

## Response to reviewers

Dear reviewers,

Thank you for reviewing our manuscript. Please find our response to the reviewers' comments below, point-by-point. The manuscript has been changed accordingly and we believe that it has been substantially improved.

### Reviewer #1:

The strength of this paper is a nationwide epidemiological study that comprises a large number of data concerning gastrostomy performed in Swedish during a 22-years period. There are questions and suggestion to the authors as follows:

1. The authors should address some ideas about clinical application of this study.

Thank you for this important comment. The clinical implication has been clarified in a revised section in the discussion.

2. This study reports that the percentage of lap. gastrostomy dramatically increased in the last 10-years period, especially in children. The explanation of this observation should be addressed in discussion.

We fully agree and we have updated a section in the discussion and added two more references. Please, also see comment #4 below.

3. If possible, the primary cause of death directly related to a complication of gastrostomy within 30 days should be detailed.

We have added more details of the 44 procedure-related deaths (in Results, section "Procedure-related mortality"), by analysis of all contributing factors to death recorded in the death register. However, this analysis is also based on ICD-10 codes since we had not access to medical records.

4. The data of this study suggests that lap. gastrostomy is safety with lowest procedure-related mortality. Would lap. gastrostomy be recommended as a procedure of choice when gastrostomy is considered in a patient who needs long term tube feeding?

Lap. gastrostomy was mainly performed in children (67% of all lap. gastrostomies). To some extent this explains the low procedure-related mortality as the variable 'Age-group' had the strongest correlation with 30-day mortality. In the multivariate cox-regression model (supplementary table 1) we were not able to adjust for differences in comorbidities.

The technique for lap. gastrostomy is most suitable for children. It is done by two troacars (one for the video laparoscope and a 5 mm trocar placed at the exit site chosen for the gastrostomy). A continuous double U-stitch suture, placed through

the abdominal wall and stomach, creates a purse-string suture around the gastrostoma on the stomach and fixates the stomach to the abdominal wall. In adults this simple technique is not possible because of a thicker abdominal wall and more cephalic location of the stomach, largely covered by the rib cage. Therefore lap. gastrostomy may not be as safe as PEG in adults.

**Reviewer #2:**

The article is within the scope of the magazine and deals with an interesting topic. It is well written and structured. Reading is fluid. The paper has presented a novel and original work. It represents a contribution to the area of knowledge. To accept it, some aspects should be improved:

a) The motivation of the article should be improved.

Thank you for this important comment. The aim of the study has been revised to be clearer.

b) The presentation of the state of the art should be expanded and better structured.

We have expanded the introduction with a reasoning about indications and timely intervention.

c) Conclusions should be indicated that summarize the scientific contribution of the article.

The conclusion has been revised accordingly.

**Reviewer #3:**

In this retrospective, large population-based cohort study, the authors report on the use of gastrostomies in Sweden over 2 decades to analyze procedure-related mortality and short- and long-term survival. The study interests a broad readership across many medical and surgical subspecialties, and the manuscript is well-written. I have the following comments and suggestions for the authors:

1. The abstract is too extended (452 words), which would negatively affect its readability. I suggest shortening the “background” and “methods” sections to stay below 350 words.

Thank you for pointing this out! The Background and Methods sections have been shortened, and the Conclusion has been revised. The abstract is now below 350 words.

2. The term “Non-malignant GI conditions” needs to be clarified, as some readers may not be familiar with it. Consider giving examples to make it more straightforward to our potential readers.

Thank you for letting us clarify this by adding examples in the Methods section (subsection Indications) and in Table 1.

3. Did the authors look at the type of PEG technique (pull vs. push technique) used in their study population? For instance, due to frequent tube dislodgement in push-PEG, the pull technique may be more suitable for long-term feeding.

Unfortunately, this was not possible in the present study as both PEG-techniques are registered under the same ICD-10 code and therefore not separable. We are otherwise of the same opinion and were able to verify the superiority of pull-PEGs compared to radiologically inserted in push-gastrostomies in a recent RCT (Sundbom et al. *A randomized trial comparing percutaneous endoscopic gastrostomy (PEG) and radiologically inserted percutaneous gastrostomy (RIG)*. Scand J Surg. 2023 Jun;112(2):69-76).

4. Did the authors look at the operator involved in PEG tube placement (GI Endoscopist vs. GI Surgeon)? Do the authors think this would have affected the procedure's outcomes?

It is an interesting question. Unfortunately, the type of specialty or the level (resident, consultant etc.) of the performing physician is not included in the registry. At our own institution, PEG is only performed by GI-surgeons and that likely applies to most Swedish hospitals, but not for all.

5. The authors used the term "respiratory diseases" as one of the causes of death. Was this inclusive of aspiration pneumonia? What proportion of these patients actually had an aspiration-related death?

Thank you for letting us clarify this. Respiratory diseases also included aspiration pneumonia. However, since the study is based on ICD-10 codes we were not able to discriminate between for instance aspiration pneumonia and other pneumonias. Aspiration pneumonia has a specific ICD-10 code (J69.0), but since the exact ICD-code might not have been used, such analysis would be too uncertain and underestimate the real number of aspiration-related deaths. We have made a minor change in the text regarding this (in discussion).

6. The authors should consider adding a paragraph (possibly at the beginning of the discussion section) on how the results of their study could help the practicing physician in the decision-making on enteral nutrition.

We have added a few sentences in the discussion and revised the conclusion, also as an amendment to a previous reviewer comment (Reviewer #1), relating to the same topic.

7. The conclusions could be more robust as they essentially repeat the results. The authors should consider emphasizing the significance of their results and the clinical applications of their data.

Thank you for the call to illuminate our results and their clinical applications more clearly. The conclusion has been revised.

8. Any future perspectives on the topic? Please advise.

Our plan is to further look into geographical differences in Sweden, concerning number of gastrostomies per 100 000 inhabitants, differences in type of gastrostomies used and 30-day mortality rates.

Authors must revise the manuscript according to the Editorial Office's comments and suggestions, which are listed below:

1 Conflict of interest statement: Academic Editor has no conflict of interest. 2 Academic misconduct: No academic misconduct was found. 3 Scientific quality: The authors submitted a retrospective cohort study of time-trends and outcomes of gastrostomy placement in a Swedish national cohort over two decades. The manuscript is overall qualified.

(1) Advantages and disadvantages: The reviewers have given positive peer-review reports for the manuscript. Classification: Grade B, Grade C and Grade C; Language Quality: Grade B, Grade B and Grade C. The article is within the scope of the magazine and deals with an interesting topic. It is well written and structured. Reading is fluid. The paper has presented a novel and original work. **The abstract is too extended (452 words), which would negatively affect its readability.**

The abstract has been shortened to less than 350 words.

(2) Main manuscript content: The author clearly stated the purpose of the study and the research structure is complete. However, **the manuscript is still required a further revision according to the detailed comments listed below.**

The manuscript has been revised according to the detailed comments.

(3) Table(s) and figure(s): **There are 6 Figures and 1 Tables should be improved. Detailed suggestions for each are listed in the specific comments section.**

The table and figures have been revised. Figure 1 has been modified to be clearer. All figures are included in a PPT-file.

(4) References: A total of 33 references are cited, including 8 published in the last 3 years.

4 Language evaluation: **The English-language grammatical presentation needs to be improved to a certain extent.** There are many errors in grammar and format, throughout the entire manuscript. Before final acceptance, the authors must provide the English Language Certificate issued by a professional English language editing company. Please visit the following website for the professional English language editing companies we recommend: <https://www.wjgnet.com/bpg/gerinfo/240>.

The language has been revised by a native English-speaker, also being an expert in both medicine and research. Please see the enclosed documentation.

5 Specific comments: (1) **Please provide the Figures cited in the original manuscript in the form of PPT.** All text can be edited, including A,B, arrows, etc. With respect to the reference to the Figure, please verify if it is an original image created for the manuscript, if not, please provide the source of the picture and the proof that the Figure has been authorized by the previous publisher or copyright owner to allow it to be redistributed. **All legends are incorrectly formatted and require a general title and explanation for each figure. Such as Figure 1 title. A ; B ; C : .**

All cited figures are now editable and enclosed in a PPT-file. The legends have been re-formatted according to the instructions.

(2) Please obtain permission for the use of picture(s). If an author of a submission is re-using a figure or figures published elsewhere, or that is copyrighted, the author must provide documentation that the previous publisher or copyright holder has given permission for the figure to be re-published, and correctly indicate the reference source and copyrights. For example, "Figure 1 Histopathological examination by hematoxylin-eosin staining (200 ×). A: Control group; B: Model group; C: Pioglitazone hydrochloride group; D: Chinese herbal medicine group. Citation: Yang JM, Sun Y, Wang M, Zhang XL, Zhang SJ, Gao YS, Chen L, Wu MY, Zhou L, Zhou YM, Wang Y, Zheng FJ, Li YH. Regulatory effect of a Chinese herbal medicine formula on non-alcoholic fatty liver disease. *World J Gastroenterol* 2019; 25(34): 5105-5119. Copyright ©The Author(s) 2019. Published by Baishideng Publishing Group Inc[6]". And please cite the reference source in the references list. If the author fails to properly cite the published or copyrighted picture(s) or table(s) as described above, he/she will be subject to withdrawal of the article from BPG publications and may even be held liable. (3) Please don't include any \*, #, †, §, ‡, ¥, @...in your manuscript; Please use superscript numbers for illustration; and for statistical significance, please use superscript letters. Statistical significance is expressed as aP < 0.05, bP < 0.01 (P > 0.05 usually does not need to be denoted). If there are other series of P values, cP < 0.05 and dP < 0.01 are used, and a third series of P values is expressed as eP < 0.05 and fP < 0.01.

(4) **Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references.** If there is no PMID or DOI, please provide the website address.

The PubMed numbers and DOI citation numbers of all reference have been added as well as the names of all authors.

(5) The “**Article Highlights**” section is missing. Please add the “Article Highlights” section at the end of the main text (and directly before the References).

An ‘Article Highlights’ section has been added the end of the main text.

(6) **Please add the author's contribution section.** The format of this section will be as follows: Author contributions: Wang CL, Liang L, Fu JF, Zou CC, Hong F and Wu XM designed the research; Wang CL, Zou CC, Hong F and Wu XM performed the research; Xue JZ and Lu JR contributed new reagents/analytic tools; Wang CL, Liang L and Fu JF analyzed the data; Wang CL, Liang L and Fu JF wrote the paper.

An author's contribution section has been added.

6 Recommendation: Conditional acceptance.

Language Quality: Grade B (Minor language polishing)

Scientific Quality: Grade C (Good)

(2) Company editor-in-chief:

I have reviewed the Peer-Review Report, all of which have met the basic publishing requirements of the World Journal of Gastroenterology, and the manuscript is conditionally accepted. I have sent the manuscript to the author(s) for its revision according to the Peer-Review Report, Editorial Office’s comments and the Criteria for Manuscript Revision by Authors. However, **the quality of the English language of the manuscript does not meet the requirements of the journal.** Before final acceptance, it is recommended that the author(s) provide the English Language Certificate issued by a professional English language editing company. Please visit the following website for the professional English language editing companies we recommend: <https://www.wjgnet.com/bpg/gerinfo/240>.

The language has been revised by a native English-speaker, also being an expert in medical research. Please see above.

When revising the manuscript, it is recommended that **the author supplement and improve the highlights of the latest cutting-edge research results**, thereby further improving the content of the manuscript. To this end, authors are advised to apply PubMed, or a new tool, the RCA, of which data source is PubMed. RCA is a unique artificial intelligence system for citation index evaluation of medical science and life science literature. In it, upon obtaining search results from the keywords entered by the author, "Impact Index Per Article" under "Ranked by" should be selected to find the latest highlight articles, which can then be used to further improve an article under preparation/peer-review/revision. Please visit our RCA database for more information at: <https://www.referencecitationanalysis.com/>, or visit PubMed at: <https://pubmed.ncbi.nlm.nih.gov/>.

We have searched PubMed for new research results, published during the review process of our paper, but no appropriate references were found. During the revision of the manuscript, two new references have been added.

Thank you for your thorough and prompt work on our manuscript.

Kind regards,  
Martin Löfling Skogar and Magnus Sundbom