

Original Research Article

Attitudes and opinions of dental practitioners towards the use of clinical photography in Srinagar: a cross sectional study

Asif Yousuf^{1*}, Iram Jan², Mohsin Sidiq³

¹Private Practitioner, Signature Smiles Dental Clinic and Implant Centre, Srinagar, Jammu and Kashmir, India

²Dept of Oral and Maxillofacial Surgery, Govt. Dental College, Srinagar, Jammu and Kashmir, India

³Department of Pedodontics, Government Dental College, Srinagar, Jammu and Kashmir, India

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*Correspondence:

Dr. Asif Yousuf,

E-mail: asify11@gmail.com

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ABSTRACT

Background: Clinical photography has become a part of modern-day dental practice. It has been used for dento-legal documentation, diagnosis, clinical assessment, treatment planning, patient motivation, communication with the patient and laboratory, academic purposes and also for marketing. The aim of the study was to assess and determine the knowledge and the extent of the use of photography by dental practitioners of Srinagar city.

Methods: A cross-sectional survey involving a questionnaire consisting of 10 questions was distributed among 88 randomly selected dental practitioners of Srinagar city, out of which 72 dental practitioners responded positively and returned the questionnaire. The data collected were computerized and analyzed statistically. The average values of the responses received by groups of questions were analyzed.

Results: According to the survey conducted, 52(72.22%) dentists used photography for dental practice. Out of all the dentists surveyed, 63(87.5%) of the dentists knew about the importance of dental photography. It was observed that 40(55.55%) fresher dentists (<5 years' experience) showed more positive attitude towards the application of photography in their dental practice. It was also revealed that the application of clinical photography among male dentists, dentists with <5 years' experience and dentists who work with an assistant were significantly higher as compared to other dentists ($p < 0.05$).

Conclusions: Hence, from this study, majority of respondents (87.5%) were aware of the importance of dental photography. The reasons which prevented the dentist from using clinical photography were lack of time, expensive instruments, lack of interest and cross infection. Male practitioners were more likely than female practitioners to use clinical photography. Photographic training should hence be inculcated in the curriculum of dentistry. Also dental practitioners should actively participate in CDE programs on Clinical photography to improve the quality of dental practice.

Keywords: Camera, Dental practitioners, Documentation, Photography

INTRODUCTION

Photography is the science and art of recording the images.¹ Technological advancements in the field of photography have revolutionized the concept of photography as a commanding medium of expression and communication. Digital photography almost has overtaken the conventional photography. This evolution

to a contemporary photographic process is revolutionizing the way clinician's diagnose, treat and communicate with patients and colleagues. This has allowed dentists moreover to integrate photography into their daily practice.²

Photography has become a part of modern day dental practice. The incorporation of digital photography in

everyday dental practice is a result of the advancement of digital photography.³ It has an important role in dento-legal documentation, communication with laboratory technicians, educational motivation and dental marketing.⁴

The common reasons for using photography in clinical dental practice include case documentation, diagnosis, clinical assessment, treatment planning, medico-legal purposes, patient motivation, facilitation of communication with the patients and colleagues, academic and educational purposes.⁵⁻⁸ Photography has a wide role of significance in teaching, research and clinical recording.

The advantages of digital photography over conventional photography is that it provides an instant and easy access, opportunity to evaluate and repeat the incorrect images at the same visit, no expenses for processing, easy communication and secure storage of images without the risk of fading film or plate.⁷ This has changed approach in the way of collecting diagnostic data, training and assessment of clinical cases.⁹ Dental digital photography enables easy documentation of patients. Digital images can be stored quickly and safely for academic purposes or legal protection of performed treatment. This is reason to consider that the digital camera is an obligatory part of dental equipment and dental photography training should be an integral part of dental education.¹⁰

The aim of the study was to assess and determine the knowledge and the extent of the use of photography by dental practitioners of Srinagar city.

METHODS

This cross sectional survey was conducted among dental practitioners of Srinagar city from April 2019 to June 2019. A total of 88 dentists from different clinical setups and dentists working in Govt. Dental College, Srinagar were invited to participate in the study. Systematic random sampling was employed by selecting the subjects in every 2nd clinic starting from the first clinic and every 2nd employee in Govt. Dental College, Srinagar.

The inclusion criteria included dentists having BDS/ MDS degree, those willing to participate in the study and above 21 years of age.

The subjects who were not willing to participate and Laboratory technicians/ Denturists running Clinics were all excluded. Thus, a total of 88 subjects who were fulfilling the inclusion criteria were selected. Informed consent was obtained from all the dentists willing to participate in the study.

A questionnaire was sent to them with 10 questions which included questions on their educational background, affiliation, experience, type of practice, importance of dental photography, reasons for not using

dental photography and equipments for documenting cases. Results were obtained and tabulated.

Data was analyzed using Med-Calc v12.2.1.0. Descriptive statistics were obtained and percentage distributions of responses to questions were calculated. Chi square test was employed for inter group comparison of variables. For all tests a p-value of 0.05 or less was used for statistical significance.

RESULTS

According to the survey conducted, the results show that 52(72.22%) people used photography for dental practice and 20(27.77%) dentists did not use it. Out of all the dentists surveyed, 63(87.5%) of the dentists knew about the importance of dental photography. It was also observed that 40(55.55%) fresher dentists (<5 years' experience) showed more positive attitude towards the application of photography in their dental practice. It was also observed that 40% of the dentists considered it as time consuming, 35% considered that it required expensive equipment, 15% were not interested and 10 % considered cross infection as the reasons for not using clinical photography.

Male practitioners were more likely than female practitioners to use clinical photography as mentioned in Table-1. Responses to the questions concerning the extent and reasons for application of dental photography for the purposes of the daily practice were statistically processed. (Table 2).

From 72 surveyed dentists, 52 persons (72.22%) indicated they use photography for the purpose of their daily dental practice, while 20 colleagues (27.77%) said that they do not apply this method in their work. In the group of dentists who do not use photography in their professional activities 8 people (40%) considered it as time consuming, 7 people (35%) responded that it required expensive equipment, 3 people (15%) responded that they were not interested and 2 people (10%) worried about the risk of cross infection (Figure 1).

From the group of doctors using dental photography, 16 dentists (30.76%) cited as main reason the need patient education and motivation, 15 persons (28.84%) use this method for documentation. It was found that 12 persons (23.07%) applied dental photography for treatment planning and 6 persons (11.53%) used it for marketing purposes while 3 persons (5.76%) used it for diagnosis and assessment purposes.

From the group of dentists applying photography in their activities, 42 people (80.76%) used smart phones, 6 people (11.53%) - a digital SLR camera and 3 people (5.76%) used digital camera with macro lens (Figure 2).

With regard to the age of dentists, it was revealed that less than half of young colleagues (21-30 yrs) ie: 41.56%

used photography in their practice, 29.16 % of subjects between 31-40 yrs and only 15.27% of the dentists above 40 yrs used photography in their practice (Table 1). It was also revealed that the application of clinical

photography among male dentists, dentists with <5 years' experience and dentists who work with an assistant were significantly higher as compared to other dentists. ($p < 0.05$) (Table 1).

Table 1: Distribution of study participants based on their response.

| | | Total (n=72) | | Yes (n=52) | | p value | No (n=20) | |
|---------------------|---------|--------------|-------|------------|-------|---------|-----------|-------|
| | | n | % | n | % | | n | % |
| Age | 21-30 y | 33 | 45.83 | 30 | 41.66 | 0.075 | 3 | 4.16 |
| | 31-40 y | 26 | 36.11 | 21 | 29.16 | | 5 | 6.94 |
| | > 40 y | 13 | 18.05 | 11 | 15.27 | | 2 | 2.77 |
| Gender | M | 51 | 70.83 | 39 | 54.16 | <0.05* | 12 | 16.66 |
| | F | 21 | 29.16 | 13 | 18.05 | | 8 | 11.11 |
| Experience | <5 y | 40 | 55.55 | 35 | 48.61 | <0.05* | 5 | 6.9 |
| | <15 y | 22 | 30.55 | 13 | 18.05 | | 9 | 12.5 |
| | >15 y | 10 | 13.88 | 4 | 5.55 | | 6 | 8.33 |
| Work with assistant | Yes | 58 | 80.55 | 46 | 63.88 | <0.05* | 12 | 16.66 |
| | No | 14 | 19.44 | 6 | 8.33 | | 8 | 11.11 |
| Qualification | BDS | 48 | 66.66 | 32 | 44.44 | 0.064 | 16 | 22.22 |
| | MDS | 24 | 33.33 | 20 | 27.77 | | 4 | 5.55 |

Table 2: Responses to questions by the participants.

| Questions | Responses | Number of respondents | Percentage |
|---|-------------------------------------|-----------------------|------------|
| Affiliation (n=72) | Dental college | 32 | 44.44 |
| | Private practice | 40 | 55.55 |
| Gender (n=72) | Male | 51 | 70.83 |
| | Female | 21 | 29.16 |
| Experience (n=72) | < 5 y | 40 | 55.55 |
| | 5-10 y | 22 | 30.55 |
| | >10 y | 10 | 13.88 |
| Type of practice (n=72) | Private practice | 42 | 58.33 |
| | Academics | 15 | 20.83 |
| | Both academics and private practice | 8 | 11.11 |
| | Group practice | 7 | 9.72 |
| Importance of dental photography (n=72) | Yes | 63 | 87.5 |
| | No | 9 | 12.5 |
| Using dental photography (n=72) | Yes | 52 | 72.22 |
| | No | 20 | 27.77 |
| Reasons for non-use of dental photography (n= 20) | Lack of interest | 3 | 15 |
| | Expensive investment | 7 | 35 |
| | Time consuming | 8 | 40 |
| | Cross infection | 2 | 10 |
| Type of work (n=52) | With assistant | 46 | 88.46 |
| | Without assistant | 6 | 11.53 |
| Reasons for using dental photography (n=52) | Treatment planning | 12 | 23.07 |
| | Patient education/ motivation | 16 | 30.76 |
| | Documentation | 15 | 28.84 |
| | Marketing | 6 | 11.53 |
| | Assessment and diagnosis | 3 | 5.76 |
| Equipments for documenting cases (n=52) | Digital camera with macro lens | 3 | 5.76 |
| | Analog camera | 0 | 0 |
| | DSLR | 6 | 11.53 |
| | Mobile phone | 42 | 80.76 |
| | DSLR with ring flash | 1 | 1.92 |

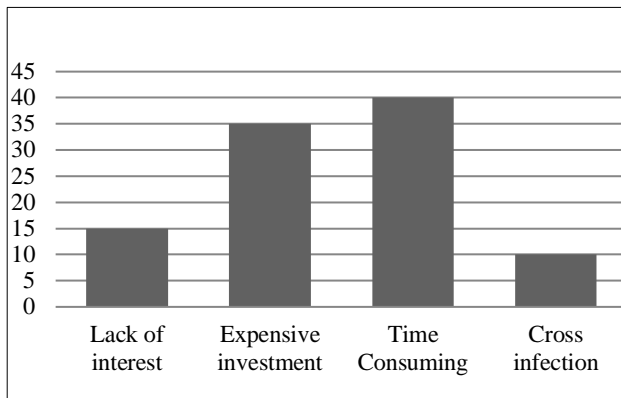


Figure 1: Reason for not using dental photography.

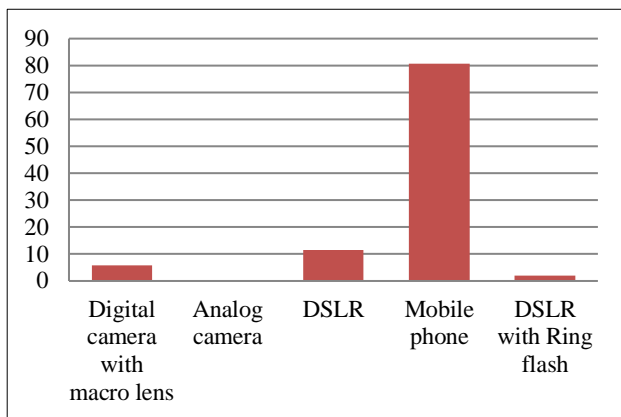


Figure 2: Equipments used for documenting cases.

DISCUSSION

The present study demonstrated that there is sufficient knowledge and awareness among dentists documenting their cases. Approximately, 73% of the surveyed dentists of Srinagar used dental photography for the purpose of daily practice. Less than one third of the dentists did not apply this method in their professional activities.¹¹ Over the period of time, there has been an improvement in the photographic knowledge among dentists.¹² Similar results were observed from a study, conducted in the UK where digital photography was used by 36% of dentists, to educate patients and for legal purposes.^{13,14}

It was evident by our study that most of the dentists were using smart phones for their case documentation. In a study conducted in UK in 2002, it was found that 62% of dentists used 35 mm analog camera while 32% used digital camera.¹¹ The results of the analysis showed that the degree of dental photography usage was linked to various factors.

The present study revealed that male practitioners were more likely than female practitioners to use clinical photography. Similar results were observed from other studies.^{15,16} Young dentists were more likely to use digital photography for their case documentation.^{1,17,18} This

might be attributed to less experience of older dentists with modern gadgets including digital cameras. With regard to the age of dentists, it was revealed that almost half of young colleagues (<35 years) used photography in their practice, while under one-third of older colleagues (>35 years) used photography in their day to day practice.^{19,20}

The present study revealed the most common reason of using dental photography was patient education and motivation. The main rationale of photography in dentistry is the registration of clinical information in the oral cavity.¹ In a similar study conducted in 2010 among 562 British dentists, it was found that 48% of them used photography for the purpose of clinical practice. The main reasons for the use of photography were treatment planning (84%), training and motivation of the patient (75%), medico-legal reasons (71%) and communication with the dental laboratory (64%). Most frequently investigated dentists used digital camera (59%), rarely used 35 mm analog camera (34%) and least frequently used video camera (19%).²¹

The present study revealed that 8 dentists (40%) considered clinical photography as time consuming, 7 dentists (35%) responded that it required expensive equipment, 3 dentists (15%) were not interested and 2 dentists (10%) worried about the risk of cross infection. Also cost and investment in such equipment is extremely expensive and becomes a serious financial burden to the introduction of this method in their work. One more factor is the need for additional training in this discipline. Colleagues pointed out the lack of information as a major obstacle to the implementation of this method in daily dental practice.

From the results of the study, it is evident that, even though majority (87.5%) of respondents thought that it was important to document cases using cameras but because of some reasons such as lack of time and high cost of the instruments were preventing the dentists from clinical photography. Therefore, digital cameras should be considered as essential equipment for each dentist and photographic training should be inculcated in the curriculum of medical and dental field. This result requires a methodical analysis and understanding of the need to introduce appropriate form of theoretical and practical training in university, as well as in post-graduate education. Also, dentists should enthusiastically participate in CDE programs on clinical photography to improve the status of the dental practice as well as their quality of work.

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