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Knowledge Attitude Test Regarding Full Mouth Rehabilitation Among Compulsory Rotatory Residential Interns And Post Graduates.

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Abstract

We come across people with decreased or collapsed vertical dimension due to Edentulism, worn dentition or bruxism in our day to day practice. This may interfere with aesthetics, phonetics and mastication etc., to prevent these consequences Full mouth rehabilitation came into practice. So we conducted a knowledge attitude test to analyse or evaluate theoretical and clinical knowledge regarding Full mouth rehabilitation in Interns and Post Graduates. A cross-sectional study regarding Full mouth rehabilitation was conducted among Interns and Post graduate students in Chennai. 200 candidates are given with self-administered questionnaire in google form format. Datas are collected and statistical analysis made. About 121 Interns and 70 post graduates attended the survey 80.5% students chose the combination of the given options as the indications of Full mouth rehabilitation.42.5% respondents are unaware about Turner and Missirlians category 2.13% of the Interns have only theoretical knowledge and 18% have no idea about Full mouth rehabilitation. From the study it is been concluded that Interns and post graduates have moderate overall knowledge. Since Post Graduates are exposed clinically they have better knowledge when compared to Interns.

Keywords: Clinical Practice, Full mouth rehabilitation, Interns, Post Graduates, Theoretical knowledge.

Introduction

Dentistry seeks to increase the lifespan of functional dentition. Planning and executing the restorative rehabilitation of decimated occlusion is probably one of the most intellectually and technically demanding task faced by a Prosthodontics[1]. Geriatric patients who care less about oral health and neglect prosthetic replacement will end up with various consequences in aesthetics, phonetics and mastication. If Prosthetic replacement is not done in appropriate time will alter the architecture of the dentition by supra-eruption, mesial drifting, periodontal destruction leading to early loss of remaining natural teeth(occlusal disturbances). To prevent these consequences Full mouth rehabilitation came into existence. For it is only through this procedure that adult patients with dentitions in varying stages of degeneration can be restored to dental functioning & health.

Full mouth rehabilitation is defined as the restoration of the form and function of the masticatory apparatus to as nearly a normal condition as possible (Glossary of Prosthodontics Terms-8). Full mouth rehabilitation should re-establish a state of functional as well as biological efficiency where teeth & their periodontal structures, the muscles of mastication and the Temporomandibular joint mechanism all function together in synchronous harmony. Sothe correct knowledge about full mouth rehabilitation is required in prosthodontics. To know this knowledge is been implemented clinically, we conducted a knowledge attitude test regarding full mouth rehabilitation.

Materials & methods

A cross – sectional scientific study regarding Full mouth rehabilitation has been made, which was conducted among Compulsory Rotatory Residential Internship & Post Graduate students of various Dental colleges in Chennai. Two hundred students who come under the category – Compulsory Rotatory Residential Internship or Post Graduate students are selected as participants for the survey.

First, the candidates are given with the well composed consent form, interested persons are chosen as participants for the survey. Self-administered questionnaire in the Google form format was sent to the students through E-mail & social medias. The survey form is comprised of two sections in which the first section represents demographic details of the participants and a second section is a questionnaire which comprised of twenty close ended questions regarding Full mouth rehabilitation, in which each question is provided with four options. The questionnaire was drafted in English language and the dates are collected and recorded.

1. Inclusion Criteria

1. Participants should be Compulsory Rotational Residential Internship and Post Graduate students.
2. They should be a student from recognized Dental colleges in Chennai.

2. Exclusion Criteria

1. Students of Dental colleges except Chennai.

3. Statistical Analysis

Statistical analysis was done using IBM statistical package for social sciences (SPSS) statistics for Windows, version (21.0), SPSS Inc .Chicago .IL USA. Percentage were calculated for the responses given by the Dental students and Pearson's Chi-square test was used to assess the level of significance which was $P<0.05$.

Results

Out of 200 study participants, 121 were Compulsory Rotational Residential Interns and 79were Post Graduate students.

Table 1

QUESTIONS	OPTIONS	N	%
1.Have you come across the term FMR?	a)No	43	21.5
	b)Yes,assisted&treated	71	35.5
	c)Clinically assisted	55	27.5
	d)Only theoretical knowledge	31	15.5
2.FMR prosthesis maybe	a)Fixed	11	5.5
	b) Implant supported	9	4.5
	c)Fixed removable	6	3
	d)All of the above	174	87
3.Past medical history has an influence on treatment plan of FMR?	a)Yes	164	82
	b)No	2	1
	c)Maybe	29	14.5
	d)Not sure	5	2.5
4.First line of radiographic diagnostic aid for FMR?	a)OPG	96	48
	b)Cephalogram	2	1
	c)CBCT	7	3.5
	d)Combination of the above	95	47.5
5.BOPA is compulsory in all FMR cases?	a)Yes	60	30
	b)No	19	9.5
	c)May be	85	42.5
	d)Only in certain cases	36	18
6.Indications of FMR includes?	a)Multiplecaries &Root canal treated teeth	9	4.5
	b)Multiple edentulous spaces	15	7.5
	c)Collapsed vertical dimension	15	7.5
	d)Combination of any of the above	161	80.5
7.Attrition can be treated with FMR?	a)Yes	113	56.5
	b)No	10	5
	c)Maybe	44	22
	d)Not sure	33	16.5
8.Turner and Missirlain's classification(1984), category 2 represents?	a)Excessive wear without loss of VD but with space available	46	23
	b)Excessive wear without loss of VD but with limited space	77	38.5
	c) Excessive wear with loss of VD	39	19.5
	d)None of the above	38	19
9.What kind of occlusion do you prefer for FMR?	a) Mutually protected	45	22.5
	b)Group function	25	12.5
	c)Canine guided	13	6.5
	d)Balanced occlusion	117	58.5
10.Previous crown/prosthesis can be included in your treatment for FMR?	a)Yes	43	21.5
	b)No	25	12.5
	c)Maybe(if not interfering with treatment)	113	56.5

	d)Not sure	19	9.5
11.Which type of crown do you prefer for FMR?	a)All ceramic	32	16
	b)Metal ceramic	27	13.5
	c)Metal ceramic with facing	15	7.5
	d)Any of the above depending on clinical scenario	126	63
12.Which philosophy do you prefer for FMR?	a) Gnathological concept	19	9.5
	b)PankeyMannSchuyler (PMS)	18	9
	c)Hobo's twin stage	62	31
	d)Based on treatment plan	99	49.5
13.Minimum duration of provisional prosthesis?	a)4weeks	77	38.5
	b)12weeks	92	46
	c)24weeks	19	9.5
	d)1year	12	6
14.Which material do you prefer for provisional restoration?	a)Heat cure acrylic	32	16
	b)Bis acrylic composite	31	15.5
	c)Cold cure acrylic	44	22
	d)Any of the above	93	46.5
15.Material you think,can be used in bruxism patients?	a)Metal ceramic	51	20.5
	b)All ceramic	42	21
	c)Metal with acrylic facing	38	16
	d)Metal with ceramic facing	69	34.5
16.Fullmouth relabilitation can be done in mixed dentition patients?	a)Yes	43	21.5
	b)No	32	16
	c)Maybe for restoring function alone	80	40
	d)Not sure	45	22.5
17.Type of restoration used in mixed dentition?	a) Polycarbonate strip crowns	19	9.5
	b)Stainless steel crowns	46	23
	c)Both a& b	126	63
	d)Metal ceramic	9	4.5
18.Type of splint used to increase vertical dimension in FMR?	a)Hard splint	88	44
	b)Soft splint	24	12
	c)Both a&b	78	39
	d)None of the above	10	5
19.What appliance is used to increase VD other than Hard splint?	a)Dahl appliance	23	11.5
	b)Modified crozat	20	10
	c)Bite jig	46	23
	d)Any of the above depending upon VD	111	50.5
20.Methods to diagnose collapsed vertical dimension?	a)Freeway space	18	9
	b)Phonetics method	19	9.5
	c)Facial measurement (nose tip -chin)	30	15
	d)All of the above	133	66.5

From Table 1: When we asked several questions about Full Mouth Rehabilitation, Dental students prefer OPG (48%) as their first line of Radiographic diagnostic aid and (80.5%) students have answered as combination of either multiple caries, root canal treated teeth, multiple edentulous spaces or collapsed vertical dimension as the indication of Full Mouth Rehabilitation. Since 38.5% students have correctly answered but 42.5 % have chosen the wrong answer for Turner and Missourian's classification category 2 and also 19% are unaware about the answer. 34.5 % people have opted metal with ceramic facing as a restoration of choice for bruxism patients either they prefer using hard splint or appliances like Dahl, modified crozat, bite jig to increase vertical dimension. For a question commented on mixed dentition majority of participants(61.5%) are aware that Full Mouth Rehabilitation can be done in mixed dentition and they chose polycarbonate strip crowns and stainless steel crowns as the restoration in mixed dentition.

Table 2 :

Have you come across the term FMR?	a)No	36	18	7	3.5	0.000
	b)Yes,assisted&treated	34	17	37	18.5	
	c)Clinically assisted	25	12.5	30	15	
	d)Only theoretical knowledge	26	13	5	2.5	
FMR prosthesis maybe?	a)Fixed	11	5.5	0	0	0.012
	b)Implant supported	7	3.5	2	1	
	c)Fixed removable	5	2.5	1	0.5	
	d)All of the above	98	49	76	38	
First line of radiographic diagnostic aidforFull Mouth Rehabilitation?	a)OPG	67	33.5	29	14.5	0.017
	b)Cephalogram	2	1	0	0	
	c)CBCT	2	1	5	2.5	
	d) Combination of the above	50	25	45	22.5	
BOPA is compulsory in all FMR cases?	a)Yes	27	13.5	33	16.5	0.001
	b)No	7	3.5	12	6	
	c) Maybe	61	30.5	24	12	
	d)Not sure	26	13	10	5	
Indications of Full Mouth Rehabilitation?	a)Multiplicities & RCtreatedteeth	9	4.5	0	0	0.019
	b)Multiple edentulous spaces	12	6	3	1.5	
	c) Collapsed VD	10	5	5	2.5	
	d) Combination of the above	90	45	71	35.5	
Attrition can be treated with FMR?	a)Yes	52	26	61	30.5	0.000
	b)No	7	3.5	3	1.5	
	c)Maybe	33	16.5	11	5.5	
	d)Not sure	29	14.5	4	2	
Which philosophy do you prefer in FMR?	a)Gnathological concept	15	7.5	4	2	0.016
	b)PankeyMannSchuyler(PMS)	12	6	8	4	
	c)Hobo's twin stage	28	14	34	17	
	d)Based on treatment plan	66	33	33	16.5	
Minimum duration of provisional prosthesis?	a)4 weeks	51	25.5	26	13	0.019
	b)12 weeks	46	23	46	23	
	c)24 weeks	16	8	3	1.5	
	d)1 year	8	4	4	2	
Material that can be used in bruxism patients?	a)Metal ceramic	26	13	25	12.5	0.008
	b)All ceramic	32	16	10	5	
	c)Metal with acrylic facing	28	14	10	5	
	d)Metal with ceramic facing	35	17.5	34	17	
Type of restoration used in mixed dentition?	a)Polycarbonate strip crowns	14	7	5	2.5	0.001
	b)Stainless steel crowns	36	18	10	5	
	c)Both a&b	63	31.5	63	31.5	
	d)Metal ceramic	8	4	1	0.5	
Methods to diagnose collapsed Vertical Dimension?	a)Freeway space	15	7.5	3	1.5	0.043
	b)Phonetics method	15	7.5	4	2	
	c)Facial measurement	17	8.5	13	6.5	
	d)All of the above	74	37	59	29.5	

From table 2: In which participants are questioned whether they have come across the term Full Mouth Rehabilitation, (13%) Compulsory Rotational Residential Interns admitted that they have only theoretical knowledge, (12.5%) have assisted clinically, (18 %) have no idea about it when compared to Post Graduates (18.5%) who have experience in assistance and treatment of Full Mouth Rehabilitation. Majority of the Interns were not sure whether attrition can be treated with Full Mouth Rehabilitation when compared with Post Graduates. (16.5 %) Post Graduates and (13.5%) Interns strongly believed that Broadrick Occlusal Plane Analysis is compulsory in Full Mouth Rehabilitation and (43.5%) Interns have a query on it. (49.5%) of the respondents have preferred the philosophy based on treatment plan, second most frequent choice was Hobo's Twin stage philosophy by (14%) Interns and ((17%) Post Graduates. (66.5%) students of both the categories opted methods like freeway space,

phonetics and facial measurements to diagnose collapsed vertical dimension which reveals their knowledge in standard practice guidelines.

Discussion

This study is conducted to estimate the theoretical and clinical knowledge of Full Mouth Rehabilitation among Interns and Post Graduate dental students. There are several articles related to Full Mouth Rehabilitation[2,3,4].Based on this study it is evident that (18%) of the Interns have very minimal knowledge about full mouth rehabilitation and (25.5%) have exposure to theoretical knowledge and clinical assistance, whereas the Post Graduates(18.5%) have experience in clinical assistance and treatment. Most of the respondents (80.5%) have a reasonable knowledge about the indications of Full Mouth Rehabilitation.

About 48% of the participants opted Orthopantomogram as the first line of radiographic diagnostic aid for Full Mouth Rehabilitation and (47.5%) prefer combination of Orthopantomogram, Cone Beam Computed Tomography and Lateral Cephalogram for further investigations.

About (30%) of the participants have acknowledged that Broad ricks Occlusal Plane Analysis is imperative for Full Mouth Rehabilitation, study of Saurabh Chaturvedi et al and Renu Gupta et al are relation to this concept.[5,6]

(77%) are unaware of the category 2 was excessive wear without of loss vertical dimension but with limited space in Turner and Missirlain's classification(1984), (23%) appreciated the right answer.[2]

Hobo and Takayama in their research concluded that cusp angle can be considered as the most reliable determinant of occlusion with this, they developed an advanced version of twin-table technique as Hobo's twin-stage procedure and this method was choosed by (31%) of the participants.[7]There are several other studies present which shows the clinical significance of twin stage procedure in Full Mouth Rehabilitation cases .[8,9]

There are many studies confining to oral rehabilitation in mixed dentition[10-18], hence it is evident that Full Mouth Rehabilitation can be done in Mixed dentition and in our study (21.5%) of the participants are aware about the same.

Conclusion

The results obtained from the study, it is seen that the overall knowledge about the Full Mouth Rehabilitation is mediocre and in contrast, theoretical knowledge is substantial than clinical knowledge among Interns and Postgraduates. Attributed to the fact that exposure of Post graduates in theory as well as clinical practice, they hold a sensible knowledge when compared with Interns, despite of it some were not confident with their responses.

Recommendations include; Including Full Mouth Rehabilitation in the curriculum of under graduates will be helpful in improving their knowledge, Interns should indulge themselves to more cases by clinical assistance and potent attention on Hands-On courses and universities should render additional importance to Full mouth rehabilitation in Continuing Dental Education programmers', Webinars and Conferences.

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