Peer Review File

Reviewer A:

1. First, the title needs to indicate the accuracy of between EH-2090 for RBCs and WBCs as compared to manual microscopic examination.

We appreciate the reviewer's suggestions. We have therefore revised the title of the article and the new title is "Performance analysis of urine formed element Analyzer EH-2090 was found to have good accuracy in detecting RBCs and WBCs when compared to manual microscopic".

2. Second, the abstract needs some revisions. The background did not describe the clinical needs for this research focus and what the corresponding knowledge gap is. The methods need to describe the calculation of parameters for the accuracy of EH-2090 and the consistency measures. The results need to provide empirical data to support these findings, including the correlation coefficients and accurate P values. The authors need to tone down the current

Thank you for your suggestion, we have made changes in the abstract section, relevant descriptions added to the background section (Page 2, line 46~49). And added the describe of parameters for the accuracy of EH-2090 and the consistency measures (Page 2, line 56 and 59). The results supplementary correlation coefficients and accurate P values (Page 2, line 63~64). Deleted the previous current conclusion, for current conclusions, see Page 3, line 72~74.

3. Third, in the introduction of the main text, the authors did not describe the clinical needs for assessing the accuracy of EH-2090 and what the current knowledge gap is. Please also briefly review the methodology of the assessment of the accuracy of a new testing method and its consistency in comparison with gold standard criteria.
As the reviewer's suggestion. We add the relevant content, see line 124~130. And briefly review the methodology of the assessment of the accuracy of a new testing method and its consistency in comparison with gold standard criteria, see line 133~135.

4. Fourth, in the methodology, please describe the clinical research design and specify the threshold values of the accuracy and consistency and other performance measures for a good test method for RBCs and WBCs in the urine. Please also clearly describe the gold standard method in this study. Finally, please consider to cite a potentially related paper: He J, Zhang G, Wang Y, Yang H, Dai Q, Guo S, Mai J. The possibility of automatic capillary blood testing in

routine blood tests: an evaluation of the automatic mode of the Mindray BC-7500 CRP Auto Hematology Analyzer for capillary blood testing. Cardiovasc Diagn Ther 2023;13(3):465-473. doi: 10.21037/cdt-23-84.

Thank you for your suggestion, we have added the relevant content see line 153~155. In addition, we have carefully read the paper: "The possibility of automatic capillary blood testing in routine blood tests: an evaluation of the automatic mode of the Mindray BC-7500 CRP Auto Hematology Analyzer for capillary blood testing.", but did not find an appropriate place to cite it, for which we apologize.

Reviewer B:

The paper titled "Performance analysis of urine formed element Analyzer EH-2090 and manual microscopic examination" is interesting. The EH-2090 has good analytical and clinical performance. Its RBC and WBC counting accuracy correlates well with the quantitative reference method of microscopy. The EH-2090 can meet the needs of clinical laboratories. However, there are several minor issues that if addressed would significantly improve the manuscript.

1. How to establish a reference procedure to measure urine formed elements? What would be the result of comparing the results of standard methods with those of automated analyzers? Suggest adding relevant content.

We appreciate the reviewer's suggestions. We have added relevant content, see line 238~240. The EH-2090 detected the main parameters of RBCs and WBCs, which were compared with results of the Fuchs-Rosenthal counting, the results see line 290~299. The results compared to manual microscopy are shown in line 304~331.

2. Compared with other urine formed element Analyzer, what is the biggest advantage of EH-2090? It is recommended to add relevant content.

Thank you for your suggestion, we have added the relevant content, see line 447~451.

3. What is the optimal criteria for microscopic review of urinalysis following use of automated urine analyzer? Suggest adding relevant content.

Thank you for your suggestion, this is the subject of our subsequent research, so it is not mentioned in this paper.

4. Please try to analyze and compare the microscopic review criteria for automated urine chemistry analyzer and integrated urine chemistry and formed element analyzer.

Thank you for your suggestion, this is also the subject of our subsequent research, so it is not mentioned in this paper.

5. In the introduction of the manuscript, it is necessary to clearly indicate the knowledge gaps and limitations of prior study and the clinical significance of this study.

Thank you for your suggestion, we have added relevant content, see line 124~130.

6. There are many reports on Mindray's automated hematology analyzer, but there are relatively few urine analyzers. What are the biggest drawbacks and issues with the instruments used in this study? Suggest adding relevant results.

Thank you for your valuable suggestions, we have added the relevant content, see line 436~439 and line 442~444.