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IS CAT OPTIMAL TOOL IN ASSESSMENT OF COPD?

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Objective: Aim: The aim of the study is to determine reliability of CAT (COPD Assessment Test) in patients with chronic obstructive pulmonary disease (COPD). Current Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines recommend using mentioned test to evaluate the severity of the disease by sorting patients into groups (A/C or B/D) which then determines initial therapy (1). Although CAT is validated test for evaluation of COPD impact on health status its predictive value for assessment of disease impact is weak (2). In clinical practice, patients answer the questionnaire on their own and often aren't sure what numbers on visual-analog scale represent, eg. the difference between 2, 3 and 4 and for what each number stands for? The purpose of this research is to identify the most confusing questions and to what extent their clarification by the researchers affects the sum and subsequently degree of the disease severity directly influencing therapy.

Methods: Study was conducted at the Outpatient clinic of the Division of Clinical Immunology, Pulmonology and Rheumatology, University Hospital Center Sestre milosrdnice. Forty four patients were enrolled in this study. It is an observational, interventional, prospective study. The patients came to visit once. The visit included answering the CAT by patients themselves (CATs), and then again alongside researches (CAT) after which spirometry after bronchodilator (salbutamol) was done.

Results: Median patient age was 67.5 (63.5 - 71.0) years and 26 (61.9%) patients were male. Median FEV1 was 59.0% (45.0 - 72.0) and 1.7 L (1.2 - 2.0). CATs was 17 (9 - 24) and CAT 8 (4 - 13), (P<0.001). The highest variability of the responder's response with researchers compared to the independent response was seen in questions number 6 and 7, whereby patients were regrouped in appropriate groups according to GOLD.

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Significant negative correlation was found between FEV1 (%), CATs (ρ = -0.321, P=0.041) and CAT (ρ = -0.480, P=0.001). No significant age and sex correlation was found with CATs or CAT.

Conclusion: The results indicate that CAT is not a reliable tool to estimate the severity of the disease due to patients' lack of understanding the questions asked and lack of descriptive gradations which resulted in confusion when trying to choose between answers numbered 2 to 4. The standardization of the scales for each individual question with specific description for every numerical value so that the emphasis is on lung disease as a cause of difficulties (trying to exclude cardiovascular, endocrine, mental and other diseases as much as possible) would greatly help to objectify the test.

- 1. GOLD. Global Strategy for the Diagnosis, Management and Prevention of COPD, Global Initiative for Chronic Obstructive Lung Disease (GOLD) 2018.
- 2. Ghobadi H, Ahari SS, Kameli A, Lari SM. The Relationship between COPD Assessment Test (CAT) Scores and Severity of Airflow Obstruction in Stable COPD Patients. Tanaffos. 2012;11(2):22-6.