

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Age-standardized incidence rate and epidemiology of colorectal cancer in Africa: a systematic review and meta-analysis
<b>AUTHORS</b>	Arhin, Nina; Taylor, Morris; Ssentongo, Paddy; Olecki, Elizabeth; Pameijer, Colette; Shen, Chan; Oh, John; Eng, Cathy

### VERSION 1 – REVIEW

<b>REVIEWER</b>	Madiba, Thandinkosi University of KwaZulu-Natal, Department of Surgery
<b>REVIEW RETURNED</b>	08-Jun-2021

<b>GENERAL COMMENTS</b>	<p>Age-standardized incidence rate and epidemiology of colorectal cancer in Africa: a systematic review and meta-analysis.</p> <p>Manuscript ID: bmjopen-2021-052376</p> <p>Preamble The authors undertook meta-analysis to estimate the sex-specific incidence of colorectal cancer, the trend over time and explore regional variations of cancer rates on the African continent.</p> <p>Comments This is a well-written meta-analysis. The methodology and the results were easy to understand. There are a few minor corrections in the discussion that need addressing. The conclusion is in keeping with the results findings.</p> <p>Recommendation Accept with minor corrections</p> <p>Page 17 of 28 Figure 6 Please refer to figure 6 in the text.</p> <p>Page 20 of 28 Line 19-23 “Rapid westernization of Northern Africa, including diet and lifestyle changes and readily available cancer registries compared to SSA, could explain these potential differences in colorectal cancer rates 8”</p> <p>Reference 8 does not refer this concept. Can the authors find an appropriate reference?</p> <p>Page 20 of 28 Line 32-37</p>
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	<p>“CRC has been shown to be on the rise in many individual countries in Africa and now represents nearly half of all malignant tumors in some countries”.</p> <p>This statement must be referenced.</p> <p>Line 55 on Page 20 of 28 to line 1 on page 21 of 28  “this is in sharp contrast to young adults &lt; 50 years old where there is an expected exponential increase over the next decade.<sup>34</sup>”</p> <p>The author’s reference (reference 34) was published in 2015. When they say in the next decade, which decade are they referring to? 2015-2025? If so, they must state so.</p> <p>Page 21 of 28  Line 17-25  “Furthermore, in the United States, people of African descent present at a younger age and with more advanced disease at diagnosis and have the highest mortality rate among different ethnic groups<sup>24</sup>. Factors responsible for these differences are multifactorial, including known health disparities, socioeconomic status, genetic factors, and dietary influences Furthermore, in the United States, people of African descent present at a younger age and with more advanced disease at diagnosis and have the highest mortality rate among different ethnic groups<sup>24</sup>. Factors responsible for these differences are multifactorial, including known health disparities, socioeconomic status, genetic factors, and dietary influences<sup>25</sup>”</p> <p>There is a problem with these two statements. The first statement refers to CRC among people of African descent in the US. Yet the explanation in the third statement uses reference 25 which reports findings in Malawi. Findings in Malawi cannot be used to explain observations among people of African descent in the US. Furthermore reference 25 discusses certain cancers but not CRC. Please look for an appropriate reference.</p> <p>Page 22 of 28  Line 29-33  “The present estimates are the most updated figures if the rates of colorectal cancer in Africa and thus can be used to inform the prevention and control strategies”</p> <p>“if” should read “of”</p>
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<b>REVIEWER</b>	Klinkhammer-Schalke, Monika Universitätsklinikum Regensburg
<b>REVIEW RETURNED</b>	03-Oct-2021

<b>GENERAL COMMENTS</b>	The authors present an excellent systematic review and meta-analysis about the incidence of colorectal carcinoma in Africa. The topic is of major clinical and scientific interest, both for the situation specific in Africa, but also for the understanding of the epidemiology of colorectal carcinoma everywhere.
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	<p>The method is clearly described and follows the strict rules for systematic meta-analyses. The source of all data is clearly shown. The authors come to interesting results and critically discuss their findings.</p> <p>This publication may serve as an excellent example for critical systematic reviews and meta-analyses. Even after critical reading and reading again I cannot find any weakness in this publication and I congratulate the authors for their work.</p>
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### VERSION 1 – AUTHOR RESPONSE

Reviewer: 1

Prof. Thandinkosi Madiba, University of KwaZulu-Natal

Comments to the Author:

Age-standardized incidence rate and epidemiology of colorectal cancer in Africa: a systematic review and meta-analysis.

Manuscript ID: bmjopen-2021-052376

Preamble

The authors undertook meta-analysis to estimate the sex-specific incidence of colorectal cancer, the trend

over time and explore regional variations of cancer rates on the African continent.

Comments

This is a well-written meta-analysis. The methodology and the results were easy to understand. There are

a few minor corrections in the discussion that need addressing. The conclusion is in keeping with the results findings.

We thank the reviewer for the kind remarks.

Recommendation

Page 17 of 28

Figure 6

Please refer to figure 6 in the text.

Figure six is cited in the text on page 15

Page 20 of 28

Line 19-23

“Rapid westernization of Northern Africa, including diet and lifestyle changes and readily available cancer registries compared to SSA, could explain these potential differences in colorectal cancer rates 8”

Reference 8 does not refer this concept. Can the authors find an appropriate reference?

We have removed this sentence.

Page 20 of 28

Line 32-37

“CRC has been shown to be on the rise in many individual countries in Africa and now represents nearly

half of all malignant tumors in some countries”.

We deleted above statement.

Line 55 om Page 20 of 28 to line 1 on page 21 of 28

“This is in sharp contrast to young adults < 50 years old where there is an expected exponential increase over the next decade.<sup>34</sup>”

The author’s reference (reference 34) was published in 2015. When they say in the next decade, which

decade are they referring to? 2015-2025? If so, they must state so.

We revised the sentence as follows: This is in sharp contrast to young adults < 50 years old where there

is an expected exponential increase between 2020 through 2030.

Page 21 of 28

Line 17-25

“Furthermore, in the United States, people of African descent present at a younger age and with more advanced disease at diagnosis and have the highest mortality rate among different ethnic groups<sup>24</sup>.

Factors responsible for these differences are multifactorial, including known health disparities, socioeconomic status, genetic factors, and dietary influences Furthermore, in the United States, people of

African descent present at a younger age and with more advanced disease at diagnosis and have the highest mortality rate among different ethnic groups<sup>24</sup>. Factors responsible for these differences are multifactorial, including known health disparities, socioeconomic status, genetic factors, and dietary influences<sup>25</sup>”

There is a problem with these two statements. The first statement refers to CRC among people of African

descent in the US. Yet the explanation in the third statement uses reference 25 which reports findings in

Malawi. Findings in Malawi cannot be used to explain observations among people of African descent in

the US. Furthermore reference 25 discusses certain cancers but not CRC. Please look for an appropriate

reference.

We agree with the reviewer’s comment. We have replaced reference 24 with

Jackson CS, Oman M, Patel AM, et al. Health disparities in colorectal cancer among racial and ethnic minorities in the United States. *Journal of gastrointestinal oncology* 2016;7(Suppl 1):S32.

And

reference 25 with Ou J, Carbonero F, Zoetendal EG, et al. Diet, microbiota, and microbial metabolites in

colon cancer risk in rural Africans and African Americans. *The American journal of clinical nutrition* 2013;98(1):111-20.

And

Sharma I, Kim S, Sridhar S, et al. Colorectal cancer: an emphasis on factors influencing racial/ethnic disparities. *Critical Reviews™ in Oncogenesis* 2020;25(2)

Page 22 of 28

Line 29-33

“The present estimates are the most updated figures if the rates of colorectal cancer in Africa and thus can

be used to inform the prevention and control strategies”

“if” should read “of”

We thank the reviewer for pointing out this typo. We have corrected it.

Reviewer: 2

Dr. Monika Klinkhammer-Schalke, Universitätsklinikum Regensburg

Comments to the Author:

The authors present an excellent systematic review and meta-analysis about the incidence of colorectal

carcinoma in Africa. The topic is of major clinical and scientific interest, both for the situation specific in Africa, but also for the understanding of the epidemiology of colorectal carcinoma everywhere. The method is clearly described and follows the strict rules for systematic meta-analyses. The source of all data is clearly shown. The authors come to interesting results and critically discuss their findings. This publication may serve as an excellent example for critical systematic reviews and meta-analyses. Even after critical reading and reading again I cannot find any weakness in this publication and I congratulate the authors for their work.

We thank the reviewers for the kind remarks.