A PRELIMINARY STUDY REGARDING THE INTEGRATED MANAGEMENT IN THE PRACTICE OF DENTAL LABORATORY

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Abstract: *The aim of this study is to provide an overview of management in the dental laboratory activity. Materials and methods. The research was based on a prospective survey implemented using a questionnaire with 10 questions applied to a sample of 20 laboratories. The results obtained show the complexity of actions and decisions involved in the managerial process, with a medium and long-term action and development plan. Conclusions. The managerial plan of the dental laboratory should be based on long-term development using highly qualified staff and good communication between the laboratory and dental office.*

INTRODUCTION

As is well known, dental technique is a unique profession. In fact, this specialty is both a profession and a business for profit. Thus, in this dynamic profession, the dental technician, which may be a typical manager profile of the XXI century, is challenged by new technology, being focused on patient needs, fenced with the lack of employees, satellite dental offices and growing practices. In a word, the dental technician is a specialist in dental medicine constantly changing.(1-7)

Generally, the purpose of the dental technique business is not represented by finding the right customers for your product or service, but by developing suitable products and services for customers. Close knowledge of the requirements and needs of dental practitioners concerning collaboration with dental labs, at the time of 2017 becomes indispensable in developing better marketing strategies.(1-7)

Thus, the management is at least one additional workload when we are in the implementation phase of a change or in needed organization for a quality approach. Management is a set of universal rules that applies also in dental office - dental laboratory - patient relation, that the manager should know. However, the most important thing the dental technician should learn is to adjust to medical and human specific of dental medicine. It should be defined the role of "Management Consulting", which teaches the manager to adapt to theories and practices of managing infrastructure and human resources from a dental laboratory. Next, based on a very interesting documentation we tried, perhaps for the first time for this profession, to develop a preliminary study on integrated management in the practice of dental laboratory.(1-7)

PURPOSE

The purpose of this study is to analyze a successful management in the dental laboratory, whose main objective is to maintain and direct the work in strict relationship with the dental office. Thus, we will analyze a case study based on a survey conducted in Bucharest, a successful model in making the best management decisions, a particular style of management in the dental laboratory in Romania, by the ability to predict, organize, coordinate, control, and evaluate, while maintaining and/or integrating the current technology in practice.

At the end of this study, we shall obtain an image of the following aspects of dental laboratory management:

- Functions and duties in the dental laboratory;
- Different leadership styles used in laboratories from Bucharest;
- Execution and control phases;
- Use of technique, working technology and time management;
- Situations and common solutions for managing relationships with dental office;
- Successful manager profile in the dental technology.

MATERIALS AND METHODS

The research technique used was a prospective survey with a well-structured questionnaire, made up of 10 questions, most of which were open questions. The questions were as follows (quoted from 1,4,5):

1. In dental medical market from Romania we can talk about standardization (homogeneity) of the relationship dental practitioner - dental technician? (Technology, prices, types of products). Explain.

2. What might be the differences within these relationships and what factors contribute to adapt management activity? (Number of dental technicians partners, location of clinic, offer resizing - accessibility for all customers, clinical space resizing).

3. The effects of this cooperation (dental practitioner - dental technician) can be seen in the marketing activities within these clinics? Do you know which could be the factors that influence patient behaviour? (Stress, denial, willingness to cooperate, payment of medical services).

4. Do you consider that in Romania, the dental care market is an exclusive one or it is addressed to all categories

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of customers?

5. What suggestions do you have for improving the relationship dental practitioner - dental technician? The existence of a dental lab where to focus product offerings may shorten the communication channel?

6. What elements will ensure the success of the dental clinic? Examples.

7. What do you think about healthcare services in rural areas? How dental practitioner - dental technician - patient relationship works in this case? (We are interested in limits that appear).

8. In your activity, do you have an imported business model already functioning? If not, what would it be and do you intend to implement it?

9. For how long your dental lab works?

10. How many dental technicians - partners you have? But(what about) the number of dentists partners?

The survey was conducted from October 24, 2016 until November 30, 2016 on 20 dental labs from Bucharest.

The followed indicators in interviewing dental technicians / managers of the dental laboratory were (cited 1, 4,5):

- Initiative indicators (management capacity, private free initiative);
- Environmental indicators (natural and social environment, income available resources, level of education);
- Descriptive indicators (categories of economic activities).

RESULTS

Before presenting the results of this survey, it should be remembered that a management program is characterized by the following (1, 4, 5):

- Vision - the company needs to know the level at which is situated; learn what established it is necessary to learn; share and use knowledge more productive;
- Mission - to accelerate progress already achieved through the efforts related to knowledge, and to initiate other distinctive pilot projects.

The overall aim of management program is to provide provable gain in initiative and ability to manage knowledge through an integrated approach of management. As specific targets we mention (cited in 1, 4, 5):

1. Strengthen the belief that through management, communication, teams involvement and networking can be achieved an increase of business value;

2. Systematic absorption and processing of knowledge within the company from partners, suppliers, customers to improve business performance;

3. Increased of visibility in terms of whom what knows, who what knowledge needs, what knowledge is absorbed by the company, customers and suppliers;

4. Knowledge and learning must be shared before, during and after an activity is carried out;

5. Ensuring that in the existing technology adequate information are provided and identifying medium term key factors influencing radical the company's ability to manage knowledge.

Taking into consideration this, appears that a basic principle which stands at the basis of dental technicians work, is producing specific dental works for patients, the competence and responsibility of treatment method belongs to dental practitioner. Dental technicians are proficient and responsible for carrying out the technical part of treatment method; the harmonization between the two parts in the benefit of the patient is only obtained through communication.(1,4,5)

In a dental lab, the manager can act both as a supervisor and as a specialist involved in solving dental work. In our survey, practice has shown that the manager cannot act alone, an important role is building a specialists team in all execution phases of the product, while exercising product quality control at every stage of execution until the final product is obtained.

Thus, in our attempt we aimed the achievement of management process in the dental laboratory, as was mentioned by famous Henri Fayol, which for fulfilling some specific tasks manifest some mandatory features for manager, regardless of leadership level (quoted 1, 4, 5):

- Predicting and planning (future consideration and development of action plans);
- Organization (drawing up the organizational structures);
- Leadership (maintaining a high level of activity and performance of the subordinates);
- Coordination (correlation, balance, unification and harmonization of all activities and efforts);
- Monitoring and evaluation (surveillance, guidance in order to comply established norms, rules and standards).

Over the years, several authors have taken over and developed further these five functions established by H. Fayol.(1,4,5) For example, the American Louis A. Allen (1958) conducted a series of specifications and enlargements of content for each function, as follows (quoted from 1,4,5):

- planning function (involving time planning, objectives, policies, programs, work schedules, procedures, budgets);
- organizing function (taking into account grouping of work activities, defining and establishing empowerments, establishing management relations);
- coordinating function (includes people and structures balancing, execution time, and interest integration);
- motivation function (concern a variety of actions such as selecting, hiring, communication, directing, aiding, counselling, training, learning, compensation, dismissal);
- control function (focus on setting standards of performance, evaluating achieved results, measuring work progress, generating corrective actions).

The result of our survey conducted also in industrial type dental laboratories showed the presence of long-term planning function, namely plans designed for at least five years. Management decision focused competitive aspects of technological nature, starting from the need to introduce new techniques and technologies, since 1998-2000, based on operating models from European Union countries, especially Germany, which also involved the allocation of material, financial and human resources of the new organization.(1,4,5)

In-depth knowledge of existing management types, activities conducted in accordance with each responsibilities, awareness and continuous training etc., were direct problems proposed for implementation within our study.

In addition, based on the observations and conclusions emerging from our research conducted in 20 dental laboratories from Bucharest, we have noticed the negative fact that in some of them, the activity of production is not done in a straightforward manner, equitable, but rather it is a choice based on long experience with the dentist.

In our survey, we found actually how important it is the role played by dental laboratory, where they effectively accomplished fixed prosthetic restorations, ceramic veneers, various types of mobile and movable prosthetic restorations etc. Also, in this study, we noticed how important is the location of dental laboratory near to the dental office with which it cooperates. Specifically, this situation is directly responsible for quality of prosthetic restoration, for how fast

the patient benefits from it, and the number of treatment sessions to which he should attend. This contributes decisively in achieving long-term economic results, with maximum effect and minimum effort.(1,4,5)

Thus, the presence of dental laboratory in close proximity or within the dental office is of great help for the dentist, because the collaboration between the clinical and technical entities would be more facile, and potential problems can be easily resolved. In the figures that follow, we briefly introduced by comparison, two situations encountered in Romanian dental services market.(1,4,5)

Figure no. 1. Non-specialized distribution model

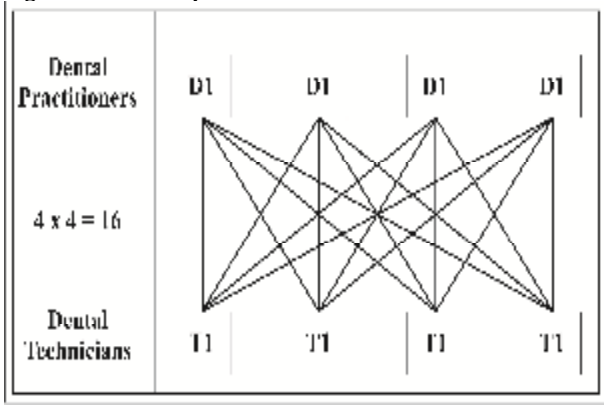
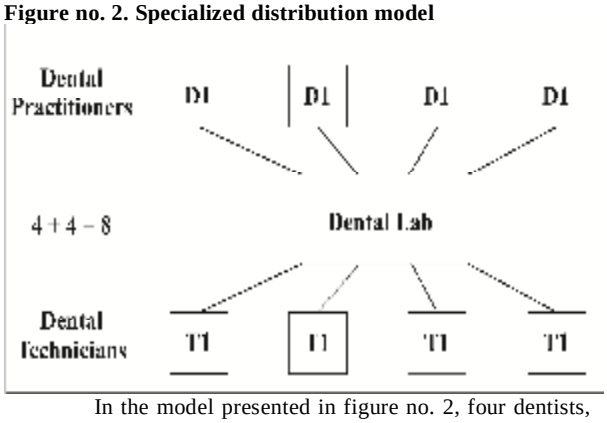


Figure no. 1 presents a non-specialized distribution model: four dentists who are in different locations, at different distances, meet with a customer base consisting of four dental technicians. Product delivery requires 16 transactions, which means 16 trips made by technicians, 16 billing and 16 receipts. In the long term, this leads to overcrowding which negatively influence the behaviour of both dental technician and dental practitioner, and influence the cost and duration of medical services.(1,4,5)

In Romania, according to the type of medical facility and the number of patients, a dental office collaborates usually with 2 up to 5 dental technicians, so they cover the entire range of services / products / prosthetic restorations. Working with several dental technicians offers the possibility of negotiating prices and deadlines, and meet a good collaboration dentist – dental technician (each dentist may collaborate with preferred dental technician).(1,4,5)

Figure no. 2. Specialized distribution model



In the model presented in figure no. 2, four dentists, met with the services of a industrial type dental laboratory, where prosthetic restorations are made of for the 4 patients. This distribution method requires only 8 transactions, meaning 8 trips, 8 billings, 8 receipts. This is where the services offer is focused and meets the demand of several doctors, where a number of success factors operate influencing the behaviour of the dental technician, but also of the dentist and the cost and duration of medical services.

DISCUSSIONS

Industrial type dental laboratory can collaborate with several dental offices / dental clinics, because in terms of management, aims to eliminate any problems between clinical and technical compartments (no execution delay of prosthetic restorations, no late payments, no complaints about errors in the transmission of information from clinical compartment and technical errors in creating prosthetic restorations, absence of communication errors etc.).(1,4,5)

Location of clinic / dental office may matter less in relation to the dental technician, it counts instead the distance from clinic to dental laboratory and the possibility of a courier arrive on time / more often at the clinic / dental office and vice versa. In our study, subjects claimed that placing the dental clinic and dental laboratory in the same space or very close is a major advantage.

Meanwhile, modern facilities, generous space, long-term experience and well-trained dental technicians are undoubtedly some key components underlying the performance and quality offered to dentists / patients. Dental technicians from industrial type laboratories, covers all sub-branches involved in dental technology activity: casting models, casting metal, dental ceramics or esthetic materials build up, creating fixed and mobile prosthetic restorations of all kinds and other specific services. Human and technology undoubtedly make the difference in Romanian market of dental technology regarding quality.(1,4,5)

Another necessity is of knowledge all technical peculiarity according to technological process, devices and not least psychological, dental technician being obliged to know the way of thinking, values and aspirations of the medical team.

In a proportion of about 60%, subjects sustained that there should not be a trend towards “industrialization” because you always have to take into account the individuality and personality of the patient. “More!”, “Faster”, “newest” does not always mean “better” because we talk about individuals and personality, not merchandise.

Although the novelty that appeared in terms of technology in dentistry CAD/ CAM and subtractive or additive manufacturing technologies are appearing in more and more dental clinics, the dental technician is still an indispensable collaborator of dental practitioner for successful prosthetic rehabilitation.

CONCLUSIONS

After analyzing the results of questionnaires applied to managers and employees from 20 dental laboratories involved in the survey, we can issue the following conclusions, even if they have now only a preliminary character:

1. Efficient management of dental laboratory is based on a long-term plan in conjunction with demand from dental offices.
2. The efficiency of dental laboratories and dental offices is based on a professional team and teamwork, especially in the laboratories organized on industrial type.
3. Most respondents in Romania consider that market of dental care and dental technology is not exclusive one.
4. An efficient cooperation between dental office and dental

laboratory is based on good communication.
5. Few dental laboratories from Romania, are based on an imported business model, the majority is relying on local business model.

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