

## PREDICTION FACTORS FOR A GOOD MANAGEMENT OF THE DENTAL PRACTICE

Alice Murariu<sup>1</sup>, Livia Bobu<sup>2\*</sup>, Norina Forna<sup>3</sup>, Andreea Iordan<sup>4</sup>, Dragos Zelinschi<sup>4</sup>,  
Raluca Biciuşcă<sup>5</sup>, Cristina Iordache<sup>6</sup>

<sup>1</sup> "Grigore T. Popa" U.M.Ph. - Iasi, Romania, Faculty of Dentistry, Department of Community Dentistry

<sup>2</sup>Grigore T. Popa" U.M.Ph. - Iasi, Romania, Faculty of Dentistry, Department of Oral and Dental Prevention

<sup>3</sup> "Grigore T. Popa" U.M.Ph. - Iasi, Romania, Faculty of Dentistry, Department of Prosthodontics

<sup>4</sup> Student, "Grigore T. Popa" U.M.Ph. - Iasi, Romania, Faculty of Dentistry

<sup>5</sup> Dental private practice

<sup>6</sup>"Grigore T. Popa" U.M.Ph. - Iasi, Romania, Faculty of Dentistry, Department of Ergonomy

\*Corresponding authors: [livia12mi@yahoo.com](mailto:livia12mi@yahoo.com)

### ABSTRACT:

This paper aims to highlight the prediction factors for the good management of the dental office in the current conditions in Romania after 9 years since the global economic crisis and the chronic underfunding of the oral health system.

**Material and method:** 150 dentists of Iasi and from Iasi surrounding areas took part in the cross-sectional study by filling in a questionnaire elaborated by us and containing 15 questions. The response rate was 83.3%. The logistic regression analysis was used to calculate the prediction factors for a statistic significance threshold  $p < 0.05$ , 95% Confidence Interval. **Results:** 57.4% of dentists said that the income of the dental office has diminished in the last 5 years, while 52.7% said that the number of patients has decreased. Among the measures taken for financial recovery, 68.6% of dentists reduced additional costs, 60.7% gave up specialized trainings, 62% adapted their working hours according to those of patients, and 58.6% purchased less expensive equipment and materials. The logistic regression analysis showed that the best predictor to render the activity in the dental office efficient is the maintaining of prices at a steady value for a long period of time (OR= 4.23), followed by the location of the dental office in the urban environment (OR= 2.34), as well as the reduction of additional expenses (OR= 2.11). **Conclusion:** The good and efficient management of the dental office largely depends on all the factors described above, but we cannot exclude the macroeconomic and political factors characteristic to the respective country.

**Key words:** management dental office, Iasi, oral health

### INTRODUCTION

The economic crisis that started in 2009 and which comprised all European

countries also affected Romania in all its economic sectors starting from the banking sector up to the medical and social work domain. In this period, many managers, including the ones in the

medical system, imposed harsh measures relating to the reduction of personnel, the decrease of salaries, and the recruitment freeze in order to straighten out the activity and to recover losses [1, 2]. Inevitably, the effects of the economic crisis were felt in the dental offices as well, and the lack of good management even led to bankruptcy [3].

In this period a series of problems shaped both for physicians and patients in terms of wages reduction, the loss of jobs and implicitly the increase of unemployment, the reduction of the number of visits to private medical offices, problems that were more acute in certain geographical areas, namely the disfavored ones from the social and economic viewpoints [4]. The period subsequent to the economic crisis was difficult for certain dental offices which were forced to accept certain constraints of administrative and financial nature in order to straighten out [5].

In a dental office, the dentist must demonstrate not only professional skills but also be a good manager who knows all the faces of a high quality activity in terms of planning, organization, management and activity coordination [6]. This is obtained through the promotion of an adequate development policy, the

continuous improvement of good quality medical services and, last but not least, employees' motivation [7].

In this case, this research aims to show all the prediction factors necessary to have an efficient management in dental practice in the current social-economic conditions of Romania.

## **MATERIAL AND METHOD**

The study comprised 150 dentists aged between 27 and 54 having dental offices in Iasi and in the neighboring rural areas; as for professional experience, 47 (31.3%) had a professional experience of up to 10 years, and 103 (68.7%) had a professional experience of more than 10 years; as for the distribution by gender, 79 (52.6%) were females while 71 (47.4%) were males.

As research method, we elaborated and used a questionnaire made of 15 close-ended questions with answers of yes/no type grouped into 6 sections, a questionnaire that was adapted after the one made by the authors in 2015 [8]. The questionnaire refers to the medical and administrative activity in the last 5 years. We initially distributed a number of 180 questionnaires, but after having eliminated all the incomplete or rejected

questionnaires, we had 150 questionnaires with a response rate of 83.3%.The data obtained after the filling in of questionnaires were analysed statistically by means of SPSS.16 for Windows

software and the logistic regression analysis so as to determine the factors that may predict the financial recovery of the dental office.

## RESULTS

**Table 1** Dentists' answers to the questions referring to the activity in the dental office

QUESTIONNAIRE	Yes		No	
	Yes	%	No	(%)
<b>Section 1-Planning short-term activity</b>				
1. The maintaining of prices to a steady value for 5 years	96	64	54	36
2. The purchase of less expensive dental materials	88	58.6	62	41.4
3. Reduced additional expenses (internet, publicity)	103	68.6	47	31.4
<b>Section 1-Planning long term activity</b>				
4. Migration abroad	41	27.3	109	72.7
5. Giving up their career	12	8	138	92
<b>Section 2- Dental office organization</b>				
6. Gave up the provision of new treatments	42	28	108	72
7. Gave up the provision of new advanced equipment	64	42.7	86	57.3
<b>Section 3-Activity coordination</b>				
8. Decrease employees' salaries	85	56.7	65	43.3
9.Gave up to participation in specialized courses	91	60.7	59	39.3
<b>Section 4 Cabinet leadership</b>				
10. Change of location of the dental office	23	15.3	127	84.7
<b>Section 5- Administrative efficiency</b>				
11.Adapt working hours to those of the patients	93	62	57	38
12.Reduced patients' waiting time	38	25.4	112	74.6
<b>Section 6-Control, monitoring</b>				
13. Reduction of benefits in last 5 years	86	57.4	64	42.6
14. Reduction of the number of patients in last 5 years	79	52.7	71	47.3
15. Future recovery possibilities	90	60	60	40

The strategies adopted for making the activity efficient in the *short-term* focused on the maintaining of prices to a steady value for 5 years, a solution chosen by 96

(64%) respondents, the purchase of less expensive dental materials, a solution chosen by 88 (58.6%) dentists, while 103

(68.6%) dentists reduced additional expenses.

On the *long term*, migration abroad is an option for only 41 (27.3%) respondents while giving up their career remains a situation described by a low number of dentists, namely 12 (8%).

In the section dedicated to *dental office organization* we found out that 42 (28%) respondents gave up the provision of new treatments while 64 (42.7%) dentists declared that they could not afford to buy advanced equipment or devices.

The negative aspects consisted in their giving up to specialized conferences and trainings, a situation declared by 91 (60.7%) respondents, and the decrease of their employees' salaries, mentioned by 85 (56.7%) dentists.

A variant taken into consideration by 23 (15.3%) of the subjects who filled in the questionnaire was the change of location of the dental office in order to make the activity profitable.

To render their activity efficient, 93 (62%) respondents consider they may adapt their working hours to those of the patients, and only 38 (25.4%) dentists are determined to reduce patients' waiting time.

The last questions showed us that most dentists had to deal with the reduction of

benefits of the dental office, 86 (57.4%), and the reduction of the number of patients, 79 (52.7%). Despite all that, 90 (60%) dentists are optimistic considering that they will recover financially and render their medical activity more efficient in the future.

The logistic regression analysis presented in table 2 establishes the factors that may predict the rendering of dental office more efficient.

For this purpose, we analysed the dependent variable – *financial recovery* in relation to the following independent variables: *professional experience, dental office location, maintaining of prices at steady values, reduction of additional expenses, the introduction of new medical services, the decrease of employees' salaries, and the reduction of patients' waiting time.*

We found out that **the best predictor** for rendering the activity more efficient from the financial viewpoint is the *maintaining of prices at steady values*, OR=4.23 followed by the *location of the dental room in Iasi*, OR= 2.34, *dentist's professional expertise longer than 10 years*, OR=2.27, as well as *the reduction of additional expenses*, OR=2.11. All the

other variables did not have any statistic significance,  $p > 0.05$ .

**Table 2-** Logistic regression analysis: Predictor factors for increase the financial efficiency of the dental office

Independent variables	OR (95% CI)	p
<b>Professional experience</b> >10 years <10 years	<b>2.27</b> (2.10-11.84)	0.022*
<b>Dental office location</b> -Urban -Rural	<b>2.34</b> (2.23-11.29)	0.029*
<b>Maintaining of prices at steady values</b> -Yes -No	<b>4.23</b> (3.45-21.36)	0.001*
<b>Reduction of additional expenses</b> -Yes -No	<b>2.11</b> (2.07-9.87)	0.027*
<b>The introduction of new medical services</b> -Yes -No	0.95 (0.08-2.67)	0.564
<b>The decrease of employees' salaries</b> -Yes -No	0.66 (0.37-1.98)	0.445
<b>The reduction of patients' waiting time</b> -Yes -No	0.33 (0.12-1.27)	0.556

## DISCUSSIONS

The efficient planning of activity in the dental office requires a series of actions performed by the dentist on the short or long term in order to increase performance and benefits [9, 10].

The economic crisis in the recent years comprised all European countries and for Romania this meant an avalanche of social costs that resulted in the drastic reduction

of the life standard by causing unemployment, the insecurity of jobs, and the decrease of wages [11, 12]. All these aspects influenced both the private and the public oral health system. As for the public oral health system in Romania, this is currently facing a series of difficulties regarding the insufficient funds allocated [13].

In the private system, the lack of financial possibilities makes the socially and

economically disfavored persons to avoid dental treatments thus accentuating the precarious status of their oral health [14]. The system underfunding forces dentist to settle only a small part of the treatments applied, in which case the patient is forced to fully pay for the whole dental treatment. The dentist working in their own dental office must also be the manager of their activity, and the benefit obtained depends on the extent to which they know how to make proper decisions [15]. On the other hand, the insecurity of economic conditions, the lack of patients and of a clear strategy to render the activity more efficient only lead to permanent stress with negative behavioral, psychological or physiological consequences [16,11,17].

Thus, through our study we wished to find out which factors may predict the financial recovery of dental office facing the effects of health system underfunding, and lead to the increase of dental office profit.

The results obtained after the filling in of the questionnaire show that many dentists (57.4%) have faced the decrease of the benefits from their dental office in the last 5 years as well as the reduction of the number of patients (52.7%). Among the measures taken for recovery, most dentists considered as opportune to reduce the

employee-related salaries, namely 56.7% of the respondents, or the additional expenses 68.6% (internet, advertising, consumables or bonuses offered to their employees). In the same line, 58.6% of dentists started buying less expensive dental materials, and 64% maintained prices constant for a long period of time.

The reduction of expenses also meant the giving up to the participation to post-academic courses and congresses for 60.7% of dentists. This decision is unfavorable from the viewpoint of professional training, since the participation to such manifestations might increase physician's professional performance through the acquisition of new techniques, thus contributing to the increase of patients' safety and trust in physician's qualities [18, 19].

Renouncing at the professional career is considered as possible only for a low percentage of dentists, namely 8%, and migration abroad is taken into account by 27.3% of them.

The exodus of physicians to the European Union countries is currently seen as an opportunity especially for the young physicians due to the higher wages than the ones offered by the health system of their home country [20]. This exodus valid

for all medical specialties has numerous social, demographic and medical consequences translated into the decrease of medical density rate, a medical system lacking diverse specialists (surgeons, anesthetists), the increase of the number of patients examined by fewer physicians with obvious negative effects on the quality of medical procedure [21].

The logistic regression analysis showed the factors that may predict the best the increase of efficiency of the dental office, and implicitly the financial income. The best predictor refers to the *maintaining of prices to constant values for a long period of time*,  $OR = 4.23$  explained by the reduced financial possibilities of a large part of the population.

*Dentist's professional experience* longer than 10 years is another prediction factor,  $OR = 2.27$  being explained by the large number of patients, dentist's experience in managing the activity and the choice of the best development strategies.

*The location of the dental office* also represents one of the factors that may determine success or failure in this profession,  $OR = 2.34$ . The explanation is simple: the location in an area with very poor population that does not have health insurance cannot lead to a prosperous

activity and when corroborated with other factors such as dentist's reduced professional expertise, the absence of legislative measures that may support the private system in such areas, may determine the bankruptcy of the dental office.

In Romania, the labour market in the field of oral health is facing a paradox – if in the case of private healthcare the number of dentists and medical assistants is sufficiently high, perhaps even too high in the big cities, in the case of public healthcare of hospitals and outpatient services their number is low being limited by the current health policy [22]. Moreover, through the migration of dentists from the poor rural areas to the urban regions the inequities in the oral health system are even deeper [23].

Another prediction factor refers to the reduction of additional expenses,  $OR = 2.11$ , explained through the elimination of some amounts that do not determine the expected results such as the advertising via mass-media.

## CONCLUSIONS

The results of this study show the fact that in order to predict financial recovery and the increase of income of the dental office,

a healthy management requires the following:

- maintaining the prices to constant values for a long period of time;
- reduction of additional expenses which does not necessarily mean the reduction of employees' salaries;
- although physicians are tempted to save money through their failure to participate to different training courses, the result of this measure may limit the number of patients due to the lack of purchase of new and modern technologies and the use of innovating painless techniques with superior esthetic effects;
- the change of location of the dental office from the rural environment to an area with higher population may be theoretically an efficient method, but we must not forget that some patients will not be able to follow their dentist by resorting

to the services of another dentist whose dental practice is in the vicinity of their house.

If we also take into consideration the fact that nowadays the oral health system is characterized by low funding and the inefficient use of public resources, a low level of investments and the exodus of dentists to European Union countries to which we add the increase of number of disfavored persons with low wages, we may affirm that the implementation of some coherent public health policies at community level and mainly at macro-economic level is necessary besides the dentist's professional and managerial skills in order to have a high quality management of the dental office.

## REFERENCES:

1. De Vogli R., The financial crisis, health and health inequities in Europe: the need for regulations, redistribution and social protection, *International Journal for Equity in Health*, 2014, vol. 13, no. 58, <http://www.equityhealthj.com/content/13/1/58>, accessed September 5, 2015.
2. Udrescu M., Criza economico-financiară românească-Definire, caracteristici principale, direcții de redresare, *Revista Română de Statistică*, 2012, no.1, 188-194 (in Romanian).
3. Dym H., Risk Management in the Dental Office, *Dental Clinics of North America*, 2012, Vol.56, No. 1, 113-120.
4. Runkle K., The business of dentistry: Building a great practice means building a great business, *Dental Economics*, 2011, available at: [www.dentaleconomics.com/articles/print/volume-101/issue-1/features/the-business-of-dentistry.html](http://www.dentaleconomics.com/articles/print/volume-101/issue-1/features/the-business-of-dentistry.html), accessed October 10, 2018



5. Okuji M.M., Dental Benefits and Practice Management: A Guide for Successful Practices, Editor: Wiley Blackwell, 2016.
6. Vlădescu C., Sănătate publică și management sanitar, 2004, Cartea Universitară, București, 301-304 (in Romanian).
7. Chiriac A., Managementul angajaților, femei și bărbați, Centrul Parteneriat pentru Egalitate, 2006, 35-45.
8. Forna N., Murariu A., The impact of economic crisis on dental office management in Siret-Prut-Nistru Euroregions, International Conference „Sustainable economic and social development of euroregions and crossborder areas” Iași, 16 noiembrie 2015.
9. Khare A., Saxena V., Acuity of morality in dental practice management. Journal of Dental Research and Review, 2018; 5, 3-6.
10. McGuigan P.J., Eisner A.B., Marketing the dental practice: Eight steps toward success, JADA, 2006, 137(10), 1426-1433.
11. Suciu I., Criza economică și stresul la locul de muncă- noi provocări în armonia familiei, 2010, available at: <https://cluj2010.files.wordpress.com/2010/10/paper-ioana-suciu-ro.pdf>, accessed at September 5, 2015 (in Romanian).
12. Bobu L., Murariu A., Walid E.A., Iordache C., Oral and food hygiene habits of schoolchildren in Iasi, Romania. Romanian Journal of Oral Rehabilitation 2017; 9(4): 51-57.
13. Stanciu M., Sistemul public de servicii medicale din Romania in context European, Revista Calitatea vietii, 2013, no. 1, 47-80 (in Romanian).
14. Bobu L., Barlean L., Murariu A., Barlean M., Caries-risk evaluation of schoolchildren in Iasi, Romania. Romanian Journal of Oral Rehabilitation 2017; 9(3): 101-106.
15. Levin R.P., Practice options for new dentists, Journal of American Dental Association, 2010, vol. 141, no. 8, 1023-1024.
16. Afsharinia S., Ismail A.I., Naseri S.S., Hamissi J., Survey of self-reported stress among Iranian and UAE general and specialist dentists, Global Advanced Research Journal of Medicine and Medical Science, 2015, vol. 4, no. 5, 256-262.
17. Diaconu D., Vitalariu, A., Tatarciuc, M., Murariu, A. The economic crisis effects on the cross contamination control in dental laboratories, Revista de cercetare și intervenție socială, 2014, vol. 47, 105-116.
18. Vasluianu R.I., Forna N., Baci E.R. Vasiliu, E., Murariu A. In vitro evaluation of enamel surface treated with fluoride after bleaching and etching erosive processes, Revista de Chimie, (Bucharest), 69, Nr. 7, 2018, 1714-1717.
19. Rosenthal L., A top 10 list of mistakes in practice management, Dental economics, available at: <https://www.dentaleconomics.com/articles/print/volume-88/issue-4/features/a-top-10-list-of-mistakes-in-practice-management.html>, accessed October 10, 2018.
20. Lungu O. M., The strategies and barriers of career development for young doctors in Romania - an overview of the Romanian Medical System, Journal of Knowledge Management, Economics and Information Technology, 2014, vol. IV, no. 2, 1-9.
21. Roman M., Voicu C., Câteva efecte socio-economice ale migrației forței de muncă asupra țărilor de emigrație. Cazul României, Economie teoretică și aplicată, 2010, vol. XVII, no. 7, 50-65 (in Romanian).
22. Antohe M., Andronache M., Feier R., Stamatina O., Forna N. Statistical studies regarding therapeutic approaches for edentulous social clinical cases students' practical stages, Romanian Journal of Oral Rehabilitation 2017, vol. 9, nr 2, 94-99.
23. Nash D., Ruotoistenmaki J., Argentieri A., Barna S, Behbehani J, Berthold, P. et al. Profile of the oral health care team in countries with emerging economies, European Journal of Dental Education, 2008, vol 12, supplement 1, 111-119.