

COVID-19 mitigation measures in primary schools and association with infection and school staff wellbeing: an observational survey linked with routine data in Wales, UK

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Abstract

Introduction School-based COVID-19 mitigation strategies have greatly impacted the primary school day (children aged 3-11) including: wearing face coverings, 2-metre distancing, no mixing of children, and no breakfast clubs or extra-curricular activities. This study examines these mitigation methods and association with COVID-19 infection, respiratory infection, and school staff wellbeing between October to December 2020 in Wales, UK.

Methods A school staff survey captured self-reported COVID-19 mitigation measures in the school, participant anxiety and depression, and open-text responses regarding experiences of teaching and implementing measures. These survey responses were linked to national-scale COVID-19 test results data to examine association of measures in the school and the likelihood of a positive (staff or pupil) COVID-19 case in the

school (clustered by school, adjusted for school size and free school meals using logistic regression). Linkage was conducted through the SAIL (*Secure Anonymised Information Linkage*) Databank.

Results Responses were obtained from 353 participants from 59 primary schools within 15 of 22 local authorities. Having more direct non-household contacts was associated with a higher likelihood of COVID-19 positive case in the school (1-5 contacts compared to none, OR 2.89 (1.01, 8.31)) and a trend to more self-reported cold symptoms. Staff face covering was not associated with a lower odds of school COVID-19 cases (mask vs. no covering OR 2.82 (1.11, 7.14)) and was associated with higher self-reported cold symptoms. School staff reported the impacts of wearing face coverings on teaching, including having to stand closer to pupils and raise their voices to be heard. 67.1% were not able to implement 2-metre social distancing from pupils. We did not find evidence that maintaining a 2-metre distance was associated with lower rates of COVID-19 in the school.

Conclusions Implementing, adhering to and evaluating COVID-19 mitigation guidelines is challenging in primary school settings. Our findings suggest that reducing non-household direct contacts lowers infection rates. There was no evidence that face coverings, 2-metre social distancing or stopping children mixing was associated with lower odds of COVID-19 or cold infection rates in the school. Primary school staff found teaching challenging during COVID-19 restrictions, especially for younger learners and those with additional learning needs.

Competing Interest Statement

The authors have declared no competing interest.

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Author Declarations

I confirm all relevant ethical guidelines have been followed, and any necessary IRB and/or ethics committee approvals have been obtained.

Yes

The details of the IRB/oversight body that provided approval or exemption for the research described are given below:

Ethical approval was granted by the Swansea University Medical School Research Ethics Committee (2017-0033E).

All necessary patient/participant consent has been obtained and the appropriate institutional forms have been archived.

Yes

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