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Research Article

Additional visits as a factor determining the psychoemotional status of a dentist and a patient requiring endodontic treatment

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ABSTRACT.

The possibility of achieving effective communication that optimizes interpersonal relations between the doctor and the patient along with the formation of manual skills is one of the most important aspects of dental education. Communication is an opportunity for mutual evaluation of the doctor and the patient that contributes to or prevents from the establishment of trust. We understand trust as mutual understanding, which assumes the adoption of common motives - goals optimizing the achievement of rehabilitation. If due mutual understanding is not achieved, then the level of confidence decreases, which adversely affects the course of treatment. From this point of view, the question of expediency of appointing additional visits to patients with different level of awareness and experience of endodontic treatment becomes urgent in the absence of clinical manifestations of periodontal pathology. The patient's reaction to the appointment of an additional visit is due to the patient's understanding of the motivation of the doctor, which, based on the communicative skills of the doctor, can be interpreted by patients with both positive and negative accent, even up to the presentation of a claim. To optimize the principles of post-graduate training of doctors, it is necessary to understand the change: the psychosomatic state of the doctor appointing an additional visit to the patient in the course of endodontic treatment, in the absence of clinical manifestations of periodontal pathology, and a reduction / increase in the patient's trust in this clinical situation. The paper presents the results of the survey of 58 second-year resident physicians and 64 dentists with more than 5 years of work experience.

Keywords: endodontic treatment, additional visit, trust, defensive medicine, dental education.

INTRODUCTION.

Features of budgetary policy lead to stratification of medical and preventive institutions and private practitioners [1]. Accordingly, the policy implemented in various ways increases the emotional and psychological burden of physicians, which transforms medical practice and the nature of relationships with patients [2]. Against this background, dissatisfaction of dentists is formed, due to the increase in the number of overstated claims and unreasonable claims made by patients and the administration of medical and preventive institutions [3]. The frequency of occurrence of overstated requirements is confirmed by the emergence of special groups of patients requiring more deliberate attention [4].

According to the forensic medical examination, about 30% of the claims are justified, 50% of claims are due to the objective complexity of treatment of pathologies that patients suffer, and about 20% are unreasonable claims related to psychoemotional disorders [5]. In response to possible legal (psychoemotional) risks, doctors implement the principles of defensive medicine, as they can not predict when they will receive unreasonable claims, resolved by pre-trial and

judicial procedures. It should be noted that the amount of claims and court costs is largely determined by the amount of money spent by patients for examination and treatment, i.e. budgetary policy of the dentist [6].

At present, the social significance of diseases requiring endodontic treatment (ET) remains sufficiently high [7,8]. Earlier, ET was considered successful if the doctor sealed the apical hole after mechanical and medicamentous treatment of the root canal. A modern understanding of the quality of ET requires a three-dimensional filling of the space of the root canal system [9]. According to the established concept of ET, physicians should avoid the appointment of additional visits in the treatment of teeth in the absence of signs of damage to periapical tissues, and minimize the number of visits in the presence of these signs [10].

ET is a difficult procedure and a young resident should assess the risks associated with the severity of clinical manifestations and the anatomical features of the root canal system of the patient. In this case, the resident is not always sure of the quality of the treatment. In turn, the curators need to assess the quality of the ET their residents conduct, and discuss with them the most important aspects of this treatment, which increases the number of patient visits for ET of one tooth.

Doctors working in low-budget or municipal medical institutions are generally confident in the quality of treatment and minimize the number of additional visits [11]. Doctors of medical institutions focused on treatment of VIP clients, by implementing the principles of defensive medicine more often perform additional medical and diagnostic procedures than state-funded doctors [12].

It should be noted that the final decision on the characteristics of ET is made on the basis of the consent of the doctor and the patient, trying to work out "optimal tactics", based on their own experience and expectations. For example, if a patient has his own experience of treating such a disease or has vivid memories of a member of his family, this experience and memories will influence his informed consent regarding subsequent treatment [13]. It is known that most patients to minimize the cumulative waiting time for a visit and stay in the dental chair insist on fewer visits. These desires are more pronounced in patients with complicated dental history. More patients are associated with unsuccessful attempts at treatment [14,15]. Evaluation of various aspects of the emergence of discontent among patients having received ET, including after additional visits, led to the formulation of the **research problem**. Understanding the need to minimize the number of visits for patients in need of ET, some dentists intentionally, implementing the principles of defensive medicine, in the absence of evidence, increase the number of visits. Comprehension of two mutually exclusive approaches to ET may cause cognitive dissonance in a young specialist, which reduces the emotional tone of the doctor and patient, limiting their cooperation.

Objective of the research: assessment of the motivation of various categories of doctors appointing additional visits to patients in need of ET in the absence of appropriate indications.

Material and Methods.

The study involved 122 doctors, divided into three groups. The first group included 58 resident physicians completing their study at the medical institute of Belgorod State National Research University, which was 48.3% of the respondents. The second was composed of 30 dentists (24.5% of respondents), with more than 5 years of experience working in the Central Black Earth region, studying at the advanced training courses at the Center for Additional Medical and Pharmaceutical Education, accreditation and certification of Belgorod State National Research University, and considering themselves as dentists focused on the treatment of VIP clients. The third group included 34 dentists - 27.8% of respondents. The difference between the second and third group was that the doctors of the third group believed that they usually provide care to patients who do not belong to VIP clients. To form the second and third groups, dentists responded to a question that reveals a personal opinion about the budget

policy implemented in the process of working with patients. Based on the answer to this question, according to the respondent's interpretation of the peculiarities of his/her budget policy, the doctor was referred to either second or third group. The questionnaire was prepared proceeding not only from the expediency of the research program, but also from the collection of the material revealing the reasons motivating the physicians to additional non-therapeutic prescriptions for patients in need of ET. The research tasks were: demonstration of the mechanism to the residents, the formation of a stressful situation by the doctor, which reduces the trust of the patient, based on the uncertainty of young specialists in their own manual skills. The calculations used 95% confidence probability. The sampling error (confidence interval) is 5%.

RESULTS AND DISCUSSION.

To elucidate the doctors' understanding of the current concept of the need to provide the maximum amount of assistance in one visit, which allows minimizing the unproductive costs associated with additional calls, patient interviews, filling out documentation, etc., the surveyed were asked: "In view of the concept of the need to provide the maximum amount of assistance in one visit, do you consider possible the additional appointment to a patient for his/her tooth ET, in the absence of clinical manifestations of periodontal pathology?". The answers to the first question are presented in Table 1.

Table 1. The number of doctors who agreed with the possibility of additional appointment to the patient, for ET of a tooth, in the absence of clinical manifestations of periodontal disease

Group	Consider it possible to treat a single-rooted tooth	Consider it possible to treat a double-rooted tooth	Consider it possible to treat a three-rooted tooth
1 (58 doctors)	11 (18.9 %)	37 (63.7 %)	51 (87.9%)
2 (30 doctors)	0	6 (20.0 %)	5 (16.6 %)
3 (34 doctors)	0	6 (17.6 %)	6 (17.6 %)

Among the residents an increase in the number of respondents was revealed who consider it possible to make an additional appointment to the patient, determined by the anatomical features of the tooth. 18.9% of the residents gave positive answer for the single-rooted tooth ET, 63.7% - for double-rooted tooth ET, and 87.9% - for three-rooted tooth ET. The relation between the increase in the number of agreed residents and the possibility of additional appointment to the patient, against the background of the need to treat a more complex system of root canals in a limited working field, indicates the insufficient qualification of young specialists.

Answers to the first question confirm the recognition by dentists of the second and third groups of the modern concept of the need to provide the maximum amount of assistance within one visit. None of dentists indicated the possibility of an additional appointment to a patient for the ET of a tooth, in the absence of clinical manifestations of periodontal pathology, for the treatment of single-root teeth. Along with this, the survey revealed an approximately equal number of dentists who agreed with the possibility of an additional appointment to a patient for ET of multi-rooted teeth. In the course of treatment of bicomponent teeth, 20.0% of residents of group 2 do not deny this possibility, in the third group – 17.6% of the respondents, and in the treatment of the three-root teeth – 16.6% and 17.6%, respectively. An equal number of respondents who agreed with the possibility of an additional visit of the patient for the ET of multi-rooted teeth, suggests that the dentists associate the additional appointment to patients with the identification of additional channels in the tooth subjected to ET.

The second question was asked to assess the perception of doctors the situation of appointing additional visits as stressful, and to identify among dentists the persons prone to the implementation of the principles of defensive medicine. The question was formulated as follows: "Do you think that you create a stressful situation for yourself, in the process of ET of a tooth, by appointing an additional visit to the patient, in the absence of clinical manifestations of periodontal pathology?" The answers to the second question are presented in Table 2.

Table 2. The number of doctors who consider the situation of additional appointment to the patient, for ET of a tooth, in the absence of clinical manifestations of periodontal disease, as stressful

Group	Consider it stressful when treating a single-rooted tooth		Consider it stressful when treating a double-rooted tooth		Consider it stressful when treating a three-rooted tooth	
1 (58 doctors)	56 (96.5 %)		22 (37.9 %)		8 (13.7 %)	
2 (30 doctors)	20 (66.6 %)	Δ 18.6%	12 (40.0 %)	Δ 27.4%	10 (33.3 %)	Δ 22.5%
3 (34 doctors)	29 (852 %)		23 (67.4 %)		19 (55.8 %)	

Δ The difference, in the number of positive responses, obtained during the questioning of dentists of groups 2 and 3, who consider the situation of additional appointment to the patient, for ET of a tooth, in the absence of clinical manifestations of periodontal disease, as stressful.

Most residents (96.5%) considered stressful the situation, which causes a need for an additional appointment to a patient, in the process of ET of a single-rooted tooth. The situation, when it is impossible to complete the treatment of a double-rooted and three-rooted tooth in one visit is considered to be stressful by 37.9% and 13.7% of residents, respectively. A significant difference in the number of residents considering the situation of the appointment of additional visits for ET of single-rooted and multi-rooted teeth as stressful was due to the fact that the residents of the second year of study had sufficiently mastered the treatment protocol for single-rooted teeth. The anatomy and protocol of treatment of multi-rooted teeth is more difficult and the practicing residents consider the possibility of additional visits as not stressful.

In the group of dentists focused on working with VIP-clients, 66.6% of the surveyed consider the situation associated with an additional appointment for EL of single-root tooth as stressful, 40.0% - two-rooted teeth, and 33.3% - three-root teeth. Dentists who consider their main patients middle-income people, experience stress much more often when make additional appointments to patients. So, the state of special psychoemotional stress at repeated appointment to patients during the treatment of single-rooted tooth is experienced by 85.2%, two-rooted - by 67.4%, and three-rooted - by 55.8%.

Provided that all dentists adhere to the concept of providing the maximum amount of assistance in one visit, we, having calculated the difference between the answers of dentists of the second and third groups experiencing stress when making additional appointments to patients, can evaluate the influence of budgetary policy on the motivation of dentists to non-therapeutic assignments of patients.

In accordance with the obtained difference, we can say that dentists of the third group, more focused on the treatment of budget patients, experience stress in ET of single-rooted teeth by 18.6% more often than dentists focused on the treatment of VIP clients. In the treatment of double-root teeth, the dentists of the third group experience an increased psychoemotional load by 27.4% and the tricorn teeth by 22.5% more often than the dentists of the second group. This fact should be taken into account and included in the programs of post-graduate education aimed at: disclosure of the principles of defensive medicine, one of the manifestations of which is the appointment of additional (control) visits; increase of communicative effectiveness of the dentists focused more on the treatment of low-budget patients, for the formation of the habit of correction of motives and goals and increase of the level of trust between the patient and the doctor.

To assess the doctors' understanding of the dynamics of patients' confidence in the appointment of an additional visit, the doctors were asked to answer the question: "Do you think that the repeated appointment of a patient, in the process of tooth ET, in the absence of clinical manifestations of periodontal disease reduces the patient's confidence in the dentist?" The answers to the third question are presented in Table 3.

Table 3. The number of doctors who agreed with the possibility of decrease in patient's confidence in the dentist in case of additional appointment for ET of a tooth, in the absence of clinical manifestations of periodontal disease

Group	Consider it possible to treat a single-rooted tooth			Consider it possible to treat a double-rooted tooth			Consider it possible to treat a three-rooted tooth		
	Stressful situation onset	Decrease in confidence	Δ	Stressful situation onset	Decrease in confidence	Δ	Stressful situation onset	Decrease in confidence	Δ
1	56 (96.5 %)	56 (96.5 %)	0	22 (37.9 %)	53 (91.3 %)	53.4%	8 (13.7 %)	49 (84.4%)	70.7%
2	20 (66.6 %)	21 (70.0%)	3.4%	12 (40.0 %)	17 (56.5 %)	16.5%	10 (33.3 %)	14 (46.6%)	13.3%
3	29 (85.2 %)	29 (85.2%)	0	23 (67.4 %)	26 (86.6 %)	19.2%	19 (55.8 %)	23 (76.6%)	20.8%

Δ The difference (%) between positive responses of the doctors, who consider the situation of additional appointment to the patient, for ET of a tooth, in the absence of clinical manifestations of periodontal disease, as stressful, and positive answers confirming a decrease in the level of trust in doctors in this clinical situation.

Most residents confirmed the possibility of reducing the level of trust of patients associated with the appointment of an additional visit. With ET of single-rooted teeth, the possibility of reducing the confidence of patients was noted by 96.5%, two-rooted teeth - by 91.3%, three-rooted teeth - by 84.4% of residents. Moreover, if the residents experienced a stressful situation during the appointment of an additional visit for the treatment of single-rooted teeth in 96.5% of cases, then for the treatment of multi-rooted teeth a decrease in the level of patient confidence was assumed by residents more often than their own stress reaction. The difference (excess) of the psychoemotional response of patients, in the treatment of double-rooted teeth, was 53.4%, three-rooted teeth - 70.7%.

The obtained statistics can be explained as follows. During the second year of study, residents, having sufficient manual skills, experience stress due to the lack of possibility to complete treatment of a single-rooted tooth in one visit in 96.5% of cases. At the same time, residents, when assessing their own communication skills, believe that they cannot prevent a decrease in the level of trust of the patient. In the case of multi-rooted teeth treatment, residents adequately assess the lack of manual skills and, in this case, the appointment of an additional visit is a need that is not stressful, which will be minimized in the future with experience. At the same time, residents feel that insufficient communication skills cannot restore a decrease in their trust because patients who come for ET, regardless of the anatomical features of the tooth, lose this trust because of the appointment of additional visits.

The dentists confirmed the possibility of decrease in patient's trust in the dentist in case of additional appointment for tooth ET. The answers showed that the number of dentists in both groups experiencing an increased psycho-emotional burden in appointing an additional visit for the treatment of single-rooted teeth is approximately equal to the number of patients who lose confidence in them. During the treatment of double-rooted teeth, dentists of the second group experience stress in 40.0% of cases, and a decrease in the level of trust, in their opinion, occurs in 56.5% of the additionally appointed patients (Δ = 16.5%). In the treatment of three-rooted teeth, these indicators are 33.3% and 46.6%, respectively (Δ = 13.3%). In the third group, 67.4% of dentists consider the appointment of an additional visit as a stress factor in the treatment of premolars; they believe that the level of confidence decreases in 86.6% of patients (Δ = 19.2%). In the treatment of molars, the calculated values are 55.8% and 76.0%, respectively (Δ = 20.8%). The calculations show that dentists of the second group, appointing additional visits for the treatment of chewing teeth, believe that they less often lose the trust of patients than dentists of the third group. This fact indirectly indicates that the effectiveness of communicative interaction between dentists who believe that they belong to the category of specialists

focused on treatment of VIP clients is higher than those dentists who do not adhere to such an orientation. Also, in the treatment of chewing teeth, there was a significantly smaller difference (Δ) in the second and third group between dentists experiencing stress from non-therapeutic additional appointment to patients and the number of patients experiencing discomfort in this regard. This fact can be considered a direct evidence of the effectiveness of communicative interaction between dentists of the third group.

Summary. The second-year residents consider additional appointments to patients for ET in the absence of clinical signs of periodontal pathology as a stress event, regardless of the anatomical features of the tooth. In this clinical situation, the curators should motivate their residents to complete the ET of teeth in one visit, because another tactic reduces the patient's trust in the treating doctor. The faculty of post-graduate education should, for the improvement of stress resistance of dentists, introduce sections in its curricula that reveal the principles of defensive medicine and information about the existence of a category of patients whose re-appointment, in the process of EL tooth, in the absence of clinical manifestations of periodontal pathology, does not reduce their level of confidence. Due to the increased awareness of a number of dental patients, it is necessary to find more time for the development of communicative skills of dentists, which will allow doctors to more effectively formulate the motives and goals of each stage of ET.

REFERENCES

1. Sokolov E.V., Samoilov D.I., 2015. Economic and mathematical model of management of paid medical services of policlinic associations. Bulletin of the Academy, 2: 26-33.
2. Donika A.D., Rudenko A.Iu., Zasiadkina I.V., 2011. Professional stress of doctors: social and medical aspects. International Journal of Applied and Fundamental Research, 12: 113 -115.
3. Shevtsova Iu.V., 2016. Professional stress of the doctor and medical stress of the patient. Modern trends in the development of science and technology, 9 (7): 124-130.
4. Glassman, P., Harrington, M., Namakian M., Subar, P., 2016. Interprofessional Collaboration in Improving Oral Health for Special Populations. Dental Clinics, 60 (4): 843–855.
5. Georges, E.M., Anzia, J.M., Dinwiddie, S.H., 2012. General effect of VIP patients on delivery of care. Psychiatric Annals, 42 (1):15-19.
6. Ivanova E.V., 2010. Expert assessment of problems in the provision of endodontic treatment. Endodontics Today, 4: 26-29.
7. Tikhomirov A.V., 2015. Medical courts. Chief physician: economy and law, 2: 33-39.
8. Willershausen, I, Wolf, T.G., Schmidtmann, I, Berger, C, Ehlers, V, Willershausen, B, Briseño, B. 2015. Survey of root canal irrigating solutions used in dental practices within Germany. International Endodontic Journal, 48 (7): 654–660.
9. Adamchik A.A., Solovieva Zh.V., Kirsh K.D., Ivashchenko V.A., 2016. Antibacterial effect of therapeutic pastes in endodontic treatment. Journal of Scientific Papers “Health and Education in the 21st Century”, 18 (2): 110-113.
10. Kumar ,A., Vivekananda Pai, A. R., 2016. Comparative assessment of the area of sealer voids in single cone obturation done with mineral trioxide aggregate, epoxy resin, and zinc-oxide eugenol based sealers. Saudi Endodontics Journal, 6: 61-65.
11. Mello, M.M., Chandra, A., Gawande, A.A., Studdert, D.M., 2010. National costs of the medical liability system. Health Aff. (Millwood), 29 (9): 1569-1577.
12. Kawashima, N., Wadachi ,R., Suda, H., Yeng ,T., Parashos, P., 2009. Root canal medicaments. International Dental Journal, 59: 5-11.
13. Lee, M., Winkler, J., Hartwell,G., Stewart, J., Caine, R., 2009. Current trends in endodontic practice: Emergency treatments

and technological armamentarium. Journal of Endodontics, 35: 35-39

14. Wakabayashi, N., Wada,J., 2015. Structural factors affecting prosthodontic decision making in Japan Japanese. Dental Science Review, 51 (4) : 96–104.
15. Kopytov A.A., 2013. Development of administrative mechanisms for the formation and control of the information and communication space of a modern university. Theory and practice of social development, 9: 69-72.