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Effectiveness of Cardiac and Pulmonary Rehabilitation Module-COPD BODE Index

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Cardiac and Pulmonary Rehabilitation is an open access, peer-reviewed scientific journal that focuses on recent developments in various rehabilitational aspects of cardiology and pulmonology, vascular dementia, occlusive coronary atherosclerosis, hypertension, inflammatory lung disease, physiotherapy, physical exercise, congenital heart defect, carotid atherosclerosis, chronic obstructive pulmonary disease, coronary artery disease, acute coronary syndrome (ACS), angina pectoris, restrictive lung diseases, chronic obstructive pulmonary disease, lung cancer, asthma and occupational lung diseases.

In 2019 we published an article entitled "Standardizing Outpatient Cardiac Rehabilitation Practices in a Large Multistate Medical System: A Practice Convergence Project" by Ray W Squires et al., he explained clearly his research. The United States healthcare system is evolving from fee-for-service reimbursement to paying for high-value care. This paper describes work to standardize 20 separate outpatient cardiac rehabilitation programs (CR) in a multistate medical system with the goal of providing consistent high-value CR services [1]. The project is part of a medical system-wide practice convergence initiative to provide services common to more than one location at the same level of high quality and with the same level of individualized, yet standardized patient experience.

The CR project began in August 2014 and the initial phase was completed in October 2018. Fifty-two staff members participated. Six areas of practice were selected: patient exercise session data management system (clinical database) standardization, patient assessment tools, the individual patient treatment plan (ITP), patient education procedures, policies and procedures, and staff competencies. Information technology work involved database interfaces, the ITP, and documentation of CR services in the electronic medical record with the goal of maximizing CR staff efficiency. Progress was made in standardization of several areas: patient exercise session data management system, patient assessments, the ITP, patient education and staff competencies. Standardization of emergency procedures and patient exercise prescription was accomplished. Variability in program facilities, staff expertise and local practice patterns underscored the complexity of standardization of all policies and procedures. A CR Committee was formed to continue work on unresolved issues and to incorporate innovations as the practice of CR evolves over time [2].

Another article entitled Modified Version for COPD BODE Index: A Mini Review by Marcelo Velloso discussed that Chronic Obstructive Pulmonary Disease (COPD) is one of the leading causes of morbidity and mortality around the world. The functional impairment status is directly related to the number of exacerbations and risk of death. Therefore, BODE index assessment is essential in pulmonary rehabilitation (PR) programs [3]. The aim of this mini review was to describe the modified BODE indices which have been developed so far. The following modified BODE indices were found in the literature: the BODE-VO2, the iBODE, the BODE-TGlittre, the BODE-PSFDQ-M and the BODE-HAP and all showed significant associations with the original BODE index.

A research article by Ruma Galgalekar entitled " Effectiveness of Institutional Versus Domiciliary Implementation of Standard Pulmonary Rehabilitation Module in Bhopal Gas Exposed Survivors having COPD" Pulmonary Rehabilitation (PR) is beneficial treatment to decrease symptoms, increase participation and to reduce health costs for COPD patients for improving health quality. Our study compared the impact of pulmonary rehabilitation of gas exposed surviving COPD patients in ameliorating their health status in two operational settings i.e. supervised institutional and unsupervised home based [4].

The study sample used for PR was 180 gas exposed COPD subjects in age 40-75 yrs. of both gender, satisfying the inclusion (FEV1 of less than 60% and with no active heart disease) and exclusion criteria which was randomized equally into two groups (institutional and domiciliary). Before starting PR program, a 6 Minute Walk Test (MWT), SGRQ score and PFT was done and the same was assessed every 6 months interval. PR program for 1 hr consisted of breathing exercise, pursed lip breathing, huffing and coughing, diaphragmatic and incentive spirometry technique, active range of movements of all upper and lower limb joints and postural drainage [5].

Descriptive statistics of 6MWT with SpO2, Pulse rate and distance walked by both groups after interval of 6 months and 12 months of PR shows significant improvement in institutional group as compared to domiciliary. There is no significant difference in the FEV1 values at 6 months in both the groups but at 12th month follow up there is a significant reduction of 0.04 units in the FEV1 values in the domiciliary group as compared to baseline. Analysis of quality of life assessment by SGRQ shows decrease in severity of symptoms score, marked improvement in activity score, impact scores and total scores in Institutional Group after 12 months of Pulmonary Rehabilitation. Improvement in Quality of life and functional exercise capacity is significantly higher in Institutional group as compared to domiciliary group.

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