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REVIEWER'S REPORT

Manuscript No.: IJAR-58148

Title: Correlation between HbA1c and microalbuminuria in type II diabetes mellitus: impact of disease duration,

Recommendation:
Accept as it is .....
Accept after minor revision.....
Accept after major revision -YES
Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		–		
Techn. Quality			–	
Clarity		–		
Significance		–		

Reviewer's ID: JPR-094

Detailed Reviewer's Report

Reviewer's Report

*****Recommendation:** **Major Revision*****

Overall Assessment

The manuscript evaluates the relationship between HbA1c and microalbuminuria among patients with Type 2 diabetes mellitus (T2DM), stratified by disease duration. The topic is clinically relevant because early detection of diabetic nephropathy remains an important challenge. The study reports a significant association between poor glycaemic control and increased albuminuria, with a stronger correlation in patients having diabetes for more than five years.

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However, although the findings are clinically meaningful, the novelty is limited because similar associations have been reported previously. Several methodological and statistical limitations reduce the scientific strength of the manuscript. Major revision is recommended before consideration for publication.

 # Strengths

1. **Clinically relevant topic*

**** Diabetic nephropathy is an important complication of T2DM, making the study relevant to clinicians and researchers.***

2. **Clear objective*

**** The objectives are well defined and directly addressed by the study.***

3. **Appropriate biomarkers*

**** HbA1c measured by HPLC and urinary albumin-to-creatinine ratio (ACR) are accepted clinical markers.***

4. **Simple study design*

**** The cross-sectional observational design is appropriate for evaluating correlation.***

5. **Reasonable sample size*

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**** Inclusion of 121 patients provides adequate preliminary evidence for exploratory analysis.***

6. **Useful subgroup analysis**

**** Stratification according to disease duration (<5 years vs >5 years) adds some clinical value.***

7. **Well-organized presentation**

**** Tables are generally clear and easy to interpret.***

 # Weaknesses

1. Limited novelty

The association between HbA1c and microalbuminuria has already been extensively reported. Disease-duration stratification provides only incremental novelty.

2. Cross-sectional design

The study cannot establish causality between poor glycaemic control and renal injury.

3. No sample size calculation

There is no justification for recruiting 121 patients.

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4. Confounding variables not adjusted

Important variables were omitted, including:

** Hypertension*
** BMI*
** Duration and type of antidiabetic treatment*
** ACE inhibitor/ARB use*
** eGFR*
** Serum creatinine*
** Blood pressure*
** Smoking intensity*

5. Statistical analysis is insufficient

Only t-tests and Pearson correlation were performed.

The manuscript should include:

** Multiple linear regression*
** Logistic regression*
** Adjustment for confounding factors*
** Confidence intervals*
** Effect sizes*

6. Normality testing absent

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No evidence that data satisfied assumptions required for parametric tests.

7. Single urine sample

Diagnosis of microalbuminuria generally requires repeated ACR measurements rather than a single spot urine sample.

8. Single-centre study

Generalizability is limited.

9. Discussion overstates conclusions

Statements such as disease duration "amplifies" the relationship imply causality that cannot be inferred from a cross-sectional study.

10. Reference issues

Several references appear mismatched.

For example:

**** ADA diagnostic criteria and UKPDS references require careful verification.***
**** Some citations do not directly support the corresponding statements.***

 # Key Points

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Major Issues

** Novelty is modest.*
** No multivariable analysis.*
** Important confounding factors ignored.*
** No power/sample size calculation.*
** Overinterpretation of findings.*
** References require verification.*
** Ethical approval number is not reported.*
** STROBE reporting checklist has not been followed.*

Minor Issues

** Grammar and punctuation require editing.*
** Some tables need consistent decimal formatting.*
** Statistical reporting should include:*

  ** 95% confidence intervals*
  ** Exact p-values*
  ** Effect sizes*
** Abbreviations should be defined at first use.*

 # Significance

Scientific Significance

Moderate

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The study supports existing evidence that poor glycaemic control is associated with diabetic nephropathy.

Clinical Significance

*****Moderate to High*****

The findings reinforce current recommendations for:

**** Routine HbA1c monitoring***
**** Early ACR screening***
**** Prevention of diabetic kidney disease***

Originality

*****Fair*****

The main novelty is stratification by disease duration rather than discovery of a new association.

 # Specific Recommendations to Authors

1. Include a sample size calculation.
2. Perform multivariate regression analysis adjusting for confounding variables.
3. Report confidence intervals and effect sizes.
4. Verify all references and citation numbering.

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5. Include detailed ethical approval information.

6. Follow the STROBE reporting guideline for observational studies.

7. Revise the discussion to avoid causal language.

8. Expand limitations by discussing medication use, hypertension, BMI, and renal function.

9. Improve English language editing throughout the manuscript.

10. Compare findings more extensively with recent international studies (2023–2026).

 # Recommendation

*****Decision:** **Major Revision*****

*****Justification:*****

The manuscript addresses a clinically important topic and presents statistically significant findings. However, the scientific contribution is limited by modest novelty, inadequate statistical analysis, lack of adjustment for confounding variables, and overinterpretation of results. These issues should be addressed before the manuscript can be considered suitable for publication.

*****Overall Recommendation:** **Major Revision*****

The manuscript has several deficiencies that justify a **Major Revision** rather than acceptance or minor revision. Below is a line-by-line review identifying the issue, the reason, and the recommended action.

Line(s)	Issue	Reason for Major Revision	Recommendation
5–9	Background lacks recent evidence	Literature review is brief and does not sufficiently identify the research gap beyond stating disease duration is incompletely characterized.	Expand with recent studies (2023–2026) and clearly state novelty.

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Line(s)	Issue	Reason for Major Revision	Recommendation
10–12	Objectives	Objectives do not specify the primary outcome or hypothesis.	Clearly define primary and secondary outcomes.
13–17	Study methodology	Sample size justification and power calculation are absent.	Include sample size calculation and study power.
13–17	Statistical methods	Only Pearson correlation and t-test were performed. No adjustment for confounders.	Include multivariable regression analysis.
18–24	Results	Confidence intervals and effect sizes are not reported.	Report 95% confidence intervals and effect sizes.
25–28	Conclusion	Conclusion implies causality ("disease duration significantly amplifies"), which cannot be inferred from a cross-sectional study.	Modify to indicate association rather than causation.
33–56	Introduction	Novelty is limited because numerous studies have already examined HbA1c and microalbuminuria.	Better justify how this study differs from previous work.
59–61	Ethics	Institutional Ethics Committee approval number and approval date are missing.	Provide IEC approval number and date.
63–68	Patient selection	Recruitment method is not described (random, consecutive, convenience).	Clarify recruitment strategy.
63–68	Eligibility criteria	Important exclusion criteria such as uncontrolled hypertension and chronic kidney disease stage are not considered.	Revise inclusion/exclusion criteria.
70–77	Clinical variables	BMI, blood pressure, medications (ACE inhibitors, ARBs, SGLT2 inhibitors), and eGFR were not included.	Include these variables or discuss their omission.
72–74	Laboratory methods	Manufacturer, calibration, and quality control of the HPLC analyzer are not described.	Provide analytical methodology details.
73–74	ACR measurement	Single spot urine sample was used; guidelines recommend repeated testing to confirm persistent	Discuss this limitation or provide repeat measurements.

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Line(s)	Issue	Reason for Major Revision	Recommendation
		microalbuminuria.	
79–83	Statistical analysis	Normality testing and homogeneity of variance were not reported.	State whether assumptions for parametric tests were checked.
79–83	Statistical analysis	No multivariate analysis despite multiple confounding factors.	Perform regression analysis.
85–89	Baseline characteristics	Important metabolic variables (BMI, blood pressure, lipid profile comparison, renal function) are missing from baseline table.	Expand baseline characteristics.
94–100	Results	Mean comparisons are presented without confidence intervals.	Report confidence intervals.
104–115	Correlation analysis	Correlation alone cannot establish predictive value.	Include regression analysis to evaluate independent association.
117–124	HbA1c categories	Categories appear arbitrary without statistical justification.	Cite guideline or rationale for category selection.
128–160	Discussion	Discussion overinterprets findings by suggesting disease duration amplifies renal injury. Cross-sectional design does not permit this conclusion.	Use cautious language emphasizing association.
133–137	Discussion	Citation to UKPDS is not directly linked to disease-duration subgroup findings.	Improve interpretation and supporting references.
146–149	Discussion	Claim that ACR is more sensitive than spot microalbumin requires stronger evidence.	Support with additional references or moderate the statement.
150–160	Discussion	Comparison with previous studies is limited.	Compare findings with additional recent international studies.
161–164	Limitations	Limitations section is incomplete and omits lack of regression analysis, selection bias, medication effects, and residual confounding.	Expand limitations.
166–172	Conclusion	Recommendations for universal ACR screening are stronger than the evidence generated by this study.	Align conclusions with study design.

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Line(s)	Issue	Reason for Major Revision	Recommendation
173–181	Limitations	Although several limitations are listed, important methodological limitations remain unaddressed.	Include statistical and confounding limitations.
183–188	Future directions	Future directions are general and not directly linked to study findings.	Provide specific future research recommendations.
190–234	References	Some references appear mismatched, outdated, or require verification; citation order should also be checked carefully.	Verify every reference and ensure consistency between citations and bibliography.

Overall Justification for Major Revision

This manuscript should undergo **Major Revision** because of the following critical issues:

Methodological weaknesses

No sample size calculation.

Single-centre, cross-sectional design.

No description of patient recruitment.

Inadequate statistical analysis

Only univariate analyses (t-test and Pearson correlation)

No multivariable regression.

No confidence intervals or effect sizes.

No testing of statistical assumptions.

Important confounders not considered

Blood pressure.

BMI.

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Antidiabetic medications.

ACE inhibitor/ARB use.

eGFR and chronic kidney disease stage.

Overinterpretation of results

Conclusions imply causality despite an observational cross-sectional design.

Limited novelty

The HbA1c–microalbuminuria association is well established; disease-duration stratification adds only modest novelty.

Reporting deficiencies

Missing ethics approval number.

Insufficient laboratory methodology.

Incomplete baseline characteristics.

Reference verification needed.

Final Editorial Recommendation

Decision: Major Revision

Reason: The manuscript addresses a clinically relevant topic and presents potentially useful findings. However, substantial improvements in methodology reporting, statistical analysis, interpretation of results, and reference accuracy are required before it can be considered suitable for publication in a peer-reviewed journal.