BURNOUT SYNDROME AMONG MEDICAL INTERNS AND ITS CORRELATION WITH PERSONALITY- A CROSS SECTIONAL STUDY

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ABSTRACT

BACKGROUND

Interns working in medical colleges face challenging psychological stress and it takes a heavy toll on their physical health. Burnout causes a greater risk of developing adverse effects on their careers and their patients. Especially in biological rhythm Changes in sleep disorders, cardiovascular disease, anxiety and suicide are commonly found in students who are in trouble with difficulty in medical colleges. Thus, the study aimed to evaluate the prevalence of burnout and its correlation with personality traits among interns at MVJ Medical College, Bangalore, Karnataka, India.

MATERIALS AND METHODS

It was a cross Sectional study of 106 interns at MVJ Medical College, Bangalore, Karnataka, India. Data was collected using Copenhagen Burnout Inventory (CBI) which assesses the burnout in the dimensions of personal burnout, work burnout and patient related burnout, with a cut-off score of 50 for each dimension. Sex and personality were the variables assessed. Personality was assessed by Big Five Inventory (BFI) designed by Goldberg.
Settings and Design: Cross Sectional Study at MVJ Medical College Bangalore, Karnataka, India.
Statistical Analysis: Multivariate Analysis.

RESULTS

Around 22% of the interns were found to have burnout in one or the other dimensions of the CBI. Personal domains and patient domains were the highest affected components and personality is an important contributor for burnout syndrome.

CONCLUSION

Large numbers of interns were affected by burnout in our study and it was more in female interns. Extroversion was the personality trait which was least affected by burnout. Studies all across the nation suggest that more participants and thorough evaluation of the correlates will be needed to understand this phenomenon and also for formulating measures for preventing and managing it.

KEYWORDS

Burnout, Interns.

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BACKGROUND

Burnout concept was described by Christina Maslach and Herbert Freudenberger, in 1975 with the latter coining the term.[1,2] In the World Health Organization's (WHO) International Classification of Diseases (ICD), 10th revision, burnout falls under the category of "Z73.0, Problems related to life management difficulty". It is defined as a "state of vital exhaustion, resulting in failure to cope with stress."[3] It is characterized by chronic psychosomatic exhaustion and is usually related to workplace stress. Changes in biological rhythms especially the sleep disturbance, cardiovascular disease, depression and suicidal ideation are commonly seen in students suffering from burn out[4] over the last several years, burnout among health-care professionals has gained a lot of attention. As the field is filled with high expectations and demands, doctors including interns, junior doctors and duty doctors are prone to develop burnout and its associated adverse consequences.[5,6] Burnout can hamper productivity of the doctor, both working as a physician and a surgeon.[7] The process of burnout can begin soon after joining the course.[8] The burnout rates among medical students and residents have been 28%-45% and 50%, respectively.[9,10,11,12]

In India, studies on burnout among professionals are limited and populations studied include Catholic priests, teachers, and human service professionals at a counselling center rather than health care providers like physicians, nurses and duty doctors.[13,14,15]

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Penner (2002) and Penner et al (1998) pro-social personality generally and other-oriented empathy and helpfulness particularly to be significantly positively correlated with volunteer activities. Costa and McCrae (1992) reported other-oriented empathy as correlating quite strongly with the dimension of agreeableness of the Big Five personality factors. Elshaug and Metzer (2001) evaluated the personality traits of volunteer food makers and volunteer fire fighters using the five-factor model of personality and found significant correlations between volunteering and the dimensions of agreeableness and extraversion.

Aims and Objectives

The study aimed to evaluate the prevalence of burn out and its correlation with personality among interns at MVJ Medical College, Bangalore, Karnataka, India.

MATERIALS AND METHODS

Methodology

- **Design and Site**
  A cross Sectional study of 106 interns at MVJ Medical College, Bangalore, Hoskote, Karnataka.
- **Study Population**
  House surgeons working in MVJ medical college posted in clinical departments. Interns were defined as medical students doing their compulsory 3471rotatory training after completing their Fourth year in Bachelor of Medicine and Bachelor of Surgery (MBBS) in a given setting and a time period.
- **Study Instrument**
  Analysis of burnout among subjects was done using inventory developed by Copenhagen et al. It has 19 items in form of questions and answers.[16] The components of the inventory specifically used in our study were: personal, work-related, and client-related burn-outs.[16] All components had 5 response categories, ranging either from "a very low degree" to "a very high degree". They also ranged from "never" to "always." Each scale ranged from 0 to 100 points, with high scores indicating higher burnout.
- **Big Five-Factor Inventory**
  It consisted of 44 items, rated on a five-point scale (strongly disagrees, disagree, neutral, agree, and strongly agree). Neuroticism, Extraversion, Openness, Agreeableness, And Conscientiousness were the 5 dimensions of the instrument.

Neuroticism	0.83
Extraversion	0.75
Openness	0.68
Agreeableness	0.73
Conscientiousness	0.79

Table 1. Showing Coefficient Reliability Estimates

Statistics

Initially the total score of burnouts in each dimension of CBI for each resident was calculated. Burnout was correlated with gender and personality traits using big five personality inventory. Burnout was defined as high and low burnout using the cut-off score of 50 that is the mid value of 0-100 point scale of the CBI for each domain as. Multivariate analyses were carried out using burnout as the dependent variable. All data were entered into Microsoft Excel version 2013 and analysis was done using the Statistical Package for the Social Sciences (SPSS) software (version 22).

RESULTS

The present study included 106 medical interns doing their internship in MVJ Medical College & Research Hospital. There were 41(38.67%) males and 65 (61.32%) females with male to female ratio of 1:1.58. According to Copenhagen Burnout Inventory, majority i.e., 44 (41.5%) of them were personal burnout followed by 40 (37.7%) of them were work related burnout, 12 (11.3%) of them were patient related burnout. Overall the prevalence of burnout in all three dimensions was 17%. There was significant association between gender and personal and work-related burnout dimensions which means these dimensions of burnout was more in females.

Variables	Males N= 41 (%)	Females N=65 (%)	Total N= 106 (%)	Mean ± SD	Chi-Square Value
Personal Burnout	12 (29.3%)	32 (49.2%)	44 (41.5%)	47.40 ± 16.58	$\chi^2 = 4.127$ $p < 0.05$
Work Related Burnout	10 (24.4%)	30 (46.2%)	40 (37.7%)	44.97 ± 16.80	$\chi^2 = 5.068$ $p < 0.05$
Patient related Burnout	4 (9.8%)	8 (12.3%)	12 (11.3%)	25.55 ± 17.52	$\chi^2 = 0.163$ $p > 0.05$
Overall Burnout	5 (12.2%)	13 (20.0%)	18 (17.0%)	39.31 ± 13.41	$\chi^2 = 1.086$ $p > 0.05$

Table 2. Distribution of Study Participants according to Different Dimensions of Burnout

In the present study, according to Big Five Personality Inventory all the study participants had high agreeableness dimension, majority i.e., 102 (96.2%) of them had high openness followed by high extroversion, conscientiousness and neuroticism dimension of personality which is as shown in table 3.

Variables		Males N= 41 (%)	Females N=65 (%)	Total N= 106 (%)	Mean ± SD
Extroversion	High	38 (92.7%)	59 (90.8%)	97 (91.5%)	63.32 ± 12.61
	Low	3 (7.3%)	6 (9.2%)	9 (8.5%)	
Agreeableness	High	41 (100.0%)	65 (100.0%)	106 (100.0%)	73.68 ± 8.64
	Low	0	0	0	
Conscientiousness	High	37 (90.2%)	57 (87.7%)	94 (88.7%)	64.40 ± 10.76
	Low	4 (9.8%)	8 (12.3%)	12 (11.3%)	
Neuroticism	High	25 (61.0%)	45 (69.2%)	70 (66.0%)	55.61 ± 15.21
	Low	16 (39.0%)	20 (30.8%)	36 (34.0%)	
Openness	High	40 (97.6%)	62 (95.4%)	102 (96.2%)	70.01 ± 10.92
	Low	1 (2.4%)	3 (4.6%)	4 (3.8%)	

Table 3. Distribution of Study Participants according to Different Types of Personality

Variables		Person Burnout N=44 (%)		Work Related Burnout N=40 (%)		Patient Related Burnout N=12 (%)		Overall Burnt out N= 18 (%)	
Extroversion	High	40	90.9%	36	90.0%	12	100.0%	14	77.8%
	Low	4	9.1%	4	10.0%	0	0.0%	4	22.2%
Agreeableness	High	44	100.0%	40	100.0%	12	100.0%	18	100.0%
	Low	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Conscientiousness	High	36	81.8%	34	85.0%	8	66.7%	12	66.7%
	Low	8	18.2%	6	15.0%	4	33.3%	6	33.3%
Neuroticism	High	35	79.5%	26	65.0%	8	66.7%	18	100.0%
	Low	9	20.5%	14	35.0%	4	33.3%	0	0.0%
Openness	High	44	100.0%	40	100.0%	12	100.0%	18	100.0%
	Low	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Table 4. Comparison between the Dimensions of Burnout and Dimensions of Big Five Personalities among Study Participants

As shown in table 4, in those burnout medical interns all of them had high agreeableness, neuroticism and openness dimensions of big five personalities. Whereas in extroversion and conscientiousness, 4 (22.2%) and 6 (33.3%) of them had low levels of the personality dimension respectively.

Variables	Person Burnout	Work Related Burnout	Patient Related Burnout	Overall Burnt Out
Extroversion	-0.265	-0.076	0.142	**-0.079***
Agreeableness	-0.121	-0.113	-0.308	**-0.231***
Conscientiousness	-0.514	-0.410	-0.286	**-0.505***
Neuroticism	0.554	0.321	0.349	0.514*
Openness	-0.001	0.054	-0.023	0.012*

Table 5. Correlation between Burnout and the Types of Personalities

*Correlation is significant at the 0.01 level.

Table 5 shows the correlation between burnout of medical interns and their personalities. The overall burnout scores were negatively correlated with extroversion, agreeableness and conscientiousness. This means with high extroversion, agreeableness and conscientiousness personalities the burnout would be less.

DISCUSSION

Around 22% of participations were found to have burnout in one dimension. The CBI was chosen over the more popular Maslach Burnout Inventory (MBI) as it was found to have same psychometric properties[17,18] and was available for free. Previous studies on burnout among residents have used the MBI that makes it difficult to make an exact comparison with our study findings. Nevertheless, these studies have also found nearly 20% of the study population having burnout.[11,12,19] We have not been able to find any studies using CBI to measure burnout among residents.

The lack of direction in their career, lack of participation in decision-making, the frequent rotations in different departments, and changing patient profile might be the cause of high personal and patient-related burnout among interns. Identity status and work engagement are found to contribute to burnout.[20] The increase in burnout associated with number of years in work could be an indicator of long-

term stress being a factor in burnout. Ishak et al., in their literature review on burnout among residents have also come to the conclusion that burnout could be due to cumulative effect of various factors over a period of time.[18] This study shows the role of personality in establishing the role of burnout. Personality is a important factor in determining the burnout.

Hills and Norvell (1991) study on burnout showed that neuroticism moderated the detrimental impact of daily hassles. We found the same supporting results that we obtained for neuroticism and for agreeableness too.

Gender did not seem to be a protecting factor for burnout in our study that is consistent with conclusions from various reviews of burnout among residents.[21,22]

Limitations of the study include that the study has been done at a single center that might not replicate the same study environment in other centers. The relationship between marital status and burnout was not studied because of the reason mentioned in the ethics section of materials and methods. The relation of age and specific specialty wise variables with burnout were not assessed due to lower number of participants available for grouping. The impacts of marital status and age on burnout were not established.[23,24] Social desirability bias to the word "work" and "patient" related to the respective domains of burnout might be a cause of lower prevalence of work- and patient-related burnout. Another explanation could be that the participants could have better stress management skills while dealing with patients and adjusting with their work when compared to personal burnout that needs assessment. Our study is a cross-sectional study that will not explain how burnout varies and progresses over a period of extended time. Multicenter, blinded, prospective studies across all specialties will provide a better picture of burnout among residents in the country.

Burnout among residents has been associated with depression, anxiety, drug and alcohol abuse, and deterioration in health.[21] Burned out residents are also associated with suboptimal patient care.[12] Factors that have a strong relation with burnout including work overload, rewards, social support, job satisfaction, work hours, home responsibilities, and personality traits also need to be assessed as they have been found to have an association with burnout in previous studies.[18] Use of interventions, such as counselling, mindfulness techniques, cognitive behavioural therapy, social skills training, and organization directed interventions, which have been shown to be helpful in countering burnout can also be included in future research.[25] Resident doctors in India tend to be overworked.[26] The present study provides baseline information that can be used by policymakers to address this issue.

CONCLUSION

Large numbers of interns were affected by burnout in our study and it was more in female interns. Extroversion was the personality trait which was least affected by burnout. A larger study with more participants and thorough evaluation of the correlates will be needed to understand this phenomenon and also for formulating measures for preventing and managing it.

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