

Are there any Treatment Options Available for Increased Association between Diabetes Mellitus and Deteriorating Lung Function Tests?

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There has been brewing relationship between the deteriorating lung function tests and hyperglycaemic state in type 2 diabetes. A study analysing the association of fasting plasma blood glucose and lung function tests using spirometry in the 3,254 members of the Framingham Offspring Cohort found that with diabetes mellitus (DM) (which was defined as fasting blood glucose levels of 126 mg/dl or more) and an advanced level of fasting blood glucose were related with lower than predicted levels of pulmonary function in the population [1]. Moreover, the authors found that added factors like smoking even worsened the scenario. The results in the study highlighted that smoking can be considered as an independent factor to regulate both glycaemia and pulmonary functions. The findings in the study revealed that the diagnosis of DM was also connected with lower mean residual forced expiratory volume in one second (FEV1) and forced vital capacity (FVC). Another longitudinal study that is the Copenhagen City Heart Study [2], had a striking revelation, it found a strong correlation between a newly diagnosed cases of diabetes and a higher degree of impaired lung function measures in individuals taking insulin as compared to individuals treated with oral hypoglycaemic agents.

In such a scenario a need arrives for development of specialized conservative lifestyle programs that may be tailored to individual's need and customized in a way to reap maximum benefits in glycaemic control and normalizing the lung capacities. Proprioceptive Neuromuscular Facilitation (PNF), chest mobility exercises, upper limb exercises can be used to increase chest movements and therapy may especially focus on exercises that may facilitate bucket handle and pump handle movements restoring the proper chest biomechanics.

Recently studies have found that moderate intensity aerobic exercise may not only restore nerve sensation [3] but may also help in glycaemic control in long run [4]. Hence it is essential to design guidelines to improvise the therapeutic benefit of exercises in a customized way to the individuals who are smokers or non-smokers and are at risk of developing Chronic Obstructive Pulmonary Disease (COPD) in DM.

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