

Factors Affecting Stress among Dental Undergraduates

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Abstract. This study aims to comprehensively explore the factors contributing to stress among dental undergraduates in the unique landscape of Indian dental education. Acknowledging the global prevalence of stress in the dental profession, this research addresses the dearth of literature specifically focusing on stressors within the Indian context, particularly in the region surrounding the School of Dental Sciences at KIMSDU Karad. The study adopts an institutional cross-sectional design, targeting undergraduate students from the 2nd year to interns, providing a diverse representation of academic stages. The data collection instrument, a self-administered questionnaire distributed as a Google Form, is a modified version of the Dental Environmental Stress (DES) survey. This adaptation ensures cultural relevance and linguistic appropriateness for the Indian dental environment. The questionnaire encompasses six domains—academic performance, clinical and patient responsibility, faculty relations, personal issues, accommodation, and professional identity/career—providing a holistic view of potential stressors. Ethical considerations form a foundational aspect of the study, with approval obtained from the Institutional Ethics Committee. The voluntary participation of students emphasizes the importance of informed consent and ethical research practices. Upon data collection, rigorous statistical analysis, including descriptive statistics and inferential methods, will be employed to derive meaningful insights. The objective is to identify patterns, associations, and correlations within the identified stress domains. The significance of this research lies in its potential to uncover nuanced stressors specific to Indian dental education. The findings aim to contribute not only to the academic discourse on dental education but also to the development of targeted interventions and stress management programs. By understanding the unique stress landscape faced by dental undergraduates, this study seeks to pave the way for fostering a supportive learning environment and enhancing the overall well-being of future dental professionals in India. In conclusion, this abstract encapsulates the study's purpose, methodology, and potential contributions, providing a snapshot of the research's significance in addressing a critical gap in the understanding of stress among dental undergraduates in the Indian context.

Keywords: Dental Stress Analysis, Undergraduate Students, Indian Dental Education, Cross-Sectional Study, Dental Environmental Stress Questionnaire (DES), Academic Performance, Clinical Responsibilities

I. Introduction

In the dynamic landscape of dental education, the pursuit of knowledge and clinical proficiency often intertwines with the intricate challenges that give rise to stress among dental undergraduates. This study embarks on a journey to unravel the multifaceted sources of stress faced by dental students within the unique context of Indian dental education. With up to 86% of dentists globally reporting stressful lifestyles, understanding the specific stressors encountered by dental undergraduates becomes imperative for fostering a supportive learning environment and mitigating the potential negative impacts on students' well-being and professional development. Dentistry, recognized as a demanding profession, has been subject to numerous studies exploring the theoretical foundations of stress and its effects on practitioners' health and quality of life. This research, however, aims to bridge a notable gap in the existing literature by focusing on stress sources specific to the Indian undergraduate dental education system. While existing studies have shed light on stressors

and coping mechanisms among dental students, a dearth of work exists in understanding stress factors in the Indian context, particularly in and around the region of the conducting institution.

The prevalence of stress in dentistry is intricately linked to the professional practice, characterized by time constraints, dealing with challenging patients, and the intricate nature of dental work. The occupational stress experienced by practicing dentists has been associated with various psychological issues, including depression, anxiety, behavior disorders, substance misuse, and burnout. This phenomenon is not unique to practitioners; dental undergraduates, too, grapple with stressors that mirror those faced by their trained counterparts. The educational process itself contributes significantly to the stress experienced by dental students. The demands of modern curricula require students to swiftly acquire a diverse set of skills, encompassing theoretical knowledge, clinical competencies, and interpersonal skills. This study acknowledges the potential impact of both occupational and educational stressors on dental students and seeks to uncover the nuanced layers of stress unique to the Indian dental education milieu.

Despite the global discourse on stress in dental education, there is a conspicuous absence of in-depth insights from an Indian perspective. This gap in knowledge could be attributed to the lack of a suitable tool for assessing stress in the linguistic and cultural context of Lusophone nations. The study adopts the Dental Environmental Stress questionnaire (DES), designed specifically for dental students, to address this gap. However, it is noteworthy that the psychometric characteristics of this tool have not been extensively studied. This research aims to contribute to the understanding of stress in dental students by not only identifying stressors but also by adapting the DES to the Indian context, ensuring its construct validity and reliability. Recognizing the significant negative repercussions of stress on dental students, the study advocates for the inclusion of stress management programs in dental curricula. By accurately identifying stressors and understanding the circumstances that contribute to stress, educational institutions can tailor interventions to mitigate the adverse effects of stress on the well-being and professional development of dental professionals. This research is positioned as a crucial step toward the development of effective stress management strategies within the Indian dental education system. In conclusion, this study endeavors to conduct an institutional cross-sectional exploration among undergraduate students of the School of Dental Sciences at KIMSDU Karad. By obtaining ethical clearance from the Institutional Ethics Committee, the research aims to shed light on the sources of stress in the dental school environment, providing valuable insights for the development of targeted stress management interventions. Through a meticulous examination of stressors using a modified DES survey, this research aspires to contribute not only to the academic discourse on dental education but also to the well-being of future dental professionals in the Indian context.

II. Background

The backdrop against which this study unfolds is the global landscape of dental education, characterized by the relentless pursuit of knowledge and clinical expertise. Dentistry, acknowledged as a demanding and intricate profession, has been a subject of extensive research exploring the theoretical underpinnings of stress and its ramifications on practitioners. Previous studies have identified stressors such as time constraints, challenging patient interactions, and the technical demands of dental work, culminating in a high prevalence of stress among dental professionals. Within this broader global context, the Indian dental education system emerges as a unique and vibrant arena, presenting its own set of challenges and nuances. The cultural, social, and educational dynamics in India contribute to a distinctive environment for dental students. However, despite the global discourse on stress in dental education, there exists a conspicuous gap in understanding stress factors specific to the Indian context, particularly within and around the region of the conducting institution, the School of Dental Sciences at KIMSDU Karad.

Up to 86% of dentists globally report having very stressful or somewhat stressful lifestyles, underscoring the universality of stress within the dental profession. This stress is not confined to practitioners alone; dental undergraduates, too, navigate a complex web of stressors as they navigate through their academic journey. The demands of modern curricula, which encompass theoretical knowledge, clinical competencies, and interpersonal

skills, contribute significantly to the stress experienced by dental students. In this Indian context, where the prevalence of stress among dental undergraduates is acknowledged but not thoroughly explored, this study becomes a critical exploration into the factors that shape the stress landscape. The absence of comprehensive research on stress sources in Indian dental education becomes a call to action, prompting the need for a nuanced understanding of the stressors faced by dental students in this specific cultural and educational milieu.

The chosen research tool, the modified version of the Dental Environmental Stress questionnaire (DES), brings a cultural sensitivity aspect to the study. However, it is important to note that the psychometric characteristics of this tool have not been extensively studied in the Indian context. This adds a layer of complexity to the research, as it not only seeks to identify stressors but also endeavors to validate and adapt the survey instrument to align with the unique stressors faced by dental students in India. Ethical considerations form a cornerstone of this study, with the Institutional Ethics Committee providing clearance for the research project. This underscores the commitment to responsible research practices, ensuring the well-being and confidentiality of the participating dental undergraduates.

In essence, the background of this study is painted against the broader canvas of global dental education stress, with a specific focus on the Indian context. It recognizes the need for a granular exploration of stress sources within this unique environment, aiming to contribute not only to the academic discourse but also to the well-being and future professional success of dental students in India.

III. Materials and Methods

The methodology employed in this study reflects a systematic and comprehensive approach to investigate the factors affecting stress among dental undergraduates within the Indian context. The chosen materials and methods aim to ensure the reliability, validity, and ethical soundness of the research.

Study Design:

An institutional cross-sectional study was conducted among undergraduate students of the School of Dental Sciences at KIMSDU Karad. This design allows for a snapshot of stressors at a specific point in time, providing valuable insights into the prevalent factors affecting dental students.

Study Population and Sample:

The study population comprises 2nd-year to intern undergraduate students of the dental college, representing different stages of the academic journey. Participation in the study is voluntary, emphasizing the importance of informed consent. This diverse representation enables a comprehensive exploration of stress factors across different academic levels.

Data Collection Instrument:

A self-administered questionnaire, distributed as a Google Form, serves as the primary data collection instrument. The questionnaire is a modified version of the Dental Environmental Stress (DES) survey, specifically tailored to suit the Indian dental environment. The inclusion of six domains—academic performance, clinical and patient responsibility, faculty relations, personal issues, accommodation, and professional identity/career—ensures a holistic examination of potential stressors. Responses are recorded on a four-point Likert scale, ranging from "not stressful" to "very stressful."

Procedure:

Prior to lectures, the questionnaire is distributed to students in their classes, providing a convenient and familiar setting for data collection. An opportunity for students to ask questions and seek clarifications is provided, ensuring the clarity and understanding of the survey. The time frame for completing the questionnaire is set at

30 minutes, and students are explicitly instructed not to discuss the survey among themselves during this period, maintaining the integrity of individual responses.

Measurement Tool:

The modified DES survey, validated and translated to suit the Indian dental environment, serves as the measurement tool for this study. The Likert scale responses facilitate a nuanced understanding of the degree of stress associated with each identified factor.

Ethical Considerations:

Ethical clearance for the study has been obtained from the Institutional Ethics Committee (Protocol Number 234/2022-2023). This underscores the commitment to ethical research practices, ensuring the protection of participants' rights, confidentiality, and well-being.

Data Analysis:

Collected data will be subjected to rigorous statistical analysis to derive meaningful insights. Descriptive statistics will be employed to summarize the responses and identify patterns within each domain. Furthermore, inferential statistical methods may be applied to establish associations and correlations between different stressors.

In conclusion, the chosen materials and methods align with the research objectives, ensuring a robust exploration of stress factors among dental undergraduates in the Indian context. The systematic approach, ethical considerations, and use of a validated instrument collectively contribute to the credibility and applicability of the study's findings.

IV. Result

A total of 260 dental students participated in the study, with percentage of participation as 22.5%, 28.2%, 33.6%, 15.6%, for 2nd-, 3rd-, 4th-year, interns undergraduate students of the dental college.

Majority of students felt stressed about Having reduced holidays compared with other students, Examinations and Late ending time/completing graduation requirements. Top stressors in about Having reduced holidays compared with other students (57.6%), followed by Examinations (34%), (31.3%). and Late ending time/completing graduation requirements.

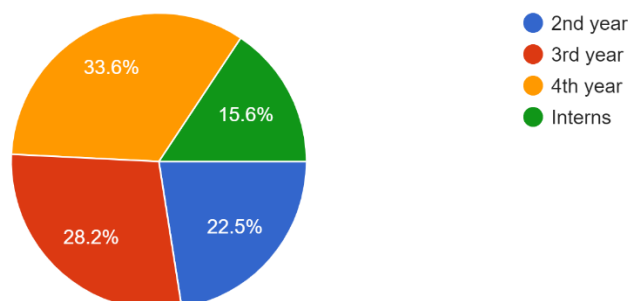


Figure 1. Participants of students

Table 1. Questionnaire

Sr no	questions	Not stressful	Slightly stressful	Moderately stressful	very stressful
1.	Moving away from home	21%	40.1%	26.7%	12.2%
2.	Lack of home atmosphere	18.3%	39.7%	30.2%	11.8%
3.	Environment in which to study	24%	42.4%	24%	9.5%
4.	Making friends	34.7%	29.4%	22.1%	13.7%
5.	Intimate relationships	26.7%	35.5%	17.2%	20.6%
6.	Having multiple roles	17.6%	38.5%	28.6%	15.3%
7.	Personal physical health	22.9%	35.5%	29%	12.6%
8.	Financial responsibilities	17.9%	36.3%	25.6%	20.2%
9.	Discrimination due to gender or social class	35.5%	33.6%	20.2%	10.7%
10.	Expectation vs reality of dental school	15.3%	34.7%	30.2%	19.8%
11.	Approachability of staff	28.2%	40.1%	22.9%	8.8%
12.	Criticism about academic or preclinical work	17.9%	38.9%	28.6%	14.5%
13.	Rules and regulations of the dental school	16.4%	39.7%	26%	17.9%
14.	Amount of feeling being cheated	21.8%	31.3%	29.4%	17.6%
15.	Lack of input in decision making process in dental school	20.2%	41.6%	24.4%	13.7%
16.	Lack of time for relaxation	10.3%	30.5%	32.1%	27.1%
17.	Having reduced holidays compared with other students	6.9%	14.9%	20.6%	57.6%
18.	Amount of assigned course work	11.5%	36.6%	30.9%	21%
19.	Lack of time to do assigned school work	10.7%	33.6%	35.5%	20.2%
20.	Learning precision manual skills required for clinical and laboratory work	16.8%	45.8%	25.2%	12.2%
21.	Late ending time/completing graduation requirements	10.3%	27.1%	31.3%	31.3%
22.	Language barrier	46.6%	29.8%	15.6%	8%
23.	Fear of not being able to catch up if falling behind	16.4%	42%	26%	15.6%
24.	Uncertainty about dental career	15.3%	38.5%	30.2%	16%

25.	Lack of confidence to become a successful dentist	21.8%	38.9%	22.5%	16.8%
26.	Difficulty of course work	14.9%	43.9%	28.2%	13%
27.	Examinations	6.5%	24%	35.5%	34%
28.	Competition for rank	19.1%	34.7%	25.6%	20.6%
29.	Fear of failing a course of the year	22.2%	36.3%	22.9%	18.7%
30.	Fear of not having possibility to pursue a postgraduatedental education program	15.6%	37.8%	22.1%	24.4%

V. Discussion

The biggest concerns mentioned by dental students in their third and fourth years were clinical and patient duties. This conclusion is corroborated by past work, which also revealed that dental students have the highest amount of stress related to clinical training concerns. This pressure might be a result of the dentistry students' need to finish a predetermined number of cases in order to be qualified to take the final test. Absence of early clinical exposure also leads to an anticipated stress reaction over the impending patient contact and applying clinical skills to treat the patient as soon as possible. This result is consistent with some earlier research's conclusions. The program should make an effort to integrate the soft skills needed to handle patients.

Exam stress and the fear of failure were two of the top stressors mentioned by both year students in the academic performance-related area. Other research were out in various parts of the world showed similar results. This may be because students feel overburdened by the rigorous intellectual requirements of the dental program. They are afraid of doing well on the examinations because of the large amount of material they need to know in a short amount of time.

Interpersonal relationships, including friendship and ties with the opposite sex, were cited by students from both years as the aspect least likely to cause stress. This suggests that the students' interpersonal communication skills are generally adequate.

In addition, the students did not find language barriers or drug or alcohol addiction to be difficult.

VI. Conclusion

In conclusion, this study delves into the intricate landscape of stress among dental undergraduates in the Indian context, focusing on the School of Dental Sciences at KIMSDU Karad. The research, framed within an institutional cross-sectional design, aimed to identify and understand the factors contributing to stress across various domains, ranging from academic performance to personal and professional identity.

The utilization of a modified Dental Environmental Stress (DES) questionnaire, validated and adapted to the Indian dental environment, served as a robust tool for data collection. The survey's comprehensive nature, covering six distinct domains, facilitated a nuanced exploration of stressors specific to the experiences of dental students in this region. The ethical considerations, including obtaining clearance from the Institutional Ethics Committee, underscore the commitment to responsible research practices. The voluntary participation of students ensured the protection of their rights and confidentiality, reinforcing the ethical foundation of the study. The findings of this research are poised to fill a critical gap in the existing literature by shedding light on the unique stress landscape faced by dental undergraduates in India. While stress in dental education is a global concern, this study contributes context-specific insights that can inform tailored interventions and stress

management programs. Recognizing the potential negative impacts of stress on the well-being and professional development of dental professionals, the study advocates for the inclusion of stress management strategies in dental curricula. The systematic analysis of data, employing both descriptive and inferential statistical methods, will unravel patterns and correlations within the identified stress domains. These insights will not only add depth to our understanding of stress among dental undergraduates but also provide a foundation for evidence-based interventions. In essence, the significance of this study lies in its potential to influence positive change within dental education. By pinpointing stressors and advocating for targeted interventions, the research strives to contribute to the creation of a supportive learning environment that nurtures the well-being and success of future dental professionals in the Indian context. Ultimately, the study aspires to be a catalyst for improvements in dental education, fostering resilience and equipping students with the tools to navigate the challenges inherent in their academic and professional journey.

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