Stress among Early and Late Entrants in Medical Education

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ABSTRACT

This study has been designed to find out stress in early and late entrants in medical education and also age and gender interaction effect on stressor. The study was conducted on 1200 first year medical students ten randomly selected medical colleges of North Indian states of India. Stress of medical students was measured in terms of various stressors. Medical Student Stressor Questionnaire (MSSQ) developed by Muhamad S. B. Yusoff, Ahmad F. A. Rahim and Mohd J. Yaacob was used to identify six domains of stressor including - Academic related stressors (ARS), Intrapersonal and interpersonal related stressors (IRS), Teaching and learning-related stressors (TLRS), Social related stressors (SRS), Drive and desire related stressors (DRS) and Group activities related stressors (GARS). Data were collected in person with each respondent. Means, Standard deviations for each domain were calculated separately for boys and girls and age groups and F test was used to find out the main effects and the interaction effects for each domain of stress. Significant interaction effects were found in all the domains of stressor except two ARS and IRS among groups. Our brief survey suggests that there are substantial differences expressed by these older students in regard to stressor prevalence. Current study demonstrated that early entrant boys and late entrant girls feel more academic related stress. For all other domains early entrants were having more stress than were their younger counterparts. The findings can help understand harms and stresses in early and late entrants in medical education and prepare intervention and guidance programmes for new medical entrants to beat stress and healthier amendment.

Keywords: Stress, Early, Late, Entrants, Medical, Education, Gender, Age, Interaction.

Stress in medical students has been documented for a long time. Medical students countenance a numeral of stressors, which affect their educational performance and quality of life. Stress caused by exhausting medical programs, which may have corporeal and psychosomatic effects on the well-being of medical students.

Medical students are overloaded with a marvelous quantity of information. They have a limited amount of time to remember all the information studied. The overload of information creates a feeling of disappointment because of the inability to handle all the information at once and succeed during the examination period. Many medical students struggle with their own capacity

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to meet the demands of medical curriculum (Yussof and Baba 2013). Furthermore, stress in medical students can smash the stability of the student's health and result in poor health.

Many studies have explored the causes, consequences and solutions. New entrants are initially more susceptible to the challenges of the medical training. While predictable, the entering in medical line is found to be extra demanding. The causes include academic demands, unfamiliarity in a fresh surroundings and improbable expectations (Miller, 1994). Although entrance in medical requires higher secondary/ intermediate as minimum qualification but appearing for entrance examination requires tough fighting and neck and neck competition with no guarantee of selection. They must learn a great deal of new information in a short time, undergo exams and evaluations. Very small percentage of students gets selected in first attempt. Students take many attempts to clear for medical entrance mean while also preparing and appearing for other courses or continue for traditional degree courses. A lot of persons applying to medical school have had further careers or experiences prior to their application. Overturning an ancient trend, the mean age of graduating medical students is rising both at the nationally and globally. *Stress is the feeling students have when under pressure,* generally (but not always), the more stressors new entering students in medical line experience, the more stressed students feel. Comprising an increasing proportion of older student population, these older medical students often have unique difficulties differing from those of their younger peers. Younger medical students reported significantly more problems with the pressure to succeed, whereas the older students had significantly more problems with marriage and children. These students not only experience different stresses from their younger classmates but also coped with problems and viewed the professionalization process differently. Older students reported that they missed friends and social supports, collegial relationships, and a better financial situation. Although students in both groups were disappointed in the quality of teaching and lack of individualized attention from faculty, older students felt more strongly about these issues because they expected more intense intellectual stimulation (Kay and Blythe 1884).

Harth et al (1990) reported that mature-age entrants experienced greater stress in medical school, had more financial concerns, experienced loneliness and isolation from other students, and had more family problems. Although these studies define older students differently, the way in which these students experience medical school is based more on life experiences, such as former careers and family situations, than that of younger students. To investigate likely differences in stress of older and younger medical students, the present study is an effort to investigate stress between older and younger new medical students.

OBJECTIVES OF THIS STUDY ARE AS FOLLOWS:

1- To find out the different types of stress among early and late medical entrants
2- To assess interaction of age and gender of early and late medical entrants for different types of stress

METHODOLOGY

Samples selection

Ten Medical colleges of North India were randomly selected from the list of medical colleges which included Dehradun (1), Muzaffarnagar (1), Meerut(2), Ghaziabad, (2), NOIDA(1), New Delhi(1), and Jaipur (2). A total of 1200 medical students studying in first year of selected medical colleges were included for the study.

Tool for data collection

 Medical Student Stressor Questionnaire (MSSQ), developed by Muhamad S. B. Yusoff, Ahmad F. A. Rahim and Mohd J. Yaacob was used to identify the stressess of medical students, in terms of stressors, as well as to measure the intensity of stress caused by the stressors. The MSSQ grouped stressors into six domains, each based on a common underlying theme:

1. Academic related stressors (ARS)
2. Intrapersonal and interpersonal related stressors (IRS)
3. Teaching and learning-related stressors (TLRS)
4. Social related stressors (SRS)
5. Drive and desire related stressors (DRS)
6. Group activities related stressors (GARS)

Data collection and analysis

Data were collected by researcher in person. The respondents were divided into small groups of approximately ten each. After explaining the objectives and importance of research they were requested to respond to the statements of MSSQ. After collection of data scores were obtained for six domains of stressors. Age of students ranged from17-28 years. Students were classified in younger (>22) and older (< 22) groups.

Means and standard deviations were calculated for all the six domains separately for early and late entrants. Two ways ANOVA was applied to assess the stressor for interaction between two factors –age vs. gender. Level of significance was set at 0.05 levels.

RESULT AND DISCUSSION

Following table demonstrates mean scores, SD and F values on the six domains of stressor (in terms of p value) of younger boys and younger girls, elder boys and elder girls.

Gender Vs. Age: Two Way ANOVA- Summary For Various Stresses Of New Medical Entrants

Gender → Stress domains ↓	Age↓	Boys Mean ± SD	Girls Mean ± SD	Source of variation	df	Sum of squares (SS)	Mean of squares (MS)	F value
Academic related stressors (ARS)	Younger	21.12 ± 7.65	19.51 ± 8.03	Age	1	0.84	0.84	**0.01^{NS}**
	Elder	19.92 ± 6.97	20.32 ± 9.91	Gender	1	710.52	710.52	11.43*
				Age vs. Gender	1	36.69	36.69	**0.59^{NS}**
				Error	1196	74337.23	62.15	
				Total	1199	75085.28		
Intrapersonal/interpersonal related stressors (IRS)	Younger	12.98 ± 4.66	13.74 ± 5.38	Age	1	133.71	133.71	5.3*
	Elder	11.23 ± 4.53	11.71 ± 5.20	Gender	1	145.85	145.85	5.78*
				Age vs. Gender	1	26.38	26.38	**1.05^{NS}**
				Error	1196	30159.54	25.22	
				Total	1199	30465.48		
Teaching and learning related stressors (TLRS)	Younger	12.18 ± 4.77	13.14 ± 5.24	Age	1	108.38	108.38	4.31*
	Elder	12.31 ± 6.42	10.52 ± 4.82	Gender	1	202	202	8.03*
				Age vs. Gender	1	94.58	94.58	3.76*
				Error	1196	30096.2	25.16	
				Total	1199	30501.16		
Social related stressors (SRS)	Younger	9.94 ± 4.13	11.68 ± 4.77	Age	1	245.95	245.95	12.42*
	Elder	9.62 ± 3.43	7.84 ± 4.80	Gender	1	716.12	716.12	36.16*
				Age vs. Gender	1	187.77	187.77	9.48*
				Error	1196	23683.46	19.80	
				Total	1199	24833.3		

Drive and desire related stressors (DRS)	Younger	6.47 ± 2.88	8.00 ± 2.74	Age	1	264.65	264.65	33.65*
	Elder	5.23 ± 2.24	4.48 ± 2.77	Gender	1	567.32	567.32	72.14*
				Age vs. Gender	1	117.76	117.76	14.97*
				Error	1196	9405.31	7.86	
				Total	1199	10355.04		
Group activities related stressors (GARS)	Younger	7.22 ± 3.33	9.69 ± 3.27	Age	1	147.23	147.23	13.68*
	Elder	7.15 ± 2.27	6.29 ± 2.92	Gender	1	1569.07	1569.07	145.8*
				Age vs. Gender	1	191.98	191.98	17.84*
				Error	1196	12871.32	10.76	
				Total	1199	14779.6		

NS-not significant, (*) significant

Academic Related Stressor (ARS)

In academic related stressors (ARS) younger boys' mean is significantly higher than younger girls and elder boys and elder girls have more or less same stress in this domain. A high score of younger boys in this domain indicates that the younger boys' are more worried about various academic matters such as examination systems, assessment methods, grading methods, academic schedule, getting poor marks in examinations, high-self expectation to do well in studies, large amount of content to be studied, having difficulty to understand content, lack of time to do revision, learning context full of competition, and having difficulty to answer questions given by teachers etc. than younger girls.

Interpersonal & Intrapersonal Related Stressor (IRS)

As evident from the table younger entrants have more IRS as compared to older ones. Girls in general have more   interpersonal and intrapersonal related stressor (IRS) as compared to boys. Mean (13.74) score for younger girls is significantly higher than younger boys (12.98). A high score of younger girls in this domain indicates that girls are more worried about intrapersonal stressors which generally relate to relationships within one's own self, including poor motivation to study and self-conflict. Interpersonal stressors generally relate to relationships between individuals including as verbal, physical and emotional abuse caused by other persons, and conflict with personnel, teachers, colleagues, and staff etc in comparison to younger boys and elder boys and elder girls have more or less same stress in this domain.

Teaching and Learning Related Stressor (TLRS)

There are significant age and gender differences in TLRS. Mean score of younger group of girls is higher than mean score of younger boys (13.14>12.18) whereas elder group boys scored higher than elder girls (12.32>10.52). A high score in this domain indicates that younger girls

and elder boys have more stress related to teaching and learning related events than younger boys and elder girls. Consequently, it indicates that teaching and learning activities in the institution are unfriendly to younger girls and elder boys. This requires looking at components of teaching and learning process to determine the causes of higher stress among younger girls and elder boys than younger boys and elder girls.

Social Related Stressor (SRS)
Similar trend have been observed in SRS is low in elder groups. There is also significant difference in SRS of boys and girls. Younger girl's high mean score in Social Related Stressor SRS (11.68 as compared to 9.94 of younger boys) and Elder boys high score in this stressor (9.62 as compared to 7.84 elder girls) domain indicates that younger girls and elder boys have more stress related to societal and community events than younger boys and elder girls. This indirectly indicates that younger girls and elder boys have difficulty spending their time in social and community activities. Social related stressors refer to any form of community and societal relationships that cause stress. It generally relates to leisure time with family and friend, working with the public, private time for own self, working interruption by others, and facing patients' problems.

Drive & Desire Related Stressor (DRS)
Younger group of student have more DRS as compared to elder group. DRS is also significantly different for boys and girls in general younger girls have more DRS as compared to younger boys whereas DRS is more among elder boys as compared to elder group of girls . High scores of younger girls and elder boys in this domain indicates that younger girls and elder boys are more worried to any form of internal or external forces that influence one's attitude, emotion, thought and behaviour which subsequently cause stress. It generally relates to unwillingness to study medicine due to various reasons such as not being one's choice to study it, wrongly choosing the course, being demotivated after knowing the reality of medicine, parental wish to study medicine, and following friends to study medicine. Hence younger girls and elder boys are in more stressed condition.

Group Activities Related Stressor (GARS)
In general GARS is more in younger group. It also differs significantly among boys and girls. High scores of younger group of girls and elder group of boys (high mean score of younger girls 7.22 < 9.69 and elder boys 6.29 < 7.15) on GARS domain indicate that younger girls and elder boys have more stress related to group events and interactions than younger boys and elder girls. It generally relates to participation in group discussions, group presentations and others expectations to do well. Younger boys and elder girls are not much worried about group activities / events and interactions and take it more casually as compared to their counterparts.

CONCLUSION

New medical students have various type of stress. Extent of stress varies among boys and girls and with age of entrance. Study revealed that in academic matters younger boys have more stress than younger girls. In general Intrapersonal and interpersonal related stressors (IRS) ,Teaching and learning-related stressors (TLRS) , Drive and desire related stressors (DRS) Social related stressors (SRS) and Group activities related stressors (GARS) is more in young entrants . Furthermore elder boys have more stress in four TLRS, SRS, DRS and GARS than elder girls.

The findings support occurrence of stress among different age groups of medical entrant boys and girls and offered space for adopting coping strategies to reduce student stress by nurturing some of the areas of stress coping among different age groups students   to overcome stress. Findings in the present study have specific guidance suggestions. If implemented at the entering of the medical education, the prospect doctor of medicine will expand the skills of managing stress in an extra efficient ways early in their medical career which will avoid the further psychosomatic misshaping. There is a requirement for sufficient orientation and guidance programmes in general as well as separately for both age groups of boys and girls. The number of students entering medical school at an older age will likely continue to increase. Our brief survey suggests that there are substantial differences expressed by these older students in regard to stressor prevalence. Current study demonstrated that early entrant boys and late entrant girls feel more academic related stress. For all other domains early entrants were having more stress than were their younger counterparts.

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