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Title: Acceptability and effectiveness of a new device in the management of airways clearance

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Body: Introduction Free Aspire (FA) is a new technology that can improve a non-invasive removal of secretions accelerating the expiratory flow, without the use of probes and without generating cough. During treatment patient breathes normally and no pressure is generated in the airways. The secretions are mobilized in the upper airways and swallowed. Aims and objectives The objective of this study is to evaluate the acceptability and effectiveness of FA. Methods 22 patients (54% males) suffering of neurological and/or neuromuscular diseases were enrolled between 2011 and 2012. Outcomes were parent's judgement, ease of use and acceptability evaluated through a questionnaire administered to parents with a score from 1 (best result) to 5 (minimum result). The overall assessment was expressed by parents through a score from 1 (best result) to 6 (minimum result). Results 17 (77%) patients with neurological diseases and 5 (23%) with neuromuscular disorders were studied. The average age was 7.6 (range 1-21) years. The evaluation was performed 5.6 months after the use of the device (range 1-13 months). During the period of study, the patients underwent treatment with FA with a average frequency of 2.4 sessions/day, lasting 15-20 minutes per session. All parents (100%) believed that FA was well tolerated and easy to use and 19 (86%) judged FA effective in improving airways clearance. 82% of parents reported a clinical improvement. Conclusion This study, although performed on a limited number of subjects, shows that FA is judged effective, easy to use and well tolerated. The remarkable acceptability must be confirmed on a long-term evaluation in association with objective criteria of effectiveness of the treatment.