

# IMPACT OF IMPROVED INDOOR ENVIRONMENT ON RECOVERY FROM COVID-19 INFECTIONS: A REVIEW OF LITERATURE

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## ABSTRACT

**Purpose** – This study aims to explore the impact of the indoor environment on recovery from COVID-19 infections. Extant literature on the impact of the four key themes of the indoor environment (indoor air quality, indoor thermal quality, daylighting and visual comfort, and acoustic comfort) on COVID-19 infection and recovery rates were reviewed.

**Design/methodology/approach** – Data collection for this study was based on extant literature within the Scopus database and scoped to a time frame of 2020–2021 because the topical issue of indoor environmental quality (IEQ) and its impact on COVID-19 arose in the wake of the pandemic. In total, 224 documents were systematically desk reviewed from various journals.

**Findings** – The study identified that air pollutants such as PM<sub>2.5</sub> and PM<sub>10</sub> as well as air conditioned places, low ambient temperatures, poor ventilation and no views of the outdoor environment were deteriorating factors for COVID-19 patients. On the other hand, proper ventilation, the use of air cleaners, views of the outdoor environment and allowance for ample daylighting were improvement factors for COVID-19 patients. The inter-relationship of the various concepts was presented in an ontology chart.

**Practical implications** – As COVID-19 still exists and keeps evolving, this study provides suggestions to industry professionals, especially health-care Facility Managers, to create a post-pandemic environment focusing on the IEQ and finding long-term and reliable solutions for the well-being of occupants. Adaptability is crucial. New, creative technology solutions are being introduced daily, but it is up to the facility managers and health-care professionals to analyse and specify the most cost- and outcome-effective technologies for their facility.

**Originality/value** – The study brought to light the pivotal role of the indoor environment on the health and well-being of occupants, particularly in the contraction, spread, prevention and control of infectious diseases such as COVID-19.

**KEYWORDS:** COVID-19, Indoor environmental quality, COVID-19 recovery, Green buildings