

Original Research Article

Is stress an important co morbid factor for hypertension among legal professionals

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Received: 10 February 2018

Revised: 25 March 2018

Accepted: 27 March 2018

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ABSTRACT

Background: Stress is a mental, physical and emotional response to life demands. Long hours of work, client demands, changing laws- creates stress and eventually hypertension among advocates. Well-being of the advocates are being questioned. Hence the main objective of the study is to evaluate the relationship between stress and hypertension among practising advocates.

Methods: A cross-sectional study was conducted in a sample of 300 practising advocates at Madurai district court for a period of 1 year by simple random sampling method.

Results: Around 133 (44.33%) and 167 (55.66%) of study participants were in level of high stress and low stress respectively. Among high stressed participants, a majority of 113 (84.96%) were found to be hypertensives and among the low stressed participants only 10 (5.98%) were hypertensives. The difference of observation was found to be statistically significant ($p=0.0000$).

Conclusions: In conclusion the study explains that practising advocates with high perceived stress 113 (84.96%) were found to be hypertensives. Stress has a significant association with hypertension. The right way to manage stress is to implement coping strategies.

Keywords: Stress, Hypertension, Legal professionals

INTRODUCTION

Stress is a mental, physical and emotional response to life demands. Stress has become a part of day to day life. No human being in this universe is without stress, but the level of stress varies between individuals and it is subjective. Several studies suggest that stress predisposes to hypertension by increasing cardiac output and the heart rate. Stress is multifactorial, develops due to work-family conflicts, decreased job prospects and performance pressure¹. Work stress is due to imbalance between job demands and job control². Long hours of work, client demands, changing laws³ – makes practice of law the most stressful profession in this busy world. The

pressure of working in legal field creates stress and eventually hypertension. Wellbeing of the advocates are being questioned. Considering above issues one of the main objective of the study is to evaluate the relationship between stress and hypertension among practising advocates.

METHODS

Study design: Cross sectional Study

Place of study: Bar association and law chamber, District court, Madurai.

Period of study: From September 2015 to August 2016.

Study population: Advocates in the age group of 30 years and above practicing in Madurai city.

Inclusion criteria

Inclusion criteria were advocates in age group of 30 and above; regularly practicing advocates (attending court at least thrice a week); advocates practicing for a period of more than 5 years.

Sample size

According to available studies, relating to prevalence of hypertension among advocates, the prevalence was 36%, considering it as 'p' with limit of accuracy as 16% of prevalence and with 10% attrition the sample size is calculated.⁴

$$N = Z^2 \times P \times Q / L^2 = 1.96 \times 1.96 \times 36 \times 64 / 5.76 \times 5.76 = 266.72.$$

With 10% attrition i.e. 26.6, minimum sample size calculated

$$(266 + 26.6) = 293.32 \text{ rounded off to } 300$$

Hence sample size for this study will be 300

Sampling method: Simple random sampling.

From Madurai bar association (M.B.A) advocates voters' affidavit list, 600 advocates were selected by simple random sampling technique using computerized random numbers. Out of that a sample of 300 advocates who satisfy the inclusion criteria are selected by enquiry through phone dialing. Permission from Madurai bar

association secretary was obtained prior to the data collection.

Data collection tool

Structured interview schedule (modified after pilot) and sphygmomanometer (mechanical type with a dial).

Data was collected using the final proforma and perceived stress scale questionnaire.⁵ Data on background characteristics and risk factors were obtained from all participants. Three blood pressure readings as per JNC VII were measured in all study subjects at an interval of 3 hours in sitting position and the average was calculated. The participants were advised to refrain use of tobacco in any form or ingestion of caffeine during the 30 minutes preceding measurement. Newly detected hypertensives were examined again after 2 days in the same manner to confirm that hypertension was constant. Apart from the known hypertensive's, based on the blood pressure measurements, the remaining study subjects were classified according to JNC VII criteria.

In the current study stress was calculated using Table 1, perceived stress scale.⁵

Perceived stress scores are obtained by reversing responses (e.g., 0=4, 1=3, 2=2, 3=1 and 4=0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items.

Stress score _____ [Retrieved using Table 2, stress scoring]

[0=never 1=almost never 2=sometimes 3=fairly often 4=very often, reversing responses 0=4, 1=3, 2=2, 3=1 & 4=0) (items 4, 5, 7 and 8) to 4 positively stated items].

Table 1: Perceived stress scale.

S no	Questions	0	1	2	3	4
1	In the last month, how often have you been upset because of something that happened unexpectedly?					
2	In the last month, how often have you felt that you were unable to control the important things in your life?					
3	In the last month, how often have you felt nervous and "stressed"?					
4	In the last month, how often have you felt confident about your ability to handle your personal problems?					
5	In the last month, how often have you felt that things were going your way?					
6	In the last month, how often have you found that you could not cope with all the things that you had to do?					
7	In the last month, how often have you been able to control irritations in your life?					
8	In the last month, how often have you felt that you were on top of things?					
9	In the last month, how often have you been angered because of things that were outside of your control?					
10	In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?					

Table 2: Stress scoring.

Level of stress	Stress score
Low stress	0-13
Moderate stress	14-26
High perceived stress	27-40

Statistical analysis

The data was entered and analysed using SPSS version 16.0. Descriptive statistical analysis done by calculating percentages and Chi-square test and odds ratio for association of risk factor and 95% CI were computed. Among the factors evaluated, association between stress and hypertension is discussed in this research article.

Table 3: Distribution of hypertensive subjects and level of stress.

Level of stress	Hypertensives	Normotensives	Odds ratio	95% CI	P value
High stress level (moderate and high perceived)	113	20	88.7	37.8-216.4	0.000
Low stress level	10	157			
Total	123	177			

DISCUSSION**Hypertension and stress**

In the current study, the data collected as low, moderate and high perceived level stress was dichotomized into two groups as low stress level and high stress level. Around 133 (44.33%) and 167 (55.66%) of study participants were in level of high stress and low stress respectively. Similar finding was observed in an Indian Express report, which published that 46% of lawyers suffer from stress.⁴ Findings of stress level predicted from law care's stress in the legal profession survey, which was conducted among legal professionals at United Kingdom (68%) also supports the present study.⁶

Among high stressed participants, a majority of 113 (84.96%) were found to be hypertensives and among the low stressed participants only 10 (5.98%) were hypertensives. The above observation was found to be statistically significant ($p=0.000$), indicating that stress has an association with hypertension. This relationship between stress and blood pressure was partially evidenced by a 20-year follow-up of the air traffic controllers health change study done by Ming et al in United states, found that blood pressure reactivity to job stress (i.e.), the number of planes a controller was responsible for at a given time, measured over 5 hours predicted hypertension incidence.⁷

Babu et al study among IT professionals, explained that IT professionals with high work environment stress and

RESULTS

It has been observed from Table 3, that the data collected as low, moderate and high perceived level stress was dichotomized into two groups as low stress level and high stress level. Around 133 (44.33%) and 167 (55.66%) of study participants were in level of high stress and low stress respectively. Among high stressed participants, a majority of 113 (84.96%) were found to be hypertensives and among the low stressed participants only 10(5.98%) were hypertensives. The difference of observation was found to be statistically significant were $p=0.0000$. The odds ratio is 88.7, it indicates that hypertensives who had high stress level were 88 times greater odds of developing hypertension as compared to individuals who had low stress level. Hence it denotes stress has positive association with development of hypertension.

moderate stress had 48% and 40% respectively are at greater chances of having hypertension compared with IT professionals with lower level of stress (i.e.) dimensions of workplace autonomy and environment is associated with hypertension.⁸ Comparing the above study of stress and hypertension among IT professionals with the present study on advocates revealed that advocates (84.96%) are highly stressed and more prone to hypertension. It denotes that law profession is more stressful than IT profession.

According to Kulkarni et al in United States observed that stress can cause hypertension through repeated blood pressure elevations as well as by stimulation of the nervous system to produce large amounts of vaso-constricting hormones that increase blood pressure.⁹ Factors affecting blood pressure through stress include job strain, race, social environment, and emotional distress.

CONCLUSION

In conclusion the study explains that practising advocates with high perceived stress 113 (84.96%) were found to be hypertensives. Stress has a significant association with hypertension. Advocates are highly stressed professionals and the right way to manage stress is to develop coping strategies – plan, prioritize and execute work schedules. Implement adequate policy to cope their stress. Advocates are advised to adopt life style modifications to enjoy a stress free life.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee of SRMC &RI (SRU), Chennai (IEC Ref: CSP-MED/15/AUG/24/37)

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Cite this article as: Kannan L, Praveena P. Is stress an important co morbid factor for hypertension among legal professionals. *Int J Community Med Public Health* 2018;5:1899-902.