Response letter

Dear reviewers and editor

I would like to thank you for your hard work about reviewing process and valuable comments. In the light of your comments and suggestions, we have carefully revised the manuscript.

For editor

1. The authors did not provide the approved grant application form(s). Please upload the approved grant application form(s) or funding agency copy of any approval document(s).

Answer: We have attached the project approval document under this revision.

2. The authors did not provide original pictures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor.

Answer: We will provide this ppt file for the figure, please see in the attached file.

3. PMID numbers are missing in the reference list. Please provide the PubMed numbers and DOI citation numbers to the reference list and list all authors of the references. Please revise throughout.

Answer: We have revised the reference following your comments, and add the PMID and DOI number.

4. The "Article Highlights" section is missing. Please add the "Article Highlights"

section at the end of the main text.

Answer: We add the article highlights section at the end of the main text as follows:

Research background

Stroke has a great impact on the mental health of patients. Positive coping style, good resilience and less disease uncertainty can promote the recovery of prognosis mental health of stroke patients.

Research motivation

There is no consensus on the relationship among disease uncertainty, resilience and coping style of stroke patients.

Research objectives

This study aims to analyze the moderating and mediating of resilience between coping style and disease uncertainty.

Research methods

The Mishel Uncertainty in Illness Scale (MUIS), the Connor-Davidson Resilience Scale (CD-RISC) and the Medical Coping Modes Questionnaire (MCMQ) were used to test the uncertainty in illness, resilience and coping style respectively.

Research results Resilience had a significant moderating role in the correlation between coping style and unpredictability and information deficiency for uncertainty in illness ($p < 0.05$). Further, the tenacity and strength dimensions of resilience mediated the correlation between the confrontation coping style and complexity, respectively ($p < 0.05$). The strength dimension of resilience mediated the correlation between an avoidance coping style and the unpredictability of uncertainty in illness ($p < 0.05$), as

well as correlated with resignation, complexity, and unpredictability ($p < 0.05$).

Research conclusions

To the best of our knowledge, this was the study that examined the relationship among coping style, resilience, and uncertainty in illness. The findings indicated that resilience could moderate and mediate the relationship between coping style and uncertainty in illness.

Research perspectives

It is recommended that medical institutions should strengthen psychological intervention and counseling for stroke patients to enhance their adaptability and coping ability during illness.

For reviewer #1

1. As a retrospective cohort study, it is necessary to point out the follow-up method, such as telephone, home visit, etc.;

Answer: According to your comments, we add the data collection technique as "We trained the investigators and explained the aim of the study to the participants at each study site by home visit."

2. "Keywords " should included or modified to " Uncertainty in illness " and " coping styles "

Answer: We thank for your suggestion in keywords, we revised keywords as follows: Stroke; Resilience, Psychological; Coping styles; Uncertainty in illness

3. In the first line: Name of Journal: World Journal of Gastroenterology, please

confirm

Answer: We are sorry for we used the BPG publishing group format but we forgot to change the name of journal in format. We correct to World Journal of Clinical Cases.

4. In the first line of "INTRODUCTION": Stroke is the main type of cerebrovascular disease, not a complication

Answer: We changed the word following your suggestions as shown in 1st paragraph of introduction.

5. In the second paragraph of "MATERIALS AND METHODS" "Measures": Has CD-RISC been translated in Chinese, how about the reliability? please confirm

Answer: We added our pre-test result of Cronbach Alpha using 30 samples, the revised sentences as follows, "From the pre-test of 30 samples, the Cronbach's alpha coefficients for tenacity, strength and optimism was 0.82, 0.79, and 0.75 , respectively."

6. Unsmooth language description: In "Abstract METHODS", what should the scale be used for

Answer: We corrected the methods in abstract as "We used the Mishel Uncertainty in Illness Scale (MUIS), the Chinese version of the Connor-Davidson Resilience Scale (CD-RISC) and the Medical Coping Modes Questionnaire (MCMQ) to test the uncertainty in illness, resilience and coping style respectively. "

7. It is best to list the patient's NIHSS score to assess the severity of the patients.

Answer: We reviewed the patients' case reports and the supplementary data are as follows, "The vast majority of participants were diagnosed with ischemic stroke, and

only 19.5% were diagnosed as hemorrhagic stroke. According to NIHSS score at admission, 76.6% of the participants had mild stroke, 19.5% had moderate stroke, and 3.9% had moderate to severe stroke."

For reviewer #2

1. At the title page, authors refer to "Name of Journal: World Journal of Gastroenterology", please clarify

Answer: We are sorry for we used the BPG publishing group format but we forgot to change the name of journal in format. We correct to World Journal of Clinical Cases.

1. Author enrolled patients with 18-89 years, whether younger patients performed better resilience, coping style, and so on, then they wound have good outcomes. However, aged person may perform worse. In other words, age may be a confounding factor which need to be assessed. The same as education level and monthly income.

Answer: Thank you for your comments. In our database, the majority of the stroke patients were age of >60 and 45-49. There were only eight participants under 45 years old, and 6 of them aged 40-45. We did regression analysis on age, coping style, resilience and uncertainty of disease, and found no significant statistical difference between age and three variables. But we understand that age differences as a confounding factor may have an impact on the results. Therefore, we include the relevant content in the limitations of this study, and hope that the future research can increase the sample size to explore the influence of age on related variables. The

revision as follows, "Fourth, the age of the subjects included in this study is quite different, which may limit the interpretation of the results as a confounding factor. It is hoped that future studies can consider the influence of age on related variables."

2. **In exclusion criteria, author excluded the patients with cognitive impairment. But, readers may feel trouble, how to define "no impairment"? Could you provide the criteria?**

Answer: The mini – mental state examination (MMSE) is to explore the dimension of screening dementia and distinguishing cognitive impairment in medicine and related health. In this test, 24 points or more (out of 30 points) indicated normal cognition. Scores below this can indicate severe ($\leq$ 9), moderate (10–18), or mild (19–23) cognitive impairment. Therefore, through this test, we defined patients with a score of less than 24 as possible cognitive impairment. These patients may have memory errors, which will affect the results of the study, so we set this item as one of the exclusion criteria.

3. **In the part of "Measures", there is a sentence "Has CD-RISC been translated in Chinese, how about the reliability?", what's the meaning?**

Answer: In the previous study, Wu et al. have translated the scale to Chinese, and tested its reliability and validity. The Cronbach Alpha value of their study was 0.750. We also added our pre-test result of Cronbach Alpha using 30 samples, the revised sentences as follows, "The CD-RISC scale was translated into Chinese by Wu et al., and the reliability and validity of the scale were tested. The Cronbach alpha value was 0.750 [21]. From the pre-test of 30 samples, the Cronbach's alpha coefficients for tenacity,

strength and optimism was 0.82, 0.79, and 0.75, respectively."

4. Author have not described the blinding method, please clarify

Answer: As a retrospective cohort study, participants and researchers know each other, but we will keep participants' information confidential. We revised as follows, "During the process of data collection, we only recorded the code of the questionnaire, and the personal privacy information of participants was not recorded. The collected data was encrypted in the computer and destroyed after the research was completed."

5. In this study, authors evaluated the relationships among resilience, coping style, and uncertainty in illness, and they used three questionnaires respectively. However, one questionnaire for one variable may not be enough. For example, some other questionnaires also used to assess the stage of coping style, such as, Dutch version of the Coping Inventory for Stressful Situations(CISS), Lazarus ways of coping questionnaire(WOCQ). What's the reason for using the Medical Coping Modes Questionnaire (MCMQ)?

Answer: Although WOCQ questionnaire has been widely used in the general population, previous studies show that coping is a dynamic process, and there may be significant differences in studies across some groups. Especially in chronic diseases, the lasting effects of chronic diseases may differ from the challenges of acute stress (e.g., non fatal injuries, surgery, examination stress, and relationships). Therefore, the scale may have some limitations in the application of chronic diseases (Van et al., 2016). However, MCMQ has been widely used in patients with chronic diseases. For example, Liu et al. (2018) used MCMQ to explore the relationship between coping styles and

benefits of Chinese cancer patients, and Qin et al. (2018) used MCMQ to assess the correlation between coping styles and quality of life of oral cancer patients. Moreover, the cluster analysis provided by Shapiro et al. (1994) for MCMQ also provides significant evidence for the application of the scale in chronic patients. According to the above content, MCMQ compared with other similar scales in the evaluation of coping styles of patients with chronic diseases has targeted characteristics, so based on this consideration, we selected MCMQ scale to analyze the coping styles in this study.

Reference

Liu, Z., Zhang, L., Cao, Y., Xia, W., & Zhang, L. (2018). The relationship between coping styles and benefit finding of Chinese cancer patients: The mediating role of distress. European journal of oncology nursing : the official journal of European Oncology Nursing Society, 34, 15–20. https://doi.org/10.1016/j.ejon.2018.03.001

Qin, S. H., Li, X. M., & Li, W. L. (2018). Hua xi kou qiang yi xue za zhi = Huaxi kouqiang yixue zazhi = West China journal of stomatology, 36(3), 271–276. https://doi.org/10.7518/hxkq.2018.03.008

Shapiro, D. E., Rodrigue, J. R., Boggs, S. R., & Robinson, M. E. (1994). Cluster analysis of the medical coping modes questionnaire: evidence for coping with cancer styles?. Journal of psychosomatic research, 38(2), 151–159. https://doi.org/10.1016/0022-3999(94)90088-4

Van Liew, C., Santoro, M. S., Edwards, L., Kang, J., & Cronan, T. A. (2016). Assessing the Structure of the Ways of Coping Questionnaire in Fibromyalgia Patients Using Common Factor Analytic Approaches. Pain research & management, 2016, 7297826.

6. What's the BACKGROUND in abstract?

Answer: We thank for your comments in abstract, and add the background in abstract as follows: "Stroke has a great influence on patient's mental health, and reasonable psychological adjustment and disease perception can promote the recovery of prognosis mental health".

Best regards.

Authors of this manuscript.

Title: Uncertainty in illness and coping styles: Moderating and mediating effects of resilience in stroke patients