

Review Article

Detrimental effects of quarantine, social lockdown and other social suffers due to Covid – 19 pandemic on human health aspects

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ABSTRACT:

Background: Novel corona virus disease (Covid – 19) infection is a very highly transmissible type of viral infectious diseases. Human movement control and other control measures had definitely led to decreasing virus transmission power in china. In spite of its positive effects on limiting the number of infections by SARS COV2, lockdown and quarantine do has also negative sequels on general public health. These effects resembled by psychological, cardiovascular and musculoskeletal effects.

Aim of the review: to focus the light on the possible negative detrimental effects of social lockdown and quarantine on human health status.

Results: It was seen during the previous studies and evidences with prior pandemics and endemics related to viral infections that lockdown and quarantine were usually ended with many obnoxious effects on human health and life. These were primarily apparent and seen in long-term pandemics more than one month and some even within days of pandemics. These include commonly psychological effects, cardiovascular and musculoskeletal effects.

Discussion and conclusion: Many detrimental blameworthy effects were noticed on patients quarantined for ten days or more due to viral pandemic in the previous events and it was noticed in SARS COV 2 pandemic as well. Psychological effects like anxiety, irritability, mood changes and others resembled the most common type of problems seen in population on pandemics. Elevated blood pressure, ischemic heart diseases and others were also worsened after people quarantine. Vitamin D decline due to less sun exposure and muscle pain in addition to lower and upper back pain resembled the musculoskeletal arm of bad effects related to social lockdown.

Keywords: Quarantine, social lockdown, Covid – 19, pandemic.

INTRODUCTION:

As of thirteen June 2020, about seven million eight hundred thousands of covid - 19 infection cases were recorded worldwide. Of them, there was a round 98% in mild condition while 2% in severe or critical condition (1), this disease that was first appeared in China/ Wuhan city as its start center. Covid – 19 disease is caused by novel corona virus (SARS – COV 2) and it is now considered as a pandemic (2).

Novel corona virus disease (Covid – 19) infection is a very highly transmissible type of viral infectious diseases belonging to corona virus

family, a well-known type of viruses (3, 4). It is a highly transmissible type of respiratory tract viruses that can transfer from person to person by air carried droplets when the patient breaths coughs or speaks (5). Human movement control and other control measures like closing airports, cinemas, malls, and all human gathering places had definitely led to decreasing virus transmission power in china where the virus firstly appeared on the late of December 2019 (6). In spite of its positive effects on limiting the number of infections by SARS COV2 and thereby declining the risk of death due to the virus, lockdown and

quarantine do has also negative sequels on general public health (7). These health problems can be referred to in the following classification:

Effect of lockdown and quarantine on psychological health:

Previous outbreaks and pandemics were clearly associated with many negative impacts on psychological factors in people worldwide. Suicide, substantial anger were common and lawsuits brought (8, 9).

There was a study of hospital staff who were exposed to SARS found that immediately after the quarantine period (9 days); this led to symptoms of acute stress disorder. In the same study, quarantined staff were significantly reported exhaustion, detachment from others, anxiety when dealing with febrile patients, irritability, insomnia, poor concentration and indecisiveness, deteriorating work performance, and reluctance to work or consideration of resignation (10).

People who quarantined because of being in close contact with those potentially infected with SARS were reported a lot of detrimental effects during the quarantine period: over 20% (230 of 1057) were with fear, 18% (187) reported nervousness, 18% (186) were with sadness, and 10% (101) reported guilt (11). A range of other psychological responses to quarantine qualitatively studied and identified, like confusion, (12) fear, anger, (13) grief, (14) numbness, (15) and anxiety induced insomnia (16).

It was reported in a qualitative study that several participants suffered long-term behavioral changes after the quarantine period, like vigilant handwashing, avoidance of crowds and, for some; the return to normality was delayed by many months (17).

Studies showed that quarantine for more than ten days resulted in more significant posttraumatic stress symptoms than those quarantined less than 10 days (18).

Effects of quarantine on cardiovascular risk and incidence:

During periods of quarantine and lockdown, oxidative stress as a major cause of chronic vascular inflammation leading to the development hypertension and atherosclerosis is increased dramatically (19).

This is because the effects of lockdown on transport of goods and low financial income, the thing that lead people to depend no fresh food poor in antioxidants and dietary values (20).

Decline in emotional support due to less availability of relatives and friends was associated positively with stress driven wrong eating and drinking behaviors (21). This mean that switching

from healthy to non-healthy diet is highly associated with elevation in cardiovascular risk especially in those with high risk.

The decrease in physical activity elevates oxidative stress. Oxidative stress leads to apoptotic cell death of endothelial cells, reduces nitric oxide levels, heightens activity of matrix metalloproteases and aggravates vascular inflammation, provoking vasoconstriction, LDL oxidation, and accumulation of foam cells. This increases risk of endothelial dysfunction (22).

Defects in psychological factors like depression, anxiety and feeling of unwell being was associated with elevated cardiovascular risks in terms of incidence and prognosis. Vice versa, the positive psychological condition and feeling of wellbeing is associated decline in cardiovascular risks and complications (23).

During Spagnola pandemic in 1918, a peak of cardiovascular events was stated. These events started from 7 to 10 days after the beginning of influenza symptoms. Immediately after the end of the Spagnola epidemic, mortality from cardiovascular events had overcome that from other causes, including superimposed pneumonia (24).

Effects of quarantine and social lockdown on musculoskeletal disorders:

During lockdown due to pandemics, people to help them being away from the fear due to the pandemic may overuse many wrong habits. One of these habits is the extensive use of social media as was reported by Cellini et al. 2020 (25).

Because of this, it was reported that during lockdown, musculoskeletal disorders (MSD) were increased significantly in university students after quarantine as compared to that before quarantine (26).

In one study which was performed in Saudia Arabia. It was reported that the confinement decreed due to the COVID-19 pandemic led to a significant increase in low back pain (LBP) intensity among adults residing in Riyadh (27), where the LBP prevalence increased from 38.8 to 43.8%.

It stated also that low back pain was also the most common musculoskeletal pain area. People in the age between 35 and 49 years old, having a BMI equal to or more than 30, undergoing stress, non-adherence to ergonomic recommendations, prolonged sitting, the insufficient practice of physical activity, and undergoing teleworking or distance learning were associated with a higher LBP intensity (27).

Knowing its potential in vitro immunomodulatory effects, vitamin D was described by Harrison et al as having significant impact in vivo, particularly in

rheumatoid arthritis (28). Furthermore, Vitamin D is crucial for good health, especially bone and muscle health. People usually have low blood levels of vitamin D, especially in winter or if confined indoors, like that of curfew and quarantine because sunshine is the main source of vitamin D for most people (29).

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