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**Title:** Primary spontaneous pneumothorax: Seasonal influence?

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**Body:** Introduction: Primary spontaneous pneumothorax (PSP) arises in persons without risk/triggering factors or respiratory disease, between 18 and 40 years old, tall, thin, smokers with a male/female ratio of 6:1. Atmospheric pressure, humidity, temperature and seasonal variation have been studied as causes of PSP. Results are controversial. Some studies say most pneumothorax appears in winter months. Objective: Characterization and evaluation of patients admitted for PSP and evaluation of seasonal frequency. Material/methods: Retrospective study of patients admitted in the Pulmonology service of Center Hospital of West Lisbon (Hospital Egas Moniz) with PSP from 2008 to 2012. Analyzed parameters: gender, age, predisposing factors, seasonal variation, days of hospitalization, complications and destination after discharge. Results: Were admitted 69 patients with PSP (86% male and 14% female). Mean age was 32 ±17,6 years (16-93 years). Most patients had between 20 and 40 years old (68%). Twenty-four didn't have any risk/triggering factor and 45 had smoking habits, height or previous episodes of pneumothorax as predisposing factor. Thirty percent were admitted in the warm months, but the difference to colder months was minimal. Fifty eight percent had no complications during hospitalization, 8 patients had bronchopleural fistula and 8 persistent pneumothorax, requiring transfer to Cardiothoracic Surgery service and surgical intervention. Mean of hospitalization days was 8±7,4 days (2- 44 days), being 5 or less days in 51% of patients. Conclusion: PSP occurs without risk factors or triggers and there may be predisposing factors. It is controversial whether this entity has a seasonal variation and more research is needed.