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N95 Respirators vs Medical Masks in Outpatient Settings

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In Reply Dr McDiarmid and colleagues comment on the design and conduct of our study, the Respiratory Protection Effectiveness Clinical Trial (ResPECT).[1] They note, and we agree, that a number of laboratory and simulated workplace studies have shown respirators to have superior performance compared with medical masks; however, the results of clinical trials have not been definitive. The complexities of delivering health care introduce behavioral factors that may influence the effectiveness of infection prevention measures, including adherence to procedures that have been shown in laboratory settings to optimize efficacy. ResPECT was designed as a pragmatic clinical trial[2] comparing the effectiveness of N95 respirators with medical masks as worn by health care personnel who are exposed to patients with respiratory infections in outpatient clinical practice settings. Our goal was to assess the incidence of viral respiratory infection and illness among these frontline health care personnel using laboratory-confirmed and clinical end points. Cluster randomization was used to balance exposures and behavioral characteristics in the intervention groups. Precise quantification of exposures in terms of viral loads of particles was beyond the scope of the study. Despite limitations, we believe our study contributes valuable information to the body of literature about prevention of respiratory infections in clinical settings and calls attention to challenges that remain when implementing broader respiratory protection efforts.[3] Health systems need to weigh the full spectrum of scientific evidence, including laboratory studies and randomized clinical trials, when making decisions about the protection of health care personnel against influenza and other viral respiratory infections.[3]

Conflict of Interest Disclosures:

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References

1. Radonovich LJ Jr, Simberkoff MS, Bessesen MT, et al. ; ResPECT Investigators.N95 respirators vs medical masks for preventing influenza among health care personnel: a randomized clinical trial. JAMA. 2019;322(9):824–833. doi:10.1001/jama.2019.11645 [PubMed: 31479137]
2. Ford I, Norrie J. Pragmatic trials. N Engl J Med. 2016;375(5):454–463. doi:10.1056/NEJMra1510059 [PubMed: 27518663]
3. Bauchner H, Golub RM, Fontanarosa PB. Reporting and interpretation of randomized clinical trials. JAMA. 2019;322(8):732–735. doi:10.1001/jama.2019.12056 [PubMed: 31454026]