

THE USE OF RUBBER DAM BY THE DENTAL PRACTITIONERS OF PESHAWAR

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ABSTRACT

Objective: To assess the current practicing habits of use of rubber dam in dental practices, in the city of Peshawar.

Material and Methods: Structured questionnaire was formulated to incorporate demographics of the dentist, attitude, knowledge and experience towards rubber dam of the private dental practitioners.

Results: A total of 80 private practitioners responded to the questionnaire, of these 83.8% were male dentists and 16.2% were female dentists.

In the study, 52 (65%) of the respondents did not have a rubber dam kit at their private clinics. The most shared reason was of its difficulty in application. In the study, 42 (52.5%) had been taught theoretically as well as clinically, 36(45%) had only been taught theoretically.

Conclusions: Rubber dam is underused in the private practice in the city of Peshawar. The reason includes cost, lack of training, availability, and acceptance. There is a dire need to emphasize on the use of rubber dam in dental practices and to educate the dental practitioners, both theoretically and practically.

Key words: Rubber dam, Isolation

INTRODUCTION

Rubber dam was introduced to the dental profession by Barnum in 1864¹. Since then it has been an invaluable tool to dental practitioners. The benefits it provides to the patient and dentist are; control of cross-infection as it results in a significant reduction in the microbial content of air turbine aerosols and moisture control, thereby reducing the risk of cross-infection in the dental practice². In addition, it protects the patient's oro-pharynx from the possible aspiration or swallowing of instruments, medicaments, irrigating solutions and tooth/material debris³ and subsequently the operator from legal responsibility should these accidents occur⁴. Along with these advantages, rubber dam improves patient comfort during dental treatment⁵. Studies have shown that the use of rubber dam can

decrease the amount of time spent performing certain clinical procedures⁶. These advantages have led to the use of rubber dam being recommended as a standard of care by professional organizations i.e; American Association of Endodontists and European Society of Endodontology⁷.

However, rubber dam are believed to generate more controversy than any other dental device or technique⁸. Patient discomfort, insufficient time and training, and cost are frequently cited reasons for the limited use of rubber dam⁹. The benefits rubber dam provides have been universally accepted to outweigh the above controversy. Hence majority of dental schools worldwide teach the use of the rubber dam as an important adjunct to restorative dentistry in both adult and child patients¹⁰.

The aim of this study was to attain an overview about the current practicing habits of the general/specialist practitioners in the city of Peshawar and to evaluate if the present educational institutes are educating their students regarding the application of rubber dam.

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METHODS AND MATERIALS

This cross-sectional survey was designed on a structured questionnaire. This questionnaire consisted of questions that could be broadly classified into i) biographic data of the practitioner ii) attitude and knowledge of the practitioner towards the device and iii) clinical experiences related to it.

First a pilot study was conducted at the department of endodontics and operative dentistry, Sardar Begum Dental College Peshawar. With the help of which some modifications were made to the questionnaire.

The questionnaire was then distributed at three dental institutes at Peshawar, but only to those dentists who were practicing privately as well. Hence the inclusion of only those practitioners was done who were also attached to an educational institute.

After obtaining approval by Ethical Committee of Gandhara University, the questionnaire was distributed among 90 participants, who consented for participation. The study was conducted from April till May, 2014. Each participant was visited personally for complete understanding of the questionnaire and counseling them regarding the confidentiality of the data.

Questionnaire included demographics of the participant, duration of the clinical experience, rubber dam usage in the practice, reasons of using or not using the rubber dam for endodontics and any experience with the rubber dam.

All questionnaires were coded and analyzed using SPSS version 17. Results were expressed as a number and percentage of respondents for each question.

RESULTS

A total of 80 private practitioners responded to the questionnaire. Of these 67 (83.8%) were male dentists and 13 (16.2%) were female dentists, with male to female ratio of approximately 5:1. Regarding the duration of clinical practice, most practitioners (25%) had been practicing for 36 months. Details are given in Fig-1. Majority of the practitioners were dental graduates (61.25%) followed by fellows (25%). Details are given in Table 1. Most of the participants were from Oral surgery specialty (33.75%) followed in frequency by Prosthodontics (21.25%). Details are

given in Table 2.

Results showed that 52 (65%) of the respondents did not even have a rubber dam kit at their private clinics, although, 78 (97.5%) of the total do endodontic treatment at their clinics. The most shared reason for not having a rubber dam kit in their clinics was of its difficulty in application in 45% of the practitioners followed by patient discomfort. Details are given in Fig-2.

Out of total, 42 (52.5%) had been taught theoretically as well as clinically, 36 (45%) had only been taught theoretically while remaining 2.5% were taught clinically how to apply a rubber dam. Among the participants who use rubber dam, 70(87.5%) of them used rubber dam for only endodontic procedures and 10(12.5%) had used it for restorative procedures.

According to 16(20%) of the dentists, the use of the rubber dam will have no effect on the success of endodontic treatment. Only 5 (6%) clinician responded positively to have experienced instrument inhalation, due to lack of usage of rubber dam.

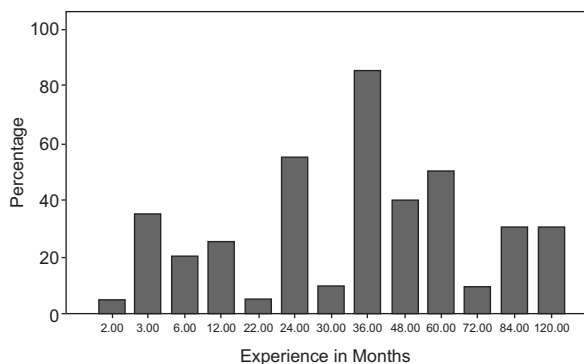


Figure-1: Experience of the Participants

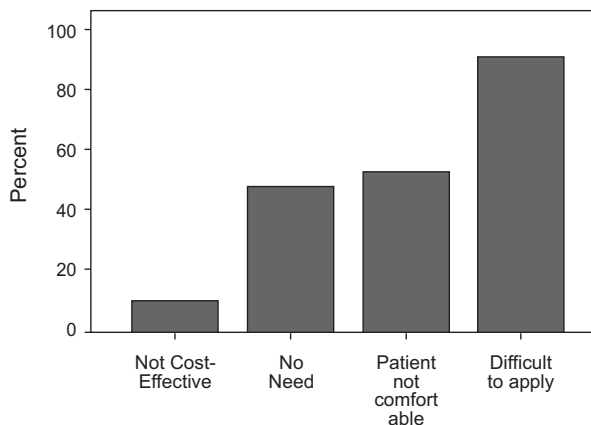


Figure-2: Reasons for not using Rubber Dam in Endodontics

Table-1: Qualification of the Participants

Qualification	Frequency	%
BDS	49	61.25
FCPS	20	25.0
MCPS	3	3.75
MDS	2	2.50
MPH	2	2.50
M.phil	2	2.50
M.sc	2	2.50
Total	80	100.0

Table-2: Specialty of the Participants

Specialty	Frequency	%
Community Dentistry	2	2.50
Dental Material	2	2.50
Endodontics	16	20.00
General Dentist	11	13.75
Orthodontics	5	6.25
Prosthodontics	17	21.25
Oral Surgery	27	33.75
Total	80	100.0

DISCUSSION

The predominance of men among the respondents in the present study is consistent with the findings of Lynch and McConnell¹¹ in their study of Irish general dentists. In our study, we found out that due to social obligations, men are more likely to pursue private practice than women, in part of the region.

The limited use of rubber dam by the dental practitioners that is reported in the current study is in line with the findings of other international reports^{12,13}. Silversin et al. observed that probably no other technique, treatment or instrument that is used in dentistry is accepted and advised by the recognized authorities and still so universally ignored by practicing dentists than the use of rubber dam. A recent survey in UK showed that only 19% of general dental practitioners are routinely using rubber dam¹³.

A striking aspect of the present study is the positive attitude toward rubber dam in the majority of respondents, among whom rubber dam use was associated with high-quality dentistry. However, it should be noted that some studies have reported that rubber dam resulted in no clinical difference in treatment outcomes. Soldani and Foley¹⁴ maintain that until randomized controlled trials with long-term follow up are conducted, the question of whether the use of rubber dam improves the quality of dentistry remains unresolved.

Only 52.5% of the respondents had been taught rubber dam application theoretically and clinically. This statement can be counter checked by noting that majority of the dentists stated the reason for not using rubber dam at clinics is related to difficulty of application of the rubber dam. This finding concurs with the finds of a study conducted on the subpopulation of Nigerian dentists, where 77% stated the same reason

for not using rubber dams¹⁵. It is encouraging to note that the majority of the respondents felt that rubber dam allows a more successful root canal treatment. This concept is aligned with the evidence in the literature that root canal systems that become infected with bacteria are associated with a higher prevalence of post-treatment disease¹⁶. Hence, rubber dam use during root canal treatment seem logical.

In the present study, clinicians were asked if any incident of instrument inhalation or ingestion had happened in their clinical experience. The dentists that responded positively were 5(6%). These incidents can lead to serious medico legal consequences so even this frequency is to be considered. Our results are concurrent with Susini et al¹⁷, who reported the incidence of ingestion or aspiration of endodontic instruments was low even though most general practitioners do not routinely use rubber dam. They further recommend that use of rubber dam by general practitioners for endodontic procedures should be encouraged by stressing its advantages rather than the fear factor of accidents^{17,18}.

CONCLUSIONS

According to the study, the factors responsible for under-utilization of rubber dam in this population include cost, lack of training, availability, and acceptance. Although most of the participants agreed to the importance of the use of rubber dam, but still the practice of using it is really low. The survey conducted here only included dentist that were affiliated with an institute. Hence further surveys need to be conducted to assess dentist's behavior with rubber dam at their practice.

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