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EVALUATION OF CONFIDENCE OF DENTAL PRACTITIONERS ON PERFORMING FULL MOUTH REHABILITATION - A SURVEY

Westeous Dominic Pereira
Saveetha Dental College and Hospitals Saveetha Institute of Medical and Technical Sciences Saveetha University Chennai, India. Email id: 151601045.sdc@saveetha.com

Dr. Sanjana Devi N
Assistant Professor Department of Prosthodontics and Implantology Saveetha Dental College and Hospitals Saveetha Institute of Medical and Technical Sciences Saveetha University Chennai, India. Email id: sanjanadevin.sdc@saveetha.com

Dr. Deepak Nallaswamy Veeraiyan
Professor and Director of Academics Department of Prosthodontics Saveetha Dental College and Hospitals Saveetha Institute of Medical and Technical Sciences Saveetha University Chennai, India

ABSTRACT
Restoration of occlusion in patients with severely worn dentition is a challenging situation as every case is unique in itself. There is great apprehension involved in reconstructing debilitated dentition due to widely divergent views concerning the choice of an appropriate occlusal scheme for successful full mouth rehabilitation. The aim of the study was to evaluate the Confidence of Practitioners on performing Full Mouth Rehabilitation. A questionnaire containing 10 questions was prepared and distributed among the Indian dentists. Indian dentist confidence on performing full mouth rehabilitation were assessed through a series of specially designed proformas and corresponding results were calculated and tabulated. 72% of the dentists who participated in this study have not performed FMR while the rest 28% of the dentists have performed FMR, 18% of the dentists were very confident on performing FMR while 48% of the dentists were a little bit confident, the remaining 34% of the dentists were not at all confident on performing FMR, 44% of the dentists were confident while the remaining 56% were not confident. This study revealed relevant areas to improve the training of dentists,

Key words: Dentists, full mouth rehabilitation, restoration.

INTRODUCTION
The occlusal surfaces of teeth gradually wear down over time, which is a natural process. Excessive occlusal wear, on the other end, can lead to pulpal pathology, occlusal disharmony, decreased function, and aesthetic deformity. In developed countries, average life expectancy has increased in recent decades as a result of major improvements in socioeconomic and health circumstances. In this situation, tooth loss is nevertheless a common result of aging, despite the development of more conservative dental procedures. Despite the apparent practical benefits of dental rehabilitation, it is widely accepted in modern cultures that people seek it mostly for aesthetic and social reasons (1–4).

Occlusion restoration in patients with badly worn dentition is difficult because each instance is different. Due to significantly opposing views on the selection of an adequate occlusal plan for successful full mouth rehabilitation, there is considerable concern in restoring damaged dentition. The goal of full mouth rehabilitation is to not only rebuild and restore the worn-out teeth, but also to maintain the health of the entire stomatognathic system. Full mouth rehabilitation should restore a state of functional and biological efficiency in which teeth and their periodontal structures, the muscles of mastication muscles, and the temporomandibular joint (TMJ) mechanisms all function in conjunction (5).

The restoration of worn dentition with fixed prosthesis is complicated and one of the most difficult instances. The assessment of the vertical dimension is critical for management, and each case demands a thorough, comprehensive treatment strategy (6,7). Articulated study casts and diagnostic wax-up can provide vital information that can help with treatment choices evaluation. The clinical evaluation of a patient wearing a diagnostic splint or provisional prosthesis is frequently used to confirm tolerance of changes in vertical dimension of occlusion .

It is widely assumed that the more cases a dentist sees throughout his or her practice, the better equipped he or she will be for prosthetic treatment in the years working independently. There are many references in the dental literature about the quality and outcome of treatments performed by dentists however, there is little information about how dentists react to full mouth rehabilitation and their level of self-confidence about various aspects of prosthodontic treatment in relation to their future practice (8). The aim of this survey was to assess the confidence of the dentists on performing challenging full mouth rehabilitation cases.

MATERIALS AND METHODS

Following the approval of the institutional review board, anonymous survey forms were handed out to 100 Dentists, a cross sectional study was conducted among these Indian dentists. Dentists were assessed using a structured questionnaire comprising 10 closed-ended questions. Questions were explained whenever necessary with assurances on confidentiality of their identities and were requested to mark their answers and complete it individually. The survey had questions containing the dentist's educational status, previous experience on full mouth rehabilitation procedures, and whether they felt confident of performing full mouth rehabilitation cases. They were also asked to pick what they felt was the goal of full mouth rehabilitation. The dentist's confidence on performing full mouth rehabilitation were assessed and corresponding results were calculated and tabulated.

RESULTS

A total of 100 Indian dentists responded to the survey, gender was not taken under consideration for this study. In the current study 68% were undergraduates and the remaining 32% of them were post graduates **(Fig 1).**

72% of the dentists who participated in this study have not performed FMR while the rest 28% of the dentists have performed FMR as shown in (**Fig 2).**

The next question asked to the dentist was if they were confident on the knowledge on performing FMR, 18% of the dentists were very confident on performing FMR while 48% of the dentists were a

little bit confident, the remaining 34% of the dentists were not at all confident on performing FMR **(Fig 3).**

The next question asked to the dentists was if they were aware of the complications regarding FMR, 66% of the dentists were unaware of the complications that arise during or post full mouth rehabilitation while only 34% of the dentists were aware of the complications of FMR **(Fig 4).**

Table 5 shows the aspects that the dentist take under consideration while performing FMR. 42% of the dentists consider tooth size to be the primary aspect of FMR, 2% of the dentist take the shape of the tooth under consideration, 20% of the dentist take periodontal status under consideration, wasting disease like abrasion, abfraction or erosion as a primary aspect on performing FMR **(Fig 5).**

The dentists were asked on what they thought was the concept of full mouth rehabilitation 20% of them considered it to be the existence of a physiologic of the mandible which is constant, 20% considered it to be the recognition of a variable of occlusion while 18% considered it to be the acceptance of dynamic, functional centric occlusion, 42% of the dentists considered all of the above to be the concepts of full mouth rehabilitation **(Fig 6).**

Fig 7 depicts what the participants thought was the goal of performing FMR. 22% considered restoring worn teeth and managing functional risk by establishing an MIP that is stable. While 18% wanted to manage the risk of fracture for structurally compromised teeth by restoring with cohesively and adhesively retained indirect restorations. 20% believed in reduction of biomechanical treatment risk by using enamel-supported, adhesively retained restorations where possible 8% considered esthetics and to provide the patient with a natural-looking smile. The remaining 32% of the participants considered all of the above as the goal of performing FMR.

The dentists were asked about their confidence in achieving good aesthetics and function at the end of their treatment 36% of the dentists were confident while the remaining 64% lacked confidence **(Fig 8).**

Fig 9 showed that 56% were confident in achieving occlusal evaluation and correction, while the remaining 44% were not confident.

The last question was regarding the confidence of the dentists to evaluate their own tooth preparation, 44% of the dentists were confident while the remaining 56% were not confident **(Fig 10).**

DISCUSSION

Occlusal rehabilitation is defined as the restoration of functional integrity of the dental arches by use of inlays, crowns bridges, and dental implants (9,10). A total of 100 Indian dentists responded to the survey, gender was not taken under consideration for this study. In the current study 68% were undergraduates and the remaining 32% of them were post graduates. In the present study the majority of the dentists have not performed full mouth rehabilitation. Majority of the dentists were not confident in the knowledge regarding full mouth rehabilitation, only 18% of the dentists were confident in the knowledge regarding full mouth rehabilitation.

The objective of rehabilitation is to minimize stress so that they are not destructive. To prevent stress the best thing to do is to distribute it evenly over as many teeth as possible, with the teeth providing a

means by which the forces are distributed (11). The most common reason for full mouth rehabilitation is to obtain periodontal tissues, temporomandibular joint disturbance is considered as another reason or finally esthetics as in case of multiple anterior worn down teeth and missing teeth. (12) Whatever the clinical reason, the decision to proceed with any treatment should be based on achieving oral health, function, aesthetics, and comfort, and treatment should be planned around these rather than technical possibilities. Certain biological considerations are to be taken while performing full mouth rehabilitation. Indications for restructuring the occlusion, the choice of occlusal scheme, the occlusal vertical dimension, the need to replace teeth and the effect of material to be used for occlusal stability and control (5,13–15).

The plane of occlusion is an imaginary surface that theoretically touches the incisor incisal edges and the tips of the posterior teeth's occluding surfaces. Proper plane of occlusion have two basic requirements, when the mandible is placed forwards, it must allow the anterior guidance to do its job of obstructing the posterior teeth and when the mandible is moved sideways, it must allow for the disclusion of all teeth towards the balancing side. A flat occlusal plane can actually cause stressful crown-root ratios whenever the curvature of the supporting alveolar bone is not fairly matched with the curve of the occlusal plane (16–18). Before beginning occlusal rehabilitation, several decisions regarding the complex area of occlusion must be made. Various occlusal rehabilitation factors, general and specific recommendations, and procedural steps have been discussed. The clinician must be aware of the requirements for a physiologic restoration that is not only aesthetic and functional, but also in harmony with the entire gnathostomata system. Not all patients can be successfully treated with a single preconceived treatment philosophy The most widely accepted classification is the one given by Turner and Missirlian.

Category 1 - Excessive tooth wear with loss of vertical dimensions. The patient's speaking space exceeds 1 mm, and the interocclusal space exceeds 4 mm, with some loss of facial contour and drooping corners of the mouth.

Category 2 - Excessive wear without vertical dimension occlusion with available space, Patients will have a history of gradual wear due to bruxism and oral habits, but the occlusal vertical dimension will be maintained through continuous eruption.

Category 3 - Excessive wear without vertical dimension of occlusal loss, but limited space, Centric relation and centric occlusion have a 1 mm closest space and a 2–3 mm interocclusal distance. This can be accomplished through orthodontic movement, restorative repositioning, and surgical segment repositioning.

In summary, full mouth rehabilitation is a major procedure that should be carried out with the dentist's treatment plan based on his knowledge of various philosophies and clinical skills. Accurate diagnosis of the etiology of the deranged condition, intra-oral changes, and other adverse effects on jaw relations are required. In rehabilitation procedures, optimal occlusion should be achieved based on the patient's needs. Chewing efficiency can vary across occlusal forms and occlusal schemes, so no single rule can be applied to all patients. A thorough investigation and practical approach must be taken to reconstruct, restore, and maintain the health of the entire oral mechanisms.

CONCLUSION

This study highlights the confidence level of dentists in India on performing full mouth rehabilitation. A major group of participants in this study lack the confidence to carry out full mouth rehabilitation procedure. Further studies are required, with a sample of dental students and junior dentists studying at multiple dental schools and private practitioners to fully understand the level of confidence in carrying out full mouth rehabilitation. We therefore intend to recruit a larger sample including junior dentists, dental undergraduates and postgraduates for further analysis.

APPENDIX:

QUESTIONNAIRE:

1. Qualification?	• **BDS** • **MDS**
2. Have you ever done a FMR case?	• **YES** • **NO**
3. How confident are you regarding the knowledge of FMR	• **Not Confident** • **Little Confident** • **Very Confident**
4. Are you aware of the risk of performing a FMR?	• **YES** • **NO**
5. What aspects do you take under consideration while performing a FMR case?	• **Tooth size** • **Tooth shape** • **Periodontal status** • **Wasting Disease** • **Occlusion** • **All of the above**
6. What is the concept of complete mouth rehabilitation?	• **The existence of a physiologic rest position of the mandible which is constant** • **The recognition of a variable vertical dimension of occlusion** • **The acceptance of dynamic, functional centric occlusion** • **All of the above.**
7. What is the goal of performing a FMR?	• **Restore worn teeth and manage functional risk by establishing an MIP that is stable.** • **Manage the risk of fracture for structurally compromised teeth by restoring with**

	cohesively and adhesively retained indirect restorations. • Reduce biomechanical treatment risk by using enamel-supported, adhesively retained restorations where possible • Enhance esthetics and provide the patient with a natural-looking smile. • All of the above.
8. Are you aware about digital impression technique which requires the use of optical powder used for scanning?	• YES • NO
9. Are you confident in occlusal evaluation and correction?	• YES • NO
10. Are you confident are you in evaluating your own preparation?	• YES • NO

Fig 1 depicts the qualification of the participants.

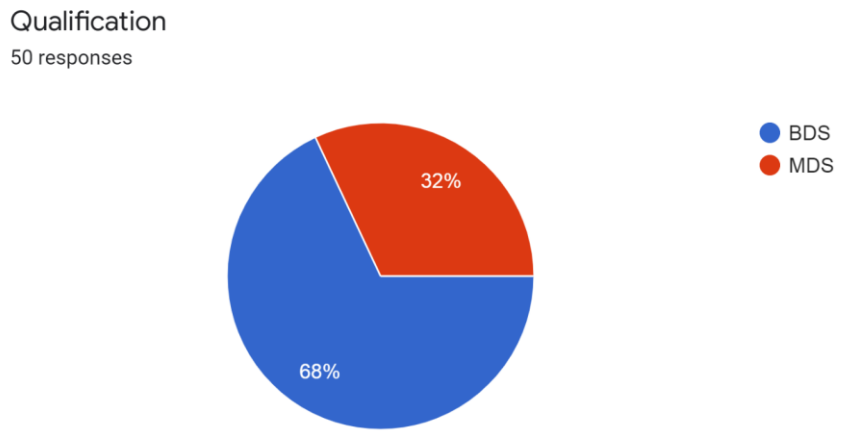


Fig 2 shows if the participants have previously practiced any FMR caes?

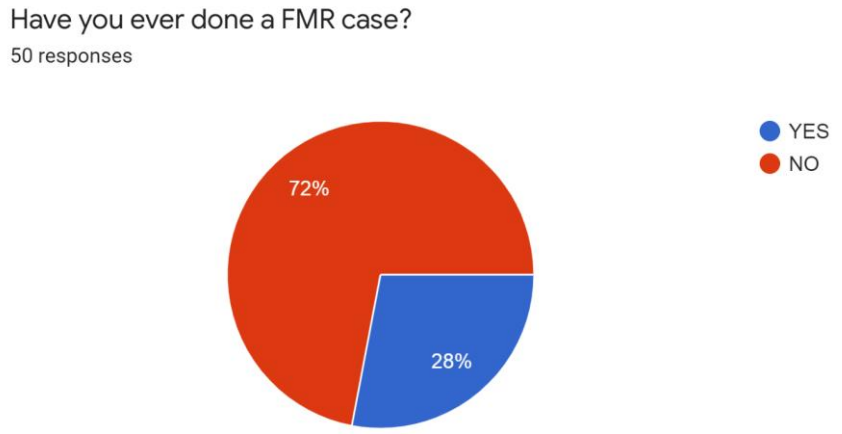


Fig 3 depicts the confidence of the participants on performing FMR.

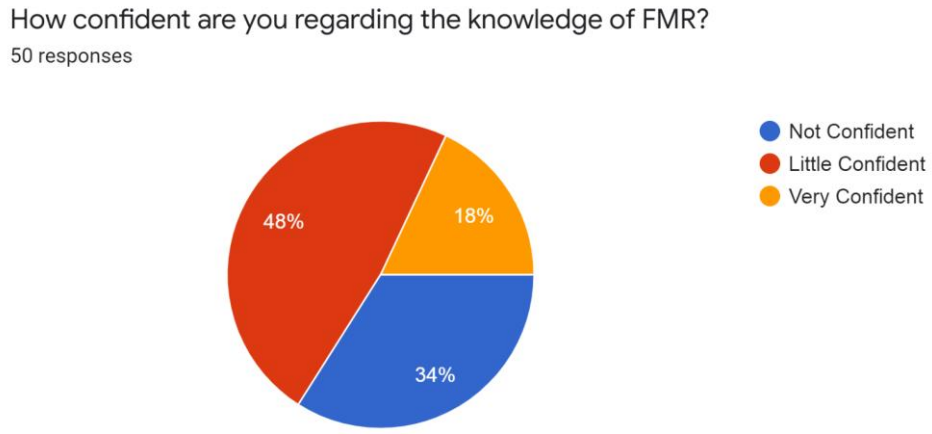


Fig 4. Depicts the awareness of the complications regarding FMR.

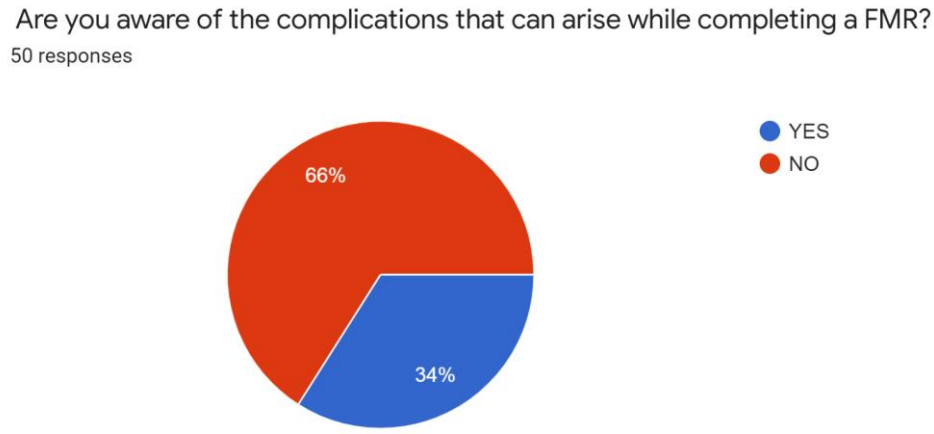


Fig 5 shows the aspects that the participants take under consideration while performing FMR.

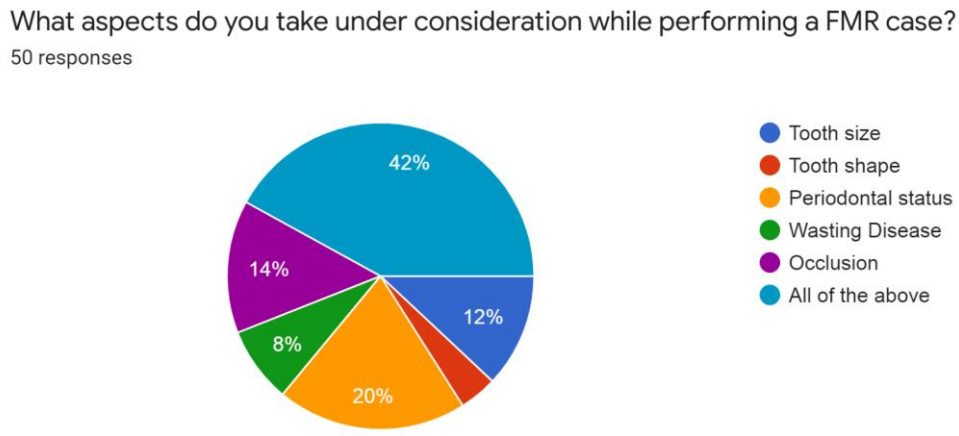


Fig 6 depicts the participants' awareness on the concepts of FMR.

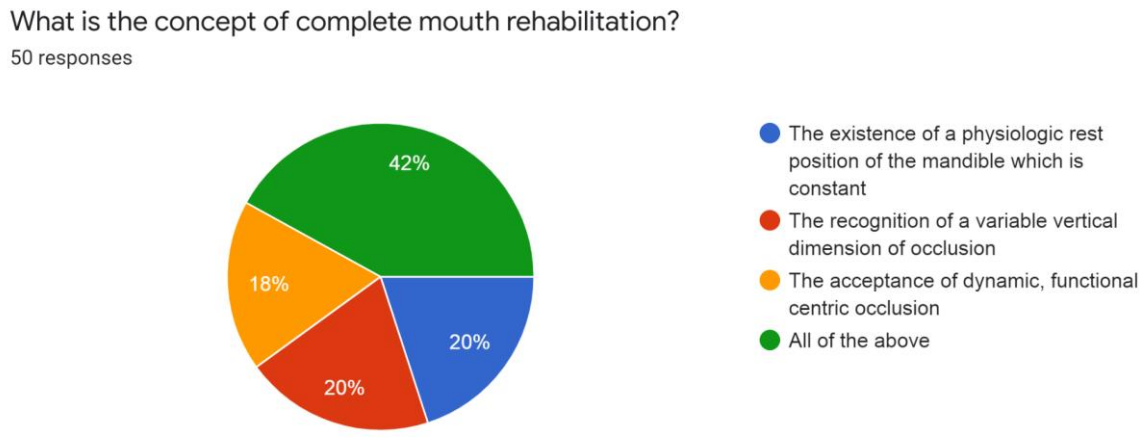


Fig 7 shows what the participants consider as the goal of FMR.

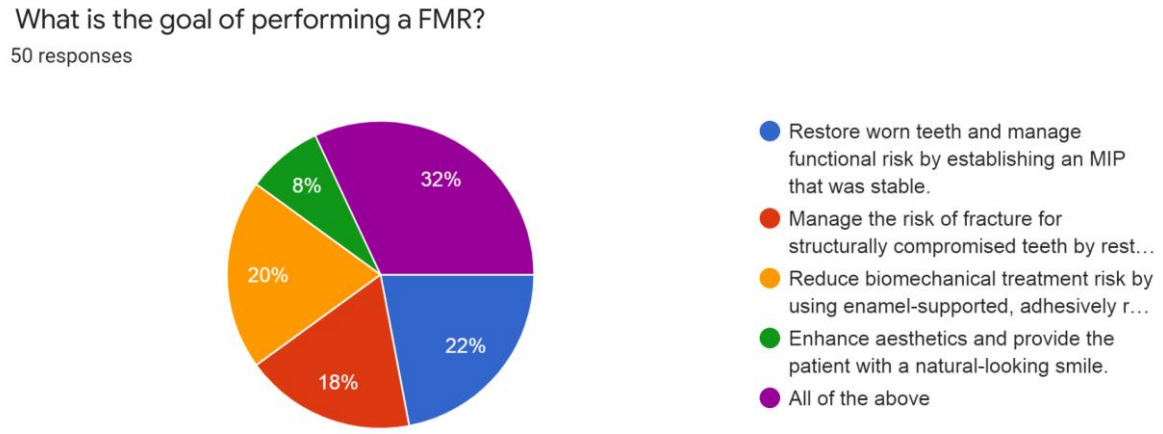


Fig 8 shows the confidence of the participants in achieving good esthetics and function at the end of FMR.

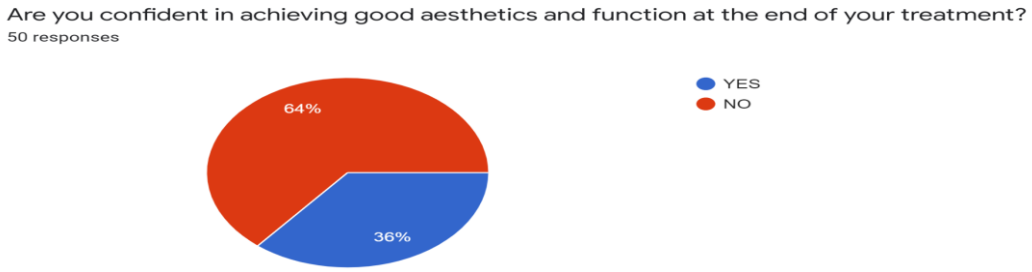


Fig 9 shows the participants confidence in occlusal evaluation and correction.

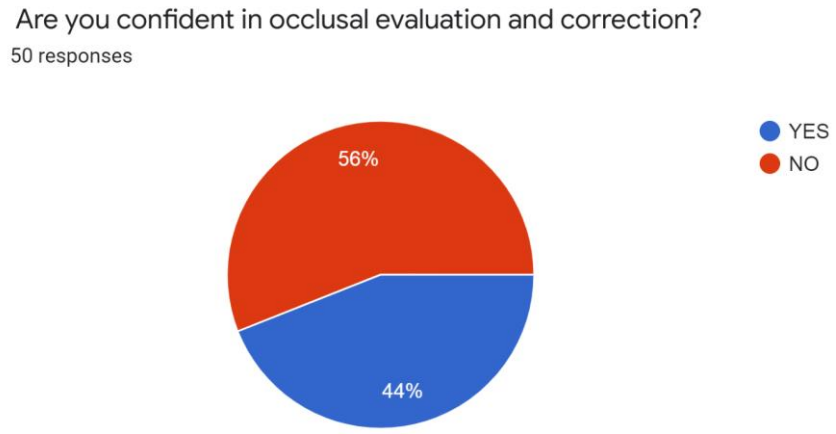
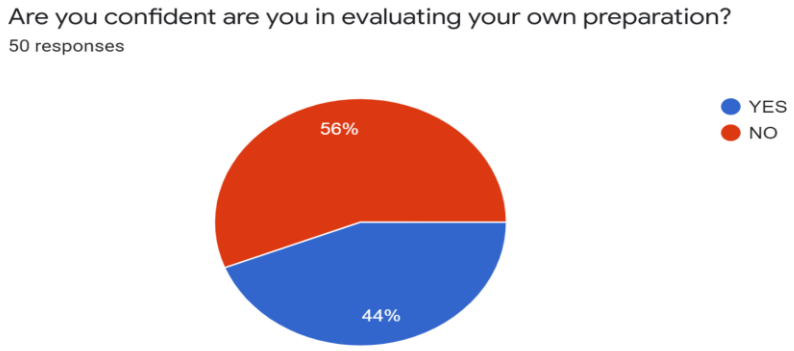


Fig 10 shows the confidence of the participants in evaluating their own tooth preparation



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