

Knowledge, Awareness and Practice among Dental Practitioners Regarding Porcelain Repair System

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Abstract: Background: Porcelain repair system is a quick, painless and highly patient acceptable procedure, without removal of restoration or fabrication of new restoration. Porcelain repair systems allow a dentist to fix crowns and bridges that have damaged. These repair systems may work on ceramics and composite resins in addition to porcelain. Porcelain repair systems should be user-friendly and include a prime/bond component, an opaquer and a silane component. Some type of curing will be necessary to set the repair; often this will be light cured. A feature to look for in porcelain repair systems is excellent masking capabilities; the opaquer should have a smooth consistency and should appear homogeneous, this will ensure a seamless repair. Be sure to inquire about shelf life, it should be between 1-2 years. Aim: To conduct a survey about knowledge, awareness and practice among dental practitioners regarding porcelain repair system. Materials and Methods: A questionnaire with 14 questions was prepared. Questions were given to the subjects by the researcher and the answers were collected. The data were represented in the form of pie charts. Results and Conclusion: The knowledge, awareness and practise among dental practitioners regarding porcelain repair system is good. Majority of the participants have a good knowledge about the porcelain repair system and its effectiveness. Since it is a cost efficient and a simple method, porcelain repair system can be preferred rather than other expensive and complicated methods.

Keywords: Knowledge, Awareness, Practice, Porcelain, Repair

1. Introduction

Intraoral chair side porcelain repair system is a quick, painless and highly patient acceptable procedure, without removal of restoration or fabrication of new restoration. Porcelain repair systems allows a dentist to fix crowns and bridges that have damaged. These repair systems may work on ceramics and composite resins in addition to porcelain. Porcelain repair systems should be user-friendly and include a prime/bond component, an opaquer and a silane component. Some type of curing will be necessary to set the repair; often this will be light cured. A feature to look for in porcelain repair systems is excellent masking capabilities; the opaquer should have a smooth consistency and should appear homogeneous, this will ensure a seamless repair. Be sure to inquire about shelf life, it should be between 1-2 years. Porcelain repair systems are a good option for saving an existing crown or bridge when replacement may not be necessary.

The clinical success of the porcelain repair systems depends on the integrity of the bond between porcelain and resin composite. The bond is achieved either by chemical or mechanical methods. The wide range of bond strength values from 3 to 37.4 MPa have been documented for repair systems in the literature[1][2]. Due to insufficient bonding characteristics of the chemical agents, the porcelain surfaces must be physically altered when these agents are used[3][4]. Knowledge and awareness about this porcelain repair system is very important and it should be included in daily practices for its effectiveness. The present study is to assess the knowledge, awareness and practise among dental practitioners regarding porcelain repair system.

2. Materials and Methods

A questionnaire with 14 questions was prepared. Questions were given to the subjects by the researcher and the answers were collected. The data were represented in the form of pie charts. Questionnaire with 14 questions are shown below in Table1.

3. Results

The results are represented in the form of pie charts. 58% of them have heard about porcelain repair system (Chart 1) and were aware about the effectiveness of porcelain repair system (Chart 4) while only 72% of them have used them in their practise (Chart 5). More than 60% of them believed that it is a simple and a efficient method and it is cost effective (Chart 2 and Chart 3). About 72% of the dental practitioners have used the porcelain repair system at least once and said that the success rate was good (Chart 5 and Chart 6). The commercial availability of the porcelain repair system is known only to half of the dental practitioners (Chart 7). Majority of the dental practitioners believed that the porcelain repair system were used to treat all types of ceramic fractures (Chart 8). 66% of dental practitioners were not aware about the various techniques involved in porcelain repair system and said that the porcelain repair system did not contain all shades (Chart 9 and Chart 10).

4. Discussion

In the present study, about 68% of them think that it is a simple and a efficient method and also believe that it is cost effective. Even the study done by Highton RM et al analysed the effectiveness of porcelain repair system. The study indicates that the repair system using a bonding agent

with acrylic resin is significantly stronger than the repair system using a specific composite resin. On the basis of this study, the acrylic resin repair system has the best potential for clinical success in porcelain-to-porcelain repair[5]. In the present study 72% of them have used them in their practise and it is believed to have a good success rate by majority of them.

But the porcelain repair system is used only rarely by the practitioners. A study was done by Creugers N.H et.al about the success rate [6].The fractured crowns were repaired in situ with an experimental porcelain repair system. The initial results were satisfactory both esthetically and functionally. However, only 50% of the repairs were intact by the end of the 12-month follow-up period. Only 34% of them are aware about the various techniques involved in porcelain repair system. In the study done by Adam Husein , they divided the techniques involved into five groups and analysed the easy method[7].Factors such as the effectiveness of bonding between porcelain surface and composite resin, which create maximum strength for porcelain-composite bonding, should be considered[8].Rather than reconstructing the broken prosthesis which will involve longer time and higher cost, the repairing technique will benefit both the patient and the dentist[9]. Hydrofluoric acid etching and silanated techniques are among common repair techniques used worldwide nowadays[10][11]. 49% of them said that commercial availability of porcelain repair system is good. Majority of them believed that it can be used for all types of ceramic fractures. In the study done by Ashish Murali et.al , they compared the shear bond strength of two different porcelain repair system for the treatment of fractures[12].Many repair agents such as cyanoacrylates, acrylic and composite resins were used but were partially successful due to esthetic and mechanical limitations[13][14].Majority of them say that porcelain repair system does not contain all shades and it contains only limited number of shades. The present study is regarding different porcelain repair systems while the study done by Ji-Young Yoo et.al, CoJet(Intraoral Repair System) was compared with another repair system (Intraoral Repair Kit)[15].

5. Conclusion

The knowledge, awareness and practise among dental practitioners regarding porcelain repair system is good. Majority of the participants have a good knowledge about the porcelain repair system and its effectiveness while only less percent of the participants have used this in their practise and are less aware about the various techniques involved. Since it is a cost efficient and a simple method, porcelain repair system can be preferred than other expensive and complicated methods. It also has a good success rate.

References

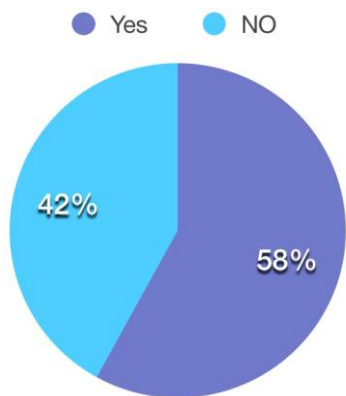
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Table 1

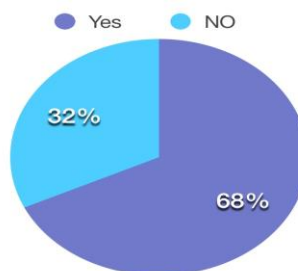
1. How many years of experience do you have ?
. less than 5 years
. less than 10 years
. more than 10 years
2. Have you heard about porcelain repair system ?
. Yes
. No
4. Are you aware about effectiveness of the porcelain repair system ?
Yes
No
5. Do you know about the various techniques involved in porcelain repair system ?
Yes
No
6. Have you made use of porcelain repair systems in your practise?
Yes
No
9. Do you think it is a simple and a efficient method ?
Yes
No
10. Do you think it can be used for all types of ceramic fractures ?
Yes
No
11. Do u think it has a good success rate ?
Yes
No
12. Do you think it is cost effective ?
Yes
No
13. Are you aware about their commercial available porcelain repair system ?
Yes
No
14. In a clinical situation, Do you think porcelain repair system contains all shades ?
Yes
No

Chart 1



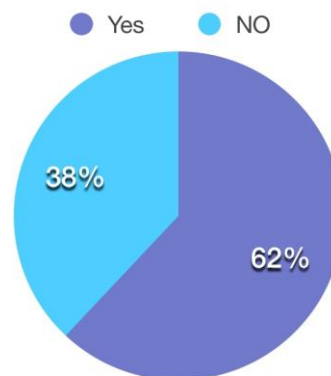
Have you heard about porcelain repair system ?

Chart 2



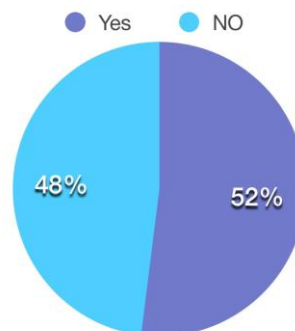
Do you think it is a simple and a efficient method ?

Chart 3



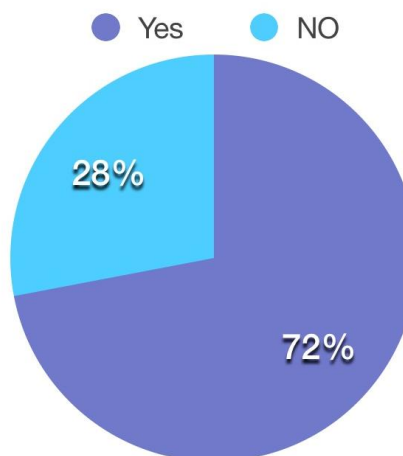
Do you think it is cost effective ?

Chart 4



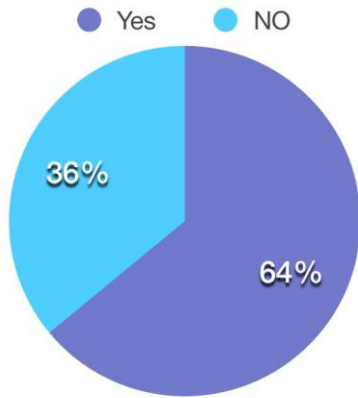
Are you aware about effectiveness of the porcelain repair system ?

Chart 5



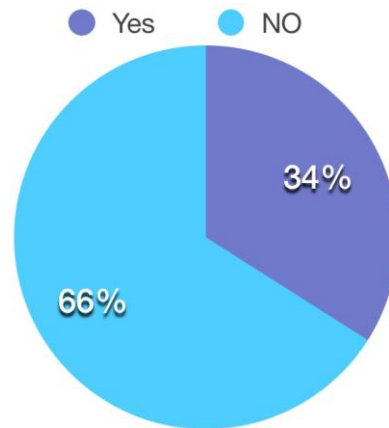
Have you made use of porcelain repair systems in your practise?

Chart 6



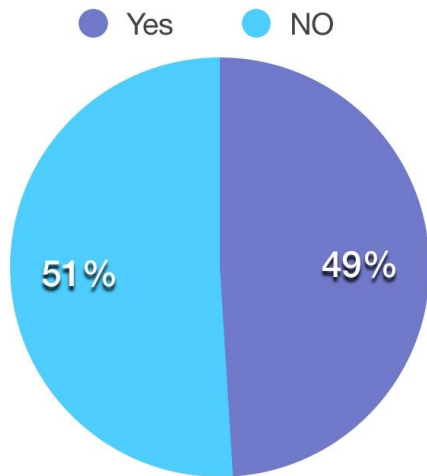
Do u think it has a good success rate ?

Chart 9



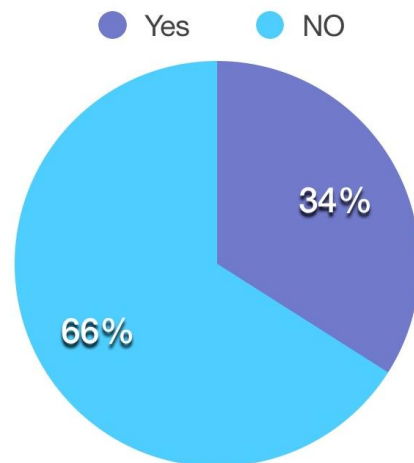
Do you know about the various techniques involved in porcelain repair system ?

Chart 7



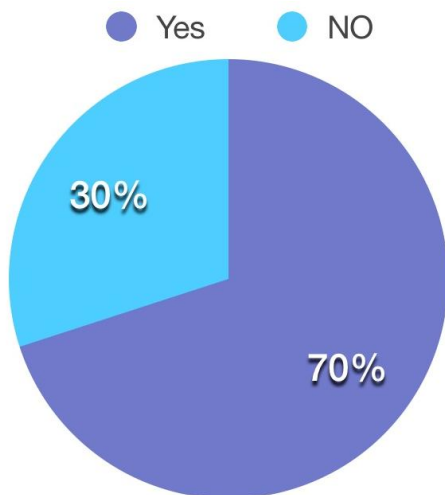
Are you aware about their commercial available porcelain repair system

Chart 10



In a clinical situation, Do you think porcelain repair system contains all shades

Chart 8



Do you think it can be used for all types of ceramic fractures ?