Rationale for multivariate analysis models

Model 1 is adjusted for the baseline co-morbidities (age, sex, ethnicity, obesity). Some of these co-variates showed significant association with death on univariate analysis. Without these adjustments, the aforementioned co-variates will act as confounding factors.

Model 2 is adjusted for all factors in Model 1 plus "the need for oxygen therapy" because the interventions included in Model 2 (azithromycin, hydroxychloroquine, ascorbic acid, zinc, tocilizumab, convalescent plasma) were usually given in patients who required oxygen therapy. Thus, in this Model, "the need for oxygen therapy" was held constant allowing us to determine if these interventions were associated with death.

For Model 3, "respiratory acidosis, and steroids therapy" are usually seen in patients with asthma, COPD, critical illnesses and those who required oxygen therapy. These factors are potential confounders. Thus, we adjusted this Model for "asthma/COPD"; "the need for oxygen therapy"; and "ICU admission" to determine the true association between the variables and death.

In Model 4, "acute kidney injury" is defined by serum creatinine elevation. Patients with CKD would also have some elevation of serum creatinine levels. Thus, CKD would be a potential confounder. That is why we adjusted the Model for "CKD"; "need for oxygen therapy"; and "ICU admission" as all of these factors may contribute to death.

In Model 5, “arrhythmias” is a cardiac complication, hence we adjusted for every variable that could be the confounding factor, such as CAD, heart failure, history of arrhythmia/conduction disorder, and ICU admission.