

# The Role of Technicians and Dentists in Orthodontic Patients in Health Facilities

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## **Abstract:**

Since last few decades dental problems or the orthodontic patients are increasing with all other known ailments. The main reasons for the same are the distorted life style of people, mix and match kind of eating habits and many other such related issues. In the same ratio the work and specialization of the dentists and related technicians is also increasing. Talking about the dental technology is one of the vital components of a team of the dental professionals. For all the normal and critical patients; both dentists and dental technicians have major role to play. This present study has tried to evaluate the scenario in terms of both the parties i.e. dentists and dental lab technicians. Study is based on primary data and basic statistical tools were used in the study.

**Keywords:** Dentists, Dental technicians, Laboratories, orthodontic patients.

## **Introduction:**

In the 21<sup>st</sup> century, dental problems are increasing with all other known ailments. The main reasons for the same are the distorted life style of people, mix and match kind of eating habits and many other such related issues. In the same ratio the work and specialization of the dentists and related technicians is also increasing. Talking about the dental technology is one of the vital components of a team of the dental professionals. The art, science and technology that allows the design and manufacture of dentures and/or orthodontic appliances to restore and support structures in accordance with the patient's anatomy and beauty. Collaboration between the dentist and dental hygienist can improve the esthetic and functional quality of your restorations. Although professionals show interest, satisfaction and contentment in their work, they believe that their social relationships must be managed appropriately to improve overall care.

Dentists often work in poor working conditions because the frequent cutting and scraping procedures performed during construction generate noise and dust, creating occupational hazards. Cases of pneumoconiosis have been reported worldwide due to exposure to dust.

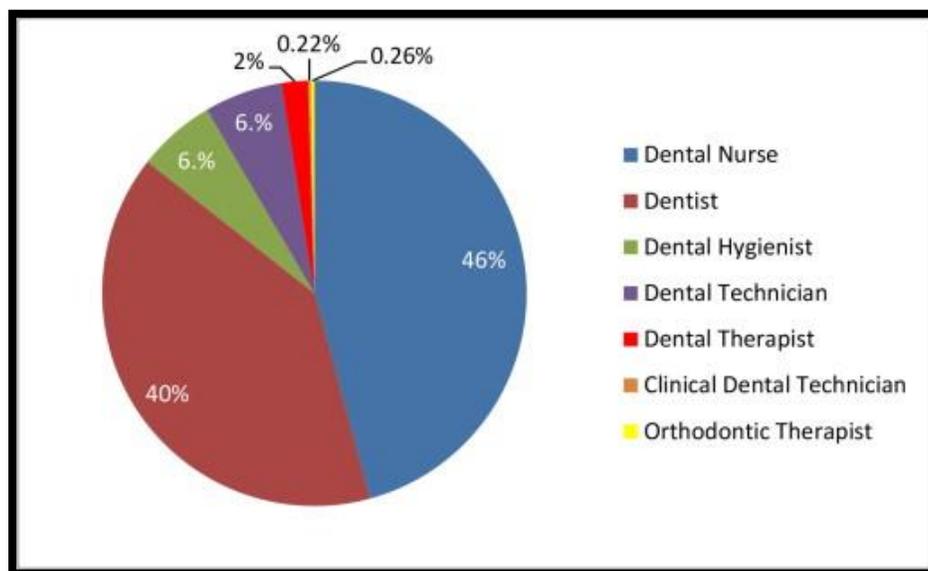
Dentists can spread germs from dental offices through their thoughts. Many previous studies have found that most laboratories have incomplete guidelines on antibiotics, and that approximately 44% of laboratories do not have antibiotics. Although dentists are dedicated to their work and work in a professional environment, many fail to meet the expectations of physicians and patients.

artists. Many types of restorations, including all-ceramic/metal-ceramic crowns/bridges, implant-supported restorations, removable partial or full dentures, and laminate veneers, require specialized dental expertise of the highest artistic ability. However, to my knowledge, most of these are far from being recognized or owned as "works of art." Also, when it comes to publishing post-treatment photographs that feature the latest in science or dentistry, it is rare to see credit from editors who work with the dentist. In general, only a dentist who treats this condition can receive due recognition by submitting an article in a peer-reviewed research or dental journal, or by having a medical photograph credited to him/her. There should be some guidelines for publishing medical images of restorations, and appropriate credit or acknowledgement should be given to the technician or dental laboratory involved.

**Importance and Relationship of Dentists and Technicians:**

The positive relationship among the dentists and the technicians is very important for a number of reasons i.e. in case of detection of diseases, preparation of dental implants, following up of case developments, issuing precautional measures, getting feedbacks and a number of other components. Notwithstanding this, the issue of miscommunication between dental clinicians and laboratory technicians is a globally recognized issue.

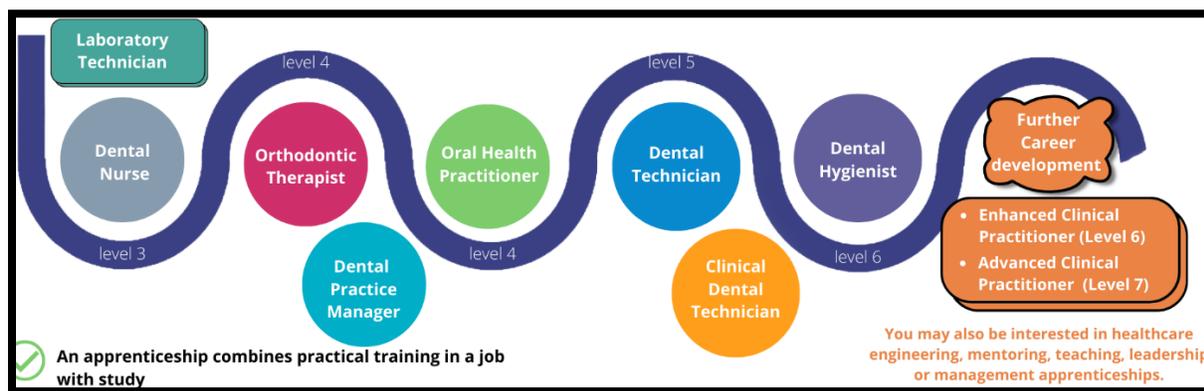
Despite the emergence of new technologies and improved communication methods, it has been documented in publications for almost 50 years. Some studies show that more than a third of dental practitioners are not part of the dental team and less than half feel valued as members. For example, a recent survey found that only 31% of professionals believe they play a significant role in the development of prosthetics. Another study found that a third of dentists working in commercial laboratories felt that their interactions with dentists were not welcomed or supported. Therefore, it is important to have a clear understanding of the issues affecting the relationship between the two. However, previous studies have neglected the relationship between interpersonal communication in both groups, emphasizing teaching methods. Examples include inadequate medication use, poor prognosis, and missing dental records.



Source: <https://www.sciencedirect.com/topics/medicine-and-dentistry/dental-technician>

**Figure 1: Probable Ratio of Dentists and Related Technicians**

Additionally, some reports suggest that clinicians often rely on experts to determine the appropriate material selection for partial dentures. There has also been opposition to the idea of cultural knowledge; in one study, 61% of dentists believed that dentists played an important role in restoring patients with permanent dentures. However, only 15% of dentists believed that this was the doctor's responsibility. It is important to note that most studies are based on surveys and may be subject to researcher bias rather than the voices of the participants.



Source: <https://haso.skillsforhealth.org.uk/dental/>

**Figure 2: Standards of Dental Occupation**

The consequences of poor communication between dentists and dental hygienists have been documented to include relapses and the resulting loss of income, delays, and dissatisfaction with service. Indeed, recent research has emphasized the importance of teamwork and collaboration in determining job satisfaction between dentists and dental hygienists. However, few studies have examined the barriers to effective communication between dental team members. Therefore, the purpose of this study was to investigate the factors that influence the relationship between dentists and medical examiners.

### Methods and Process of Study:

- This present study was conducted in the province of Riyadh and the sampling units were the dentists working in different hospitals and dental clinics of the area.
- The sample units are generally specialists in different areas i.e., restorative dentistry, orthodontics, prosthodontics, and pediatric dentistry and the laboratory technicians working in respective laboratories in the area.
- Before going for the study, the researcher has taken written consent from the selected participants and then started the survey.
- A detailed questionnaire was developed and tested on some of the sample respondents and then finalized after some of the minor changes.
- The main theme of the questionnaire was based on previous experiences, causes of positive or negative encounters, communication dynamics, consequences, and potential solutions.
- Many of the components of the interview were recorded in Both authors conducted the interviews via video calls using Zoom (San Jose, CA, USA). The interviews were audio-recorded and transcribed verbatim. The transcriptions were reviewed by one interviewer (EI) to check accuracy. Field notes were taken during the interviews, and qualitative data analysis was performed using Framework Methodology.

- Most of the data was evaluated on the basis of descriptive statistics and some of the references are taken from inferential statistics.
- The researcher has compared the statistical results with the prevailing facts and figures in the present time and even with some of the previous studies as well.

### **Analysis of Data:**

1. Some of the variation was found in the responses i.e. there was difference in the process and level of education of both the sections; Dentists and technicians. Then on the other hand some amount of difference was also found in the form of training that both the sections have gone through. Some amount of variation was also found in the perfection of local language and English i.e. the limitation of English was one of the major issues.
2. Most of the technicians working at dental laboratory stated that their initial training at the respective institute was conducted by dentists of senior level and they were not able to acquire 100% skills as required in the field of dentistry. Then on the other hand there was minimum interaction between the dental technicians of different colleges, that may have created some kind of hurdle in the process.
3. Technicians working at dental laboratories reported that there is a dearth of PG level courses for technicians and due to this reason, they have to leave their places and shift to other regions for further studies.
4. Clinicians in this study were more comfortable with experienced and competent technicians. Apparently, the dentists were more comfortable in this regard i.e. education and grooming of the dentist was found to be suitable for the respective job profile.
5. Doctors raised many issues regarding medical knowledge, including relying on experts for equipment selection because of unfamiliarity with certain materials. Dental practitioners demonstrate a need for guidance from dentists and view this as a learning experience, especially early in their careers. Dentists benefit from discussions with doctors by reflecting on their work experiences and feel that they provide a learning opportunity that will help them improve their work. Dental hygienists have also reported cases where they have received appropriate guidance from dental hygienists that facilitated successful treatment.
6. Participants in both groups emphasized the importance of understanding the combination of cost, turnaround time, and patient preferences for laboratory work. The importance of clearly communicating expectations between physicians and laboratory technicians was emphasized up front. This helps optimize patient care and save effort and resources.
7. Clear and realistic expectations were found to be more satisfactory for both groups. Laboratory professionals reported underestimating the time and long steps required to complete a case, especially for new physicians and dental students. Some professionals reported cases where Fast Track requests were denied by physicians or their patients due to unrealistic turnaround times.
8. Participants emphasized that the required communication time and schedule to be completed were seen as the responsibility of the physician. Dentists need to be stricter about setting boundaries and not waste patients' time, doctors said.

9. Respondents rated one-on-one relationships over permutations. They said that mutual trust, respect and understanding strengthened the relationship and helped transform their time from business to friendship and more. Professionals who felt left out of treatment planning in some cases said that their involvement made them feel more valued and included as members of the dental team. In addition, following advice gives them confidence.
10. Use of technology in preparing the drawings and visual aids have made the task of technicians easier and more accurate. But then again, they reported for the complete training of the software they are using.
11. In few of the cases, laboratory managers or owners stated that the library services is a costly and challenging job as the cost of final service is generally more than the expectation of the customer and they use to lose business in the process. hence, they have to be more alert and cost effective in the process of business.

### **General Observation:**

This present study includes a number of interconnected factors that are liable to be present and required for the care and help of orthodontic patients. Some of the important component included in the study were individual, interpersonal, and organizational levels. Perspectives from both groups were considered to capture rich insights into those factors.

In addition, consistency of expectations regarding the accuracy of the medication and the time of change and the cost of laboratory studies is a prerequisite for good treatment. According to the current findings, professionals can gain support by being directly involved in the decision-making process and by being aware of their role in front of the patient. The interview highlighted the problem of "blindness" of professionals to patients. This finding is consistent with previous studies where less than 10% of dentists examined were involved in creating products that regularly connect with patients.

Failure to coordinate can lead to inefficiencies that can translate into inadequate patient care. Interprofessional interaction involves many ideas, organizations and higher education activities. Therefore, in order to reduce communication differences between dental groups, various methods have been suggested to create and encourage collaboration, including the establishment of freezes, group or game gatherings, informal meetings, and study clubs. One study found that the use of escape rooms had a short-term effect on healthcare team cohesion. When it comes to improving operational processes, following good management practices and best practices can maximize efficiency, reduce costs, and prevent price gouging.

The freedom of undergraduate education in dentistry and dental technology has always been an important issue. There are specific hours for dental hygienists to enter the dental office and restrictions on dental hygienists entering the dental office. There is evidence that bringing dental students together with dental hygienists can lead to better communication, collaboration and understanding. There is much more in other projects. In addition, a comparative study involving traditional classroom teaching and the Individual Education System (IPE) was found to be beneficial for dental students in terms of self-directed learning in teamwork and communication. Therefore, the use of these new IPE services is encouraged and more evidence is needed to support the effectiveness of different delivery formats and timing of IPE in dental practice.

## Conclusion:

This study was conducted in the province of Riyadh and the researcher has contacted the dental technicians and dentists working in different areas of the region. Most of the factor were common in appearance and comparative analysis was done on the basis of components like educational background, alignment of expectations, means of communication, teamwork, management and perception. It was found in the process that the dentists are having better opportunities on all the said ground of education, training, grooming, etc. then on the other hand dentist have all the good opportunities for the components stated above. As a matter of fact, the coordination and collaboration were assessed as need of the hour to cater the orthodontic patient. Researcher also found that the role of technicians and dentist both is very crucial for holistic care of the orthodontic patients in the region. Following the views of dentists and physicians can provide a better understanding of their personal, social and organizational problems, which can form the basis for initial and strategic plans focused on social interaction. It is seen that the development of dentistry is necessary to keep up with the rapid technological change in human education and business.

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