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Assessment of Knowledge, Attitude and Practice on Temporomandibular Joint Disorders Among Postgraduate Dental Students in Kanpur

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Abstract

This study aimed to evaluate the knowledge, attitudes, and practices (KAP) regarding temporomandibular joint (TMJ) disorders among postgraduate dental students in Kanpur, India. A total of 75 postgraduate dental students from various dental colleges in Kanpur were surveyed using a validated questionnaire distributed online. Descriptive statistics were employed for data analysis. Results revealed variations in attitudes toward TMJ disorder management across different dental specialties, with respondents expressing limited confidence in diagnosing and managing TMJ disorders. The findings underscored deficiencies in the current dental curriculum regarding TMJ disorder education, highlighting the need for enhanced training to improve clinical skills in diagnosis and management.

Keywords: Temporomandibular Joint Disorders, Postgraduate Dental Students, Knowledge, Attitudes, Practices, Education, Clinical Skills

Introduction

Temporomandibular disorders (TMD) present significant clinical challenges, affecting the masticatory muscles, temporomandibular joint, and related structures. These conditions not only result in substantial socioeconomic burdens due to frequent work absences and the need for medical and surgical interventions but also stand out as a common concern among healthcare professionals outside of dentistry. TMDs represent a formidable disease in modern society, posing complexities in diagnosis, treatment, and prognosis.

The etiology of TMDs is multifactorial, stemming from factors such as muscle hyperfunction or parafunction, traumatic injuries, hormonal influences, and articular changes within the joint. Studies have highlighted correlations between occlusion and TMJ symptoms, further emphasizing the intricate nature of these disorders.

Accurate diagnosis relies heavily on a thorough history-taking and physical examination, with pain and restricted ranges of motion being hallmark symptoms of TMJ dysfunction. Radiographic assessments serve as valuable adjuncts in diagnosis, aiding clinicians in formulating comprehensive treatment plans.

Given the diverse nature of TMDs, a multidisciplinary approach is often necessary, involving collaboration among various specialties including general dentistry, oral medicine and radiology, orthodontics, oral surgery, physical therapy, and psychiatry. The expertise, attitude, and experience of dental practitioners significantly influence the diagnostic and management strategies employed.

This study seeks to evaluate the knowledge, attitude, and practice of postgraduate dental students specializing in branches of dentistry focused on the diagnosis and management of TMDs. As future TMD specialists, these students play a pivotal role in addressing the complex needs of TMD patients within society.

Materials And Methods

A total of 75 post graduate dental students belonging to branches of dentistry that deals with diagnosis and treatment of temporomandibular joint disorders, i.e., Oral Medicine and Radiology, Orthodontics and Dentofacial Orthopaedics, Prosthodontics and Oral and Maxillofacial Surgery of Rama dental college hospital and research center, Kanpur participated in this survey. The questionnaire was adopted from a similar study by Patil et al, and modified according to the need of this study.[6] It consisted of 4 major sections, i.e., Demographics, Knowledge, Attitude and Practice. The knowledge section contained questions of epidemiology, aetiology, signs and symptoms and level of knowledge provided in undergraduate syllabus. The scoring for knowledge section was done as follows. The scoring pattern was +1 for every correct answer, - 1 for wrong answer and 0 for unanswered questions. The survey subjects were classified as having low, fair, good or high level of knowledge based on their total score as follows: • Score of 1-6: Low • Score of 7-12: Fair • Score of 13-18: Good • Score of 19 and above: High Attitude section comprised of agree/ disagree type of questions. The practice section comprised of questions on management of temporomandibular disorders. The questionnaire was tested for validation and queries of participants were addressed. The post graduate students from different dental colleges of Karnataka were invited to take part in the survey and the questionnaire was distributed to the participants through Google Form, online portal. The data were compiled in Microsoft Excel. The responses were analysed using SPSS V. 20. Software and descriptive statistics were calculated.

RESULTS Among the 75 participants, 44 % (n=33) of them were from the branch of Orthodontics and dentofacial orthopaedics, 26.7% (n=20) were from Prosthodontics, 17.3% (n=13) were from Oral and maxillofacial surgery and 12% (n=9) were from Oral Medicine and Radiology. It was noted that majority of the participants, i.e., 40% (n=30) were pursuing their second year of post-graduation, followed by 38.7 %(n=29) were pursuing first year of post-graduation and the rest 21.3% (n=16) belonged to final year of their post-graduation course. Knowledge section: The assessment of knowledge among the participants revealed that 24 % (n=18) had low level of knowledge, 20 % (n=15) had fair level of knowledge, 44% (n=33) had good level of knowledge and only 12 % (n=9) has high level of knowledge. It was noted that 54.6 % (n=41) of the participants were not aware of Research Diagnostic Criteria (RDC) of temporomandibular joint disorders. 56% of the participants reported that ‘Little or no base (information only)’ level of assessment knowledge on temporomandibular joint disorders is being provided during the under- graduation course. Attitude Section: It comprised of 5 agree/ disagree type of statements.

Discussion

The findings of this study shed light on the knowledge, attitudes, and practices of postgraduate dental students specializing in temporomandibular joint disorders (TMDs). It's noteworthy that a significant proportion of participants demonstrated a solid theoretical understanding of TMDs, indicating the effectiveness of their academic training. This study stands out for its focus on this specific group of dental specialists, distinguishing itself from previous research that primarily targeted general dental practitioners (GDPs) and TMDs experts.

Consistent with existing literature, the study revealed a consensus among participants regarding the inadequacy of undergraduate dental education in preparing students for the diagnosis and management of TMDs. This underscores the pressing need for curriculum enhancements to provide comprehensive education on TMDs, bridging the gap between theoretical knowledge and practical skills.

Regarding treatment approaches, participants exhibited varying opinions on the efficacy of orthodontic interventions for TMDs, reflecting conflicting evidence in the literature. While some advocate for orthodontic treatment to alleviate symptoms by addressing malocclusion, others emphasize the need to correct pain and dysfunction before initiating such therapy.

Occlusal adjustment emerged as a commonly practiced modality among participants, despite ongoing debate in the literature regarding its therapeutic efficacy and irreversible nature. The cautious approach advocated for in evaluating occlusal interference highlights the importance of informed decision-making and patient communication in clinical practice.

Similarly, while relaxation training garnered support as an effective technique for managing myofascial pain among participants, disparities in opinion compared to previous studies underscore the influence of clinical experience on treatment preferences.

Notably, the study revealed a lack of confidence among participants in diagnosing and managing TMDs, echoing findings from previous research involving both TMDs experts and GDPs. This underscores the critical role of undergraduate education in instilling confidence and competence among future dental practitioners.

The diverse range of treatment modalities practiced by participants reflects the complex nature of TMD management, with ongoing debates and inconclusive evidence surrounding their efficacy. While certain interventions, such as electro physical modalities like TENS, lack robust clinical evidence, others like occlusal appliances, acupuncture, and behavioral therapy show promise in alleviating TMD-related pain.

Conclusion

The study findings highlighted a crucial gap in the preparedness of postgraduate dental students: while they possess a solid theoretical foundation on temporomandibular joint disorders (TMDs), they lack the confidence needed for effective diagnosis and management. This underscores the urgent need for a curriculum overhaul aimed at providing comprehensive knowledge and practical training in this area.

To address this deficiency, educational institutions should consider integrating more in-depth teachings on the diagnosis and management of TMDs into their dental programs. Additionally, offering continuing dental education programs, fellowships, and workshops focused specifically on temporomandibular joints can offer dental professionals opportunities to enhance their skills and confidence in this specialized field.

While literature offers extensive theoretical insights into TMDs, refining clinical skills for accurate diagnosis and effective management is paramount. Practical experience, supplemented by hands-on training and mentorship, is essential for dental professionals to develop the proficiency needed to address the complexities of TMD cases they may encounter in their practice.

In essence, bridging the gap between theoretical knowledge and clinical expertise is crucial for ensuring optimal patient care in the realm of temporomandibular joint disorders. By prioritizing comprehensive education and ongoing professional development opportunities, the dental community can better equip practitioners to meet the evolving needs of TMD patients.

Conflict of Interest

There is no conflict of interest.

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