association between subjective health symptoms and data acquired from the Japan Meteorological Agency's (JMA's) the Model of Aerosol Species in the Global Atmosphere (MASINGAR) aerosol model with the objective of ascertaining if the data could be applied for predicting health effects.

**Methods:** Subjective symptom scores were collected using self-administered questionnaires and used with JMA model's surface concentration data to conduct a risk evaluation using multiple linear mixed model, during 2013 to 2015. Altogether, 160 individuals provided 16226 responses. Data regarding climate (temperature, humidity, and atmospheric pressure) and environmental factors (NO2, SO2 and Ox) were used as covariates. We calculated the association between the surface dust concentration and symptoms.

**Results:** A strong association was also observed for nasal and cough symptoms (P for trend $< 0.001$). The differences in scores of nasal symptoms (sneezing and runny) of the highest quartile [Q4] vs. the lowest [Q1] were 0.039 (95% confidence interval (CI): 0.02–0.01, $p < 0.05$) and 0.046 (95% CI: 0.002–0.02, $p < 0.05$), respectively. The differences in scores of cough symptoms were 0.036 (95% confidence interval (CI): 0.002–0.01, $p < 0.05$).

**Conclusions:** This study suggests that predictive models for pollutants' arrival can be used to capability to foresee and possibly prevent the health impact of long range transport of air pollutants, recommending the potential role of aerosol forecast models in health care. MASINGAR is Global Spectral Model (GSM), this have the potential that can contribute in health predictions all over the world.

**Key messages:** Asian dust, Health forecast, Allergic symptom

## Abstract #: 818
## Prediction of health effects of Asian dust using the MASINGAR in Japan

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**Background:** Health effects of cross-border air pollutants and Asian dust are of significant concern in Japan. Currently, models predicting arrival of aerosols have not investigated the association between arrival predictions and health effects. We investigated the