

Occlusal Stamp Technique: Knowledge and Perception of Dentist's Towards Novel Technique for Composite Restoration

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ABSTRACT

Background: This study aims to assess the knowledge, attitude, and perception among dentists toward occlusal stamp technique for composite restorations. **Materials & Methods:** A cross-sectional study was carried out on a total number of 300 dental surgeons (Male=150; Female=150) participated in this study with age ranges from 20- to 55-year-old to know the knowledge, attitude, and perception among dentist's toward occlusal stamp technique for composite restorations. Written informed consent was obtained from the participants after explaining to them the purpose of the study. The sampling method included in the study was a simple random sampling method. A self-administered structured questionnaire was developed, and the data was collected. Both descriptive and analytical statistical measurements were done.

Results: The majority of participants, 255 (85%) were said that they think that occlusal is important in restorative dentistry. 285 (95%) were said that they heard of occlusal stamp technique. When asked about the participant's about how they achieve occlusal in composite restoration, 41% said with finishing and polishing, 18% said with carving, nearly 32% said it by occlusal stamp technique.

Conclusions: The overall knowledge and awareness was good among the dentists. The occlusal stamp technique is effective for direct composite resin restoration in posterior tooth with hidden caries and extensive dentin involvement. In addition, this technique minimizes the operative time by eliminating post-restoration occlusal adjustments.

Key words: Restoration, Stamp technique, Dentists, Saudi Arabia, Composite material

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INTRODUCTION

Of most dental surgical procedures, composite

restorations are one of the most typical ones in everyday clinical practice [1]. Composite resins are widely used pertaining to restorations of backside permanent teeth due to inherent properties, such as for instance esthetics similar to the oral structure, translucency, wear characteristics, and biocompatibility [2]. Dentistry is facing a point in time in which the search for good quality became constant along with the aesthetic standard is certainly increasingly demanding also yet in the back segment of the oral cavity. Therefore, the aesthetic recovering teeth comprises several procedures that test technological and scientific information, artistic sense in addition to skills of the pro on the existing composite to be able to recreate biological details and make essentially the most natural restorations doable. With the improvement involving restorative dental products, it is now possible to mix function, esthetics, and even practicality into minimally invasive treatments. Available bulk-fill composites come in flowable or packable forms [2]. The reduction in composite increments is meticulously associated with a shorter dental chair time and by using fewer manipulation problems [3]. Some sort of Hall technique crown is one in which there have been no preparation for the tooth, with caries sealed in, and is used on primary molar teeth as an alternative to be able to conventional restoration. Prior to Hall technique, capped teeth fitted on principal molars required regional anaesthetic and crown preparation; something that is absolutely not necessarily practical for babies and toddlers. The overall decrease in your treatment time obtained basic composites creates these people a great alternative throughout pediatric dentistry, seeing that quicker clinical techniques are essential when working with children. On the list of newer evolved techniques for achieving an combination of both esthetics and function may be the "Stamp technique." This system is used where the occlusal surface is nearly whole before the restorative treatment. The benefit of using this seal of approval technique is the reproduction of original occlusal anatomy and occlusion, which will not demand any correction. Time required for finishing together with polishing of the restoration can be reduced [4, 5]. Therefore, the aim of this study is to assess the knowledge, attitude, and perception among dentists toward occlusal stamp technique for composite restorations.

MATERIALS AND METHODS

A cross-sectional study was carried out on a total number of 300 dental surgeons (Male=150; Female=150) in the Abha region, was participated in the study with age ranges from 20- to 55-year-old to know the knowledge, attitude, and perception among dentist's toward occlusal stamp technique for composite restorations. Written informed consent was obtained from the participants after explaining to them the purpose of the study. The sampling method included in the study was a simple random sampling method. Ethical approval for performing the survey was obtained from the Scientific

Research Committee of King Khalid University, College of Dentistry.

The questions were designed and circulated through online google forms among dental surgeons practicing in the Abha region of Saudi Arabia. The questionnaire was formulated, which comprised of two parts: The first portion included the questions related to the demographic information of participants, such as age, gender, year of experience, and level of education. The other part of the questionnaire comprised of 10 questions with 'yes' and 'no' pattern, and the multiple-choice question was prepared, and piloting was done. Questionnaire was tested for reliability and validity.

A self-administered structured questionnaire originated and was tested among a comfort sample of 20 dental surgeons. These were interviewed to get feedback on the entire acceptability of the study when it comes to length and language clearness; in accordance with their feedback, the queries were corrected. Validity was furthermore assessed before the start of research. Both descriptive and analytical statistical dimensions were used to describe the primary variables by SPSS 18 (IBM Corporation, Armonk, NY, USA) software.

RESULTS

A total of 300 (150 males and 150 females) dental students, general dentists, and specialists responded to the questionnaire. 82% of study subjects were of 20-30 years, 11% were of 31-40 years, 7% were of 41-50 years, and 0% were >50 years (Table 1). The distribution of study samples according to a level of education was shown in Table 1. Knowledge and attitude among dentists towards occlusal stamp technique were shown in Table 2.

The majority of participants, 255 (85%) were said that they think that occlusal is important in restorative dentistry. 285 (95%) were said that they heard of occlusal stamp technique. When asked about the participant's about how they achieve occlusal in composite restoration, 41% said with finishing and polishing, 18% said with carving, nearly 32% said it by occlusal stamp

Table 1 Distribution of study sample according to Age, Gender and Level of education.

Gender	n (300)	%
Male	150	50%
Female	150	50%
Age		
20-30 years	245	82%
31-40 years	32	11%
41-50 years	23	7%
>50 years	0	0%
Education level		
Undergraduate student	176	59%
General Dentist	98	33%
Specialist	26	8%
n = Number		
% = Percentage		

Table 2: Knowledge of dentists towards occlusal stamp technique.

Questionnaire	Total (n)-300	%
Q1. Do you feel occlusal is important?		
Yes	255	85%
No	45	15%
Q2. Have you heard of occlusal stamp technique?		
Yes	285	95%
No	15	5%
Q3. How can you achieve occlusion in composite restoration?		
Finishing and Polishing		
Carving	123	41%
By occlusal stamp technique	54	18%
Others	96	32%
Q4. Do you think occlusal stamp technique procedure is technique sensitive?		
Yes	189	63%
No	111	37%
Q5. What material is used for making a stamp for occlusal stamp technique?		
Silicone material	69	23%
Flowable composite	195	65%
Packable composite	36	12%
Q6. Which separating medium can be used in occlusal stamp technique?		
Bonding agent	219	73%
PVC sheets	66	22%
Vaseline	15	5%
n = Number		
% = Percentage		

technique. Most of the participants 63% agreed that occlusal stamp technique is technique sensitive. When they asked regarding the material of choice for making a stamp for occlusal stamp technique, 23%, 65% and 12% said silicone material, flowable composite and packable composite respectively. Majority of participants agreed bonding agent (73%) as separating medium can be used in occlusal stamp technique. Figure 1 shows the responses of participants for question related disadvantage of occlusal stamp technique.

DISCUSSION

The particular prevalence of dental care caries has reduced within the last decades. It had been credited to the efficient use of fluorides, especially, regarding the carious skin lesions on smooth areas [6]. Regardless of the decreasing prevalence associated with tooth decay plus the necessity for immediate restorations, dentin caries lesions (“hidden caries”) is really a frequent discover in 14-20 years-old individuals. These lesions on the skin may leave the particular occlusal surface undamaged [7] and can be diagnosed simply by radiographic examination in addition to, clinically, throughout discolored coloration below the clear enamel. This system enables to reestablish the shape, function and visual dental care structure, decreasing the necessity for occlusal post-restoration adjustments as well as the porosity of the composite restoration. The pressure applied by the stamp around the composite resin reduces the type rules of micro bubbles and also interference of oxygen in the curing from the last layer.

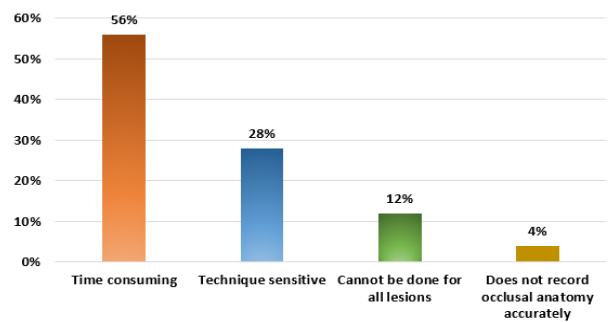


Figure 1: What is the disadvantage of occlusal stamp technique?

They are considered long-term achievement factors [8, 9]. The limitations of the technique are related to the necessity to have the occlusal surface area relatively intact and even time spent confectioning the stamp technique [10]. It will be important to which the professional should stay aware of typically the performing of the stamps technique considering that the incorrect placement will cause use of distortions and the target won't achieved [11,12].

Nearly all participants, 255 (85%) were said that they presume that occlusal is essential in restorative dental care. 285 (95%) had been said they heard about occlusal stamp method. When asked about the particular participant's about how exactly these people achieve occlusal within composite restoration, 41% said with finishing and polishing, 18% said by carving, nearly 32% stated it by occlusal stamp method. Likewise, in another research, demonstrated that 70.7% of the participants considered that occlusal seal of approval technique would slow up the finishing and perfecting time [13]. About 36.7% of the individuals find it difficult to mimic typically the occlusal anatomy in the Class I composite restoration. It's been demonstrated that will appropriate finishing together with polishing procedures perform an important role inside improving esthetics plus longevity of oral restorations. The restriction of the present research was its much less sample size in addition to homogeneous population. Another region/general population is necessary for better results.

CONCLUSION

The overall knowledge and awareness was good among the dentists. The occlusal stamp technique is effective for direct composite resin restoration in posterior tooth with hidden caries and extensive dentin involvement. In addition, this technique minimizes the operative time by eliminating post-restoration occlusal adjustments.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest regarding the publication of this article.

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