



ASSESSING PULMONARY FUNCTION TEST AWARENESS AMONG POST COVID-19 SURVIVORS.

Physiology

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ABSTRACT

Introduction: Post COVID-19 survivors may experience persistent respiratory symptoms and impaired lung function. Early identification through pulmonary function tests (PFTs) is essential for guiding rehabilitation and preventing long-term sequelae. However, patient awareness of PFT indications, procedures, and benefits remains unclear. This study evaluated PFT awareness among individuals recovered from COVID-19. **Methodology:** A cross-sectional survey was conducted among 40 post COVID-19 survivors (aged 18–65 years) at a tertiary care hospital. Participants were recruited via using convenient sampling. A validated, self-administered questionnaire assessed knowledge of PFT purpose, test components (spirometry), Demographic data included age, sex, education, and disease severity. **Results:** Of the 40 respondents, 55% (n=22) correctly identified spirometry as a PFT component. Overall, 40% (n=16) understood the role of PFTs in monitoring respiratory recovery. Higher awareness correlated with higher education levels: 60% awareness among graduates versus 25% among those with secondary education. No significant differences were observed by sex or age group. **Statistical Analysis:** Descriptive statistics summarized frequencies and percentages. Chi-square tests examined associations between awareness and categorical variables; education level showed a significant association ($\chi^2=6.78$, $p=0.009$). Other factors did not reach statistical significance ($p>0.05$). **Conclusion:** Awareness of PFTs among post COVID-19 survivors is moderate and disproportionately lower in less-educated groups. Targeted educational interventions—such as informational leaflets and counselling during follow-up visits—are recommended to improve patient engagement in pulmonary rehabilitation and long-term respiratory health.

KEYWORDS

Pulmonary Function Test; Post COVID-19; Awareness; Questionnaire; Cross-Sectional Study

INTRODUCTION

- The global outbreak of COVID-19 has left a lasting impact on public health, with respiratory complications being among the most prevalent and persistent issues faced by survivors. SARS-COV-2 infection frequently results in acute respiratory illness, and a substantial subset of survivors report persistence respiratory symptoms (dyspnea, reduced exercise tolerance) for months to year after the acute episodes.
- Epidemiological data indicate that a notable proportion of COVID-19 survivors continue to exhibit measurable lung function impairment at medium longer follow-up intervals. These impairments tend to be more frequent and persistent in older patients, those with comorbidities.
- In this context, Pulmonary Function Tests (PFTs) serve as essential diagnostic tools to evaluate lung function and detect residual or progressive pulmonary impairment. PFTs include tests such as spirometry, lung volume measurement, which help detecting restrictive or obstructive deficit and guiding follow-up or rehabilitation decision.
- These tests are particularly valuable in identifying deficient conditions which may not be evident through routine clinical assessment.
- Patient perspectives, misconceptions, fear of testing procedures, financial constraints these are influence the uptake of PFTs. Many individuals may not be informed about the availability or necessity of such evaluations, especially in non-hospitalized cases or in regions with limited healthcare access.
- Understanding the level of awareness and the factors that hinder access to PFTs is crucial for improving post-COVID respiratory care. By identifying gaps in knowledge and accessibility, healthcare systems can implement targeted interventions such as educational campaigns, improved referral pathways, and community-based screening programs.
- This study aims to assess the general awareness of Pulmonary Function Tests among post-COVID-19 survivors and to explore the barriers that prevent individuals from undergoing these tests. The findings will contribute to the development of strategies that promote early detection and management of post-COVID respiratory complications, ultimately enhancing patient outcomes and quality of life.

- To assess the general awareness of Pulmonary Function Tests among post-COVID-19 survivors.
- To explore barriers to undergoing PFTs, such as lack of knowledge, accessibility, cost, or fear.

Methodology

A descriptive, questionnaire based cross sectional survey was conducted at our tertiary care hospital to assess awareness regarding PFTs. The study included 40 adult participants aged between 18-65 years old who had previously tested positive for COVID-19. Convenience sampling method used. A structured, self administered questionnaire was used. The tool was developed after reviewing relevant literature and was pilot tested for clarity. It included.

- Demographic details (age, sex, education level, occupation, residence)
 - COVID-19 related information
 - Awareness of PFTs (including knowledge of test components and purpose)
 - Barriers to PFT utilization.
- After explaining the purpose of the study, informed consent was obtained, and participants filled it out independently.

RESULTS

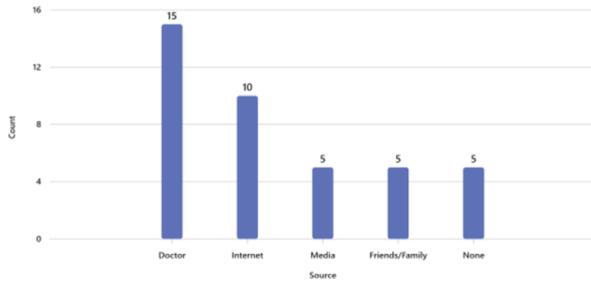
A total 40 post COVID-19 survivors participants included. The mean age of participants was within the range of 18-65 years, with both male and female respondent included.

Result summary

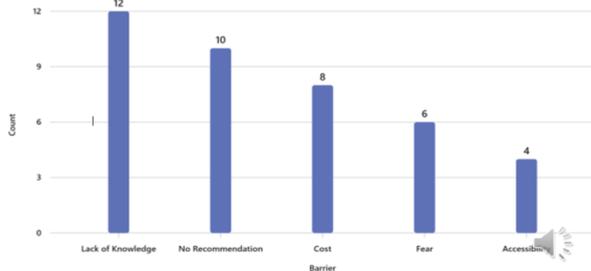
| | Variable | N (%) |
|---|--|---------|
| 1 | Identified spirometry as a PFT component | 22(55%) |
| 2 | Understood role of PFTs in monitoring recovery | 16(40%) |
| 3 | Awareness among graduates | 60% |
| 4 | Awareness | 25% |

- Out of 40 respondents, 55% correctly identified spirometry as a component of PFTs and 40% were aware of the role of PFTs in monitoring respiratory recovery.
- When analyzed by educational background, awareness was significantly higher among graduates 60% compared to those with only secondary level education 25%.
- No significant differences in awareness were observed when stratified by sex or age group.

Aim & Objectives



- Sources of Information
- Doctor:15
- Internet:10
- Media:5
- Friends/Family:5
- None:5



- Barriers to PFT Utilization
- Lack of Knowledge:12
- No Recommendation:10
- Cost:8
- Fear:6
- Accessibility:4

DISCUSSION

- My findings reveled that just over half of participants were able to identify spirometry as a component of PFTs ,while only 40% understood the role of PFTs in monitoring respiratory recovery .
- These results highlight a considerable gap in awareness regarding an important diagnostic tool for evaluating lung function in individuals recovering from COVID- 19.
- Educational status was found to significantly awareness ,with 60% of graduate have knowledge of PFTs compared to only 25% among those with secondary level education.
- This aligns with previous studies suggesting that higher education is associated with greater health literacy and awareness of diagnostic procedures.
- Several studies have documented persistence respiratory symptoms and measurable impairments in lung function among COVID-19 survivors.
- For instance restrictive pattern have been frequently reported up to year after recovery .despite this patient level awareness and utilization of PFTs remain low in many populations due to another barriers.
- The results underscore the need for targeted health educations campaigns and structured counselling during follow up visits .healthcare provides key role in recommending and explaining values of PFTs and improving accessibility and affordability of PFT services in community and rural settings may further enhance uptake.

CONCLUSION

- The study highlights a moderate level of awareness regarding Pulmonary Function Tests (PFTs)among post-COVID-19 survivors, with only a few having undergone the test.
- Key barriers such as lack of knowledge, absence of medical guidance, and financial constraints were commonly reported.
- These findings emphasize the need for better education, proactive healthcare communication, and improved accessibility to PFTs as part of post-COVID respiratory care.

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