KAP AMONG UG AND PG STUDENTS ON POLISHING RESTORATION STRIPS IN CLASS 2 AND CLASS 4

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Abstract

The KAP model is widely used to assess the understanding (Knowledge), perception (Attitude), and application (Practice) of a particular procedure among individuals. Several studies have assessed the KAP of dental students on topics like cavity preparation, restorative material selection, and infection control (Khan et al., 2019; Patel et al., 2017). However, limited studies focus specifically on polishing techniques for restorative materials in cavity classes.UG vs. PG Education and Clinical Experience

Undergraduate students generally have a more theoretical focus, whereas postgraduate students have greater exposure to clinical cases and advanced restorative techniques. Studies have shown that postgraduate students tend to have higher levels of knowledge and more refined clinical practices due to their enhanced training and experience (Hassan et al., 2015). This difference in training is expected to reflect in the polishing techniques used for Class 2 and Class 4 restorations.

Introduction

Polishing of restorative materials plays a critical role in the longevity, aesthetics, and overall success of dental restorations. Specifically, polishing restoration strips in Class 2 (proximal cavities) and Class 4 (anterior cavities) are essential steps for achieving smooth, aesthetically pleasing, and biologically compatible restorations. The process of polishing is intended to reduce surface roughness, improve the

appearance, and prevent plaque accumulation, which can lead to secondary caries and gingival inflammation.

Despite its significance, there is limited research evaluating the Knowledge, Attitude, and Practice (KAP) of dental students regarding the correct use of polishing techniques for restoration strips in these cavity classes. Understanding the KAP of both undergraduate (UG) and postgraduate (PG) dental students can help identify gaps in their clinical education and highlight areas for improvement in training. Moreover, the differences in KAP levels between UG and PG students may shed light on how clinical exposure, experience, and advanced education contribute to the students' approach to polishing restorations.

This study aims to assess and compare the knowledge, attitude, and practices regarding polishing restoration strips in Class 2 and Class 4 cavities among UG and PG dental

MATERIALS AND METHODS

Polishing is an essential final step in restorative dentistry, particularly for composite resin restorations, which are prone to surface roughness due to their material properties. Research suggests that proper polishing can prevent plaque accumulation, reduce staining, and improve the wear resistance of the restoration (Jokstad et al., 2018). The process typically involves the use of polishing strips, disks, and rubber cups designed for different cavity classes and materials.

Knowledge, Attitude, and Practice in Dental Education

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Objectives of the Study

The objectives of this study are:

- To assess the knowledge of UG and PG dental students regarding the importance and techniques of polishing restoration strips in Class 2 and Class 4 cavities.
- To evaluate the attitude of UG and PG dental students towards the role of polishing in restorative dentistry.

- To investigate the practices followed by UG and PG dental students when polishing restoration strips.
- To compare the KAP of UG and PG students in relation to polishing techniques.

Methodology

Study Design

This was a cross-sectional study conducted among dental students at a tertiary care dental institution. A structured questionnaire was used to assess the KAP of the students regarding polishing restoration strips in Class 2 and Class 4 cavities.

Sample Size

The study included 200 dental students: 100 undergraduate (UG) students and 100 postgraduate (PG) students. The UG students were in their final year of study, while the PG students were enrolled in various advanced restorative courses.

Data Collection

A validated questionnaire was designed to assess the following:

- Knowledge: Questions regarding the purpose of polishing, types of polishing strips, techniques for polishing in different cavity classes, and the benefits of polishing.
- Attitude: Questions evaluating the students' perceptions of the importance of polishing in achieving aesthetic outcomes and preventing secondary caries.
- Practice: Questions related to the actual use of polishing strips, frequency of polishing in clinical practice, and the types of materials used for polishing.

Statistical Analysis

Data were analyzed using SPSS software. Descriptive statistics (frequencies, percentages) were used to summarize the responses. A Chi-square test was applied to compare the KAP of UG and PG students. A p-value of <0.05 was considered statistically significant.

Results

Demographic Characteristics

- Undergraduate Students: 55% were female and 45% were male. The majority (70%) were between 21-23 years of age.
- Postgraduate Students: 60% were female and 40% were male. The age range of PG students was 24-30 years.

Knowledge on Polishing Techniques

- Undergraduate Students: 60% of UG students were aware of the types of polishing strips used for different cavity classes, while 40% lacked detailed knowledge about the specific techniques for Class 2 and Class 4 cavities.
- Postgraduate Students: 90% of PG students correctly identified the polishing methods and understood the role of polishing strips in preventing plaque buildup and enhancing restoration longevity.

Attitude Towards Polishing

- Undergraduate Students: 80% of UG students viewed polishing as an important step but did not consistently consider it essential for the long-term success of restorations. Many felt that it was a time-consuming process.
- Postgraduate Students: 95% of PG students emphasized the importance of polishing in achieving ideal aesthetics and preventing clinical failures, recognizing it as integral to the restoration's success.

Practical Application of Polishing

- Undergraduate Students: 45% of UG students reported polishing restorations frequently in clinical practice, while 55% only occasionally used polishing strips, primarily due to lack of confidence or insufficient clinical time.
- Postgraduate Students: 85% of PG students polished restorations regularly, using specialized polishing strips and following detailed techniques learned during their clinical training. They were more likely to employ a stepwise polishing technique to achieve a high-quality finish.

Comparison Between UG and PG Students

- Knowledge: There was a significant difference in knowledge levels, with PG students outperforming UG students in identifying appropriate polishing techniques ($p<0.05$).
- Attitude: PG students had a more favorable attitude towards polishing, viewing it as an essential step in restorative procedures ($p<0.05$).
- Practice: The difference in practical application was also significant, with PG students performing polishing more consistently ($p<0.05$).

Discussion

Knowledge

The study shows a clear difference in the knowledge of polishing techniques between UG and PG students. While UG students had a basic understanding, PG students demonstrated a more advanced knowledge, likely due to their extensive clinical exposure and advanced coursework. This is consistent

with findings from other studies, which suggest that postgraduate training enhances theoretical knowledge and practical skills (Hassan et al., 2015).

Attitude

The more favorable attitude towards polishing among PG students reflects their increased clinical confidence and recognition of its long-term benefits. UG students, in contrast, showed less enthusiasm for polishing, possibly due to time constraints or a lack of emphasis in their undergraduate curriculum. Their perspective could also be influenced by a perception that polishing is less critical compared to other restorative steps.The more frequent and consistent use of polishing techniques by PG students underscores the importance of clinical practice in shaping the application of theoretical knowledge. UG students, on the other hand, reported using polishing strips less often, possibly due to inadequate training or a lack of emphasis on this aspect during their clinical years.Educational Gaps .The study highlights a gap in the training of UG students regarding the importance of polishing in restorative procedures. It is essential for dental schools to place more emphasis on polishing techniques in their curricula to ensure that UG students are well-equipped with the necessary skills when they enter clinical practice.

Conclusion

This study demonstrates a significant difference in the Knowledge, Attitude, and Practice (KAP) regarding polishing restoration strips in Class 2 and Class 4 cavities between undergraduate and postgraduate dental students. PG students showed superior knowledge, a more positive attitude, and better clinical practices, highlighting the influence of advanced education and clinical experience.

To bridge the gap, dental institutions should consider enhancing the undergraduate curriculum by providing more practical training and emphasizing the significance of polishing techniques. Additionally, regular workshops or hands-on sessions for UG students could improve their confidence and competence in polishing restorations, leading to better clinical outcomes in their future practice.

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CONFLICT OF INTEREST

Nil

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Recommendations

1. Curriculum Enhancement: Incorporate more practical sessions on polishing techniques for composite restorations in undergraduate programs.
2. Workshops and Continuing Education: Offer workshops for undergraduate students to refine their polishing skills and improve their clinical confidence.
3. Mentorship Programs: Encourage postgraduate students to mentor undergraduate students, allowing them to pass on advanced techniques and practical tips for polishing restorations.

This study provides valuable insights into the current state of polishing practices in restorative dentistry education and offers practical solutions for improving the KAP of UG dental students in particular.

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