Cohort Analysis

Who is lonely in lockdown? Cross-cohort analyses of predictors of loneliness before and during the COVID-19 pandemic

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Abstract

Background: There are concerns internationally that lockdown measures taken during the coronavirus disease 2019 (COVID-19) pandemic could lead to a rise in loneliness. As loneliness is recognised as a major public health concern, it is therefore vital that research considers the impact of the current COVID-19 pandemic on loneliness to provide necessary support. But it remains unclear, who is lonely in lockdown?
Methods: This study compared sociodemographic predictors of loneliness before and during the COVID-19 pandemic using cross-cohort analyses of data from UK adults captured before the pandemic (UK Household Longitudinal Study, n = 31,064) and during the pandemic (UCL (University College London) COVID-19 Social Study, n = 60,341).
Results: Risk factors for loneliness were near identical before and during the pandemic. Young adults, women, people with lower education or income, the economically inactive, people living alone and urban residents had a higher risk of being lonely. Some people who were already at risk of being lonely (e.g. young adults aged 18-30 years, people with low household income and adults living alone) experienced a heightened risk during the COVID-19 pandemic compared with people living before COVID-19 emerged. Furthermore, being a student emerged as a higher risk factor during lockdown than usual.
Conclusions: Findings suggest that interventions to reduce or prevent loneliness during COVID-19 should be targeted at those sociodemographic groups already identified as high risk in previous research. These groups are likely not just to experience loneliness during the pandemic but potentially to have an even higher risk than normal of experiencing loneliness relative to low-risk groups. (c) 2020 The Authors. Published by Elsevier Ltd on behalf of The Royal Society for Public Health.

Keywords

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Lonelinessmental healthPandemicCOVID-19Social isolation
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CONSEQUENCES

Cohort Analysis

2- A systematic review and meta-analysis of longitudinal cohort studies comparing mental health before versus during the COVID-19 pandemic in 2020

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Abstract

Background: Increases in mental health problems have been observed during the COVID-19 pandemic. The objectives were to examine the extent to which mental health symptoms changed during the pandemic in 2020, whether changes were persistent or short lived, and if changes were symptom specific.
Methods: Systematic review and meta-analysis of longitudinal cohort studies examining changes in mental health among the same group of participants before vs. during the pandemic in 2020.
Results: Sixty-five studies were included. Compared to pre-pandemic outbreak, there was an overall increase in mental health symptoms observed during March-April 2020 (SMC = .102 [95% CI: .026 to .192]) that significantly declined over time and became non-significant (May-July SMC = .067 [95% CI: -.022 to .157]. Compared to measures of anxiety (SMC = 0.13, p = 0.02) and general mental health (SMC = -.03, p = 0.65), increases in depression and mood disorder symptoms tended to be larger and remained significantly elevated in May-July [0.20, 95% CI: .099 to .302]. In primary analyses increases were most pronounced among samples with physical health conditions and there was no evidence of any change in symptoms among samples with a pre-existing mental health condition.
Limitations: There was a high degree of unexplained heterogeneity observed (I(2)s > 90%), indicating that change in mental health was highly variable across samples.
Conclusions: There was a small increase in mental health symptoms soon after the outbreak of the COVID-19 pandemic that decreased and was comparable to pre-pandemic levels by mid-2020 among most population sub-groups and symptom types.

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3- Gastrointestinal Manifestations of SARS-CoV-2 Infection and Virus Load in Fecal Samples From a Hong Kong Cohort: Systematic Review and Meta-analysis

By:
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Abstract

BACKGROUND & AIMS: Infection with severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19), which has been characterized by fever, respiratory, and gastrointestinal symptoms as well as shedding of virus RNA into feces. We performed a systematic review and meta-analysis of published gastrointestinal symptoms and detection of virus in stool and also summarized data from a cohort of patients with COVID-19 in Hong Kong.
METHODS: We collected data from the cohort of patients with COVID-19 in Hong Kong (N = 59; diagnosis from February 2 through February 29, 2020),and searched PubMed, Embase, Cochrane, and 3 Chinese databases through March 11, 2020, according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. We analyzed pooled data on the prevalence of overall and individual gastrointestinal symptoms (loss of appetite, nausea, vomiting, diarrhea, and abdominal pain or discomfort) using a random effects model. RESULTS: Among the 59 patients with COVID-19 in Hong Kong, 15 patients (25.4%) had gastrointestinal symptoms, and 9 patients (15.3%) had stool that tested positive for virus RNA. Stool viral RNA was detected in 38.5% and 8.7% among those with and without diarrhea, respectively (P = .02). The median fecal viral load was 5.1 log(10) copies per milliliter in patients with diarrhea vs 3.9 log(10) copies per milliliter in patients without diarrhea (P = .06). In a meta-analysis of 60 studies comprising 4243 patients, the pooled prevalence of all gastrointestinal symptoms was 17.6% (95%

confidence interval [CI], 12.3-24.5); 11.8% of patients with nonsevere COVID-19 had gastrointestinal symptoms (95% CI, 4.1-29.1), and 17.1% of patients with severe COVID-19 had gastrointestinal symptoms (95% CI, 6.9-36.7). In the meta-analysis, the pooled prevalence of stool samples that were positive for virus RNA was 48.1% (95% CI, 38.3-57.9); of these samples, 70.3% of those collected after loss of virus from respiratory specimens tested positive for the virus (95% CI, 49.6-85.1).
CONCLUSIONS: In an analysis of data from the Hong Kong cohort of patients with COVID-19 and a meta-analysis of findings from publications, we found that 17.6% of patients with COVID-19 had gastrointestinal symptoms. Virus RNA was detected in stool samples from 48.1% patients, even in stool collected after respiratory samples had negative test results. Health care workers should therefore exercise caution in collecting fecal samples or performing endoscopic procedures in patients with COVID-19, even during patient recovery.

Keywords
Author Keywords
Fecal-to-Oral TransmissionPRISMASARSViral Persistence
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4- Comparative analysis of the risks of hospitalisation and death associated with SARS-CoV-2 omicron (B.1.1.529) and delta (B.1.617.2) variants in England: a cohort study

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Abstract

Background The omicron variant (B.1.1.529) of SARS-CoV-2 has demonstrated partial vaccine escape and high transmissibility, with early studies indicating lower severity of infection than that of the delta variant (B.1.617.2). We aimed to better characterise omicron severity relative to delta by assessing the relative risk of hospital attendance, hospital admission, or death in a large national cohort.
Methods Individual-level data on laboratory-confirmed COVID-19 cases resident in England between Nov 29, 2021, and Jan 9, 2022, were linked to routine datasets on vaccination status, hospital attendance and admission, and mortality. The relative risk of hospital attendance or admission within 14 days, or death within 28 days after confirmed infection, was estimated using proportional hazards regression. Analyses were stratified by test date, 10-year age band, ethnicity, residential region, and vaccination status, and were further adjusted for sex, index of multiple deprivation decile, evidence of a previous infection, and year of age within each age band. A secondary analysis estimated variant-specific and vaccine-specific vaccine effectiveness and the intrinsic relative severity of omicron infection compared with delta (ie, the relative risk in unvaccinated cases).

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Findings The adjusted hazard ratio (HR) of hospital attendance (not necessarily resulting in admission) with omicron compared with delta was 0.56 (95% CI 0.54-0.58); for hospital admission and death, HR estimates were 0.41 (0.39-0.43) and 0.31 (0.26-0.37), respectively. Omicron versus delta HR estimates varied with age for all endpoints examined. The adjusted HR for hospital admission was 1.10 (0.85-1.42) in those younger than 10 years, decreasing to 0.25 (0.21-0.30) in 60-69-year-olds, and then increasing to 0.47 (0.40-0.56) in those aged at least 80 years. For both variants, past infection gave some protection against death both in vaccinated (HR 0.47 [0.32-0.68]) and unvaccinated (0.18 [0.06-0.57]) cases. In vaccinated cases, past infection offered no additional protection against hospital admission beyond that provided by vaccination (HR 0.96 [0.88-1.04]); however, for unvaccinated cases, past infection gave moderate protection (HR 0.55 [0.48-0.63]). Omicron versus delta HR estimates were lower for hospital admission (0.30 [0.28-0.32]) in unvaccinated cases than the corresponding HR estimated for all cases in the primary analysis. Booster vaccination with an mRNA vaccine was highly protective against hospitalisation and death in omicron cases (HR for hospital admission 8-11 weeks post-booster vs unvaccinated: 0.22 [0.20-0.24]), with the protection afforded after a booster not being affected by the vaccine used for doses 1 and 2.

Interpretation The risk of severe outcomes following SARS-CoV-2 infection is substantially lower for omicron than for delta, with higher reductions for more severe endpoints and significant variation with age. Underlying the observed risks is a larger reduction in intrinsic severity (in unvaccinated individuals) counterbalanced by a reduction in vaccine effectiveness. Documented previous SARS-CoV-2 infection offered some protection against hospitalisation and high protection against death in unvaccinated individuals, but only offered additional protection in vaccinated individuals for the death endpoint. Booster vaccination with mRNA vaccines maintains over 70% protection against hospitalisation and death in breakthrough confirmed omicron infections.