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Underrecognition and un-dertreatment of stress-related psychiatric disorders in physicians: Determinants, challenges, and the impact of the COVID-19 pandemic

Charles Lung-Cheng Huang

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Abstract

Medical practitioners' duties are highly stressful and performed in a particularly challenging and competitive work environment. Stress and burnout among physicians have emerged as a worldwide public health problem in recent years. A high level of distress and burnout can lead to clinically significant behavioral health problems, such as stress-related psychiatric disorders. Mounting evidence shows that physicians have higher risks of insomnia, anxiety, and depression than the general population, especially during the coronavirus disease 2019 pandemic. However, the behavioral health problems of these vulnerable healthcare professionals are noteworthy for being underrecognized and undertreated. In this mini-review, we summarize the current progress of studies on the prevalence and determinants of distress and stress-related psychiatric disorders among physicians and their healthcare-seeking behaviors. We discuss future research directions and the clinical approach that may maximize self-awareness and promote prompt and adequate treatment for clinically significant behavioral health problems of physicians.

Key Words: Physician; Depression; Anxiety; Insomnia; Healthcare-seeking behavior; Undertreatment

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Core Tip: Physicians are experiencing unprecedented stress and distress. They face major risks of distress and burnout, which can subsequently cause stress-related psychiatric disorders, such as insomnia, anxiety, and depression. Nevertheless, many of these vulnerable healthcare professionals do not seek medical help. There is a clear need for further research to evaluate the determinants of underrecognition and undertreatment of stress-related psychiatric disorders, how to enhance early detection and management of these mental health problems, and how to eliminate obstacles to the use of mental health services in this population.

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INTRODUCTION

Healthcare professionals are well known to bear a heavy burden of high job strain and workplace challenges[1]. High-pressured working environments, with excessive workloads, extended working hours, high levels of time pressure, limited resources, and restricted autonomy, have been acknowledged as factors causing mental health issues of healthcare professionals. In addition to these issues, medical practitioners may also have to deal with medical disputes and hospital evaluations in addition to the challenges of their clinical practice[2]. Distress and burnout, regarded as the exhaustion of emotional or physical strength as a result of prolonged frustration or stress, are common among physicians[3-6]. In a Medscape survey, 56% of physicians said they experienced burnout and attributed it to excessive bureaucracy combined with other causal factors, including long working hours, increasing computerization of practice, lack of respect from colleagues, lack of clinical autonomy, and insufficient compensation[7].

The issue of physicians' wellness has been gaining attention in recent years, and how to measure physicians' wellbeing and mental health is crucial[8]. A lot of literature reports physicians' distress or mental illness in terms of fatigue, burnout, emotional exhaustion or withdrawal, anxiety, depression, suicide, substance abuse, or functioning impairment. Additionally, there are existing instruments that can evaluate physician wellness. For instance, Arnetz[9] used a standardized questionnaire, *i.e.*, the quality of work competence survey, to evaluate core elements of organizational and staff wellbeing. These included mental energy, skills development, work-related exhaustion, work climate, work tempo, leadership, and organizational efficacy.

The high level of occupational stress, distress, and burnout of physicians affects not only their physical and mental well-being, but also the quality of patient care and the overall efficiency and costs of the healthcare system[8,10,11]. Firth-Cozens[11,12] called attention to stress, depression, alcoholism, and suicide among doctors in the United Kingdom in the 1990s. Since then, multiple epidemiological studies and several systematic reviews have been conducted worldwide[13-17]. Their findings are broadly similar as are the causal relationships between rates of stress and stress-related mental disorders, including anxiety, depression, insomnia, and substance use.

The distress, burnout, and subsequent behavioral health problems of healthcare professionals may be aggravated during special circumstances, such as pandemics. For instance, the coronavirus disease 2019 (COVID-19) pandemic has completely altered the lives of millions of people globally, putting an enormous strain on society and healthcare systems[18]. It is anticipated that the mental health problems of healthcare professionals would be exacerbated due to persistent stress and long-term sequelae following COVID-19[19-23].

Doctors' well-being and stress-related behavioral health problems are becoming a global public health issue. However, studies also show that healthcare professionals are passive seekers of help to deal with their mental health problems[24-26]. In this review, we focus on the distress and behavioral health problems of physicians. We extract data from the relevant literature and follow the progress of the latest studies on the prevalence and influential factors of distress and subsequent stress-related psychiatric disorders among physicians. Furthermore, we discuss physicians' healthcare-seeking behaviors and suggest strategies for intervention.

EPIDEMIOLOGY OF STRESS-RELATED PSYCHIATRIC DISORDERS AMONG PHYSICIANS

An increasing body of literature shows that distress and burnout among medical practitioners can lead

to clinically significant behavioral health problems, especially stress-related psychiatric disorders, including depression[15-17,27,28], anxiety[29,30], insomnia[31], substance use[32,33], and even suicide [33-37]. In 2015, a landmark meta-analysis and systematic review analyzed data from 54 cross-sectional and longitudinal studies involving 17560 resident physicians from 18 countries[38]. Results showed that the overall pooled estimate of depression or depressive symptoms was 28.8% [95% confidence interval (CI) = 25.3-32.5]. A review by Yates[3] highlighted that 42% of United States physicians participating in a large-scale online survey in 2018 stated that they experienced burnout. The survey repeated in 2019 showed similar results, with 44% “feeling burned out” and 14% reporting suicidal thoughts. A recent survey of doctors in Hong Kong revealed that 16.0% of the respondents screened positive for depression and 15.3% reported suicidal ideation[28]. In the Canadian Physician Health Study, almost one quarter of physicians reported a period of depression lasting at least two weeks[15], and the rate of depression was higher among female physicians. A study evaluating the levels of an association between occupational stress and depression in Taiwanese physicians found a depression rate (13.3%), which was more than three times higher than that of the general population (3.7%) in Taiwan[16]. The authors also found that gender was not independently correlated with depression, but that the interaction between job control and gender was independent of depression. In a national cross-sectional survey of Japanese physicians, depressive symptoms were noted in 8.3% of men and 10.5% of women[37], and 5.7% of men and 5.8% of women exhibited suicidal ideation. Another national study performed before the COVID-19 pandemic revealed that 6.5% of US doctors had suicidal thoughts in the previous year[36]; this rate exceeded the prevalence of suicidal ideation among United States workers in other fields.

Fewer studies have surveyed anxiety disorders in physicians, with early surveys using validated scales suggesting rates of anxiety disorder as high as 24%[39] and post-traumatic stress disorder ranging between 4% and 15%[39,40]. One Canadian study using the posttraumatic stress disorder (PTSD) Checklist-Civilian Version (PCL-C) found a prevalence of probable PTSD of 4.4%[40]. For probable PTSD, no gender differences were observed, but possible PTSD was more common in males (47.3% vs 20.4%, $P = 0.001$). Additionally, mean scores were higher for men than for women (30.4 vs 25.4, 95%CI = 1.4-8.5, $P = 0.006$). A recent systematic review by Pougnet *et al*[29] found that 7.8%-48.0% of hospital doctors had mood disorders, 2.2%-14.6% had post-traumatic stress disorder, and 10.5%-19.3% had anxiety disorders. In a study of sleep patterns of physicians in Japan, 21.0% of men and 18.1% of women [31] suffered from insomnia.

RISK FACTORS

Several factors are associated with the risks of distress and stress-related psychiatric disorders. Studies investigating the impact of gender on the mental health of physicians found that females were more vulnerable to stress-related psychiatric disorders and suicide[15,37,41,42]. For example, data from the Canadian Physician Health Study indicated that depression was more prevalent among female physicians[15]. Furthermore, more than a quarter of the physicians reported that mental health concerns made it difficult to manage their workload, a problem more common among female physicians. The Norwegian Physicians’ Survey indicated that mental health problems were related to low work control (autonomy), time pressure, and demanding patients[24]. There is little gender difference early in the career, but more female doctors than male doctors seem to experience problems in the later years. Schernhammer and Colditz[42] web-based survey showed that female physicians’ suicide rate was disproportionately higher than that of male physicians. They reported that the suicide rates of female and male physicians were 2.3 times (95%CI = 1.90-2.73) and 1.4 times (95%CI = 1.21-1.65) higher compared to that of the general population, respectively.

Age and work experience of doctors may also matter[36,41,43]. More experienced and older physicians report lower burnout or psychological distress than younger physicians[43]. This result may be due to experienced and older physicians’ independence afforded by experience accumulated over time and ever-changing work conditions and the development of protective defenses in their interaction with patients. A study by the British Medical Association revealed that junior physicians reported the highest rate of diagnosis of a mental health condition[41].

Other factors may also contribute to distress and stress-related psychiatric disorders in doctors. For instance, physicians working longer hours seem to be more vulnerable to psychological disturbance [41]. A narrative review found that distress and suicide risks are affected by a lack of positive feedback, emotional exhaustion to the brink of burnout, a lack of support networks, and workplace isolation[44]. Furthermore, risks may be aggravated by long working hours, strained family relationships, and poor work-life balance, as well as organizational and systemic issues. A recent systematic review by Saade *et al*[27] summarized the work-related risk factors of depression, including skill utilization; decision authority; physical and psychological demands; number of hours worked; work schedule (regular/irregular; daytime/nighttime); social support from coworkers, supervisor, and the family; job promotion and recognition; job security; and bullying.

THE IMPACT OF THE COVID-19 PANDEMIC

In several ways, the COVID-19 pandemic has profoundly altered social and occupational environments. There are many factors that influence the mental health of the general population as well as healthcare providers, including fear of infection, social distancing policies, mandatory lockdowns, and isolation periods, as well as suspension of production activity, loss of earnings, and anxiety about the future, together influence the mental health of the general population and healthcare providers. The possibility of high infection rates during the pandemic period added to the stress of healthcare professionals. This included using protective equipment, implementing new medical procedures, long working shifts, staying away from family, *etc*[20].

The distress, burnout, and stress-related psychiatric disorders of medical practitioners seemed to have been exacerbated during the COVID-19 pandemic[20,45-47]. A recent systematic literature review of the symptoms of burnout syndrome in physicians revealed that the overall burnout rate ranged from 14.7% to 90.4% during the outbreak of the COVID-19 pandemic[20]. In addition, the review highlighted that the high prevalence of burnout symptoms was associated with stress, anxiety, and depression; the factors that contributed to burnout included the violent issues related to organizational health as well as the lack of personal protective equipment.

An umbrella review of systematic reviews by Fernandez *et al*[47] found a 17.0%-19.8% rate of anxiety and a 40.4% rate of depression among physicians during the COVID-19 pandemic. In an umbrella review involved 44 meta-analyses[45], 26.7% (95%CI = 19.8-33.6) of hospital doctors reported anxiety and 30.9% (95%CI = 24.9-36.9) reported depression symptoms, while 37.2% (95%CI = 32.61-41.86) suffered from insomnia during the COVID-19 pandemic. In a recent systematic review and meta-analysis by Johns *et al*[46], the pooled prevalence of anxiety and depression was 25.8% (95%CI = 20.4%-31.5%) and 20.5% (95%CI = 16.0%-25.3%), respectively. The authors argued that a significant proportion of physicians experienced high levels of anxiety and depression symptoms during the COVID-19 pandemic, although not conclusively more so than before the pandemic.

A recent study of health professionals' help-seeking behavior during the COVID-19 pandemic in Spain reported a notable increase (29.4%) in the number of referrals to the special clinical unit during the pandemic, especially among physicians compared to nurses[48]. The most prevalent major diagnoses at admission remained similar before and during the pandemic: Adjustment disorders, mood disorders, anxiety disorders, and substance use disorders.

HELP-SEEKING BEHAVIORS AND UNDERTREATMENT OF PHYSICIANS

Although evidence shows that medical practitioners are at high risk of clinically significant behavioral health problems that may require treatment, they tend to be reluctant to seek treatment for mental health problems[25,28,36,41,49]. A recent survey exploring United States doctors' suicidal ideation and attitudes to seeking help found that 1 in 15 doctors reported having suicidal thoughts in the previous 12 mo[36]. Most doctors (72.9%) disclosed that they would seek professional help if they had a serious emotional problem. However, doctors with suicidal ideation were less likely to state that they would seek help (64.2%) than those without suicidal ideation. Earlier research data from the Canadian Medical Association showed that of the 18% of physicians who were recognized as depressed, only a quarter considered seeking help and only 2% actually did[25]. A European study revealed that 78.3% of distressed physicians had never sought professional help for burnout or depression[49]. In a study conducted by the British Medical Association, junior doctors and medical students reported the highest rate of being formally diagnosed with a mental illness, but junior doctors were the least likely to know how to access support or help[41]. A recent survey of physicians in Hong Kong also found that among the cases positive for depression (16.0%), less than half reported having a formally diagnosed mood disorder[28].

Studies using objective data echo the findings of self-report surveys on the help-seeking behaviors of doctors[33,50]. Gold *et al*[33] used data from the National Violent Death Reporting System to explore suicide among United States physicians. They found that although mental illness was a critical comorbidity in doctors who committed suicide, postmortem toxicology testing showed low rates of antidepressants. We also conducted a study using a nationwide population-based database of the National Health Insurance program in Taiwan to explore the actual risk of stress-related psychiatric disorders among healthcare-seeking doctors[50]. A total of 15150 doctors and 45450 matched controls were included, and the results showed that the adjusted odds ratios for treated depression, anxiety, and insomnia in the physicians enrolled were 0.716 (95%CI = 0.630-0.813), 1.103 (95%CI = 1.020-1.193), and 2.028 (95%CI = 1.892-2.175), respectively. In other words, doctors have a higher likelihood of being treated for insomnia and anxiety but a lower likelihood of being treated for depression than the general population. Moreover, we found that undertreatment was more common in female doctors for anxiety; in age groups > 35 years for depression; in surgery and OBS/GYN specialties for anxiety; as well as in surgery and internal specialties for depression.

Doctors' own attitudes may be the reason for their hesitancy in seeking professional help for psychological or behavioral health problems. A survey of United States female physicians revealed that almost 50% believed that they fit the criteria for mental illness although they had not sought treatment[51]. The main reasons for avoiding care included limited time, the belief that diagnosis was embarrassing or shameful, fear of reporting to a medical licensing board, and a belief that they could independently manage their illness. A recent study of Australian physicians' help-seeking for depression found that the most common barrier to help-seeking was "confidentiality/privacy"[52]. In addition to the fear of professional consequences, *e.g.*, the impact on the medical license[53], physicians identified barriers such as limited time to seek medical treatment and the stigma attached to mental illness[54]. Previous studies have suggested that physicians are reluctant to see another professional, especially if the problem is psychological[26,55]. Doctors become used to coping with their distress or psychological problem through avoidance and denial, although the effect is doubtful[11,56,57]. Instead, most doctors tend to use self-prescribed medications and self-treatment for their own psychological distress or medical illness[24,49,58,59].

Doctors' attitudes can hinder their access to proper health care for themselves. Physicians are not used to the role of being the patient and fear that their need for help may be seen as a mark of their inability to cope or weakness[55,60,61]. Such a perceived stigma is associated with resistance to help-seeking. In an anonymous survey of 1401 academic physicians in the United States, 12% reported moderate to severe depressive symptoms in the previous two weeks[62], but of these, less than half reported that they were likely to seek treatment for a mental health problem. More than half the doctors endorsed survey items about the stigma attached to mental illness. It is worth noting that the fear of being stigmatized can develop as early as when the doctors are students[63-65]. In a survey of students at six medical schools in the United States, only a third of the respondents with burnout sought help for a mental health issue in the last 12 mo[63]. The authors concluded that negative personal experiences, perceived stigma, and the hidden curriculum may lead to the majority of students not seeking the help they needed.

RECOMMENDED MANAGEMENT AND INTERVENTION STRATEGIES

As physicians' mental health problems have been globally recognized as a health crisis, an increasing number of researchers have proposed action plans and intervention strategies in recent years, although not all of them are validated. Interventions to deal with this problem can be divided into two categories: Those focusing on the individual; and those addressing the work environment[3,66]. Individual-focused programs frequently comprise instruction in mindfulness, exercise, and nutrition, while programs on dealing with the work environment focus mainly on stressors such as productivity pressures, electronic health records, and the administrative burden.

In a recent review focusing on physician stress and burnout, Yates[3] proposed a number of solutions, including decreasing the amount of time physicians spend on non-clinical tasks, organizational changes to improve usability of electronic medical record systems, the adoption of scribes, personal resilience methods focused on self-care, and programmatic approaches to promoting physician well-being. Other authors also recommend specific interventions such as meditation, mindfulness training, and individualized professional coaching and groups for stress management[67-70]. Posluns and Gall[68] focused on the role of self-care in promoting well-being and suggested self-care practices including awareness, balance, flexibility, social support, physical health, and spirituality. Furthermore, they suggested integrating self-care practice into clinical training programs and the quality assurance courses of professional associations in the field of mental health.

A number of interventions have been established to improve the well-being of junior physicians and resident doctors[71-74]. For example, a recent study assessed an educational program, the Resident Physician Burnout and Peer Communication Curriculum, aimed at promoting a strong informational and emotional social support system[73]. The course used peer roleplaying to establish self-awareness and social support, enhance communication skills, and inform about available mental health resources, thus encouraging intervention. The author concluded that roleplaying provided an effective, low-cost method of destigmatizing *via* encouraging discussion of burnout, educating about signs and symptoms, and learning about available resources. In their recent review, Krishnan *et al*[71] identified three main types of interventions in the United Kingdom: Mentorship, clinical preparation interventions, and mindfulness. Most of the studies reviewed showed positive outcomes of interventions, suggesting them to be advantageous in reducing stress levels and anxiety, and thereby improving the well-being of young doctors. However, a study evaluating a suicide screening and treatment referral program for faculty and residents at an academic medical center in the United States highlighted the challenges of engaging the professionals in the program, although the minority who successfully participated in the treatment referral program were satisfied with the outcomes[74].

Medical residents and doctors often find it inconvenient to receive professional counseling owing to concerns about cost, time, confidentiality, and stigma. The distress and mental health problems of frontline physicians exacerbated by the COVID-19 pandemic emphasize the need for accessible psycho-

Table 1 Summary of recommended management and intervention strategies

Individual	Work environment	Program	Ref.
Personal resilience methods focused on self-care	Decreasing the amount of time physicians spend on non-clinical tasks, organizational changes to improve usability of electronic medical record systems, the adoption of scribes	Programmatic approaches to promoting physician well-being	[3]
Meditation, mindfulness training, and individualized professional coaching and groups for stress management			[67-70]
Self-care practices including awareness, balance, flexibility, social support, physical health, and spirituality		Integrating self-care practice into clinical training programs and the quality assurance courses of professional associations	[68]
Peer roleplaying to establish self-awareness and social support, enhance communication skills, and inform about available mental health resources, thus encouraging intervention	A strong informational and emotional social support system	Resident physician burnout and peer communication curriculum	[73]
Mindfulness	Mentorship	Clinical preparation interventions	[71]
	Providing confidential, free, and individual on-site counseling and medication management	RFPW	[76]
	A novel smartphone app offering a digital-first mental health resource		[75]
Normalizing depression as a medical disorder, decreasing the stigma of mental disorders, and encouraging faculty and physicians to seek treatment			[72]

RFPW: Resident and Faculty Wellness and Peer Support Program.

logical support for medical professionals. There are novel approaches to reducing barriers[75,76]. For instance, the Resident and Faculty Wellness and Peer Support Program at Oregon Health and Science University has sought to reduce these obstacles by providing confidential, free, and individual on-site counseling and medication management[76]. During the COVID-19 pandemic, all appointments *via* this program were shifted to a telehealth service and many doctors were grateful for the opportunity to talk through their apprehensions and strengthen their coping ability. Another study investigated a novel smartphone app offering a digital-first mental health resource to young physicians[75]. It contained psychoeducational material, information on common work stressors, cognitive behavioral modules, guided meditation, and a section on help-seeking options for mental health problems through workplace and private routes. Results showed that anxiety and depressive symptoms significantly decreased between the pre- and post-assessment points; however, doctors’ safety concerns about COVID-19 significantly increased.

In a special article aiming to reduce the stigma associated with mental illness and encourage medical students to seek treatment, Brower[72] suggested that faculty attitudes toward mental health problems, including unwillingness to acknowledge having such issues, may be transmitted to medical students educated by them and keep depression concealed *via* the hidden curriculum. In addition, the fear of mental illness is manifested as privileging applications and licensing under the guise of patient safety, leading to a culture of shame and silence. Brower[72] appealed to medical faculty and physicians, as founders and executors of this professional culture, to be the ones to start changing it. The article also provides suggestions for normalizing depression as a medical disorder, decreasing the stigma of mental disorders, and encouraging faculty and physicians to seek treatment (Table 1).

CONCLUSION

Healthcare providers’ mental wellness has become a worldwide public health concern. The literature on stress-related mental health conditions of these vulnerable professionals and their determinants was limited until a few years ago. Although recent research has begun to focus on action plans and intervention strategies, few mention the barriers to help-seeking and the impacts of doctors’ mental health problems on patient care[77]. The present review highlights that physicians have high risks of distress, burnout, and subsequent stress-related psychiatric disorders, which may be further exacerbated during the COVID-19 pandemic. However, at-risk physicians are still notably underrecognized and undertreated. Doctors’ reluctance to seek help may be largely due to their own attitudes,

especially the stigma attached to mental illness. Our review is limited by its focus on qualitative analysis without quantitative analyses, such as the effectiveness of mental health interventions in doctors.

We hope that this review encourages a number of future considerations. Firstly, improved awareness of the significance of physician wellness, both organizationally and individually, is needed by physicians, their employers, and their patients. Inclusion of physician wellness as an indicator of quality of organizations might be the first step that can lead to a shift in the culture of care for physicians' wellness. Thus, health systems and organizations should routinely measure physician wellness and the level of distress and burnout, establish evidence-based intervention strategies, and discuss the challenges related to their implementation. Secondly, educating physicians themselves, especially medical students and future doctors, about the impact of mental health problems, how to develop self-awareness and help-seeking, and how to eliminate the stigma is crucial. Finally, more prospective and longitudinal studies are needed to explore the causes, manifestations, impacts, and determinants of distress, burnout, and subsequent stress-related psychiatric disorders in physicians. Moreover, research on health care-seeking behaviors of physicians, as well as the possible barriers, both individual and organizational, to their use of mental healthcare resources is necessary. Accordingly, assessment of comprehensive management and novel intervention methods, such as telehealth, digital medicine, groups, and other outreach treatments, and their efficacy is also highly recommended.

FOOTNOTES

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