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Results

- A total of 45 workers in a dyeing industrial complex participated in a pulmonary rehabilitation program using Breathe-On®.
- After four weeks of pulmonary rehabilitation program, statistically significant improvements were observed in FEV1, MIP, MEP, and activity domain of SGRQ (Figure 2, 3).
- Participant compliance was high at approximately 95%.
- No adverse effects, such as dizziness or headaches, were reported during and post intervention.

Conclusion

- Given the high rate of compliance and effectiveness, Breathe-On® could be considered treatment option for pulmonary rehabilitation without adverse events.
- Further research into its application across different respiratory diseases, as well as long-term follow up studies to evaluate the sustained effects will be needed.

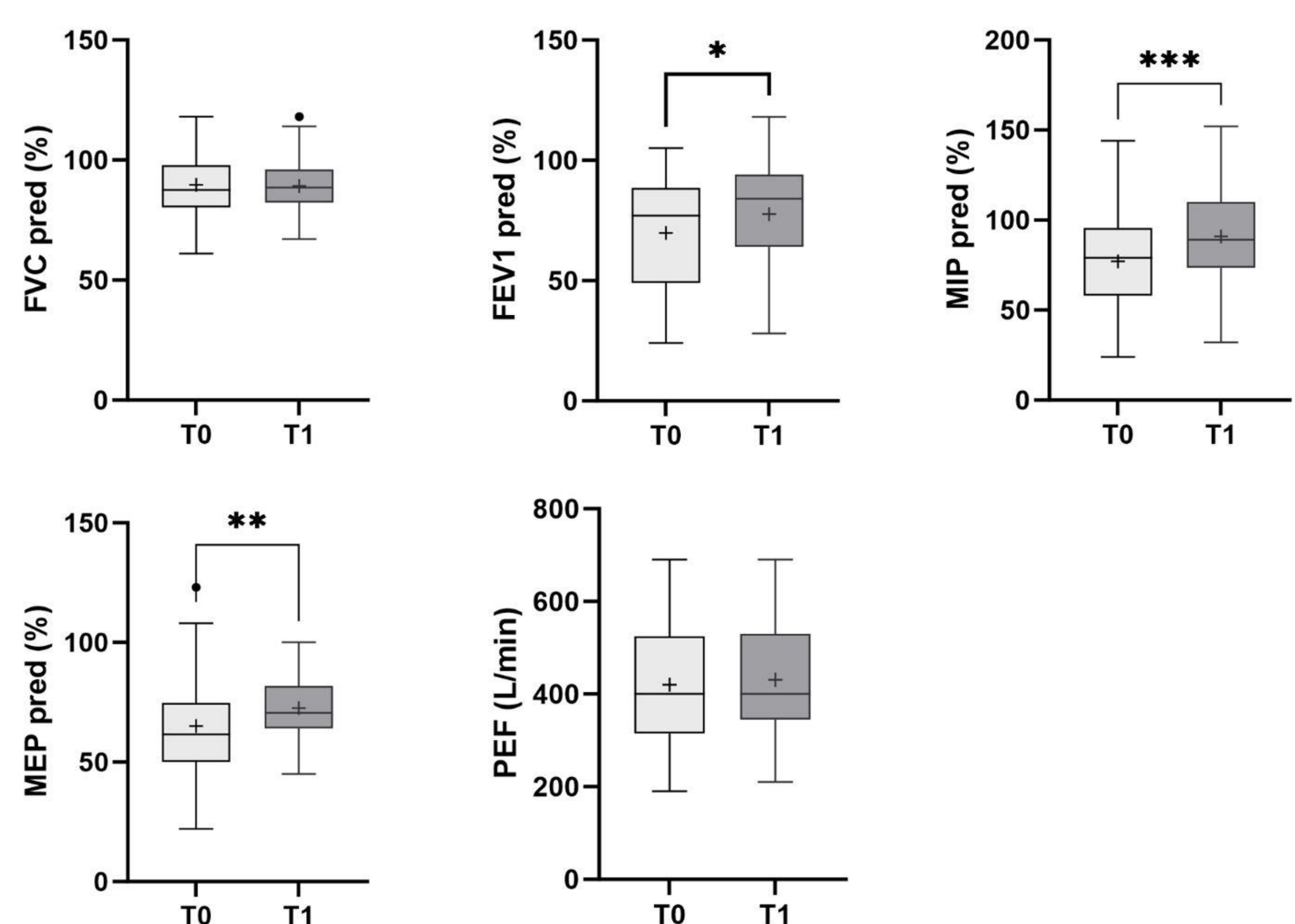


Figure 2. Boxplot depicting difference of pulmonary function between pre- and post-intervention.
* P<0.05, ** P<0.01, *** P<0.001.

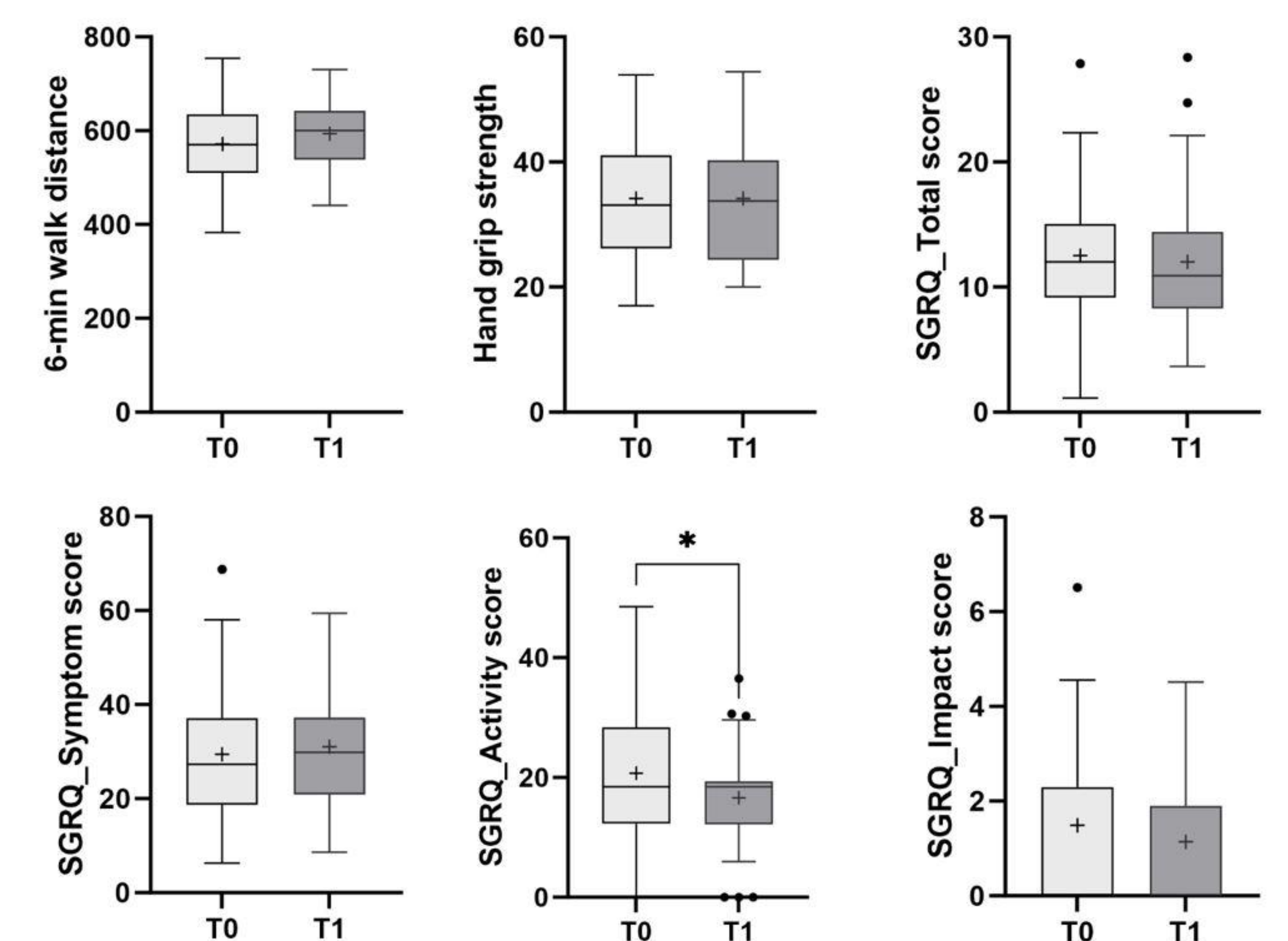


Figure 3. Boxplot depicting difference of physical performance (6MWT and hand grip strength test) and SGRQ between pre- and post-intervention.
* $P < 0.05$.

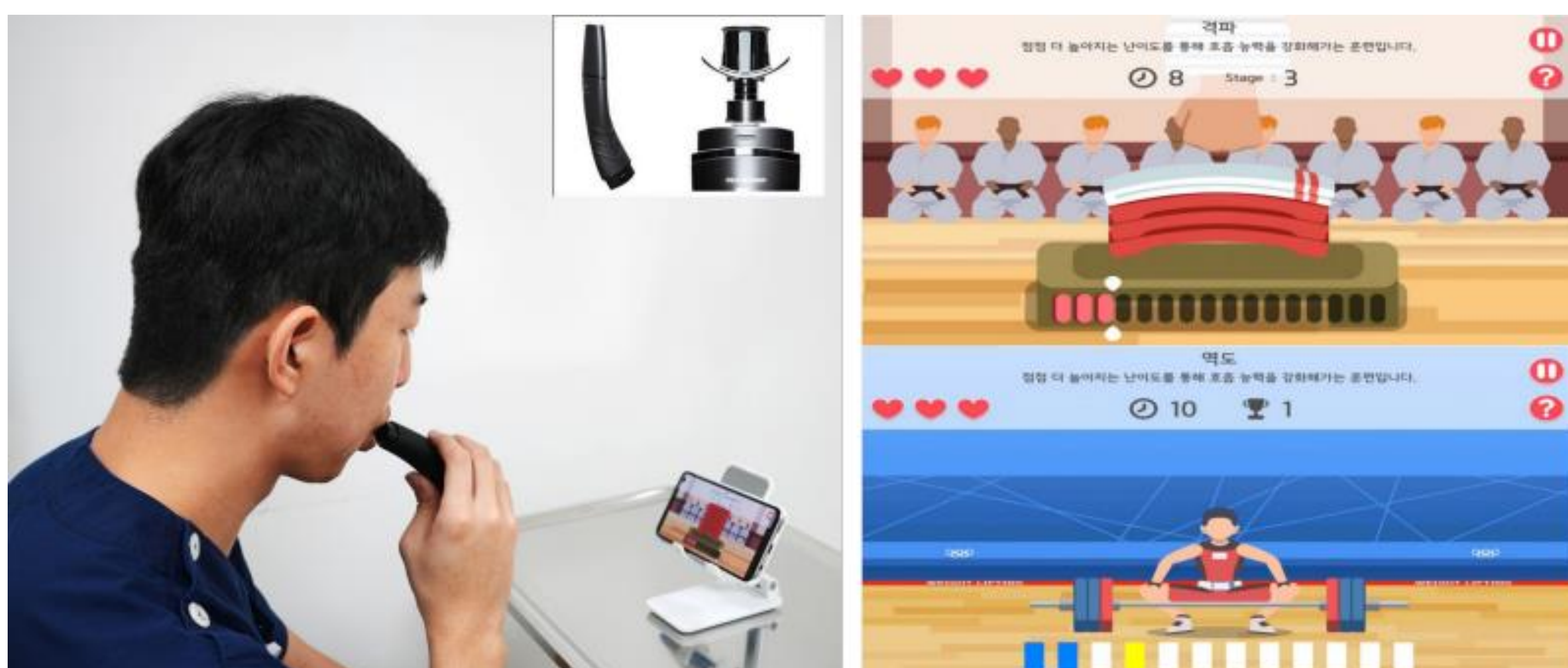


Figure 1. Mobile-app based pulmonary rehabilitation using Breathe-On® device and embedded exergame.