

**INFLUENCE OF METEOROLOGICAL PARAMETERS ON  
POLLEN CONCENTRATIONS: A CASE STUDY OF  
ISLAMABAD**



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requirement for the degree of B.S in Environmental Sciences**

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## ABSTRACT

Pollen grains are one of the most important groups of atmospheric biological particles that trigger allergic processes. Flowering and pollen production of individual species are influenced by genetic, phenological, ecological, meteorological and climatic factors. Estimation of the intradiurnal variability in the pollen count permits evaluation of the threat posed by allergens over a given area.

This study aims at finding out the effects of meteorological parameters on pollen count within the capital city Islamabad. For this purpose we collected 4 years data from 2010-2013 only including months of March, April, July and August because the pollen is recorded during these months. Statistically significant correlations between pollen counts and weather parameters were noted. Different meteorological parameters like maximum temperature, rainfall, relative humidity are correlated with pollen count along with the number of patients reported to National Institute of Health (NIH) are correlated with pollen count. Due to the effects of these meteorological parameters the result shows that average pollen count over the span of 4 years calculated lowest in the month of July that is 149 pollens/m<sup>3</sup> in 2010 and highest in the month of March that is 6413 pollens/m<sup>3</sup> in 2010. The study reveals that in spring season (March-April) highest daily pollen count was observed as compared to the moon soon season (July-August). The study also reveals that the meteorological parameters which are temperature, rainfall and relative humidity have negative relation with pollen count. It also explored that number of patient increases in spring season (March-April) and decreases in moon soon with increase and decrease of pollen count respectively.

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