# KNOWLEDGE, ATTITUDE AND PRACTICE AMONG DENTAL STUDENTS REGARDING SURVEYORS - A QUESTIONNAIRE BASED STUDY

**Type of article: Research**
**Running title: knowledge, attitude and practice among dental students regarding surveyors.**

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**ABSTRACT**

**Aim and objective:** The aim of the study is to know about the knowledge, attitude and practice about surveyors among dental students.

**Materials and Method:** The study was conducted in a Dental College in Chennai, with 100 students of second year in Bachelor of Dental Surgery (BDS) participating in it. The students were asked to fill the predesigned questionnaire containing 10 questions. The results were then tabulated and calculated.

**Results:** In the study 56% of students had a good knowledge about surveyors and 28% of students didn't have sufficient knowledge about surveyors while 16%of students were not sure about surveyors. 52% of students had a very good knowledge about the uses of surveyors and 29% of students didn't know the uses of surveyors while 19% of students were not sure about the uses of surveyors.

**Conclusion:** In this study most of the participants had sufficient knowledge about surveyors while very few students did not know about surveyors. A significant portion of the students were not aware of the exact purpose of the surveyors. Hence, an efficient dental education program is the need of the hour to address these issues.

**Keywords**: Dental surveyors, Knowledge, Attitude, Dental Students, Surveyor Types.

The invention is intended to enable the designing dentist or the laboratory technician to find the exact spot of the undercut area necessary for retention of dental appliances. This accuracy is of extreme importance when the denture castings are made of materials such as chrome cobalt alloys, The attachment on the surveyor provides a means for locating and marking the exact point of contact of the undercut gage against or on the infra bulge area of the design model (3,4). This results in a mark on the exact point of contact of the undercut gauge that the designing officers or technicians can then draw their design of the denture on the model with accuracy (5). The objective of the surveyor is therefore, the provision of an attachment as means for cooperation with the undercut gauge of a denture survey instrument for determining the desired infra bulge area on a dental design model for properly fitting a denture therewith (6).

A further objective is to provide a means for determining the exact spot of the undercut area on a dental design model including the provision of inking means for the undercut gauge for determining and marking the exact spot in the undercut area necessary for retention of the artificial denture on the sound teeth of the person for whom the denture is to be made (7, 8).

MATERIALS AND METHODS:

The study was conducted in a Dental Collage, Chennai with 100 students studying second year in Bachelor of Dental Surgery (BDS) as participants. The students were asked to fill the predesigned questionnaire containing 10 questions. The results were then tabulated and calculated.

RESULTS:

- In this study 56% of students had a good knowledge about surveyors while 28% of students didn't have knowledge about surveyors and 16%of students were not sure about surveyors.(Figure 1)

- 47% of students had a very good knowledge about the uses of surveyors and 40% of students didn't know the uses of surveyors while 13%of students were not sure about the uses of surveyors. .(Figure 2)
- 54% of students prefer using dental surveyor, while 25% of students do not prefer using dental surveyors. .(Figure 3)
- 47%of students were aware of surveying procedures and 37%of students were not aware of surveying procedures. .(Figure 4)
- 53% of students were aware of different types of surveyors, while 31% of students were not aware of different types of surveyors and 16% of the students were not sure about the types of surveyors available. .(Figure 5)
- Regarding the best Surveyors, 35% say that Ney surveyor are the best, followed by Will's surveyor at 18% and then only 12% says that Williams surveyor are the better surveyors. The remaining 35% were unsure. .(Figure 6)

Figures:

Figure 1: Knowledge on Surveyors among dental students:

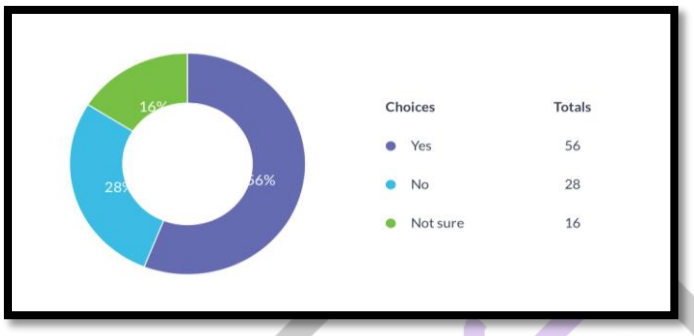



Figure 2: Knowledge on the uses of Surveyors among dental students

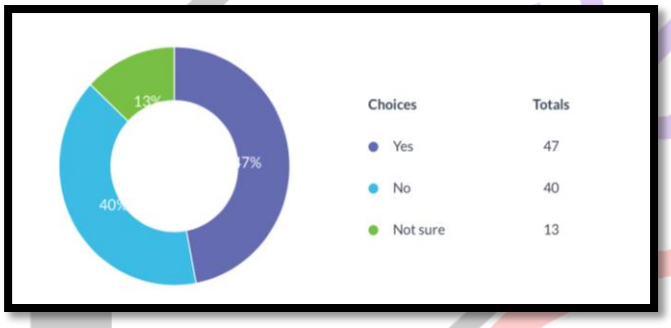



Figure 3: Preference towards using a Surveyor for prosthesis fabrication among dental students


Figure 4: Knowledge about procedures involved in surveying a cast using a surveyor

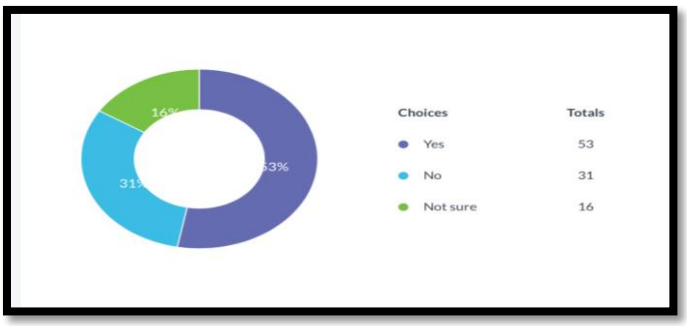


Figure 5: Knowledge about the Types of Surveyors

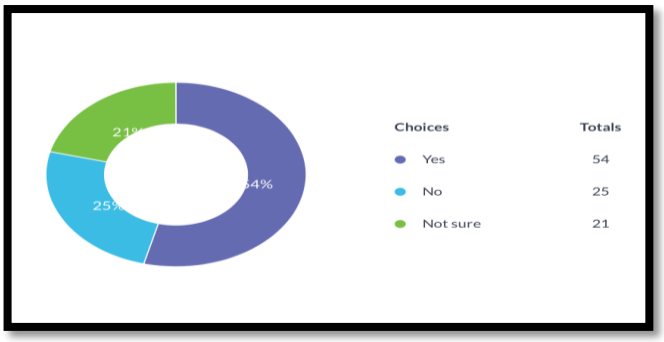
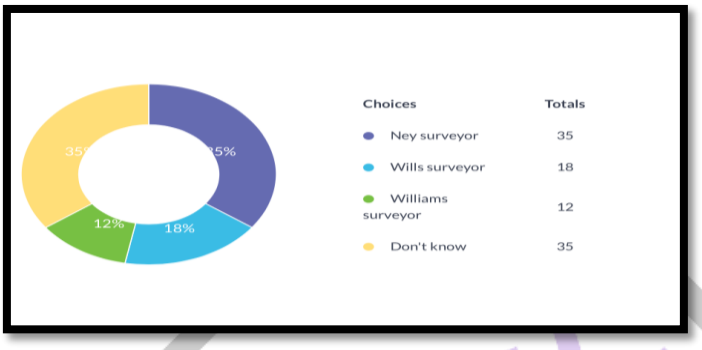



Figure 6: Choice of the type of Surveyor among dental students




DISCUSSION:

According to the data, 56% of the students have sufficient knowledge regarding surveyors. The students may have learnt about it during their class or might have read about it. The remaining 44% who are unaware and unsure might have had difficulties understanding about surveyors or were absent during class where the topic was discussed about.

Regarding the surveyor procedures, 47% have answered that they are aware of it. This is because of the exposure and demonstration that were given to the students in the lab. The remaining students have answered otherwise because they were not able to observe the procedure correctly and follow the steps accordingly.

47% of the students were aware of the uses of surveyors.40% of students were unaware of the uses of surveyors. Some of the uses surveyors are a) Parallelism of FPD tooth preparations can be evaluated using the dental surveyor. b) One of the primary uses of the dental surveyor is to survey diagnostic casts to identify the contours of teeth and soft/hard tissues when designing RPDs, plan the modifications of teeth and soft/hard tissues for the RPD, and verify that these preparations have been adequately completed. c) The dental surveyor is used to mark the survey lines and undercuts on the master cast prior to outlining the RPD framework. Hence, most of the students prefer using dental surveyors and are aware of the uses of the dental surveyor (9, 10).

35% of the students have chosen that Ney surveyor is the best surveyor while 18% and 12% have suggested that Will's and William's surveyor is the best surveyors respectively. This might be because of the observation they have made regarding the function and comfort of surveyors on the patient and also due to the difference of opinion that varies between individuals.

Ney surveyor is essential choice for designing removable partial dentures, as well as precision and pin-retaining fixed restoration and all-ceramic bridge work. This sturdy unit may be used to determine the parallelism of two or more tooth surfaces, or any part of the cast of a dental arch. Included is a tool holder and locking nut, which allows the centering of standard dental burs for milling of wax, dovetail preparation and ledges. Ney surveyor has many useful aspects and hence it has been the most preferred surveyor among the dental students.

CONCLUSION:

Most of the participants had knowledge about surveyors and its uses however there were some individuals who were not aware of their importance. Hence, it is of primary importance that all the students be educated on the topic so than they can design a better prosthesis for their patients.

REFERENCES:

[1] **Academy of Prosthodontics**.*Glossary of Prosthodontic terms*, 6 th ed. St. Louis, C V Mosby, 1994.

[2] **Engelmeier, R. L**. The history and development of the dental surveyor: Part I. *J Prosthodont.* 2002; 11(1) :11-18
[3] **Engelmeier, R. L.** The History and Development of the Dental Surveyor: Part II. *J Prosthodont.* 2002 Jun;11(2):122-30.
[4] **Engelmeier, R. L.** The History and Development of the Dental Surveyor: Part III. *J Prosthodont.* 2004; 13(3): 195-202.
[5] **Pravinkumar G. Patil, Smita Nimbalkar-Patil.** Two-Colored Dental Surveying Tool as an Alternative for Carbon Marker. *J Prosthodont.* 2015; 26(5); 481-482.
[6] **Edgar N. Starcke.** The history of articulators: A critical history of articulators based on geometric theories of mandibular movement, part III: The "balancer" designs. *J Prosthodont*. 2002;11(4): 305-320
[7] **José Maurício dos Santos Nunes Reis, Luciano Elias da Cruz Perez, Bruna Fernandes Moreira Alfenas, Filipe de Oliveira Abi-Rached, João Neudenir Arioli Filho**. Maxillary Rehabilitation Using Fixed and Removable Partial Dentures with Attachments: A Clinical Report. *J Prosthodont*. 2013, 23(1):58-63.
[8] **Nichols I G**. *Prosthetic dentistry*. St. Louis: C V Mosby, 1930.
[9] **Cummer W E, Turner C R, Anthony L P.** Partial denture service, in the *American textbook of prosthetic dentistry*. 6th ed. Philadelphia: Lea and Febiger, 1932.
[10] **Applegate O C.** The use of the paralleling surveyor in modern partial denture construction. *JADA* 1940; 27:1397-?