Do employees deliberately under-report symptoms of respiratory sensitisation in screening questionnaires?

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ABSTRACT

**Background:** Respiratory symptom questionnaires, when used on their own, are unreliable instruments for the detection and diagnosis of occupational asthma. The wide variation in sensitivities and specificities that have been reported in many studies may be due to employees deliberately failing to report symptoms.

**Objectives:** To test the hypothesis that employees of an electronics factory, potentially exposed to rosin (Colophony) solder fumes, may choose not to report symptoms of occupational asthma in a screening questionnaire and to evaluate the prevalence of respiratory symptoms.

**Methods:** The study design was a cross-sectional survey in two phases. In both phases the entire workforce of 267 employees were given the opportunity to complete a respiratory symptom questionnaire. They were divided into four groups (‘High’, ‘Medium’, ‘Low’, and ‘Little or None’) to reflect the range of potential exposure to rosin solder fumes. The questionnaires were identical, except for the presence of fields for identification data in those used for the second phase. X2 tests were used to evaluate the differences between the responses in the two phases.

**Results:** There were no significant differences in the way questions on respiratory, ocular and nasal symptoms were answered in the two phases. The differences between the response rates were significant. A total of 177 questionnaires (66%) were returned after the first (anonymous) phase. In the second phase, when the respondents were identifiable, 95 employees (36%) returned questionnaires suitable for analysis (p<0.001). In the first phase, 66 of the ‘High’ exposure group (53%) returned questionnaires, but only 26 of this subgroup (21%) did so when their responses were attributable (p<0.001). The ‘Medium’ exposure group returned 57 questionnaires (95%) in the first phase and 48 questionnaires (80%) when responses were attributable (p<0.02). Data from the lowest exposure groups (‘Low’ and ‘Little or None’) was
combined. In the first phase 54 questionnaires (66%) were returned but only 21 were completed (26%) when the respondents were identifiable (p<0.001).

Conclusions: Whilst this study did not support the hypothesis that employees deliberately under-report symptoms of respiratory sensitisation in screening questionnaires, there was evidence to suggest that many may have chosen not to complete questionnaires at all rather than to participate and withhold information.

Key words: Occupational asthma; colophony; questionnaires; sensitivity and specificity.