

Prevalence of physical and psychological impacts of wearing personal protective equipment (PPE) on health care workers during COVID-19; a systematic review and meta-analysis.

K Radha¹, Gigini George¹, Abin Varghese¹, Jaison Joseph ², and N Vijayanarayanan³

¹Bhopal Memorial Hospital and Research Centre

²Pt B D Sharma University of Health Sciences

³RD Memorial College of Nursing

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Abstract

Background: The COVID-19 pandemic has necessitated the use of personal protective equipment (PPE) among the frontline health care workers (HCWs). Although PPE offers a great deal of help in preventing infection, it poses significant physical and psychological impacts at varying levels. Correspondingly, multiple independent studies have brought out the PPE associated problems. However, there exists a lacuna on comprehensive information of global prevalence related to the same. Aims: To estimate the prevalence and risk factors of PPE among HCWs during COVID-19 across the globe. Design: Systematic review and Meta-analysis. Method: The review was undertaken as per the protocol registered in PROSPERO xxxxxx following PRISMA guidelines. Two independent reviewers have undertaken the search strategy, study selection and methodological quality assessment. Discrepancies were addressed by the third reviewer. Heterogeneity was addressed through I2 statistics and forest plots generated by open meta-software. Results: A total of 16 articles conducted across 6 different countries among 10,182 HCWs were included in the review. The pooled prevalence of skin lesions, headache, sweating, breathing difficulty, vision difficulty, thirst/dry mouth, fatigue and communication difficulty, anxiety, fear were 57(47-66%),51(37-64%),75(56-90%),44(23-68%),61(21-94%),54%(30-77%),67(58-76%),74%(47-94%),28(24-33%),14(10-17%) respectively. Moreover, the various risk factors included; the use of PPE greater than 6 Hrs. and young females. In addition, the medical management of new-onset problems created an additional burden on the frontline HCWs. Conclusion: The front-line HCWs encountered physical and psychological problems at varying levels as a result of wearing PPE which needs to be addressed to prevent the inadequate use of PPE leading to infections. Relevance to clinical practice: The review sheds light on the need to address the physical and psychological morbidity due to PPE use for ensuring the working morale and optimum health status of frontline HCWs to combat ongoing and future pandemics.

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