Symptoms, signs and biomarkers during exacerbations of asthma and COPD in primary care: Which findings are most strongly related to a drop in lung function?

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Background: Little is known about the association between lung function and other physiological changes with the clinical course of the exacerbation of asthma and COPD in primary care. The purpose of this study was to describe these changes and the association between them at the time of presentation.

Aims: To describe the changes in symptoms, signs and biomarkers during acute exacerbation of asthma or COPD in primary care, and to identify which findings are most strongly related to a drop in lung function.

Methods: Patients aged 40 years or more registered with diagnosis of asthma and/or COPD in the previous 5 years from seven general practice offices in Norway were identified, and 1111 patients were invited for baseline examinations. Those included were asked to contact their GPs if they experience exacerbations during the following year. Symptoms, chest findings, CRP, pulse oximetry and spirometry were registered both at baseline and during exacerbations. COPD clinical questionnaire (CCQ) was used to register the symptoms.

Results: Of the 376 patients in stable phase included at baseline, 95 patients experienced one or more exacerbation during the study period. Of the 88 patients, who underwent spirometry during exacerbation, the FEV1 had dropped 10% or more in 36 patients (40.9%). Crackles recorded at exacerbation, but not at baseline and a drop in oxygen saturation of at least 2% to 94% or less were the findings most strongly associated with a 10% or more reduction in FEV1.

Conclusion: Most respiratory symptoms and chest findings changed during the acute exacerbations of asthma or COPD, but chest signs, together with a decrease in oxygen saturation were much stronger indicators of a drop in lung function than were the respiratory symptoms.

Biography
Salwan Tariq Al-Ani is a PhD student at the Arctic University of Norway since 2011; he is doing his research about asthma and COPD in primary care as a part time. He is working as a General Practitioner and community medicine Doctor in Fauske Municipality in the north of Norway. During the last 4 years, he published 2 articles about the exacerbation of asthma and COPD from his research and attended many scientific meetings and conferences like IPCRG, GRIN and Nordic congress and presented abstracts from his research in these meetings.

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