

Title: Determinants of Hospitalisation & need for Intubation in local COVID-19 Subjects

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Background/Introduction: The novel Coronavirus disease 2019 (COVID-19), the unexpected pandemic, has resulted in significant morbidity and mortality worldwide, with frail and immunocompromised subjects being more severely affected. Nonetheless, it is still unclear which patients are most adversely affected by COVID-19.

Purpose: To assess determinants of severe COVID-19, as suggested by hospitalisation and need for intubation in a local cohort.

Methods: A cross-sectional survey was conducted in subjects who were diagnosed with COVID-19 following nasopharyngeal swabbing. All participants were asked whether they required hospitalisation or intubation. Furthermore, they were submitted to a standardized questionnaire regarding past medical history, drug history, smoking history and alcohol intake. This was done via telephone call.

Results: In total, 2,650 subjects accepted to participate in this survey. The median age of the participants was 44 years (IQR:31-55 years). Of these, 48.6% were males while 51.2% were females. Five per cent of the study population were hospitalised in view of severe illness and of these 0.7% were intubated. Univariate followed by multivariate analysis was performed using IBM SPSS version 23.0. In univariate analysis, age, gender, smoking, hypertension, hyperlipidaemia, ischaemic heart disease, history of cerebrovascular disease, peripheral vascular disease, heart failure, diabetes type 1 and type 2, atrial fibrillation, obesity, chronic kidney disease as well as being on immunosuppressant treatment either in view of HIV or following transplant surgery, were found to be statistically significant. However, on multivariate analysis, age (OR 1.07, 95% CI 1.05-1.08, $p < 0.001$), male gender (OR 1.84, 95% CI 1.27-2.68, $p = 0.001$), hypertension (OR 1.82, 95% CI 1.21-2.73, $p = 0.004$), chronic kidney disease (OR 66.67, 95% CI 7.04-500, $p < 0.001$) and chronic respiratory disease (OR 3.19, 95% CI 1.92-5.32, $p < 0.001$) were shown to be independent determinants of hospitalisation in the local cohort. Likewise, univariate analysis was performed to assess for variables that are associated with intubation. Here, age, male gender, smoking, hypertension, the presence of heart failure, atrial fibrillation and chronic kidney disease were found to be statistically significant. However, on multivariate analysis, age (OR 1.06, 95% CI 1.004-1.113, $p = 0.034$) and chronic kidney disease (OR 22.22, 95% CI 1.87-250, $p = 0.14$) were found to be independent determinants.

Conclusion(s): In the study population, chronic kidney disease was the strongest predictor of severe COVID-19 disease, followed by chronic respiratory disease, hypertension, male gender and increasing age. Further follow-up with regards outcome of the hospitalised population is merited.