



COVID-19 Outbreak and its Burden on a New Wave of Functional Gastrointestinal Disorders

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ABSTRACT

The current outbreak of COVID-19 infection among humans is strongly impacting global physical and mental health. This outbreak can induce or exacerbate some chronic disorders such as functional gastrointestinal disorders (FGIDs) due to stress, anxiety, depression, insomnia, denial, anger, and fear. The current focus on the physical aspects of COVID-19 infection may distract public attention from the psychosocial consequences of this outbreak. The mental disorders related to this outbreak may develop and extend FGIDs in the long term. FGIDs have a significant impact on daily activities and quality of life and also cause high economic burdens through direct medical costs and loss of productivity. The purpose of this mini-review was to emphasize the critical state of old and new cases of FGIDs during the COVID-19 outbreak. Published English papers about mental health disorders related to the COVID-19 outbreak or before the infectious outbreak, stress, and FGIDs were considered and reviewed. We selected articles which were current and had the most relevance to FGIDs, psycho-somatization, and infectious outbreak.

KEYWORDS:

Outbreak, Mental health, COVID-19, Functional Gastrointestinal disorders, Psychosomatic disorders, Stress

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INTRODUCTION

COVID-19 infection mainly manifests with respiratory symptoms, although it can also cause digestive symptoms simultaneously. Some patients with COVID-19 infection have reported gastrointestinal (GI) symptoms including diarrhea, vomiting, and abdominal pain.¹ The current outbreak of COVID-19 infection among humans has strongly influenced global physical and mental health. The burden of this infection on global mental health is neglected although it may impact patients with old functional gastrointestinal disorders (FGIDs) or cause a new challenge for the general population. Since external stressors may change the GI motility and perception particularly in patients with FGIDs, functional neurological disorders and FGIDs are common after stressful events.² Therefore, clinicians must be prepared for a new wave of FGIDs in the near future. The purpose of this mini-review was to emphasize the critical state of old and new cases of FGIDs during and after COVID-19 outbreak. Since the healthcare system will be involved with FGIDs burden for a long time because some patients with FGIDs frequently refer to GI clinics or are even advised to do unnecessary invasive

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procedures including surgery during their hospitalization.

Method

Published English articles about mental health/disorders related to the COVID-19 outbreak or before infectious outbreaks, stress, and FGIDs were considered and reviewed in the following websites: Google Scholar, PubMed, and Scopus. We selected articles which were current and had the most relevance to FGIDs, psycho-somatization, and infectious outbreak.

Functional gastrointestinal disorders (FGIDs)

FGIDs are a collection of conditions affecting every part of the GI system. Their symptoms are often ambiguous and difficult to localize. These disorders are classified into six major branches: esophageal, gastroduodenal, bowel, functional abdominal pain syndrome, biliary, and anorectal.³ Gender difference (female > male) has been reported in the general population for FGIDs although some studies have not confirmed this.⁴⁻⁶ FGIDs are common disorders and are reported in almost one-third of the general population.^{7, 8} Irritable bowel syndrome (IBS) has been reported in approximately 12% of the general population.⁹ 35–60% of patients who were visited in the GI clinic had FGIDs.^{5, 6}

Psychosocial factors may affect the susceptibility to FGIDs and the ability to cope with symptoms.³ These unexplained disorders are commonly associated with anxiety, depression, and stressful life events.^{7,8,10} Emotional stress and depression may influence the development of FGIDs. The incidence rate of FGIDs increases with the severity of stress or depression.¹¹ Stress also exacerbates the old FGIDs.¹²

Psychiatric disorders are common in medical practice since almost one third of patients may suffer from at least one psychiatric disorder, particularly depressive and anxiety disorders.^{5, 13} Among patients with FGIDs, the rate of associated psychiatric disorders is more than the normal population. Psychiatric disorders especially depressive and anxiety disorders are reported in 50-90% of patients with IBS who sought treatment.⁹ Somatization disorders are also even highly relevant to FGIDs. A patient complains

of multiple subjective symptoms across multiple organ systems in somatization disorders. These patients usually do not present all their symptoms at once to the clinician. Somatization disorders are found in 15-48% of patients with IBS.¹³ FGIDs have a significant impact on daily activities and quality of life and also cause high economic burdens through direct medical costs and loss of productivity.¹⁴

COVID-19 stress

The current state of the COVID-19 pandemic is stressful even for persons who are in good health. Many people are under significant stress related to the uncertainty of this situation and forced to adhere to social distancing. These issues certainly will contribute to widespread emotional distress and eventually greater risk for psychiatric illness associated with COVID-19 outbreak. Health care providers are also especially predisposed to emotional distress in the COVID-19 pandemic. They are exposed to the virus directly and have concerns about being infected and do longer work hours.¹⁵ In addition, the use of heavy protective suits and N95 masks makes communication between medical staff very difficult and increases related psychological distress.^{2, 16}

Psychological impact of the pandemic COVID-19 and consequences for global mental health

The extensive number of adaptabilities formed in the body to defend against stress lead to psychosomatic disorders. A psychosomatic disorder refers to bodily symptoms, caused by mental or emotional disturbance.¹⁷ Medical disorders from natural causes such as the life-threatening COVID-19 infection do not meet the standard criteria for trauma required for a diagnosis of post-traumatic stress disorder (PTSD), but may cause other psychopathologies, such as depressive and anxiety disorders.¹⁵ A recent study on psychological sequela in a group of selected persons during lockdown/quarantine showed multiple emotional disorders such as anxiety, hopelessness, sleep deprivation, rage, horror, and distraction. The rate of symptoms increased after the isolation (home quarantine).² Some of those persisted even after the quarantine was lifted.¹⁵ Furthermore, there was a feeling of anxiety in

patients infected with the virus and they also needed psychological intervention simultaneously.¹⁸

The incidence of functional neurological disorder increased by 3.4-fold after the city-wide lockdown following the Boston Marathon bombings. Therefore, there is a warning about increasing functional neurological disorders and FGIDs after stressful community events particularly in people with prior psychiatric diseases. Studies showed that 27% of medical staff may develop psychiatric disorders after coping with stressful community events.² Therefore, it is predicted that the prevalence of FGIDs will increase significantly with the current pandemic.

COVID-19 and FGIDs

Stress has a critical role in the emergence of FGIDs.^{4, 17, 19} Most people suffers from changes in GI function during stressful or emotional events.^{4, 20} The lag time between the stressful event and the clinical presentation or exacerbation of FGIDs varies and may be a few weeks.¹⁹ Studies revealed a significant relationship between stress in Week *t* and stress in Week *t* + 1 and between GI symptoms in Week *t* and GI symptoms in Week *t* + 1.²¹ Anxiety and depressive disorders trigger FGIDs.²² The high level of anxiety and depression were significant predictors of developing FGIDs within one year.²³ 65% of people experienced more than one GI symptom and 31.1% more than three GI symptoms during periods of stress.⁴ Clinicians may detect FGIDs in men more during outbreak since men are exposed to more stress than women during critical situations.^{4, 17}

Adequacy of assessment for both physical and mental health

The COVID-19 pandemic influences mental health and social functioning.²⁰ A good insight into this critical situation may prevent diagnostic errors by healthcare providers.²

It is essential that assessment and intervention be administered for psychosocial concerns in this current outbreak. Healthcare providers have a key role in monitoring psychosocial needs and delivering psychosocial support to patients. Unfortunately, the possibility to deliver support and monitor psychosocial problems dur-

ing patient visits has been restricted in this outbreak by large-scale home confinement.¹⁵ Early and continuous psychiatric interventions are necessary by the mental health team for coping with this outbreak.²

Emotional distress causes somatic symptoms. Clarifying the mind–body interaction in each patient requires adequate psychiatric and general medical assessments. Some guidelines can provide only little help in aiding clinicians to treat patients with multiple disorders. As some clinical guidelines have been written by disease-specific specialists who may not consider the clinical picture beyond general medicine such as psychiatry. For this reason, clinicians may rely less on clinical guidelines for managing FIGDs during or after the outbreak. They may pay more attention to their own clinical judgment to create treatment recommendations that meet the needs of individual patients or sometimes consult with a psychiatrist.²⁴

The link between FIGDs and suicide

Most non-consulting FIGDs can satisfactorily cope with their symptoms. Patients seeking care for FIGDs are often marked by poor quality of life, work productivity decrements, hopelessness, and severe visceral pain or discomfort. Among patients with FIGDs with a depressed/irritable mood or weak coping/treatment, the risk of suicidal behavior potentially increases. 15% of suicide attempters had a history of chronic abdominal pain. Patients with FIGDs demonstrated suicidal behavior 3–11 times and patients with IBS showed such behavior 2–4 times more than the control group. FGIDs introduced is an independent risk factor for suicidal behavior after excluding comorbid mental disorders.²⁵

CONCLUSION

Clinicians reported that a significant number of those afflicted by COVID-19 infection suffered from loss of appetite, nausea, vomiting, and diarrhea besides their respiratory symptoms. The current focus on the physical aspects of COVID-19 infection may distract public attention from psychosocial consequences of this outbreak in the general population. There is a strong relationship between stress and the development and maintenance of FGIDs. Clinicians

can manage FGIDs effectively with better insight into this critical situation and prevent diagnostic errors and costs, since emerging mental health issues related to this global crisis may evolve into long-lasting FGIDs.

ETHICAL APPROVAL

There is nothing to be declared.

CONFLICT OF INTEREST

The authors declare no conflict of interest related to this work.

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