SCOPE OF THE WORK
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Allergic diseases are one of the most important problems of the present day human pathology all over the world. One of the effective ways to deal with this problem is to have information on the incidence and prevalence of airborne allergens of biological origin.

From the medical and especially clinical point of view, it is important to know the details of occurrence of particles in the air, particularly fungal spores. At first sight, ecological studies of the natural aerosols (aerospora) might appear to be purely of academic interest. However, this is not true. On the contrary, monitoring of the atmosphere for these bio-particles is of applied value, not only for the diagnosis and management of an allergic patient, but also for agriculture and forestry. Vertical dispersion of spores gives a representation of the immediate surroundings and the areas around. Urban structures can influence wind flow in reference to air pollution problems.

Allergic disorder due to fungal spores or hyphal fragments tends to be perennial, but exhibits sporadic exacerbations when the patients are exposed with a higher density of spores. Respiratory allergy may be more predominant than other forms of allergy because of the smaller spore size of certain species, such as Aspergillus sp. capable of penetrating deep into the bronchi.

The research will be helpful in compiling a fungal spore calendar and making it available to the clinicians for its use in allergy diagnosis. The fungal spore calendar indicates the occurrence of most predominant types of airborne fungal spores in the atmosphere.
An important role of monitoring of fungal spores is to explore the inhaled airborne allergic elements that are responsible for the initiation of sensitive reactions, with their accompanying hypersensitive response.

Research work on the above lines will yield information on the occurrence of fungal spores in atmosphere, under the influence of meteorological factors such as humidity, rainfall, wind and temperature.

The attempt to design a model for the forecast of fungal spores and the threshold value of allergenic types of fungal spores will be useful for allergy patients to take precautionary measures.

This will help in the correct diagnosis of fungal allergies and their treatment. There is naturally a close inter-relation between the aerospora and their environment (meteorological parameters, pollution). Further correlation studies involving all of the various parameters are greatly needed.

Longtime sampling and correlation studies of pollen/spore frequencies and vegetation – climate of a region, will be necessary in order to reveal the occurrence of aeroallergens.

The information generated in the present investigation is very significant from the point of allergic disorders. There is tremendous scope for using this information to carry out work related to three way correlation i.e. correlation between fungal aeroallergens, weather factors and allergic manifestations. These three factors are dependent on each other. It would be worthwhile in future studies to concentrate on 3-4 most predominant atmospheric fungal spores and by closely monitoring their sensitivity in allergy patients attempt
to determine their threshold value. Further generation of data on fungal aeroallergens and meteorological parameters will help in developing fungal aeroallergen density prediction models. Such prediction models will be immensely helpful not only for human health but also for agriculture.