

Nutritional Assessments and Obstructive Airways Disease: A Systematic Review

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Rationale: Improving nutrition is key to the management of metabolic syndrome (MetSyn) which affects at least 20% of the US population as well as World Trade Center (WTC) Medical Monitoring and Treatment Program (MMTP) participants. MetSyn biomarkers expressed soon after exposure to the WTC particulates predict future WTC-Lung Injury (LI) a type of obstructive airways disease (OAD). Nutritional intervention in obstructed patients can improve lung function and have been the focus of clinical trials. However, assessing nutrition in these populations is important not only to assess baseline but also to further understand the effects of nutritional interventions. **Objectives:** Our systematic review will include nutritional assessments in subjects with obstructive airways disease (OAD). Many reviews have focused on malnutrition, therapy and improving quality of life. This summary of dietary questionnaires in OAD patients will allow us to better understand how best to assess our cohort of environmentally exposed subjects with OAD. **Source:** PubMed (10/20/17) **Extraction:** Databases were searched for nutrition (assessment OR questionnaire OR evaluation) and obstructive airways disease OR chronic obstructive lung disease. Papers were included if they dealt with lung disease, metabolic syndrome, were in English, used human subjects, and published in the last 10-years. We have excluded papers that focus on malnutrition, physical activity and psychological health. Final systematic review will be registered with PROSPERO. **Results/Synthesis:** A total of 423 studies were identified, Figure-1. 364 (86%) studies were identified by the search outlined above and 59(14%) studies were identified through other sources. Once screened, a total of 65 studies were identified. Of these, 29 studies dealt with COPD, while 10 studies focused on diet assessments. The other 26 focused on the relationships between OAD, diet, and metabolic syndrome. Nutritional reviews utilized diet assessments (11/65, 17%) to identify levels of nutrition and revealed diet interventions to be an important contributor of better lung function. Self-made dietary questionnaires were utilized in (6/11, 55%) rather than validated questionnaires such as Food-Frequency Questionnaires (FFQ). Diets high in caloric content contribute to Metsyn. Furthermore, Metsyn has been associated with loss of lung function. **Conclusions:** Diet and nutrition play major roles in pulmonary function. Significant amount of evidence indicates changes in nutrition may benefit lung function. Future work will focus on incorporating nutritional assessments and diet interventions in participants with OAD in our WTC exposed cohort.