Author's response to reviews

Title: Interoceptive hypersensitivity and interoceptive exposure in patients with panic disorder: specificity and effectiveness

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Author's response to reviews: see over
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MS: 1024378913995685 - Interoceptive hypersensitivity and interoceptive exposure in panic disorder: specificity and effectiveness

Dear Mr Hodgkinson-Barrett,

We have now revised our manuscript referenced above in accordance with the two reviewers’ comments. The following pages provide our detailed point-by-point responses to the concerns raised. The manuscript has been read and corrected by a native English speaker, and we have also formatted our manuscript in complete conformity to the Journal style. For example, we have divided the original Table 4 into four separate tables.

We hope that our revisions will prove satisfactory. We thank you deeply for your editorial works,

Sincerely yours,

Toshi A. Furukawa
1) We have provided a diagram to show the flow of the diagram as Figure 1, and explained at the beginning of the Results section as: “Of the 96 patients, 25 decided not to start the CBT program because of symptom amelioration, geographical or time inconveniences, or pregnancy during the waiting period. Of the 71 patients who were actually enrolled in the program, 60 completed the treatment and 11 withdrew from the program because of an improvement experienced before the last session, a lack of improvement, the inconvenience of attending the sessions, or worsening depression. All patients who completed the CBT program assessed the similarity of each interoceptive exposure task to their own panic attacks, but, because of missing data in the medical records, only 43 complete records of the interoceptive exposure tasks were available for analysis.” (p. 10) We further amended our Table 1, so that the final sample can be compared with those who failed to contribute to the final analyses for various reasons. There were no statistically significant differences among these subgroups.

2) We are sorry that our original explanations lacked clarity. We gave a more detailed explanation about how we proceeded with interoceptive exposure exercises as: “Next, a hierarchy was constructed for the interoceptive exercises. First, the patients selected exercises that produced symptoms with ratings of at least 30 on the 0-100 point scale of similarity to their own panic attacks. Each patient therefore selected a different set of interoceptive tasks. Then, the patients ranked the selected exercises in the order of the level of fear they produced. That is, out of the selected exercises, the patients ranked the exercise producing the lowest level of fear as number 1. The exercise with the next highest level of fear was ranked as numbered 2, and so on. Patients were instructed to perform at least one exercise each day, beginning with number 1 on their list, until they had completed all the exercises and experienced a reduction in their level of fear. They were also instructed to record the level of fear evoked during each practice. Within-session practices were consolidated by the between-session assignments.” (p. 7) In order to answer the reviewer’s last question, we also added “Because the interoceptive exposure tasks selected as exercises were determined by the patient’s ratings of their degrees of similarity to their own panic sensations, each patient had a different number of exposure tasks to perform. Table 4 shows the number of patients who selected each interoceptive task and the number of patients who completed each task successfully, i.e. who exhibited a decrease in their fear level by 30 points or more during the period in which the homework exercises were performed.” (p. 12)

3) We speculated on the reasons for discrepancies between Antony et al’s findings and ours, especially with regard to cardiorespiratory symptoms. We wrote in the Discussion “This result appears to contradict that reported by Antony et al. [5], who reported that cardiorespiratory symptoms were strongly elicited by exercises like ‘holding breath’, ‘hyperventilation’, ‘breathing through straw’, ‘running on the spot’ and ‘sitting facing a heater.’ However, Antony et al. recorded the symptoms elicited by each exercise, while we correlated the similarities between each exercise and interoceptive fears, as measured by the BSQ. Consequently, the palpitations produced after the ‘step-ups’ exercise or the shortness of breath produced after the ‘holding breath’ exercise may have been simply regarded as normal physiological responses, causing the patients not to perceive these responses as being similar to their own panic sensations.” (pp. 14-15) We regret that we did not record data for symptom production with respect to each interoceptive exposure exercise. With regard to the obtained factor structure, we noted “This factor structure is roughly in line with the findings of a previous study that described a three-factor structure consisting of somatic fears, cardiac fears and psychosensual fears [22], where their first factor corresponds with our gastrointestinal fears, their second factor corresponds with our pseudoneurological and cardiorespiratory fears,
and their third factor corresponds with our fears of dissociative feelings.” in the Discussion section (p. 14).

4) We added some details about our CBT program as: “The first two sessions included psychoeducation about the nature of anxiety, panic and agoraphobia and provided a rationale for and training in breathing retraining. We placed a stronger emphasis on slow-breathing techniques than on relaxation training. From the third session onwards, cognitive restructuring - including both in vivo exposure and interoceptive exposure – were introduced, and the patients were asked to try to formulate rational thoughts and to perform self-exposure tasks to reproduce both external and interoceptive phobic cues during and between sessions.” (p. 6) We agree with the reviewer that our program which emphasized controlled breathing would have greater effect on respiration-related symptoms than on others. We therefore wrote, when we discussed possible weaknesses of our study, “Second, the study did not include a control group, and it relied on within-group changes to examine the effects of interoceptive exposure. Therefore, the individual effects of the shared treatment components (breathing retraining, cognitive restructuring and in vivo exposure) could not be isolated. Our treatment program followed Andrews et al.’s protocol [17] and emphasized controlled breathing. Thus, it seems reasonable to suppose that our program might reduce panic symptoms related to respiration more than those related to other functions.” (p. 16)

5) Please see #1 above.

6) What we re-translated as “thoracic breathing” was called “chest breathing” in Andrews et al’s manual. We therefore rewrote accordingly.

Reviewer: Professor Hiroaki Kumano

1) Thank you very much for pointing this out. We used Spearman’s correlation coefficients in the revised manuscript. This did not change the results.

2) We tabulated the requested information in Table 4.

3) Table 4 provides an overview, and we further wrote in the Results section “Of the 43 patients whose records were available, 23 (53%) had their fear reduced by more than 30 points for one or more interoceptive exposure tasks, while 20 (47%) did not respond positively to any interoceptive exposure task.” (p. 13)

4) We agree with the reviewer and therefore wrote in the Discussion “This study was an exploratory report that lacked a control group, clearly limiting the interpretability of this investigation. However, these findings provide a basis for the reconfirmation of each interoceptive exposure task.” (p. 17)

5) Thank you very much for pointing this out. Yes, we were ambiguous. We therefore rewrote all the relevant sentences accordingly in the Abstract and in the Results section. For example, in the Abstract, we rewrote “Among each group of patients for whom ‘hyperventilation’, ‘holding breath’, ‘spinning’ or ‘chest breathing’ was effective, a significant improvement in the BSQ pseudoneurological fears factor scores was observed. On the other hand, no significant difference between the baseline and endpoint values of the BSQ gastrointestinal fears or the BSQ fears of dissociative feelings factor scores were observed among the patients for whom ‘spinning’ or ‘breathing through a straw’ was effective.” (p. 2)