

Working Title: Insomnia among Physicians in Saudi Arabia during the COVID-19 pandemic

Rationale and Literature Review:

A novel coronavirus outbreak of pneumonia emerged from China, in December 2019. This outbreak quickly spread globally [1]. Healthcare workers (HCWs) around the world face a high level of stress in their fight against the novel coronavirus (COVID-19) outbreak. Healthcare workers face the pressure of high risk of infection, inadequate protection gear, overwhelming work load, frustration, discrimination, isolation, patients with negative emotions, a lack of contact with their families, and exhaustion [2]. This level of high-stress situations during infection outbreaks may cause mental health issues including stress, anxiety, depressive symptoms, anger, insomnia, fear, and sleep disorders. It is necessary to protect a physician's mental health in order to help control the pandemic and their long-term wellbeing [3]. Moreover, it is important to examine the mental health burden in the medical workforce during and after any public health crisis [1].

There is a consensus that the COVID-19 pandemic has an effect not only on physical health but also on mental health and wellbeing [4, 5]. Previous studies have shown that HCWs in the frontlines during viral epidemic outbreaks are at high risk of developing mental health issues [6]. This pandemic is a relatively new kind of stressor or trauma from a psychopathological perspective [3]. Many questions remain.

The psychological burden on physicians during the COVID-19 pandemic may cause short-term and long-term mental health issues and stress, which may lead to insomnia. Saudi physicians are not an exception as the number of cases is still increasing, which made the healthcare systems relocate a number of attending physicians and residents from their specialties to help in intensive care units coverage around Saudi Arabia. This may lead to increased stress due to relocation away from home and natural supports.

During this project a number of MPH capstone competencies will be addressed, including but not limited to Public Health & Health Care Systems and healthcare workforce wellbeing.

The study addresses the following specific research questions:

1. Is physician sleep affected by the duration of interaction with COVID-19 patients ?
2. Do different specialists have different degrees of insomnia ?
3. Does age or experience have an effect on the degree of insomnia ?

Project Design, Activities, Materials and Methods:

This is a cross-sectional study that uses a survey questionnaire in order to evaluate the level of insomnia among Saudi physicians. The questionnaire will be developed in an online Google Form and then will be distributed among Saudi physicians through an email database for residents and social media group of each speciality.

The questionnaire will consist of two parts. The first part will include general demographic and other questions related to gender, age, level of seniority (resident or attending), medical subspecialty and years of practice. The second part will measure exposure to COVID-19 and insomnia. For insomnia, we will be using the AIS (Athens Insomnia Scale), which is a self-assessment psychometric instrument designed to quantify sleep difficulty based on the criteria set by the International Classification of Diseases (ICD-10).

The questionnaire will be designed as a Google form and the link will be distributed through Saudi physician social-media groups and online platforms.

Evaluation Plan:

The estimate target population is 100-200 physicians working in the public health sector in Saudi Arabia in Medical city's (King Fahad medical city, King Saud medical city), research centers or Community general hospitals.

The specialties will be categorized as anesthesia and intensive care, laboratory medicine, internal medicine specialties, community and family medicine, surgery, obstetrics and gynecology, pediatrics, psychiatry, and radiology.

Information of physicians will be collected through an online technique. The following information will be collected; age, gender, experience in medicine since graduation from the medical college, medical specialty, and number of days that physicians dealt with suspected or confirmed cases of COVID-19 in the last month.

The severity of sleep difficulty will be measured by the Athens Insomnia Scale (AIS). This scale is a self-assessment psychometric instrument designed to quantify sleep difficulty based on the criteria set by the International Classification of Diseases (ICD-10). The scale has 8 items to evaluate sleep onset, night and early-morning waking, sleeping time, quality of sleep, complaints frequency and duration, distress due to insomnia, and its interference with daily functioning [7].

We will be using SAS for statistical analysis. The descriptive characteristics of the physicians will be presented in mean and Std. Deviation or number and percentage. The severity of insomnia will be presented in mean and Std. Deviation. The prevalence of insomnia in physicians will be determined in number and percentage. The comparison of sleep score levels among physicians with different characteristics will be tested in an independent t-test or ANOVA-one way. The correlation of sleep with duration dealing with COVID-19 cases, age, and years experience will be examined in Spearman's rho test and presented in a matrix scatter plot.

Dissemination/Anticipated Outcomes

The expected product of this capstone project is a publishable cross-sectional study, which will be submitted to peer review journals. In addition presenting the results in the Saudi public health association(SAPH) annual conference or to Ministry of Health(MOH) public health general directorate leaders. The potential significance of this project is to create a discussion about the wellbeing of physicians in general and trying to help training committees and policy makers to understand the scope of the issue in order to set policies that might help decrease physicians stress and mental health burden during a Public health crisis.

References:

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