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An Overview New Advances and Responsibilities in Dental Public Health, Role of Nursing and Radiology Department

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Abstract

Professionals in the dental field believed that the promotion of oral health was an essential component of their responsibility as professionals. A patient's participation in the decision-making process and educational activities, as well as the practice and evaluation of skill development, was one of their goals. In spite of the fact that the dental professionals believed that they participated in health promotion activities, they failed to make a clear distinction between disease prevention and oral health promotion. As a result of the fact that radiologists are frequently confronted with dental imaging, whether it be in relation to a specific question, such as a trauma patient, or in relation to incidental findings throughout head and neck imaging, it is more than worthwhile for them to receive additional training in this field in order to facilitate early and adequate dental treatment.

Keywords*: Dental department, radiology, Nurse.*

Introduction

Oral health practitioners and members of the research community have been recognized by the World Health Organization (WHO) for their distinctive contributions to the advancement of oral health. Despite the fact that dental professionals play a significant role in the promotion of oral health on an individual level, very little is known about how they feel about their health promotion practice. This, in turn, has an effect on the oral health of the general population. Furthermore, the findings of our earlier research indicate that older people who have undergone dental treatment and are in good oral health are aware of the significant role that dental professionals play in promoting

oral health throughout their entire lives [15]. As a result, it is essential to get a deeper comprehension of the manner in which dental professionals perceive the role that they play in the framework of regular dental practice in terms of health promotion. Not only can this comprehension improve the conversation regarding the values and attitudes that have an impact on the existing dental care system, but it may also improve the discussion regarding the continued development of activities that promote oral health.

The process of empowering individuals to have greater responsibility over their health and to make improvements to it is what is meant by the term "health promotion" [2]. The idea and guiding principles for health promotion were outlined in the Ottawa Charter, which is considered to be a major publication in the field of health promotion. The initial situation, on the other hand, was that there was no obvious theoretical foundation that supported these concepts. Subsequently, the development of health promotion was considerably affected by Antonovsky's salutogenic theory, which focuses on resources for health and health-promoting processes. There was a strong congruence between the fundamental principles of the Ottawa Charter and the mindset that underpinned the salutogenic theory [3].

The second significant event that occurred during World War II was the expansion of dental services for the military forces all over the world. This was the second big milestone by public health dentistry. Because of dental issues, the draft was rejected, which brought to light the fact that there is a significant dental need in the United States. As a result, the significance of oral health was handled from the perspective of providing care for the entire population, which is an approach that is beneficial to the field of dental public health [4].

In radiological practice, dental imaging is a common procedure, whether it involves detection in the course of other difficulties or as a purposeful evaluation, such as in patients who have experienced oral or orofacial injuries. Diseases of the tooth and its supporting structures continue to be associated with significant effects on, and limitations of, the quality of life for patients who are affected by them, despite the fact that the dental health of the population has improved over the past few decades as a result of improved oral hygiene and prevention in dentistry. In addition, the radiologist is responsible for the essential role of detecting these disorders at an early stage. Because of this, the purpose of this review is to offer a structured introduction to dental imaging [5].

Review:

In order to attain optimal oral health, it is necessary to place individuals and their social well-being at the center of decision-making. This includes gaining an awareness of relevant elements that are associated with settings other than clinical ones. Historically, the oral health goals of patients have often consisted of behavioral adjustments that were the primary responsibility of dental practitioners [6]. The findings of our study, on the other hand, indicate that the dental professionals who were included in our sample make an effort to assist patients in determining their own objectives and resources in order to keep their oral health in good condition. They underlined the significance of taking into account the patient's life circumstances in order to establish a trustworthy relationship, which is advantageous in terms of enhancing patients' involvement in their own oral health. Improvements in the listening and communication skills of health care workers have been reported in the past as having the potential to increase patients' sense of self-efficacy, alleviate emotions of resignation, and enhance the ability to manage challenging situations [7].

Based on the findings, it was determined that the participants considered the promotion of oral health to be an essential component of their professional position. There was a consensus regarding the activities that dental professionals ought to engage in as part of their role in the practice of health promotion. The research that has been done on the subject

indicates that this is a necessary precondition for health promotion [7]. At the societal level, dental professionals participated in community-based work, which included the development of social contexts and the collaboration of professionals from many fields in order to support oral health in large populations. These health promotion activities are executed in a manner that is consistent with the recommendations contained within the national guidelines of Sweden as well as the Ottawa Charter [4]. At the individual level, the participants had the perception that the relationship between the degree of oral health of their patients and the education they provided to their patients was quite close. The participants presented a number of specific examples of activities that illustrate how they engage with the development of personal skills by combining oral health education with coaching, following up, supporting, and motivating others. It is necessary to possess the essential competences in order to effectively implement these tactics. This would make oral health promotion more effective, according to Kay et al.'s hypothesis [8], which stated that a greater emphasis should be placed on teaching dental workers about health psychology. As a result of their training in supporting behavioral changes, such as counseling or therapeutic techniques, many dental professionals in Sweden possess the necessary expertise to engage in health promotion. They are able to provide assistance for altering unhealthy habits and promoting healthier behavior. The participants, however, described their participation in health promotion in a variety of various ways, depending on the profession they held. In comparison to the dentists, the dental hygienists who participated in this study were more likely to discuss health promotion as a primary component of their everyday work. One possible explanation for this disparity is that the dentist focuses on providing operative therapy, whereas the dental hygienist is more concerned with health promotion and prevention. This difference may be attributed to disparities in professional competences and work tasks. The comparison of several professional groups, on the other hand, was not within the purview of this study and calls for additional investigation [8].

Digital volumetric tomography (DVT), which is more commonly used in dentistry imaging, is a technique that provides a superimposed, three-dimensional depiction of the facial skull. In English-speaking nations, this technique is referred to as cone beam CT. Cone-shaped X-ray beams and two-dimensional image receptors are utilized in this process to generate secondary slices and the appropriate three-dimensional reconstructions based on the volumetric data set. This approach is carried out in order to generate secondary slices. The DVT is primarily utilized for the purpose of planning dental implants or surgical tooth extractions (particularly for the purpose of determining the distance to the inferior alveolar nerve). However, it can also be utilized for the purpose of evaluating the paranasal sinuses or for the purpose of assisting in the evaluation of the position of implants in the middle or inner ear [9]. The radiation dose, on the other hand, needs to be greatly raised, despite the fact that preliminary studies have discussed the utilization of DVT for the diagnostic purposes of soft tissue. Therefore, apart from oral (trauma) imaging, there are prospective uses for DVT particularly in the imaging of bone structures and diseases [9]. For a long time, it was believed that the radiation dose that was effective for DVT was around ten times lower than the dose that was utilized for CT. This broad remark, on the other hand, is required to be considered at the very least, as stated by the most recent recommendations of the International Commission on Radiological Protection (ICRP), the guidelines of the European Commission, or a number of studies. By tailoring the parameters of the CT scan to dental concerns rather than utilizing traditional scan protocols (cranial or paranasal sinuses), it is possible to greatly lower the effective radiation dose [10]. When compared to DVT, these low-dose CT procedures demonstrated, in part, a superior resolution and image quality. Additionally, they included faster acquisition, which resulted in a reduction in movement artifacts. In addition, a number of studies have demonstrated that the effective radiation dose

can vary significantly (by approximately twenty times) depending on the type of DVT equipment that is utilized; certain devices have succeeded in reaching or even surpassing the dose values of CT. It is not required to select between DVT and CT when it comes to the utilization of the individual modalities for three-dimensional dental imaging. This is true even when taking into consideration the effective radiation dose. Instead, the objective should be to optimize the scan parameters in relation to the dental issue. Digital volume tomographs, in contrast to computer tomographs, can also be utilized by dentists, provided that they have acquired the necessary specialized expertise associated with them [10].

By utilizing ordinary computed tomography, it is possible to calculate paracoronary and paraaxial reconstructions, as well as virtual OPG views that have been specifically suited to dental diagnostics. Additionally, curved reconstructions can be generated by utilizing post-processing algorithms that are specifically designed for dental diagnostic imaging. Along the same lines as deep vein thrombosis (DVT), this imaging technology can also be utilized for operation planning and follow-up.As is the case with deep vein thrombosis (DVT), a specialized X-ray template is typically utilized during imaging, which is essential for subsequent implant planning. When compared to DVT, CT offers advantages in terms of soft tissue contrast; depending on the circumstances, an MRI test may also be utilized for this purpose. As of right now, dental MRI has been utilized for the purpose of conducting experiments [11].

Comorbidities such as polypharmacy, physical and cognitive disability, and repaired dentition that can be difficult to maintain can make older persons more prone to poor oral health for a variety of reasons. Although some members of this demographic may have part of their natural teeth, the majority of them wear prostheses, which makes dental hygiene more difficult. In addition, over half of the elderly people who are housed in long-term care facilities across Canada are receiving medicine to treat chronic disorders. This includes psycholeptic and psychoanalytic medications, both of which have the potential to cause hyposalivation. Conversely, dry mouth is associated with an increased risk of oral disease. There is a correlation between poor dental health and dietary deficits, as well as a decline in the quality of oral health-related outcomes [11].

Oral care is provided to residents of long-term care institutions by nurses and allied nursing staff (ANS), who are also known as orderlies, nursing aides, certified nurse assistants, nurse auxiliaries, care aides, and personal assistants. There were studies conducted in the United States of America, Canada, Norway, and Australia that indicated that the dental care provided in long-term care institutions did not reach international standards. One of the factors that can be used to predict sub-optimal oral care is the nursing staff's lack of knowledge and abilities regarding oral care. dental care inadequacies in long-term care institutions can be addressed by a variety of measures, including the education of nursing staff and the implementation of procedures that require daily supervision of dental care by nurses. However, the outcomes of these efforts seem to be variable. Another study revealed that residents received better oral care after attending educational sessions for ANS; nevertheless, another study came to the conclusion that giving nursing staff with oral care education did not increase the quality of care that residents received [11,12].

Conclusion:

According to the findings, dental practitioners saw the promotion of oral health as an essential component of their professional responsibilities. They acknowledged the fact that there is a significant societal investment and challenge associated with dental health and its maintenance. As part of their remarks, they emphasized their dedication to attaining equity in oral health and to promoting oral health at many levels of society. In order for dental professionals to fulfill their role in the practice of chair-side oral health promotion, there was a consensus regarding the activities that they should participate in. The participation of patients in the decision-making process and

educational activities, as well as the development of abilities through actual practice and evaluation, were the primary focuses of this study. In spite of the fact that dental professionals believed they were engaged in activities that promoted health, they failed to make a clear distinction between the words "oral health promotion" and "disease prevention." Nonetheless, the utilization of the same terminology has the potential to enhance communication among all players, ranging from patients to the management of national knowledge. In addition, there was a consensus among dental hygienists and dentists regarding the expectations for the health promotion role activities of nurses, public health, and radiology departments. This consensus was both intra- and inter-professional.

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