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Research Article

**A CROSS-SECTIONAL RESEARCH TO DETERMINE
OCCURRENCE OF PARTIALLY DENTATE PATIENTS ON
THE BASIS OF PDI CLASSIFICATION**¹Dr Sehrish Iftikhar, ²Dr Aqsa Azam, ³Dr. Amber Shaheen¹MBBS, Woman Medical Officer, Tehsil Head Quarter Hospital Kamoke, ²MBBS, Woman Medical Officer, Syed Medical Complex, Sialkot, ³PMC Dental Section Faisalabad.

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Abstract:

Objective: The aim of this research was to determine the occurrence rate of various partially dentate patient classes who reported at Allied Hospital, Faisalabad on the grounds of PDI classification.

Patients and Methods: This cross-sectional research was carried out at Allied Hospital, Faisalabad in the timeframe of October 2017 to August 2018. A total number of patients included in this research were 534 who were in the age bracket of 35 years – 65 years. We collected data through radiographic assessment, clinical data and history of the patients.

Results: After assessing the total research population, the outcomes reflected that there were 249 females (46.60%) and 285 males (53.40%) with a mean age of (50.51 ± 8.40) years. Among 534 patients PDI Class – I patients was 92 (17.2%), PDI Class – II patients were 212 (39.7%), PDI Class – III patients were 146 (27.3%) and PDI Class – IV patients were 84 (15.7%).

Conclusion: PDI classification is very much helpful in the everyday practice of treatment and diagnosis for all those patients who intend for better prosthodontic rehabilitation. PDI classification can ensure the level of awareness of staff and dentists which will ultimately help in the management of those patients who intend to seek prosthodontic rehabilitation.

Keywords: Prosthodontic, Partial, Index, Edentulism, Diagnostic and Treatment.

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INTRODUCTION:

Oral health is normally reflected through complete or partial edentulism as it is a marker of the oral health of the target population [1]. Aesthetics, functioning and speech are affected by tooth loss along with adverse effects on the overall life quality [2, 3]. Masticatory effectiveness strongly relies on the remaining occluding teeth pairs count [4].

An increased emphasis over the preservation of tooth leads to increased patients of partially dentate [5]. Increased age of such patients and oral morphological features increase the complexity of such patients. Every patient needs special and unique management for the assurance of comfort and function [6].

Different systems of classification are available for partial edentulism [7]. Kennedy's classification system has its unique benefits as it is commonly employed a system which provides rapid recognition and visualization of prosthesis assessment and support design features which support removable partial denture [8]. Supporting structures condition, modification spaces location and adjacent teeth are considered for partial dentate patients' classification in Kennedy's classification [9]. PDI rectifies these limitations with specified diagnostic outcomes and objective criteria into four PDI classes known as PDI Class I, II, III & IV. Class – I is least compromised in terms of clinical conditions; whereas, Class – IV is the most complex and difficult with questionable prognosis [6].

The aim of this cross-sectional research was to determine the occurrence rate of various partially dentate patient classes on the basis of PDI classification. It will surely assist the patients in order to receive the most suitable prosthodontic care such as postgraduate treatment or referral to specialists on the basis of complexity. Pakistan lacks in the availability

of literature on the topic of PDI classification and its use in prosthodontic management.

METHODOLOGY:

The aim of this cross-sectional research was to determine the occurrence rate of various partially dentate patient classes who reported at Allied Hospital, Faisalabad on the grounds of PDI classification (October 2017 to August 2018). A total number of patients included in this research were 534 who were in the age bracket of 35 years – 65 years. We collected data through radiographic assessment, clinical data and history of the patients. Data was collected after institutional ethical approval and informed consent of the patients.

We distributed a questionnaire consisting of different questions such as location and extent of the edentulous areas, abutment teeth condition and remaining teeth occlusion, the status of the residual ridge and state of guarded prognosis for PDI class determination in every patient. The researcher used SPSS for data analysis.

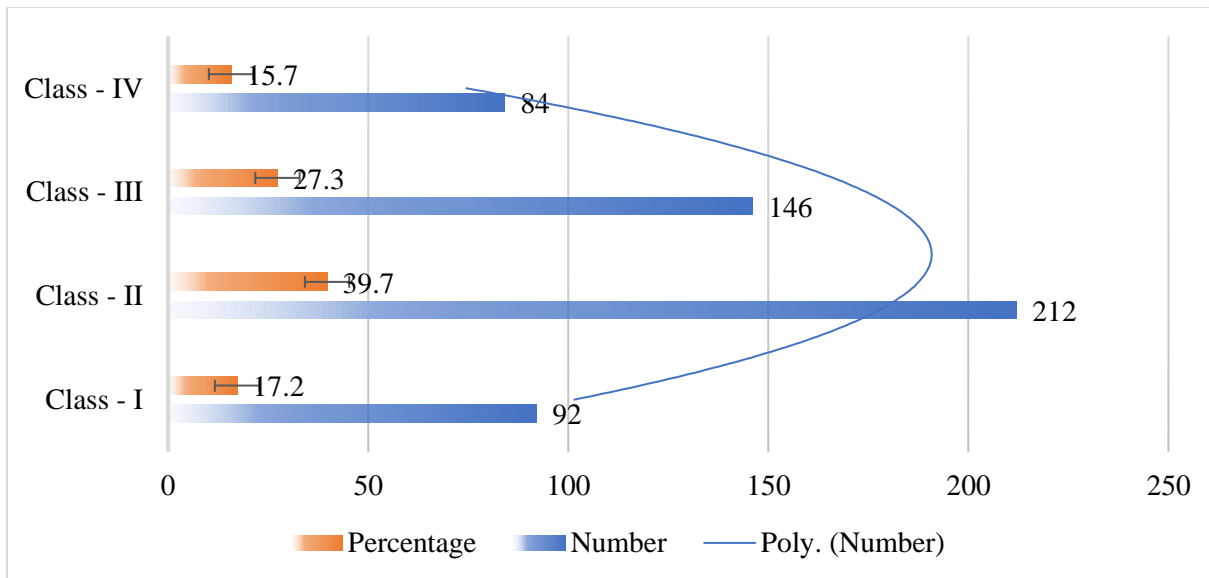
RESULTS:

After assessing the total research population, the outcomes reflected that there were 249 females (46.60%) and 285 males (53.40%) with a mean age of (50.51 ± 8.40) years. Among 534 patients PDI Class – I patients were 92 (17.2%), PDI Class – II patients were 212 (39.7%), PDI Class – III patients were 146 (27.3%) and PDI Class – IV patients were 84 (15.7%). Class – I presented favourable or ideal prognosis, Class – II presented physical degradation of supporting areas and denture, Class – III required surgical interventions before prosthetic and Class – IV required prosthodontist for special treatment and surgical reconstruction.

Detailed Class wise distribution of PDI is as under:

Table: PDI Classification (Number and Percentage)

PDI Classification	Number	Percentage
Class - I	92	17.2
Class - II	212	39.7
Class - III	146	27.3
Class - IV	84	15.7



DISCUSSION:

On the basis of extent and location of edentulous areas, the patients were distributed among four different partial edentulism PDI classes. Other associated factors of classification included abutment teeth state remaining edentulism teeth occlusion, guarded prognosis creating condition and residual ridge. Among 534 patients PDI Class – I patients was 92 (17.2%), PDI Class – II patients were 212 (39.7%), PDI Class – III patients were 146 (27.3%) and PDI Class – IV patients were 84 (15.7%).

Ntala and Polyxeni examined 71 partially dentate patients through various classes of PDI classification and reported that just two cases showed diagnostic criterion having suitable prognosis and they were taken as PDI Class – I that can be managed through traditional prosthodontic measures; Class – II patients were 17 in number which showed significant denture basal seat areas degradation; Class – III patients were 29 in number which required surgical management; Class – IV patients were 23 in number presenting less than or equal to ten millimetre residual ridge height. Such patients also required specialized treatment and surgical rehabilitation in the supervision of expert prosthodontist [6].

Clinically, there is a number of benefits of classification procedure on preset criteria. This classification can help in better diagnosis followed by appropriate treatment options which can assure better patient care and effective treatment outcomes. A similar use of classification terminology can also increase better communication between specialists and dentists which can reduce confusions and increase

understanding. Above indices can also be helpful in reimbursements of speciality-level fee by third parties. We can use it as a method of screening at dental schools in order to distribute patient's treatment keeping in view the complexity of patients to the intramural or special practice, postgraduate or undergraduate clinics. Generally, dentists receive facilitation in the referral of patient having an advanced classification in their regular practice. We also reduce the chances of reoccurrence by using this method [10].

Our research cannot completely represent various regions of the country as its scope was limited to the patients who visited Allied Hospital, Faisalabad. Different other studies at different locations with different populations can possibly define various classifications of partial edentulism with their occurrence rate all over the country. Moreover, further research work will also help in the establishment of prosthodontic rehabilitation prognosis and PDI classification system.

CONCLUSION:

After assessing total research population, the outcomes reflected that among 534 patients PDI Class – I patients were 92 (17.2%), PDI Class – II patients were 212 (39.7%), PDI Class – III patients were 146 (27.3%) and PDI Class – IV patients were 84 (15.7%). Class – I presented favourable or ideal prognosis, Class – II presented physical degradation of supporting areas and denture, Class – III required surgical interventions before prosthetic and Class – IV required prosthodontist for special treatment and surgical reconstruction. PDI classification can ensure

the level of awareness of staff and dentists which will ultimately help in the management of those patients who intend to seek prosthodontic rehabilitation.

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