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OPEN PEER REVIEW

Epidemiological Characteristics and Associated Factors of Chronic Kidney Disease Among Hemodialysis Patients in Dialysis Centers of Birjand and Tabas Counties in 2023

Seyede Fatemeh Hosseini, Mostafa Abdollahi, Sajjad Salehian, Hamidreza Khosravizade Tabasi

SUBMITTED	REVISED	ACCEPTED	DOI
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About this report

This open peer review (OPR) report shows the public comments made on this article during peer review, by the reviewers, the associate editor and the editor-in-chief, for every revision round, together with the authors' replies. Comments appear only with the consent of the people who wrote them. Reviewers who chose to sign their report are named; the others are shown as "Referee". Comments are edited for language only, and confidential remarks to the editors are not included.

More about open peer review: brieflands.com/knowledgebase/opr

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1 Original submission

2 comments · 26 Feb 2025 – 18 Mar 2025

Referee 1 Reviewer

ACCEPT 26 Feb 2025

Nice article, well designed and executed.

Associate Editor

MINOR REVISION 18 Mar 2025

Title and Abstract
Question: Indicate the study's design with a commonly used term in the title or the abstract.
Peer Review: The abstract clearly identifies the study as a "cross-sectional study" in the first sentence.

Abstract
Question: Provide in the abstract an informative and balanced summary of what was done and what was found.
Peer Review: The abstract provides a summary of the study's objectives, methods, key findings, and conclusions. It is informative and balanced.

Introduction
Question: Explain the scientific background and rationale for the investigation being reported.
Peer Review: The background section of the abstract explains the significance of chronic kidney disease as a public health challenge, providing a rationale for the study.

Objectives
Question: State specific objectives including any prespecified hypotheses.
Peer Review: The objectives are clearly stated: to investigate epidemiological characteristics, identify associated factors, and evaluate dialysis adequacy in CKD patients.

Methods - Study Design
Question: Present key elements of study design early in the paper.
Peer Review: The study design is mentioned as cross-sectional early in the abstract.

Methods - Setting
Question: Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection.
Peer Review: The study was conducted at two dialysis centers in Birjand and Tabas, Iran, in 2023. The abstract does not specify the exact dates of data collection.

Methods - Participants
Question: Give the eligibility criteria and the sources and methods of selection of participants.
Peer Review: The abstract mentions that 184 hemodialysis patients were enrolled, but it does not specify the eligibility criteria or the selection methods.

Methods - Variables
Question: Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria if applicable.
Peer Review: The abstract defines outcomes related to dialysis adequacy (Kt/V and URR) and associated factors like age, sex, literacy level, and employment status.

Methods - Data Sources/Measurement
Question: For each variable of interest, give sources of data and details of methods of assessment (measurement).
Peer Review: Data were collected from medical records using a validated questionnaire, and laboratory and clinical parameters were measured.

Methods - Bias
Question: Describe any efforts to address potential sources of bias.
Peer Review: The abstract does not mention any efforts to address potential sources of bias.

Methods - Study Size
Question: Explain how the study size was arrived at.
Peer Review: The abstract does not explain how the sample size of 184 was determined.

Methods - Quantitative Variables
Question: Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why.
Peer Review: The abstract does not provide details on how quantitative variables were handled in the analyses.

Methods - Statistical Methods
Question: Describe all statistical methods, including those used to control for confounding.
Peer Review: The abstract does not describe the statistical methods used.

Results - Participants
Question: Report numbers of individuals at each stage of study—e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analyzed.
Peer Review: The abstract reports the total number of participants (184) but does not provide details on eligibility or follow-up.

Results - Descriptive Data
Question: Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders.
Peer Review: The abstract provides some demographic information (age, sex, literacy level, employment status) but lacks detailed descriptive data.

Results - Outcome Data
Question: Report numbers of outcome events or summary measures. Give information separately for exposed and unexposed groups if applicable.
Peer Review: The abstract reports summary measures related to dialysis adequacy (Kt/V and URR) but does not separate data for exposed and unexposed groups.

Discussion - Key Results
Question: Summarize key results with reference to study objectives.
Peer Review: The key results are summarized, highlighting associations between CKD and sociodemographic factors and dialysis adequacy.

Discussion - Limitations
Question: Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias.
Peer Review: The abstract does not discuss the limitations of the study.

Discussion - Interpretation
Question: Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.

Peer Review: The conclusion provides an interpretation of the findings but does not mention limitations or compare with similar studies.

Discussion - Generalisability
Question: Discuss the generalizability (external validity) of the study results.
Peer Review: The abstract does not discuss the generalizability of the results.

Other Information - Funding
Question: Give the source of funding and the role of the funders for the present study and if applicable for the original study on which the present article is based.
Peer Review: The abstract does not mention the source of funding or the role of funders.

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Revision 1

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Response to Reviewers

Dear Editor,

We sincerely thank the editor and reviewers for their thorough review and constructive feedback on our manuscript. We greatly appreciate Reviewer 1's positive comments and the detailed suggestions from the Associate Editor, which have significantly contributed to enhancing the clarity and quality of our work. Below, we address each comment point-by-point, providing details of the revisions made. All changes in the manuscript have been highlighted for clarity

Major Comments:

1. Comment: Lack of detailed description of statistical methods and handling of quantitative variables. Response: Thank you for highlighting this concern. In the revised abstract, we clarified that descriptive statistics (mean ± SD), t-tests, chi-square tests, and correlation analyses were used to analyze quantitative variables, with consideration of confounders like age and sex. In the Methods section, we provided a detailed description, stating that quantitative variables (e.g., Kt/V, URR) were summarized as mean ± standard deviation, and associations were assessed using t-tests, chi-square tests, and correlation analyses. Potential confounders were accounted for by analyzing variables separately or stratifying where appropriate (Methods, lines 36–47).

2. Comment: Absence of discussion on study limitations and generalisability. Response: The abstract now notes the need for longitudinal studies to confirm findings. In the Discussion section, we added a paragraph detailing limitations (e.g., cross-sectional design, potential selection bias) and generalizability to similar urban settings (Discussion, lines 60–71).

3. Comment: No mention of efforts to address potential sources of bias. Response: We added a statement in the abstract about standardized data collection to minimize bias. The Methods section now describes training of data collectors, use of a validated questionnaire, and adjustment for confounders (Methods, lines 43–45).

Minor Comments:

1. Comment: The abstract does not specify the exact dates of data collection. Response: The revised abstract specifies data collection from February to December 2023.

2. Comment: Eligibility criteria and methods of participant selection are not detailed. Response: The abstract now states that 184 patients aged ≥18 years, on dialysis for ≥3 months, were enrolled using census sampling.

3. Comment: The abstract does not explain how the study size was determined. Response: The abstract clarifies that the sample size was determined using census sampling to include all eligible patients. The Methods section further explains that all eligible patients (n=184) were included to ensure sufficient power (Methods, lines 3–13).

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Reviewer 1 Comments:

Comment: Nice article, well designed and executed.Response: Thank you for your positive feedback.

We have addressed the Associate Editor's comments to further improve the manuscript.

Associate Editor Comments (STROBE Checklist):

- Comment: Provide in the abstract an informative and balanced summary of what was done and what was found.

  Response: The abstract was revised to include more details on methods (e.g., eligibility criteria, statistical methods) and results (e.g., participant characteristics), ensuring a balanced summary.

Methods – Setting:

- Comment: Describe the setting, locations, and relevant dates.

  Response: The revised abstract specifies data collection from February to December 2023. The Methods section already details the settings and timeframe.

Methods – Participants:

- Comment: Give the eligibility criteria and methods of selection.

  Response: We updated the abstract to specify that 184 hemodialysis patients aged ≥18 years, on dialysis for ≥3 months, were enrolled using

a census sampling method . In the Methods section, we added detailed inclusion criteria (patients aged ≥18 years with confirmed CKD, on hemodialysis for ≥3 months, with informed consent and complete medical records) and exclusion criteria (e.g., acute kidney injury, non-adherence to dialysis, severe comorbidities, pregnancy, or cognitive impairment) to clearly define the study population.

Methods – Bias:

- Comment: Describe efforts to address potential sources of bias.

  Response: The abstract now notes standardized data collection to minimize bias . The Methods section clarifies training of data collectors and use of a validated questionnaire.

Methods – Study Size:

- Comment: Explain how the study size was arrived at.

  Response: The abstract states that census sampling included all eligible patients. The Methods section notes that 184 patients ensured sufficient power.

Methods – Quantitative Variables:

- Comment: Explain how quantitative variables were handled in analyses.

  Response: The abstract specifies that quantitative variables were analyzed using mean ± SD, t-tests, chi-square tests, and correlation analyses. The Methods section details this further.

Methods – Statistical Methods:

- Comment: Describe all statistical methods, including control for confounding.

  Response: The abstract mentions t-tests, chi-square tests, and correlation analyses, with consideration of confounders. The Methods section describes these methods and confounder handling via stratification.

Results – Participants:

- Comment: Report numbers of individuals at each stage of study.

Response: The Results section now clarifies that 184 of ~200 eligible patients were enrolled, with no loss to follow-up. The abstract reports the total number.

Results – Descriptive Data:

- Comment: Give characteristics of study participants.

  Response: The abstract includes key demographics (70.7% male). The Results section summarizes participant characteristics.

Results – Outcome Data:

- Comment: Report numbers of outcome events or summary measures. Give information separately for exposed and unexposed groups if applicable.

  Response: Since this is a cross-sectional study without distinct exposed/unexposed groups, we analyzed outcomes (Kt/V and URR) for all participants. The abstract reports summary measures and subgroup differences (e.g., higher adequacy in females). In the Results section, we added that outcomes were analyzed for all participants and stratified by subgroups (e.g., age, sex, underlying causes) to explore differences, as detailed in Tables 3–5

Discussion – Limitations:

- Comment: Discuss limitations, considering bias or imprecision.

  Response: The abstract mentions the need for longitudinal studies. The Discussion section details limitations (e.g., cross-sectional design, selection bias) and potential bias magnitude.

Discussion – Interpretation:

- Comment: Give a cautious overall interpretation considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence.

  Response: We revised the Discussion section to reflect a cautious interpretation, noting that our high dialysis adequacy, with most patients achieving Kt/V ≥1.2, contrasts with regional studies like Malekmakan et al. 2009, where only 32.1% of patients reached Kt/V ≥1.2, possibly due to differences in dialysis frequency, patient management, or healthcare infrastructure. This comparison aligns our findings with regional evidence.

Discussion – Generalisability:

- Comment: Discuss generalisability of results.

  Response: The Discussion section notes generalizability to similar urban settings in Iran.

Other Information – Funding:

- Comment: Give the source of funding and the role of the funders for the present study and if applicable for the original study on which the present article is based.

  Response: We added a statement to the manuscript clarifying that this study received no specific funding, ensuring transparency regarding the absence of external financial support.

We hope these revisions fully address all comments. Thank you for the opportunity to improve our manuscript.

2 Revision 1

3 comments · 18 May 2025 – 25 May 2025

Referee 2 Reviewer

MINOR REVISION 18 May 2025

Dear AE,
Thank you very much for giving me this opportunity to review this manuscript.
This cross-sectional study provides a comprehensive analysis of epidemiological characteristics, associated factors, and dialysis adequacy in CKD patients undergoing hemodialysis in Iran. The study's strengths include a robust census sampling method, detailed assessment of dialysis adequacy (Kt/V and URR), and thorough statistical analysis. However, several methodological and reporting issues require clarification to enhance reproducibility and interpretability.

@ In-Depth Review
# Abstract & Introduction
1. Abstract: The abstract succinctly summarizes key findings but could better highlight the clinical implications of sociodemographic associations (e.g., literacy, employment) with dialysis adequacy.
2. Introduction: The rationale for focusing on Birjand/Tabas is unclear. Justify the regional focus by contrasting local CKD epidemiology with national trends (e.g., higher diabetes prevalence in Iran vs. global averages).

Methods
* Study Design:
3. Clarify why census sampling was chosen over random sampling. Was this due to the small population size?
4. Specify how "complete medical records" were defined (e.g., minimum data points required for inclusion).

* Data Collection:
5. The questionnaire by Alipour et al. (2019) is cited, but its validation metrics (e.g., Cronbach's α) are omitted. Provide these or reference a validation study.
6. Blood pressure measurements: Were these taken pre-/post-dialysis consistently across all sessions? Describe the protocol to minimize variability.

* Statistical Analysis:
7. Confounder adjustment: Stratification by age/sex is noted, but were multivariate models (e.g., logistic regression) considered? This would strengthen causal inference.

Results
* Data Reporting:
8. Table 1: Percentages for "Diabetes and Hypertension" vs. "Other Causes" do not sum to 100%. Clarify if these are mutually exclusive categories.
9. Table 4: Report exact *p*-values (e.g., *p*=0.001 vs. *p*≤0.05) to align with journal guidelines.

* Dialysis Adequacy:
10. The high adequacy rates (Kt/V ≥1.2 in 83.2%) contrast with regional studies (e.g., Malekmakan et al., 2009). Discuss potential reasons (e.g., stricter patient management, shorter dialysis vintage).

Discussion
* Key Findings:
11. The association between blood group B and CKD risk is intriguing but underdeveloped. Cite mechanistic hypotheses (e.g., blood group antigens and renal endothelial dysfunction).

* Limitations:
12. The cross-sectional design is acknowledged, but residual confounding (e.g., unmeasured dietary habits)

needs deeper discussion.
13. Generalizability to rural settings is limited; explicitly state this.

14. The STROBE checklist items are adequately addressed, but the revised manuscript should highlight changes (e.g., "Methods – Bias" now includes training protocols).

* Statistical Enhancements:

15. Report exact *p*-values in tables (e.g., *p*=0.006 for sex and URR).
16. Consider multivariate regression to adjust for confounders simultaneously.

* Results Interpretation:
17. Discuss why Kt/V was higher in women (e.g., lower muscle mass affecting urea distribution volume?).
18. Contrast high adequacy rates with regional studies, addressing potential biases (e.g., healthier cohort).

19. Correct formatting errors (e.g., "Bachlore" → "Bachelor" in Table 5).
20. Standardize decimals (e.g., "0/0001" → "0.001").

* Limitations:
21. Expand on unmeasured confounders (e.g., medication adherence, dialysis vintage).

Overall, the study is well conducted but requires clarifications in methodology, statistical reporting, and discussion of limitations. Address the above points to strengthen reproducibility and impact.

Final Decision: Minor Revision

Kind Regards | Publisher Supervisor

Associate Editor

MINOR REVISION 24 May 2025

Dear Authors,

Thank you for submitting your manuscript, "Epidemiological Characteristics and Associated Factors of Chronic Kidney Disease among Hemodialysis Patients in Dialysis Centers of Tabas and Birjand Counties in 2023," to Comprehensive Health and Biomedical Studies. We have completed the review process, and I am pleased to inform you that your work has been assessed as suitable for publication pending minor revisions.

The reviewers have provided constructive feedback to enhance the clarity, presentation, and accuracy of your manuscript.

Please address all reviewer comments point-by-point in a response letter, highlight changes in the revised manuscript, and submit the revised manuscript and response.

We appreciate your commitment to improving this work and look forward to receiving your revision.

Kind Regards | Publisher Supervisor

Editor-in-Chief

MINOR REVISION 25 May 2025

Public Comment:
Dear AE,
Thank you very much for giving me this opportunity to review this manuscript.
This cross-sectional study provides a comprehensive analysis of epidemiological characteristics, associated factors, and dialysis adequacy in CKD patients undergoing hemodialysis in Iran. The study's strengths include

a robust census sampling method, detailed assessment of dialysis adequacy (Kt/V and URR), and thorough statistical analysis. However, several methodological and reporting issues require clarification to enhance reproducibility and interpretability.

@ In-Depth Review

Abstract & Introduction

1. Abstract: The abstract succinctly summarizes key findings but could better highlight the clinical implications of sociodemographic associations (e.g., literacy, employment) with dialysis adequacy.

2. Introduction: The rationale for focusing on Birjand/Tabas is unclear. Justify the regional focus by contrasting local CKD epidemiology with national trends (e.g., higher diabetes prevalence in Iran vs. global averages).

Methods

* Study Design:

3. Clarify why census sampling was chosen over random sampling. Was this due to the small population size?

4. Specify how "complete medical records" were defined (e.g., minimum data points required for inclusion).

* Data Collection:

5. The questionnaire by Alipour et al. (2019) is cited, but its validation metrics (e.g., Cronbach's α) are omitted. Provide these or reference a validation study.

6. Blood pressure measurements: Were these taken pre-/post-dialysis consistently across all sessions? Describe the protocol to minimize variability.

* Statistical Analysis:

7. Confounder adjustment: Stratification by age/sex is noted, but were multivariate models (e.g., logistic regression) considered? This would strengthen causal inference.

Results

* Data Reporting:

8. Table 1: Percentages for "Diabetes and Hypertension" vs. "Other Causes" do not sum to 100%. Clarify if these are mutually exclusive categories.

9. Table 4: Report exact *p*-values (e.g., *p*=0.001 vs. *p*≤0.05) to align with journal guidelines.

* Dialysis Adequacy:

10. The high adequacy rates (Kt/V ≥1.2 in 83.2%) contrast with regional studies (e.g., Malekmakan et al., 2009). Discuss potential reasons (e.g., stricter patient management, shorter dialysis vintage).

Discussion

* Key Findings:

11. The association between blood group B and CKD risk is intriguing but underdeveloped. Cite mechanistic hypotheses (e.g., blood group antigens and renal endothelial dysfunction).

* Limitations:

12. The cross-sectional design is acknowledged, but residual confounding (e.g., unmeasured dietary habits) needs deeper discussion.

13. Generalizability to rural settings is limited; explicitly state this.

14. The STROBE checklist items are adequately addressed, but the revised manuscript should highlight changes (e.g., "Methods – Bias" now includes training protocols).

* Statistical Enhancements:

15. Report exact *p*-values in tables (e.g., *p*=0.006 for sex and URR).

16. Consider multivariate regression to adjust for confounders simultaneously.

* Results Interpretation:

17. Discuss why Kt/V was higher in women (e.g., lower muscle mass affecting urea distribution volume?).

18. Contrast high adequacy rates with regional studies, addressing potential biases (e.g., healthier cohort).

19. Correct formatting errors (e.g., "Bachlore" → "Bachelor" in Table 5).

20. Standardize decimals (e.g., "0/0001" → "0.001").

* Limitations:

21. Expand on unmeasured confounders (e.g., medication adherence, dialysis vintage).

Overall, the study is well conducted but requires clarifications in methodology, statistical reporting, and discussion of limitations. Address the above points to strengthen reproducibility and impact.

Final Decision: Minor Revision

3

Revision 2

AUTHORS' RESPONSE TO REVIEWERS

Authors' reply to reviewers

The next pages contain the authors' point-by-point reply to the comments of this revision round, as submitted with the revised manuscript. It is published as the authors wrote it.

Response to Reviewers

To: The Esteemed Editor and Reviewers of Comprehensive Health and Biomedical Studies

Subject: Response to Reviewer Comments and Revisions for the Manuscript titled: "Epidemiological Characteristics and Associated Factors of Chronic Kidney Disease among Hemodialysis Patients in Dialysis Centers of Tabas and Birjand Counties in 2023"

Dear Editor and Reviewers,

We sincerely thank you for providing us with the opportunity to revise and resubmit our manuscript. We are very grateful for your insightful and constructive feedback, which has significantly enhanced the clarity, accuracy, and overall quality of our paper.

We have carefully addressed each comment and implemented the necessary changes in the revised manuscript. All modifications are highlighted in yellow to facilitate your review. Below, we provide a point-by-point response to each comment.

Reviewer 1's Comments:

1. Abstract:

- **Reviewer Comment:** "The abstract succinctly summarizes key findings but could better highlight the clinical implications of sociodemographic associations (e.g., literacy, employment) with dialysis adequacy."
- **Authors' Response:** We appreciate this valuable suggestion. We have revised the conclusion section of the abstract to better emphasize the clinical implications of the identified sociodemographic associations with dialysis adequacy. The revised text now highlights the importance of integrating these factors into patient management strategies for optimized outcomes.

2. Introduction:

- **Reviewer Comment:** "The rationale for focusing on Birjand/Tabas is unclear. Justify the regional focus by contrasting local CKD epidemiology with national trends (e.g., higher diabetes prevalence in Iran vs. global averages)."
- **Authors' Response:** We have clarified the rationale for our regional focus in the last paragraph of the Introduction. We emphasize the scarcity of specific regional epidemiological data in areas like Birjand and Tabas, and the role of these centers as key referral points, underscoring the importance of this study for targeted healthcare planning.

3. Methods - Study Design: Sampling:

- **Reviewer Comment:** "Clarify why census sampling was chosen over random sampling. Was this due to small population size?"
- **Authors' Response:** Yes, census sampling was chosen due to the relatively small and manageable total population of eligible hemodialysis patients at these specific referral centers during the study period (n=184). This approach allowed for comprehensive data collection from all accessible patients, minimizing sampling bias and providing a complete picture of the study population in these specific locations.

4. Methods - Study Design: Complete Medical Records:

- **Reviewer Comment:** "Specify how 'complete medical records' were defined (e.g., minimum data points required for inclusion)."
- **Authors' Response:** We have added a clear definition of "complete medical records" within the inclusion criteria in the Methods section. This definition specifies the essential demographic, clinical, and laboratory data points required for a record to be considered complete.

5. Methods - Data Collection: Questionnaire:

- **Reviewer Comment:** "The questionnaire by Alipour et al. (2019) is cited, but its validation metrics (e.g., Cronbach's α) are omitted. Provide these or reference a validation study."
- **Authors' Response:** We appreciate the reviewer's comment regarding the questionnaire's validation. A pilot reliability analysis was conducted as part of our study's preliminary assessments, yielding a Cronbach's Alpha of 0.74 (n=20). This indicates acceptable internal consistency for the scale in this pilot phase. We've added this information to the Methods section.

6. Methods - Data Collection: Blood Pressure Measurements:

- **Reviewer Comment:** "Blood pressure measurements: Were these taken pre-/post-dialysis consistently across all sessions? Describe protocol to minimize variability."
- **Authors' Response:** We have expanded the Data Collection section to describe the standardized protocol used for blood pressure measurements. This includes details on consistency across sessions, timing (pre- and post-dialysis), and efforts to minimize variability.

7. Methods - Statistical Analysis: Confounder Adjustment:

- **Reviewer Comment:** "Confounder adjustment: Stratification by age/sex is noted, but were multivariate models (e.g., logistic regression) considered? This would strengthen causal inference."
- **Authors' Response:** We appreciate the reviewer's valuable suggestion regarding the use of multivariate regression models to strengthen causal inference. We agree that such analyses are crucial for identifying independent predictors and controlling for confounders simultaneously.

However, our study was designed as an initial descriptive cross-sectional investigation, and its primary objectives were to:

* Describe the epidemiological characteristics of CKD patients in this specific, understudied region.

* Document dialysis adequacy rates using established clinical indicators.

* Identify basic associations between demographic factors and outcomes.

As a descriptive and exploratory cross-sectional study, bivariate analyses (t-tests, chi-square tests, and correlation analyses) were methodologically appropriate and sufficient to address our defined research questions. Cross-sectional designs inherently focus on prevalence and associations rather than establishing causality or building predictive models.

While multivariate regression modeling would be more suitable for analytical studies aiming to establish causal relationships or for hypothesis-driven research, this descriptive study serves as essential foundational research. It provides valuable baseline data for future, more complex investigations that can then employ sophisticated statistical modeling with larger, prospectively collected datasets. We have also added a clarification to the "Statistical Analysis" section of our Methods to explain our rationale and acknowledge the need for multivariate approaches in future studies.

8. Results - Data Reporting: Table 1:

- **Reviewer Comment:** "Table 1: Percentages for 'Diabetes and Hypertension' vs 'Other Causes' do not sum to 100%. Clarify if these are mutually exclusive categories."
- **Authors' Response:** We appreciate you pointing this out. We have clarified in a footnote to Table 1 that the categories for underlying causes of CKD are mutually exclusive, and have re-verified and corrected the counts and percentages to ensure they sum appropriately to the total patient population (Table 1, footnote).

9. Results - Data Reporting: Exact *p*-values (also Point 15):

- **Reviewer Comment:** "Table 4: Report exact *p*-values (e.g., $p=0.001$ vs. $p \leq 0.05$) to align with journal guidelines. This is repeated in point 15."
- **Authors' Response:** All *p*-values throughout the manuscript, including those in Tables 1, 2, 4, and 5, and in the text, have been revised to report exact values (up to three decimal places or $p < 0.001$ for very small values) to align with journal guidelines.

10. Results - Dialysis Adequacy: High Adequacy Rates (also Point 18):

- **Reviewer Comment:** "The high adequacy rates (Kt/V ≥1.2 in 83.2%) contrast with regional studies (e.g., Malekmakan et al., 2009). Discuss potential reasons (e.g., stricter patient management, shorter dialysis vintage)."

- **Authors' Response:** We have expanded the Discussion section to address the contrast between our high dialysis adequacy rates and those reported in other regional studies (e.g., Malekmakan et al., 2009). We discuss potential reasons, including stricter patient management protocols, recent advancements in dialysis technologies and protocols, and the possibility of a relatively healthier cohort in our study due to specific inclusion/exclusion criteria. While precise "dialysis vintage" data were not consistently available for detailed analysis in this cross-sectional study, its potential influence is acknowledged.

11. Discussion - Key Findings: Blood Group B:

- **Reviewer Comment:** "The association between blood group B and CKD risk is intriguing but underdeveloped. Cite mechanistic hypotheses (e.g., blood group antigens and renal endothelial dysfunction)."
- **Authors' Response:** We appreciate the reviewer's insightful comment regarding the need to further develop the discussion on the observed association between blood group B and CKD risk. We agree that exploring mechanistic hypotheses is crucial for this finding. In response, we have revised the "Discussion" section of our manuscript to thoroughly address this point. We now discuss potential biological mechanisms that could underpin this association, proposing hypotheses related to differences in inflammatory marker expression, altered endothelial function impacting renal microcirculation, and variations in coagulation cascade activity. We have also explicitly stated that this finding should be considered preliminary due to our study's small sample size and the possibility of population stratification. We emphasize the critical need for validation in larger, multi-ethnic cohorts with appropriate genetic controls before any clinical implications can be drawn. This detailed discussion is now integrated into the manuscript..

12. Discussion - Limitations: Cross-sectional Design & Residual Confounding (also Point 21):

- **Reviewer Comment:** "The cross-sectional design is acknowledged, but residual confounding (e.g., unmeasured dietary habits) needs deeper discussion." and "Expand on unmeasured confounders (e.g., medication adherence, dialysis vintage)."
- **Authors' Response:** We have deepened the discussion on the limitations imposed by the cross-sectional design, specifically focusing on the potential for residual confounding. We have expanded on unmeasured confounders, including precise dietary habits, medication adherence, and the granular specifics of "dialysis vintage," and discussed how these factors might have influenced our observed associations.

13. Discussion - Limitations: Generalizability:

- **Reviewer Comment:** "Generalizability to rural settings is limited; explicitly state this."
- **Authors' Response:** This limitation has been explicitly stated in the Limitations section. We clarify that while our findings are likely generalizable to hemodialysis patients in similar urban settings in Iran, they may not extend to rural or less-resourced regions.

14. STROBE Checklist:

- **Reviewer Comment:** "The STROBE checklist items are adequately addressed, but the revised manuscript should highlight changes (e.g., "Methods – Bias" now includes training protocols)."
- **Authors' Response:** We confirm that all relevant STROBE checklist items have been addressed. As indicated in the Methods section, measures taken to minimize potential biases, such as training data collectors for consistency, have been clearly stated. These aspects were already present in the manuscript, and we have ensured their clarity.

16. Statistical Enhancements: Multivariate Regression:

- **Reviewer Comment:** "Consider multivariate regression to adjust for confounders simultaneously."
- **Authors' Response:** We appreciate the reviewer's suggestion to consider multivariate regression. As comprehensively detailed in our response to point 7, our study was designed as an initial descriptive cross-sectional investigation, and its primary objectives focused on describing epidemiological patterns rather than establishing causal pathways through complex multivariate models. Therefore, for the current descriptive study, bivariate analyses were deemed methodologically appropriate. We fully agree that multivariate regression models are crucial for strengthening causal inference and identifying independent predictors, and we have highlighted the importance of incorporating such sophisticated statistical modeling in future analytical studies with larger and prospectically collected datasets.

17. Results Interpretation: Higher Kt/V in Women:

- **Reviewer Comment:** "Discuss why Kt/V was higher in women (e.g., lower muscle mass affecting urea distribution volume?)."
- **Authors' Response:** We have expanded the Discussion section to elaborate on the reasons for higher Kt/V values observed in women. We specifically highlight the impact of generally smaller body size and lower muscle mass in women, which influences urea distribution volume (V) and, consequently, the Kt/V calculation. Other contributing factors like differences in physical activity and dietary adherence are also mentioned.

19. Formatting Errors: Correct Spelling:

- **Reviewer Comment:** "Correct formatting errors (e.g., "Bachlore" → "Bachelor" in Table 5)."
- **Authors' Response:** We have thoroughly proofread the entire manuscript, including all tables, and corrected all identified spelling and grammatical errors (e.g., "Bachlore" to "Bachelor" and "Non-empolyed" to "Non-employed" in Table 5) (Page 6, Table 5).

20. Formatting Errors: Standardize Decimals:

- **Reviewer Comment:** "Standardize decimals (e.g., "0/0001" → "0.001")."

- **Authors' Response:** All numerical values, particularly *p*-values and percentages, have been standardized to use decimal points and consistent precision throughout the text and tables (please see all tables and relevant text).

Once again, we express our sincere gratitude to the reviewers and the Associate Editor for their invaluable feedback. We believe the revised manuscript has been significantly strengthened and hope it now meets the high standards for publication in Comprehensive Health and Biomedical Studies.

Sincerely,
The authors

3 Revision 2

3 comments · 25 Aug 2025 – 28 Sep 2025

Referee 2 Reviewer

ACCEPT 25 Aug 2025

Dear AE,
Thank you very much for giving me the opportunity to review this revised manuscript once more.
I have carefully reviewed the revised manuscript titled “Epidemiological Characteristics and Associated Factors of Chronic Kidney Disease among Hemodialysis Patients in Dialysis Centers of Tabas and Birjand Counties in 2023” (ID: 160452) and am pleased to recommend its acceptance for publication in Comprehensive Health and Biomedical Studies. My evaluation confirms that the authors have addressed the key requirements for publication, including novelty, methodological rigor, and clarity of presentation.

The study addresses an important gap in Risk Factors, Chronic Kidney Disease, Epidemiology, and Renal Dialysis and offers valuable insights for these fields. Also, the experimental/analytical approach is well-designed, with appropriate controls/validation. The results are robust and support the conclusions. Furthermore, the manuscript is clearly written, with logical flow and sufficient detail for reproducibility. Figures/tables effectively support the findings. Overall, the manuscript meets the journal’s standards and would be of interest to its readership.

Thank you for considering my assessment. Please feel free to contact me if further clarification is needed.

Final Decision: Accept

Kind Regards | Publishing Assistant

Associate Editor

ACCEPT 23 Sep 2025

The manuscript is acceptable in its current version.

Editor-in-Chief

ACCEPT 28 Sep 2025

I am happy to announce that your manuscript, "Epidemiological Characteristics and Associated Factors of Chronic Kidney Disease among Hemodialysis Patients in Dialysis Centers of Tabas and Birjand Counties in 2023", has been accepted for publication in CHBS.
We are excited to publish your work.

Best regards,
F. Ghanbari