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**Title:** Analysis of impulse oscillometry data of chronic obstructive pulmonary disease patients in community health care center, Ho Chi Minh City, Vietnam

Mr. Xuan Tan 18057 Tran xuantan.tran@yahoo.com.vn<sup>1</sup>, Dr. Quang Dang Khoa 18058 Truong tqdkhoa@gmail.com<sup>1</sup>, Dr. Thi Sen 18059 Nguyen nguyensen24@yahoo.com MD<sup>2</sup> and Prof. Dr Thi Tuyet Lan 18060 Le tuyetlanyds@gmail.com MD<sup>2</sup>. <sup>1</sup> Biomedical Department, International University - Vietnam National University, Ho Chi Minh, Viet Nam and <sup>2</sup> Physiological Department, Ho Chi Minh City Medicine and Pharmacy University, Ho Chi Minh, Viet Nam .

**Body:** Background: Impulse oscillometry system is a non-invasive method to access the oscillatory mechanics of the respiratory system. The aim of this study was to analyze the accuracy of the impulse oscillometry parameters in diagnosis of COPD, and investigate which IOS parameters are related to airflow obstruction in COPD patients in Community Health Care Center in Ho Chi Minh City, Vietnam. Methods: The study contain thirty COPD patients and thirty-two healthy people, whole of them are greater than 40 years, were recruited in Community Health Care Center (CHAC), Ho Chi Minh city, Vietnam. IOS measurements (R5, R20, X5, X20, AX & Fres), and Spirometry (FEV1, FVC) were performed. Pearson or Spearman correlation determined the relationships between IOS and Spirometry. Results: X5, X20, AX and Fres were all significantly associated ( $p < 0.05$ ) with FEV1. However, R5 and R20 were not related to FEV1. The strongest associations were observed between FEV1 and the reactance measurements X5 ( $r = 0.65$ ), and AX ( $r = -0.61$ ). Conclusions: IOS reactance measurements are closer related than IOS resistance measurements in COPD patients. The IOS reactance measurements can be a significant value for diagnosis COPD patients.