

Appraisal of Staff Perception toward Restored Endodontic Treated Teeth at Selected Dental Clinics, Saudi Arabia

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Abstract: Today, periodontal disease, trauma, and congenital defects can result in both soft tissue and hard tissue defects that can present with aesthetic problems. The management of these problems may be limited to prevention or surgical management which can result in significant morbidity especially if a second surgical site for grafting is utilized. There are a variety of techniques and materials that allow the clinician to manage the Restored Endodontically Treated Teeth in Relation to Periodontal Status during restoration and when making an impression. These include gingival retraction cords, chemical reagents, electro surgery, laser tissue sculpting, copper tube impressions, hydraulic impressions, and non-invasive, a traumatic displacement/haemostatic materials. In most cases gingival retraction cord is the most effective method for retracting tissue to the depth of the sulcus. Furthermore, the other methods have their advantages and indications. In any case, the control of the soft tissue for exposing the margins of the tooth preparation for restoration and impressioning is critical. It would be worthwhile for the clinician to understand all the choices available. The aim of this study was to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics. Looking forwards prevention strategies for improving the management outcome.

Keywords: Endodontically Treated Teeth, Periodontal Status, Endodontically Treated Teeth (ETT) & Teeth Restoration

1. Methods

A descriptive research design was utilized in the current research. A total of 150 Dental Staff at selected prothodontic clinics was given a structured questionnaire On June, 2017. Their reply reflect that there was a high level of the studied Dental Staff perspective about the Endodontic Treated Teeth in Relation to at Selected Dental Clinics. Further data were collected based on selected cases to investigate the success and survival of restored endodontically treated teeth (ETT) in a general practice environment related to periodontal parameters. Data from 360 restored ETT treated were collected from the patients records. In which Dates of interventions like restorations, repairs, replacements and extractions were recorded. Additionally, general information about patients and dentitions as well as periodontal status was recorded. Success was analyzed using Kaplan-Meier statistics and a multivariate Cox regression analysis was performed to assess variables influencing success and survival.

The inclusion criteria for the selected cases were had 19 teeth were extracted and 27 restorations needed repair or replacement. According to the Cox regression, increasing maximum pocket depth of the tooth resulted in a higher risk for failure ($p=0.012$). Descriptive statistics like percentage was used to describe the findings using SPSS 20.

Results. The current research study aim was to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics which was found to be (73.1%). Cox regression analysis was performed to assess

variables influencing success and survival. Based on the inclusion criteria for the selected cases which were selected from the patients' records, for treated cases that were had 19 teeth were extracted and 27 restorations needed repair or replacement. According to the Cox regression, increasing maximum pocket depth of the tooth resulted in a higher risk for failure, the collected findings showed significant differences ($p=0.012$).

Conclusions. Concerning the Dental Staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics, the data findings showed that; there was a Approximately high level of perspective for Dental Staff about the Management of Such cases within the selected setting.

2. Introduction

Endodontic treatment has been assessed at numerous different levels, starting at the accomplishment of the management itself in curing periapical lesions (Weiger, Rosendahl & Löst, 2010), all the way through the level of achievement of restoring to utility endodontically treated teeth (ETT), and in conclusion at the level of long-term continued existence of ETT (Scotti, et al., 2015). gradually but surely, it is appropriate clear that factors further than the quality of endodontic management definitely relatively significant in decisive long-term outcomes. For illustration, the quality of the coronal restoration was shown to be more imperative in endodontic treatment achievement than the quality of the endodontic filling. When exploration the variables further than the extraction of ETT, endodontic

failure represents frequently only a small division of total malfunction, with non-restorable breakdown; caries , root fracture , or periodontal disease reported as the main failure reasons , (Skupien , et al., 2013).

According to McMurdo & Gillespie, (2000), The preservation or reproduction of optimal muco-gingival aesthetics can be difficult to achieve from both a surgical and prosthetic perspective. An increasing patient and clinician awareness of the importance of gingival and smile aesthetics has resulted in the development of both surgical and prosthetic techniques aimed at improving or maintaining these aesthetic characteristics.

Woodford & George, (2009), mentioned that Unsightly recession defects may present with concomitant buccal cervical cavities which may require restoration to protect from further tooth surface loss, reduce plaque retention or decrease dentinal sensitivity. Where recession is more generalized and especially in those patients who have undergone successful periodontal therapy, the loss of papillae may also be unsightly and the term 'black triangle syndrome' has been coined. The maintenance of papillae after extraction can be difficult especially where heavily restored teeth, trauma or congenital conditions present with both compromised quality and quantity of bone and soft tissues. Surgical techniques advocated for recreating gingival architecture around recession or alveolar defects are technique-sensitive and may require a graft from an additional surgical site with consequent additional morbidity. Where edentulous spaces present with marked vertical and horizontal defects bone grafting may be required to support implant rehabilitation especially in the aesthetic zone. If patients are keen to improve these aspects, the surgical option may be presented without much alternative. (Boscia, et al., 2012).

According to Ray & Trope , (2015) , progressively more, variables at the level of total dentition or complete patient are being integrated in studies of success and survival of ETT. Based on the results of evidence based practice one of the currently conducted study report by this group on a retrospective study on 795 teeth in 458 patients in a private practice, it was shown that dentition related factors, as number of teeth in the dentition and being the last tooth in the arch, might play an important role, (Landys , Jonasson & Kvist , 2016).

In addition to that, it was found that there is a frequently accepted standard in dentistry that tooth prediction is taken into account before demonstrating widespread and possibly expensive treatments, resembling an endodontic treatment. A characteristic often included in shaping prognosis is the periodontal conditions of the tooth, by and large the attachment loss. The impact of endodontic treatment on the success of consequent periodontal management has been investigated, (Zadik, et al., 2008). Conversely, Touré, et al., (2011), mentioned that there is extremely restricted scientific evidence for the impact of periodontal status on the outcome of endodontic treatment and survival of restored ETT.

Furthermore , there is a limited evidences are available study the impact of periodontal status on the survival of ETT, an further analysis was carried out on a subset of a retrospective researches , selecting those teeth/patients for which periodontal status and treatment information was obtainable , (McGuire & Nunn , 2016). The aim of the present research is to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics.

3. Material and Methods

The present study is was to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics. A descriptive research design was utilized in the current research. A total of 150 Novice Dental Staff of selected Dental Clinics, Saudi Arabia, were given a structured questionnaire during June 2016. This number constitute, more than two third of the Novice Dental Staff of the time of data collection. All wards representing units concerning all the subspecialties' were consider as a setting for the current research. The Novice Dental Staff at each unit was contacted to discuss the importance of the research and the study protocol. An anonymous 20-items questionnaire was adopted from valid & reliable tool using the guidelines from a Taxonomy for Augustine (1993). All questions had fixed answer categories.

Looking forwards prevention strategies for improving the management outcome. . A previous report describes the parent data set and the recorded variables for the current study .Self assessment tool to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics, were used for collecting data for this practice-based survival study. 150 staff were had a questionnaire including the items of Restored Endodontically Treated Teeth in Relation to Periodontal Status , which are included but not limited to; Pocket Depth of Tooth , Number of Teeth in Dentition , Molars (Reference - Incisors) & Premolars (Reference - Incisors) , Decayed Teeth & Rate of Survival.

Further data were collected based on selected cases to investigate the success and survival of restored endodontically treated teeth (ETT) in a general practice environment related to periodontal parameters. Data from 360 restored ETT treated were collected from the patients records. In which Dates of interventions like restorations, repairs, replacements and extractions were recorded. Additionally, general information about patients and dentitions as well as periodontal status was recorded. Success was analyzed using Kaplan-Meier statistics and a multivariate Cox regression analysis was performed to assess variables influencing success and survival.

The inclusion criteria for the selected cases were had 19 teeth were extracted and 27 restorations needed repair or replacement. According to the Cox regression, increasing maximum pocket depth of the tooth resulted in a higher risk for failure (p=0.012). Furthermore From the patient records, dates of endodontic and restorative procedures, date and type of intervention (repairs/replacement/extractions) and dates of

periodontal treatments or periodontal checkup were collected. The last visit was considered as the censoring date for restorations and tooth still in situ. The following periodontal characteristics were collected from the patient files:-Maximum pocket depth of tooth: Pockets were measured before endodontic treatment at six sites, and the highest value of the six measurements was recorded as maximum pocket depth of the tooth. Average of maximum pocket depth of dentition: An average of maximum pocket depths of all teeth (as described above) was calculated.

Statistical analyses were performed with SPSS 20 (SPSS Inc., Chicago IL, USA) and R (v. 3.0.2: R. Foundation for Statistical Computing, Vienna, Austria). For the outcome success, failure was defined as an ETT needing repair, a new restoration or extraction. For the outcome survival, failure was defined as an ETT being extracted. The influence of variables on success/survival was analyzed using Cox-regression with a Gamma distributed frailty term to model for the clustering of multiple ETT in one patient. As a starting point for the Cox model, the final model from the parent dataset was used. For this model, the best extension with additional periodontal information was evaluated. For visualization of the effect of the periodontal variable, Kaplan-Meier curves were constructed for both success and survival. Moreover, the data were analysed to reflect the Total Mean of the Assessment of Staff Perspective toward Restored Endodontically Treated Teeth in Relation to Periodontal Status.

4. Results

Table 1: Table 1 Cox regression model Extension of starting model with "Pocket depth of tooth treated": Source of Data is Patients Records

Last Step Variable	P Value
Success	069
Pocket Depth of Tooth	0004
Number of Teeth in Dentition	071
Premolars (Reference-Incisors)	010
Molars (Reference – Incisors)	002
Decayed Teeth	0012
Survival	0001

Table 2: Mean of the Assessment of Staff Perspective toward Restored Endodontically Treated Teeth in Relation to Periodontal Status

Items of Assessment of Staff Perspective toward Restored Endodontically Treated Teeth in Relation to Periodontal Status	No	(%)
1-Pocket Depth of Tooth	143	95.33%
2-Number of Teeth in Dentition	124	82.66%
3-Premolars (Reference-Incisors)	116	77.33%
4-Molars (Reference – Incisors)	107	71.33%
5-Decayed Teeth	111	74.0%
6-Survival	102	68.0%
Mean	134	73.1%

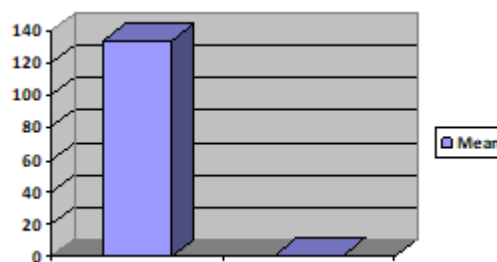


Figure 1: Mean of Assessment of Staff Perspective toward Restored Endodontically Treated Teeth in Relation to Periodontal Status

A descriptive research design was utilized in the current research. A total of 150 Dental Staff at selected prothodontic clinics was given a structured questionnaire On June, 2017. Their reply reflect that there was a high level of the studied Dental Staff perspective about the Endodontically Treated Teeth in Relation to at Selected Dental Clinics. Descriptive statistics like percentage was used to describe the findings using SPSS 20.

The data of the current research study was reflect that there was a Concerning the Dental Staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics, the data findings showed that; there was a Approximately high level of perspective for Dental Staff about the Management of Such cases within the selected setting , total mean score was (73.1%). for treated cases that were had 19 teeth were extracted and 27 restorations needed repair or replacement. According to the Cox regression, increasing maximum pocket depth of the tooth resulted in a higher risk for failure, the collected findings showed significant differences ($p=0.012$).

5. Discussion

The current research study was aiming at assessing the level of perspectives of the staff towards the Restored Endodontically Treated Teeth in Relation to Periodontal Status , which was found to be (73.1%) , this study findings was consistent with the study results carried out by Johansson , et al , (2016) , who built their point of view based of assessment of the level of staff opinions regarding the Restored Endodontically Treated Teeth in Relation to Periodontal Status on 1175 ETT in 411 patients, where most of the patients were advanced periodontal cases rehabilitated with fixed prostheses, the 10-year survival rate was high: 93% and the most common reason for extraction was recurrent periodontal disease (43%) 11.

A few cross-sectional studies are available where both periodontal status and endodontic status were evaluated. One study showed slightly more attachment loss (0.6 mm) in ETT than in contra-lateral untreated controls. However, this may have been due to the ETT being restored with crowns, among which 75% were judged defective. In a more recent study evaluating 50 molar teeth restored with crowns, the occurrence of negative events, apart from extractions also including re-treatments, was found to be related to attachment loss of the tooth and "prognostic value".

Furthermore, the present study results was found to be congruent with the findings of the researches carried out by Setzer, et al., (2011) & Timmerman, & Van der Weijden, (2015), who conclude that the level of staff perspectives concerning the Restored Endodontically Treated Teeth in Relation to Periodontal Status, was reflecting a total mean score of (78.6%). Moreover, the additional periodontal variables included in this study, only maximum pocket depth of the treated tooth was considered a significant factor in tooth survival. On the other hand, studies on designing education programs showed that the most effective educational programs were based on theory-based approaches rooted in behavior change patterns. The very first step to plan an education program is to choose a proper pattern or theory in health education while effective health education directly depends on the dominance on using best theories and proper approaches in each event.

This is in accordance with the study of Setzer, et al., (2011), where the need for retreatment or extraction was associated with pre-operative attachment loss of the tooth. The size of the effect, as may be seen by the divergence of the Kaplan-Meier curves, is substantial. The calculated hazard ratio of 1.60 indicates that every extra mm of maximum pocket depth increases the risk of failure of the restored ETT by 60%. Moreover, extra care is required in periodontitis patients with ETT due to the high probability of more bone loss compared to untreated teeth.

In a recent report on 1175 ETT in 411 patients, where most of the patients were advanced periodontal cases rehabilitated with fixed prostheses, the 10-year survival rate was high: 93% and the most common reason for extraction was recurrent periodontal disease (43%) 11. A few cross-sectional studies are available where both periodontal status and endodontic status were evaluated. One study showed slightly more attachment loss (0.6 mm) in ETT than in contralateral untreated controls 12. However, this may have been due to the ETT being restored with crowns, among which 75% were judged defective. In a more recent study evaluating 50 molar teeth restored with crowns, the occurrence of negative events, apart from extractions also including retreatments, was found to be related to attachment loss of the tooth and "prognostic value". (Westerdahl, Lindmark & Eriksson, 2005).

6. Conclusions

The current research study was aiming at assessing the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics. Looking forwards prevention strategies for improving the management outcome.

A descriptive research design was utilized in the current research. A total of 150 Dental Staff at selected dental clinics was given a structured questionnaire. The current research study aim was to assess the staff perspective toward Endodontically Treated Teeth in Relation to at Selected Dental Clinics which was found to be (73.1%). Furthermore, for treated cases that were had 19 teeth were extracted and 27 restorations needed repair or replacement. According to the

Cox regression, increasing maximum pocket depth of the tooth resulted in a higher risk for failure, the collected findings showed significant differences ($p=0.012$).

The current study recommends utilization of continuous educational measures to enhance the dental staff to increase their knowledge towards the methods of knowledge of the Novice Dental Staff knowledge towards the methods of treated teeth within the study setting. Furthermore applying performance feedback and increased availability of specialist of knowledge of the Novice Dental Staff knowledge towards the methods of Treated Teeth in Relation to at Selected Dental Clinics. Looking forwards prevention strategies for improving the management outcome.

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