

Psychological Impact of Quarantine and Isolation: A Take-Home Message for Healthcare Workers

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ABSTRACT

The globe scare of the enormous 2019 outbreak of the novel coronavirus infection (COVID-19), was originally reported in Wuhan, China. The World Health Organization (WHO) deemed COVID-19 a Public Health Emergency of International Concern in January 2020. In March 2020, the WHO determined that COVID-19 qualifies as a pandemic. By putting in place extensive quarantine measures, the World Health Organization and public health experts from all across the world worked to contain the COVID-19 epidemic. This article looks at the psychological effects of quarantine measures employed during the Middle East respiratory syndrome (MERS) and severe acute respiratory syndrome (SARS) epidemics.

Key words: SARS, MERS, COVID-19

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INTRODUCTION

The present outbreak of the 2019 coronavirus strain (COVID-19) caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) constitutes a public health emergency for all nations. It has caused considerable panic due of its rapidity of transmission and high mortality rate [1]. The severe respiratory illness was first detected in Wuhan, Hubei, China, and infections have spread worldwide [2]. Symptoms of COVID-19 reported infection include fever, cough, and acute respiratory disease, with severe cases leading to pneumonia, kidney failure, and ultimately death [3]. As of April 8 2020, 209 Countries and Territories around the world have reported a total of 1,455,519 confirmed cases of the COVID-19, and a death toll of 83,664 deaths [4].

Several members of the coronavirus have been reported to cause respiratory disease in humans including severe acute respiratory syndrome coronavirus (SARS-CoV) and the Middle East respiratory syndrome coronavirus (MERS-CoV) explored in 2002–2003 and in 2012, respectively, which caused fatal severe respiratory

diseases [5].

International centers for disease control and prevention are governing the outbreak.6 Countries around the world are implementing measures to slow the spread of the coronavirus, from national quarantines to school closures, early identification and isolation of patients, vigorous contact tracing, management of close contacts, and public information and education to encourage prompt reporting of symptoms.7 Quarantine separates individuals potentially exposed to an infectious agent (and thus at risk for disease) from the society. For considerable wellness, quarantine may create psychological, emotional, and financial problems for some parts of the community [6,7].

History

Coronaviruses are enveloped positive sense RNA viruses ranging from 60 nm to 140 nm in diameter with spike like projections on its surface giving it a crown like appearance under the electron microscope; hence the name coronavirus [7,8]. Comparison with the current virus shows several significant differences and similarities. Both MERS-CoV and SARS-CoV have much higher case mortality rates. The SARS affected 8422 people mostly in China and Hong Kong and caused 916 deaths (mortality rate 11%) before being contained. The MERS-CoV affected 2494 people and caused 858 deaths (fatality rate 34%) [3-5]. Both SARS-CoV and SARS-CoV-2 enter the cell via the angiotensin converting enzyme-2 (ACE2) receptor. The SARS-CoV-2 initially infects lower airways and binds to ACE2 on the alveolar epithelial

cells [8]. Although many similarities between SARS-CoV and SARS-CoV-2 have been reported, the SARS-CoV2 appears to be much more transmissible [9]. Quarantine was implemented in both epidemics as a measure to prevent its spread in the population. It proved to be a crucial strategy in containing the viruses and quelling the diseases globally. The same strategies have been employed to contain the SARS-CoV-2, as newer remedies for the disease are being explored.

Literature analysis

Although the quarantine measures were successful in terminating the outbreaks for SARS and MERS; the adverse effects such as symptoms of posttraumatic stress disorder (PTSD) and depression were observed [6]. During the quarantine for SARS, 28.9% and 31.2% of respondents in a study were reported for PTSD and depression respectively [6,7]. Symptoms of anxiety were reported to be prevalent in 47.2% of MERS patients and 7.6% of quarantined people during isolation. Four to six months after removal from isolation, symptoms of anxiety prevailed in 19.4% of MERS patients and 3.0% of isolated people [10]. Findings of a survey show that a considerable proportion of quarantined people were reported to be distressed, as evidenced by the presence of symptoms of PTSD and depression, assessed by validated scales [11].

Increased duration of quarantine was attributed with increased symptoms of PTSD, which is suggestive of quarantine itself, independent of acquaintance with or exposure to someone with the disease may be perceived as a trauma by some people [10,11].

Medical and healthcare professionals conveyed cognition of isolation [6-8]. The mandated lack of social and physical contact with family members was observed to be particularly difficult. In some, self-monitoring of temperature provoked considerable anxiety: "taking temperatures was mentally difficult" (respondent #27) and "taking my temperature made my heart feel like it was going to pound out of my chest each time" (respondent #62) [6].

Exaggerated stress reactivity at baseline predicted a boost in risk factors for cardiovascular disease and reduced telomere length at follow-up. In contrast, blunted stress reactivity predicted future increased adiposity and obesity, more depression, anxiety and PTSD symptoms, greater illness frequency, musculoskeletal pain and regulatory T-Cell percentage, poorer cognitive ability, physical disability and lower bone mass [12]. Exaggerated and blunted Severe Acute Malnutrition (SAM) system and the Hypothalamus-Pituitary-Adrenal (HPA) axis stress reactivity predicted distinct physical and mental health and disease outcomes. Dysregulation of stress reactivity may represent a mechanism by which psychological stress contributes to the development of future health and disease outcomes [12].

When cut from the outside world, people rely on social media and mass communication media to be updated

with happenings around the world. Mass media/social media have long been recognized as influential forces forging how we experience the world and ourselves [13]. During times of healthcare emergencies, various media industries and channels for mass communication promote adaptive responses to develop health attitudes and adherence to preventive measures provided by officials.

However, it also perpetuates the „infodemic“ which compromises outbreak response and accelerates public confusion about information sources [14]. It promotes fear and panic due to unverified rumors and exaggerated claims, misinformation, promotes xenophobic and racist forms of digital vigilantism and scapegoating. All the factors have been reported to foster the feelings of anxiety and trauma.

Summary

The goal of this review was to discern a spectrum of experiences of quarantined persons to better understand their needs and concerns. This knowledge is critical if modern quarantine is to be an effective disease-containment strategy. A mix of lack of knowledge, an incomplete understanding of the justification of applied measures can be attributed to then-present distressed conditions. Of particular interest, strictly adhering to infection control measures, including wearing masks more frequently than recommended was associated with increased levels of discomfort. Regardless of the cause, this distress may have been lessened with enhanced education and continued reinforcement of the rationale for these measures and outreach actions to help cope with the stressful event [6-8].

Public health officials, infectious diseases physicians, and psychiatrists and psychologists should be equipped with the proficiency of this issue. Defining the characteristics that impact the success of quarantine and infection control strategies should be done for speedy containment and recovery. Supplementary support to individuals who have an increased threat for the adverse psychological and civil consequences of quarantine must be kept in mind [14].

Precise information about the symptoms of the disease should be provided publicly, and psychological support is needed in those with persistent symptoms even after removal of isolation. Any financial losses should be identified and properly supported. Psychological support is necessary in those with history of psychiatric illnesses as they have a greater likelihood of experiencing psychiatric symptoms [7].

It is imperative to develop policies and mechanisms that address the digital creation and spread of misinformation about disease outbreaks. To do this, biomedical knowledge about pandemics must be supplemented by expertise about their social, political and cultural underpinnings.

CONCLUSION

Knowledge and understanding of the experiences of

quarantined persons are critical to maximize infectious disease containment and minimize the negative effects on those quarantined, their families, and social networks and the general population.⁹ During the isolation period, relief supplies must be provided on a timely basis. The WHO has presented certain deliberations in its statement developed by the WHO Department of Mental Health and substance Use as a thread of messages that can be employed in communications to assist mental and psychosocial well-being in varied target groups during the outbreak.

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