

“Informatic system to evaluate oral lesions in systemic diseases”

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In the oral cavity there can be observed the first and sometimes the only signs of certain systemic diseases, so the dentist has the obligation to recognize these oral signs and symptoms and establish a presumptive diagnosis. Often in dental practice these signs and symptoms are not given the necessary importance.

In the last decade, medical informatics technology has greatly expanded bringing many new IT solutions into the medical field. Major progress has been made in dentistry also, by implementing IT solutions that help the dentist in his practice (patient scheduling systems, X-rays storage, and patient data management). Although we cannot dispute the progress achieved through the use of these technologies, there are some important areas of dental practice, for example the evaluation of the systemic diseases oral signs and symptoms, which have not been addressed.

In this context, this paper aims to create a software application that allows a presumptive diagnosis of systemic diseases with oral manifestations and also an easier and a better management of patient data.

This paper has two parts, a theoretical and a personal contributions part. The theoretical part of this thesis is divided into 3 chapters, and the personal contributions part in 5 chapters.

The first chapter of the theoretical part entitled “Systemic diseases with repercussions in the oral cavity” presented the oral signs and symptoms detected in the main systemic diseases groups. In this chapter were described the oral signs and symptoms detected in the dermatological, gastroenterological, vascular, endocrine, haematological and infectious diseases. In the second chapter entitled “Patient management in the dental office” is presented the medical questionnaire that any patient requiring dental treatment, should fill in at the first visit to the dentist. Chapter three

entitled “Intelligent IT systems in the dental office” presents some of the intelligent computer systems currently available on the market for use in the dental office.

Chapter four, “Introduction”, the first chapter of the personal contributions part, emphasizes the need to develop a decision support system to help the dentists in their practice. In chapter five, “Materials and Methods” there are presented the aim and the objectives of the study. In the study were included dentists from Tîrgu Mureş, aged between 30 and 60 years, both female and male. As exclusion criteria was used the lack of responses consistency to the first three questions. Also in this chapter, was described in detail the developed software application and the questionnaires developed (an initial questionnaire to assess the extent to which the use of a computer system has a positive impact on dentists, and a final questionnaire developed to assess the degree of acceptance of the proposed software, tested by presenting her study group). Chapter six entitled “Results” presents in detail the results obtained from processing data collected by applying the two questionnaires. The initial questionnaire analysis shows that most dentists included in the study are frequent users of computers in dental office (70%), considering its role as essential (38%). To determine the level of acceptance of a patient’s data management informatics system that allows also a presumptive diagnosis of the systemic diseases, most respondents (42%) considered necessary such an application. After the presentation of the developed computerized decision support system, most respondents felt that the software application is easy to use, well scientific documented and allows an accurate storage of patient’s data. Respondents with extensive experience in the use of computers and patient data management systems considered necessary such a system in dental office. In chapter seven, “Discussion”, there were analyzed the results and there is presented a SWOT analysis (strengths, weaknesses, opportunities and threats) of the developed computerized decision support system. The last chapter, “Conclusions” presents the main conclusions of the paper, underlining the importance of the software application developed.