Letters

Response to "The Hand-Held Fan and the Calming Hand for People With Chronic Breathlessness: A Feasibility Trial"

Dear Editor:

We read with great interest the recent paper titled "The hand-held fan and the Calming Hand for people with chronic breathlessness: a feasibility trial" by Swan et al.[1] The authors concluded that a future Phase III randomized controlled trial (RCT) to test the fan is feasible, and mixed method data synthesis supports recovery time as a novel, meaningful outcome measure.

Fan (fan therapy) involves an electrical fan for providing airflow in the direction of the patient's face. The mechanisms by which fan therapy provides relief from symptoms of breathlessness remain unclear. However, the reason may be that the second/third trigeminal nerve branches are stimulated by cooling or airflow.[2] Several recent RCTs have concluded that fan therapy is effective in alleviating breathlessness.[3,4] There were no reported adverse effects. Furthermore, fan therapy is inexpensive, convenient, and available in all health care settings. Thus, fan therapy should be considered a highly valuable treatment for patients with dyspnea.

One of the most important findings of this paper is that fan therapy may also be effective in reducing recovery time from exertion-induced breathlessness. Swan et al. showed that recovery time from exertion-induced breathlessness is shorter in both groups allocated to fan therapy. Mean changes from baseline were 33.5 (20.4%) seconds in fan and exercise-advised groups and 40.27 (24.9%) seconds in fan and calming hands and exercise-advised groups. Previous studies have reported that the recovery time required for breathlessness at rest to return to baseline intensity after fan therapy was more than one hour.[5,6] Therefore, the result of Swan et al.'s study expands the possibility of fan therapy. By contrast, there is variability in breathlessness intensity at the baseline among the four groups. In future studies, we strongly recommend that participants who enter studies assessing the effect of fan therapy on exertion-induced breathlessness should be classified based on some baseline data (e.g., breathlessness level, recovery time after exercise, and modified incremental shuttle walk test distance).

Moreover, it is particularly important to report the results of carers' data in a mixed-method RCT. However, in Swan et al.'s study, the roles of the carers were unclear, and we think that the authors should provide a more detailed description regarding their role. Previous studies have reported a strong need among carers of patients with breathlessness for an educational intervention on breathlessness.[7] Intensity of carer burden was affected by the quality of patient care and the carer's psychological health.[8] Furthermore, numerous previous studies have reported that care recognition including carer burden in the field of dementia care should be focused on. The reduction of carer burden among dementia carers could be expected to be effective by encouraging care recognition.[9,10] Therefore, if including not only patients with breathlessness but also carers for the participants could receive educational intervention or cognitive therapy from medical staff, patients may be able to receive higher quality care from carers, with better results. We believe that these will lead to a better understanding of the symptoms of breathlessness of the patients by the carers and further reduction of carer burden can be expected.

Although a considerable amount of missing data from those obtained from the carers is a limitation, we agree that it is difficult to recruit patients with breathlessness and carers in pairs. More research is needed to devise a better sampling method to collect carers' data.

Undoubtedly, it is important to focus on both patients and carers to relieve breathlessness. The study conducted by Swan et al. provided useful data in this regard.

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Authors' Response

We thank Kako et al. for their interest and comments on our recent paper: "The hand-held fan and the Calming Hand for people with chronic breathlessness: a feasibility trial."[1]

We agree that the data support a larger trial and that the findings regarding recovery time are promising. We do, however, emphasize the exploratory nature of the data as the trial was not designed to demonstrate effectiveness.

With regard to baseline variation of breathlessness intensity, we are unsure as to the concern. For a larger subsequent study, this is likely to reduce with increased numbers. However, if there was a concern that there may be a clinical important between group differences at baseline (≥1),[2] an a priori analysis plan which included adjustment for such differences should address the issue. Alternatively, participants could be stratified by moderate or severe breathlessness. We used a well-recognized way to describe the baseline population as an eligibility criterion, the Medical Research Council (MRC) breathlessness scale grade ≥3[3]. The baseline characteristics (NRS Intensity average last 24 hours = mean 5, SD 1.62) confirm that we recruited our target population of people with at least moderate levels of breathlessness and between-group differences did not reach the clinically important difference.

We agree that the role of the carer is important and supporting their needs is an integral component of a multidisciplinary complex intervention for breathlessness management.[4–7] Our study's aim was to assess the feasibility of conducting a Phase III RCT, and as such, it was not designed to test a specific carer intervention for breathlessness management. Carers were included in the study to ensure that their perspective of the feasibility and acceptability of using the fan and Calming Hand as patient self-management strategies for exertion-induced breathlessness were represented and helped inform the design of a future trial.

Demographic Data	Exercise Advice ($n = 10$)	Fan & Exercise Advice ($n = 10$)	CH & Exercise Advice ($n = 10$)	Fan & CH & Exercise Advice ($n = 10$)	Total ($n = 40$)
NRS intensity average last 24 hours	5.0 (2.11) 2–8	5.5 (1.43) 4–8	4.7 (1.77) 2–8	4.8 (1.13) 3–7	5.0 (1.62) 2–8