



Does Distress Thermometer Have a Utility in the Era of COVID-19 Pandemic?

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Abstract

The psychological impacts of the new COVID-19 pandemic are already evident. The pandemic sequelae will be observed in many populations: clinicians who care for patients with COVID-19, patients with COVID-19 and their families, patients with established psychiatric disorders, as well as the general population. Distress Thermometer (DT) is a single-item, self-report measure of distress that provides a brief, visual analogue, non-invasive screening for distress among cancer patients, as well as patients with chronic diseases. In this brief report, we try to answer the question of: does distress thermometer have a utility in the era of COVID-19 pandemic?

Subject Areas

Epidemiology

Keywords

COVID-19, Distress Thermometer, Screening, Clinical

1. Psychological Impacts of the COVID-19 Pandemic, Are We Ready?

It is already evident that the direct and indirect psychological and social effects of the coronavirus disease 2019 (COVID-19) pandemic are pervasive and could affect mental health now and in the future. The mental health sequelae associated with the pandemic could be observed in clinicians who care for patients with suspected and confirmed cases of COVID-19, patients with COVID-19 and

their families, patients with established psychiatric disorders, as well as the general population [1]. Furthermore, the virus that causes COVID-19, might infect the brain or trigger immune responses that have additional adverse effects on brain function and mental health in patients with COVID-19 [2]. Mental health symptoms and disorders can occur and persist in clinicians exposed to COVID-19. A cross-sectional study from China had assessed hospital-based physicians and nurses ($n > 1200$) from January 29 to February 3, 2020 [1]. The observed prevalence of moderate to severe psychiatric symptoms was as follows: distress (35%), depression (15%), anxiety (12%), and insomnia (8%) [1]. It seems that previous experience with the 2003 severe acute respiratory system (SARS) epidemic could improve the preparedness of clinicians to the new COVID-19 pandemic. This was observed in Singapore [3], where relatively few clinicians (5% - 10%) screened positive for anxiety, depression, and posttraumatic stress disorder (PTSD). Risk factors for psychiatric problems in clinicians who care for patients with COVID-19 include increased proximity to affected patients and infection hotspots [1]. Increasing complexity of the situation, COVID-19 related psychiatric problems arising in clinicians may persist beyond the COVID-19 pandemic. In a follow-up study of hospital employees who were exposed to the SARS epidemic in Beijing, self-report assessments three years later indicated that moderate to severe depressive symptoms were present in 23% of this cohort [4].

Based on studies conducted during and after prior epidemics, it is anticipated that many patients with COVID-19 will develop anxiety disorders, depressive disorders, PTSD, and substance use disorders [2]. In addition, COVID-19 appears to affect central nervous system (CNS) function, which may indicate that neuropsychiatric symptoms are likely to occur in some patients. In a retrospective analysis of 214 patients with COVID-19, CNS manifestations (dizziness, headache, or impaired consciousness) were reported in 25% of patients [2] [5].

Many patients with existing mental disorders (prior to COVID-19) will be adversely impacted by the psychological effects of COVID-19, due to loneliness and economic hardships arising from physical distancing [6]. Patients with anxiety disorders and depressive disorders may be susceptible to the continuous media reporting about the pandemic and the uncertainty surrounding its eventual outcome. Patients with serious mental illness such as schizophrenia and homelessness are especially likely to suffer from the pandemic, being at risk not only for COVID-19 based upon their social circumstances, but also more likely to suffer from chronic illnesses that put them at risk for poorer health outcomes once infected [7].

The potential fallout of an economic downturn on mental health is likely to be profound on those directly affected and their caregivers. Even the quarantine has its financial drawbacks. People quarantined because of being in close contact with those who potentially have SARS25 reported various negative responses during the quarantine period: over 20% reported fear, 18% reported nervousness, 18% reported sadness, and 10% reported guilt [8]. The SARS epidemic in

2003 was associated with a 30% increase in suicide in those aged 65 years and older; around 50% of recovered patients remained anxious; and 29% of health-care workers experienced probable emotional distress [9]. Patients who survived severe and life-threatening illness were at risk of PTSD and depression [2] [9]. The consequences of quarantine and associated social and physical distancing measures are themselves key risk factors for mental health problems. These include suicide and self-harm, alcohol and substance misuse, gambling, domestic and child abuse, and psychosocial risks (social disconnection, lack of meaning or anomie, entrapment, cyberbullying, feeling a burden, financial stress, bereavement, loss, unemployment, and homelessness) [10].

One major adverse consequence of the COVID-19 pandemic is likely to be the increased social isolation and loneliness which are strongly associated with anxiety, depression, self-harm, and suicide attempts across the lifespan [11].

Population-level factors, such as the effect of social distancing measures (physical distancing) and other necessary public health measures, affect mental health within a syndemics approach, which denotes intersecting global trends among demographics (e.g., ageing, rising inequality) and health conditions (e.g., chronic diseases and obesity) that yield resultant comorbidities [12].

The pandemic intersects with rising mental health issues in childhood and adolescence. Ascertaining and mitigating the effects of school closures for youth seeking care is urgent and essential, given that school is often the first place children and adolescents seek help [2] [13]. For the older population, promoting good mental health is important during self-isolation, which can be compounded by lifestyle restrictions, exacerbated loneliness, comorbidities (such as dementia), and feelings of worry and guilt for using resources [2].

2. The Distress Thermometer

The presence of significant distress in certain groups of patients e.g. cancer patients, which may remain unrecognized, motivated many international regulatory organizations and professional societies (e.g., International Psycho-Oncology Society (IPOS), National Institute for Health and Care Excellence (NICE) and National Comprehensive Cancer Network (NCCN)) to recommend the routine screening and management of distress as an integral aspect of whole-person cancer care in the same way that health-care teams monitor and respond to other vital signs [14] [15]. The NCCN has adopted the Distress Thermometer (DT) as one of the best-known distress-screening instruments [14].

This NCCN DT is a single-item tool using a 0 (no distress) to 10 (extreme distress)-point Likert scale resembling a thermometer. The patient rates his/her level of distress over the past week. The established cut-off score for further screening is a 4 [14] [16]. In addition, the Problem List (PL) can be used with the DT to provide words for psychological problems with non-stigmatizing connotations to identify possible contributing factors [14]. The PL offers the advantage of being brief enough to be easy for health professionals to use in daily practice.

DT is a quick and effective screening tool to recognize, diagnose and provide prompt management of distress in cancer patients and has the ability to address barriers [14] [16].

Despite the apparent simplicity of the DT, it covers most—if not all—problems might be faced by any study population (*i.e.* populations with different racial, religious, social and financial aspects), and world-wide. So, it is not surprising that DT has been successfully translated from English into several languages [16]. Because of its simplicity and easy application, DT has been used to screen non-cancer patients, as well. It proved effective in patients with chronic respiratory disorders [17] and bone marrow transplant patients [18].

3. COVID-19 Pandemic and DT

Based on the fore-mentioned observations that psychological sequelae of COVID-19 pandemic can occur in multiple populations, screening and hence management of distress among those populations, is of crucial importance. This could lead to early management and avoidance of a lot of harmful pandemic sequelae. Several society and government-sponsored guidelines from several countries and regions around the world have been adopted to screen and manage anxiety disorders, depressive disorders, PTSD, and insomnia [19] [20]. These guidelines had utilized many screening tools to facilitate catching stress among patients with those disorders.

We think, that DT with its mentioned advantages represents a very useful tool to screen populations facing COVID-19. Those include the frontline clinicians and nurses dealing with patients, the COVID-19 patients themselves, as well as the general populations. Being a simple and rapid test that can be used by medical or para-medical personnel will help manage psychological disorders among those populations in a timely-manner, which is of paramount significance in the era of pandemics. The DT-associated PL is comprehensive and covers almost all social, financial, spiritual and emotional aspects of an individual's life. Screening of cancer patients using DT had revealed encouraging results [14] [15]. We expect similar one among COVID-19 patients and health care workers (HCW). We think and expect that these guidelines and societies will implement the use of DT in the near future. Further researches are warranted.

4. Conclusion

Distress thermometer (DT) is a single-item, self-report measure of distress that provides a brief, visual analogue, non-invasive screening for distress among cancer patients, as well as patients with chronic diseases. With these advantages, DT represents a very useful tool to screen populations facing COVID-19. Those include the frontline clinicians and nurses dealing with patients, the COVID-19 patients themselves, as well as the general populations. Being a simple and rapid test that can be used by medical or para-medical personnel will help manage psychological disorders among those populations in a timely manner. Further

prospective studies are warranted.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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