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PROSTHODONTIC INTERDEPENDENCE: A CROSS- SECTIONAL STUDY

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ABSTRACT

Purpose: An independent working environment poses difficulty in meeting a patient's dental demands. Therefore, Interdependence has thrived high in the field of dentistry. The aim of this cross-sectional study was to find the percentage of Prosthodontic out patient's Interdependence with the other departments attending KLE Dental College. **Materials and Methods:** The Prosthodontic referral out patient's cards were collected for three years (January-2015 to Dec-2017) and categorized into Completely maxillary and mandibular edentulous arches(Group-A), Single maxillary or mandibular edentulous arches with or without opposing partially edentulous arches(Group-B) and Partially edentulous arches(Group-C). Each Prosthodontic patient's registration card was verified for the number of times he/she was referred to other departments and was analyzed using descriptive statistics. **Results:** The results revealed that more interdependence was seen in Group-C followed by Group-B and Group-A. In Group-A patient, dependence was more with oral Medicine (8.44%), oral surgery (7.51%) and oral pathology(1.06%) departments. Group-B patients' dependence was more with Periodontics (44.73%), oral surgery (28%), oral medicine (19.28%), conservative (17.81%) and oral pathology (2.54%) departments. With Group-C the reference was more with Periodontics (36.83%), followed by oral medicine (27.73%) conservative (25.37%), oral surgery (15.18%), orthodontics (0.9%) and oral pathology (0.6%), departments. These results were in consistently increasing in the next consecutive two years (2016 & 2017) in the same interdependent proportion. **Conclusion:** Prosthodontic patient's Interdependence was more in Group-C followed by Group-B and Group-A. Among the groups Interdependence was more with Periodontics, followed by oral medicine, conservative, oral surgery, and least with oral pathology, and orthodontics departments.

KEYWORDS: Prosthodontics, interdependence, completely edentulous patients & partially edentulous patients.

INTRODUCTION

Dentistry has rapidly progressed over the years and the need for specialist consultation is becoming more and more necessary. An independent dentist can treat patients with simple treatments where as with clinical complex dental situations like dental anomalies, partial anodontia and esthetic rehabilitation definitely need more team work or interdependence.

Interdependence is an actual fusion of different specialities; in which individual specialist contributes his skill and knowledge towards the success in the treatment. Literature shows many dental treatments like implants, full mouth rehabilitation etc. are treated by many specialists together.[1,2,3] Interdependence necessitates a greater degree of competence in terms of the ability to work in a team, leadership, and communication.[4] It is also important for the success of any treatment to include other dental auxiliary and non auxiliary personnel during treatment execution. Ultimately it facilitates the complete functional, esthetic and psychological management of a patient.

In a general dental practice, the service of different specialists is most of the times available under one roof. In Dental colleges, the patient is referred to other departments for total rehabilitation. Most of the patients visiting prosthodontic department for replacement of missing teeth are referred to other departments for pre-

prosthetic treatments. In a way the prosthodontic department is depended on the other departments for restoration of health of the oral cavity before replacement of the missing teeth.

Literature says today is the era of interdependence but there is no evidence to show which departments are more interdependent. So this cross sectional study was initiated to know the interdependence of Prosthodontic patients with the other departments attending a dental college to know the overlapping disciplines.

MATERIALS AND METHODS

A cross sectional study was conducted in K.L.E. S. Institute of Dental sciences, Bengaluru for three years from Jan 2015- December 2017. The Prosthodontic referral out patient's cards were collected and categorized into three groups.

- Group-A: Completely maxillary and mandibular edentulous arches,
- Group-B: Single maxillary or mandibular edentulous arches with or without opposing partially edentulous arches
- Group-C: Partially edentulous arches.

Each Prosthodontic patient's OP registration card was verified for the number of times he/she was referred to other departments and was analyzed using descriptive statistics.

RESULTS

In Group-A patient, dependence was more with oral medicine (8.44%), oral surgery (7.51%) and oral pathology(1.06%) departments. Group-B patients' dependence was more with Periodontics (44.73%), oral surgery (28%), oral medicine (19.28%), conservative dentistry (17.81%) and oral pathology (2.54%) departments. With Group-C, the reference was more with Periodontics (36.83%), followed by oral medicine (27.73%) conservative dentistry (25.37%), oral surgery (15.18%), orthodontics (0.9%) and oral pathology (0.6%) departments (Table No. 1).

The Prosthodontic out patients' interdependence with the other departments revealed more with Group-C followed by Group-B and Group-A. The interdependence was found consistently the same with all the departments for all the three years (Jan 2015 to Dec 2017). When the data was subjected to Chi square test, it was found highly correlated but statistically non significant between the departments (Table No. 2) and among the groups for all for three years (Table No. 3).

Table No. 1: The mean percentage (%) of Prosthodontic out patients interdependence with the other departments in Dental College in percentage for all the three years (Jan 2015- Dec 2017).

Group	Prostho dontics	Oral medicine	Oral surgery	Perio dontics	Conservative	Ortho dontics	Oral pathology
A	100	8.44	7.51				1.06
B	100	19.28	28	44.73	17.81		2.54
C	100	27.73	15.18	36.83	25.37	0.9	0.6

Table No. 2: The number of Prosthodontic out patients interdependence with the other departments in Dental College in percentage (%) and chi square values for three years (Jan 2015- Dec 2017).

Year	Group	Prostho dontics	Oral medicine	Oral surgery	Perio dontics	Conserv ative	Ortho dontics	Oral pathology
2015	A	100	8.12	6.27	-	-	-	1.11
	B	100	24	28	40	16	-	4
	C	100	33.1	16.07	44.88	29.64	1.19	0.83
2016	A	100	9	7.74	-	-	-	1.26
	B	100	12.77	25.53	57.45	28.72	-	3.19
	C	100	26.22	16.52	36.07	24.37	0.88	0.37
2017	A	100	8.21	7.81	-	-	-	0.93
	B	100	22.44	29.49	37.82	11.54	-	1.92
	C	100	26.07	13.47	32.98	23.86	0.74	0.67
Chi-Square value ($\times^2$)			72.000	72.000	30.000	30.000	6.000	45.000
P- Value (P)			0.230	0.230	0.224	0.224	0.199	0.271

Table No. 3: Chi square test for the Prosthodontic out patients interdependence with the other departments in Dental College in the group for three years.

Group	Year	Oral medicine	Oral surgery	Perio dontics	Conservative	Ortho dontics	Oral pathology
A	2015 2016 2017	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	-	-	-	$\times^2$= 6.000 P=0.1999
B	2015 2016 2017	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	-	$\times^2$= 3.000 P=0.233
C	2015 2016 2017	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999	$\times^2$= 6.000 P=0.1999

Note: $\times^2$ = Chi-Square value and P = P- Value

DISCUSSION

Interdependence is defined as the dependence of two or more people or things on each other. Interdependence is demanded increase extent in medicine and even in dentistry.[5] In 1958 Applegate OC revealed the importance of interdependence of Periodontics with Removable partially dentures.[6] When treating the patient with complex dental problems, one has to depend on more extensive interdisciplinary knowledge and establishment of facilities that fulfill this requirement. It has also been established in training and advanced training courses (post graduate).[7] In dental institutions, the patients' often complain that they are referred to too many other departments for the treatments. It was necessary to find out the need for interdependence of prosthodontic department during pre-prosthetic phase of treatment. Hence, this survey was conducted to find out the number of times patients were referred to other departments from department of Prosthodontics.

The results of the present cross sectional study revealed that more interdependence was seen in Group-C followed by Group-B and Group-A (Table-1). In three years in Group A, where patients were completely edentulous, the dependence was seen more with oral medicine department (8.12%, 9% & 8.21%) for the radiographs, some pathology diagnosis and lesions like lichen planus, oral submucous fibrosis etc.. Patients were referred to oral surgery department (6.27%, 7.74% & 7.81%) for residual root stumps extraction, single or few teeth extractions, frenectomy, vestibuloplasty, implant placement etc and to oral pathology (1.11%, 1.26% & 0.93%) to get diagnosis for the biopsies sent by oral medicine or to the same department for biopsies. (Table-2).

From Jan 2015- Dec 2017 in group B, where patients had single maxillary or mandibular edentulous arches with or without opposing partially edentulous arches, patients were more referred to Periodontics (40%, 57.45% & 37.82%) for oral prophylaxis, periodontal surgeries, implant maintenance etc., followed by oral surgery (28%, 25.53% & 29.49%), and oral medicine (24%, 12.77% & 22.44%) for the same reasons as listed before for Group A. They were referred to Conservative department (16%, 28.72 & 11.54%) for restorations, root canal treatment, esthetic restorations etc., followed by oral pathology (4%, 3.19% &1.92%) for biopsies. (Table-2).

In group C, for the said three years the interdependence was comparatively more than Group B and Group A. In this group, patients were more referred to Periodontics (44.88%, 36.07% & 32.98%) for oral prophylaxis, periodontal surgeries, implant maintenance etc., followed by oral medicine (33.1%, 26.22% & 26.07), Conservative department (29.64%, 24.37 & 23.86%), oral surgery (16.07%, 16.52% & 13.47%) and the reasons as said before for Group A & B. They were also referred to orthodontics (1.19%, 0.88% & 0.74%) for teeth extrusion, up righting the molars etc., and oral pathology for biopsies (0.83%, 0.37% & 0.67). (Table-2).

In a nutshell, for Prosthodontic patients, the interdependence was more with Periodontics, Oral surgery, Conservative dentistry and Oral medicine for complete oral and dental rehabilitation. Some patients were related to consultations with Periodontics, surgery and oral medicine departments for an implant placement. Some hospital or colleges have a separate implant section or department. This team should consist of a Prosthodontist, Periodontist, an Oral radiologist, and an Oral surgeon. Each specialist in the team should participate in the planning, execution, and maintenance of the implants, so that the success is cent percent.[8] If this specialty does not exist, it is good to start in college or hospital for the betterment of patients as well as for the specialty students.

The other special attention needed is for the Geriatric patients as it is difficult for them to move to the other departments for treatments. The same logic is to be applied for special patients like handicapped, syndromic, hereditary disorders etc. Such patients would immensely benefit from subspecialty departments like geriatric department and special care department respectively.

A separate esthetic dentistry department also needs to be established for comprehensive care. All these subspecialties need a strong interdisciplinary team and continued cooperation between the dentists is necessary for the profession to meet the challenges of the future with integrity and success. It is also advisable that such specialties meet and educate one another for the recent advances in their specialties and to discuss the complex clinical situations.

CONCLUSION

Prosthodontic patient's Interdependence was more in Group-C followed by Group-B and Group-A. Among the groups, interdependence was more with Periodontics and Oral medicine, followed by conservative dentistry, oral surgery, and least with orthodontics and oral pathology departments.

Pre-prosthetic phase is very critical for success of any prosthodontic treatment and other departments have a role to play during this phase. There should be continuous interaction by Prosthodontics and these departments and they should be made aware of the expectations of a Prosthodontist. In private practice, these consultants should be available for their services.

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