



## Clinical Presentation of Allergic Rhinitis in Patients of Urban Vs Rural Areas

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Allergic rhinitis is a disorder resulting from an immunological abnormality in which atopic individuals produce IgE to allergens (e.g. Pollen, house dust mites, animal dander and moulds). IgE activates mast cells, which respond by releasing inflammatory mediators. Histamine stimulates the early symptoms, predominantly mucus production, nasal itching and sneezing. Leukotrienes and cytokines attract and activate eosinophils to cause allergic inflammation, which is primarily responsible for nasal blockage [1].

A variety of symptoms and signs can be seen in a patient of allergic rhinitis as there is a wide range of social determinants that is linked to the health of the patient.

Urban and rural living is important amongst them. Urbanisation is increasing and it is an important determinant of health, as it may create incubators for infectious disease [2]. Factors associated with urban and rural living contribute to differences in respiratory and allergic conditions.

Amidst all the various relations that has been put forward between urban and rural dwellings and allergic reactions we get to know that:

- Farm and rural upbringing have been shown to be protective against allergic rhinitis compared with urban living [2].
- Apart from this, much less is known about the impact of urban and rural living on upper respiratory tract infection (URTI), gastroenteritis or urinary tract infection (UTI) [2].

As rightly said by Susan Orlean “living in a rural setting exposes you to so many marvelous things—the natural world and the par-

ticular texture of small town life and the exhilarating experience of open space” [4]. This makes the picture more clear and clarifies the uncertainty that people poses towards rural culture and Life.

In a survey of RCGP (Royal College of General Practitioners) and RSC (Research and Surveillance Centre), it was found out that:

- People living in conurbation or urban areas were more likely to consult for allergic rhinitis and URTI
- The odd’s ratio of presenting with allergic rhinitis increased with population density.
- Children in urban areas were more likely to consult for asthma (0 - 4 years) and URTI (5 - 17 years) than were 18 to 64-year old adults living in rural areas [2].

The implications of such findings were as follows:

- Living in an urban area leads to an increased risk of allergic rhinitis and URTI in all people and an increased risk of URTI, LRTI and Asthma in children [2].
- Furthermore, population density and traffic in conurbation may increase the rates of allergic Rhinitis and Asthma [2].

Allergic rhinitis is crucially linked to impairments in information processing and changes in attention- related cognitive process. This has the potential to impair patients’ ability to perform optimally in their daily professional and personal life. In particular, children in urban areas can experience significant impairment through multiple physical and psychological aspects [1].

Their symptoms, particularly a runny nose, mean that children are often embarrassed in school and have decreased social inter-

action; also Nasal congestion is associated with sleep disturbance and resultant daytime fatigue This has a marked detrimental effect on children’s learning and examination performance [1].

The correlation b/w allergic rhinitis and negative effects on learning should be an area of concern for all professionals involved in their care. Similarly, adults are also affected, e.g. decreased productivity at work etc. Such patients presenting to the doctor are dull, tired-looking, have low confidence level, and may be having an accidental injury with the complaints of allergic rhinitis. Whereas, a patient coming from the rural area presenting to the doctor is more confident but is more negligent towards his/her disease. The main difference that arises between the complaints of urban and rural dwellers is that:

- The former one will be more sensitive towards the allergen and quickly develops allergic reactions like sneezing, runny nose, itching, redness etc. whenever exposed to the allergen.
- But due to more awareness and better medical facilities available in urban areas, most people seek early care and avoid going into the chronic stage or developing complications.
- The latter comprises of rural dwellers, because of their higher level of tolerance and relatively early and constant exposure to allergens, allergic reactions are not very frequent and severe.
- But due to lack of awareness and medical facilities as well as negligence by these people, most of them often delay seeking medical care and finally present being in chronic stage or/and with complications(e.g. sinusitis, nasal polypi formation, serous otitis media, asthma etc).

Lastly, I would like to conclude by adding that allergic rhinitis is an illness that affects multiple aspects of patients’ life and has complex effects on society as a whole. Avoidance of allergens is the mainstay of treatment followed by drug therapy and then immunotherapy.

Not only the treatment offered by physicians will help you to overcome your disease but also the well-being of your mental health will require an Elysian atmosphere residing amidst the rural life that is suit for us to discover and experience the ever growing, soothing and healing touch of nature. As rightly said by Giovanni Ruffini [3]: “If country life is healthful to the body, it is no less so to the mind”.

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