Reviewer’s report

Title: Patterns of Bone Marrow Aspiration Confirmed Hematological Malignancies in Eritrean National Health Laboratory

Version: 1 Date: 17 Nov 2018

Reviewer: Abderrahmane Khelif

Reviewer's report:

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I appreciate the opportunity to review this paper on the "patterns of bone marrow aspiration confirmed hematological malignancies in Eritrean National health Laboratory"

The stated purpose of this retrospective study was to analyze the patterns and distribution of hematologic malignancies in Eritrea, diagnosed by bone marrow aspiration. Age, gender, clinical presentation and peripheral blood counts of all the cases were analyzed. The motivation of this study was the paucity of information on this topic in Eritrea.

The methodology is relatively accurate. The findings were clearly described in the results section. The authors compared their findings to similar studies and explained the differences and similarities between their findings and those reported by others. The limitations of this study have been pointed out.

This paper has a potential to be accepted, but some important points have to be fixed.

I here summarize these points:

The abstract covers the content of the article (see details below)

The introduction is unnecessarily long with too much information.

Material and methods: most of the necessary information is given, but some aspects are missing.

Results: Duplication of data in the text and in the tables.

Tables: are appropriate. However presenting the results in percentage is misleading because the number of patients is too small.
Discussion: The analyses are correct

Conclusion: is connected with the results

References: Section filled with mistakes. Literature review should be more current. A detailed revision is required to final paper.

Writing: should be more concise. There are so many grammatical and spelling mistakes. The paper needs to be carefully checked to eliminate them.

Title:
1- The time period "from October 2015 to July 2017" is an unnecessary detail that should be in the material and method paragraph. Suggest removing it.
2- Also suggest removing "retrospective, descriptive study" to keep the title concise.

Abstract
1- Remove "from 2015-2017" from the background and the result paragraphs as this is indicated in the "Methodology section".
2- Lines 18 - 19: The word "to" should be inserted between 2015 and 2017.
3- Abbreviations should not be used in the abstract
4- Line#21: change "was" by "were"
5- Line# 31: provide the units for leukocytes
6- Keywords: The following keywords would be more appropriate: hematologic malignancies, bone marrow aspiration, distribution, Eritrea

Background
1- Background information is taking up over ¼ of the paper. Unnecessarily long with too much information. I would recommend making effort to shorten it. The authors should limit it to the information relevant to their study: Some parts should be omitted, some others have to move to the discussion section.
Methods

1- Give details regarding the sites of bone marrow aspirations, particularly in children, the needle and the stains used.

2- Please specify if the CBC was done by automated cell counter.

3- There is no mention in the exclusion criteria of aspirates of inadequate material or dry tap.

4- Period from October 2015 to July 2017 is not 2 years.

5- Line #45: Demographic data … and most common presenting symptoms were (not was) recorded.

Results

1- There should be no duplication of data between the text and the tables.

2- The units should be provided for hematologic parameters cited in the text and in table 4

3- Line #15: Change "has underwent" by "has undergone"

4- Line#15: From October 2015 to (insert to) July 2017

5- Distributions of "HM" use the abbreviation already defined for hematologic malignancies

Table 1:

1- All percentages in this table don't make much sense because of the very small number of patients. Suggest providing the number of patients and nothing more.

2- In the footnote change "Key" by "Abbreviations".

Table 2

1- CLL is a disease of older adults and is not seen below 30 of age. The case of CLL in the 0-20 age group seems to be a misdiagnosis. Please clarify.
2- Add 2 footnotes:
   o "Abbreviations as in Table 1"
   o The sum of the percentages exceeds 100 percent due to rounding (for AL and CML)

3- It is not correct to express the result as a percentage because of the very small number of patients.

Tables 1 and 2 may be combined into one table after removing percentages columns

Tables 2 and 3
In the titles: Distribution of "Hematologic malignancy" to correct :"Hematologic malignancies"

Table 3:
1- Is crowdy and heavy to read. Should be simplified because the "no" answers are the mirror of the "yes", the authors could just put the "yes" results in the table with the patients total number for each malignancy .

2- Percentages should be removed as previously explained

Table 4:
1- Provide the units for all parameters

2- Same comment on percentages

Discussion:
1- Parts of the background section should move to this section.

2- Line 33: Use the same word through the text: "had total leukocyte count" to change by "had total WBC count"
3- Line#39: 57% of CML "has" to change "had" platelet count between 150,000 and (to insert) 450,000/mm3

Limitations of the study
- This section should be placed at the end of the discussion

Conclusion:
1- The authors should summarize in one sentence their findings about the distribution of hematological malignancies, purpose of this study.

2- The authors concluded that "As 30% of the patients (with hematologic malignancies) have total leukocyte count less than 10,000 we (advice) clinicians to consider hematologic malignancies in their (differential) diagnoses if the clinical signs and symptoms are suggestive despite low total WBC count". Do the authors mean despite a WBC less than 10,000? In fact, rather than the WBC value, the examination of the peripheral blood smear provides pertinent information suggestive of hematologic malignancies, besides information from history and physical examination.

3- Change "deferential" diagnoses by "differential diagnoses"

References
1- Literature review should be more current

2- The authors should adopt the journal's citation format.

3- The reference numbers in the text and in the reference list should be cross-checked: For many references, there seems to be a one-digit difference between the numbers in the list and those in the text
   - Mohammad et al reference cited in the discussion paragraph (lines #50 and 21) is # 20 not 21
   - Prajapati et al (line 34) is #25 not 26
   - Reference 14 cited in the Introduction (Line#10 page 3) is not about New Zealand
Ref. 29 does not appear in the list

Authors first name initials should be placed after their names

Reference 3: Use the official abbreviation UKJPB for UK Journal of Pharmaceutical and Biosciences


Reference 11: Provide the URL: http://www.who.int/cancer/country-profiles/en/

Reference 16: Electronic source: Accession date (January 2, 2012) should be updated.

Remove the DOI numbers from references 17, 18, 19 & 22

Remove authors first names from Ref. 3,17, 18, 19, 20

Reference 20 authors names are wrong: should be as follows:

Hossain MS, Iqbal MS, Khan MA, Rabbani MG, Khatun H

Reference 23: Use the official abbreviation Br J Cancer for British Journal of Cancer

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics
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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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