

# A Survey of Knowledge, Attitude, and Practice toward Disclosing Agents among Dental Students: A Prospective Study

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## Abstract

**Aim:** This study aims to evaluate the knowledge, attitude, and practice toward disclosing solution among dental students using a questionnaire survey. **Materials and Methods:** The survey was conducted among 200 undergraduate dental students. Data were collected using a questionnaire consisting of questions regarding students opinions, viewpoints, and recommendations about disclosing agents. **Results:** About 80% of the students were aware of the indications for disclosing agents; however, when asked about the types of disclosing agents available, only 27% of the students were aware. Regarding the methods of using disclosing agents, only 21% of students had knowledge about it. Majority of students were not aware of the commercially available brands (90%), recent advances (97), and side effects (98%) of disclosing agents. In this study, it was found that 33% of students were aware of importance of using disclosing agents at home and in dental practice, and 10% of students prescribed it while the majority of students (90%) failed to do so. **Conclusion:** Despite having theoretical knowledge, most of students do not give importance to use of disclosing agents in proper oral hygiene maintenance in patients. As dental professionals, students must take responsibility of their patient's health even after treatment. Students should update themselves about new materials available in the market to create the oral hygiene practice efficient among the patients.

**Keywords:** Disclosing agents, oral health, plaque control

## INTRODUCTION

Dental plaque removal is important in oral health maintenance as plaque deposition brings about the inflammatory changes on the periodontium leading to the destruction of tissues and can also cause dental caries in the long run.<sup>[1]</sup> Dental plaque is usually transparent and colorless and not easily visible; hence, an individual usually is not aware of the quantity or the location of dental plaque present in their mouth. A disclosing agent is a selective dye in solution, tablet, or lozenge form used to visualize and identify dental biofilm on the surfaces of the teeth;<sup>[2]</sup> the use of disclosing agents motivates a person in the early removal of dental plaque by showing the presence and quantity of plaque.<sup>[3]</sup> Amim<sup>[4,5]</sup> had played an important role in popularizing the use of disclosing agents, and according to Raybin,<sup>[6]</sup> disclosing agents were bound to revolutionize the home care regimen. The behavior of oral health providers and their attitudes toward their own oral health reflect their understanding of the importance of preventive dental procedures and improving the oral health

of their patients.<sup>[7]</sup> Hence, this study aims at evaluating the knowledge, attitude, and practice among dental students regarding disclosing agents.

## MATERIALS AND METHODS

This questionnaire-based cross-sectional survey was conducted among 200 undergraduate dental students in Chennai. Permission and ethical clearance were obtained from the concerned authorities of the college. Since it was a questionnaire-based study and no invasive procedure was carried out, verbal consent was taken from the participants. A questionnaire consisting of questions such as awareness, knowledge, opinions, viewpoints, and recommendations about disclosing agents was given to the students and data were collected.

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## RESULTS

A total of 200 students studying in final year and interns were reviewed in this study. Among them, 50% were final years and 50% were interns. About 80% of the students were aware of the indications for disclosing agents; however, when asked about the types of disclosing agents available, only 27% of the students were aware and majority (73%) were not aware. Regarding the methods of using disclosing agents, only 21% of students had knowledge about it. About 79% of students lacked knowledge about the composition of disclosing agents and majority of the students (95%) were not aware of the dosage of disclosing agents to be prescribed. Majority of students (90%) were not aware about the commercially available brands of disclosing agents. Regarding awareness about recent advances in disclosing agents, 3% of students suggested photodynamic therapy while the majority (97%) had no knowledge about it. When asked about side effects of disclosing agents, about 2% of students suggested staining of restorations while 98% of students were not aware of it. In this study, it was found that 33% of students were aware of the importance of using disclosing agents at home and in dental practice, and 10% of students prescribed it while the majority of students (90%) failed to do so.

## DISCUSSION

In this survey, viewpoints and preferences of 200 students regarding the knowledge of disclosing agents and their recommendations to the patients were investigated. Due to lack of studies about oral health attitudes and knowledge about disclosing agents among dental students in Chennai, this study is of prime importance in this field. The results obtained from this study showed that majority of the students (67%) lack knowledge about dental health care which is similar to a study done by Al-Wahadni *et al.*<sup>[8]</sup> and Petersen *et al.*<sup>[9]</sup> who reported that education about dental health care in the preuniversity curriculum could be an important factor that can influence the oral health attitudes of students entering dental field. In this study, it was found that 33% of students were aware of importance of using disclosing agents at home and in dental practice, and 10% of students prescribed it while the majority of students (90%) failed to do so, whereas in a recent study<sup>[10]</sup> done on dentists, it was found that 62% use disclosing agent to motivate the patient and 38% do not use disclosing agent. Similar studies done on dental students regarding disclosing agents in UAE<sup>[11]</sup> and Greece<sup>[12]</sup> showed that 91.1% and 67%, respectively, recommended using disclosing agents which is in contrast to the results obtained in our study (10%), but similar to the results obtained in a study done in Jordan<sup>[13]</sup> which is 21%. In this study, survey of students' awareness about brands, side effects, and recent advances in disclosing agents was done. It reveals that only 10% of students were aware about commercially available brands of disclosing agents in the market, 2% were aware about side

effects, and only 3% were aware about recent advances of disclosing agents. This shows students' lack of knowledge and negligence in updating their knowledge of disclosing agents and oral health maintenance continuously.

## CONCLUSION

Based on this study, it was concluded that most of the students lacked knowledge about disclosing agents and rest of the students despite having theoretical knowledge do not give importance to use of disclosing agents in proper oral hygiene maintenance in patients. As dental professional students must take responsibility of their patients' health even after treatment. It is very rare to find any patient without even mild plaque present in his/her oral cavity, yet since long, disclosing agent has proved to be a good adjunct for the patients' maintenance care. Disclosing agents are available in various forms such as solutions, wafers, and mouth rinses. Recently, a study<sup>[14]</sup> was done to find the efficacy of using disclosing agents with photodynamic therapy to kill the bacteria present in plaque and biofilm. Three-tone plaque disclosing agent has been recently found to be effective in identifying pathological plaque.<sup>[15]</sup> Thus, students should update themselves about new materials available in the market to create the oral hygiene practice efficient among the patients.

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## Conflicts of interest

There are no conflicts of interest.

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