



Early Psychological Interventions in Critically-Ill COVID-19 Patients-Who will Survive

Famitafreshi H and Karimian M*

Department of Physiology, Tehran University of Medical Sciences, Iran

*Corresponding author: Karimian M, Department of Physiology, Tehran University of Medical Sciences, Iran, Email: karimian@tums.ac.ir

Letter to Editor

Volume 6 Issue 1

Received Date: March 19, 2021

Published Date: May 07, 2021

DOI: 10.23880/nnoaj-16000160

Abstract

Critically-ill patients during pandemics require a different set of treatments. These patients usually suffer great stress. Stress can cause biological factors to exacerbate patients' health conditions. Stress causes great endocrine, immune, and oxidative stress abnormalities. In this regard, it is suggested in these patients special treatment toward the biological factors targeted. However, it does not mean that psychological interventions are not necessary. Different people respond differently to stress and some factors such as genetic factors, coping styles, type of personality, and social support are important. This article aims to suggest psychological treatments for the reduction of stress as well as biological treatment as the result of stress.

Keywords: COVID-19; Psychological Interventions; Stress; Critically-Ill Patients; ICU

Body Text

Psychological factors are important patients' risk factors that affect survival. For example in asthma, stress causes the release of histamine that causes bronchi-constriction. Stress also causes insulin inappropriate release that in turn causes diabetes that is one of the most important factors that affect survival in critically-ill patients [1]. Another important disease that would be affected by stress is the peptic ulcer that is the great cause of mortality in critically ill patients [2].

The appearance of psychological symptoms such as anxiety is dependent on several factors such as genetic factors, coping style, type of personality, and social support. Different studies suggest that several factors affect the response of individuals to disease. For example, females are more vulnerable to events affecting emotional ties [3] and avoidant individuals are more susceptible to express more stress response [4]. Social support and coping strategies are also two well-known issues that affect the ultimate tolerance of the undesired state in different settings [5].

Meanwhile, the endocrine system responds to stress

and vary among individuals. For example, stimulation of central corticotrophin factor (CRF) secretion by stress will result in the development of depression and anxiety [6]. A recent study suggests neuroendocrine and immune system response in a stress state will ultimately develop depression and in this regard, brain plasticity will be an important determinant factor [7]. Keep these facts in mind, it will be reasonable to think in critically-ill patients one of the most important treatments will be the treatment of psychological disturbances with biological causes. Stress through thyroid hormone greatly influences the immune system [8]. As can be seen, stress through biological factors greatly deteriorates normal body functions. Stress also causes oxidative stress that is traditional described as the production of reactive oxygen intermediates (ROIs) [9].

The tolerance of stress in critically-ill patients will greatly influence survival. As described, considering that stress causes great biological disturbances, medical treatment of such disturbances will be an important treatment for such patients. However psychological treatment should be kept in mind. Encouraging isolation of critically-ill people will help restrict disease but inversely affect dying patients. So in

practice, the connection of patients to their families and loved ones will be reasonable to avoid harmful and debilitating emotional conditions [10]. Also, staff may express and expertise a wide range of emotional responses varying from anger and irritability to extreme emotional responses that will greatly influence recourses availability [11]. In this sense, stress management among health care providers also improves the outcome of interventions. Furthermore, induction of artificial sleep in the acute phase of respiratory distress can be helpful. Artificial sleep (artificial coma) can be induced by phenobarbital or propofol and in some cases, patients may benefit from hypnosis [12]. Conversely, also sleep disruption also is not a desirable condition and also should be avoided [13]. The application of various forms of psychological techniques among both patients and health care providers will be helpful. Normally, there are five groups of techniques: (1) progressive muscle relaxation (PMR) (2) distraction imagery (3) focused imagery (4) listening to music (5) sitting quietly [14]. Application of one of these techniques or some of them at the same time based on the situation and appropriately of the patients can be a useful strategy.

References

1. Salleh MR (2008) Life event, stress and illness. *Malays J Med Sci* 15(4): 9-18.
2. Krag M, Perner A, Wetterslev J, Wise MP, Borthwick M, et al. (2016) Stress ulcer prophylaxis with a proton pump inhibitor versus placebo in critically ill patients (SUP-ICU trial): study protocol for a randomised controlled trial. *Trials* 17(1): 205.
3. Piccinelli M, Wilkinson G (2000) Gender differences in depression: Critical review. *Br J Psychiatry* 177: 486-492.
4. Kotler T, Buzwell S, Romeo Y, Bowland J (1994) Avoidant attachment as a risk factor for health. *Br J Med Psychol* 67(3): 237-245.
5. Fleishman JA, Sherbourne CD, Crystal S, Collins RL, Marshall GN, et al. (2000) Coping, conflictual social interactions, social support, and mood among HIV-infected persons. *Am J Community Psychol* 28(4): 421-453.
6. Hauger RL, Risbrough V, Oakley RH, Olivares-Reyes JA, Dautzenberg FM, et al. (2009) Role of CRF receptor signaling in stress vulnerability, anxiety, and depression. *Ann N Y Acad Sci* 1179: 120-143.
7. Ménard C, Pfau ML, Hodes GE, Russo SJ (2017) Immune and neuroendocrine mechanisms of stress vulnerability and resilience. *Neuropsychopharmacology* 42(1): 62-80.
8. Cremaschi GA, Gorelik G, Klecha AJ, Lysionek AE, Genaro AM, et al. (2000) Chronic stress influences the immune system through the thyroid axis. *Life Sci* 67(26): 3171-3179.
9. Mittler R (2002) Oxidative stress, antioxidants and stress tolerance. *Trends Plant Sci* 7(9): 405-410.
10. Tandon S, Medamana J, Roccaforte JD (2020) Searching for humanity in the time of COVID. *Intensive Care Med*, pp: 1-3.
11. Billings J, Kember T, Greene T, Grey N, Lee D, et al. (2020) Guidance for planners of the psychological response to stress experienced by hospital staff associated with COVID: early interventions. *COVID trauma response working group rapid guidance*, pp: 1-3.
12. Kang TM (2002) Propofol infusion syndrome in critically ill patients. *Ann Pharmacother* 36(9): 1453-1456.
13. Bourne R, Mills G (2004) Sleep disruption in critically ill patients—pharmacological considerations. *Anaesthesia* 59(4): 374-384.
14. Avants SK, Margolin A, Salovey P (1990) Stress management techniques: Anxiety reduction, appeal, and individual differences. *Imagination, cognition and personality* 10(1): 3-23.

