

COVID-19 - Interventions and lifestyle factors that prevent infection or minimise progression to severe disease

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Background:

This evidence summary synthesised the evidence relating to pharmacological and non-pharmacological interventions in the community to prevent COVID-19/progression to severe disease. An additional aim was to identify potentially modifiable lifestyle factors associated with reduced risk of infection/progression to severe disease.

Methods:

A systematic search of published peer-reviewed articles and non-peer-reviewed pre-prints was undertaken from 1 January 2020 to 19 April 2021; no language restrictions were applied. All potentially eligible papers were exported to Covidence. Titles/abstracts and full texts were single screened for relevance. Data extraction and quality appraisal of included studies was completed by a single reviewer and checked by a second.

Results:

In total, 50 studies, three randomised controlled trials (RCTs), one non-RCT and 46 cohort studies were included. The four included controlled trials tested variations of the pharmacological intervention, ivermectin. While these controlled trials reported a protective effect for ivermectin use, these trials were of poor quality and had serious risk of bias. Across 46 cohort studies, the modifiable lifestyle risk factors identified were obesity, smoking, vitamin D status, physical activity, alcohol consumption and processed meat consumption. These studies reported mixed results in terms of the association between modifiable lifestyle risk factors and poor COVID-19 outcomes.

Conclusions:

At the time of writing there is no high quality evidence of benefit to support pharmacological interventions to prevent COVID-19. Although there were mixed results for the risk factors identified, maintenance of healthy weight, smoking cessation, engaging in physical activity and moderation of alcohol and processed meat consumption are likely to be beneficial to health and should continue to be encouraged.