

A Prospective Study Conducted among Second Year Medical Students to Assess the Stress Levels, Identify their Coping Strategies using Brief Cope Method, to Provide Appropriate Guidance to them and to Reassess their Stress Levels

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ABSTRACT

Introduction: High stress levels are prevalent among medical students. Use of appropriate coping strategies is crucial to overcome stress while use of wrong coping techniques could be deleterious and can lead to a vicious cycle. Thus it is the responsibility of the faculty to identify the students who unwittingly get entangled into using wrong coping techniques and provide them appropriate guidance. Hence we undertook this study

Material and methods: Out of 152 second year medical students 142 students participated in our study. Stress levels of these students were assessed by using the Kessler10 Psychological Distress instrument (K10). Of these, 50 students were detected to have mild, moderate or severe stress and they were further analysed for their coping techniques using brief cope method. These 50 students were further divided into 2 smaller groups and interactive sessions were conducted. One month after the interactive sessions we reassessed their stress levels using the K10 scale and compared it with their previous scores. Difference in the scores was statistically analysed using students t test.

Results: Most of the students in our study resorted to religious activities like praying and meditation to overcome stress. Some also resorted to coping techniques like active coping, emotional support, instrumental support, positive reframing, planning and acceptance which were positive coping techniques. Some of the students resorted to inappropriate coping techniques such as self-distraction, self-blaming and venting items while few to denial, humour and behavioural disengagement and only one student acknowledged substance abuse. Many of our students used amalgamation of appropriate and inappropriate techniques. The post K10 score showed a statistically significant reduction in the stress levels

Conclusion: Medical students undergo considerable stress throughout their medical career and they use various coping techniques to overcome stress which may be correct or incorrect. Early intervention and timely help by the faculty is of utmost importance to enable them to achieve their academic goals

Key words: Brief Cope, Stress Coping Techniques, Medical Students

students are academic pressures, social factors and economic burden². Students deal with stress in various ways. Most students have the wisdom to use the correct stress coping techniques like positive reframing, proper time management and religious faith.^{2,3} Some others unfortunately resort to improper coping strategies like substance abuse, excessive social networking, witch craft etc.⁴

Various studies conducted in the past have shown that coping methods play a crucial role in adjusting to stressful situation⁵. There are several coping strategies which can be categorised into active and avoidant coping strategies⁶. "Active coping strategies are either behavioural or psychological responses designed to change the nature of the stressor itself or how one thinks about it", while avoidant coping strategies "lead people into activities (such as alcohol use) or mental states (such as withdrawal) that keep them from directly addressing stressful events"⁶. Active coping is the right way to handle stress, rather than avoidant coping which is a risk factor for precipitating anxiety and depression.⁷

According to Carver⁸, active coping strategies include "active coping", which means to make an effort to overcome stress; "planning", formulate methods to deal with stress and work out an appropriate scheme. "Acceptance", acknowledging the reality of occurrence and "positive reframing", perceiving and handling the situation positively. Avoidant strategies include "denial", suggests refusal to accept reality, "behavioural disengagement", retract or quit from achieving the target. "Venting", being overtly sensitive to the situation and seeking negative attention.⁸

Stress among students has not gained much attention in comparison to work-related stress. Stress in academics is unavoidable and to overcome stress students may unconsciously adapt various methods. Many of these methods may be correct but some may be faulty. If the

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INTRODUCTION

Stress is inevitable among undergraduate health professionals¹. It is a known fact that stress has deleterious effects on the physical, mental and social well-being of an individual. Three leading causes of stress among medical

students continue to use the wrong technique over a long period of time it can lead to dire consequences. Therefore we undertook this study to detect the stress levels among the students, to identify various coping techniques used by students to overcome stress and to provide appropriate guidance.

MATERIAL AND METHODS

Stress among 152 second year medical students was assessed by using the Kessler 10 Psychological Distress instrument (K10) developed by Kessler and colleagues. The K10 consisted of 10 questions in the form of "how often in the past month did you feel ..." and offers specific symptoms, such as 'tired out for no good reason', 'nervous', and 'sad or depressed'. The five possible responses for each question range from 'none of the time' to 'all of the time' and were scored from 1 to 5 respectively. All the questions were collated to obtain a total score. The total score was interpreted as follows: a score of less than 20 was considered not to represent stress of any level while a score of 20-24 represented mild stress, 25-29 represented moderate stress and 30-50 represented severe stress.

We invited 50 students with mild to severe stress to participate in the study. We used brief cope method to identify and analyse their coping strategies. The students were divided into two smaller groups and interactive sessions were conducted. In these interactive sessions we discussed which coping techniques were correct and which were incorrect. We reiterated the use of correct coping technique while discouraged the use of incorrect one. After a period of one month we repeated the K10 scale and compared it with the previous scores. Difference in the scores was analysed using students t test. Students were also requested to give their valuable feedback on the usefulness of this study.

Brief Cope

There are many ways to try to deal with problems.

These items ask what you've been doing to cope with this one.

- a. = I haven't been doing this at all
 - b. = I've been doing this a little bit
 - c. = I've been doing this a medium amount
 - d. = I've been doing this a lot
1. I've been turning to work or other activities to take my mind off things. ()
 2. I've been concentrating my efforts on doing something about the situation I'm in. ()
 3. I've been saying to myself "this isn't real. ()
 4. I've been using alcohol or other drugs to make myself feel better. ()
 5. I've been getting emotional support from others. ()
 6. I've been giving up trying to deal with it. ()
 7. I've been taking action to try to make the situation better. ()
 8. I've been refusing to believe that it has happened. ()
 9. I've been saying things to let my unpleasant feelings escape. ()
 10. I've been getting help and advice from other people. ()
 11. I've been using alcohol or other drugs to help me get through it. ()
 12. I've been trying to see it in a different light, to make it seem more positive. ()
 13. I've been criticizing myself. ()
 14. I've been trying to come up with a strategy about what to do. ()
 15. I've been getting comfort and understanding from someone. ()
 16. I've been giving up the attempt to cope. ()
 17. I've been looking for something good in what is happening. ()

Coping strategies	Details	Percentage of students who adopted the Strategy
Self-distraction	Doing something to take your mind off the situation such as going to movies, watching TV, shopping, sleeping or listening to music	58
Active coping	Doing something about the situation. Taking action to negate the stressor	50
Denial	Refusing to believe it happened or not accepting the situation	24
Substance use	Using tobacco, alcohol or drugs to feel better	2
Emotional support	Getting emotional support or advice from friends or family	36
Instrumental support	Getting help from faculty members, student advisors and peers	54
Behavioural disengagement	Giving up attempt to do anything about the situation giving up trying to deal with it	24
Venting items	Expressing negative feelings: Showing anger at things/people, swearing or bad language	46
Positive reframing	Seeing something good in what is happening learning from the experience	42
Planning	Planning a strategy on what to do, how to deal with the situation	40
Humour	Making fun of the situation	24
Acceptance	Learning to live with the situation, accepting it	62
Religion	Praying, meditating	74
Self-blame	Blaming yourself for getting into the situation or handling it badly	44

Table-1: Analysis of Brief Cope of the participants

18. I've been making jokes about it. ()
19. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping. ()
20. I've been accepting the reality of the fact that it has happened. ()
21. I've been expressing my negative feelings. ()
22. I've been trying to find comfort in my religion or spiritual beliefs. ()
23. I've been trying to get advice or help from other people about what to do. ()
24. I've been learning to live with it. ()
25. I've been thinking hard about what steps to take. ()
26. I've been blaming myself for things that happened. ()
27. I've been praying or meditating. ()
28. I've been making fun of the situation. ()

RESULTS

All 152 second-year undergraduate medical students were invited to participate in the study, 142 students completed the K10 form giving a response rate of 95%. The student

	Female using correct coping techniques	male using correct coping techniques
Mean	22.3	23.35
Variance	17.5	6.34
Observations	30	20
Pooled Variance		13.10
Hypothesized Mean Difference		0
Df		48
t Stat		-1.00
P(T<=t) one-tail		0.159989777
t Critical one-tail		1.677224196
P(T<=t) two-tail		0.319979553
t Critical two-tail		2.010634758

Table-2a: Gender based analysis using correct coping techniques

	Female using Wrong techniques	Male using Wrong Techniques
Mean	5.76	4.65
Variance	17.56	6.34
Observations	30	20
Pooled Variance	13.12	
Hypothesized Mean Difference	0	
Df	48	
t Stat	1.06	
P(T<=t) one-tail	0.145	
t Critical one-tail	1.67	
P(T<=t) two-tail	0.29	
t Critical two-tail	2.0	

Table-2b: Gender based analysis using wrong coping techniques

t-Test: Paired Two Sample for Means	Prescore	Postscore
Mean	25.84	14.98
Variance	38.01	16.59
Observations	50	50
Pearson Correlation	0.20	
Hypothesized Mean Difference	0	
Df	49	
t Stat	11.51	
P(T<=t) one-tail	7.52114E-16	
t Critical one-tail	1.67	
P(T<=t) two-tail	0.00001	
t Critical two-tail	2.00	

Table-3: Comparison of K10 scores

population was 57% female and 43% male. Out of 142 students, 50 (35%) had some degree of mild moderate or severe stress. The coping strategies of these 50 students were further analysed using the brief cope and the results of the brief cope are summarised in the table-1, 2a, 2b, 3.

DISCUSSION

Students in the medical profession are stressed with academic load and they barely have any time for recreation. Since they lack time for destressing it may lead to psychological morbidity.^{2,9,10} Students' own expectations and motivation are known to be influenced by parental expectations.¹¹

Various studies done elsewhere have identified parental expectations and worries regarding the future as important factors contributing to their stress.² In our study 35% students had some degree of mild to severe stress. We tried to identify their stress coping technique using brief cope method. Most of the students in our study resorted to religious activities like praying and meditating to cope up with their stress, some also resorted to coping techniques like active coping, emotional support, instrumental support, positive reframing, planning and acceptance which were positive coping techniques. We appreciated the students who used the correct techniques and reinforced the use of appropriate methods.

Some of the students resorted to inappropriate coping techniques such as self-distraction, self-blaming and venting items while few to denial, humour and behavioural disengagement while only one student acknowledged substance abuse. These students realised that they unknowingly had resorted to the wrong technique as a reaction to the stress they faced. We made them aware of their folly and enlightened them to use the correct ones.

Some of our students used amalgamation of appropriate and inappropriate techniques. Study conducted by Kadayam G. Gomathi¹ shows similar findings The studies done in Nepal² and Malaysia³ are also in accordance with our findings wherein the medical students used active coping, positive reframing and seeking help as positive strategies to overcome stress

We did not find any gender based difference in the coping technique.

58% students resorted to self-distracting activities such as watching television, going for movies daydreaming and shopping. This is a wrong technique of coping up with stress as they were frittering away their precious time on unproductive activities which in turn would aggravate their academic pressure.

50% students used active coping technique to deal with their stress. This is the correct technique to overcome stress. In this method students planned their timetable, adhered to it, studied regularly prepared notes and were in a better position as compared to the other students to handle stress.

24% students used denial as a coping method. It is one of the harmful techniques to overcome stress. Denying reality does not solve the problem on the contrary it can worsen it.

Only 2% students acknowledged that they use alcohol and other drugs to handle stress. This could be just the tip of the iceberg. Students may unknowingly fall prey to such harmful habits and get trapped. Study conducted in Nepal² reported 3.4% students abusing alcohol /tobacco which are similar to our findings. But our findings are contrary to the studies done in USA and Canada where up to 20% of students have reported tobacco and alcohol abuse⁴.

36% students used emotional support as a coping technique. To some extent this is a good coping technique provided emotional support is sort from the correct person like parents or siblings or well-wishers but if the support is sort from a wrong person who can mislead them and aggravate their problem.

54% students used instrumental support as a coping method. This is advise from the faculty and is a favourable coping technique. Teachers are the best facilitators and can provide appropriate guidance whenever required.

24% students used behavioural disengagement as a coping device and had given up dealing with stress. This is a wrong method of coping with stress. If the students themselves give up it is difficult for others to help them out.

46% students followed the wrong coping technique of venting out their negative feelings. This is a wrong method of coping with stress. The stress may build up over a period of time and when it cannot be contained any more it may just erupt like a volcano and they may blurt out unpleasant things especially to their parents. Psychological help and counselling may help students handle stress and anger better. 42% students used positive reframing method. This is a positive coping technique and if followed it can help the students to cope up with their stress.

42% students used planning items to cope with stress. This is an excellent coping strategy wherein the students think of some creative way and take concrete steps to handle stress.

24% students used humour items a negative coping technique. It is a deceptive strategy wherein instead of facing reality they deceive themselves into thinking that there is no problem.

62% students used acceptance items which is good coping technique. This is a first positive step towards coping up with stress.

74% students used religion as a coping method and were

engaged in either praying or meditating. To some extent it may calm and relax the students which may enable them to concentrate on their studies. But this should be used as a supporting technique.

These findings are similar to reports from Malaysia and Jordan^{3,12} wherein their students also resorted to religion as stress buster.

44% students used wrong coping technique of self blaming items. Although accepting reality is good, excessive self-blaming and self-criticism can be deleterious as it can lead to depression.

After analysing their coping techniques we divided them into smaller groups of 25 each and had interactive sessions with each group. During the interactive sessions we discussed in detail about the various stress coping techniques. We reinforced the use of correct coping techniques and discouraged the use of wrong ones. The students were advised to incorporate the changes in their daily routine to overcome stress.

The stress levels of these students were reevaluated using K10 scale one month after the interactive session and there was statistically significant decrease in their stress levels. Thus improvement in the K10 scores is a testimony of the benefit obtained by the interactive session.

CONCLUSION

Medical students are bound to face stress throughout their academic career. The students use various coping techniques as a defence mechanism to overcome stress. Through our study it became evident that many students use appropriate coping techniques while few unintentionally resort to inappropriate ones. The discussion on the technique's enlightened them to continue using the right technique and to discontinue the wrong ones. Early intervention and timely help by the faculty is of utmost importance to enable them to achieve their academic goals. Thus it is an important responsibility of the faculty to identify such students at the right time and provide appropriate and timely help.

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