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CAN DRUG CONSUMPTION BE A RAGWEED POLLINOSIS EPIDEMIOLOGY INDICATOR?

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BACKGROUND

- Short ragweed pollen is a well recognized source of hay fever during the months of August and September in North-West Milan area
- Clinical manifestations are rhino-conjunctivitis, asthma and more rarely contact dermatitis or urticaria
- Data on drug consumption are probably useful for monitoring allergies that involve ambulatory care

AIM

Analyze the short-term association between high atmospheric short ragweed pollen concentration and drug consumption

METHODS

- Data regarding antiallergic drugs
  - 4 municipal chemist's shops located in Bollate (about 46,000 inhabitants, North-West of Milan)
  - drugs sold during year 2006 either with or without refund from the Health Care System
  - for allergic rhinitis were analyzed: antihistamines and corticosteroids for systemic use and nasal topical anti-allergic drugs
- Analysis
  - Consumptions were analyzed in different months, attention has been focused on May and August-September, because they represent the main periods of wind pollinated related allergy due to grasses and short-ragweed respectively
  - Statistical analysis was performed using Ministat statistical software release 1.1
  - The significance of difference between variables was assessed by using a nonparametric statistical - Wilcoxon test - ($p<0.05$ significant)

RESULTS

	May 2006	Aug 2006	Sept 2006	Total per year
Drugs: Total consumption	860	456	646	4,556

	May vs monthly average (% difference) p=0.00007	Aug vs monthly average (% difference) p=0.00679	Sept vs monthly average (% difference) p=0.00006	Aug + Sept vs monthly average (% difference) p=0.00003	May vs Aug + Sept (% difference) p=0.01
% Difference average	190.70	71.18	194.63	343.48	-21.53

•An increase in the average sales for all drugs was recorded of 190.70% (p=0,00007) for May, 71.18% (p=0,00679) for August and 194.63% (p=0,00006) for September

•The total amount of medicine sold in August and September records a difference of 343.48% respect to the per month average (p=0,00003)

•A comparison had been made between the quantity of each sold drug in May vs August and September. In these last two months, consumptions of antiallergic drugs was 21.53% (p=0,01) higher than in May.

	May/Tot. per year (%)	Aug/Tot. per year (%)	Sept/Tot. per year (%)	Aug + Sept/Tot. per year (%)
% Average	17.66	9.40	17.77	26.04

- 17.66% of antiallergic sold drugs over the entire year was sold in May, 9.40% was sold in August and 17.77% in September (August plus September: 26.04%).

CONCLUSIONS

- The great amount of drugs was sold in spring, when a great amount and variety of pollen is present, while in the months of August and September ragweed is nearly the only one aerobiological pollutant

- More antiallergic drugs were sold in August and September than in May, confirming that ragweed is the main cause of pollinosis in North West Milan area

- Data from this study confirm the interest of the recording of specific drug consumption as an indicator for the epidemiology of pollinosis and its cost analysis