

CHAPTER 1: INTRODUCTION

1.1. Background

Covid-19 (Coronavirus Disease 2019), caused by SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2), spread rapidly and developed into a global pandemic within three months from its initial detection (Hoffman, et al., 2020).

SARS-CoV-2 is a beta coronavirus that forms a clade within the subgenus sarbecovirus of the Ortho Coronaviridae subfamily. It is categorized as a zoonotic infection in origin by bat and has been linked to potentially fatal illness. The pathogenicity SARS-CoV-2 is about 3%, which is significantly lower than SARS-CoV (10%) and MERS-CoV (40%). However, 2019-nCoV has potentially higher transmissibility than both SARS-CoV and MERS-CoV (Pang, et al., 2020).

More than 1.26 million cases of Covid-19 in > 200 countries and territories, with more than 66.000 human deaths, have been reported. Due to limited testing in many geographical regions, it is clear that the total number of actual Covid-19 cases is much higher than the number of confirmed ones. Among other symptoms, those of Covid-19 often include fever, dry cough, and pneumonia, but also more atypical symptoms such as gastrointestinal manifestations as well as anosmia and ageusia (Hoffman, et al., 2020).

Risk factors of Covid-19 that are associated with the development of severe disease, admission to intensive care units, and mortality including older age, hypertension, cardiovascular disease, chronic obstructive pulmonary disease, diabetes, obesity, smoking, and cancer. Smoking cessation is thought to be important in reducing viral contamination and the severity of the disease (Osman, Bolatli & Tas, 2020).

SARS-CoV-2 is transmitted from person to person through respiratory droplets, close contact, and touching the infected surfaces. The methods of protection from this disease, which the incubation period ranges from 2 days to 14 days, are avoiding non-compulsory travel, early diagnosis, isolation of patients, attention to social distance, respiratory and environmental hygiene (Osman, Bolatli & Tas, 2020).

The virus has been detected in completely asymptomatic individuals. The knowledge concerning the actual number of asymptomatic vs. symptomatic infections is still limited. It is true for potentially growing herd immunity, where almost no data is available to date (Hoffman, et al., 2020).

1.2. Scope of the project

In this experiment, this study research will resolve all of these questions:

- What are the most specific clinical manifestations of Covid-19?
- How RT-PCR related to clinical manifestations of Covid-19?
- How sex, age, symptoms, and comorbidity related to Covid-19?
- In which stage of Covid-19 disease progression people are infected?

1.3. Objectives/Aims

- To see the relation of clinical manifestations with diagnostic result
- To observe patient characteristic and demography with diagnostic result
- To relate the disease progression of patient with diagnostic test