

## FACTORS AFFECTING PSYCHOLOGICAL WELLBEING OF EMERGENCY PHYSICIANS IN INDIA

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### ABSTRACT

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**Background:** In recent years, several studies done in the western world shows that prevalence of burnout syndrome are increasing among doctors.[1] The aim of our study, which is the first in India, to analyze the factors that impact on psychological health of Emergency Physicians. **Methods:** We did a cross-sectional email questionnaire based survey on 195 Emergency Physicians of different Emergency Departments of India. **Results:** Out of the 195 Emergency Physicians who participated in the study, 72.31% suffered from moderate to severe depression by the Becks modified depression inventory. Our study identified that interruption of family and social life, lack of perception by other speciality, night shifts, resource inadequacy and lack of career development as major causes of stress amongst Emergency Physicians in India. 8 hour shift (48.89%), regular discussion on medical & administrative issues (31.79%), regular exercise & de-addiction (36%), adequate financial compensation (71.79%), academic development (70%), recognition in Indian healthcare system (65.3%), development of Emergency Departments of International Standard (35.3%) and Pre hospital Care (55.3%) were the major recommendations by the participants to reduce stress and promote psychological wellbeing. **Conclusion:** There is considerable number of factors causing high levels of stress amongst Emergency Physicians working in India. Cope-up strategies recommended by the participants of our study should draw attention of other Emergency Physicians, administrators and policy on the above developmental issues where changes may be met. Further similar studies should be planned on a wider scale.

### KEYWORDS

Psychological Wellbeing; Stress; Depression; Emergency Physicians.

### INTRODUCTION

Wellbeing is a condition of holistic health in all its dimensions: physical, cognitive, emotional, social & spiritual. The World Health Organization (WHO) define health as “a state of complete physical, mental, and social wellbeing and not merely the absence of disease” that makes an individual or group to realize aspirations, satisfy needs, and to change or cope with the environment”. [1]

Working in the Emergency Department involves high intensity of workload, working alone, lack of social support and free time, unsociable roster, violent, abusive, demanding or seriously ill patients, etc. (Williams *et al* 1997) which may alter physical and

mental health of Emergency physicians. Several previous studies have found that these psychosocial risk factors not only affect the physical and psychological well-being of Emergency Physicians, but also led to the compromise in the quality of patient care (Visser *et al* 2003 Burke and Richardsen 1990 [13], Richardsen and Burke 1991 [14]).

Stress or Burnout amongst health care workers is characterized by emotional exhaustion, depersonalization and decreased personal accomplishment (Schaufeli 1999) which appears after a certain period of exposure to above psychosocial risk factors rather than personal factors. Work-related stress has been implicated as a major contributing factor to growing job dissatisfaction, burnt-out and

lack of initiative to explore newer specialties among doctors.

The aim of our study was to evaluate the level of psychological wellbeing of Emergency Physicians working in India and identify factors that affect psychological wellbeing. The identification of the psychosocial risk factors will help in developing coping strategies and outline preventive measures that can be useful to improve the health and quality of life of Emergency Physicians of India.

## MATERIALS AND METHODS

### Design and sample

We did a questionnaire based cross-sectional survey on Emergency Physicians working in multispecialty hospitals across India that have a fully operational Emergency Department and accredited by Society of Emergency Medicine of India (SEMI). A total 333 Emergency Physicians from 20 different hospitals across India were contacted, of which 195 Emergency Physician replied to the questionnaire (n=195, response rate=58.55%).

### Data collection

The questionnaire was designed to elicit information about socio-demographic characteristics, sources and level of stress and depression by a standard depression screening tool (Beck depression inventory-Modified), coping mechanisms, and their future plans about remaining in the speciality. 'Ethical Committee' approval was obtained for the study from the central ethical committee of Peerless Hospital and B.K. Roy Research Centre.

The questionnaire was sent to the Emergency Physicians working in India by e-mail. Consent was sent with the questionnaire which the participants filled before the study questionnaire.

### Statistical analysis

The questionnaire contained 20 questions on the factors causing stress and 22 questions on Depression. Range of Score for both Stress and Depression was 0.5 to 4.5 depending on the severity

of stress and depression. The scores were interpreted as follows 0.5 to 1.5: little of the time, 1.6 to 2.5: Some time, 2.6 to 3.5: Good Part of the time, and 2.6 to 3.5: Most of the time. The first step in the data analysis was to examine the association between each independent variable and each outcome measure. Kruskal-Wallis rank sum test and Wilcoxon-Mann-Whitney test was the Statistical test used during analysis. Correlation coefficients calculated using Spearman rank correlation coefficient (Table No 1 & 2). All computations and statistical analysis are done using MS Excel and R software.

## RESULTS AND DISCUSSION

### Participant characteristics

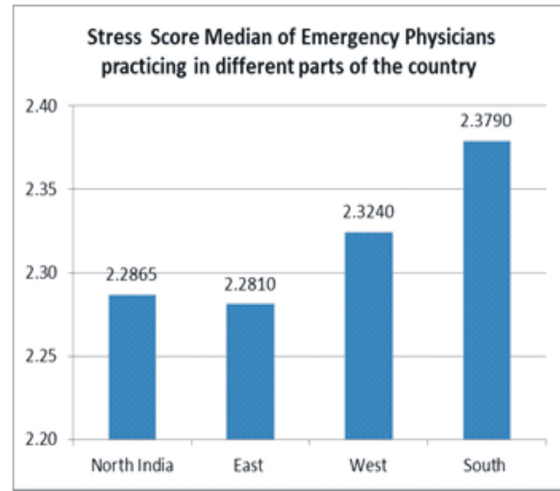
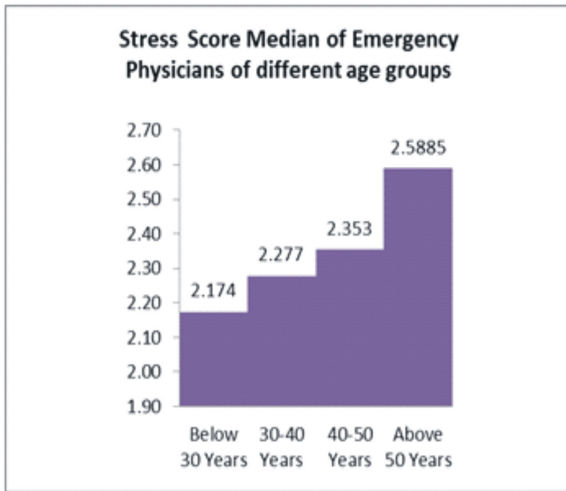
The demographics of the participants are given below in Table I.

**Table I: Demographics of the Participants**

Participant demographics	(n =195)	
Age (years)	Below 30 years	59
	30 - 40	85
	40 - 50	33
	Above 50 years	18
Marital Status	Single	96
	Married	99
Gender	Male	152
	Female	43
Place of Practice	North India	46
	East India	75
	West India	46
	South India	28
Years of Practice	1-2 Years	44
	2-4 Years	74
	4-6 Years	57
	> 6 Years	20
Place of living	Urban area	162
	Semi-Urban area	33

### Analysis of stress levels

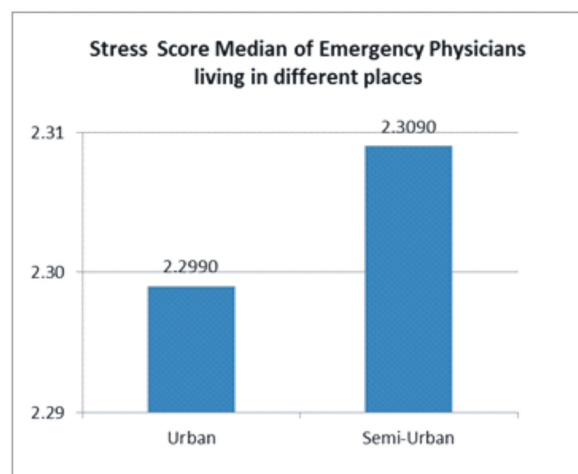
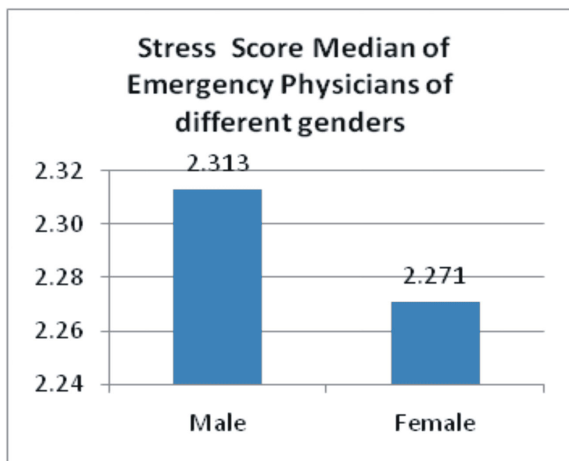
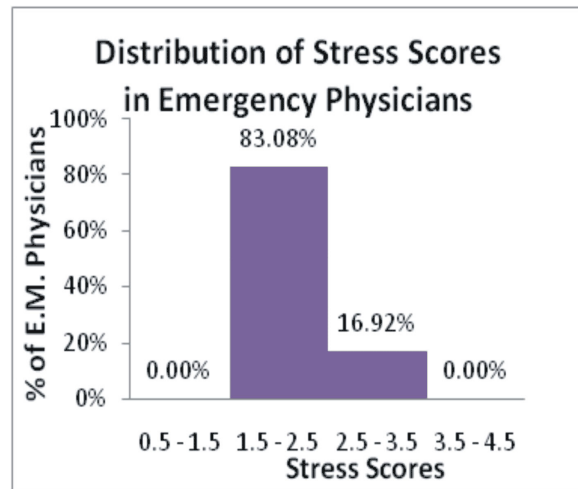
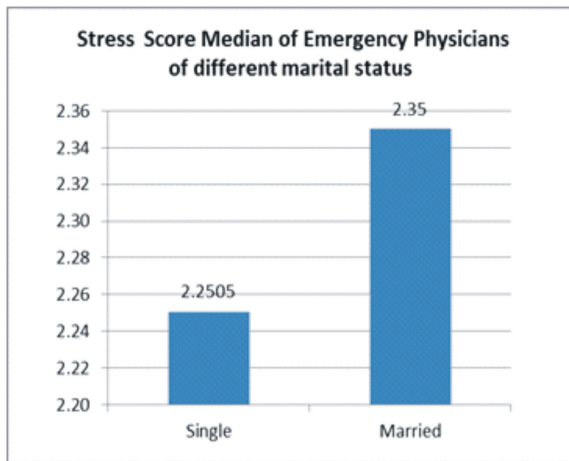
In our study 83.08% of all the respondent Emergency Physicians (EP) had moderate stress (stress score 1.5 to 2.5) and 16.92% suffered from severe stress (scores 2.5 to 3.5). We found that stress scores increased with age with a significant rise after the age of 40 years (p-value 0.00925 Wilcoxon-Mann-



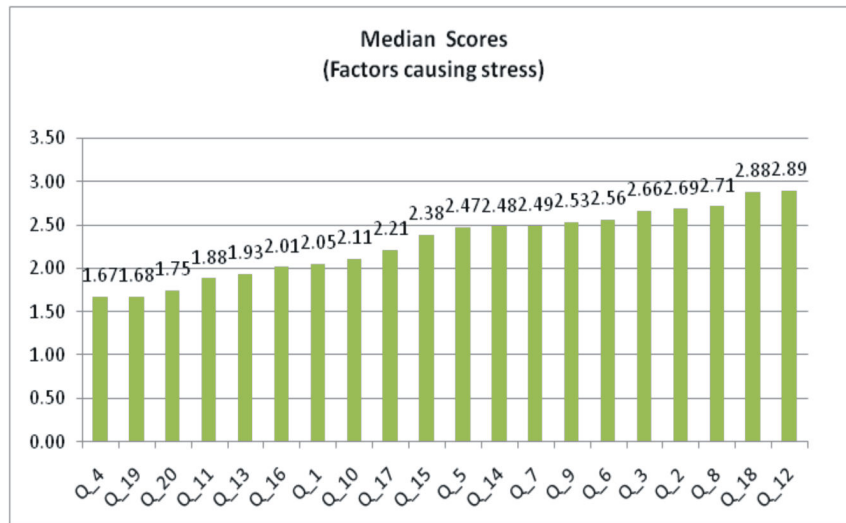
Whitney – one sided test). Stress scores of EPs practicing more than 6 years were significantly higher than their younger peers (p-value 0.0023 using Kruskal-Wallis rank sum test – two sided). Stress scores of married EPs were more than unmarried

(p-value 0.0002 with Wilcoxon-Mann-Whitney - one sided test).

However, factors like gender, different parts of the country, urban and Semi-Urban areas, did not cause significant difference in stress level of EPs (5% level



Question on Factors causing Stress	Median Stress Score
1. Emergency calls & Night calls	2.052
2. Night shifts	2.685
3. Working after sleepless night	2.658
4. Time pressure	1.666
5. Quantitative role overload	2.471
6. Qualitative job overload	2.557
7. Role conflicts	2.489
8. Resource inadequacy	2.713
9. Lack of carrier development	2.533
10. Excessive paper works	2.112
11. Medico legal issues	1.882
12. Lack of perception of the speciality	2.894
13. Dealing with problem patients	1.930
14. Omnipresence of terminal illness & deaths	2.480
15. Worrying about patient complaints & litigation	2.384
16. Unpredictability at work	2.012
17. Unrealistically high expectations	2.213
18. Interruption of family & social life	2.879
19. Physical environment & self-care	1.676
20. Bureaucratic red tape	1.750



of significance using Wilcoxon rank sum test - two sided test and Kruskal-Wallis rank sum test – two sided) which leads us to believe that stress is more work related, rather than place or gender.

Many studies, done in the west, have shown high level of stress in doctors, with psychological morbidity ranging from 19% to 47% ( Wall TD *et al* 1997[15], Hsu K, Marshall 1987[16], Kapur N, Borill C, Stride C 1998[17], Firth Cozens J 1987[18]) when compared with a rate of around 18% for the general employed population (Firth Cozens J 2000[19]).

Previous studies (Gautam, 2001[20]) have also shown that such mental problems make doctors more susceptible to physical and emotional morbidity. Symptoms like fatigue, emotional burnout, marital and family discord, and even clinical depression regularly afflict more than half of these doctors and 60% of doctors suffering from stress have considered leaving the medical profession (Grenmy J 2006[21]).

The findings of our study suggest that stress is much higher amongst EPs practicing in India when compared with the western data.

### Analysis of factors causing stress

In our study, the most confounding factors causing stress were lack of perception of Emergency Medicine amongst other hospital specialities and interruption of family & social life (median stress scores are between 2.88 and 2.89). Other major stress causing factors with median scores between 2.53 and 2.71 were night shifts, working after sleepless night, work overload, lack of career development and inadequacy of resources. Role conflicts, terminal illness & deaths encountered while on work, patient complaints & litigation (median scores are between 2.38 and 2.49) were also rated as important factors causing stress.

Emergency calls, unrealistically high expectations from patients, excessive paper works (median scores are between 2.05 and 2.21), lack of academic guidance (29=14.87%), mass casualties (21=10.76%) and insufficient pre hospital care (6=3.05%) were lesser confounding factors in causing stress amongst EPs.

### Recommendations to reduce stress levels

Our questionnaire also contained questions on recommendation of the participants to help other Emergency Physicians in India to cope better with the challenges of their profession & to promote wellbeing. 65.12% EPs recommended to promote 8 hour shifts, regular discussion involving medical & administrative issues, regular work out & de addiction, adequate financial compensation as some methods to promote wellbeing. 34.87% recommended promoting pre-hospital care, proper planning for mass casualty & disaster and monthly refreshment party.

According to 94.3% of the participants, academic development and recognition of the speciality in India was the major need of the day and steps should be taken to do so with immediate effect. The participants felt the need of more Emergency Departments of International Standard and significant improvements in pre hospital Care in India were the priorities of development in the present scenario. 3.58% of the participants did not comment or recommend on any special plans for development, 4 EPs (2.05 percent)

stated they were planning to leave the speciality.

### CONCLUSION

Our study found that 27.69 percent emergency physicians were mildly depressed according to Becks modified depression inventory while majority, 72.31 percent emergency physicians were found moderate to severely depressed. We identified the following factors as major stress factors among Emergency Physicians in India: (1) Interruption of family and social life (2) Lack of perception of the speciality, while (3) Night shifts (4) Working after sleepless nights (5) Qualitative job overload (6) Resource inadequacy (7) Lack of carrier development. Other factors causing stress were thought to be: Lack of proper academic guidance, Mass casualties, Lack of perception of Emergency Medicine among other speciality and insufficient pre hospital care. We found that stress factor score, after the age of 40 years significantly increases with age. However depression after age of 30 years increases with age but significantly falls above 50 years age-group. Stress score of married emergency physicians were higher than the single emergency physician, while there were no significant differences in depression level. Stress score of emergency physicians of different genders, practicing in different areas and living urban or semi-urban areas were same. Stress score of emergency physicians practicing more than 6 years are significantly higher while depression level of emergency physicians practicing different years were same.

65.12 percent Emergency Physicians recommended : to promote 8 hour shift in ED ,regular case discussion involving medical & administrative issues, regular work out & de addiction , adequate financial compensation while rest 34.87 percent advised : to promote pre-hospital care, proper planning for mass casualty & disaster and monthly refreshment party as destressors. 94.3 percent felt that changes required to reduce stress were: academic development, gain recognition in India, develop Emergency Department of International Standard, develop proper Pre hospital Care in India as priorities.

A weakness of our qualitative result was that we were unable to expand upon the written responses because we did not conduct interviews allowing for follow up questions. Secondly, some of the responses and comments made were short and could have benefited from more detail. However we received a great variety of answers allowing us to reveal multiple factors related to emergency physicians psychological wellbeing.

Although certain limitations were met with the study, the researcher expects to draw attention of the Emergency Physicians as well as the administrators, policy makers, academician and researchers in related fields to resume further thorough research.

## RECOMMENDATIONS

Emergency medicine is in still infancy in India, facing unexpected challenges every day. At this point of time the productivity of the emergency physicians is the most decisive factor as far as the success of proper emergency care is concerned. The productivity in turn is grossly dependent on the psychosocial wellbeing of the emergency physicians. The tendency in today's competitive medical environment is to emphasize financial incentives and to increase scrutiny of medical decision making to reduce costs and increase productivity. These mechanisms increase the tension in clinical decision making and can have unanticipated consequences in emergency physicians psychological wellbeing and performance.

Future research should target interventions at the organisational and institutional levels that have potential to decrease stress and depression levels and increase career satisfaction. Professional development programs and human resource policies are especially needed to address work-life conflict and job dissatisfaction. Training in stress management and healthy coping mechanisms should be explored for their potential to improve psychological health and to promote greater life balance.

### Key Message

There are considerable number of factors cause

stress and the high levels of depression amongst Emergency Physicians working in India. Cope-up strategies recommended by our study should draw attention of administrators and policy makers on the above developmental issues where changes may be met.

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## REFERENCES

1. Health promotion glossary. Geneva: World Health Organisation; 1998. [<http://www.who.int/healthpromotion/about/HPG/en/>].
2. Richards C. The Health of Doctors. London: Kings Fund; 1989.
3. Bynoe G. Stress in Women Doctors. *Br J Hosp Med.* 1994; 51(6): 267-8.
4. Payne R. Stress at work: a conceptual framework. In: Firth-Cozens J, Payne R, eds. *Stress in Health Professionals*, 1<sup>st</sup> edn. Chichester: John Wiley; 1999, 3-16.
5. Gianakos Irene. Gender Roles and Coping with work stress. *Sex -Roles.* 2000; 42(11-12): 1059-1079.
6. Al-Aameri AS & Al-Fawzan NM. 'Nurses' strategies for coping with job Stress'. *Saudi Medical Journal.* 1998; 19(4): 366-371.
7. Perry SJ, Wears RL, Morey JJ & Simon R. Determinants of Workplace stress in Emergency Physicians and Nurses. *Acad Emerg Med.* 2000; 7(5):518.
8. Firth Cozens J. Doctors, their wellbeing and their stress. *Br Med J.* 2003; 326: 670-1.
9. Caplan RP. Stress, anxiety and depression in hospital consultants, general practitioner and senior health service managers. *BMJ.* 1994; 309: 1261-3.
10. Edwards N, Kornacki MJ, Silversin J. Unhappy doctors: what are the causes and what can be done? *BMJ.* 2002; 324: 835-8.
11. British Medical Association. National Survey of GP

- opinion. London: BMA; 2001.
12. Vanagas G, Bihari-Axelsson S. Interaction among general practitioners age and patient load in the prediction of job strain, decision latitude and perception of job demands. A Crosssectional study. *BMC Public Health*. 2004; 4: 59.
  13. Burke RJ & Richardsen AM. Sources of satisfaction and stress among Canadian physicians. *Psychological Reports*. 1990; 67: 1335-1344.
  14. Richardsen AM & Burke RJ (1991). Occupational stress and job satisfaction among physicians: Sex differences. *Social science and medicine*. 1991; 33: 1179-1187.
  15. Wall TD, Bolden RI, Borrill CS, Carter A.J, Golya DA, & Hardy GE et al. 1997.
  16. Hsu K, Marshall V. Prevalence of depression and distress in a large sample of Canadian residents, interns and fellows. *Am J Psychiatr*. 1987; 144(15): 1561-66.
  17. Kapur N, Borrill C, & Stride C. Psychological morbidity and job satisfaction in hospital consultants and junior house officers: multicentre, cross-sectional survey. *BMJ*. 1998; 317: 517-2.
  18. Firth-Cozens J. Emotional Distress in junior house officers. *Br Med J*. 1987; 295: 533-6.
  19. Firth Cozens J, & Moss F. Hours, sleep, teamwork and stress. *Sleep*. 1998.
  20. Gautam, Mamta. Women in medicine: stresses and solutions. *West J Med*. 2001; 174: 37-41.
  21. Grenmy J. Speak up or Burn out. *The Physician Executive*. 2006.
  22. Burke RJ & Deszca E. Correlates of psychological burnout phases among police officers. *Human Relations*. 1986; 39: 487-501.
  23. Farber BA. Introduction: A critical perspective on burnout. In B Farber (Ed.). *Stress and burnout in human service professions*. New York: Pergammon Press; 1983, 1-20.
  24. Kushnir T, Rabin S, & Azulai S. A descriptive study of stress management in a group of paediatric nurses. *Cancer Nursing*. 1997; 2066: 414-421.
  25. Shirom A. Burnout in work organizations. In CL Cooper & I Robertson (Eds.). *International review of industrial and organizational psychology*. New York: Wiley; 1989, 25-48.
  26. Shirom A. Burnout in work organizations. In CL Cooper & I Robertson (Eds.), *International review of industrial and organizational psychology*. New York: Wiley; 1989, 25-48.
  27. Williams E, Konrad T, Scheckler W, Pathman D, Linzer M, McMurray J, Gerrity M, & Schwartz M. Understanding physicians' intentions to withdraw from practice: The role job satisfaction, job stress, mental and physical health. *Health Care Management Review*. 2001; 26: 7-19.
  28. Schweitzer B. Stress and burnout in junior doctors. *S Afr Med J*. 1994; 84: 352-354.
  29. Truman JM. Drug and Alcohol Use in Emergency Medicine residency: An impaired resident's perspective. *Ann Emerg Med*. 2005; 46: 148-151.
  30. Bradley DS, Ian P, Lewis SN. Emergency medicine residents' use of psychostimulants and sedatives to aid in shift work. *American Journal of Emergency Medicine*. 2011; 29: 1034-1036.
  31. Lindeman S, Laara E, Hakko H, Lonnqvist J. A systematic review on gender-specific suicide mortality in medical doctors. *Br J Psych*. 1996; 168: 274-9.
  32. Hawton K, Clements A, Sakarovitch C, Simkin S, & Deeks JJ(2001). Suicide in doctors: A study of risk according to gender, seniority and specialty in medical practitioners in England and Wales, 1979-1995. *Journal of Epidemiol Community Health*. 2001; 55: 296-300.
  33. Juel K, Mosbech J, & Hansen. Mortality and causes of death among Danish medical doctors 1973-1992. *International Journal of Epidemiology*. 1999; 28: 456-460.
  34. Office of Population Censuses and Surveys. Occupational health censuses and surveys. London: Her Majesty's Stationery Office; 1995.
  35. Allen I, Hale R, Herzberg J, Paice E. Stress among Consultants in North Thames. London: Thames Postgraduate Medical and Dental Education and the Policy Studies Institute; 1999.
  36. Boon D, Boon J. Work related stress; can it be a thing of the past? *Lancet*. 2000; 355: 124.
  37. Falkum E, Gjerberg E, Hofoss D, Aasland OG. Time stress among Norwegian physicians. *Tidsskrift for Den Norske Laegeforening*. 1997; 117: 954-9.
  38. Dasgupta H & Kumar S. Role stress among doctors working in a Government Hospital in Shimla (India). *European Journal of Social Sciences*. 2009; 9(2): 356-370.
  39. Shaikh NA, Baloch AA, Siddiqui AS, Baig MY, Qadri MZ & Lal H. Professional satisfaction amongst post graduate trainees of civil hospital Karachi. *Medical Channel*. 2010; 16(4): 497-501.
  40. Bhugra D, Bhui KS, Gupta KR. Burnout and Stress

- among doctors and dentists in North India. *Int J of Culture and Mental Health*. 2008; 1(1): 24-29.
41. Talor DM, Pallant JF, Crook HD, Cameron PA. The psychological health of emergency physicians in Australasia. *Emerg Med Australas*. 2004; 16(1): 21-7. [PMID: 15239751]
41. Doan-Wiggins L, Zun L, Cooper MA, Meyers DL & Chen EH: Practice satisfaction, occupational stress, and attrition of emergency physicians. Wellness task force, Illinois College of Emergency Physicians. *Academic Emergency Medicine*. 1995; 2(6): 556-563.
42. Vanagas and Bihari-Axelsson. The factors associated to psychosocial stress among general practitioners in Lithuania. Cross-sectional study. *BMC Health Services Research*. 2005; 5: 45. doi:10.1186/1472-6963-5-45.
43. Gallery ME, Whitley TW, Klonis LK, Anzinger RK & Revicki DA. A study of occupational stress and depression among emergency physicians. *Ann Emergency Medicine*. 1992; 21(1): 58-64. [PMID: 1539889]
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