



## World Congress on **Diabetes and Pediatric Endocrinology**

### **The Clinical Implications of Metformin in COVID-19 Patients with Diabetes Mellitus**

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**D**iabetes mellitus is associated with higher morbidity and mortality in COVID-19 patients. This is a case of concern as presently, the global prevalence for diabetes is just shy of half a billion people, who are at an increased risk of severe COVID-19 disease. As diabetes is a multisystemic disorder, with its hallmark being hyperglycemia, capable of inducing various pathogenesis associated with COVID-19 disease progression, the use of antidiabetic medications to maintain euglycemia is essential in improving prognosis. With increasing reports of metformin significantly reducing mortality in COVID-19 patients with diabetes, the role of this antidiabetic drug has been speculated to go beyond glycemic control in the COVID-19 pandemic. This present review aims to discuss the protective properties of metformin to shed some light on its anti-inflammatory mechanisms in mitigating COVID-19 disease. The data in this review are obtained from PubMed-indexed primary research articles and observational retrospective studies related to metformin use in COVID-19 patients with diabetes.

As no data from randomized controlled trials have yet to be released, no firm conclusions can be made with regards to repurposing metformin in managing COVID-19 patients. However, these preliminary findings serve as stepping stones, whereby coupled with extensive basic and clinical research, will bear more conclusive results capable of improving treatment protocols for COVID-19 disease in the near future.

**Key words:** COVID-19, Diabetes mellitus, Metformin, Mortality, SARS-CoV-2

### **Biography**

Alice Halim is a 2020 MBBS graduate from Fudan University. She is an affiliate member of The Royal College of Surgeons of Edinburgh since 2019, and aspires to be a general surgeon in the UK. Aside from having substantial experience in patient care within the healthcare setting, Dr. Alice has a keen interest in research. During her undergraduate, she secured grants (two competitive university grants and one national grant) for an independent research regarding the "Prevalence of Zoonotic Pathogens in Domestic and Feral Cats in Shanghai, with Special Reference to Salmonella". She has also participated research projects in various fields and published in peer reviewed journals under renowned publishers such as Elsevier, Dovepress, and BMC Part of Springer Nature. During her free time, she enjoys blogging on Medium, where she shares educational tips and insights with medical students and fellow doctors, and simplifies research findings into friendly pieces for her lay audience.