



The use of menthol for breathlessness: a hot topic full of fresh ideas

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From the authors:

We thank M. Kanezaki and S. Ebihara for opening such an important discussion, which is challenging in the context of a short research letter.

We agree with M. Kanezaki and S. Ebihara that the 6-min walk test is limited for the study of dyspnoea. Dyspnoea is affected by the individual's walking pace; therefore, this field test may not be sufficiently sensitive to detect a difference in dyspnoea resulting from a pharmacological or non-pharmacological intervention. Differences in dyspnoea between two conditions may be more accurately detected with a constant work rate endurance test on a treadmill or an endurance shuttle walk test [1].

In our article, we stated that improvements in exercise tolerance occurred in 40 participants (63% of the population) after chewing menthol-flavoured gum [2]; however, this may have been misleading, as the improvement in exercise tolerance was not related to an improvement in walking distance but to the participant's perception of their dyspnoea. When questioned about the effects of menthol during exercise, 40 participants reported that it seemed to make the exercise easier, especially during the first 2 mins, but that the effect dissipated relatively quickly. Studies in athletes found stronger effects on dyspnoea and on performance with repeated menthol use [3]. One option to increase the effects would be for people to chew the gum while they exercise; however, this is associated with a risk of aspiration. Furthermore, as indicated by M. Kanezaki and S. Ebihara, we do not know the concentration or the type of menthol used in the chewing gum. We requested this information from the manufacturer but they did not reply. We suggest that the best solution would be to use a method of olfactory stimulation that diffuses continuously during exercise, such as a balm or patch, or a spray that could be repeatedly administered.

As suggested by M. Kanezaki and S. Ebihara, we compared the 40 individuals who experienced positive effects of menthol during exercise with the 23 who did not. However, the analysis showed no between-group difference in inspiratory capacity (mean -0.03 L, 95% CI -0.25 – 0.19 L; $p=0.78$), respiratory rate (mean 0.18 cycles per min, 95% CI -3.72 – 4.08 cycles per min; $p=0.93$) or pulsed oxygen saturation (mean -0.28% , 95% CI -2.01 – 1.45% ; $p=0.75$).

Although the effect of menthol in our study was smaller than we had hoped, the positive feedback from the participants reinforces our opinion of the value of menthol in this population. In clinical practice, we noticed that many of our patients regularly consume mint sweets, which suggests that the menthol helps them to tolerate their dyspnoea.

Research teams interested in this topic should consider the methodological limitations of our study in future papers to successfully “capture” the effect of menthol on dyspnoea.



Shareable abstract (@ERSpublications)

The positive feedback from patients with COPD reinforces the value of menthol to reduce breathlessness in this population <https://bit.ly/3v1UQYQ>

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