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Research Article

**ASSESSMENT OF THE TEMPOROMANDIBULAR JOINT
USING CLINICAL EXAMINATION AMONG THE STUDENTS
ATTENDING SHARIF MEDICAL AND DENTAL COLLEGE
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Rawalpindi.**Abstract:**

The temporal-mandibular joint composes one of the most important articulations in the skull anatomy, aiding in such essential functions as articulation, mastication among other facial-oral functions. Proper functioning of this joint is thus of paramount significance in day to day life, with the influence important factors including the integrity of the glenoid fossa, the menisci, articulating condyles as well as the support factors like the attaching muscles and ligaments. Mandibular pathologies are hard to diagnose with most patients individually devising relieving mechanisms and often adapting to the aches and pain that characterize the presentation, and dental clinical examination often may overlook the mandibular signs. This study's objective was to determine the proportion of dental students assessing temporal-mandibular joint disorders through the means of clinical examination among those attending Sharif Medical and Dental College Lahore. Randomly selected 120 students attending the clinic for TMJ complaints provided information for this study's findings.

Keywords: temporal-mandibular, glenoid fossa, articulation, mastication.

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INTRODUCTION.

Temporal-mandibular complaints compose a significantly small proportion of dental check-ups, with conditions like periodontal disease and dental carries being highly prevalent, a trend attributable to lifestyle and nutrition choices. Any external or intrinsic pathophysiological process affecting the joint ultimately impairs these vital functions, with most specific clinic visits as a result of progression to worse state, for instance, difficulties in swallowing, articulation or persistent pain. Some mild abnormalities to the temporal-mandibular joints however only result in trivial morphological, anatomical or functional abnormalities with most patients opting for the condition's natural resolution, making it difficult for care providers to address such issues (1-3). Some of these abnormalities, for instance, in case they possess malignancy potential may progressively evolve and become worse to manage due to complications associated with their natural pathophysiology. Early diagnosis is therefore essential for optimal care of such patients and the training of care providers profoundly impacts this aspect of healthcare delivery and thus need to ensure the qualified personnel can pick up minor signs and appropriately manage these conditions.

Experience in the inter-professional diagnostic fields in temporal-mandibular examinations, which encompass the physical and clinical history report from the primary physician, appropriate laboratory investigations and their findings, radiological and other imaging modalities' reports as well as patient management team consultations designed to comprehensively assist the primary physician make the most effective management plan (5-6). The ability to correctly come up with a good diagnosis and appropriate management plan has been shown to emanate from the comprehensive training in the medical field and the ensuing experience in practice. Administrations have provided the basic training requirements of medical professionals in accordance to the specific qualification criteria, with the trainees expected to adhere to the guidelines and training objectives and practice within the stipulated protocols (7) However, the detection and diagnostic efficiency are dependent on a multifactorial model with facility factors, patient factors and the pathogenesis of the conditions as well as preexisting conditions and another medical history also determining the eventual diagnosis.

There have been significant steps in the formulation of informed guidelines on identification of signs characteristic of mandibular pathology. Specific

guidelines help in the classification of possible disorders affecting the temporomandibular joint, with broad classification entailing infectious pathology, mechanical injuries like fractures and dislocations, possible-malignant diagnostic indices, including both benign and malignant presentations (8-9) Application of modern technology in health diagnostics has aided in better visualization of lesions both grossly and histologically, with the physician tasked with compiling every case profile and instituting a personalized management plan dependent on the presentations (10). This comprehensive approach aimed at the management of the temporal-mandibular conditions boasts with an efficient, easy to perform, fast and non-invasive mode of detection and treatment of prevalent mandibular disorders.

A standard audit of the governmental laid down regulations as about the standard guidelines on temporal-mandibular pathology care and examination, the available literature shows adequate training facilities with a consistent annual turn-over of graduates in the dental field to manage patients with such conditions (11). A study of the temporomandibular assessment in the form of clinical examination by students attending Sharif Medical and Dental College Lahore, would provide a glimpse on the training standards of the dental students and the possible implication of the future management of temporal-mandibular disorders.

OBJECTIVE:

To assess records on the assessment of temporal-mandibular joint by the means of clinical examination among the students attending Sharif Medical and Dental College Lahore.

MATERIALS AND METHODS:

Sharif Medical and Dental College Lahore provided logistical convenience in accessing the target population. The study aimed at attaining a study population of a hundred and twenty of dental students attending the clinic due to TMJ-complaints. The respondents were randomly selected and duly informed on the study before their consenting. The risks and benefits are clearly defined and the respondents requested to allow for TMJ-examination by the researchers for information validity.

The diagnostic facilities at the college were assessed, with patients requiring further imaging studies readily accessing the X-ray and the Magnetic Resonance Imaging department. The main queries entail the incidence of common TMJ-complaints like crepitation, mandibular swelling, joint stiffness,

licking, limitation, deviation or pain during mouth opening.

The study population entailed the consenting dental students attending Sharif Medical and Dental College Lahore. A prospective assessment of the patients attending the ENT clinic with a focus on students presenting with temporal-mandibular complaints. The services rendered will be queried against the standard guidelines on the diagnosis of TMJ disorders and management in accordance to the health department regulations. This study's respondents were recruited after an informative interaction aimed at explaining the nature and aims of the study, followed by the use of a systematic random sampling technique to recruit those consenting. The first study participant was chosen randomly. Subsequently, ten random cases from a particular monthly health report of all TMJ-cases to represent the month, accumulating to one hundred and twenty at completion. Where selected subjects do not consent, a random selection of the cases is again made to satisfy the required criteria for the month.

The information collected was handled with confidentiality and the analysis one after ensuring completeness and validity. The SPSS package was used to come up with descriptive information that aided in the discussion of the interaction of the study

variables. The discussion that follows correlates with findings of other studies and the implications of the findings in devising recommendations. Ethical approval to conduct the study was sought from the Public Health Ethical Review Committee of Punjab. Sharif Medical and Dental College Lahore provided logistical convenience through the provision of a centralized and convenient location for the target population, involving assessing the services the dental students are receiving from the facility and their level of participation. Studies and reports on the hospital's temporal-mandibular disorders management files also gave an insight into the prognostic quality of the facility's services.

RESULTS:

Focus was made on the main presenting complaints by students attending the clinic, with respective to TMJ-complaints. Early diagnosis of such disorders allows for timely interventions and minimized complications, with the results showing the interplay of factors towards health seeking habits among the selected population. The study queried socio-demographic factors, facility, patient, training and practice factors influencing the diagnosis of TMJ disorders. The results are organized based on the objectives of the study: sociodemographic factors, facility, patient, training and practice factors. The study determined a sample population of 120 by Fischer et al. formula.

Background characteristics of respondents (Students attending Sharif Medical and Dental College Lahore.)

	Frequency	Percentage
Age		
Less than 18 years.	18	15
18-24 years.	72	60
25 years and above.	30	25
Total	120	100.0
Area of Study.		
Dentistry and Dental Surgery.	37	31
Department of Public Health.		
Medicine and Surgery.	34	28
	29	24
Nursing.	20	17
Total	120	100.0
Level of awareness of TMJ-Disorders.		
Knowledgeable	84	70
Fairly awareness.	30	25
No information.	6	5
Total	120	100.0
Health Coverage.		

Without Health Policy.	38	32
With Health Policy.	82	68
Total	120	100.0

DISCUSSION:

Accessibility of the facility to more than seventy-five per cent of the population sampled was adequately covered for with the college hospital providing for immediate health needs and the discontent quarter quoting unique health histories requiring specialized attention. The service time (and time spent waiting that can be associated with human resource sufficiency) at Sharif Medical and Dental College Lahore was quoted to be less than an hour with adequate human and diagnostic resources for appropriate disease management.

The patient factors queried included the occupational predisposition to prevalent temporal-mandibular disorders, for instance, extreme sports, lifestyle choices that may pose a risk to some of the TMJ-conditions like smoking and alcohol consumption and any familial history of temporal-mandibular conditions. More than 50% of the male respondents reported of a history of mandibular pain and other TMJ complaints, with smoking and alcohol consumption attributed to most, compared to the 28% of the female respondents. Among 48% of the patients with chronic TMJ-complaints, only 15% reported of an occupational or environmental predisposition. The finding revealed with up to 43% of the respondents had a smoking history while 57% did not actively have physical exercise sessions. Familial predisposition was insignificant with lifestyle choices and contextual experiences impacting the prevalence of TMJ-conditions.

The study findings established that Sharif Medical and Dental College Lahore had the current policies on the training of medical care providers with the appropriate licensure and resources. The inter-professional training of the involved fields inculcates teamwork in the students with more than sixty per cent of the respondents commending the teaching system adopted at the college. Student participation in the assessment of temporal-mandibular joint disorders using clinical examination as per the criteria developed in the research tool stood at sixty-two per cent. Most respondents conduct a TMJ- exam on routine general patient examination, at 72% compared to those that only conduct when a patient presents with the specific complaints. Only 27% of dental students in the college presents with temporal-mandibular joint complaints, with the school of public health leading followed by

nursing and medicine at 43%, 36% and 29% respectively.

CONCLUSION:

Early diagnosis of TMJ-disorders is critical inpatient care with the timely interventions improving on the diagnosis. This study reveals that students at Sharif Medical and Dental College Lahore actively take part in the training on the medical examinations with their accessibility to TMJ-disorder services readily available at the facility. The prevalence and quality of management of the disorders among the respondents was also assessed and adequately analyzed.

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