

Exploring the level of academic procrastination and possible coping strategies among medical students

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Abstract

Objective: To identify the level of procrastination in undergraduate medical students and to explore the coping strategies adopted by low procrastinators to overcome the tendency.

Methods: The mixed method, sequential explanatory study was conducted at the Islamic International Medical College, Riphah International University, Rawalpindi, Pakistan, from April to September 2019, and comprised medical students from preclinical first, second and third years of the academic programme. The pre-validated Academic Procrastination Scale was used to assess the prevalence and level of procrastination in the subjects, followed by semi-structured interviews with students having low level of procrastination to explore the coping strategies used by them to beat the negative habit. Data was analysed using SPSS 21 and was further subjected to manual thematic analysis.

Results: Of the 255 subjects, 85(33.3%) each were in the first, second and third year of undergraduate medical studies. Overall, the level of procrastination was high in 134(52.5%) students and low in 121(47.5%). The low procrastinators were 43(51%) in the 1st year, 46(54%) in the 2nd year and 45(53%) in the 3rd year. On the basis of interview-based data, 10 coping strategies were identified: time management, self-regulation, establishment of priorities, self-reward, goal-setting, conducive learning environment, self-reminders, task management, self-evaluation and self-monitoring.

Conclusion: Procrastination is a behavioural disorder and is prevalent in undergraduate medical students, but it can be effectively treated through effective coping strategies.

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Introduction

Procrastination means an act or habit of putting off or delaying something, especially something that demands prompt attention. Procrastination in students includes putting off important tasks, such as submitting assignments or preparing for high-stake examinations.¹ Usually it is perceived as a negative trait because it often hampers an individual's productivity and is associated with low self-esteem, guilt, depression and inadequacy. Academic procrastination is a worldwide problem and all students tend to procrastinate at one point or the other in their academic life.² Procrastination appears to be higher in tasks perceived as unpleasant or considered demanding. Medical studies are very tough and require constant and persistent effort. Students who tend to

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procrastinate experience stress, anxiety, crisis and social disapproval for not meeting the desired deadlines and responsibilities.³ Delaying in educational tasks is seen as a common and destructive habit in students and is apparent in those who fail to achieve self-regulation.⁴

Studies have shown a negative correlation between procrastination and academic performance, and have explored the relationship of procrastination with negative behaviour outcomes, like guilt, low self-esteem and depression.⁵ Students that are unable to manage their time efficiently are more prone to procrastination and ultimately get poor grades in examinations. As seen from different studies, the negative habit of delaying is more common in males compared to females,⁶ who are usually more responsible and concerned about their studies. A study found that college students who were younger tended to procrastinate more frequently than their seniors who were in advanced classes, showing that young students' level of maturity is low and they are unable to take full responsibility of their learning and academic performance.⁷ Studies show that the trend of procrastination is present in medical students and is associated with negative traits, like narcissism. A study done in Pakistan revealed that unhappy and

procrastinating individuals constitute a major proportion of the community of medical students.⁸

Limited literature is found on the subject to explore the coping and adapting strategies used by undergraduate medical students to reduce academic procrastination in order to improve academic performance. The current study was planned to identify the level of procrastination in undergraduate medical students, and to explore how do low-level procrastinators overcome the negative trait.

Subjects and Methods

The mixed method, sequential explanatory study was conducted at the Islamic International Medical College (IIMC), Riphah International University (RIU), Rawalpindi, Pakistan, from April to September 2019. After approval from the IIMC Ethics review committee, the sample was collected using purposive sampling technique from among pre-clinical medical students of 1st, 2nd and 3rd years of the undergraduate studies programme because these students are not exposed to the twin burden of studies and clinical rotations. Pre-clinical students were also chosen in case of high level of procrastination among them, an intervention could be designed and implemented, and its effect could be seen in a longitudinal study in their subsequent years in the medical college. As such, medical students of fourth and final years were excluded. Data was collected after taking informed consent from the students. In the first phase, data identified the level of procrastination, and the second phase explored⁹ the coping strategies of the students.

The data-collection tool in the first phase was the Academic Procrastination Scale (APS) questionnaire which was filled out by the subjects. The APS has 25 questions; 20 negative and 5 positive there are to be reverse-scored.¹⁰ All the items were to be responded to on a 5-point Likert scale. The students were subsequently grouped into low and high procrastinators by selecting a scale based on median¹¹ of the total Pascoe of each class. Median was chosen to group the students because it is considered a useful way to interpret scores on 5-point Likert scales.¹² A shorter sample was raised representing the lowest of the low procrastinators for semi-structured in-depth interviews focussing on the coping strategies. The interviews were audio-recorded and transcribed.

Data was analysed using SPSS 21. Cronbach's alpha was calculated for each class to find out the reliability and internal consistency of the items in the questionnaire. Data was further subjected to manual thematic analysis to make axial codes which were then merged to form subthemes, which, in turn, were converted into themes.

Results

Initially, 300 students were administered the questionnaire; 100(33.3%) from each class. The response rate from the 1st year was 93(93%), from the 2nd 88 (88%) and from the 3rd year 90(90%). The overall response rate was 91(91%). From the total, 255(85%) subjects were enrolled to meet the sample size requirement; 85(33.3%) each from the first, second and third years of undergraduate medical studies. Overall, the level of procrastination was high in 134(52.5%) students and low in 121(47.5%). The low procrastinators were 43(51%) in the 1st year, 46(54%) in the 2nd year and 45(53%) in the 3rd year (Table-1). After doing extreme case sampling and grouping the students into low and high procrastinators,

Table-1: Level of procrastination in undergraduate medical students.

Class	First Year		Second Year		Third Year	
	Low	High	Low	High	Low	High
Level of Procrastination						
No of students (Percentage)	42 (49%)	43 (51%)	39 (46%)	46 (54%)	40 (47%)	45 (53%)
Median of APS Score	74		74		78	

Table-2: Internal consistency of scores on Academic Procrastination Scale (APS) of 1st year, 2nd and 3rd year medical students.

Class	Cronbach's Alpha	No of Respondents	Reliability
1st year	0.91	85	Excellent
2nd year	0.86	85	Good
3rd year	0.93	85	Excellent

Table-3: Demographics of interviewees from 1st, 2nd and 3rd year medical students.

Serial No	Class	Age (years)	Gender
1	1st year MBBS	19	Male
2	1st year MBBS	19	Female
3	1st year MBBS	19	Female
4	1st year MBBS	19	Female
5	1st year MBBS	19	Male
6	1st year MBBS	19	Female
7	2nd year MBBS	20	Female
8	2nd year MBBS	20	Female
9	2nd year MBBS	20	Male
10	2nd year MBBS	20	Male
11	2nd year MBBS	20	Female
12	2nd year MBBS	20	Female
13	3rd year MBBS	21	Female
14	3rd year MBBS	21	Female
15	3rd year MBBS	21	Male
16	3rd year MBBS	21	Female
17	3rd year MBBS	21	Male
18	3rd year MBBS	21	Female

Table-4: Coping strategies adopted by the low-level procrastinators.

S. No	Themes	Sub-Themes	Codes	Representative Quote
1	Time management	Planning and making schedules	Planners To do lists. Time tables	'I try to study daily by following a fixed routine.
2	Self-regulation	Avoiding distractions Resisting extracurricular activities	Switching off cell phones Self-control	I switch off my cell phone when I sit down to study, in a separate room and tell my family not to disturb me.'
3	Establishment of study priorities	Organizing and fore thinking Multiple revisions Study according to subject weightage	Difficult topics Syllabus Examinations	I study with dedication and study the hard topics first, this way in the end I get time for revision.'
4	Self-reward	Relaxation after task completion	Sleep Relax Sleep Television Family and friends Outings	I usually reward myself after a CBA exam, by spending time with my family and going out for recreation, for maximum two days.
5	Goal setting	Long term goals Short term goals	Successful doctor High grades Targets Concepts	My short term goal is to pass each CBA and professional exam with at least 75 marks.'
6	Learning environment	Conducive learning environment Study resources	Isolated room Educational videos Noise control Proper light Reading material	I study in an isolated room with absolutely no noise and good lighting. I make detailed notes using highlighters and sticky notes frequently; this helps me in memorizing the concepts later on.'
7	Self-reminding	Note to one own self.	Diary Planner Cell phone	During exams I tend to put reminders for myself on my mobile phone so that I don't forget to revise an important topic.'
8	Task management	Division of workload Chunking of study material	Chapters Less burden Time management	I often do division of task, during exams as it helps me in retaining the concepts more easily'.
9	Self-evaluation	Identification of strengths and weaknesses in studies Making a positives and negatives list	Recall and rethink Making a list Discussion with peers Post exam	I always recall my weakness right after the exam so that I can improve myself in future.
10	Self-monitoring	Self-checking of study routines	Myself Monitor	I keep a check on my study routine myself responsibly.

the internal consistency or reliability of each class was calculated separately, showing excellent overall value of 0.90 (Table-2).

From among the low procrastinators, 18 students were interviewed; 12 females and 6 males, 6 students from each of the three classes (Table-3).

On the basis of interview-based data, 10 coping strategies were identified: time management, self-regulation, establishment of priorities, self-reward, goal-setting, conducive learning environment, self-reminders, task management, self-evaluation and self-monitoring (Table-4).

Discussion

Findings showed that the negative habit of procrastination was prevalent in undergraduate medical

students, and high procrastinators were more in number in each of the three classes, which is in line with literature.^{7,8}

The present study identified time management as essential practice for a person to achieve anything productive in life. Studies have mentioned that time management is essential for students to get good grades.¹³

Self-regulation was another important coping strategy that all students identified. It kept them away from diversions and intrusions and helped them in giving proper attention to their studies. A study done in Poland revealed that the strongest contributions to procrastination were lack of value, delay discounting, and lack of perseverance, suggesting the involvement of motivation and impulsivity. The students

made themselves stick to a strict timetable and detached themselves from all sorts of potential diversions.¹⁴

Prioritisation of studies was another integral factor identified in the current study. It made the students more responsible. This is substantiated by earlier studies.¹⁵⁻¹⁷

Self-reward was another important strategy used by medical students in the current study. Rewarding one's own self creates positive repetitive behaviour in future. Previous studies have also mentioned the efficacy of the strategy.¹⁸

An earlier study documented that goal-setting was a detrimental factor in countering the negative effect of procrastination. Serious students who have a desire to be at the top of the class always keep short- and long-term goals for themselves and strive hard to achieve them.¹⁹

The current study showed that studious students chalked down their goals regularly in their minds as well as on paper so that they may make persistent efforts to achieve them and ultimately achieve success and academic excellence.

Previous studies showed that a conducive learning environment is essential for good cognition.²⁰ The present study also showed that students who were low procrastinators selected a separate room away from noise and distractions with proper learning aids, comfortable temperature, adequate lighting, and appropriate furniture. Reminders play a pivotal role in making a student regular in studies.²¹ The present study also showed that to counter dithering in academics; the students often relied upon reminders which helped them in remembering the assignments that they had to do.

Past studies showed that task management by breaking a task into smaller components plays a vital role in learning and countering procrastination.²² The presence of chunks explains how students, in spite of limited cognitive limitations in memory capacity, attention and learning rate, can cope efficiently with the demands of the academics.

Students in the current study also described that by doing chunking of topics they were able to retain the subject matter more effectively.

Self-monitoring is another important factor in reducing procrastination.²³ The current study also revealed that no one had parents or peers to monitor their study progress, showing that the students were responsible adults who did not waste their time and were concerned about their studies.

Self-evaluation was also a major theme which emerged as a coping strategy adopted by the low procrastinators in the current study, which has also been reported earlier.^{4,24}

The present study has some limitations, as it was done only in a single centre and included students of only pre-clinical years, and it did not explore differences in terms of gender. Moreover sample size estimation was not done using a sample size calculator which could cause a reduction in the power of the study.

Future longitudinal studies need to be conducted to assess the effect of interventions to reduce procrastination.

Conclusion

Procrastination is a behavioural disorder and is prevalent in undergraduate medical students, but it can be effectively treated through effective coping strategies. By practising effective coping strategies, the students can become more organised, feel more confident regarding their studies, and become high achievers.

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