Gastric cancer is more common gastrointestinal tumor. According to global cancer statistics, it is the fifth most common cancer and the fourth leading cause of cancer death worldwide. In the manuscript "Construction and validation of a predictive model for the risk of three-month-postoperative malnutrition in patients with gastric cancer: a retrospective case-control study", authors analyzed both the influencing factors of malnutrition in patients with gastric cancer and established a multi-dimensional risk model to predict postoperative malnutrition three months after surgery.

Couple questions are required to be answered before it will be accepted.

(1) What were the consequences of malnutrition after gastric cancer surgery? Please state in the introduction.

(2) It was advised to add related reference (doi: 10.21037/apm-21-2221) about the risk of malnutrition for patients with cancer.

(3) How to determine the risk factors of malnutrition after gastric cancer surgery? Please state in the methods.

(4) It was better to validate the constructed predictive model by more data.

(5) Whether the chemotherapy was a risk factor for malnutrition after gastric cancer surgery? Please state in the discussion.

(6) What were your good suggestions for alleviating malnutrition after gastric cancer surgery? Please state in the discussion.

REVISION

Comment1: What were the consequences of malnutrition after gastric cancer surgery? Please state in the introduction.

Reply1: Thank you for your opinion, I added the related content of malnutrition consequences after gastric cancer surgery in the introduction

Change in the text: We have modified our text as advised in Page 3-4, line 88-96.

Comment2: It was advised to add related reference (doi: 10.21037/apm-21-2221) about the risk of malnutrition for patients with cancer.

Reply2: Thank you for your opinion, I added the reference (doi: 10.21037/apm-21-2221) in the corresponding area (introduction).In addition, the order of the following references has been changed.

Change in the text: We have modified our text as advised in Page 3, line 85 and Page 18, line 569-571.

Comment3: How to determine the risk factors of malnutrition after gastric cancer surgery? Please state in the methods.

Reply3: Thank you for your opinion, we determine the risk factors of malnutrition after gastric cancer surgery based on the pathogenesis of malnutrition after gastric cancer surgery, relevant literature reports and the consulting results of gastrointestinal surgery and nutrition experts.

Change in the text: We have modified our text as advised in Page 5, line 142-145.

Comment4: It was better to validate the constructed predictive model by more data.

Reply4: Thank you for your opinion, the number of cases to build the prediction model is indeed the more the better. However, considering the clinical practice and the timeliness of research, the number of cases is often limited. The sample size of this article is calculated scientifically, which conforms to the EPV principle. The actual number of cases included exceeds the calculated data, which is enough to build a model with good prediction efficiency.See page 5, line 127-136.

Change in the text: No change

Comment5:Whether the chemotherapy was a risk factor for malnutrition after gastric cancer surgery? Please state in the discussion.

Reply3: Thank you for your opinion, I think chemotherapy is one of the risk factors for malnutrition after gastric cancer surgery, have sufficient theoretical basis. Chemotherapy of patients, including neoadjuvant and postoperative chemotherapy, were included in the primary risk factor variables. The difference test showed a certain trend of difference, but did not show statistical significance. In addition, in the multivariate analysis, we still included chemotherapy as a variable that was clinically considered to have an impact, but we still did not show an independent impact in the multivariate analysis. I think this result may be related to the sample size of this study. Analysis of relevant contents has been added in the discussion section

Change in the text: We have modified our text as advised in Page 12, line 377-383.

Comment6: What were your good suggestions for alleviating malnutrition after gastric cancer surgery? Please state in the discussion.

Reply6: Thank you for your opinion, I added some suggestions on improving postoperative malnutrition of gastric cancer in the discussion section.

Change in the text: We have modified our text as advised in Page 16, line 497-508.

Review Comments-reviewer B

1. Please unify the hospital name.

11 [1]Department of General Surgery (Ward one), the Second Hospital of Anhui Medical
12 University, Hefei, China; [2]Nursing Department, the Second Hospital of Anhui Medical
13 University, Hefei, China; [3]Emergency Internal Medicine, the Second Hospital of Anhui
14 Medical University, Hefei, China

15

16 *Contributions:* (I) Conception and design: M Zhang, T Dai, D Wu; (II) Administrative
17 support: D Wu, J Tang; (III) Provision of study materials or patients: T Dai, J Tang;
18 (IV) Collection and assembly of data: T Dai, Z Liu; (V) Data analysis and interpretation:
19 T Dai, Z Liu; (VI) Manuscript writing: All authors; (VII) Final approval of manuscript:
20 All authors.

21

22 *Corresponding to:* Miao Zhang. Nursing Department, the Second Affiliated Hospital
23 of Anhui Medical University, No. 678 Furong Road, Hefei Economic and
24 Technological Development Zone, Hefei, China. Email: mm20070317@126.com.

Reply：I have unified the hospital name. page:1; line:11.12.14 .

2. All abbreviations should be defined the full term when they are <u>first used in the Abstract and main text.</u> Please check carefully and revise.

49 and AUC areas of 0.840 (training set) and 0.854 (validation set), which was better than
50 the NRS2002 scale. The calibration curve brier scores were 0.159 and 0.195, and the
51 Hosmer-Lemeshow test chi-square values were 14.070 and 1.989 (P>0.05). The DCA
52 curve of the training set model indicated the clinical applicability was good and within

99 cannot fully explain it, early warning and intervention are essential. At present,
100 nutritional risk screening scales, such as the NRS2002 score, are not designed

Reply：I have unified the hospital name. page:2; line:49.50.51.53.

3. This sentence is incomplete, please revise

3 Highlight Box for Original Article

Key findings

- Identify the influencing factors of malnutrition after gastric cancer surgery, and establish an early warning model.

Reply: I have revised this sentence accordingly. page:2-3; line:65-66.

4. Please confirm whether informed consent was obtained from patients or not.

1) informed consent was taken from all the patients

or

2) individual consent for this retrospective analysis was waived.

547   the Declaration of Helsinki (as revised in 2013). The study was approved by ethics
548   board of the Second Hospital of Anhui Medical University (No. YX-2022-158) and
549   informed consent was taken from all the patients (or individual consent for this
550   retrospective analysis was waived).

Reply: I have confirmed and made changes in the text. page:5; line:128.

5. Please confirm if here should be "NRS2002 scale"

311   set. The AUC of the training set prediction model was significantly higher than that of
312   the NRS scale (Z value=2.184, P=0.029). These results indicated the model had good
313   differentiation in predicting the risk of malnutrition three months after gastric cancer

Reply: I confirm that this should be "NRS2002 scale" . I have made changes in the article. page:10; line:315.

6. Please check if more studies should be cited in below sentences, as you mentioned "some studies". Otherwise, "study" would be more appropriate.

note: References should be cited consecutively and consistently according to the order in which they first appear in the main text. If the studies are not included in the reference list, please also update the current version.

90   anastomotic fistula, which aggravate malnutrition and form a vicious circle. Some
91   studies have shown the risk of death within five years following gastric cancer surgery
92   for malnourished patients is 83% higher than for those with normal nutritional status
93   (7). Moreover, postoperative malnutrition is positively correlated with the recurrence

131   outcome events per variable to guarantee accuracy and feasibility (9). According to the
132   incidence of malnutrition after gastric cancer surgery reported in previous studies (10),
133   the clinical data of at least 200 patients were required to construct the model. This meant

Reply: I made corresponding changes in the article, changing some studies to study. page:4; line:92.

7. The author's name does not match the citation. Please check and revise.

364   results are relatively reliable (13). In addition, the survival analysis of Fujiya et al.
365   examining postoperative malnutrition in gastric cancer showed the risk of malnutrition
366   three months after surgery (HR: 2.18) was higher than at one month (HR: 1.77) and six
367   months (HR: 1.81) (13). (II) The time effect makes it difficult for patient status
368   indicators at admission or during perioperative period to have an impact six months

14. *Fujiya K, Kawamura T, Omae K, et al. Impact of Malnutrition After Gastrectomy for Gastric Cancer on Long-Term Survival. Ann Surg Oncol 2018;25:974-83.*

Reply: There is an error in the reference number, which has been modified from 13 to 14. page:12; line:371.

8. Please also indicate the first author's name of citation 29.

> 429   normal cardiac function. Kinugawa et al. suggested patients with chronic heart failure
>
> 430   frequently suffer from malnutrition ascribed to changes in systemic metabolism and
>
> 431   increased body consumption, with an incidence rate of 16–62% (28 29) Patients
>
> 432   undergoing gastric cancer surgery are more likely to suffer from insufficient body

28. Kinugawa S, Fukushima A. Malnutrition in Heart Failure: Important But Undervalued Issue. JACC Heart Fail 2018;6:487-8.
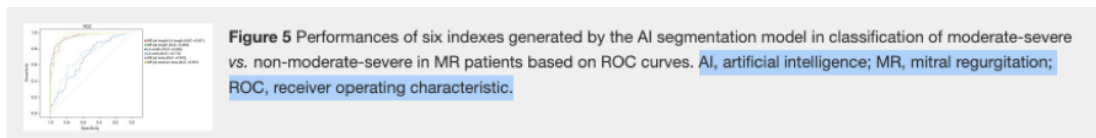
29. Lin H, Zhang H, Lin Z, et al. Review of nutritional screening and assessment tools and clinical outcomes in heart failure. Heart Fail Rev 2016;21:549-65.

Reply: I made corresponding modifications in the article. page:14; line:435.

9. ALL abbreviations used in each table/figure or table/figure description should be defined in a footnote below the corresponding table/figure. Please check carefully and revise.

Such as: BMI, MAMC, HF, ……

here is an example for your information:

Figure 5 Performances of six indexes generated by the AI segmentation model in classification of moderate-severe vs. non-moderate-severe in MR patients based on ROC curves. AI, artificial intelligence; MR, mitral regurgitation; ROC, receiver operating characteristic.

Reply: All abbreviations shall be defined in the footnote below the corresponding table/figure. Defined in a footnote below the corresponding Table 1.2 and 3; Figure 2.3 and 5.

10. Table 1 and table 3

Please add the unit for the "Age, BMI".

Age, n (%)				6.618	0.010
<70	108 (44.63)	71 (51.82)	37 (35.24)		
≥70	134 (55.37)	66 (48.18)	68 (64.76)		
BMI, n (%)				3.638	0.303
<18	3 (1.24)	0 (0.00)	3 (2.86)		
18–24	142 (58.68)	82 (59.85)	60 (57.14)		
24–27.5	66 (27.27)	38 (27.74)	28 (26.67)		
>27.5	31 (12.81)	17 (12.41)	14 (13.33)		

Reply: Corresponding units have been added (Table 1 and Table 3)
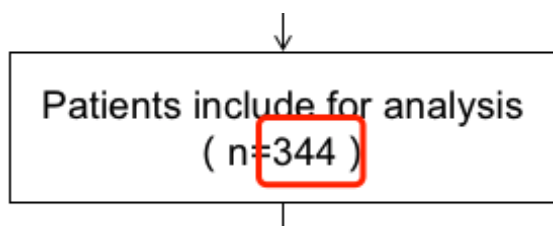
11. Figure 1

Please check which one is correct.

109   **##Participants**

110   A total of 345 patients who received gastric cancer surgery from January 2019–

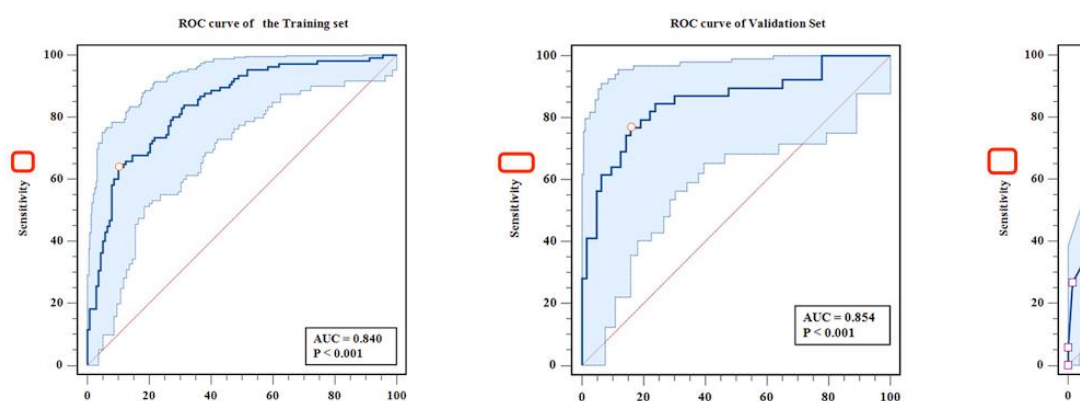111   December 2021 in the General Surgery Department of the Second Hospital of Anhui

112   Medical University were selected as research participants. Inclusion criteria: (I) patients

Patients include for analysis
(n=344)

Reply：344 is the correct number. page:4; line:112.

12. Figure 3

Please add a unit (%) for the Y-axis.

Reply: (%) has been added to the corresponding location. Figure 3.