotein particle size and esterification rate in apoB-lipoprotein-depleted plasma (FER HDL). Clinical Biochemistry 2001;34:583-588 3. Dobiasova M. AIP—atherogenic index of plasma as a significant predictor of cardiovascular risk: from research to practice. VnitrLek 2006; 52(1):64–71 MORE SO REFERENCES 7, 19 AND 28 listed by the authors in the reference section used the standard stratification by Dobiasova M et al.	
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DISCUSSION SECTION: Inappropriate because of type 1 and 2 errors

CONCLUSION: Inappropriate

REFERENCES: Inadequate. There is poverty of literature on AIP visa-viz cardiometabolic syndrome, etc. Most of the cited literary materials are not related to the study.