



**Letter to Editor**

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## Glycemic management via fasting-induced decrease in blood glucose concentration: A protective intervention against COVID-19

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### Abstract

According to the literature, uncontrolled glycemia can be a strong predictor of severe morbidity and mortality in different types of viral infections. Hyperglycemia can make the condition worse in diabetic and nondiabetic patients infected with severe acute respiratory syndrome 2 (SARS-CoV-2). Therefore, maintaining blood glucose levels low (within the safe range of 70-100 mg/ mg/dl) seems to be beneficial in our battle against Coronavirus disease 2019 (COVID-19) caused by SARS-CoV-2.

**Keywords:** Blood glucose; COVID-19

### INTRODUCTION

Dear editor, SARS-CoV-2 enters the host cells through the membrane interaction between the viral Spike proteins (Spro) and the host cell surface Angiotensin Converting Enzyme 2 (ACE2) receptors. Glycosylation of the ACE2 receptors, which has a crucial role in this ominous attachment, seems to have been facilitated and accelerated by hyperglycemia [1,2]. The famous ancient Greek physician Hippocrates once said that "to eat when you are sick, is to feed your sickness". Now, considering the possible prophylactic and therapeutic potential of glycemic control against this potentially fatal mysterious viral infection, fasting-induced decrease in BG appears safer than administration of glucose lowering drugs for COVID-19 patients [3], since, the primary source of BG is food intake and therefore, intermittent fasting results in a decrease of circulating BG level (under 100 mg/dL) without hypoglycemia (BG concentration below 70 mg/dL) which is associated with several serious adverse effects. Obviously, during therapeutic fasting, patients are allowed to drink low-calorie fluids and take multivitamin supplements [4,5].

The potential therapeutic effects of lowering BG concentration in the SARS-CoV-2 infection [6,7], deserves twofold attention, since, several medicinal agents i.e. Chloroquine, Hydroxychloroquine, Levofloxacin, Moxifloxacin [8], and also the newly proposed medicines for COVID-19 therapeutic cocktails such as Heparins [9,10], Artemisinin [11], Pentoxifylline [12], and Lithium [13,14] which have demonstrated effectiveness against SARS-CoV-2 with not completely understood mechanisms, have the previously proven lowering BG effects [15-18] which maybe contribute to their therapeutic properties and need further comprehensive investigations. The same is true about numerous anti-COVID-19 medicinal plants which are not emphasized due to the wide range of herbal components and biological effects of these therapeutic herbs.

### Conflict of interest statement

The Author declares that there is no conflict of interest.

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