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# RESPIRATORY AND SKIN HEALTH AMONG GLASS MICROFIBER PRODUCTION WORKERS: A CROSS-SECTIONAL STUDY

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**Objectives** A few studies have investigated non-malignant respiratory effects of glass microfibers and these have provided inconsistent results. Our objective was to assess the effects of exposure to glass microfibers on respiratory and skin symptoms, asthma and lung function.

**Methods** A cross-sectional study of 102 workers from a microfiber factory (response rate 100%) and 76 office workers (73%) from four factories in Thailand was conducted. They answered a questionnaire on respiratory health, occupational exposures, and lifestyle factors, and performed spirometry. Measurements of respirable dust were available from 2004 and 2005.

**Results** Workers exposed to glass microfibers experienced increased risk of cough (adjusted OR 2.04), wheezing (adjOR 2.20), breathlessness (adjOR 4.46), nasal (adjOR 2.13) and skin symptoms (adjOR 3.89) and ever asthma (adjOR 3.51), the risks of breathlessness (95% CI 1.68 to 11.86) and skin symptoms (1.70 to 8.90) remaining statistically significant after adjustment for confounders. There was an exposure-response relation between the risk of breathlessness and skin symptoms and increasing level of microfiber exposure. Workers exposed to sensitising chemicals, including phenol-formaldehyde resin, experienced increased risk of cough (3.43, 1.20 to 9.87) and nasal symptoms (3.07, 1.05 to 9.00).

**Conclusions** This study provides evidence that exposure to glass microfibers increases the risk of respiratory and skin symptoms, and has an exposure-response relation with breathlessness and skin symptoms. Exposure to sensitising chemicals increased the risk of cough and nasal symptoms. The results suggest that occupational exposure to glass microfibers is related to non-malignant adverse health effects, and that implementing exposure control measures in these industries could protect the health of employees.