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AWARENESS OF USING RUBBER DAM IN RESTORATIVE PROCEDURES AMONG DENTISTS

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Abstract:
Successful restorations in dental patients depend largely on the effective control of moisture and microbes during the procedure. The rubber dam technique has been one of the most widely used isolation methods in dental restorative treatments. The evidence on the effects of rubber dam usage on the longevity of dental restorations is conflicting. Therefore, it is important to summarise the available evidence to determine the effects of this method. The most common reasons for not using rubber dam for a procedure were patients' inconvenience. The purpose of the present study was to evaluate the effectiveness of restoration using rubber dam and dentists' attitude to rubber dam. A questionnaire containing 15 questions was circulated to 150 Dental practitioners. The questionnaire is about the patient attitude, disadvantage and advantages of using rubber dam towards the quality of restoration, and whether they agreed or disagreed with some aspects of the rubber dam. The questions were then collected and evaluated. The data was subjected to statical analysis.25% of the respondents used rubber dam in their practice,45% felt rubber dam prevents swallowing,30% felt rubber dam causes breathing difficulty in patients during treatment.60% said rubber dam prevents salivary contamination,25% said rubber dam prevents microbial contamination and 15% said rubber dam improved working efficiency .This study concluded the awareness about the use of rubber dam among dentists is moderate. It may be necessary to increase the awareness of private practitioners to the benefits of rubber dam use by means of continuing education and stressing its importance in undergraduate studies.

KEYWORDS: Knowledge, Patient's Attitude, Rubberdam, Restoration, Moisture control.

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I. INTRODUCTION:

Rubber dam isolates operating field and makes treatment less invasive and safer for the patient. Rubber dam acts as a shield to salivary contamination, aspirating instruments and chemical. It retracts, provide clear and more focused vision for the dentist. It increases the patient anxiety towards the rubber dam.It has been indicated that dentists believe that rubber dam is too time consuming and cumbersome and patients do not like rubber dam experience(Checchi et al., 2020).

Rubber dam is easy to apply once the basic components and principles are understood. The most common reasons for not using rubber dam for a procedure were patients' inconvenience and belief that it is unnecessary (3). The use of the air turbine results in the formation of aerosols and droplets that are usually contaminated with bacteria and blood. These aerosols and droplets represent a potential route for transmission of infectious diseases such as measles, tuberculosis, SARS, hepatitis and AIDS. The use of rubber dam results in a significant reduction in the microbial content of air turbine aerosols produced during operative procedures, thereby reducing the risk of cross-infection in the dental practice (Abreu-Placeres et al., 2020).

Rubber dam protects the patient's oropharynx from the possible aspiration or swallowing of instruments, medicaments, irrigating solutions and tooth/material debris and subsequently the operator from legal responsibility should these accidents occur. It also retracts and protects the soft tissues ,gingival tissues, tongue, lips and cheeks from rotary and hand instruments, medicaments and potential the trauma of repeated manual manipulation (Cunningham et al., 1969; Thomas et al., 2018). The purpose of the study is to assess the effects of rubber dam isolation, the outcome quality of restoration and the attitude of patient toward rubber dam used for direct and indirect restorative treatments in dental treatment.

II. MATERIALS AND METHODS:

A Questionnaire containing the items about the opinions and attitudes of dentists toward the use of rubber dam, anxiety of the patient to rubber dam, quality outcome of the restoration using a rubber dam was designed.

Then this questionnaire was piloted and distributed to 100 dentists, and information's about the opinions and attitudes of dentists toward the use of rubber dam were collected. Information related to year of graduation, practice type and gender of the respondents, information related to use of rubber dam in restorative procedures, the information related to the dentist's attitude to the use of rubber dam and information related to dentist's reasons for using or not using rubber dam were sought in the questionnaire. The collected data were statistically analyzed.

III. RESULTS:

25% of the respondents used rubber dam in their practice (Fig.1),65% felt rubber dam prevents swallowing,30% felt rubber dam causes breathing difficulty in patients and 5% said rubber dam causes pain during treatment(Fig.2).60% said rubber dam prevents salivary contamination,25% said rubber dam prevents microbial contamination and 15% said rubber dam improved working efficiency (Fig.3).

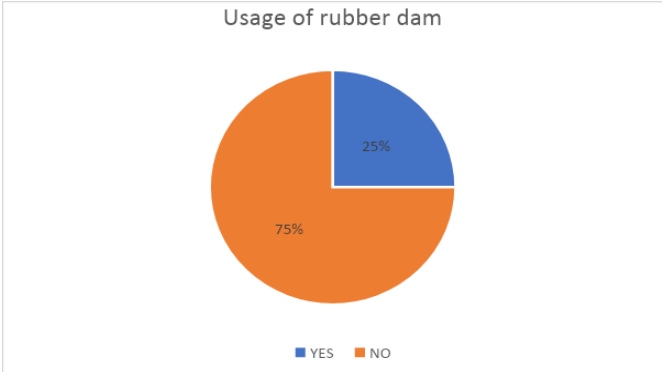

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Fig .1: Usage of rubber dam

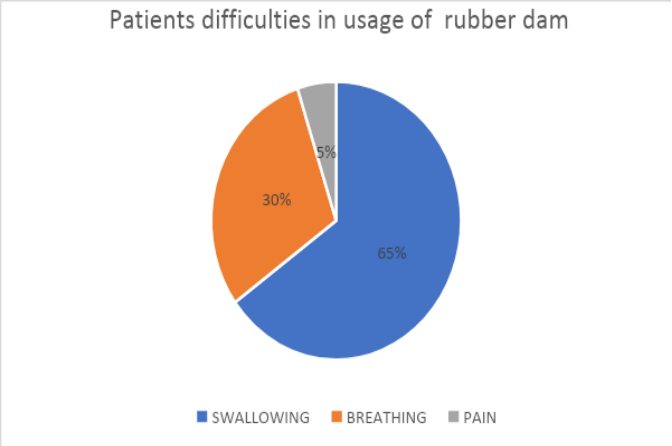

Fig .2: Patients difficulties in usage of rubber dam

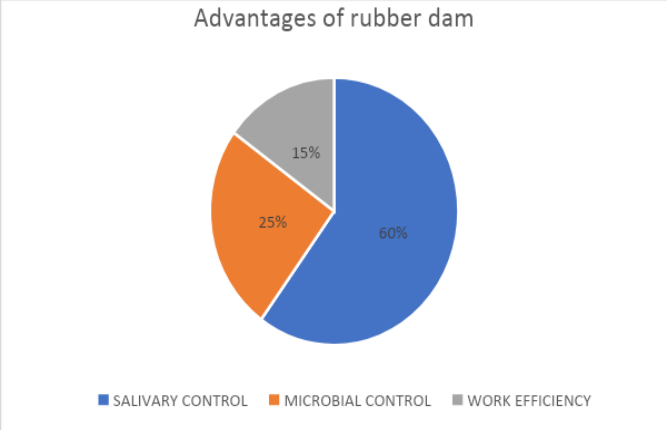

Fig .3: Advantages of rubber dam

IV. DISCUSSION:

Rubber dam is mostly used for restorative treatment. The use of rubber dam in the treatment of children is limited appreciably by the children's poor cooperation. More than half of the regular rubber dam users do not use it when treating children. The frequency of rubber dam usage increases significantly with increasing percentage of direct payments. Dentists are forced or motivated more to use rubber dam as a quality standard method of operation field isolation in treatment. Barriers for the use of rubber dam apparently include lack of experience, underestimation of its benefits and a lack of motivation. Another reason is that the amount of time required to place rubber dam is often overestimated. Furthermore, dentists are often concerned that patients will not tolerate rubber dam. If instructed properly, most patients tolerate rubber dam very well; many of them even find treatment with rubber dam more comfortable and bearable (Sasaki et al., 2016).

In other countries like Belgium, 64.5% of practitioners did not use rubber dam routinely while only a very minor proportion (3.4%) believed rubber dam to be a standard procedure. Whitworth et al.stated that the negative perception regarding patients' dislike towards rubber dam may be related more strongly to practitioner attitude. Stewardson and McHugh also indicated that the experience of the dentist and their level of skill influence the patient's opinion and suggested that proficiency regarding the utilization of rubber dam must be gained through frequent usage.(Stewardson & McHugh, 2002)

In general, presence of latex allergy was not asked to the patients by almost half of the students, higher than the ratio. This result may suggest that more attention must be directed towards the possibility of latex allergy prior to application of the rubber dam considering some cases published. The high percentage of students who did not use rubber dam for child patients (89.1%) also exceeded the ratio (68%). This issue however needs to be considered from a pedodontic standpoint, probably in a future study focusing on this group of patients. Percentages of students with this opinion were higher than those reported.(Kosti & Lambrianidis, 2002)

Recently, there has been increasing effort to implement a malpractice law in the country, encompassing all healthcare givers. This will necessitate taking more intensive measures by both practitioners as well as authorities for the provision of patient. Unlike the reasons cited for not using rubber dam, the main reasons mentioned in our survey by the private practitioners in the UAE were patient discomfort. (Kleier & Shibilski, 1999).

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In addition, the extra time spent in placing the dam is more than compensated with better working conditions offered by the dam including controlling the saliva contamination and eliminating the need to frequently change cotton rolls as well as limiting the movements of the patient's tongue and lips. As it is already evident that rubber dam may reduce the incidence of post-treatment disease during root canal treatment,(Knowles et al., 1998).Results show that almost 50% of the respondents were confident that restorative filling in the absence of rubber dam were just as successful as those placed with a rubber dam. The use of rubber dam in restorative treatment is considered the minimum safety standard of care.(Soldani & Foley, 2007).

V. Conclusion

This study concluded the awareness about the use of rubber dam among dentists is moderate. It may be necessary to increase the awareness of private practitioners to the benefits of rubber dam use by means of continuing education and stressing its importance in undergraduate studies. Rubber dam is mostly used for endodontic treatment and restorative treatment. Rubber dam makes dentistry easier, faster, safer and more satisfying for the operator. It allows the practitioner to deliver a better quality of care and improved patient comfort.

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