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International Journal of Advanced Research

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REVIEWER'S REPORT

Manuscript No.: IJAR-58199

Title: Acute Kidney Injury in Intensive Care: Clinical Profile, Prognosis, and Factors Associated with Renal Replacement Therapy,

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

Overall Recommendation: **Major Revision**

The manuscript addresses an important clinical topic concerning acute kidney injury (AKI) in critically ill patients and identifies predictors of renal replacement therapy (RRT). The prospective study design and relatively large cohort are strengths. However, the manuscript has several methodological, reporting, statistical, and presentation deficiencies that should be addressed before it can be considered for publication.

 # Summary

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This prospective single-center study evaluated 320 patients with AKI admitted to a surgical ICU in Casablanca, Morocco. The study aimed to characterize the clinical profile of AKI patients and identify factors associated with the need for RRT. Chronic kidney disease, AKI at admission, and multiorgan failure were identified as independent predictors. Mortality was high (61.8%), and incomplete renal recovery occurred in 36% of survivors.

The topic is clinically relevant, but the manuscript requires substantial improvement in scientific reporting.

 # Strengths

1. Clinically important topic

AKI remains a major cause of ICU morbidity and mortality worldwide. Identifying predictors of RRT has direct clinical relevance.

2. Prospective study design

Prospective data collection minimizes recall bias and improves data quality compared with retrospective studies.

3. Adequate sample size

The inclusion of 320 AKI patients provides sufficient statistical power for exploratory analyses.

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4. Use of validated severity scores

SOFA and APACHE II scores strengthen clinical assessment.

5. Multivariate logistic regression

Adjustment for multiple variables is appropriate for identifying independent predictors.

6. Practical outcomes

Mortality, renal recovery, and nephrology follow-up are clinically meaningful endpoints.

 # Weaknesses

Major Issues

1. AKI definition is missing

The manuscript never specifies

*** KDIGO criteria**
*** AKIN criteria**
*** RIFLE classification**

Without standardized diagnostic criteria, reproducibility is poor.

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****Major concern****

2. No sample size calculation

The manuscript provides no justification for enrolling 320 patients.

Authors should explain

*** expected incidence**
*** statistical power**
*** sample size estimation**

3. Inclusion/exclusion criteria insufficient

Only ICU stay <24 hours and incomplete records were excluded.

Important exclusions are missing, such as

*** chronic dialysis**
*** kidney transplant**
*** obstructive nephropathy**
*** terminal malignancy**

4. Limited statistical reporting

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Regression results report only

*** OR**

*** CI**

*** P value**

Missing information includes

*** variables entered into multivariate model**

*** method of variable selection**

*** multicollinearity assessment**

*** model calibration**

*** goodness-of-fit**

*** ROC analysis**

5. RRT indication not described

The manuscript fails to explain why dialysis was initiated.

International indications include

*** refractory hyperkalemia**

*** pulmonary edema**

*** metabolic acidosis**

*** uremic complications**

These should be reported.

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6. Renal recovery definition absent

The manuscript reports

> 36% failed renal recovery

but never defines recovery.

Authors should specify

*** serum creatinine threshold**
*** eGFR criteria**
*** dialysis independence**
*** follow-up duration**

7. Ethics approval missing

The manuscript does not mention

*** Institutional Ethics Committee approval**
*** informed consent**
*** ethical approval number**

This is mandatory.

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8. Follow-up poorly described

Only

> 16.8% nephrology follow-up

is reported.

Missing

*** duration**
*** follow-up schedule**
*** outcome assessment methods**

9. Discussion lacks novelty

The Discussion merely compares incidence and mortality with previous studies.

Missing

*** biological explanation**
*** clinical implications**
*** comparison with recent studies**
*** explanation of discrepancies**

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10. Limitations section absent

Major limitations should include

*** single-center design**
*** selection bias**
*** residual confounding**
*** lack of biomarker analysis**
*** limited follow-up**
*** absence of external validation**

 # Minor Issues

Language

Numerous grammatical errors.

Examples

*** "cases of AKI occurring"**
*** "overall mortality"**
*** "did not recover renal function"**

Professional English editing is recommended.

Tables

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Tables require improvement.

Include

*** percentages**
*** confidence intervals**
*** sample sizes**
*** footnotes**
*** abbreviations**

References

Reference list is limited.

Only five references are cited.

Important KDIGO guidelines and recent AKI studies (2021–2025) should be included.

Abbreviations

Define all abbreviations at first use.

Examples

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*** ICU**

*** CKD**

*** eGFR**

*** IHD**

Abstract

The abstract should include

*** AKI diagnostic criteria**

*** statistical methods**

*** ethics approval**

*** principal limitation**

 # Key Points

Positive

*** Important ICU topic**

*** Prospective study**

*** Good sample size**

*** Clinically useful outcomes**

*** Multivariate analysis**

Negative

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*** No AKI definition**

*** No ethics statement**

*** Poor methodology description**

*** Limited statistical reporting**

*** Weak discussion**

*** No limitations section**

*** Inadequate follow-up description**

*** Missing RRT indications**

*** Limited references**

 # Scientific Significance

Originality: **Good**

The study contributes regional data from Morocco regarding AKI in surgical ICU patients. Although similar studies exist internationally, data from North Africa remain relatively limited.

Clinical significance: **Good**

Identification of CKD, AKI at admission, and multiorgan failure as predictors of RRT may assist clinicians in early risk stratification.

Novelty: **Moderate**

The findings generally confirm existing literature rather than providing novel mechanistic insights.

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 # Recommendation to the Editor

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

The manuscript addresses a clinically important topic with a prospective design and useful clinical outcomes. However, substantial revisions are necessary to improve methodological transparency, statistical reporting, ethical compliance, and discussion before the manuscript can be considered for publication.

Reviewer's Justification for Major Revision (Line-by-Line)

Decision: Major Revision

The manuscript addresses an important clinical problem and presents prospective data; however, there are substantial deficiencies in methodology, reporting, statistical analysis, ethical documentation, and discussion that limit reproducibility and scientific rigor. These issues are potentially correctable through major revision rather than rejection.

Line(s)	Issue Identified	Reason for Major Revision
5–6	Broad statement on AKI incidence (30–60%) without citation in the text.	Epidemiological claims should be supported with recent references (preferably KDIGO guidelines or recent systematic reviews).
8–10	Study objective lacks novelty statement.	The authors should explain the knowledge gap and why this study adds to existing literature.
11–14	AKI diagnostic criteria not described.	The manuscript does not specify whether AKI was diagnosed using KDIGO, AKIN, or RIFLE criteria. Without a standardized definition, reproducibility and validity are compromised.
11–14	Methods insufficiently described.	No information on patient recruitment strategy, consecutive enrollment, or screening process.
13–14	Exclusion criteria incomplete.	Important exclusions such as chronic dialysis, kidney transplant recipients, obstructive

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Line(s)	Issue Identified	Reason for Major Revision
		nephropathy, or terminal illness are not addressed.
15–22	Results presented without adequate methodological support.	Key outcomes are reported before explaining how AKI severity, RRT indications, and renal recovery were defined.
19–21	Logistic regression incompletely reported.	Only ORs and p-values are presented; regression model construction, covariate selection, goodness-of-fit, and multicollinearity assessment are absent.
21–22	Renal recovery not defined.	The manuscript reports that 36% failed to recover renal function but provides no objective definition or follow-up period.
23–24	Conclusions stronger than the presented evidence.	The recommendations regarding prevention and long-term follow-up are reasonable but should be linked directly to study findings and acknowledged limitations.
31–38	Introduction lacks recent literature review.	Most references are over 10 years old; recent studies and current guidelines should be incorporated to establish relevance.
39–41	Research hypothesis not clearly stated.	A specific hypothesis would improve clarity regarding the study objectives.
45–47	Single-center study limitation not acknowledged.	Generalizability is limited and should be discussed.
48–51	Patient selection process inadequately described.	No flow diagram or explanation of how 358 AKI cases were reduced to 320 eligible participants.
52–56	Data collection incomplete.	Important variables such as AKI stage, nephrotoxic drug exposure, vasopressor use, mechanical ventilation, sepsis severity, and laboratory parameters are not reported.
57–62	Statistical methods insufficient.	No sample size calculation, handling of missing data, assessment of model assumptions, or correction for confounding is described.
65–71	Baseline characteristics limited.	Patient characteristics should include surgical type, infection status, baseline renal function, medication exposure, and ICU interventions.
72	Table 1 lacks statistical comparisons.	Baseline characteristics should compare RRT versus non-RRT groups to identify clinically

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Line(s)	Issue Identified	Reason for Major Revision
		relevant differences.
73–77	Severity assessment incomplete.	Severity scores are reported without describing calculation methods or timing of assessment.
79–82	RRT indications missing.	The manuscript does not specify why dialysis was initiated (e.g., hyperkalemia, metabolic acidosis, pulmonary edema, uremia), limiting clinical applicability.
82	Regression model inadequately presented.	Variables included in multivariate analysis and criteria for inclusion are not reported.
84–86	Outcome assessment lacks detail.	Mortality timing (ICU, hospital, or 30-day) and duration of renal follow-up are not specified.
86	Low nephrology follow-up reported without explanation.	Authors should discuss reasons for poor follow-up and its potential effect on renal recovery outcomes.
89–98	Discussion largely descriptive.	The discussion summarizes results but provides limited mechanistic interpretation or comparison with recent international literature.
94–98	Findings not critically compared with previous studies.	Differences and similarities with published studies should be analyzed rather than merely stated.
99–102	Clinical implications insufficiently developed.	The impact of poor renal recovery and lack of nephrology follow-up should be discussed in greater depth.
103–109	Limitations section absent.	A dedicated limitations section is essential to discuss potential bias, residual confounding, and restricted external validity.
103–109	Conclusions slightly overgeneralized.	Findings from a single-center observational study should not be generalized without acknowledging study limitations.
111–119	Reference list outdated and limited.	Only five references are included; several are over a decade old. Recent KDIGO recommendations and contemporary AKI literature should be cited.
Entire manuscript	Ethics statement missing.	Institutional Review Board approval, informed consent, and ethics approval number are not reported. This is a major reporting deficiency.
Entire manuscript	Reporting guideline not mentioned.	Observational studies should indicate adherence to the **STROBE** reporting guideline.

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Line(s)	Issue Identified	Reason for Major Revision
Entire manuscript	Language and formatting require improvement.	Several grammatical issues, repetitive wording, and inconsistent presentation reduce readability and should be corrected through professional language editing.

Overall Justification for Major Revision

The manuscript has **clinical relevance**, a **prospective design**, and a **reasonable sample size**, making it suitable for further consideration. However, publication in its current form is not recommended because of several substantive deficiencies:

AKI diagnostic criteria are not specified (KDIGO/AKIN/RIFLE).

Ethics approval and informed consent statements are missing.

Statistical methodology is incompletely reported.

RRT initiation criteria are not described.

Renal recovery is not operationally defined.

Important baseline clinical variables are omitted.

Discussion lacks critical interpretation and comparison with recent literature.

No limitations section is included.

References are outdated and insufficient.

The manuscript should comply with STROBE reporting recommendations.

These deficiencies affect the **scientific transparency, reproducibility, and interpretability** of the findings. Since they are **correctable without fundamentally invalidating the study**, **Major Revision** is the appropriate editorial recommendation rather than rejection.