



Dreadful Impact of Covid 19 and Disturbed Sleep Pattern of General Population and Health Care Workers Globally – A Review

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Review Article

Volume 7 Issue 1

Received Date: November 14, 2022

Published Date: January 23, 2023

DOI: 10.23880/jonam-16000372

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Abstract

COVID-19 pandemic has greatly affected the mental health of people causing psychological distress with problems such as emotional disturbance, stress, mood alterations, anger, depression, irritability, confusion, emotional exhaustion, emotional isolation, insecurity, social stigma, post-traumatic stress symptoms, and especially insomnia reported in almost all sectors and strata of the society globally. Sleep is a recuperative and regulatory physiological need, affecting the systems biology and human immune system. COVID 19 is documented to disrupt sleep in various ways which may affect the immunity and the response of the individuals. The articles were searched on various search engines such as Pub med, Google scholar, science direct and the mesh terms such as Covid19, sleep, their different combinations and permutations was also explored and found that sleep which is known as one among the Trayoupstambha in Ayurveda severely affected during covid pandemic.

Keywords: Health care workers; Pandemic; Psychopathologies; COVID-19

Introduction

The globe was experienced peak of Covid19 twice. The epidemic has hit the global health infrastructure and economy, bringing it to a halt. The first outbreak of corona pandemic in December 2019, in Wuhan, China had devastated the economies and physical and mental life of people with lockdowns and people forced to stay home developing fear, anxiety, depression, and many psychological disorders, thus affected the sleep globally. A number of studies have reported the impact on sleep caused due to this epidemic in the different strata of the society. This paper is a critical review about dreadful impact of Covid 19 [1] on the pattern of sleeps commenced different kind of sleep disorders in general public and health care workers.

COVID 19 Pandemic and Changed Sleep Pattern of the Community

Novel corona virus outbreak was reported to initiate emotional and psychological reactions presenting as elevated levels of anxiety, fear, stress, depression, sleep disorders in almost all the strata of the society. Bad health and disease negatively affect sleep and disturbed sleep can again affect the health badly, initiating a vicious cycle.

Impact of Covid-19 on Patients and Suspects in Quarantine and Isolation

Brookes, et al. [2] reported that being in isolation or quarantine to brutally blow people's mental health to the

degree that they could be diagnosed as having post-traumatic stress syndrome (PTSD) [3]. PTSD has unexplainable symptoms including sleeplessness, anxiety, unhappiness and signs of hyper alertness. Study carried out by Siyixina, et al. [4] reveals that primary symptoms of COVID-19 i.e. cough doesn't affect sleep initially, but, fatigue developing later with the progression of the disease associated with increased cough affects both life as well as sleep considerably. SM Didar-Ul Islam, et al. [5] reported 85.60% of the patients to be in COVID-19-related stress, which hampered their sleep, making them short tempered and creating chaos in family. Zambrelli E, et al. [6] notified that sleep disturbance and scarcity is a major symptom and could be a variable factor for delirium in covid-19 patients. Contrarily, some studies document that sleep is not much affected by this pandemic, but other psychological symptoms arise. The percentage of people getting affected in different studies is variable. Fu W, et al. reported only 3 % of moderate COVID-19 patients to have suffered from obstructive sleep apnea-hypopnea syndrome [7].

Kun-Chia Chang carried out a cross-sectional design with 414 patients. They made Fear of COVID-19 Scale (FCV-19S) in which seven items were developed by using likert scale in which "I cannot sleep because I'm worrying about getting coronavirus-19" is an example item in the FCV-19S [8].

Impact of Covid-19 on Health Care Workers

Health care workers (HCW's) have been affected both physically as well as mentally in this pandemic as providing nursing care includes lots of pressure with an admiring conviction, heaps of responsibilities beyond just checking vital signs and administering medication. Previously also sleep disorders along with fear and anxiety, are reported in HCW's coming in contact with communicable diseases such as SARS, Ebola, MERS-Cov etc [9].

Pilar A et al. [10] conducted a survey to evaluate the practical and psychosocial impact on radiation oncology fellows during the first month of the pandemic reporting that the majority of respondents felt uneasy (9/15, 60%), and 46.7% (7/15) had complexity sleeping at night, while others endorsed that they felt terrified (5/15, 33.3%). A qualitative study on psychological experience of caregivers in COVID-19, documents some of their important psychological experiences as "to participate in training disinfection, and isolation, I feel I don't know where to start and I'm under a lot of pressure"; "But I don't have time to go to psychological counselling, I even don't have time to sleep"; "I feel sleep is the best stress relief, I just want to sleep" [11]. Health care providers working in COVID-19 crisis have reported deep exhaustion with generalized body pain to the extent that they could sleep even while standing [11]. Facing such kind of

mental exhaustion and stressed by work, most of the health workers adjust their sleep to combat it, which is positively significant for mental health [12]. Providing sufficient off duty hours to provide for adequate sleep for health care providers is recommended as a strategy for managing nursing problems at work place by Amal Reefat, et al. [13].

Impact of Covid 19 on Guardian and their Children

Sleep exertion and nervousness is also reported by the guardians of children with life during lock-down period being at-home all the time, work from home, closed schools, no interaction with peers being major factors triggering stress, poor sleep and other harmful behaviours such as irregular eating habits, smoking, sedentary lifestyle, anxiety, loneliness and depression [14]. Contrarily, Guerrero, et al. reported increased sleep duration in Canadian children aged 5 to 11 years since the COVID-19 outbreak began [15].

Community Impact of Covid 19

One of the studies worked upon psychopathologies arising in people due to confinement in this pandemic in which they find rebellious attitudes and disturbing nature of people with the consequences of social isolation, loneliness, stress and sleep deprivation [16].

This pandemic increased stress at every level; Steven Taylor et al. conducted a study on validation of stress scale. They developed a scale named COVID Stress Scales (CSS) including 36-items in which one question related to sleep was categorised in traumatic stress. Herat M compared this situation as wartime, which affects communities in large and people start reacting in different ways [17].

Puthiyedath R, et al. has written a preliminary report on clinical profile of infected patients in which he studied the deep sleep at day time and inability to sleep at night as a neurological symptom of Sannipataja Jvara (chronic stage of fever) reported in covid-19 patients [18].

Other Factors which Disturbed the Sleep During Pandemic

Osunmuyiwa OO, et al. carried out a study which is based upon the role of identity, values and situational factors on cooling consumption patterns in India. During pandemic, air conditioner and other heavy electrical devices were banned for some time to facilitate environment healing, but a case study with in-depth interviews from a community, reveals that people are too adamant to the comfort zone of their sleeping and pleasure in this pandemic [19]. Renata Defelipe, et al. [20] conducted a study through Mann-Whitney

statistical test and found that people who owned a pet had improved sleep quality, better relationship with neighbours and less sadness, due to which 60 % homes in Brazil have pets.

Strategies Adopted to Combat the Situation and Sleep Related Disorders in Pandemic

Through emotional and spiritual terms communities have to make essential roles to improve mental health of HCWs. A recent study publicized that there are key relations between increased social support through the appearance of sympathy which helps in improving declining sleep quality, anxiety, and stress in health care workers [21]. Avoiding sharing space, having own toilets and soaps for hand washing are indicated in a study to promote sound sleep, as intra house hold crowding, hand hygiene, social distancing etc. are significant factors affecting COVID-19 [22].

Kai liu et al., carried out a randomised control clinical trial on effect of muscle relaxation therapy on anxiety and sleep quality in patients with COVID-19, as lack of sleep becomes one of the major symptom in isolation for patients. Sleep State Self-Rating Scale (SRSS) was used to assess and document patient's sleep quality before and after the intervention of muscle relaxation therapy. Results revealed statistically significant difference after intervention in the sleep quality with the p value <0.001 which was not statistically significant before the therapy P= 0.838 [23].

Hui Wang et al., developed an expert consensus to provide holistic care the patients with severe corona virus disease 2019, ensuring adequate sleep and rest in bed, during hospital care as well as after discharge.

Patients were instructed to work and rest regularly, ensure maintaining adequate sleep, a balanced diet, and a calm emotional state and were to be managed for any sleep disorders by drugs as per medical orders [24].

Meditation and yoga practices significantly improve sleep disorders, anxiety, and depression [25]. Staying connected to family members, relatives and close friends, discussing critical symptoms to doctors through telemedicine helps to reduce strain and worry related to corona virus.

This pandemic resulted in the outburst of many applications and online portals for the updates of COVID-19 infected patients in locality. As it is a contagious diseases so one of the studies was carried out by A. Chaturvedi in which he compiled top 10 smart phones application which can easily detect the infected patient coverage. Among them a German smart watch app was launched by Ministry of Health, which is useful for tracing the stretch of the contagion along

with monitors the spread of corona virus by detecting the symptoms like sleep patterns, pulse rate, body temperature, to notice any signs of caution before time. It is a kind of fitness tracker which can be wearing like a smart watch on wrist [26].

Ayurvedic Perspective of Sleep and Overall Impact of Covid 19

Sleep of a person is as important as food for an individual's life that is why to justify the value of sleep, *Nidra* (Sleep) is one among three sub pillars (*Trayoupstambha*) of health mentioned in the Ayurveda, giving it the status of foster mother [27]. In Ayurvedic *Samhitas* it is mentioned that different *Doshas* (energies of body) having different influence on sleep pattern, as one's constitution (*Prakriti*) is made up of these three energies.

As mentioned above sleep is an inseparable part of an individual, and Covid 19 gave a horrible impact to everybody to fight against the invisible enemy. During this period so many individuals lost the lives of their loved ones and so many still having the side effects such as muscular joint pain, coughing problems, low immunity to grab any infection easily and insomnia. Although Covid has gone now but its impact remains in the world for the long time.

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