

Poster-discussion: Respiratory effects 2

P175 RESPIRATORY SYMPTOMS AND EFFECTS OF SO₂: 4-YEAR FOLLOW UP OF MIYAKEJIMA RESIDENTS AFTER RETURNING TO THE ISLAND

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Objectives and methods Mt. Oyama in Miyakejima Island, Tokyo, erupted in June, 2000. All Miyake village citizens were forced to evacuate from the island in September, 2000, due to continuous eruptions and emissions of unsafe amounts of volcanic gas, mainly SO₂. The study population comprised 525 adults (195 male, 330 female) who each underwent two health examinations for respiratory health just before returning the island (2004) and 4 years after return (2008). Exposure was approximated by monitoring data across 7 monitoring stations. Mean SO₂ concentration from February 2005 to November 2008 was 0.022 ppm. According to a 56-month average of the 5-min mean SO₂ concentration, we categorised the four inhabited areas into one low-, 2 middle- and one high-concentration areas. Effect was evaluated by a questionnaire for respiratory symptoms. We defined chronic obstructive lung disorders as having cough and phlegm on most days for at least 3 months in each year.

Results Arithmetic means of the 5-min average SO₂ concentration (ppm) in the past 54 months were 0.005 for low-, 0.022 and 0.024 for middle-, and 0.036 for high-concentration areas. The prevalences of "sore throat", "skin irritation" and "nasal irritations" were significantly higher in the high- and one of the two middle-SO₂ areas compared to the low-SO₂ area. However, the prevalence of chronic bronchitis-like symptoms among normosusceptible citizens in 2008 was 2.0% which was lower than that of 3.3% in 2004.

Conclusions SO₂ exposure-dependent respiratory symptoms were observed in adult Miyakejima citizens after returning to the island.