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Exploring Factors Influencing Adherence to Oral Hygiene Care among Periodontal Patients: A Pilot Study

(Menyelami Faktor-faktor yang Mempengaruhi Tahap Penjagaan Kebersihan Mulut yang Baik dalam Kalangan Pesakit Periodontal: Suatu Kajian Awal)

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ABSTRACT

The objective of this study was to investigate in-depth factors influencing adherence to oral hygiene care among periodontal patients. This qualitative research was based on patients undergoing initial phase of periodontal therapy at the Universiti Kebangsaan Malaysia (UKM) Periodontic Clinics. The data collection were obtained using a focus group discussion (FGD) and the session was recorded and later transcribed for manual analysis. Six patients participated in the FGD. The main themes which emerged collectively from the discussion were 'lack of knowledge' and 'poor motivation' related to effective oral hygiene care. Respondents noted that motivation to adhere to oral hygiene care improved when clinicians undertook good professional care and when patients themselves experienced retrospective regret for their tooth loss. This study showed lack of oral health knowledge, poor attitude towards oral hygiene care, good dentist-patient relationship, regret about past neglect, cultural beliefs and affordability were the factors which might influence adherence to oral hygiene care among periodontal patients.

Keywords: Adherence; attitude; oral hygiene care; periodontal patients; qualitative study

ABSTRAK

Penyelidikan ini bertujuan untuk menyelami secara mendalam faktor-faktor yang boleh mempengaruhi tahap penjagaan kebersihan mulut yang baik dalam kalangan pesakit periodontal. Penyelidikan kualitatif ini melibatkan para pesakit yang melalui fasa pertama rawatan periodontal di klinik periodontal Fakulti Pergigian, Universiti Kebangsaan Malaysia (UKM). Penyelidikan ini berdasarkan perbincangan fokus berkumpulan dengan perbincangan pesakit dirakam dan ditranskrip secara 'verbatim' untuk dianalisis. Perkara utama yang diutarakan oleh para pesakit berdasarkan perbincangan tersebut adalah 'kurang pengetahuan' dan 'kurang motivasi' untuk meningkatkan mutu kebersihan mulut. Walau bagaimanapun, motivasi terhadap kebersihan mulut pesakit meningkat apabila rawatan profesional diberikan dan juga wujudnya kesedaran diri akan punca kehilangan gigi. Penyelidikan ini menunjukkan kurang pengetahuan, sikap negatif terhadap penjagaan kebersihan mulut, perhubungan pesakit dan doktor gigi yang baik, kesedaran akan punca kehilangan gigi, adat resam dan kepercayaan serta kemampuan merupakan faktor yang boleh mempengaruhi penjagaan kebersihan mulut dalam kalangan pesakit periodontal.

Kata kunci: Kepatuhan; penjagaan kebersihan mulut; penyelidikan kualitatif; pesakit periodontal; sikap

INTRODUCTION

Periodontal disease is a chronic disease that is perceived by many patients to be non-threatening (Ahmad 2002). However, periodontitis has been shown to cause major consequences on people's health and quality of life, at a dental level, as well as at a much more general level. This disease can impose huge burdens on the health care systems (Beikler & Flemmig 2011). Moreover, recent evidences strongly linked chronic periodontitis with systemic diseases. Conditions such as cardiovascular diseases, renal disease and diabetes further assert the necessity of patients' compliance to treatment or management for both medical and oral conditions (Blazit et al. 2009; Chavarry et al. 2009; Pizzo et al. 2010).

Treatment of periodontal disease includes effective self care mainly in the form of oral hygiene. Success of periodontal treatment is highly dependent on the patients' ability to maintain good oral hygiene and many studies have shown that non-compliance results in poor periodontal treatment outcomes and an increased incidence of root caries (König et al. 2001; Ng et al. 2011; Pepelassi et al. 2005). Common reasons given for periodontal treatment non-compliance included unwillingness to perform oral self care (Weinstein et al. 1983), stressful life events (Becker et al. 1988), lack of understanding of the advice and poor perception of oral health problems (Berndsen et al. 1993), a lack of motivation (Alcouffe 1998; Syrjälä et al. 1994), low socio-economic status (Tedesco et al.

1992), poor dental health beliefs (Glavind 1986; Kuhner & Raetzke 1989) and unfavorable dental health values (Camner et al. 1994).

Many theoretical and psychological models as well as strategies exist to motivate the performance of health behaviour (Inglehart & Tedesco 1995). Unfortunately, some existing behavioural modification approaches are impractical for establishing long term improvements in oral hygiene behaviours (Cancro & Fischman 1995) as behaviour is shaped by the norms on lifestyle, social and economic circumstances of the patients (Blinkhorn 1993; Newton & Bower 2005). Thus, this study aimed to explore the factors which influence adherence to oral hygiene care among periodontal patients receiving care at the Faculty of Dentistry, Universiti Kebangsaan Malaysia.

MATERIALS AND METHODS

This study had been approved by the Faculty of Dentistry, Research and Ethics Committee, Universiti Kebangsaan Malaysia (UKM). In this study, we have chosen to adopt principles of qualitative methods for data collection and analysis and conducted it via the FGD. Such approaches are commonly used to explore, interpret or obtain a deeper understanding of certain aspects of human beliefs, attitudes or behaviour, such as personal experiences and perspectives (Greenhalgh & Taylor 1997; Silverman 2000). This is appropriate and relevant to meet our overall objectives in developing an understanding of patients' experiences and perspectives with regard to their periodontal conditions. In addition, qualitative methods can overcome literacy problems and are, therefore particularly useful in obtaining detailed information directly from people who may have problems reading or writing (Stewart et al. 2008).

Twelve periodontal patients who fulfilled our inclusion and exclusion criteria were chosen based on purposive sampling. They were periodontal patients who were undergoing initial phase periodontal therapy with undergraduate dental students at the Faculty of Dentistry, Universiti Kebangsaan Malaysia. Their inclusion criteria include at least one site with probing pocket depth more than 5 mm, clinically presented with

either good (plaque score less than 25%) or poor oral hygiene (plaque score more than 50%), Malay literate and were potentially informative and capable of expressing opinions. Initial Phase Periodontal Therapy is basically defined as treatment that will control or eliminate the cause of periodontal disease which includes oral hygiene instruction and oral health education in addition to the removal of plaque and hard deposits on tooth and root surfaces. Oral hygiene and oral health education given by the undergraduate students followed the standard protocol from scientific basis of dental health education (Levine 1985).

The FGD lasted about one and a half hours and the whole discussion was videoed and audio-recorded. It was moderated by a trained facilitator (TNMD). Questions framed prior to the session served as a guide to be used if necessary and included the followings: oral hygiene practices of the participants, reasons for oral hygiene care among the participants and their attitudes towards change. Participants were provided with an information sheet and consent was obtained before the beginning of the discussion.

RESULTS AND DISCUSSION

Invitations to participate were sent to twelve patients but only six of them turned up for the FGD which was held in a discussion room at the dental faculty. Participants' demographic details, oral hygiene level and periodontal status are shown in Table 1. The data were recorded until the participants were not expressing any new themes or ideas. All the data from the six participants were used for analysis.

All recorded discussion was transcribed to verbatim and analysed by four researchers to minimise interpretation bias. Thematic content analysis was used to interpret the data. Themes emerged that were common to participants in the FGD session included lack of knowledge, attitudes towards oral hygiene care, regret about past neglect, dentist-patient relationship, cultural beliefs and affordability. These themes are presented here along with the responses from the participants.

TABLE 1. Participants' demographic details, oral hygiene level and periodontal status

Subject (n=6)	Gender	Age	Oral hygiene	Level of periodontal problem	Ethnicity	Occupation
A	Female	52	Good	Severe	Malay	Housewife
B	Female	53	Poor	Severe	Indian	Cleaner
C	Female	36	Poor	Moderate	Indian	Nurse
D	Male	52	Poor	Severe	Malay	Technician
E	Male	57	Good	Moderate	Malay	Businessman
F	Male	62	Poor	Moderate	Malay	Ex-air force pilot

LACK OF KNOWLEDGE

Some of the participants were not aware of the importance and the function of interdental aid. Most periodontal patients have been advised to use interdental aids such as floss or interdental brushes along with toothbrushing. This was well expressed by subject F who did not know the importance of flossing, *"If you gargle with rolling water it (plaque) goes...it just goes off, so why...why use floss?"* Subject F also said that, *"If you use it (interdental brush) in here, does it make the hole bigger? Does it (tooth surface) not get thinner?"*. According to Jacob and Plamping (1989), lack of knowledge on what to change is one of the barriers to achieve long-term behavioural change. Insufficient knowledge causal relationship between oral hygiene practices and treatment success has been linked to patient's poor socioeconomic conditions and especially to limited education and lack of dental instruction (Weinstein et al. 1996). Lack of knowledge prevents patients from observing compliance. Thus, the entire dental team must master common techniques of active listening, shaping and verbal reinforcement which will help to turn a merely informative approach into a usefully persuasive one (Weinstein et al. 1996).

ATTITUDES TOWARDS ORAL HYGIENE CARE

Oral hygiene care has been a routine and habitual activity to a participant in the group. Good adherence to it has been positively motivated with full support by the dentist. Subject A, who internalized the oral hygiene habits, said *"...well...just start off...I mean it's really habitual. I don't know...but just...as I've been getting my treatment with Doctor X, been using normal brushing, with the interdental, and floss..."*. According to Syrjälä et al. (1994), positive attitude such as well internalized oral habit during adulthood can be the result of acquired knowledge and supportive behaviour from dentist.

Another positive attitude was shown by Subject C, who realized that she needs to take care of her teeth to prevent unhealthy teeth and gingiva, *"Since my teeth and gums are already in poor condition, I start to use the interdental brush, I have to care for my teeth"*. In the Health Belief Model (Becker & Maiman 1975), one will need a cue to trigger an action where the subject is in the state of readiness to act. The cues in this case can be internal for example poor condition of teeth and gum. Bandura's Social Learning Theory (Bandura 1977) which also explains this behaviour stated that behavioural changes will take place if one believes about the consequences of not engaging in the behaviour.

On the other hand, negative attitudes of subjects such as failure in managing time for oral hygiene care and laziness are some of the factors which can lead to non-adherence. Subject C attributed her non-adherence with rushing to work, *"Rushing...Yes, have to wake up early..."* while subject F described laziness as the factor of non-adherence, *"It (flossing)...is recommended...and I agree...in between the teeth, the difficult places. It is good...but I am lazy,*

right?". Weinstein et al. (1996) suggest that optimal oral hygiene can be obtained by combining Behavioural Self-management (BSM) and positive reinforcement following basic oral hygiene instructions. BSM is the technique for self-monitoring, self-motivation and self-reinforcement in the absence of an immediate external control. Patients with poor BSM will not adhere to the oral hygiene instructions given despite knowing the importance of it.

REGRET ABOUT PAST NEGLECT

Some of the participants in the group expressed their regret for not taking care of their teeth and gum in the past. Failure to adopt good oral health behaviour in the past has motivated them to keep good oral hygiene care while appreciating what is left on them. Subjects D and E expressed their regret of not taking care of their teeth and oral hygiene after having lost their teeth, *"When we have lost our teeth, only then we know how to appreciate..."* and *"So suddenly develop problem then you find that you have to take care (the teeth)..."* Subject F also said *"when we have to wear denture then we appreciate of our natural teeth and we feel regret for not looking after them, when we have lost them (the teeth)"*. According to Skinner's operant conditioning (Skinner 1953), one will learn to repeat behaviours that yield positive outcomes or permit them to avoid or escape from negative outcomes.

DENTIST-PATIENT RELATIONSHIP

Dentist-patient relationship appears to play a role in influencing subjects' adherence to oral hygiene care. Subject E felt thankful and appreciative for what the dentist had done for him. After being treated, he realized that he also has a role in maintaining his oral hygiene, not merely depends on the dentist, *"I feel grateful. At least somebody helps to check for me right? I think after what the doctor has done (repair job)...after that it becomes our part to do what that has to be done..."* According to Karlsson et al. (2009), patient wants to feel that the professional is doing his/her best and that they can solve the problem together. Clearly, a supportive dentist can initiate a sense of appreciation among their patients, which can indirectly motivate the patient to adopt the oral hygiene care. Such an appreciation for the dentist has not been widely discussed in the western literature.

CULTURAL BELIEFS

Childhood experiences and cultural background may influence the patient's adherence to oral hygiene care. Subject B believed that traditional cleaning method such as using tooth powder and finger to clean her teeth was better as she found her teeth were cavitated after she started to use the toothbrush, *"...last time we use the finger and then the powder, tooth powder...that time never spoil (the teeth) you know after that I use... I'm 19 years ah...I work in people's house they give me the brush, colgate, then after that I only can find the hole all...last time no..."*

Each culture has a collection of beliefs, perceptions and ideas about health and illness, which underpin health-related behaviours (Loustaunau & Sobo 1997). However, some of the beliefs may be incorrect and this may influence their adherence to oral hygiene care. Hence, patients need to be convinced and retrained about correct dental health knowledge.

AFFORDABILITY

The last factor discovered in our study is affordability. All participants agreed that price is not a factor as they can afford to buy the oral hygiene care products such as toothbrush, floss and interdental brush. Subject F said “..*It used to be very expensive (toothbrushes and floss).... but not now. Its actually not because of the price but too many things to have (floss, toothbrushes and interdental brush)...*”. Higher social class respondents had clearer knowledge, more positive attitude and more appropriate behaviour related to dental health than lower social classes (Keogh & Linden 1991). Most of the participants were from middle social class and live in urban area. This explained why affordability has less influence to their adherence to oral hygiene care.

It became clear that most of the factors which influenced oral hygiene among periodontal patients which have emerged in the discussion were consistent with previous studies (Alcouffe 1998; Berndsen 1993; Syrjälä et al. 1994; Weinstein et al. 1983) and relevant to many available models of health behaviour. This will give opportunity to the dentist to develop a more strategic planning in providing correct information to patient, full support to change patients' behaviour and enhancing strong dentist and patient relationship to help the patients to improve oral hygiene.

In spite of that, this study also found that regret about past neglect has been a factor to motivate them to improve their oral hygiene. This factor may need further exploration in future to identify the reasons. Past neglect can also be due to past lack of understanding of the cause of the disease or not been diagnosed to have the disease (O'Dowd et al. 2010). Dentists who fail to provide information and spotting the disease in the first place can be the reason for disease progression and causing tooth loss in periodontal patients.

Culture beliefs are another potential factor to have influenced adherence to oral hygiene in our country with multi ethnic and racial population. Every population group has different beliefs and practices in their general health well being. It was found that a group of Chinese immigrants in England did not believe in dental advice and thought all dentists are only repairers (Kwan & William 1999). The Chinese immigrants also believed that bleeding gum and tooth loss were 'normal' (Kwan & Holmes 1999). This factor warrants further exploration in other FGDs with each specified ethnicity and races in this country. Special sensitive approach and health promotion may be appropriate to target these different culture and health belief groups.

A relatively small sample and from only one FGD are the limitations of this study which means results cannot be generalised to other population group. However, the aim to explore the factors which may influence adherence to oral hygiene was achieved when one new theme emerged from the FGD within this cohort. Future study with different group population is needed and this pilot study may act as platform for future quantitative research attempting to extend this study to a larger population group.

CONCLUSION

A range of factors were identified to influence adherence to oral hygiene among periodontal patients, which include: lack of knowledge, attitudes towards oral hygiene care, regret about past neglect, dentist-patient relationship, cultural beliefs and affordability. Although, at this point the results cannot be generalised, it provides oral health professionals a better understanding of patients' responses and perspectives toward oral hygiene care and thereby be better prepared to give individualized, quality care in the future. Further research in this area is needed so that these factors can be tested using quantitative method in a larger population sample.

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