Impact of pollen-related allergies in Europe

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What is EFA?

The European Federation of Allergy and Airways Diseases Patients’ Associations (EFA) is an independent non-profit European alliance of 38 allergy, asthma and chronic obstructive pulmonary disease (COPD) patients’ associations representing 30% of European citizens currently living with these diseases.
Allergies for dummies

Allergy is a “crazy” disease as the immune system of an allergic person fails to distinguish between dangerous substances and harmless ones

BUT

Allergies can make you crazy too! as they might result in poor quality of life, fear, restrictions, social isolation, and sometimes even death (anaphylaxis)

"Allergy is far more than huffing and sneezing for a couple of weeks during the pollen season. The quality of life of patients suffering from allergic rhinitis and allergic asthma is often severely impaired as is their social life, their career and even their school performance."

Breda Flood, EFA President
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_Breda Flood, EFA President_
The allergy epidemic in Europe

- Over **150 million** EU citizens suffer from chronic allergies

- By **2025** more than **50%** of all Europeans will suffer from allergy, with no age, social or geographical distinction

- About **45%** of patients have never received an allergy diagnosis
The allergy epidemic in Europe

- Over 150 million EU citizens suffer from chronic allergies.
- By 2025 more than 50% of all Europeans will suffer from allergy, with no age, social or geographical distinction.
- About 45% of patients have never received an allergy diagnosis.
Allergy is the most prevalent chronic disease in Europe with a prevalence > 20%!!!
**Respiratory allergies**

- Over 100 million Europeans suffer from **allergic rhinitis** and 70 million from **asthma**

- Asthma and allergies as **most common non-communicable diseases in children** - Prevention, early diagnosis and treatment of chronic respiratory diseases in children (Polish Presidency Council Conclusion, December 2011)

*Reference: EFA Book on Respiratory Allergy in Europe*
The cost of allergy
Are we being smart?

Untreated allergy entails indirect costs between 55 and 151 billion Euros per year

With proper diagnosis and treatment, 142 billion Euros could be saved every year

Prevention is better than cure!!!
The cost of allergy

Are we being smart?

Untreated allergy entails **indirect costs between 55 and 151 billion Euros per year**

With proper diagnosis and treatment, **142 billion Euros could be saved every year**

*Prevention is better than cure!!!*
In the case of ragweed, the costs of medication amount to **3.5 billion** EUR per year; **0.1 billion** EUR is the staff costs to administer treatment based on countries wage rates.
Asthma and allergic rhinitis are responsible for **100 million** lost workdays and missed school days in Europe per year.

*Every third studying patient took time off school due to allergic rhinitis*.

* According to a prospective, self-controlled study of 6,592 patients with allergic rhinitis 12 years and older conducted among patients from 16 countries.

*Every fourth working patient took time off work due to allergic rhinitis*.

* According to a prospective, self-controlled survey of 6,592 patients with allergic rhinitis 12 years and older conducted among patients from 16 countries.

From **cradle to grave** diseases imposing a substantial economic burden on healthcare systems.
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Valovirta E, Myrseth S-E, Palkonen S. Current Opinion in Allergy and Clinical Immunology 2008, 8:1–9
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From... disease... substantial... burden...
Allergic rhinitis impairs the working capacity: costs are twice those of migraine or depression.
The allergy pyramid. Most allergy symptoms are mild and intermittent, but due to the high prevalence of allergy, severe symptoms are also common and account for most of the costs. From: The Finnish Asthma Programme [25].

- Impaired school performance: patients with asthma have lower grades and 39% have difficulty staying asleep.

- Decreased quality of life: risk of emotional problems, low self-esteem, learning disabilities, and anxiety disorders, as well as problems (parent anxiety and hostility).
But, first and foremost, disease severity implies:

- **Impaired social life**: 43% of patients with allergic rhinitis and asthma have sleep disturbances & 39% have difficulty in falling asleep

- **Decreased quality of life**: higher risk of emotional (shame, loss of self-esteem) or depressive disorders, and family problems (parent anxiety, overprotection, hostility)
What's needed?

**National level:**
- Harmonising the education for medical specialists (allergologists) and increasing coordination among the different medical doctors dealing with allergy (pediatricians, pneumonologists, ENT doctors, dermatologists) - improving early diagnosis, avoiding the allergic march

**EU level:**
- Fostering allergy research in Europe by allocating funds under Horizon 2020 and the Third Public Health Programme
- Discovering the still unknown causes, moving towards personalised treatments
- Developing an EU strategy on chronic diseases with disease-specific best practices, including the Finnish Allergy Programme
- Improving allergy management, enhancing patients’ quality of life
- Preventing allergy onset and symptoms worsening through real-time pollen information in Europe

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**Pollen myth-buster**

**Myth:**
EU environmental protection legislation, including pollen monitoring, ensures pollen sufferers are not harmed by outdoor activities and become more be mobile.

**RUSTED**

**Facts:**
- Pollen levels are affected by human activities and events:
  - Air pollution
  - Climate change
  - City planning

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**BUT**

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EU level:
• Fostering allergy research in Europe by allocating funds under Horizon 2020 and the Third Public Health Programme - discovering the still unknown causes, moving towards personalised treatments
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Pollen myth-buster

Myth:
“EU environmental protection legislation...excludes [pollen monitoring] because pollen emissions are not from man-made activities and hence cannot be reduced by Member State action” (European Commission answer to MEP Zanoni written question on real-time information on allergenic pollen in the European Union, April 2013)

Fact:
Pollen emissions affected by human activities as regards:
- Air pollution
- Climate change
- City planning
Air pollution:

With higher concentrations of carbon dioxide (CO2) plants grow faster, produce more fruits & release more aggressive pollen grains.

Co-exposure to grass pollen and small particles (PM) produces stronger allergic responses.

Exposure to sulphur dioxide (SO2) and nitrogen dioxide (NO2) causes exacerbation of pollen allergy and enhances lung inflammation.
The pollen productivity of ragweed increases by 60% when CO2 concentrations are doubled!!!
Climate change:

The total amount of pollen in the air is growing probably due to interaction between changing land use, temperature and CO2 concentrations.

The growing season of many trees and weeds starts earlier and lasts longer.

The severity of allergy is affected by the changes in production, dispersion and allergen content of pollen.

If you have allergies, you are on the front lines when it comes to climate change.
City planning:

Highly allergenic trees are planted close to people's houses and schools (e.g.: birch, alder, hazelnut, cypress)

Large monocultures of certain cultivated plants (e.g.: spruce, olive trees, oilseed rape) aggravate allergies

New or non-indigenous allergenic species, such as ragweed, are introduced by human activities (e.g.: transportation, contaminated seeds)
EFA members' best examples

France

Collaboration between RNSA (National Network for Aerobiological Monitoring) & Association Asthme & Allergies (Asthma and Allergy Association)

RNSA collects pollen in the air and clinical data from 70 towns: each week, it provides alerts and a bulletin presenting the level of pollens and the allergic risks, by pollen and/or by area - they have also developed an application for smartphones

The information is sent to the French health authorities, to the clinicians, and to the public

Denmark

Asthma-Allergi Danmark (Danish Asthma and Allergy Association) is running the pollen information service with 15 pollen stations

Daily pollen counts and pollen forecasting are published
Denmark

Astma-Allergi Danmark (Danish Asthma and Allergy Association) is running the pollen information service with 15 pollen stations.

Daily pollen counts and pollen forecasting are published and communicated to the public via free e-mail service, applications for smartphones, Internet pages, written and visual medias.

In the specific case of ambrosia, they monitor pollen and provide information to allergic people, including a guide on how to recognise and remove the plant.

Each year in the season, they run ambrosia campaigns to bring the problem into public attention.
Because in the end...

Thank you very much!
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