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Dental hygienists' views on communicative factors and interpersonal processes in prevention and treatment of periodontal disease

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Abstract: *Objectives:* The aim of this study was to explore views of DHs on communicative issues and interpersonal processes of importance in the prevention and treatment of periodontal disease. *Methods:* The qualitative method of Grounded Theory (GT) was chosen for data sampling and analysis. Audio-taped and open-ended interviews were conducted with 17 dental hygienists. The interviews were transcribed verbatim and analysed in a hierarchical coding process, according to the principles of GT. *Results:* In the analysis a core category was identified as *'to be successful in information and oral health education and managing desirable behavioural changes'*. The core concept was related to four additional categories and dimensions; (i) *'to establish a trustful relationship with the patient'*, (ii) *'to present information about the oral health status and to give oral hygiene instructions'*, (iii) *'to be professional in the role as a dental hygienist'* and (iv) *'to have a supportive working environment in order to feel satisfaction with the work and to reach desirable treatment results'*. *Conclusions:* The results describe a psychosocial process that elucidates the importance of building a trustful relationship with the patient, feeling secure in one's professional role as a DH and last but not least, the importance of having support from colleagues and the clinical manager to be successful in the prevention and treatment of periodontal diseases.

Key words: chronic periodontitis; communication; dental hygienist; grounded theory; oral health

Introduction

Recent studies, based on in-depth interviews with patients referred for periodontal treatment, elucidated that communicative factors and the interpersonal relationship between the patient and the dental team are of utmost importance in treatment and control of chronic periodontitis (1–3). After being diagnosed with and informed about chronic periodontitis, a common reaction amongst patients was shock and feelings of surrealism. Some patients were not aware of their periodontal problems or had not understood the severity of their periodontal problems before visiting a periodontist. Hence, feelings of anger and disappointment towards previous care-givers for not providing adequate information and treatment were expressed (1, 3). Moreover, patients considered their periodontal disease as shameful and as a threat to their self-esteem, and that the maintenance of the teeth was important for their personality (1). The studies revealed the patients vulnerability and their need for being treated with respect and

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understanding by the specialist dental team. To be given straight and honest information with regard to the periodontal disease and treatment was of utmost importance to feel secure and to get control over the situation (2, 3). Comparable findings regarding the influence of chronic periodontitis on the patients' daily life were reported by Needleman *et al.* (4) and Cunha-Cruz *et al.* (5). Although Skaret and Soevdsnes (6) argued that knowledge in behavioural science and communication in particular is an important component of the DHs professional qualifications, the knowledge is scarce with regard to communicative aspects in oral health promotion and periodontal treatment (7). Patients' satisfaction with the periodontal care provided was reported to be closely related to the communication with the specialist dental team, and in particular to the treatment alliance with the dental hygienist (DH) (2). Furthermore, a questionnaire-based study (8) revealed a relationship between patients' perception about the DH's communicative skills, fear/anxiety in dental situations and their feelings of control during treatment. The aim of this study was to explore views of DHs on communicative issues and interpersonal processes of importance in the prevention and treatment of periodontal disease.

Materials and methods

Study group

The study group consisted of 17 DHs (one man) in the age 29–66 years (mean 48.6 years), working at the Public Dental Service in the region of Västra Götaland, Sweden. Professional experience as a DH varied between 2–36 years (mean 16.2 years) and the average number of working hours per week, at the time of the survey, was 35. The DHs worked at 17 different clinics (two specialist clinics) with numbers of clinicians varying from 1 to 6 DHs and 1 to 11 dentists. Verbal and written information about the study was given before the interviews. All interviews were performed by one of the authors (JS; DH, and Master of Science in health care pedagogic) with knowledge on qualitative interview techniques (2). A test interview was performed before data collection started. The interviewer and the participating DHs were not familiar with each other and requirements regarding informed consent and confidentiality were fulfilled. The Ethics Committee at the University of Gothenburg evaluated the study protocol (Dnr: 691–06), and the board of the Public Dental Service approved that the interviews could be made during the DH regular working hours.

Qualitative interviews

The qualitative method used for collecting and analysing data was the constant comparative method for Grounded Theory (GT), originally described by Glaser and Strauss (9) and further developed by Strauss and Corbin (11, 12) and Charmaz (12, 13). The objective of the GT method is to gain an interpretive understanding of the subjects meaning of their reality (13).

Open-ended, tape-recorded interviews were conducted lasting for approximately 1 h (mean 65 min; range 50–120 min). Two DHs were subjected to a follow-up interview (approximately 30 min) to clarify some of the interview issues. The interviews took place in a quite room at the clinic where the DHs worked. An interview guide was used focusing on factors the DH considered important in treatment of patients with periodontitis. The themes focused during the interviews were; (i) how to communicate oral health issues to the patient to manage desirable behavioural changes, (ii) factors of importance concerning the interpersonal relationship during treatment, (iii) the DH professional role and (iv) the working environment. Based on these themes, the interviewer asked relevant follow-up questions. As the interviews were performed in an open and conversational style, the dental hygienists had the opportunity to raise own thoughts and questions at any time during the interview.

Data collection and analysis was a simultaneous process. The analytic interpretations of the interview data directed the focus of further data collection, i.e. theoretical sampling. Data collection/analysis was terminated when new data did not bring anything vital into the analysis model, i.e. saturation had been reached within the study group.

Analysis

Each interview was transcribed verbatim and analysed before the next interview took place in accordance with the principles of GT (9–13). The analysis procedure was performed in close collaboration between the authors representing different scientific disciplines (odontology, psychology and pedagogic). A senior researcher (KHA) with great experience in GT methodology acted as a consultant throughout the analysis process. The emerging categories were discussed and the final model of the results was made in agreement between the three authors. The steps in the analysis were:

1 At first, a line-by-line coding of the transcribed interview leading to the identification of substantive codes/key words reflecting the essence of the data. The substantive codes were thus labelled with the informants' own words.

2 Substantive codes with similar content were then summarized into categories. These categories were given a more abstract label than the substantive codes.

3 In the subsequent axial coding process, during which connections and similarities between categories were explored, each category was further elaborated to identify different dimensions.

4 The final step was the selective coding where a core category was identified. This core category was central in the data and related to the subcategories.

Results

In the analysis a core category reflecting the central theme in data was identified as 'to be successful in information and oral health education and in managing desirable behavioral changes'. The core category was related to four main categories labeled (i) 'to establish a trustful relationship with the patient', (ii) 'to present information about the oral health status and to give oral

hygiene instructions', (iii) 'to be professional in the role as a dental hygienist' and (iv) 'to have a supportive working environment in order to feel satisfaction with the work and to reach desirable treatment results'. The main categories were composed of several subcategories/dimensions (Table 1). The results described a process (Fig. 1) illuminating the DHs' views on important factors with regard to how to communicate oral health issues and accomplish beneficial behavioural changes in prevention and treatment of periodontal disease.

To establish a trustful relationship with the patient

This main category was composed of two subcategories labelled '*to create a reliable relationship*' and '*to be aware of the patients requirements*'.

The DHs described the very first meeting with the patient as most important. As a DH, one has to show true commitment and treat all patients with respect. Each patient must be recognized as a person and not only by his/hers present oral health problem. The DHs considered that it was the professionals' responsibility to establish a relation where the patient felt trust towards the DH. If the patient already had received information about their oral health status from the dentist, the patient showed a more positive attitude towards the DH treatment. One of the DHs expressed the meeting as follows:

> That you treat people with dignity and that you interact with them as equals. Not: 'I am the dental hygienist here and I will show you how it's done'… I think it has a lot to do with how you view people and about humility. (5:10)

The DH has to listen carefully and be sensitive to the patients' thoughts and desires about the forthcoming treatment and to encourage the patient to participate in decisions concerning the treatment. To establish a relationship with a patient with negative attitudes to dentistry was sometimes difficult and time consuming. By having eye contact, listen carefully and showing interest and respect to the patients' history one could reach a trustful relationship. The DHs pointed out that clinical stress, often depending on a tight time schedule and economical demands, must be kept away from the patients' perception. A well-performed communication and a trustful relationship were assessed as a key factor for a successful treatment:

> It's so extremely important to get the patient on the track right from the start, and to be able to motivate the patients. To get a feeling for what kind of person he/she is. What does the patient want to get from the visit, from the treatment? What do they want of their teeth and mouth? In order to meet each other on the right level and to be in agreement. (10:1)

Table 1. **Description of categories depicting the core concept 'To be successful in information and oral health education and managing desirable behavioural changes': that is, higher-order categories and examples of underlying categories/dimensions**

Core category
To be successful in information and oral health education and managing desirable behavioural changes
Subcategories/dimensions
To establish a trustful relation with the patient
To create a reliable relationship
To be aware of the patients requirements
To present information about the oral health status and to give oral hygiene instructions
To be well prepared before information and instruction
To encourage and compliment instead of giving critique
To use different tools to facilitate learning and influence a behavioural change
To be professional in the role as a dental hygienist
To have a broad competence within preventive care and oral health promotion
To have an education consistent with the clinical tasks
To have a supportive working environment to feel satisfaction with the work and to reach desirable treatment results
To have support from colleagues and clinic management
To have support from the specialist team

To present information about the oral health status and to give oral hygiene instructions

This main category was composed of three subcategories labelled '*to be well prepared before information and instruction*', '*to encourage and compliment instead of giving critique*' and '*to use different tools to facilitate learning and influence a behavioral change*'.

The DHs expressed the importance of being well prepared when giving oral health information and oral hygiene instructions. As a DH, one has to create a positive environment for a dialogue and catch the patient's attention. The information about 'oral health' must be honest and individualized for each patient:

> The mistake I've made is to talk too much instead of listening and letting the patient ask questions. It's a habit that's hard to break… The risk is that we nag our patients to death… (4:11)

To make comments about a patient's poor oral hygiene was described as a difficult task. To create a good atmosphere for learning and understanding it was considered important to focus on improvements when giving information/instruction instead of presenting critique. Too much negative feedback could end up with a patient who did not listen at all. Fear or anxiety could also be possible explanations for not being receptive to information:

> Praise, praise, praise is extremely important in the beginning when… when you're instructing …and never use the word wrong, instead say 'Great!' … [the dental hygienist] said to the patient 'your mouth isn't clean.'… the patient was very offended! To be accused of being dirty … be careful with the few words you use… (10:4)

The DHs described the individual's oral hygiene behaviour as embracing several factors and thus, it could be a long process to manage a behavioural change. The patients' ability to absorb and understand the given information, be active and show own responsibility was crucial concerning the treatment outcome. The DHs used the patient's mouth, x-rays, pictures, dental models and even made drawings as an instructive help in making the

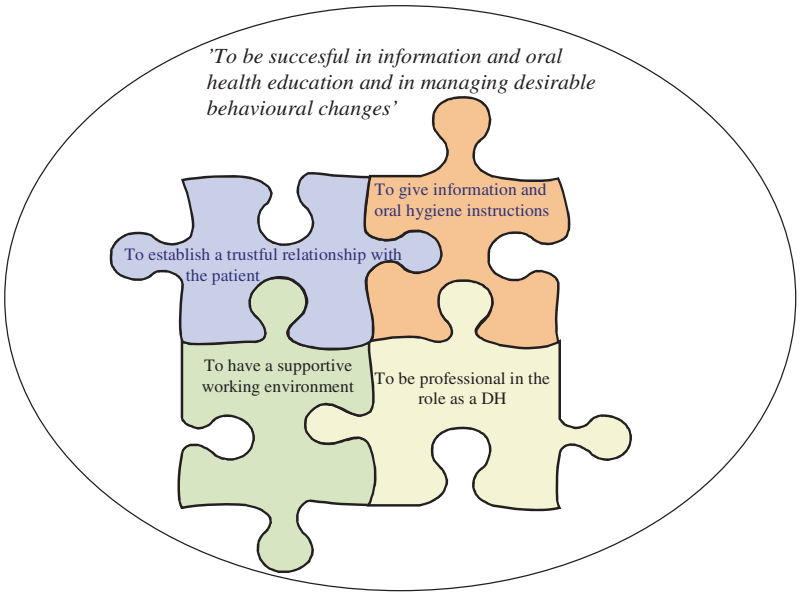

Fig. 1. A conceptual model illuminating DHs views on factors of importance in how 'to be successful in information and oral health education and in managing desirable behavioural changes'.

information as easy as possible to understand. As a DH, one must try not to excess the information or amount of oral hygiene products prescribed, but instead make the necessary changes gradually. It was also important to follow-up given advices to secure that the patient had understood. The DHs were of the opinion that the undergraduate education should include more teaching and training in communication. Furthermore, the DHs were active in searching for relevant continuing education courses and information about communicative methods:

> Now Motivational Interviews are common… you try to actively involve the patient and to get him/her to make choices. I try to work a lot with that, and it's effective. If instead of telling a totally uninterested patient 'You have to use this!', you ask 'There's a connection here, do you want to hear about it? I can tell you about it.'…you try to awaken interest. (11:7)

To be professional in the role as a dental hygienist

This main category was composed of two subcategories labelled *'to have a broad competence within preventive care and oral health promotion' and 'to have an education consistent with the clinical tasks'*.

The DHs described their profession as advanced and important and their main tasks were focused on oral health promotion and particularly the prevention of oral diseases. From the DHs point of view, 'oral health' meant not only a mouth without diseases but also that it was a matter of the patient's general health and well-being. As a DH, one must enjoy working with people. The DH must have good knowledge in biomedical/odontological topics, but also in behavioural science and one has to master both technical and communicative skills in clinical practice:

> Characteristic [for the profession] is that it is preventive, both regarding cavities and periodontitis; we have a wide perspective and a comprehensive education regarding oral health. There's a lot that's within our area of responsibility. You have to be empathetic, to like people, differences and starting points, to be knowledgeable both regarding medicine and odontology. Have respect for dental care, it's a very complex job. (5:5)

Dental hygienists and dentists were seen as professions complementing each other and therefore it was utmost important to have a good knowledge about each other's competences. When the dentists emphasized the importance of DH treatment they strengthened the DH's professional role, which most likely reinforced the treatment results. Even though most of the DHs were satisfied with their education, the early period in the profession was expressed as a difficult time. Along with increased professional experience no one felt that they had clinical tasks more complicated than they could handle. However, the DHs considered it important to be continuously updated in relevant odontological and medical areas especially because an incorrect treatment could risk ones future professional career:

> I want to know, to look at x-rays and pocket status… if there are any illnesses that I have to take into consideration, if antibiotics are required – I have to be very alert to these things. You can't miss these things; it can jeopardize my whole career. (10:25)

To have a supportive working environment to feel satisfaction with the work and to reach desirable treatment results

This main category was composed of two subcategories labelled *'to have support from colleagues and clinic management'* and *'to have support from the specialist team'*.

The DHs expressed that the working conditions and the clinical environment were of great importance in their daily clinical work and for reaching desirable treatment results. A supporting and collaborative climate at the clinic encouraged

them to seek help and clinical advice when needed and made them feel secure in their practice. Moreover, the DHs expressed the importance of having DH colleagues at the clinic. The clinical management was seen as very important in creating a positive atmosphere and adequate working conditions. A negative aspect was the fact that the DHs had several different assignments besides treating patients. The DHs performed their clinical duties without any assistance and at some clinics the cleaning and sterilizing of the equipment were seen as a part of the DH's working tasks. All DHs experienced financial constraints from their clinical manager and other assignments beside treatments made it harder for the DHs to fulfil these demands. Moreover, some DHs experienced problems because of different opinions regarding periodontal treatment between dentists and DHs and expressed that some dentists showed a lack of knowledge and interest in periodontology. Hence, some of the DHs felt very frustrated and lonely in the treatment of periodontal patients:

> No one's interested [in patients with periodontitis] because implants are mostly used here [at this clinic]. It's mostly extractions, and in that sense [periodontitis] isn't at all interesting. They think that too little has happened, that it's the same as it's always been, that nothing new has emerged. The patient had been coming here since 2003 and no assessments of pocket status or deep pockets were made and [the patient] were never informed about anything… Everything else was patched and fixed, but not the other [periodontitis]. She [the patient] was probably a little shocked when she was last here because no one had ever shown her anything. (15:4)

A majority of the DHs tried to perform the indicated periodontal treatment by themselves. The Swedish DHs are authorized and can make a decision about referral to the specialist without consulting a dentist, which was considered as important with regard to patient security and treatment quality. The DHs considered that their patients took their periodontitis more seriously when being referred and treated at the specialist clinic. They believed that their colleagues at the specialist clinic had more competence, resources and more time for each patient than the general dental clinic could offer. However, a few DHs expressed negative experiences from the collaboration with the specialist because the specialist had mentioned to the patient that the DH had made a poor treatment. Moreover, some DHs expressed that several patients were negative to a referral to a specialist because they considered that they could have the periodontal treatment performed at their regular clinic. Reasons for rejecting referral could also be the higher fee for the specialist treatment and increased time for travel to the specialist clinic:

> They are specialists, so they have many serious cases where we have failed. Not everyone [patients] wants to go – greater costs and longer time. They have been told the same things earlier, but when they come to a specialist then it's taken more seriously and then it can be better for the patient. Even if it's irritating sometimes when you know that we have been doing the same thing here. (9:15)

Discussion

The results describe a psychosocial process that elucidates the importance of building a trustful relationship with the patient, feeling secure in one's professional role as a DH and last but not least, the importance of having support from colleagues and the clinical manager to be successful in the prevention and treatment of periodontal diseases.

A good communication between the DH and the patient was central in order to build a trustful and confident relationship with the patient. Similar findings have been described in several health care studies with focus on communication and interaction between the nurse and patient, as well as between the doctor and the patient (14). It is important that the caregiver shows emotional involvement, a caring relationship and confirms the patient's feelings. Furthermore, to acknowledge the person 'behind the patient' and to make the patient feel more secure and less vulnerable are important issues for the adherence to treatment regiments (15).

In a previous study by our research group (1) patients receiving treatment for periodontitis described the importance of communication and a dental team that are sensitive for their patients needs while ensuring that given information is understandable. These findings in relation to the results of this study indicate that patients and dental hygienists essentially share the same views on the importance of communication and how to build a trustful treatment alliance. Pennbrandt (16) described a similar situation where elderly patients and their doctors mainly had the same view on how to create good relations. However, it was discussed that the doctors may have had created an ideal image, because the patients showed some criticism towards their doctors' communicative skills. This could also be true amongst the DHs in the current study, i.e. that the DHs described how an ideal communication and a trustful relationship should be. However, this was not reached in every meeting and situation and the DHs described that a reason for not living up to their ideal norms regarding communication was most often because of a stressful work situation.

The informants described the importance of a supportive approach with different pedagogical approaches to facilitate the learning situation. Friberg & Scherman (17) described that to reach compliance and adherence in health care one must find the patients' way of understanding and try to create necessary conditions for understanding. Thus, the authors acknowledge the need for health professionals to have pedagogical knowledge. This is congruent with the present results that highlighted the importance of communicative and pedagogic skills and also that the DH education must provide a good basic knowledge in behavioural sciences.

To feel secure in the profession, it was important to have good knowledge in both dentistry and medicine, but it was also obvious that the clinical environment had a major influence on the DH's professional role and job satisfaction. Petrén *et al.* (18) also emphasized the importance of a supportive and encouraging clinical management for the DH's well-being and job satisfaction. The DHs expressed the first time in the pro-

fession as very stressful. Thus, it is important that the employer gives the DH time to adapt in her/his professional role, as well as to the organization and the culture at the clinic, without clinical pressure and economic demands. This is in line with the recommendations stated by the National Board of Health and Welfare (19) that the newly graduated DH must be given the opportunity to gain professional skills before being given the more demanding tasks.

Moreover, the work environment was emphasized as highly important. A supporting and collaborative climate at the clinic encouraged the DHs to seek help and clinical advice when needed, and this made them feel secure in their practice. A more disappointing result was the perceived problems regarding some dentists' lack of concern and knowledge of periodontal treatment. Skaret and Soevdnes (6) focused on the DHs as key personnel in dental care and stressed that dental professionals have to work in a team where the dentist also has sufficient qualifications and a true engagement in the patient care. In our study, clinical pressure, economical demands and a non-supportive clinical climate were factors considered to contribute to general work stress and to negatively influence the DHs' professional satisfaction and treatment results. Our findings support observation reported by Holmgren (20) that work related stress amongst women in different professions was closely related to the interaction between the individual and the environment.

The current qualitative study is based on an extensive amount of information (approximately 400 pages) from a group of DHs varying in age and professional experience. The informants contributed with a broad variety of experiences relative to the communicative factors and interpersonal processes of importance in the treatment of patients with chronic periodontitis. The principles of GT (9, 10, 12, 13) were followed in every step and the interpretations of data, made in close collaboration between the authors, were strengthened by a high level of agreement. Moreover, the described categories were grounded in the data and illustrated with interview quotations to show the trustworthiness of our interpretation. The comparison with findings reported from similar studies in other health care areas illustrates that our findings might be relevant also for health care providers in other fields other than dentistry. Even so, further studies are warranted to increase the understanding of the interaction processes in dentistry and their possible influence on treatment outcomes.

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