

Anxiety During Respirator Use: Comparison Of Two Respirator Types

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INTRODUCTION: Respirators are used for worker protection and may be more widely used by the general population due to disasters, epidemics, and terrorism concerns. Anxiety may interfere with proper use. This study compares the effect of elastomeric half face mask with dual-cartridges (HFM) and N95 filtering facepiece on anxiety levels. **METHODS:** The State-Trait Anxiety Inventory (STAI) measured state anxiety (SA) and trait anxiety (TA) in twelve volunteers (normal or mildly respiratory impaired) before and during a series of simulated work tasks using either a HFM or N95 (on different days). TA was measured prior to the initiation of the study while SA was measured before and during HFM and N95 use. The difference between SA pre and during respirator use expressed the effect of each respirator.

RESULTS: Work using HFM was associated with a mean SA increase of 2.92 units ($p < .01$); work using N95 had no effect. More anxious individuals (higher TA) did not have greater increments in SA than others. **CONCLUSION:** Respirator types differ in their influence on user anxiety. Impact on anxiety should be considered when selecting an optimally protective respirator for an individual. As respirators are also used by the general population in community settings and not limited to the workplace, assessment of anxiety should be incorporated into the design of new respirators to increase the likelihood of proper respirator use and consequent protection of the public (i.e. there may be a tradeoff between protection factor and actual use).

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