STROBE Checklist – Completed for Manuscript: 'Effects of Rapid Maxillary Expansion on Pulmonary Function in Adolescents: A Spirometric Evaluation'

Item	Response
1a. Title/Abstract - Study design stated?	Yes – 'observational before–after study' indicated in Title and Methods.
1b. Title/Abstract - Informative summary?	Yes – Abstract includes objectives, methods, results (non-significant trends), conclusions.
2. Introduction - Background/rationale?	Yes – Rationale described: airway anatomy, nasal resistance, spirometry rationale.
3. Introduction - Objectives?	Yes – Aim clearly stated at end of Introduction.
4. Methods - Study design?	Yes – Observational before–after, reported in Methods 2.1, STROBE compliant.
5. Methods - Setting/dates?	Partial – Clinical setting given, ethics approval date provided; study period could be clarified
6. Methods - Participants?	Yes – Inclusion/exclusion criteria detailed in Methods 2.2.
7. Methods - Variables?	Yes – Outcomes: SpO■, VC, FEV■, FVC, FEV■/FVC defined in Methods 2.4.
8. Methods - Data sources/measurement?	Yes – Spirometer, calibration, ATS/ERS standards described.
9. Methods - Bias?	Yes – Single physiologist, standardized testing, exclusion criteria (Methods 2.5).
10. Methods - Study size justification?	No formal power analysis – acknowledged in Methods 2.6 and Limitations.
11. Methods - Quantitative variables?	Yes – Means ± SD, paired tests, p-values reported.
12. Methods - Statistical methods?	Yes – Shapiro–Wilk, paired t-test, Wilcoxon signed-rank (Methods 2.6).
13. Results - Participants flow?	Yes – n=15, described in text and Figure 1 flowchart.
14. Results - Descriptive data?	Yes – Table 1 (age, sex, BMI). No missing data.
15. Results - Outcome data?	Yes – Table 2 (SpO■, VC, FEV■, FVC, FEV■/FVC).
16. Results - Main results?	Yes – Paired analyses, non-significant changes, reported in Results.
17. Results - Other analyses?	None performed – sample size too small (acknowledged).
18. Discussion - Key results?	Yes – Discussion starts with summary of findings.
19. Discussion - Limitations?	Yes – Small n, short follow-up, no control, high age, relapse, anchorage, spirometry
20. Discussion - Interpretation?	Yes – Cautious, preliminary, hypothesis-generating.
21. Discussion - Generalisability?	Yes – External validity discussed, need for larger controlled studies.
22. Other - Funding?	Yes – Stated as 'None'.