

## **COPD 2019: Prevalence of cardiac arrhythmias among chronic obstructive pulmonary disease patients admitted to Jimma Medical Center Medical Physiology and Anesthesiology at Jimma University**

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Cardiac arrhythmias are common in COPD patients and are a major cause of morbidity and mortality. The present study aimed to determine the prevalence of cardiac arrhythmias among patients with COPD. The study was conducted on COPD patients visiting chest clinic of Jimma Medical Center (JMC) located at Jimma town, South west Ethiopia from May 18 to August 18, 2017 G.C. A hospital based cross-sectional study was conducted among 80 sampled COPD patients; and an investigation for 12 Lead resting supine ECG was performed. The results of ECG patterns and other variables were entered into EPI data (3.1) and exported to SPSS (20) for further analysis. The prevalence of arrhythmia accounted for 50% and the magnitude of its types were classified as Sinus origin arrhythmia (30%) specifically [Sinus bradycardia (16.3%), sinus tachycardia (8.8%) and sinus arrhythmia (5.0%)], ectopic arrhythmia (20%) specifically [Premature ventricular contraction (7.5%), atrial fibrillation (6.3%), premature atrial contraction (3.8%), atrial flutter (1.3%) and multi focal atrial tachycardia (1.3%)], conduction block arrhythmia (23.8%) specifically [Bundle branch block (17.5%) for instance: Complete right bundle branch block (3.8%), complete left bundle branch block (5%), incomplete right bundle branch block (7.5%), incomplete left bundle branch block (1.3%), hemi fascicular block (5%)] and atrioventricular block (1.3%), and other arrhythmia (11.4%) like prolonged QTc interval (8.8%) and pre-excitation syndrome or Wolf Parkinson white syndrome (2.5%) as a single COPD patient presented with more than one arrhythmias. Routine ECG investigation should be performed at the setup to screen and initiate early management of Cardiovascular diseases including cardiac arrhythmias for better prognosis COPD patients which was inevitable and very common. Large studies have shown that cardiovascular events are a leading cause of COPD-related mortality, and there is limited evidence to suggest that some of these events may be caused in part by arrhythmias. A number of literature explains the mechanism / factors for the development of

arrhythmias in patients with COPD secondary to adverse effects of medications such as theophylline. B agonists such as salbutamol steroids anticholinergics due to autonomic cardiac dysfunction or ventricular failure. In a healthcare system, especially in our environment that faces competitive priorities, the importance of early and preventive identifications of susceptible conditions cannot be overstated, ideally allowing adequate and cost-effective allocation of resources from the complication of the disease through early screening and early management of systemic complications. One of the screening tests is using a simple tool like the ECG to detect cardiovascular complications, including arrhythmia among COPD patients. So far there are no studies in our setting on the prevalence or burden of cardiac arrhythmias among COPD patients, as even the ECG, a simple tool, is not routinely practiced. Therefore, this study will help establish the burden of the problem, form a basis for future research, and possibly generate recommendations on how to address this problem. Chronic obstructive pulmonary disease (COPD) is a chronic preventable and treatable multisystem disease in which the pulmonary component is characterized by significant limitation of progressive, not fully reversible airflow, often associated with an abnormal inflammatory response of the lung to particles or harmful gases. The best-known and most widely accepted definition is promulgated by the Global Initiative for Chronic Obstructive Pulmonary Disease (GOLD), with a post-bronchodilator cutoff of the FEV1 / FVC ratio <70 COPD is one of the main causes of mortality and morbidity, since the WHO estimates that it is expected to be the third cause of death and disability by 2020, which has been sixth and fourth in 1990 and 2000, respectively. The prevalence in Africa, although low due to detection problems such as a shortage of spirometry, is expected to increase as a result of an increasingly aging population and a higher prevalence of cigarette smoking and exposure to biomass fuel.

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