

REVIEWER'S REPORT

Manuscript No.: JNHM-162

Title: Molecular Diagnosis and Health Risk Assessment (HRI) of Microbial Contaminants in Well Water in Rural Babil Governorate (2025 to 2026).

Recommendation:

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

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

Reviewer Name: Dr S. K. Nath

Detailed Reviewer's Report

Strength of the study:

- The topic is relevant to environmental and public health
- The study addresses an important rural water safety problem
- Molecular detection of resistance genes adds scientific value
- Bacterial and parasitic contamination are assessed together
- Health risks are evaluated using HRI
- Different rural areas are included for comparison
- Antibiotic susceptibility testing strengthens the microbiological assessment
- The findings have practical public health relevance

Weakness of the study:

- The sample size is small, with only 24 samples
- Only eight wells from four areas were examined
- The sampling period does not cover the stated full study year
- Seasonal analysis includes only December to February
- The reported parasitic contamination rates are inconsistent
- The abstract reports 75 percent while results report 37.5 percent
- Ethical approval or clearance is not mentioned
- Several methodological and statistical details are insufficient

Reviewers Comments:

The manuscript addresses an important public health issue and presents useful information on microbial contamination, antimicrobial resistance, parasitic contamination and health risk in rural well water. The combination of culture methods, PCR and HRI assessment is a positive feature. However, several important issues need attention. The sample size is limited to 24 samples from eight wells, and the stated study period of 2025 to 2026 is not adequately represented because sampling was conducted only from December to February. The manuscript also reports a serious inconsistency in parasitic contamination, with 75 percent mentioned in the abstract and 37.5 percent reported in the results. The statistical analysis requires clearer explanation, particularly regarding the use of ANOVA and seasonal comparisons. Ethical clearance is not reported and should be clarified, even though the study involves environmental water samples. Grammar, sentence construction, spacing and presentation require careful editing. Overall, the study is relevant but requires substantial revision for methodological clarity and consistency.

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