Anxiety and Coping with Anxiety in Patients with COVID-19: A review of the existing literature

Abstract

Background

The outbreak of coronavirus disease 2019 (COVID-19) is associated with significant fear and extreme anxiety in patients; this can lead to strong emotional state that can negatively impact their mental health and immune system. While the nature and effect of COVID-19 on mental health status yet to be determined , existing literatures offer some clues to understand what to expect in dealing with COVID-19 anxiety. The aim of this study is to evaluate the effects of anxiety and coping with anxiety in COVID-19 patients

Method

This is a narrative review of existing literature relevant to COVID-19 pandemic via PUBMed, EMBASE and GOOGLE SCHOLAR database on anxiety in patients with COVID-19 and represented in a search flow. Articles search with use of key words in various permutations and combinations.

Results

Total number of 73 articles were identified, following deduplication and exclusion of non-relevant studies two major articles, observational and randomized controlled trials were identified with broad themes of specifically on effect of anxiety on COVID-19 patients. These two publications were written in English and from Chinese centres.

Conclusion

Current evidence revealed that increased social capital will improved sleep quality by reducing anxiety and stress of patients in self-isolation, also progressive muscle relaxation has a positive effect on improving sleep quality and reducing anxiety in patients with COVID-19. These findings have some serious clinical and public health implications hence this is a call for further research

Keywords: COVID-19; Coronavirus; Anxiety; mental health; Psychological stress; public health

Introduction

There has been a spread of coronavirus disease 2019(COVID-19) from Wuhan in central China where it began late December 2019[1], this outbreak was recognized by the World Health Organisation (WHO) as a Public Health Emergency of International Concern (PHEIC) that significantly put international public health as high risk [2]

Anxiety is a prominent response to stressful condition and pandemic can lead to increased level of stress which ultimately will culminate in heightened anxiety state. The outbreak of COVID-19 is associated with significant fear and extreme anxiety in symptomatic and non-

symptomatic patients this can lead to overwhelming emotion fuelling strong emotional state which on the long run can negatively impact their mental health; this may be missed or overlooked while caring for clinical state of these patients which may be stressful for people. Anxiety and depression has been shown from previous studies to be synonymous with chronic diseases [3, 4] like cancer [5]. The heightened anxiety and worries to a variable degree are affecting everyone worldwide likely due to novelty of coronavirus. Current evidence shows that there are significant distresses including anxiety, post-traumatic stress features, anger and confusion associated with isolation and quarantine of patients [6]

The current epidemiology of this pandemic can be manifested in incubation period of one to fourteen days especially three to seven days including fever, dry cough and fatigue [7]. Significant anxiety can trigger persistent psychological stress which can lead to decline of immunity which will further worsen the patient's clinical state [8]. Success of public health strategies are results of vital role of psychological factors at play including risk communication, social distancing and hygiene practices. The success or failure of these strategies can be influenced by health anxiety [9]

While the nature and effect of COVID-19 on mental health status yet to be determined , existing literatures offer some clues to understand what to expect in dealing with COVID-19 anxiety. There are some articles on the impact of COVID -19 anxiety on the public, health workers but currently few focused on patients. Impact of psychological stress on Covid-19 patients can be very intense which may adversely affect their mental health hence this study attempted to evaluate effect of anxiety and coping with anxiety in COVID-19 patients.

Methodology

This is a narrative review of existing literature on anxiety in patients with COVID- 19. Systematic literature search was conducted using electronic databases including PUBMED, EMBASE and GOOGLE SCHOLAR from December 2019 to August 2021. Search key words were used individually and or in combination to identify relevant papers, key words search included are "coronavirus" , "Covid-19", anxiety, "mental health" ," psychological stress". Inclusion Criteria are literature search limited to the current period of COVID-19 pandemic. Studies on only adult human patients, only papers published in English but editorials, comments, correspondences excluded.

Results

Following detailed database search including PUBMED, EMBASE and GOOGLE SCHOLAR, about 73 studies in total were isolated on anxiety in covid-19 patient, after removal of duplication eight relevant studies identified while 68 studies excluded on account of commentaries and correspondence. Further analysis produced two current papers specifically dealing with anxiety in covid-19 patient [Figure 1], one observational, cross-sessional study design with self-rated questionnaire involving 170 patients and the second paper is a randomised control trial involving 51 patients. Both articles written in English and from Chinese centres

Discussion

Xiao et al[10] performed a cross-sessional study in Wuhan, central china on about 170 individuals who were in self-isolation at home for 14 days in January 2020 during the Covid-

19 outbreak, the aim of the study is to evaluate the effects of social capital on sleep quality and the mechanisms involved in individuals who self-isolated using self-rated anxiety scale questionnaire, stress was assessed using the Stanford Acute Stress Reaction (SASR) questionnaire, and sleep was assessed using the Pittsburgh Sleep Quality Index (PSQI) questionnaire. The result showed mean anxiety score 55.4 ± 14.3 , anxiety positively correlated with stress and negative correlation with quality of sleep and social capital, furthermore social capital shoed positive correlation with sleep quality ($p<0.05$). Hence self – isolation period of individuals during COVID-19 virus outbreak in central China showed increased social capital more likely improved sleep quality by reducing anxiety and stress and further enhancing better outcome of these individuals. The study is limited by the small sample size and also by the cross-sessional study design lacking the ability to identify other possible relationship and association between social capital and sleep. In addition, this study devoid of any form of randomization and silent on effect of pre or co-morbid factors, cultural and environmental factors on anxiety. Also, social capital was measured using the PSCI-16 questionnaire, and the data depended on the individual's ability to interpret the questions and provide accurate responses, but these responses were not verified objectively

However the findings have some serious and significant public health implications in the final outcome of Covid-19 patients in self-isolation or on the ward. Overall mental health of individual can be improved by improving the social capital.

Liu et al [11] performed a randomized controlled trials on total of 51 patients who were confirmed Covid-19 were admitted in Hainan General Hospital in Wuhan China from January 1 to February 16 and subsequently divided into two groups including experimental (n= 25) and control (n= 26). The aim of this study to investigate the effect of progressive muscle relaxation on anxiety and sleep quality of COVID-19. "Some sleep-promoting drugs may have respiratory depression, and the new coronary virus mainly affects lung tissue, and the use of drugs may increase respiratory depression. Therefore, we use asymptotic muscle relaxation training to alleviate the anxiety and improve sleep quality of patients with COVID-19."[11]

The experimental group were instructed on how to relax using Jacobson's relaxation techniques (progressive muscle relaxation and deep breathing), and after determining that they had learned how to relax, the patients performed this within 20–30 min each day, training for 5 consecutive days.

The result of the study showed that the average score of anxiety after intervention was statistically significant ($P < 0.05$), furthermore in comparison with the control group, the experimental group had reduced anxiety levels and improved sleep quality hence progressive muscle relaxation has a positive effect on improving sleep quality and reducing anxiety in patients with COVID-19. The well-designed but limited with the small sample size and effect of environmental and psychological factors on individual were not reflected in this study.

Coping with anxiety in Covid-19 patients

Currently there are essentially two studies [10, 11] that enumerated how COVID-19 patient can cope with anxiety as in patient or in self-isolation. Xiao et al[10] recommend some measures aimed at improving social capital and mental health of individual in self isolation during the pandemic including provision of online health education portals to decrease level

of panic , uncertainty and uneasiness promoted by lack of adequate knowledge of new infections like covid-19, online help and support to be provided by social workers and psychotherapist through use of tele-health devices like phone or internet device to provide encouragement and channels of communication with relatives, friends and loved ones during self-isolation duration. Studies have shown that measures aimed at improving mental health and sleep may also improve immune function, which may ultimately promote the ability to resist infectious disease [12, 13].

The second study by Liu et al recommends that progressive muscle relaxation should be taught to care staff s and done by the patients because it has positive effect on improving sleep quality and reduction of anxiety in Covid-19 patients, positive results were noticed after five days of practicing the technique. Similarly studies have shown that progressive muscle relaxation has positive outcome on anxiety level in patients with early cancer [14], prenatal anxiety [15]. This evidence has also showed an easy relaxation method which is also a non-invasive way for doctors, nurses and other caregivers can offer to help their patients sleep. These techniques can also be practiced and carried out at home by patients or individual in self- isolation, and do not require face-to-face contact by doctors or nurses or other healthcare staffs.

Contemporary cognitive-behavioural models showed that health anxiety occurs continuous phenomenon varying from high to low levels as opposed to varying in quality [16]. Furthermore these models also showed that health anxiety high level are marked majorly by catastrophic misinterpretation of bodily changes and sensation, dysfunctional believe about health and illness and maladaptive coping behaviours[16]. Screen –and-treat approaches for coronaphobia could be implemented in the community by General practitioners in conjunction with community-based interventions [9] for COVID-19 anxiety but how ready is the current healthcare services in the dealing with the sudden surge of *worried well* still remains a questions to be answered in the day to come during and following this pandemic.

COVID-19 patients with pre-existing psychiatric conditions coupled with current anxiety may need prolong prescription (if started on any) after discharge for stable outpatients ones and possible tele-consultation for unstable one still on the wards and those still in self-isolation [17].

Conclusion

The current COVID-19 pandemic is associated with significant level of anxiety, worries and apprehension not only on general population and health workers but most essentially the patients too on the ward or in self isolation, there is dearth of studies addressing anxiety and coping with anxiety in patients with COVID-19, currently this is the only review to date that evaluated the anxiety perspective of COVID-19 patients. Improving social capital and use of progressive muscle relaxation will improve sleep quality and reduce level of anxiety of COVID-19 patients.

The second wave of COVID-19 may largely be mental health related cases hence this is a prompt need to intensify strategies and intervention to deal with mental health problems especially those as a result COVID-19 pandemic.

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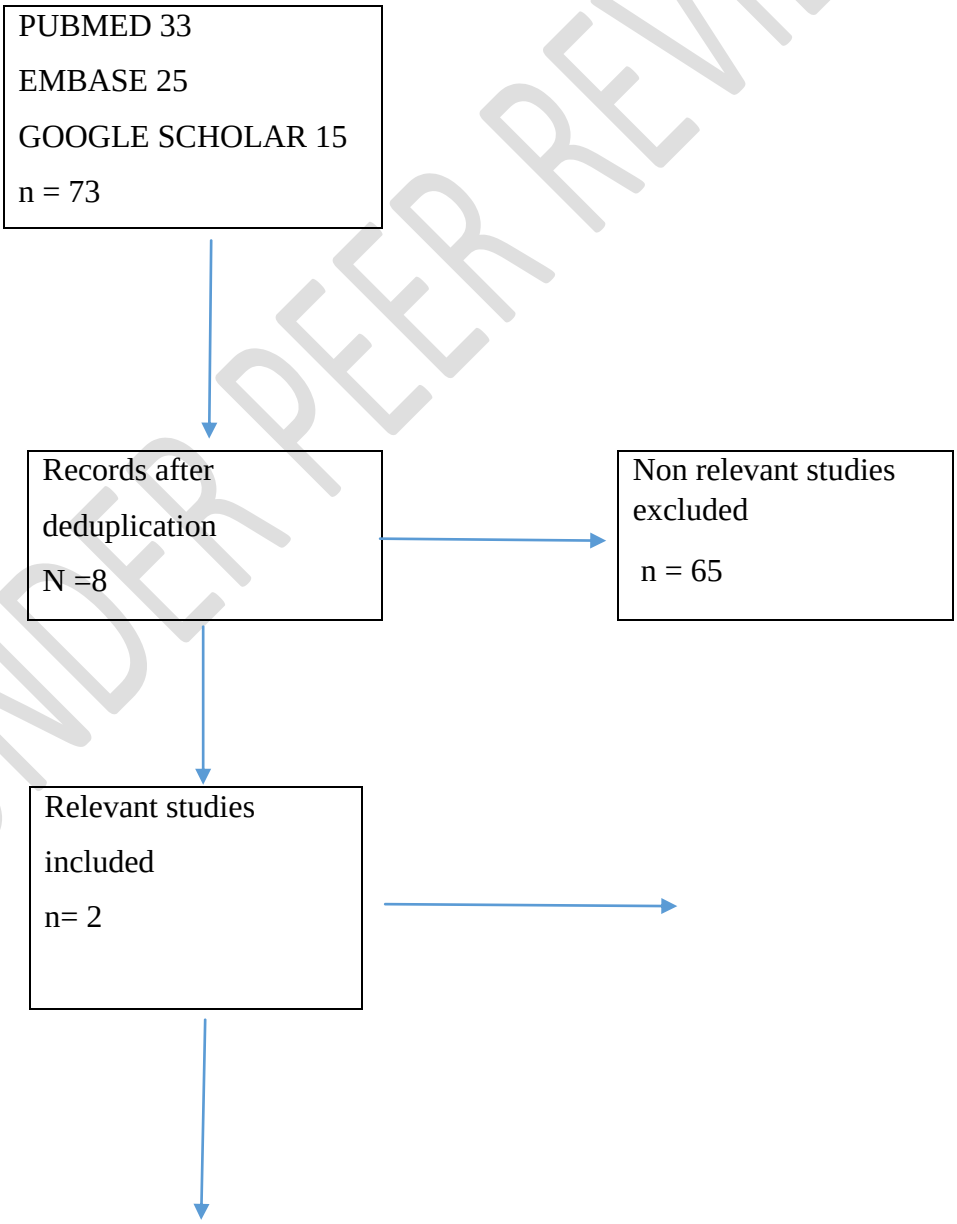

Further studies excluded
n = 6

Studies included
1 Observational
1 Randomised Controlled Trial
n= 2

Figure 1: Search flow