Peer Review File

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Reviewer A

Introduction

Line 63 – Suggestion: “rapid progression in addition to many complications, and is one...”

Reply: Thanks for your suggestions and I have revised.

Line 71 – Suggestion: “A 2022 prospective study (8) found...”

Reply: Thanks for your suggestions and I have revised.

Line 79 – A question: What is “patient category”?

Reply: Thanks for your suggestions and I have revised. The patient category here refers mainly to the patient's physical condition.

Line 82 – Suggestion: “..and it´s early detection, timely and adequate antimicrobial..”

Reply: Thanks for your suggestions and I have revised.

In my opinion, the introduction contains too much information about pneumonia and SP and too little information about the emotional implications, that are the focus of the manuscript.

As a suggestion, remove the Spanish study from the text (line 79-81) and insert studies that show the influence of emotional aspects on pneumonia complications.

Reply: Thanks for your suggestions. I have revised and added relevant content in the introduction.

Methods

Line 113-115 – Suggestion: Explain the sample calculation.

Reply: Thanks for your suggestions and I have revised.

Line 126 – Correction: note parentheses at the end of the sentence.

Reply: Thanks for your suggestions and I have deleted it.

Lines 129-139 – Suggestion: Add the study and authors of "Self Rating Anxiety Scale" and "Self Rationg Depression Scale".
Reply: Thanks for your suggestions and I have added a study of "Self Rating Anxiety Scale" and "Self Rationg Depression Scale".

Line 133 – Correction/ Suggestion: Without any reference showing SAS and SDS it is not possible to verify if the scale has good reliability and validity. Please enter data regarding scales.
Reply: Thanks for your suggestions and I have added a study of "Self Rating Anxiety Scale" and "Self Rationg Depression Scale" to verify the good reliability and validity of the scale.

Line 156 – Suggestion: briefly explain Kaplan Meier Survival Curve
Reply: Thanks for your suggestions and I have explained Kaplan Meier Survival Curve.

Line 163-170 – Suggestion: specify which variables were analyzed by the t test, ANOVA and chi-square test. Also, explain which variables were used in binary logistic regression and multiple linear regression.
Reply: Thanks for your suggestions and I have revised.

Discussion and conclusion
The authors suggest that patients who have negative emotions develop certain complications and, likewise, certain SP complications lead to the emergence of negative emotions.
I suggest the discussion and conclusion have more information about the risk factors for negative emoticons. In my opinion, the discussion should focus on the objectives of the manuscript.
For example:
Lines 350-354: unrelated to the theme of the manuscript
Lines 354- 357: unrelated to the theme of the manuscript
Lines 367- 370: unrelated to the theme of the manuscript
Reply: Thanks for your suggestions and I have deleted the unrelated part of the manuscript and added the part of analysis of risk factors for negative emotions.

Tables and Figures: ok

Reviewer B

Please find below my specific comments on this version of the manuscript which would require drastic revisions if it is to be considered for publication. There are several major methodological limitations, particularly relating to unmeasured confounders, unexplained adjustments to variables, and it is unclear what the main outcome, negative emotions, actually means. These limitations are not recognised by authors in the article. These limitations are not insurmountable if authors can provide appropriate clarification. I have some concerns with data analysis. The article would need to be extensively re-written with much more focus on its set aims, as at present neither the introduction, results section nor discussion relates in much of a way to the purpose of the article. I would be happy to review a revised version of this article.

Introduction

1. The introduction reads as a clinical introduction to pneumonia. The readership of the Journal of Thoracic Disorders will be well aware of this clinical phenomenon and so I advise authors tailor their introduction to focus on the psychological aspects of pneumonia, of which there is a good evidence basis, and onto which authors can build their own data and discussion.

Reply: Thanks for your suggestions and I have revised.

Participants

1. Exclusion/Inclusion criteria - The obvious omission is information about existing mental illness, we do not know if participants had established diagnoses of depression, anxiety, personality disorder, psychotic disorder etc which is a clear candidate to be a mediating factor and undermine this analysis.

Reply: Thanks for your suggestions and I have revised.

2. General information questionnaire - Please clarify what is meant by “underlying disease”, does this mean respiratory, cardiac etc. illness?

Thanks for your suggestions and I have I have already elaborated in the article.

3. Why did authors choose the predictors for their analysis that they did? What is the rationale for example including fertility?

Reply: Thanks for your suggestions. The factors we chose to investigate were based on previous literature on the one hand and on the other hand on the results of discussions among those in the study group. For example, for the factor of having children, in China people focus on family and family members have a greater influence on patients, especially elderly people without children, who may have a greater psychological burden due to independent hospitalization.

4. General information questionnaire – It is not clear at what point in patient hospital stay was this data collected? Clinical factors like heart rate of course vary significantly at the beginning versus at the point of discharge, as are measures of anxiety and depression likely to be.

Reply: The patients' baseline data as well as the SAS and SDS scales were measured 3 days after the patients' hospitalization. Based on the group researchers' prior clinical investigations and clinical experience, patients at this time more fully understood their condition and it was more convenient for us to determine the patients' negative emotions.

Measurement

1. It is not clear in the article how “negative emotions” are measured, and even more unclear how SAS and SDS are presumably combined(?) to produce a dichotomised measure of negative emotions.

Reply: Self-rating anxiety scale (SAS) This is a 20-item scale with 5 reverse scoring items on a 4-point scale. Self-rating depression scale (SDS) is a 20-item scale with 10 reverse scoring items on a 4-point scale, and a score of >50 on the SAS is considered to be anxiety and >52 on the SDS is considered to be depression. A person was considered to have either anxiety or depression or both, and was considered to have negative affect.

2. Please provide references for the SAS and SDS scales used, particularly to cite why the SAS was standardised by *1.25 which is an usual approach, and the work calculating Cronbach’s coefficients.

Reply: The SAS contains 20 items reflecting subjective feelings of anxiety, and each item is rated on four levels according to the frequency of symptoms, 15 of which are positive and 5 are negative. The positive scoring items were rated as 1, 2, 3, and 4 on a coarse scale, while the negative scoring items were rated as 4, 3, 2, and 1. After the evaluation, the scores of each of the 20 items were summed to obtain the total crude score, and then the crude score was multiplied by 1.25 and then rounded to the nearest whole number to obtain the standard score. In this study, the 20 items of the SAS and SDS scales, which measured anxiety and depression in patients, were put into Reliability Analysis in SPSS for analysis, and the results showed that the Cronbach's α coefficient value was >0.75, suggesting a high internal consistency between the questions.

3. Why were some factors dichotomised and others not? Without explanation this becomes a problem for the integrity of the analytic approach.

Reply: In the baseline data, we transformed all variables into dichotomous variables to ensure the completeness and consistency of the analysis.

Analysis

1. Statistical analysis is generally conducted appropriately. However there is no reporting of how assumptions of their regression models were assessed, and whether their models do in fact meeting assumptions.

Reply: First, the binary logistic regression model used in this study addresses whether a negative sentiment dichotomous outcome occurs; the classification of each categorical variable (both dependent and independent) must be comprehensive and mutually exclusive between each classification; the sample size is greater than 15 times the number of independent variables; there is no multicollinearity among the independent variables; there are no significant outliers, leverage points, or strong impact points; and there is a linear relationship between the logit transformed values of the continuous independent and dependent variables.

2. Please be specific with P value reporting in the body of the text, rather than a generic report of "P<0.05".

Reply: Thanks for your suggestions and I have revised.

Figures and graphs

1. Extensive tables and figures are provided.

Reply: Thanks for your suggestions. We believe that all tables and figures are relevant to this article.

Results

1. Authors establish their aims appropriately in the introduction section. However the results section reads as quite long and unfocused, reporting on associations which are not, at least to me, obviously linked with pursuit of exploring the hypothesis. Editing their results section, particularly the "Comparison of prognostic indicators for patients with different types of pneumonia", would make this article more focused – they have provided extensive tables to which one can refer should there be interest from readers on other associations.

Reply: Thanks for your suggestions and I have revised.

Discussion

1. The discussions section reads like an extension of the introduction section. It contacts a lot of information which does not progress the point of the article, and more than half of the discussion could be removed.

Reply: Thanks for your suggestions and I have revised and added the part of analysis of risk factors for negative emotions.

Reviewer C

1. Please check the below Keyword. You choose it as a Keyword but it cannot be found in the main text.

53 **Keywords:** Severe pneumonia (SP); acute and critical illness; negative emotions;
54 prognosis

Reply: Thank you for the suggestion, we have revised in the article.

2. Your reference 15 is not SAS and SDS. Please check whether you cited wrong reference.

175 **##Negative emotion assessment**
176 The Self-Rating Anxiety Scale (SAS) was used to reflect the existence and degree of
177 anxiety (15). This consists of 20 items, each rated from 1 to 4, and the scores of each
178 item were summed to obtain a crude score then multiplied by 1.25 to give a standard
179 score. The evaluation criteria are SAS score >50, 50–59 for mild anxiety, 60–69 for
180 moderate anxiety, and 70 and above for severe anxiety. The scale has good reliability
181 and validity, and the Cronbach's α coefficients are above 0.75.
182 The Self-Rating Depression Scale (SDS) was used to reflect the existence and degree
183 of depression (15). This consists of 20 items and an SDS score >52 is used as the

Reply: Thank you for the suggestion, we have revised in the article.

3. Please check if any more references need to be added in the below sentence since you mentioned "Studies", but only one reference was cited. If not, "studies" should be changed to "a study/a previous study".

533 Some studies have shown nursing by health care professionals can enhance the
534 confidence and compliance of patients and reduce their fear, depression, and other
535 negative emotions, which is important for their recovery (16). Therefore, in the clinical

Reply: Thank you for the suggestion, we have revised in the article.

4. Ethics:
Please provide the ID/number of ethical approval.
Reply: Thank you for the suggestion, we have revised in the article.

5. Table 1:
Please add unit for below items.

Breathing rate		
≤25	130 (53.5)	46.12±4.75
>25	113 (46.5)	46.56±4.98
Temperature		
≤37.3	70 (28.8)	44.86±4.55
>37.3	173 (71.2)	46.92±4.85
HR		
≤90	191 (78.60)	46.12±4.73
>90	52 (21.40)	47.10±5.26

Reply: Thank you for the suggestion, we have revised in the article.

6. Figures 2-3:

1) Your Figures 2-3 are the same one. Figure 3 is the wrong one. Please revise.

2) Please indicate the full name of "APACHE II", "OR" in Figures 2-3 legends.

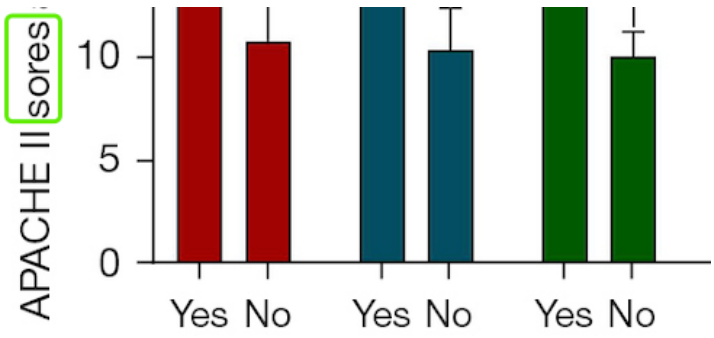
Reply: Thank you for the suggestion, we have revised in the article.

7. Figure 4:

1) Please indicate the full name of "ICU", "APACHE II" in Figure 4 legend.

2) Please indicate the meaning of *, ** in the legend.

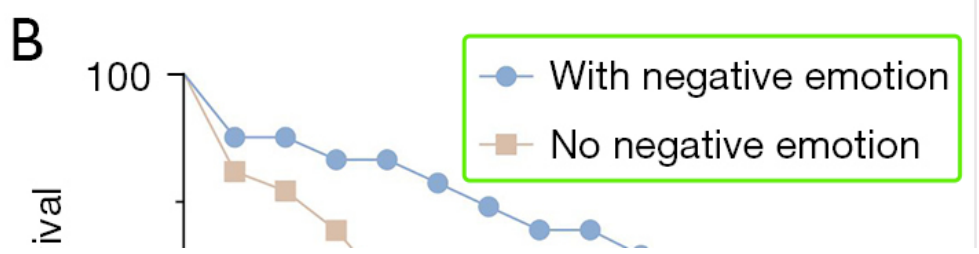
3) There is a spelling mistake.



Reply: Thank you for the suggestion, we have revised in the article.

8. Figure 5:

Please check whether you mixed up the figure labels. Should the blue dotted line be "no negative emotion"?



Reply: Thank you for the suggestion, we have revised in the article.