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## Work-Related Behaviour And Experience Patterns And Its Associations Among Medical Students Of A Teaching Hospital In Eastern India

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#### ABSTRACT

Background: Work-related behaviour of medical students needs detailed evaluation. The present study aimed at assessing the work-related behaviour and experience pattern of undergraduate medical students of different academic years, and find out the difference in pattern among students of different gender and different academic years. Materials and methods: Medical students studying MBBS in a teaching hospital were selected. A predesigned, pre-tested semi-structured schedule along with the "Work-Related Behaviour and Experience Patterns" (AVEM) questionnaire in English were used to collect data. Results: Out of 368 students who submitted completed questionnaire, it was noticed that most students exhibited the unmotivated type S behaviour, followed by the over-committed/over-ambitious risky A type behaviour. Female students tended to be more over-ambitious type. Final year students tended to be more of unmotivated pattern. Addiction was less common in the healthy G pattern, and both G and S pattern preferred to spend their leisure with friends. Conclusion: Work-related behaviour and experience pattern in most medical students are not optimal.

Keywords: AVEM; Medical students; healthy behavioural patterns; teaching hospital.

## INTRODUCTION

Work-related stress among medical students has been a topic of ongoing research for over a decade. Studies have shown high prevalence of stress among medical students, ranging from 21-56%, and the level of stress is comparatively more than students in other curriculums. [1-3] Studies have found three main sources of stress: academic pressures, social issues and financial problems, academic pressure being the principal stressor. [4] The harmful effects of stress range from harmful effects on the individual's health, to impaired academic and social performance, and occasionally burnout. [5, 6] Work-related behavioural patterns needs to be assessed quantitatively in order to identify the individuals at risk of deleterious effects of stress. One such widely used inventory used to assess the individual's behavioural response to the work he does is "Work-Related Behaviour and Experience Patterns" (AVEM) questionnaire (original in German). [7] It has been translated in various languages including English, and has been validated in medical students as well. [8] Though curriculumrelated stress among medical students is a much discussed issue, this has not been extensively studied in Indian medical students. So, the present study aimed at assessing work-related behavior of medical students with the help of AVEM inventory, and find out the risky behavioral patterns, as also the factors associated with various behavioral patterns.

## **MATERIALS AND METHODS:**

This cross-sectional, observational study included MBBS students from a teaching hospital in Eastern

India. Data was collected with the help of a predesigned, pretested questionnaire. The first part of the questionnaire included general questions related to academic performance, parent's occupation, social life, any serious medical illness, any increase in absenteeism recently, addiction if any, and history of any known psychiatric illness/on anti-psychotic or antidepressant drugs. The second part comprised the AVEM. Whole questionnaire was in English. Students were administered the questionnaire by hand, and two weeks' time was allowed to fill up and submit the questionnaire. The data collection was done two months after the last examination, so that the examination-related stress did not affect the responses of the students. Anonymity was maintained all throughout.

The"Work-Related Behaviour Experience and (AVEM) Patterns" questionnaire, originally formulated by Schaarschmidt & Fischer covers the following major domains: a) professional commitment, b) resistance to stress, and c) emotional well-being (in the context of work) which are assessed with the help of 11 separate dimensions. Each dimension consists of 6 items with response options presented as a 5-point Likert-scale ranging from "I strongly disagree" to "I strongly agree". After cluster analysis of the 11 dimensions, four health relevant patterns were identified: the healthy pattern 'G', the unambitious or unmotivated pattern 'S', the overcommitted risk pattern 'A' and the resigned or burnout risk pattern 'B'.

Students studying MBBS from first year to 4<sup>th</sup> year were selected using stratified random sampling method, with 100 students randomly selected from each year. Students with history of known serious medical or psychiatric illness, or unwilling to participate in the study were excluded. Students submitting incomplete questionnaires were also excluded. Out of 400 students, 6 students did not give consent. 394 students agreed to accept the 383 students submitted questionnaire. the questionnaire within the stipulated time, which translates to a response rate of 97.2%. Eight students submitted incomplete questionnaire, hence excluded. Three students had known serious medical illness (Diabetes in two, Hodgkin lymphoma in one), and four were on antidepressant drugs. So, final sample size was 368.

The data were entered in Microsoft excel version 2007. For descriptive statistics, mean, median and standard deviation (SD) were used. Categorical data were analysed by Chi square test and continuous data by Student t test. The study got clearance from Institutional Ethics Committee.

#### **RESULTS**:

The mean age of the study subjects was  $22.43 \pm 4.09$  years [range 19-28 years]. Median age was 22 years. Most of the students were males [243 (66.03%)]. 165 (44.84%) of students had some kind of an addiction, smoking being the most commonly practised addiction. Majority [223(60.60%)] were staying away from home, either in hostel or in rented apartments. 41.85% students did not prefer to spend time with friends/family. More than half of students reported increased absenteeism in last 1 month. 51.36% students reported inadequate sleep at night.

On analysis of the second part of the questionnaire, which comprised the AVEM, it was observed that the reliability was good [Crohnbach's alpha 0.82]. Total four types of work-related behaviour and experience pattern was identified, as in the original study by Schaarschmidt & Fischer: G, S, A and B. It was noticed that the good G pattern was there in only a small percentage [13.04%] of cases and most of the students fell in either the unmotivated S type or the over-ambitious risky A type, and a few students also exhibited the very risky burnout B pattern. [Table 1] There was distinct difference in the behaviour pattern between male and female students. [Table 2] Most of the male students were of the unmotivated S type, whereas most of the females were the overambitious A type. Moreover there was difference in these patterns among students of different years. First year students were more of the over-ambitious A type; on the other hand, the final year students tended to be unmotivated S type. However, no difference was observed between students staying away from home and those staying at home [Table 2]. Regarding addiction pattern, it was observed that the unmotivated S type, overambitious A type and the burnout B type were prone to addiction, whereas, addiction was relatively less frequent in G. [Table 3] It was also noticed that the G and S type preferred to spend time with friends/family, but A and B preferred to stay by themselves. [Table 4]

#### **DISCUSSION:**

The present study showed that the work-related behaviour and experience pattern among undergraduate medical students was predominantly the unmotivated S type, followed by the over-ambitious A type. S type was significantly more in male students, whereas, A type was more common in females. S type was more common in the fourth year students, whereas A type was more common in the first year students. A small number of students fell in the category B, which was the risky burnout type, and they were identified and referred for psychiatric consultation. The healthy G pattern was exhibited by a few students, in whom the tendency towards addiction and reduced sleep at night was less. Patterns G and S were characterized by preference to spend quality time with friends and family, whereas A and B types preferred to stay alone during free time.

Several studies on work-related behaviour and academic stress of medical students are available in the literature. In the study by Voltmer E et al., the researchers found that most of the medical students were of the type S or A, with the S type predominating in males, and the A type in females. [8] In another recent longitudinal study by the same researcher, it was seen that good patterns of workrelated behaviour in the first year/freshmen gave way to risky burnout pattern in the third terminal. [9] However, this was not observed in the present study, where researchers found a greater proportion of unmotivated students in the final year. Psychiatric morbidity and burnout were considered common among medical students in a study by Dalhin ME et al, and early addressing of depressive symptoms and help-seeking by the students was recommended. [10] Authors of the present study also identified those students belonging to the risky B type, and referred them for proper psychiatric evaluation. Another study tried to find out the predictors of depressive symptoms and suicidal tendency among medical students. [11] We found that healthy type G was associated with less tendency of indulging in any addiction, whereas other types showed increased propensity towards addiction. Studies have found increased levels of addiction in medical students. [12] In a large-scale multi-centric study by Alexandrova-Karamanova A et al, Turkey, Greece and Bulgaria showed worst work-related behaviour and greatest burnout among health workers. [13] Scholz M et al,

have found out that as students spent more and more years in medical curriculum, proportion of risky behavioural patterns and burnout increased consistently. [14] In the present study, individuals who spent time with friends and family showed less risky behavioural patterns. Similarly, a Korean study showed the role of social-support in order to promote a healthy psychosocial behaviour. [15] Other methods to tackle the stress as described in a Pakistani study are recreational activities like sports and music. [16]

Conclusion: Our study was limited by a relatively small sample size, cross-sectional design and inability to assess role of any intervention to promote healthy work-related behaviour. But it suggested that medical students may be at risk of improper workrelated behaviour, and this behavioural pattern differed significantly in students of different genders and academic years.

#### **REFERENCES:**

. . . . . . . . . . . . . .

- 1. Dahlin M, Joneborg N, Runeson B. Stress and depression among medical students: a cross sectional study, Med Educ 2005; 39: 594-604
- Guthrie EA, Black D, Bagalkote H, Shaw C, Campbell M, Creed F. Psychological stress and burnout in medical students: a five-year prospective longitudinal study. J R Soc Med 1998;91: 237-43
- 3. Saipanish R. Stress among medical students in a Thai medical school. Med Teach 2003;25: 502-6
- Vitaliano PP, Russo J, Carr JE, Heerwagen JH: Medical school pressures and their relationship to anxiety. J Nerv Ment Dis 1984;172: 730-6
- Sharma B, Wavare R, Deshpande A, Nigam R, Chandorkar R. A study of academic stress and its effect on vital parameters in final year medical students at SAIMS Medical College, Indore, Madhya Pradesh. Biomedical Research 2011; 22: 361-365.
- Voltmer E, Kieschke U, Schwappach DL, Wirsching M, Spahn C. Psychosocial health risk factors and resources of medical students and physicians: a cross-sectional study. BMC Med Educ. 2008; 8:46
- 7. Schaarschmidt U, Fischer AW. Arbeitsbezogenes Verhaltens- und

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- Voltmer E, Rosta J, Aasland OG, Spahn C. Study-related health and behavior patterns of medical students: A longitudinal study. Med Teach. 2010;32: e422-8
- 9. Voltmer E, Obst K, Kötter T. Study-related behavior patterns of medical students compared to students of science, technology, engineering and mathematics (STEM): a three-year longitudinal study. BMC Med Educ. 2019;19:262
- 10. Dahlin ME, Runeson B. Burnout and psychiatric morbidity among medical students entering clinical training: a three year prospective questionnaire and interview-based study. BMC Med Educ. 2007; 7: 6
- 11. Chow WS, Schmidtke J, Loerbroks A, Muth T, Angerer P. The Relationship between Personality Traits with Depressive Symptoms and Suicidal Ideation among Medical Students: A Cross-Sectional Study at One Medical School in Germany. Int J Environ Res Public Health. 2018;15
- 12. Voigt K, Twork S, Mittag D, Göbel A, Voigt R, Klewer J et al. Consumption of alcohol, cigarettes and illegal substances among physicians and medical students in

Brandenburg and Saxony (Germany). BMC Health Serv Res. 2009; 9: 219

- Alexandrova-Karamanova A, Todorova I, Montgomery A, Panagopoulou E, Costa P, Baban A, et al. Burnout and health behaviors in health professionals from seven European countries. Int Arch Occup Environ Health. 2016;89:1059-75
- 14. Scholz M, Neumann C, Steinmann C, Hammer CM, Schröder A, Eßel N, [Development and correlation of work-related behavior and experience patterns, burnout and quality of life in medical students from their freshmanship to the first state examination]. Psychother Psychosom Med Psychol. 2015;65:93-8
- 15. Jeong Y, Kim JY, Ryu JS, Lee KE, Ha EH, Park H. The Associations between Social Support, Health-Related Behaviors, Socioeconomic Status and Depression in Medical Students. Epidemiol Health. 2010;32:e2010009
- 16. Shaikh BT, Kahloon A, Kazmi M, Khalid H, Nawaz K, Khan N et al.Students, stress and coping strategies: a case of Pakistani medical school. Educ Health (Abingdon) 2004; 17:346-53.

Table 1. Socio-demographic parameters and	work-related behavioura	l patterns in the study	population
	( <b>n=368</b> )		

Parameter	Number	Percentage
Gender		
Male	243	66.03
Female	125	33.97
Year of study		
1 <sup>st</sup>	95	25.82
2 <sup>nd</sup>	89	24.18
3 <sup>rd</sup>	91	24.73
4 <sup>th</sup>	93	25.27
Occupation of father		
Service holder	136	36.96
Businessman	112	30.43

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Teacher	54	14.67
Doctor	42	11.41
Lawyer	24	6.52
Per capita income		
Below 10,000 INR	163	44.29
≥10,000 INR	205	55.71
Living away from home		
Yes	223	60.60
No	145	39.40
Addiction present		
None	203	55.16
Smoking	147	39.95
Tobacco chewer	69	18.75
Drinking	38	10.33
Increased absenteeism in last 1month		
Yes	187	50.82
No	181	49.18
Social life		
Enjoys spending time with friends and family during leisure	214	58.15
Prefers to stay alone most of the times	154	41.85
Academic performance in last 1month (own perception)		
Good	138	37.50
Fair	167	45.38
Unsatisfactory	63	17.12
Do you get adequate sleep at night		
Yes	179	48.64
No	189	51.36
Work-related behaviour and experience patterns		
G	48	13.04
S	179	48.64
А	120	32.61

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В	21	5.71

# Table 2: Patterns of work-related behaviour and experience in different sub-groups of the study population [n=368]

	Pattern G	Pattern S	Pattern A	Pattern B	P value
Male (N=243)	33(13.58)	136(55.97)	61(25.10)	13(5.35)	<0.0001
Female	15(12)	43(34.40)	59(47.20)	8(6.40)	
(N=125)					
1 <sup>st</sup> year	14(14.74)	26(27.37)	51(53.68)	4(4.21)	<0.0001
2 <sup>nd</sup> year	10(11.24)	36(40.45)	38(42.70)	5(5.62)	
3 <sup>rd</sup> year	13(14.29)	48(52.75)	24(26.37)	6(6.59)	
4 <sup>th</sup> year	11(11.83)	69(74.19)	7(7.53)	6(6.45)	
	48	179	120	21	
Staying away from home	28(12.56)	110(49.33)	73(32.74)	12(5.38)	0.979
Stays at home	20(13.79)	69(47.59)	47(32.41)	9(6.21)	

N.B.: Row percentages are shown in parentheses. Significant differences are bold-faced.

# *Table 3:* Inter-relationship between work-related behaviour and experience patterns and addiction [n=368]

Work-related behaviour and experience patterns	Addiction present (165)	No addiction (203)	p
G (48)	11(22.92%)	37(77.08%)	<0.0001
S (179)	85(47.49%)	94(52.51%)	
A (120)	51(42.5%)	69(57.5%)	
B (21)	18(85.71%)	3(14.29%)	

N.B.: Row percentages shown.

# Table 4: Inter-relationship between work-related behaviour and experience patterns and use of social support [n=368]

Work-related	Enjoys spending time	Prefers to stay alone	Р
behaviour and	with friends and family	most of the times	
experience patterns	during leisure (214)	(154)	

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G (48)	43(89.58%)	5(10.42%)	< 0.0001
S (179)	135(75.42%)	44(24.58%)	
A (120)	33(27.5%)	87(72.5%)	
B (21)	3(14.29%)	18(85.71%)	

N.B.: Row percentages shown.