Suicide among doctors: A narrative review

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ABSTRACT

Doctors across the world work in stressful conditions, often making life or death decisions under considerable pressure. With changes in patient and societal expectations, these pressures continue to rise. For several decades, it has been illustrated that rates of psychiatric disorders, especially suicide, are considerably higher in doctors than the general population. We performed a comprehensive literature search of suicide in doctors. Using defined terms (suicide, self-harm, doctors, physicians, residents) in PubMed, we identified pertinent articles for review. We find that suicide in doctors is influenced by exposure to the physical and emotional distress endemic to the profession. These experiences may be compounded by emotional giving to the brink of exhaustion; a lack of positive feedback; alongside workplace isolation and poor support networks. Moreover, risks may be magnified by impacts outside of work; long hours, strained family relationships, poor work–life balance, as well as system and organizational politics. Despite this, doctors persistently avoid seeking help because of stigma against mental illnesses, stigma against themselves, and growing concerns that disclosure may impact their medical license. In many cases, doctors choose to self-medicate with prescription medications, alcohol, and a range of other substances. It is important that health services respond promptly, adequately, and sensibly to the needs of doctors in distress. Organizations including regulators have a moral responsibility to care for the wellbeing of its staff. A proactive approach to well-being, through training, and support will not only benefit doctors but also the patients who utilize their services each day.

Key words: Doctors, physicians, residents, self-harm, suicide

INTRODUCTION

Doctors across many specialties often work under tremendous amounts of pressure. These pressures come from patients, managers, their own professionalism, and structural factors. It has been well recognized that rates of psychiatric disorders and mental ill-health are high in these groups. Many studies have shown that rates of depression, anxiety, and suicide are much higher than expected in doctors. Substance abuse and self-medication are not uncommon, and doctors are reluctant to seek help from professionals due to a number of reasons. First and foremost is stigma against mental illness. Second, a perception that doctors should be able to look after themselves and seeking help is often seen as a sign of weakness. Furthermore, in many work settings, there are no formal processes which encourage people to seek help, with doctors also worried about issues related to confidentiality and subsequent involvement of regulatory bodies.

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Rates of suicide among doctors have been reported to be remarkably higher than the general population. The concept of physician well-being is multidimensional and includes factors related to each physician as an individual as well as to the working environment.

The reasons for suicide are in general many and can be divided into three broad categories. First, there are personal reasons. These can include underlying psychiatric disorders but also lack of support in the workplace and increasing demands which may well contribute to stress and distress. This category also includes exposure to trauma, stress, and peer relationships with a lack of support often contributing to altered mental state. A lack of sense of control can contribute to these feelings. The second possibility is related to structural reasons, i.e., conditions in which doctors work in many counties may well play a role. These include increased managerialism in many healthcare systems, access and management of electronic health records, increased ‘paperwork’ and rushed patient interaction. There has been anecdotal evidence in many countries that increasingly doctors feel persecuted by the system. In addition to pressures related to management and increasing patient demands, there may also be sociocultural factors. These may include environmental factors which affect the settings within which practice of clinical medicine takes place and will include pressures related to work and an inability to take time off, relax, or rest and a lack of safe spaces where doctors can refresh themselves when on duty. The third variety of factors can be described as endemic factors which will include exposure to deaths and trauma and without having access to safe spaces to reinvigorate oneself. Furthermore, often doctors are encouraged to be professionals, i.e., keeping a ‘professional’ boundary between themselves and their patients, and yet, paradoxically, they are supposed to be empathic thereby creating a tension which may be very difficult to resolve at times. In this brief overview, we aim to provide an overview of some of the issues affecting doctors’ and medical students’ mental health and well-being in this and accompanying paper. We will attempt to draw some common factors together in our understanding of factors affecting doctors and suggest some ways forward.

METHODS

We decided to carry out a narrative review which in the context of not systematic reviews but used observations, recommendations and conclusions based on relevant papers as recommended. These were identified using terms such as suicide, attempted suicide, self-harm, deliberate self-harm, doctors, physicians, trainees, residents to identify papers guidelines, systematic reviews, and reviews.

RATES OF VARIOUS PSYCHIATRIC DISORDERS

There is no doubt that medical students (see accompanying paper) and doctors in training are more prone to developing psychiatric disorders which can be attributed to the vulnerable age they are in. It is well recognized that three-quarters of psychiatric disorders in adulthood start below the age of 24 whereas roughly half do so before the age of 15.

Firth-Cozens describes how her attention was drawn to stress and suicide among doctors in the 1990s in the UK. Since then, several epidemiological studies and multiple systematic reviews have been conducted. Multiple surveys from different parts of the world have been conducted, and findings are broadly similar as are the causes and explanations of rates of stress and common mental disorders including anxiety and depression.

A UK-based large multicenter study of consultants from five specialties at two cross-sectional periods with two sets of respondents in 1994 and in 2002, reported a 5% increase in psychiatric morbidity and 9% increase in burnout between these timeframes. Another national cross-sectional survey of hospital consultants 2 years later reported the incidence of mental health problems to be 32% with depression being the commonest illness. These consultants showed worryingly high levels of alcohol consumption. What was even more worrying was that the standards of patient care delivered by them had been affected and gone down. Heyworth et al., in a national survey of accident and emergency consultants and senior registrars (specialist trainees) in 1993 did not find high levels of stress or depression and respondents generally evaluated aspects of their work environment favourably. This appeared to be related to clearly defined job roles, supportive work groups and efficient units. Ramirez et al. (1996) found that consultants reported 27% psychiatric morbidity using General Health Questionnaire. Firth-Cozens noted 28% doctors show work-related stresses.

BURNOUT

Burnout is defined as a syndrome consisting of symptoms related to emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment. Of late, its prevalence has become much more prominent and visible, again more so in some medical specialties than in others. There is no doubt that burnout indeed can have major widespread consequences, both for the patient and the doctor but also for the system as a whole. It can lead to poor quality of care, increased medical errors, patient and provider dissatisfaction. For the doctor, it can lead to isolation, sense of failure, poor self-esteem and depression with suicide or attrition from medical practice thereby increasing pressure on others. To complicate matters further,
burned-out physicians are unlikely to seek professional treatment and may attempt to deal with this by substance abuse, depression, and suicidal thoughts by themselves. Burnout raises interesting questions at a number of levels from definition to diagnosis. It has been argued that the use of term burnout may be less stigmatizing and perhaps more acceptable than other terms which may create false-positive findings\(^7\) which may explain some of the increase in rates and reporting.

Bhugra et al. (2019)\(^8\) found that in their online survey nearly 80% respondents were reporting burnout. In addition, the rates were much higher in females, those in junior training positions and among those working longer hours. Their study showed that 27% of their sample reported being diagnosed with a mental health condition at some point in their life, and 7% said that this was the case in the past year. 40% reported currently suffering from a broad range of psychological and emotional conditions and 90% stated that their current working, training, or studying environment had contributed to their condition either to a significant or partial extent. Nearly one-fifth (19%) said they would not seek help or support from their employer or medical school. Nine percent said they had asked for but were not offered support. Notwithstanding their caution that although online survey may well have been more confidential, it may also have attracted respondents who were facing problems, they report another interesting finding about help seeking. Even when doctors were feeling exhausted, they would continue to go to work. Trainee doctors found it more difficult to seek help which raises interesting questions about ease of availability of resources. Rotenstein et al.\(^9\) studied burnout rates among doctors. They defined burnout as a self-reported job-related syndrome increasingly recognized as a critical factor affecting physicians and their patients. An accurate estimate of burnout prevalence among physicians would have important health policy implications, but the overall prevalence is unknown. In a systematic review they noted that the reported prevalence estimates of overall burnout or burnout subcomponents varied between 67.0% on overall burnout, 72.0% on emotional exhaustion, 68.1% on depersonalization, and 63.2% on low personal accomplishment. Overall burnout prevalence ranged from 0% to 80.5%. Because of inconsistencies in definitions of and assessment methods for burnout across studies, associations between burnout and sex, age, geography, time, specialty, and depressive symptoms cannot always be reliably determined. Dyrbye et al.\(^10\) compared the prevalence of burnout and other forms of distress across career stages and the experiences of trainees and early career (EC) physicians versus those of similarly aged college graduates pursuing other careers. Carrying out national surveys of medical students, residents/fellows, and EC physicians (≤5 years in practice) and of a probability-based sample of the general U. S. population they noted that even though the response rates were low, the rates of burnout were higher among trainee doctors whereas medical student showed increased odds of depressive symptoms, whereas EC physicians had the lowest odds of high fatigue. Compared with the population control samples, medical students, residents/fellows, and EC physicians were more likely to be burned out as well as having higher rates of depression in comparison with population control samples but not of suicide rates. These authors conclude that training appears to be the peak time for distress among physicians, but differences in the prevalence of burnout, depressive symptoms, and recent suicidal ideation are relatively small. At each stage, burnout is more prevalent among physicians than among their peers in the U. S. population.

Dyrbye and Shanafelt\(^11\) summarized papers reporting on burnout among medical students and residents (trainees) in a narrative review. Like other studies, they too found a higher than expected prevalence of burnout among trainees, with levels higher than in the general population. Training as a medical student and training as a junior doctor are both stressful, and the ongoing stress can be further complicated by stressful life events. There is little doubt that burnout can affect personal performance putting patients’ lives at risk. Specific factors related to work or learning environment may contribute to burnout. It is very likely that rates of burnout will be affected by healthcare system and specialty in which doctors work and practice. Bhugra et al.\(^12\) found very low rates of burnout in a town in north India indicating that as virtually all respondents were in private practice, they could control their activity and perhaps financial rewards were greater thereby reducing the likelihood of burnout.

Kuhn and Flanagan\(^13\) also identified burnout in roughly half of practicing physicians in a narrative review but their focus was on anesthesiologists. They found that burnout, depression, and suicide are related. They noted that rates of burnout and depression have increased among physicians, while the rate of suicide has remained relatively constant. Inevitably rates of burnout can be reduced by high levels of support. They identified an interesting factor in that when registering with a regulatory body that later asks for information about mental ill health thereby contributing to stigma. It is important to try and understand the potential causes of feeling burnout so that appropriate interventions can take place. Pompili et al.\(^14\) in an interesting study looked at the links between burnout and hopelessness in medical doctors. Feeling entrapped and hopeless are likely to lead to depression. They investigated 133 doctors all working in hospital settings using the Oldenburg Burnout Inventory and Beck’s Hopelessness Scale. They found that doctors who had high hopelessness also scored higher on both the disengagement and on the exhaustion factor. Thus, if these results are repeated in other studies, interventions must take into account to build best resilience strategies to reduce the levels of hopelessness through appropriate changes.
in the work environment. Physicians face unique internal and external barriers that are sometimes self-imposed, but these limit access to psychological or psychiatric treatment, which may further contribute to higher rates of burnout, depression, and suicide.

In a recent GMC Survey (2019) respondents reported burnout to a high degree or very high degree reported by 24% trainees in England, 21% in Northern Ireland and Scotland and 23% in Wales with a total of 23.8% in the UK trainees. Among trainers, figures were 21.3% in England, 20.4% in Northern Ireland, 18.5% in Scotland, 22.9% in Wales and overall in the UK 21.2%. Trainees are more likely than trainers to say they always/often feel worn out at the end of the working day, with well over half of trainees (56.68%) reporting this compared to 49.85% of trainers.

Following a systematic review, Mata et al. noted that doctors in training are at high risk for depression. Point or period prevalence of depression or depressive symptoms as assessed by structured interview or validated questionnaire was 28.8% (ranging from 20.9% to 43.2% depending upon the instrument used). Even more interesting was their observation that there was an increased prevalence with increasing calendar year (slope = 0.5% increase per year) indicating that these changes occur as one progresses in training and needs detailed exploration. However, there were no differences between trainees in nonsurgical or surgical posts. Tyssen et al. also had observed that symptoms of mental health problems, particularly of depression, were highest during the first postgraduate year. They concluded that family background, personality traits (neuroticism and self-criticism), and coping by wishful thinking, as well as contextual factors including perceived medical-school stress, perceived overwork, emotional pressure, working in an intensive-care setting, and stress outside of work, were often predictive of mental health problems.

Doctors are often more vulnerable because as professionals they set very high standards for themselves with perfectionist tendencies and the tensions between increasing and changing patient expectations; being trained to keep their distance but still expected to be empathic. Feelings of isolation and lack of support further contribute to feelings of alienation. Often doctors get criticized and get letters of complaints but very rarely receive praise.

If doctors feel stressed, they may do a “disappearing act:” not answering calls, unexplained absences during the day; lateness; frequent sick leave. They may be slow in doing procedures, clerking patients, dictating letters, and making decisions; arriving early, leaving late and still not achieving a reasonable workload and may show “Clinic Rage” with bursts of temper; shouting matches; reacting badly to real or imagined slights. They may be present physically but not able to function – a phenomenon described as presenteeism.

**SUICIDE**

Suicide risk among doctors is said to be between 5 and 7 times that of the general population. Common specialties where the rates are high are anesthesiologists, general practitioners, and psychiatrists.

In a 2008 study, members of the American College of Surgeons were approached for an anonymous survey with questions on suicidal ideation and use of mental health services, and questionnaires for depression, burnout and quality of life. Of 7905 participating surgeons (response 31.7%), 501 (6.3%) reported suicidal ideation during the previous 12 months (more common in older surgeons). These levels of suicidal thoughts were between 1.5 and 3.0 times more common compared with the general population. Only 26.0% of the surgeons with suicidal thoughts had sought help, whereas 60.1% (301) were reluctant to seek help.

In an Australian survey, male doctors were nearly three times more likely than general population and female doctors were twice as likely to acknowledge psychiatric distress. However, young doctors and female doctors had higher levels of distress and specific mental illnesses. 24.8% doctors reported having had thoughts of suicide prior to the past 12 months. 10.4% reported having had thoughts of suicide in the previous 12 months. Thoughts of suicide are significantly higher in doctors (24.8%) compared with the general population (13.3%) and other professionals (12.8%). Two percent had attempted suicide and suicidal ideation and attempts were higher in doctors who were divorced and those who did not have children. Female doctors were more likely to attempt suicide. The spread was fairly uniform across age groups. Psychiatrists and nonpatient specialties (where doctors do not come in direct contact with patients) had higher rates than other specialties. The general stress levels were related to work which was described as demanding (National Mental Health Survey of Doctors and Medical Students 2019). Interestingly, doctors did not feel happy-seeking help from indigenous helpers or from employers’ resources.

Stehman et al. point out that in the USA, each year more than 400 physicians take their lives which are most likely to be related to increasing depression and burnout. Likelihood of being blamed and consequent isolation creates physician emotional injury, the so-called “second victim” syndrome, which is both a contributor to and consequence of burnout. In many medical specialties, intense pressures contribute to chronic fatigue related to circadian rhythm disruption. Often the term second victim is challenged for a number of reasons.
Yaghmour et al.\cite{21} studied the number of U. S. resident deaths from all causes, including suicide. Following aggregation of the data on 381,614 residents in training during a 14-year period from 2000 through 2014, they noted that during this period, 324 individuals (220 men, 104 women) had died while in residency (in training). The leading cause of death was neoplastic disease, followed by suicide, accidents, and other diseases. For male residents the leading cause was suicide, and for female residents, malignancies. Resident death rates were lower than in the age-and gender-matched general population indicating that in general they are more robust than their general population peers. Temporal patterns showed higher rates of death early in residency which is surprising but the observation that deaths by suicide were higher early in training, and during the first and third quarters of the academic year indicates that stress patterns may well vary according to the year of training and also different time periods in the academic year. They did not find any variation in rates over the years. It is also somewhat surprising that rates of malignancy were higher in this age group. While looking at specific periods, it will make sense that support systems are put in place at the vulnerable periods. Wang et al.\cite{22} noted 18 suicides among Chinese doctors between 2004 and 2017. Not surprisingly, they found work stress to be a key reason along with pressures for promotion, tensions between doctors and patients and not seeking treatment for themselves.

Hawton et al.\cite{23} reported that doctors are at higher risk of suicide than many other occupational groups. They used psychological autopsy method in 38 working doctors who died by suicide in England and Wales between January 1991 and December 1993. They noted that psychiatric disorder was present in 25 (65%) of the doctors with depressive illness and drug or alcohol abuse being the most common diagnoses. A similar proportion (65%) had significant problems related to work, 14 (39%) had relationship problems and over a quarter (10%–27%) had financial problems. Not surprisingly, often, they had multiple complex problems. More worryingly, the most common method of suicide was self-poisoning, often with drugs taken from work.

Pereira-Lima et al.\cite{24} investigated the associations between organizational structures, workload, and learning environment and residents’ development of depressive symptoms during internships. In this longitudinal study of symptom presentation and found that levels of depression increased, and this was associated with faculty feedback, learning experiences in inpatient rotations, work hours and research ranking position. Thus any interventions also need to take these structural changes into account. Zabar et al.\cite{25} in a very interesting study used clinical case examples to train doctors in helping them to identify colleagues who may be feeling suicidal. By training 145 physicians, they were able to increase levels of sensitivity in identifying suicidal or depressed colleagues. Although they were increasingly likely to pick up the cues, only one third knew of potential resources for management of depression. However, importantly they were able to gain sensitivity and change the environment in which they could talk about psychiatric issues.

**ROLE OF REGULATOR**

As mentioned above, regulatory bodies have a major role to play in looking after individuals who may have become suicidal following report to as well as investigation by the regulatory body. Casey and Choong\cite{26} note from the UK data that although there are many legal instruments (requiring coroners to report the physician suicides as preventable to the regulatory body) in place, this is not always the case. They emphasize that the regulatory body does indeed have a duty of care toward its members on this important matter and that there need to be procedural reform to tackle the inherent risk of suicide whilst under investigation. Regulators around the globe need to have sensitive supportive systems in place while investigating doctors and seeing that doctors remain supported all the time when going through the process.

**WHAT IS NEEDED?**

In order to prevent depression, burnout and suicide there are a series of steps which are a must. From early recognition and early intervention and peer support at an individual level with appropriate accessible supportive services, changes in systems are also needed. There needs to be a major shift in professional attitudes and institutional policies to support physicians who may be looking for help. Center et al.\cite{27} set up a consensus group which noted that as the culture of medicine accords low priority to physician mental health despite evidence of untreated mood disorders and an increased burden of suicide, it is crucial to identify these barriers which include often punitive, including discrimination in medical licensing, hospital privileges, and professional advancement. In the consensus statement the group recommends using various approaches in attempting to support doctors and help remove barriers.

Stehman et al.\cite{28} propose that system-based approaches are likely to be more successful in combating suicidal behavior and ideation. As mentioned earlier, such system-based causes include limitations of the electronic health record, long work hours and substantial financial debts within a no-blame but highly litigious culture. This was further confirmed by Ey et al.\cite{28} who reported that comprehensive treatment models reduce distress and suicide risk in military, university, and community populations, but are not well studied with in medical trainees and physicians in practice.
Using a number of approaches such as individual counseling, psychiatric evaluation, and wellness workshops for doctors in training and for trainers they were able to demonstrate that participants reported a high level of satisfaction with this wellness program. Increased utilization over a 10-year period and high levels of satisfaction, and consistent institutional support indicate that such a comprehensive model of care is feasible and valued.

Eckleberry-Hunt and Lick[29] recommend that for prevention of physician suicide, there needs to be recognition and start at an early stage of their education and training with a multi-faceted approach involving all the stakeholders including regulatory bodies. These authors recommend using National Strategy for Suicide Prevention goals to medical education as a guide.

Limited data are available regarding how best to address trainee burnout, but multi-pronged efforts, with attention to culture of the workplace, the learning and work environment and individual behaviors, are needed to promote trainees’ wellness and to help those in distress.

Prevention of suicide in doctors requires a range of strategies, including improved management of psychiatric disorder, measures to reduce occupational stress and restriction of access to means of suicide when doctors are depressed.

For example, Health Education England in a recent report (2019)[20] suggested a number of measures which include appointment of wellbeing guardians in each hospital, better occupational health access and spiritual and healthcare of medical staff. These are early days so will be very interesting to see how these strategies develop. Organizational and personal efforts need to be made in order to identify and help those who need it. Assisting junior doctors to manage workload demands and patient contact will have beneficial effects on their work enthusiasm and mental health.

CONCLUSIONS

There is no doubt that because of their age, pressures especially related to the work environment, increasing managerialism, changing patient and societal expectations doctors are under increasing pressure. The vulnerability is important to recognize. It is important that in early stages of training doctors get more support which can be tailored according to need. This may reflect in development of symptoms of burnout, depression, suicidal ideation or other disorders. It is important that early diagnosis and early intervention are available because the loss of life can create major burden on healthcare systems. Any changes have to be systemic as well as individualistic. Systemic changes need to tackle endemic as well as environmental factors. The culture of the workplace and social expectations need to change. Individual resilience must be encouraged and support at all levels-clinical, educational, managerial and environmental must be readily available. Structures must be in place to deal with stress and stressors so that doctors are in a position to deliver the best care they are capable of. Self-care and peer support can help. Using strategies to build up resilience is an important step.

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