PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

Title (Provisional)

Burden of digestive congenital anomalies among children aged 0-14 years in 204 countries and territories, 1990-2021: results from the Global Burden of Disease Study 2021

Authors

luo, xi; Luo, Jie; zhao, jinhua; Du, Jun; Lu, Deqin; Gu, Huajian

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VERSION 1 - REVIEW

Reviewer	**1**
Name	**Fakhradiyev , Ildar**
Affiliation	**Asfendiyarov Kazakh National Medical University**
Date	**08-Oct-2024**
COI	

The article "Burden of digestive congenital anomalies among children aged 0-14 years in 204 countries and territories, 1990-2021" provides a detailed analysis based on the GBD 2021 study. The authors clearly present the trends in prevalence, mortality, and DALYs for digestive congenital anomalies (DCAs) globally.

The authors have effectively utilized over 30 years of data to assess trends in prevalence, mortality, and disability-adjusted life years (DALYs), highlighting both global and regional differences.

There are undoubtedly some underestimations in low-income regions, along with data quality issues in certain countries, and the assumptions made in modeling estimates across various geographic regions. However, these limitations are common in large-scale epidemiological studies, as acknowledged by the authors in the limitations section.

I recommend this article for publication.

Reviewer	**2**
Name	**Alsaleh, Fatemah**
Affiliation	**Kuwait University**

Date **21-Oct-2024**

COI

Burden of digestive congenital anomalies among children aged 0-14 years in 204 countries and territories, 1990-2021: results from the Global Burden of Disease Study 2021

GENERAL COMMENTS

- o **The topic is important and is a good addition to the literature. Overall, the manuscript is very well written, and the results were comprehensive and informative. However, I have some comments that I would like to address.**

- o English scientific writing is excellent; however, some editing issues must be checked throughout the manuscript. For example:

- - Abstract, page 3, line 46: "Key words" should be changed to ***"keywords".***

- - Introduction, page 3, lines 57- 58: "congenital malformations remain account for …" should be changed to ***"congenital malformations account for…".***

- - Introduction, page 4, lines 31-32: "There is a potential link between the occurrence of abdominal wall abnormalities **with** maternal smoking, with a positive correlation" should be changed to ***"There is a potential link between the occurrence of abdominal wall abnormalities and maternal smoking, with a positive correlation".***

DETAILED COMMENTS:

INTRODUCTION

- o It would be informative to include the definition of congenital anomalies, and in particular digestive anomalies, with examples, and risk factors, and then to discuss the prevalence based on the available literature.

- o It was mentioned that only one study was found in the literature on digestive congenital anomalies which was published in 2023. However, looking at the literature at this point, there are two new studies on this topic which have been published in 2024 and hence the introduction needs to be updated:

- - ***IDDF2024-ABS-0423 Global, national and regional burden of digestive congenital anomalies and its trend in 204 countries and territories from 1990-2021: a benchmarking global analysis. Clinical Gastroenterology, Vol 73, Issue Supp 2.***

- - ***Rahman, N.A., Abdullah, M.Y., Abidin, M.'.Z. et al. Burden and mortality of congenital gastrointestinal anomalies: insights from a***

nationwide cohort study. Pediatr Surg Int 40, 270 (2024). *https://doi.org/10.1007/s00383-024-05844-4.*

METHODS:

- o Clear and well-written
- o Were there any inclusion or exclusion criteria for selecting cases for digestive anomalies?

RESULTS

- o Table 1 is unclear (the font is too small) and I relied on the supplementary files to review the results section for tables S, S2, and S3. So all my comments in this regard are based on the supplementary files.
- o When presenting the numbers in the text and the supplementary tables, sometimes they were rounded in the text (not in the tables) and in other instances, they were rounded in the tables (not the text) which was confusing to follow up. For example:
- - Results, page 5, lines 49-50: "In 2021, there were 47.16 thousand fatalities caused by digestive congenital abnormalities, with an ASR of 0.77." 0.77 was rounded in the table as "0.8" (ROUNDED).
- - Results, page 6, lines 29-32: "……..Central Latin America (1.03) experienced the greatest age-standardized death rates from digestive congenital anomalies in 2021, with the lowest rates in High-income Asia Pacific (0.15), Australasia (0.15), and Western Europe (0.18) (table 1)." The numbers (0.15) for High-income Asia Pacific and Australasia were written in the table as 0.1 (NOT ROUNDED)

It would be easier if there is consistency in presenting the numbers in the text in relevance to the tables concerning rounding.

- o Results, page 5, lines 49-50: central Europe was mentioned twice!: "In the same period, all regions showed a decrease in the age-standardized death rates from digestive congenital anomalies, with the largest decreases in Central Europe (−74.11%), central Europe (−72.05%), and Australasia (−71.45%) (table 1)." It should be corrected to ***"In the same period, all regions showed a decrease in the age-standardized death rates from digestive congenital anomalies, with the largest decreases in Central Europe (−74.11%), Eastern Europe (−72.05%), and Australasia (−71.45%) (table 1)."***

- o **Results, page 8, lines 20-21: Please change "…..**and Ecuador (97.2), whereas the lowest rates were in Guam (10.0), Tonga, and Czechia

- (10.2). (table S3)." To "***....and Ecuador (97.2), whereas the lowest rates were in Guam (10.0), Tonga, and Czechia (10.2) (table S3).***"

DISCUSSION

- o It would be interesting if the results could be discussed in relevance to the newly published literature that was referred to under the introduction section.

VERSION 1 - AUTHOR RESPONSE

Reviewer: 1

Dr. Ildar Fakhradiyev , Asfendiyarov Kazakh National Medical University

Comments to the Author:

The article "Burden of digestive congenital anomalies among children aged 0-14 years in 204 countries and territories, 1990-2021" provides a detailed analysis based on the GBD 2021 study. The authors clearly present the trends in prevalence, mortality, and DALYs for digestive congenital anomalies (DCAs) globally.

The authors have effectively utilized over 30 years of data to assess trends in prevalence, mortality, and disability-adjusted life years (DALYs), highlighting both global and regional differences.

There are undoubtedly some underestimations in low-income regions, along with data quality issues in certain countries, and the assumptions made in modeling estimates across various geographic regions. However, these limitations are common in large-scale epidemiological studies, as acknowledged by the authors in the limitations section.

I recommend this article for publication.

Response ： I appreciate the reviewers' positive feedback on this article. I have worked hard to revise it and hope to have it published in this journal.

Reviewer: 2

GENERAL COMMENTS

o The topic is important and is a good addition to the literature. Overall, the manuscript is very well written, and the results were comprehensive and informative. However, I have some comments that I would like to address.

o English scientific writing is excellent; however, some editing issues must be checked throughout the manuscript. For example:

- Abstract, page 3, line 46: "Keywords" should be changed to

"keywords".

- Introduction, page 3, lines 57- 58: "congenital malformations remain account for …" should be changed to "congenital malformations

account for …".

- Introduction, page 4, lines 31-32: "There is a potential link between the occurrence of abdominal wall abnormalities with maternal

smoking, with a positive correlation" should be changed to "There is a potential link between the occurrence of abdominal wall

abnormalities and maternal smoking, with a positive correlation".

Response：Thank you to the reviewer for pointing out my grammatical issues. I have made the necessary corrections as requested.

DETAILED COMMENTS: INTRODUCTION

o It would be informative to include the definition of congenital

anomalies, and in particular digestive anomalies, with examples, and risk factors, and then to discuss the prevalence based on the available literature.

o It was mentioned that only one study was found in the literature on

digestive congenital anomalies which was published in 2023. However, looking at the literature at this point, there are two new studies on this topic which have been published in 2024 and hence the introduction needs to be updated:

- IDDF2024-ABS-0423 Global, national and regional burden of

digestive congenital anomalies and its trend in 204 countries and

territories from 1990-2021: a benchmarking global analysis. Clinical Gastroenterology, Vol 73, Issue Supp 2.

Response：The journal of “Clinical Gastroenterology” is not indexed in WOS and PubMed, making the article untraceable for citations. Therefore, I did not cite this reference.

- Rahman, N.A., Abdullah, M.Y., Abidin, M.‘.Z. et al. Burden and

mortality of congenital gastrointestinal anomalies: insights from a nationwide cohort study. Pediatr Surg Int 40, 270 (2024).

https://doi.org/10.1007/s00383-024-05844-4.

Response：This article includes citations in both the introduction and discussion sections.

METHODS:

o Clear and well-written

o Were there any inclusion or exclusion criteria for selecting cases for digestive anomalies?

Response：The GBD database includes only the option for "digestive congenital anomalies," which encompasses all congenital diseases related to the digestive system.

RESULTS

o Table 1 is unclear (the font is too small) and I relied on the

supplementary files to review the results section for tables S, S2, and S3. So all my comments in this regard are based on the supplementary

files.

o When presenting the numbers in the text and the supplementary

tables, sometimes they were rounded in the text (not in the tables) and in other instances, they were rounded in the tables (not the text) which was confusing to follow up. For example:

-Results, page 5, lines 49-50: "In 2021, there were 47.16 thousand

fatalities caused by digestive congenital abnormalities, with an ASR of 0.77." 0.77 was rounded in the table as "0.8" (ROUNDED).

Response：This is mainly because Table 1 retains two decimal places, while the most accurate result should be 0.77.

- Results, page 6, lines 29-32: " Central Latin America (1.03)

experienced the greatest age-standardized death rates from

digestive congenital anomalies in 2021, with the lowest rates in High- income Asia Pacific (0.15), Australasia (0.15), and Western Europe

(0.18) (table 1)." The numbers (0.15) for High-income Asia Pacific and Australasia were written in the table as 0.1 (NOT ROUNDED)

Response：This is because Table 1 retains two decimal places, so the most accurate result should be 0.15. If three decimal places are considered, the result is 0.149; rounded to one decimal place, it would be 0.1. Retaining two decimal places gives 0.15, which explains the discrepancy.

It would be easier if there is consistency in presenting the numbers in the text in relevance to the tables concerning rounding.

Response：The article mainly presents Table 1, which represents regions with a larger number of cases. Therefore, it retains two decimal places. In the supplementary Tables 1-3, the specific case numbers for each country are listed, while the ASRs are estimates, so they are rounded to one decimal place.

o Results, page 5, lines 49-50: central Europe was mentioned twice!: "In

the same period, all regions showed a decrease in the age-

standardized death rates from digestive congenital anomalies, with the largest decreases in Central Europe (−74.11%), central Europe

(−72.05%), and Australasia (−71.45%) (table 1)." It should be corrected to "In the same period, all regions showed a decrease in the age-

standardized death rates from digestive congenital anomalies, with the largest decreases in Central Europe (−74.11%), Eastern Europe

(−72.05%), and Australasia (−71.45%) (table 1)."

Response：Thank you for pointing out this error, I have corrected the region to "Eastern Europe."

o Results, page 8, lines 20-21: Please change " …..and Ecuador (97.2), whereas the lowest rates were in Guam (10.0), Tonga, and Czechia (10.2). (table S3)." To " ….and Ecuador (97.2), whereas the lowest rates were in Guam (10.0), Tonga, and Czechia (10.2) (tableS3)."

Response：Thank you for pointing out my mistake, I have made the necessary correction.

DISCUSSION

o It would be interesting if the results could be discussed in relevance to the newly published literature that was referred to under the

introduction section.

Response：I have included the reference in the introduction and discussed it in the discussion section.