

## Neurobehavioral and pulmonary impairment in 105 adults with indoor exposure to molds compared to 100 exposed to chemicals

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### Abstract

Patients exposed at home to molds and mycotoxins and those exposed to chemicals (CE) have many similar symptoms of eye, nose, and throat irritation and poor memory, concentration, and other neurobehavioral dysfunctions. To compare the neurobehavioral and pulmonary impairments associated with indoor exposures to mold and to chemicals. 105 consecutive adults exposed to molds (ME) indoors at home and 100 patients exposed to other chemicals were compared to 202 community referents without mold or chemical exposure. To assess brain functions, we measured 26 neurobehavioral functions. Medical and exposure histories, mood states score, and symptoms frequencies were obtained. Vital capacity and flows were measured by spirometry. Groups were compared by analysis of variance (ANOVA) after adjusting for age, educational attainment, and sex, by calculating predicted values (observed/predicted  $\times$  100 = % predicted). And  $p < .05$  indicated statistical significance for total abnormalities, and test scores that were outside the confidence limits of the mean of the percentage predicted. People exposed to mold had a total of 6.1 abnormalities and those exposed to chemicals had 7.1 compared to 1.2 abnormalities in referents. Compared to referents, the exposed groups had balance decreased, longer reaction times, and blink reflex latencies lengthened. Also, color discrimination errors were increased and visual field performances and grip strengths were reduced. The cognitive and memory performance measures were abnormal in both exposed groups. Culture Fair scores, digit symbol substitution, immediate and delayed verbal recall, picture completion, and information were reduced. Times for peg-placement and trail making A and B were increased. One difference was that chemically exposed patients had excess fingertip number writing errors, but the mold-exposed did not. Mood State scores and symptom frequencies were greater in both exposed groups than in referents. Vital capacities were reduced in both groups. Neurobehavioral and pulmonary impairments associated with exposures to indoor molds and mycotoxins were not different from those with various chemical exposures.

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