Study on economic aspects of medical dental office

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Abstract: In Romania, dental medicine is practiced in private practices which are classified into two types: individual dental offices or associated dental offices and dental offices organized as Limited Liability Companies. If in Romania in 1989 there were approximately 4,500 dentists, now there are 16,000, so competition is extremely strong. To this, add the global financial crisis with strong reverberations in a developing country. Currently, 70% of practices are organized as individual dental offices, while only 30% are formed as limited liability companies. We conducted a statistically representative study for Romania on a sample of 273 dentists who received a questionnaire with 18 questions. The results are presented below. 42% of respondents have a turnover of between 60,000 and 120,000 Euro/year and only 27% have more than 120,000 Euro/year. 57% work at a single dental unit and 30% at two dental units. 46% of doctors want to work alone, 37% work with two to four doctors and only 10% work in clinics with up to ten doctors. A negative aspect is that 18% of doctors work alone without a dental assistant. A majority of 63% of doctors perform restorations as foreground procedures, while 46% work with prostheses and 37% perform endodontic treatments. It is regrettable that only 20% of physicians practice primary preventive procedures and in high proportions (27%), emergency treatment. As measures of profitability (or to increase profitability), 55% want to increase their marketing actions, 38% of respondents want to increase fares, and 32% will perform other complex procedures but with higher charges. In conclusion, our study shows that young doctors have better financial results than those with greater experience, knowledge and application due to better management. Dentists in Romania work individually because of the way of thinking prior to the introduction of market economy. Dentists neither know nor apply modern management in their offices, which makes them very vulnerable to the second wave of economic crisis.

Key-Words: dental office, management in dental medicine, the economy in dental medicine, dental team

1 Introduction

In Romania, the dental medicine is practiced in private practices which are classified in two types: individual dental offices or associated dental offices and dental offices organized as Limited Liability Companies. If in Romania in 1990 there were approximately 4,500 dentists, now there are 16,000, so competition is extremely strong. To this, add the global financial crisis with strong reverberations in a developing country [1].

Currently, 70% of dental practices are organized as individual dental offices or associated dental offices while only 30% are formed as Limited Liability Companies.

Considering that European platform provides access of any citizen to health services of the same quality in any country of the European Union (EU), we studied the statistics published in The Chief Dental Officers report of the EU (CECDO) in 2009 which ranks Romania as having an average level in terms of the number of dentists per 100,000 inhabitants (one dental practitioner for 1357 people) [1]. If the number of technicians is appropriate, the number of dental assistants (one assistant for 3 doctors) and hygienist (one hygienist for 160 doctors) is very low, which obviously affects the quality of dental-medical work (Table 1).

The transition from socialist economy to market economy has caught the dentists completely unprepared in the management chapter. Global crisis has radically changed the way of achieving success in a dental office because the reputation of the physician, the primary issue until 2008, should have been replaced with a very good management adapted to the crisis. We did not find studies in Romania, except a master-degree paper [2], which deal with pricing and other economic issues in medical and dental offices in Romania and other Eastern European countries. In these conditions, our
study is intended as a starting point for other studies that should guide dentists in these uncertain times, because it is possible that everything you have done well until today will not be as well tomorrow.

<table>
<thead>
<tr>
<th>Category</th>
<th>Number for Romania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>21,529,627</td>
</tr>
<tr>
<td>Dentists</td>
<td>15857</td>
</tr>
<tr>
<td>Dental technicians</td>
<td>6000</td>
</tr>
<tr>
<td>Dental assistants</td>
<td>6000</td>
</tr>
<tr>
<td>Hygienists</td>
<td>100</td>
</tr>
</tbody>
</table>

Table1. Distribution of the dental personnel in Romania

Conceiving a practical and valid scientific methodology which will allow the computer modelling of costs and implementation of a standardized system, and cost-effectiveness analysis in dental offices are essential for economic and operational foundation of prices [3].

Studies were made in the United States which explored the relationship between price increases in dental clinics, in general practices and in medicine overall [4]. The authors used the consumer price index (CPI) for the past 30 years to determine if there are any similarities in its behaviour. They explored the relationships between operating costs of the office, the production and the net income. Although there are quantitative differences, the CPI changes in a parallel design.

Good dentists who are good managers should follow CPI to obtain information that could be useful in the management of their practices and devise strategies to maintain net income. This index is also used in Ireland [5]. As we can see from the American model, the combination between obtaining market information in general and also a leading continuous improvement in management may overcome obstacles in market services, including those due to the current global crisis.

Another study conducted in Colorado in 2006 and 2009, demonstrated the positive effect of extending the role of auxiliary medical personnel (preventive care assistant, dental care assistant, dental technician). Therefore, physicians who participated in the study passed some of their duties to auxiliary medical personnel and in this way they noticed they have treated more patients more effectively using less of their working time. Office efficiency increased by 14.6%, which led to increased revenues in the practice [6].

A study in West Virginia, America, showed an increase of 22% of the knowledge obtained by dental professionals after a 4 hour course in Continuing Medical Education (CME) [7]. The same study shows that improvements had also been achieved in practice after courses of this type.

2 Problem Formulation

Dentists in Romania are currently in a very difficult situation caused by three major problems: the endless extension of the period of transition from socialism to capitalism, the exacerbation of competition due to an increase in the number of dentists (4 times in the last 20 years) and a decrease in the population’s purchasing power because of the global economic crisis. Although there are no miracle solutions to solve any of these problems, the only solution is a return to management basics.

2.1 Aim and objectives of the study

This study aims at structuring the presentation of activities in dental offices in Romania in order to correlate them with the economic aspects.

The objectives of this study are: to assess physicians who know how pricing is made; to evaluate managerial studies of physicians who have dental offices; to research the correlation of professional experience, volume of revenues and management knowledge.

2.2 Material and methods

For this study we chose the questionnaire method administered directly to a representative sample of the entire studied population (the 16,000 practicing dentists in the 11,000 registered offices in Romania).

Tested population is represented by dentists who have dental offices in large urban centres, according to the database provided by the Romanian National Dental College.

The sampling is stratified, random and significant for the tested population and included 273 dentists.

The type of research undertaken at this stage is within the family of exploratory research, which define the coordinates of a phenomenon / economic process, respectively the main variables and assumptions of the research, and will be used as a preliminary study to substantiate other researches.

We conducted a field research based on surveys applied to individuals in the sample population, through field operators who made direct contact with the respondents.

Based on construction criteria of a questionnaire with the responses of categorial nature, associated...
with a simple research, the questionnaire contains a total of 18 questions addressed in ascending logical sequence, divided into two categories: questions to identify respondents (questions 1 to 11) and test questions that served to test the scientific hypotheses issued (questions 12 to 18) [8].

The lack of space does not allow us to detail the questions. However, they can be deducted from the results chapter.

3 Results

71% of respondents have been practicing dentistry for over 10 years; therefore the vast majority of those surveyed have professional experience in dentistry. Also 71% of respondents have owned dentist offices for at least three years, while those who have only had dental offices for a short period of time (less than three years) represent 18% of respondents.

It seems remarkable that the majority of respondents, 42%, fall into the category “offices with turnover between 60,000 and 120,000 Euros/year”, and 27% respondents have offices with turnover which ranges from 120,000 to 500,000 Euros/year. Only about 8% have offices with turnovers of over 500,000 Euros/year, a feature which, in our view, corresponds to a dental clinic (Fig. 1).

It was noticed that 57% of respondents have a single dental unit (dental chair) and 30% have two dental units. Only 13% of respondents have between 3 and 5 dental units, which is common in a dental clinic.

About 72% of respondents have on average more than 5 patients on a dental unit per day and a significant percent - 27% - are those who have on average between 2 and 5 patients on a dental unit per day.

The largest share -73% - said they are working as a single doctor on a dental unit per day as opposed to those who responded that in their dental offices there are on average two doctors on a dental unit per day (27%).

45% of respondents claimed not to have any form of collaboration with other doctors working in the dental office, which is surprising. 38% of them have signed labour contracts with other doctors who work in dental offices, 16% have completed forms of collaboration between organizations (individual medical dental offices or limited liability companies) and 1% has other forms of collaboration with other doctors who work in the office.

46% of respondents answered that a single physician works in the dental office owned by them, 37% have collaboration with 2 to 4 doctors and 10% work in dental clinics with 4 to 10 physicians. There were no responses about the collaboration with over 10 physicians in a dental clinic.

For 72% of respondents there is at least one dental assistant employed in the office. It is regrettable that 18% of respondents said they have no dental assistant.

38% of respondents said they have no auxiliary employees (accounting, maintenance or repair technician for dental equipment, receptionist, etc.). In dental offices, 32% of respondents have an auxiliary employee, while 29% have between 2 and 4 auxiliary employees.

The responses to the question "Which of the following therapeutic procedures are ranked first in terms of frequency in your office?" are shown in Figure 2.
by 75%, 39% of doctors perform implantology and orthodontics are performed by 31.6% of respondents, 7.6% of respondents indicated that they have other activities, for example, teaching and university teaching.

When asked “How do you think you can improve the profitability of your cabinet?”, the answers were distributed as shown in Figure 3.

![Fig.3 Distribution of answers on how to improve profitability (percentage)](image)

30% of respondents declared that they had followed training courses in management.

The respondents’ first choices are the participation in continuing medical education courses (CME), (89%), the participation in international congresses and symposiums of CME (63%) and the participation in CME courses organized by companies (48%). Participation in postgraduate advanced studies has a significant share, 25% of respondents choosing this option. The rest of the respondents (8%) took part in other types of training, for instance, research collectives for specific medical projects. It is noted that almost 95% of respondents are recipients of a form of professional development training.

In terms of correlations between different variables tested, the following results presented below were obtained.

It is noted that doctors having a lot of professional experience have also a large number of patients (52% have over 10 patients per day per dental unit), but good results are noted in young doctors which is perhaps due mainly to their managerial skills and not only to their professional skills (21.7% in the group with a 5 to 10 years professional experience, which is almost equal to those with over 25 years of experience - 26.1%).

Young doctors (with a 5 and 10 years experience) have better financial results than doctors with significant experience in their profession (66.7% versus 52.2%); it is an inversely proportional correlation between experienced and expected turnover.

The average number of working hours is not directly correlated with the amount of turnover, which means that an activity that can be effectively managed is more profitable, even done in fewer work hours per week. This lack of correlation can lead to the conclusion that expensive and faster therapeutic procedures are preferred.

Offices with smaller turnovers are focused on increased marketing activities (65%), costs reduction (41%) and bigger charges (32%). A similar trend toward increased marketing activities (67%), costs reduction (50%) and bigger charges (67%) is noticed in offices with high turnover. So regardless of turnover, the management strategy seems the same.

3.1 Discussions

We noticed poor correlation between professional experience and number of dental assistants employed in the dental office, being a significant share of doctors with experience of more than 10 years in dental practice and a number between 2 and 4 dental assistants employed in the dental office held. Unfortunately the number of offices that have more dental assistants is very low in Romania, compared with practices from developed countries [6].

Doctors in Romania employ fewer dental assistants because they are not sure they'll be able to afford the monthly salary. On the other hand, dental assistants do not want to work in dentistry for their monthly salary which does not exceed 250 Euro, but the doctor pays a double amount due of higher taxation. For these reasons, dental assistants prefer to work in developed countries of Europe, especially after the facilities offered by Romania's EU entry.

All age groups of dentists are mainly geared to intensify marketing activities (54%) and then the growth rates (33%) and after that to reduce costs. We could conclude that the way to improve profitability by increasing tariffs is considered especially for physicians with the lowest experience, while most physicians with experience is going to increase marketing activities.

Unfortunately, in our experience, there is a huge difference of vision in terms of marketing concept in Romania, compared to developed counties. Many dentists do not understand marketing activities but they gave affirmative answer to this problem because they know that this is the trend.

The statement that 30% of dentists claim that they know management is contradicted by
unknowing the importance of the role of dental assistant in dental office efficiency, lack of collaboration with specialists from various fields, the lack of concern for diversification of activities in the office and small proportion of offices that have hired auxiliary staff.

Continuing medical education courses are popular among dental professionals from Romania, regardless of age and the organization of the office, as seen in studies from other countries such as West Virginia, America [7].

Unfortunately consumer price index was not calculated in Romania and therefore we cannot make correlations with American and Irish studies, but allows the start of our research studies on this problem [4, 5].

4 Conclusions
The study shows poor management training of doctors, which makes them vulnerable to economic crisis.

Participation in CME courses is mandatory in Romania, but there are no studies showing their effectiveness.

General management and health economy courses are needed to reduce the gap between us and the dental practice in developed countries and to improve the quality of dental care.

Reducing the number of dental assistants, hygienists, dental technicians or auxiliary personnel to improve the office’s profitability is inadequate to a competent management.

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Reference: