

## A DESCRIPTIVE STUDY ON THE PREVALENCE OF WORK STRESS AND ITS PSYCHOSOMATIC SYMPTOMS AMONG DOCTORS OF KERALA

Sreejith.R<sup>1</sup>, Sangeetha K.P<sup>2</sup>, Sooraj. S<sup>3</sup>, Danish Neeloth<sup>4</sup>

Received : 10/08/2023  
Received in revised form : 12/09/2023  
Accepted : 25/09/2023

**Keywords:**

Doctors; work stress; psychosomatic; questionnaire; prevalence.

Corresponding Author:

**Dr. Sreejith. R.**

Email: drsreejithr41@gmail.com

DOI: 10.47009/jamp.2023.5.5.158

Source of Support: Nil,  
Conflict of Interest: None declared

*Int J Acad Med Pharm*  
2023; 5 (5); 806-811



<sup>1</sup>Associate Professor, Department of Medicine, Govt. Medical College, Wayanad, India.

<sup>2</sup>Consultant Gynecologist, Malabar Hospital, Eranhipalam, Kozhikode, India.

<sup>3</sup>Assistant Professor, Department of Obstetrics and Gynecology, Government Medical College, Kozhikode, India.

<sup>4</sup>Medical Officer, ArDRAM Project, Kozhikode, India.

### Abstract

**Background:** The doctors are the key factors in determining the health and welfare of the society. Exaggerated work stress can lead to defective decision making, practice of defensive medicine and at times negligence. This study aims to find out if it is the generality of the profession is what creates the work stress or if it's the intricacies of the work as such which the doctors are practicing. This study focuses on the prevalence of work stress of doctors in Kerala. **Objectives:** To identify the prevalence of work stress of practicing doctors. To identify the psychosomatic symptoms of stress in doctors using general questionnaire and ICMR work stress questionnaire. **Research Design:** Descriptive study. Total of 502 samples were collected. **Results:** 58.3 % of doctors work more than 8 hours per day. 34.5% of doctors are not satisfied with their work and 74.7 % doctors criticize of self-blame themselves with respect to their work. 31.8 % doctors feel that they need counselling for work enhancement and 42.6% doctors feels that they do not have support of hospital management. 56.9% doctors feels that they do not have time for themselves and their family. 43.6% doctors feels that they will not become doctors again if given a chance. On analysis using ICMR work stress scoring, younger age, female gender, working on weekends, feeling of lack of support in work place, found to be risk factors in work stress among doctors. There was no significant association noted between stress levels of doctors in surgical versus non-surgical specialty.

## INTRODUCTION

Doctors, as a group of professionals, are exposed to a huge amount of stress during the course of their careers. Considered as Gods in their profession by patients and society, the expectations on them are huge and more often than not, unrealistic. When all other jobs are considered as just jobs, the job of a doctor is considered as divine which adds to the severity of the problem. Most of the doctors, at one point or another, finds it difficult to cope with these expectations. Doctors are exposed to a lot of turmoil, including the responsibility of the life of the patient, a sense desperation when the patient's illness worsens, fear of ill health, sickness or death and a state of anger or avoidance to patients to overcome these feelings.<sup>[1,2]</sup> A complicated case, a patient on death bed, breaking of bad news to patient, aggressive bystanders, the list of the things that can hinder the mental sanity of a doctor goes on and on.

Stress among healthcare professionals can manifest in a plethora of ways. Anxiety, depression, sleep disturbances, post-traumatic stress disorder, impairment of immune function, increase in cardiovascular risk factors, disturbed relationships with family, and burnout are just some of these. Exposure to severe and chronic stressors may also predispose doctors to a variety of mental morbidities and dysfunction including depression, anxiety, sleep disturbances and fatigue, broken relationships, alcohol and drug addictions, marital dysfunction, premature retirement and perhaps most seriously suicide.<sup>[3]</sup>

Another consequence of chronic exposure to stressors is burnout. Freudenberg in 1974 coined the term burnout. He used it to highlight the emotional exhaustion of workers who are engaged in public services. Human service workers are highlighted in most of the articles depicting burnout, as they use themselves as the tool of their work, and mostly they deal with emotionally disturbed or

unstable clients.<sup>[5]</sup> Doctors for obvious reasons, thus are at very high risk for burnout. The professionals who are experiencing burnout are also at more risk of errors in the care of patients, work disengagement, tendency to be hostile to patients and co-workers and tend to show a diminished reserve of commitment to optimal patient care.<sup>[4]</sup>

In the light of all these factors, it's very important to highlight the work stress of doctors. The doctors are the key factors in determining the health and welfare of the society. Their well-being can be a key determinant in their decisions and subsequently in the health and well-being of the patients. Exaggerated work stress can lead to defective decision making, practice of defensive medicine and at times negligence. Adding to the fact that the stress response seems to be directly proportional to the work environment and the kind of work they are practicing, this study helps to identify the work stress of doctors. This study aims to find out if it's the generality of the profession is what creates the work stress or if it's the intricacies of the work as such which the doctors are practicing. This study will in detail understand the professional and personal traits of the doctors which may have a direct or indirect impact on the work stress. Also, this study aims to analyse the physical symptoms that are more pre dominant in doctors as a result of the stress they endure in their profession. This will help to create an awareness among doctors themselves and the society on this not much socially discussed topic. This will encourage change in the work behaviour of doctors and result in development of clearer and doctor friendly guidelines for working in hospitals.

## REVIEW OF LITERATURE

Sources of stress at workplace and levels of satisfaction are extensively studied abroad, but very few studies assessing emotional and practical aspects of stress have been conducted in India among doctors and nurses. It was found that 80% of physicians suffered from moderate to severe emotional exhaustion, 61% suffered from moderate to severe depersonalisation, and 44% had moderate to low feelings of personal accomplishment, in a study conducted in British Columbia.<sup>[6]</sup> This shows that majority of the doctors suffer from one or the other symptoms of work stress.

A study by Shanafelt et.al.<sup>[7]</sup> showed that at least 46% of the US physicians had at least one symptom of burnout. A study in UK quoted that, features of burnout was noted in approximately one-third of the physicians.<sup>[9]</sup> These results are comparable to studies from Yemen, Qatar, and Saudi Arabia.<sup>[10]</sup> A study by European General Practice Research Network Burnout Study Group found that 12% of participants suffered from burnout in all three dimensions, more than 40 % scored high for Emotional Exhaustion and more than 30 % for low Personal Accomplishment.<sup>[8]</sup> An American study on "Burnout and satisfaction with

work-life balance in US physicians showed that features of burnout worsened from 2011 to 2014.<sup>[11]</sup> This study identified the following specialities with the highest prevalence of burnout in 2014: More than 60 % prevalence of burnout was noted in the specialities of urology, physical medicine and rehabilitation, family medicine and radiology. Least prevalence was seen in general paediatrics with 46.3 %. Based on a study in 2017, 40% of surgeons met criteria for burnout, defined as a high emotional exhaustion score and/or a high depersonalization score. 31.7% of subjects were found to have experiencing emotional exhaustion, 26% came out positive in features of depersonalization, and 12.8% had a decreased level of personal accomplishment. 36% of doctors in surgical speciality were concerned they had only limited time for their family life.<sup>[12]</sup> Studies regarding stress level of doctors are sparse in India, with most of them focusing on COVID pandemic. A study by Patil et al showed that stress was significantly more among females and those who have sleep problems. No statistically significant difference was found between the level of stress and age, relationship with seniors, exercise, and comorbidities.<sup>[13]</sup>

A study done in 2015 by Rahul Amte et al showed that moderate to severe stress level was approximately 40%. Handling too much responsibility and the difficulties in managing VIP patients were the highest stressors, while the difficult relationship with colleagues and sexual harassment came out as the least of triggers for stress.<sup>[14]</sup> A study from Bangalore, conducted in 2020, showed that doctors are not got stressed because of deadline pressure, long working hours, high data documentation etc. They feel stressed towards insufficient holidays, harassment from management, inadequate support system, and inadequate colleagues support at workplace.<sup>[15]</sup>

Work engagement is being increasingly identified in occupational health psychology literature as preventative against burnout. Research into this topic has to be conducted in more detail to highlight the importance of this topic and to clearly identify the factors that play a role in the creation and exacerbation of work stress among doctors.

## MATERIALS AND METHODS

### Objectives of The Study

1. To identify the prevalence of work stress of practicing doctors.
2. To identify the risk factors of work stress among doctors
3. To assess psychosomatic symptoms of work stress using ICMR work stress score.

### Research Methodology

Research Design: Descriptive study. Total of 502 samples were collected.

### Study Group

502 doctors of various surgical specialties and non-surgical specialties who have one year or more of experience in their specialty were selected.

### Data Collection

The study is based on data collected from primary sources. Data collection was done through a structured questionnaire circulated among doctors regarding their general profile, working pattern, lifestyle habits, their perception of their work and the details of various psychosomatic symptoms experienced by the doctors. The questionnaire was based on Likert scale and contain close ended questions which were filled by doctors.

For the purpose of the questionnaire, simple random sampling technique was used. The questionnaire was randomly circulated among the doctors. It is the purest form of sampling as the respondents are chosen randomly and every participant has an equal chance of representation.

The responses collected from the questionnaire was analyzed part by part for deeper insights. The analysis was done using tables, charts and diagrams. The study intends to measure the results using descriptive statistics like percentage, means, standard deviation, correlation, regression, Chi square test, T-test etc. Analysis is done using SPSS statistical package.

## RESULTS

Out of 502 samples analysed, the age group mostly came in the category of 30- 40 years. This maybe because of the fact that more elder doctors are not on social media and younger doctors are busy that they don't put in time for these surveys. 209 of the doctors in the study were males and 293 were females, which shows that there is no gross difference in gender pattern among doctors.

Most of the doctors in the sample had 1-10 years of experience ie. 288(57.3%). So, this study depicts the profile of the doctors mainly at the start of their career. Doctors working in Govt sector was 189 (37.64%) and doctors working in private sector were 313 (62.36%). Most of the doctors were married and 87% of them had kids and around 55 % of doctors were in nuclear family group. 293 (58.3 %) doctors in the whole sample worked an average duration of more than 8 hours. This shows that majority of doctors put in a lot of hours on their work which may be a reason for the compromise on other strata of their lives adding to the non-balance of work and life. 282 out of 502 doctors worked on weekends (56.1 %). This also maybe a factor in compromising the quality time that doctors can spend for other engaging activities. When the duty pattern was analyzed, 286 doctors out of 502(56.9 %) had fixed duty pattern. But,135 out of 502(26.9%) were on call everyday including weekends. This is again a significant finding as one fourth of the doctors are engaged over phone even on weekends with calls from the hospital. This may hamper their wholistic involvement in other

engaging activities for themselves and with their families.

Most of the doctors in the sample (194 out of 502(38.6%)) saw an average of more than 40 patients per day. 295 out of 502(58.7%) doctors do not exercise regularly. This shows that a significant proportion of doctors may not be pursuing a healthy life style in terms of physical activity. On analyzing on how the doctors feel on going to work, 54 % of the group reported that they are either not happy or anxious or stressed of do not think about coming to work. Most of the doctors of the sample do not like going to work which again shows the stress pattern among doctors.(Figure-1).

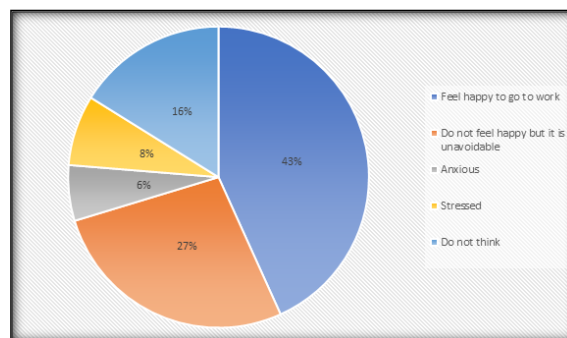


Figure 1: How the doctors feel about going to work

Out of total 502 doctors, 28.2 % of doctors reported never to lose temper with patients. 71.8 % of doctors reported to lose temper with patients either occasionally, sometimes or always. 279 out of 502 (55.5 %) loses temper with colleagues. 375 out of 502(74.7%) doctors self-blame or criticize themselves with regard to their work. This is an alarmingly high figure in both the groups as self-blaming can lead to a significant increase in work stress. Majority of doctors (452 out of 502(90%)) feel supported by their colleagues. 361 out of 502(72 %) of doctors feel supported by their superiors. 42.7 % of doctors do not feel supported from hospital management side.

329 out of 502(65.5 %) of doctors feel like their work is acknowledged by patients. This is a positive finding that doctors feel that the patients acknowledge their efforts and this can be a positive factor in decreasing stress level. 160 out of 502(31.8%) feel like they need counselling for better functioning. Given the stress level and score that we get subsequently, 31% is a low figure where only this much number of doctors feel the need of mental health support for performing a profession which has its own intrinsic stress triggers to it.45 % of doctors reported that they overwork to forget personal problems. However, 141 out of 502 never seek help when over-burdened. Over working and never seeking help when needed can exaggerate the stress level among doctors.

231 out of 502(46 %) of doctors expressed that they have thought of quitting the job. This means that almost half of these professionals are not happy in their job. 32 out of 502 (6.3%) thought of self-harm

with respect to work. Most of the doctors plan their retirement at 60-70 years; the pattern was same in both surgical and nonsurgical specialties. This is a reasonably good finding compared to the past when doctors never used to plan for retirement. But having said that, a retirement age of 70- 80 years gives no room for them to engage in high intensity fruitful pursuits of their life and may limit their activities in view of deteriorating health and mental acumen.

74 out of 502 doctors never plan vacations. This is an alarming finding because these many doctors do not have major get away from work. 286 out of 502(56.9%) doctors reported that they do not have time for themselves. This also shows the level of dissatisfaction among doctors. They don't seem to have time for self-care or self-reflection. 172 out of 502 don't have a hobby (34.2%) and 265 out of 502 (52.7%) doctors expressed that they don't have time for their family. This is very significant because this may lead to poor bonding in family and thereby increase the incidence of stress. This may also lead to increase in behavioral problems among kids of doctors. 204 out of 502(40.6%) doctors reported that they don't have a satisfactory friend circle. Since

social circle is considered as one of the most important factors in longevity and stress-free life, almost 40 % of doctors lack in that aspect with regard to this study.

While analyzing the work life balance, most of the doctors belonged to group 5 and there was no statistical difference between surgical and nonsurgical specialties. 47.2 % had a work life balance of less than or equal to 5. 219 out of 502(43.6%) doctors reported that they would not be a doctor if given a second chance. This shows the increasing trend of doctors not wanting to be a doctor again and also the likely trend among doctors not wanting their kids to be doctors. This might also be indirectly due to the fact that doctors are facing more and more hostility from general public and media which may also be the reason for the increasing aversion among doctors for this profession.

ICMR work stress score was analysed among sample. This is a score using 32 psychosomatic parameters for which each symptom is rated as 1/2/3/4 criteria as follows; never-1, sometimes-2, frequently-3 and always-4.

Interpretation of the scores is given in Table-1.

**Table 1: Interpretation of ICMR work stress score**

Score	Interpretation
32-64	You manage your stress levels very well. Too little stress can reduce stimulation. So strive to achieve a balance between positive and negative stress
65-95	You have a reasonably safe level of stress, but certain areas needs improvement.
96-128	Your level of stress is too high. You need to develop new strategies to improve it.

The results showed that the mean stress score was 60.86 with a minimum of 37 and maximum of 112(SD 16.38). This shows that majority of doctors do not have psychosomatic symptoms of stress according to this criterion. 296 doctors (59%) manage stress well and 199 (39.6%) doctors had reasonably safe level of stress. 7 doctors had stress level too high in this study.

There was significant association with age group and stress score with a p value of 0.006. The study shows an inverse association between age and stress level. The study shows that as age advances, the stress level seems to decrease. This may be due to the enhanced experience and expertise in the field and also increased level of confidence and awareness of how to manage difficult situations.

Gender pattern was analyzed with regard to stress score and showed that female gender has a statistically significant association with increased stress level. Gender pattern in the first and third category of stress score was comparable. But it was shown that female gender pre dominated in second category of stress score, with a p value of 0.000. This may be related to the biochemical changes which is associated with gender and also the apprehension in tackling the mob culture which is rampant these days. Work experience of doctors with respect to stress score was analyzed and was found to have a significant association. It was shown that increased work experience leads to a decrease in stress score

among doctors with a p value of 0.029. This might be due to the increased expertise in the field of study. There was no significant association between stress levels among doctors working in Govt vs private sector (p value 0.06). The factors like family type, marital status and occupation of spouse as doctor was not found to be significant risk factors of work stress among doctors.

Duration of work hours was not found to have a significant association with work stress (P value 0.776). However, working on weekends had a significant association with stress level (P value 0.001). This shows that doctors are not at an increased stress for working long duration of time during week days. But the fact that they are not able to engage wholeheartedly in other activities during weekends definitely may increase their stress levels. Duty pattern of doctors was found to have a significant association with stress score with a p value of 0.007. The study showed that the doctors who were on call everyday including weekends were at a significantly higher risk to be in category 2 and 3 group. Increasing number of patients seen per day was not found to have a significant association with work stress (P value 0.062). This might be due to the fact that increased number of patients may be a factor in job satisfaction on the basis of the service rendered.

The ratio of doctors losing temper with patients and colleagues and those who criticize or self-blame

themselves was found to have a significant association with work stress with a p value of 0.000 on both factors. This is obvious finding because those who lose temper and those who self-criticize might be at an increased level of stress for them to show such a behavior. Those doctors who had support from colleagues, superiors and hospital management was found to have a significant association with stress score with a p value of 0.000. It was shown that the doctors who felt that they were supported had a statistically significant decrease in their stress levels. This shows that team work and co-operation in working may be a important tool in decreasing work stress among doctors.

The feeling of being acknowledged by patients was found to be a significant protective factor in decreasing the stress level of doctors with a p value of 0.005. This is also an expected finding as acknowledgement from part of patients may lead to an increase in job satisfaction and thereby a decrease in stress level.

On analyzing the felt need for counselling among doctors, it was found that stress level was significantly higher in those doctors who felt like they don't need counselling, with a p value of 0.000. This might be an interesting finding which can be probably explained by the reasoning that doctors, like general public may also be biased when it comes to seeking mental support. And this might also show the lack of insight among doctors regarding their individual stress levels. The doctors who seek help when overburdened was found to have a significant reduction in stress levels. This also may point at the importance of team work in current medical practice in alleviating the stress levels of doctors.

The factors such as time for self and time for family was found to be a significant protective factor in alleviating stress among doctors. This might be due to the fact that this quality time spend in things other than work may boost the overall mental health of doctors thereby decreasing stress level. The prevalence of hobbies among doctors and planning vacation was not found to have significant association with respect to work stress among doctors. This may be due to the fact that an increasing number of doctors are pursuing hobbies and most of the doctors are taking vacations than from the past. Analysis was done to understand the difference in stress levels between surgical and nonsurgical specialties. Contradictory to the expected, it was found that there was no significant association with stress level whether the doctor is practicing in surgical or no surgical specialties, with a p value of 0.770. This points to the fact that surgery and associated complications are not the major determinants of stress in the life of a doctor. The stress pattern is general to the working pattern of the doctors and it has no significance to the specific work involved in surgical specialty. This also highlights the importance that the work stress of the doctors should be attended on a generalized basis rather than pointing at the intricacies of the job.

## CONCLUSION

This study on work stress of doctors highlights a lot of risk factors which may add to the increasing stress level of doctors. These findings can be used to derive possible plan of action to tackle this issue so that the public is also benefitted as the efficiency increases as work stress decreases. The study also shows that work satisfaction and work life balance of doctors is below satisfactory, which points out to the fact that a significant proportion of doctor community might be at a risk of serious mental problems in the future.

There was no significant association noted between stress levels of doctors in surgical versus non-surgical specialty. This is very important as this suggests that it's not the complexity of the procedures involved in medical field and its allied complications that are the prime factors of stress among doctors. And it also shows that doctors practicing in non-surgical field also suffer the same intensity of stress like those performing complex surgeries which highlights the vastness of the problem.

## REFERENCES

1. Meier D.E., Back A.L., Morrison R.S. The inner life of physicians and care of the seriously ill. *J. Am. Med. Assoc.* 2001;286:3007–3014. doi: 10.1001/jama.286.23.3007.
2. McCue J.D. The effects of stress on physicians and their medical practice. *N. Engl. J. Med.* 1982;306:458–463. doi: 10.1056/NEJM198202253060805.
3. Hughes D., Burke D., Hickie I., Wilson A., Tobin M. Advanced training in adult psychiatry. *Australas. Psychiatry.* 2002;10:6–11. doi: 10.1046/j.1440-1665.2002.00384.x.
4. Balch C.M., Freischlag J.A., Shanafelt T.D. Stress and burnout among surgeons: Understanding and managing the syndrome and avoiding the adverse consequences. *Arch. Surg.* 2009;144:371–376. doi: 10.1001/archsurg.2008.575.
5. Carson J., Maal S., Roche S., Fagin L., De Villiers N., O'Malley P., Holloway F. Burnout in mental health nurses: Much ado about nothing? *Stress Med.* 1999;15:127–134. doi: 10.1002/(SICI)1099-1700(199904)15:2<127::AID-SMI807>3.0.CO;2-3.
6. Thommasen H., Lavanchy M., Connelly I., Berkowitz J., Grzybowski S. Mental health, job satisfaction, and intention to relocate. Opinions of physicians in rural British Columbia. *Can. Fam. Physician.* 2001;47:737–744.
7. Shanafelt T.D., Hasan O., Dyrbye L.N., Sinsky C., Satele D., Sloan J., West C.P. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clin. Proc.* 2015;90:1600–1613. doi: 10.1016/j.mayocp.2015.08.023.
8. Soler J.K., Yaman H., Esteva M., Dobbs F., Asenova R.S., Katic M., Ozvacic Z., Desgranges J.P., Moreau A., Lionis C., et al. Burnout in European family doctors: The EGPRN study. *Fam. Pract.* 2008;25:245–265. doi: 10.1093/fampra/cmn038.
9. Sharma A., Sharp D.M., Walker L.G., Monson J.R. Stress and burnout in colorectal and vascular surgical consultants working in the UK National Health Service. *Psychooncology.* 2008;17:570–576. doi: 10.1002/pon.1269.
10. Al-Dubai A.R., Rampal K.G. Prevalence and associated factors of burnout among doctors in Yemen. *J. Occup. Health.* 2010;52:58–65. doi: 10.1539/joh.O8030.
11. Shanafelt T.D., Hasan O., Dyrbye L.N., Sinsky C., Satele D., Sloan J., West C.P. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. *Mayo Clin. Proc.* 2015;90:1600–1613.

12. Francesca M Dimou, MD,#1,2 David Eckelbarger, BS,#1 and Taylor S Riall, Surgeon Burnout: A Systematic Review; J Am Coll Surg. 2016 Jun; 222(6): 1230–1239.
13. Vishwanath C Patil,1 Sanjivani V Patil,2 Jignesh N Shah,3 and Shivakumar S Iyer ; Stress Level and Its Determinants among Staff (Doctors and Nurses) Working in the Critical Care Unit; Indian J Crit Care Med. 2021 Aug; 25(8): 886–889.
14. Rahul Amte, Kartik Munta, and Palepu B. GopalStress levels of critical care doctors in India: A national survey; Indian J Crit Care Med. 2015 May; 19(5): 257–264.
15. Bhargav N1 Prof.Sneha Singh2Dr. Mahammad Rafee; A Study on Occupational Stress among the Doctor's in Private Sector Hospitalsat Bangalore Urban District; IOSR Journal of Business and Management (IOSR-JBM) e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 8. Ser. VII (August 2020), PP 09-15.