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Exploring the Feasibility of Acoustic Therapy for Nasal Health and Well-being in Allergic Rhinitis and Chronic Rhinosinusitis

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Allergic rhinitis (AR) and chronic rhinosinusitis (CRS) are common conditions that affect the upper respiratory system and have a significant impact on people's quality of life. In New Zealand, approximately 20% of the population suffers from AR, and CRS is also prevalent, although it is not studied as extensively. Many conventional treatments, such as antihistamines, do not always provide enough relief or come with side effects, creating a need for better treatment options. This research, led by a team of researchers, will investigate whether acoustic therapy can enhance mucociliary clearance, alleviate nasal congestion, and potentially impact the nasal microbiome, ultimately improving overall well-being. The study will focus on the use of a vibro-acoustic nasal breathing device for acoustic therapy. Thirty participants will take part in a single-arm, longitudinal study. The study will include pre-treatment, post-treatment, and follow-up assessments. Nasal swabs will be collected to study the microbiome, and blood samples will be taken to examine immune responses. The nasal microbiome will be analysed through ITS and 16S rRNA gene sequencing, while the Sino-Nasal Outcome Test will be used to measure symptom severity and quality of life. The study is actively recruiting participants. We believe that acoustic therapy will help improve nasal airflow, support a healthier nasal microbiome, and enhance quality of life by reducing congestion and improving mucociliary function. If successful, this research could offer a new, non-pharmacological approach for treating AR and CRS, giving patients a better alternative to current treatments. It could also open up new avenues for further research into respiratory health. This presentation will give an overview of the current research on acoustic therapy and explain the approach and goals of my study.

Keywords
Nasal disease; Vibration; Allergic rhinitis; Chronic rhinosinusitis; Microbiome; Well-being