COVID-19: A detailed analysis on fit-testing for Respiratory Protective equipment in the UK

Introduction

 There is limited data in the literature regarding the adequacy of generic FFP3 masks and their facial fit to ensure adequate protection. Mask fit-testing is therefore essential to protect healthcare workers.

Method

Using the Freedom of Information Act, 137 acute NHS trusts in the UK were approached on the 26/3/2020 by an independent researcher to provide data on the outcome of fit testing at each site.

Results

85 Trusts responded to the FOI with 51 trusts providing pertinent data relevant to the FOI request. There was a total of 72 mask types used across 51 trusts. The commonest of which was the FFP3M1863 (used by 47/51 trusts, 92.16%). A positive correlation was found between staff members and number of mask types used (r = 0.75, P = <0.05).

Overall fit-testing pass rates were provided by 32 trusts. The mean percentage pass rate was 80.74%.

Gender specific failure rates were provided by seven trusts. 4386 male staff underwent fit-testing in comparison to 16305 female staff. Across all seven trusts 20.08% of men tested failed the fit-test while only 19.89% of women failed the fit-test.

Conclusion

Our study shows possible factors that may affect mask fit testing. The results may be utilised in choosing respirators for fit testing programme in healthcare-workers.