

# EVALUATION OF EASE OF USE OF A PORTABLE SPIROMETER FOR DIAGNOSIS OF OBSTRUCTIVE AIRWAY DISEASE – THE EASYSPIRO SURVEY

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**Background:** Obstructive Airway Diseases (OADs) are underdiagnosed in India; a contributing factor being lack of access to portable, affordable and accurate spirometer. Recently, a portable pneumotach spirometer, was introduced for commercial use to aid clinicians in performing spirometry at point-of-care for earlier diagnosis. This device has been validated in Indians against Vitalograph, a standard spirometer; wherein it was found to be as sensitive, specific and having comparable accuracy in diagnosing OADs. It is essential to understand ease of using this spirometer to facilitate its adoption in routine clinical practice.

**Objectives:** Understand ease of use of a new portable pneumotach-based spirometer and application for diagnosing OADs.

**Methods:** Questionnaire-based survey was conducted amongst clinicians treating OADs, who purchased a portable spirometer and used it for minimum 1 month and performed minimum 10 tests using the device.

**Results:** 82 clinicians (56.1% pulmonologists, 17.1% paediatricians, 17.1% physicians) participated, having an average 13.29 years of practice. 93% reported device & application as “easy to very easy” to learn. 89% reported application as “easy to very easy” to use. 88% reported patients felt comfortable about maintaining a grip on airways of device during spirometry. 90% reported conducting spirometry with device was “easy to very easy”. 86% rated quality of reports on App as “good to very good”. 89% stated it was easy to access saved spirometry reports on application. 93% opined the mouthpieces integrated with BVF-filter provided better protection compared to other spirometers without this feature. 90% reported process of replacement of airways as “easy to very easy”. Portability & ease of use were ranked as most important attributes of the device by 67% and 45% clinicians, respectively.

**Conclusion:** This new portable pneumotach-based spirometer has been found to be easy-to-use with portability, ease of learning, comfortable grip & presence of BVF-filters being its most important features.

**Key Words:** Spirometry, India, OAD diagnosis

**Word Count:** 300