

CARING PRACTICES AND AFFECTING FACTORS OF INDIVIDUALS USING REMOVABLE DENTURE: A PHENOMENOLOGICAL STUDY

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ABSTRACT

Many physical and individual problems affect the optimal hygiene of removable dentures. This study aims to analyze the caring practices and factors affecting hygiene of removable denture from the participants' perspective. Participants' experiences of hygiene of denture were examined by using phenomenological research design. 17 participants with removable were selected according to extreme (4-clean) and deviant (13-poor) sampling method. Data were collected through individual interviews. Data were analyzed using thematic analysis and three themes in each removable denture hygiene group. The themes of extremely clean group were "Denture... I have no other choice" "Dental Hygiene... As much as possible after every meal" and "You need to know the value of own teeth before you lose it" themes of extremely poor denture hygiene group were "Denture...I have no other choice...I got used and I am pleased" "Dental hygiene...I only do when I have to" and "You need to know the value of own teeth before you lose it". The findings presented in this study reveals that individuals should be informed about hygiene of removable denture by considering their religious and cultural beliefs and pre-denture dental care practices.

Keywords: Removable Denture, Phenomenology, Nursing

INTRODUCTION

Commonly preferred technique for replacement of lost teeth, dentures are used to rehabilitate mouth tissue, which is effective on chewing efficacy as well as speech, aesthetic appearance, and have a considerable effect on the quality of life of individuals (Goiato *et al.*, 2017). Dentures have an impact on interaction of individuals with others by giving them a sense of normality in image-sensitive modern societies (Roumanas, 2009). In fact, many denture users are more satisfied than expected (Marachlioglou *et al.*, 2010).

Aesthetic and functional elements on the denture constitutes suitable surfaces for the accumulation of food and microorganisms, and require careful and continuous oral and denture hygiene (Dikbaş & Köksal, 2005). The use of dentures that are not suitable for oral tissue, the lack of removal of the denture for long times and the insufficient hygiene of the denture lead to mechanical injuries to the mouth and acute or chronic

reactions against the prosthetic material or microbial prosthetic plate (Azad *et al.*, 2015). Wrong denture using habits and inadequate denture hygiene have vital importance on traumatic ulcer, denture stomatitis, denture irritation hyperplasia, angular cheilitis, oral carcinoma (Roshene, Robin & Raj, 2015; Azad *et al.*, 2015), dental staining, aesthetic problems, halitosis, tooth decay and periodontitis (Axe *et al.*, 2016; Coulthwaite & Verran, 2007; Verran, 2005). Studies in India (Naik & Pai, 2011) and Serbia (Marinoski, Bokor-Bratić & Čanković, 2014) it was reported that most of the individuals (respectively 76% and 93.3%) who developed denture stomatitis have inadequate denture hygiene. In Turkey, Akalın Evren *et al.*, (2011), found that 41% of stomatitis depends on inadequate denture hygiene; Baran & Nalçacı (2009), found that the rate of stomatitis associated with denture hygiene was 35.8% and the rate of traumatic ulcer was 29%.

Regular cleaning of the denture is the easiest way for establishing oral hygiene and preventing possible

problems (Axe *et al.*, 2016). However, studies show that a large proportion of individuals do not pay enough attention to denture hygiene. Milward, Katechia, & Morgan, (2013) and Atay *et al.* (2008) stated that 60.2% and 73.9% of individuals had poor dental hygiene, respectively; Barbosa *et al.*, (2008) and Memon *et al.*, (2014) reported that 64% and 48% of individuals go to bed with the denture on, respectively. Care and training provided by nurses for oral and denture hygiene have a positive effect on the development of oral health of individuals (Nihtilä *et al.*, 2017; Erol *et al.*, 2016; Peltoka, Vehkalahti & Simmoila, 2007). For this reason, it is important that nurses plan appropriate interventions in this aspect by evaluating individual and cultural factors that affect health within the educational care role of nurses (Bolsoy & Sevil, 2006). In the related literature, researches on denture care practices are mostly on the quantitative research route. There are few qualitative studies that will provide an in depth understanding of the subject.

Research Objective

The aim of this study is to obtain detailed information about denture care practices of the individuals using removable dentures and to determine the factors affecting these practices.

Research Questions

- What are the practices for denture care of individuals who use dental prosthesis?
- What are the factors that affect the practice of individuals denture hygiene?

RESEARCH METHODOLOGY

Model of the Study

In this study, phenomenological approach was used as a qualitative research method. Phenomenology is a sensitive approach that explains certain events and experiences for understanding the meanings that individuals impose on events, and the essence of human experiences with participant's point of view (emic) (Streubert & Carpenter, 2011; Polit & Beck, 2004).

Study Group

The study group consisted of individuals using removable denture who applied to the Integrated

Clinics of Oral and Dental Health Center in Amasya-a city located in Northern Turkey- between 01 December 2016 and 31 January 2017. Extreme and deviant case sampling was purposefully used in this study. This method of sampling requires the selection of 'illuminating events' that exemplify contexts perceived as "success or failure" for a situation, and focus on unusual/unfamiliar situations (Etikan, Musa & Alkassim, 2015). It is a suitable method for identifying individual, environmental, or cultural factors that affect both successful and unsuccessful applications related with the situation, and for reaching "realistic syntheses" towards the solution.

As an extreme and deviant situation in this study; individuals using denture which have no food and plaque deposits and have very well preserved polish (extremely clean denture hygiene) together with individuals using denture with food and plaque deposits on surfaces and which have a slippery surface due to these deposits and with unpreserved polish (extremely poor denture hygiene) were included in the study group. Thus, the aim was to point out the deviant situations and the factors, which exist in relation to the problem studied, affecting the variability more clearly. The knowledge, observations and experience of the researcher studying in the dental clinic for a long time, as well as the expert opinion of the attending dentists, have been taken into account in the evaluation of the denture used by the participants (extremely clean denture hygiene/extremely poor denture hygiene).

Seventeen people participated in the study. Of these people; 4 (3 male, 1 female) were clean denture hygiene and 13 (6 male, 7 female) were poor denture hygiene (Table 1). The lack of the number of participants in the clean denture hygiene group due to the difficulty in finding the participants who met the criteria within the planned period of research constituted the limitation of the research. Data collection continued until new data was not available.

The mean age of the participants was 65.5 years (Min: 58, max: 73 years) in the clean denture hygiene group and the average duration of denture use was 15 years (Min: 5, max: 30 years). Mean age was 59.8 (Min: 43, max: 73 years) in the poor denture hygiene group and average duration of denture use was 14.3 years (Min: 1.5, max: 30 years). All male participants were retired while all females were unemployed.

Table 1: Descriptive Characteristics of Study Group

Group With Extremely Clean Denture Hygiene Characteristics								
Code	Age	Education Status	Marital Status	Sex	Region of Residence	Employment Status	Denture Type	Denture Duration of Use
P1	58	Primary school	Married	Male	Urban	Retired	Mandibular-Maxillary Partial Removable Denture	5 Years
P2	63	High school	Married	Male	Urban	Retired	Mandibular-Maxillary Total Removable Denture	20-25 Years
P3	68	Postgraduate	Married	Male	Urban	Retired	Mandibular-Maxillary Partial Removable Denture	5 Years
P4	73	Illiterate	Single	Female	Rural	Housewife	Mandibular-Maxillary Total Removable Denture	30 Years
Group With Extremely Poor Denture Hygiene Characteristics								
P5	53	Primary school	Married	Female	Rural	Housewife	Maxillary Partial Removable Denture	10 Years
P6	71	Illiterate	Married	Male	Rural	Retired	Mandibular-Maxillary Total Removable Denture	20 Years
P7	67	High school	Married	Male	Urban	Retired	Maxillary Partial Removable Denture	8 Years
P8	56	High school	Married	Male	Urban	Retired	Mandibular-Maxillary Total Removable Denture	4 Years
P9	65	Primary school	Married	Male	Urban	Retired	Maxillary Total- Mandibular Partial Removable Denture	1,5 Years
P10	59	Literate	Married	Male	Rural	Retired	Mandibular-Maxillary Total Removable Denture	15 Years
P11	62	Primary school	Married	Female	Urban	Housewife	Maxillary Partial Removable Denture	20 Years
P12	56	Primary school	Married	Male	Rural	Retired	Mandibular Partial Removable Denture	30 Years
P13	60	Primary school	Married	Female	Rural	Housewife	Mandibular-Maxillary Partial Removable Denture	4 Years
P14	54	Primary school	Married	Female	Urban	Housewife	Mandibular-Maxillary Total Removable Denture	9 Years
P15	43	Primary school	Single	Female	Urban	Housewife	Maxillary Total- Mandibular Partial Removable Denture	25 Years
P16	58	Primary school	Single	Female	Rural	Housewife	Mandibular-Maxillary Partial Removable Denture	22 Years
P17	73	Illiterate	Single	Female	Rural	Housewife	Maxillary Total- Mandibular Partial Removable Denture	15 Years

Collection of Data

The data of the study were collected through individual interviews using the semi-structured questionnaire. Participants first filled out the demographic data form on which the nine questions were addressed. Afterwards, seven open-ended questions were asked to clarify the participants' experience of denture hygiene (How did you begin using denture? How does it feel to use denture? What

are your habits for utilization of denture? How do you clean your denture? Is there anyone else around you using denture? Is there anyone around you giving suggestions for cleaning of denture? Could you talk a little bit about situations that renders the cleaning of your denture difficult? Can you talk a little bit about situations that make your denture clean/care easier?). In addition to these questions, there is a series of questions that included in the form to encourage participants to answer or help to clarify them (Can you

explain this more?). The interviews were made in an intimate and friendly atmosphere in Oral and Dental Health Center in Amasya patient communication unit room.

All interviews were recorded with a voice recorder. All of the interviews were conducted by one of the researchers and the interviews lasted 311 minutes in total (5 hours 11 minutes 13 seconds). The written transcription of the interviews consists of 69 pages. Participants' behavioral data (participant attitudes and facial expressions, laughing or distressing expressions, etc.) were recorded by a rapporteur.

Evaluation of Data

As the nature of the sample chosen in the study, two categories extremely clean and extremely poor hygiene were formed naturally. After this step, the thematic analysis technique was used in the analysis of the data. Firstly, each participants data was read independently by the investigators. At this stage, meaningful expressions were organized into unique themes by researchers. Later, the researchers discussed together the themes and their contents, repeatedly evaluate them by returning to the original data, and eventually they formed common themes.

In addition the essays, meaningful expressions and the themes were reviewed by a nursing professor. Then researchers integrated the results into comprehensive definitions.

The Ethical Dimension of the Study

Semi-structured interviews were conducted on a voluntary basis. The written consent was obtained from the individuals by informing them that the data obtained will not be used for any other purpose and that personal information will be kept confidential. During the study period, care was taken to ensure that there was no patient-nurse relationship between the participant and the investigator in order to protect their impartiality giving the voluntary consent.

RESULTS

Brief Description: On Themes

Analysis of the essays had naturally two categories: (1) extremely clean denture hygiene and (2) extremely poor denture hygiene and three themes under each categories. There were differences in individual experiences between categories even if the initial

reasons for themes were the same (Table 2). Extremely clean denture hygiene was evident in themes: (1) Denture... I have no other choice, (2) Dental Hygiene... As much as possible after every meal and (3) Know the importance of own teeth before losing. Extremely poor denture hygiene was evident in themes: (1) Denture... I have no other choice... I got used to and I am pleased, (3) Dental Hygiene... I only do when I have to and, (3) Know the importance of own teeth before losing. As can be seen the themes, both the clean and poor denture hygiene groups have come together in the third theme "Need to know the value of own teeth before you lose it". Sample expressions, supporting the two categories and identified themes are given below.

Table 2: Themes Determined Based on Groups

Group With Extremely Clean Denture Hygiene	Group With Extremely Poor Denture Hygiene
Denture... I have no other choice	Denture... I have no other choice... I got used to and I am pleased
Dental hygiene... As much as possible after every meal	Dental hygiene... I only do when I have to
You need to know the value of own teeth before you lose it	You need to know the value of own teeth before you lose it

Individuals With Extremely Clean Denture Hygiene

Theme 1: Denture... I have no other choice

All of the individuals in this group stated that denture cannot replace their own teeth and they were foreign to their bodies. They feel odd themselves and were still having eating-tasting problems. They stated that the only thing they can do to try to get used to the denture.

"...I had to use it when I had no choice. Otherwise I do not prefer 32 dentures to my own single tooth. You cannot eat or drink anything. Everything is spilling out ... I had to put these teeth on(P1).

In this group, "a foreign body sensation in the mouth" was still defined intensely and this feeling cannot be neglected.

"...I could not get very comfortable I do not know, I could not accept a foreign body in my mouth, maybe it is me, I just used it for eating, I kept it in its box. I could not speak when I put it on, even when I was praying, I could not read it although it was silent, fullness in my mouth gave me the difficulty of pronouncing, I can not pray, I get angry to myself, let's say I am awake 20 hours apart

from sleep, all I think is my dentures, I cannot get myself together before I take it off. It has been a long time but I could not get used to it (P3).

Theme 2: Dental Hygiene... As much as possible

Individuals who had clean denture hygiene stated that they were "very meticulous " and that individual hygiene habits were effective on denture care.

"I have a bad habit of washing it even after I drink tea, otherwise is not possible. When I eat, I feel like there are tons of loads in my mouth. I'm taking out for washing it with water, soaping, brushing, I do this 3 meals a day "(P1).

Individuals stated that they had tooth brushing habits before using denture, and that they maintained it for denture too.

"I take it out after every meal and brush it. I mean there may be leftovers. So I keep brushing for protection against germs... I do it 3 times a day, to keep it clean it, to be germ free, for health reasons. Toothbrushing was my old habit. When I had teeth, I was doing the cleaning and caring, too... This habit continued for the denture as well" (P2).

A participant who stated that he could not brush his own teeth well enough in the past due to his "hasty" nature indicated that he took care to brush his denture as recommended by his neighbors and his doctor.

"...due to my nature, I'm a bit of a hasty fussy man, I do not exactly follow the recommendations, but I do brush it at least twice a day...In the first days I used a little drop of bleach. It made it very bright and clean but a neighbor who used denture did not recommend it and said: "I will give you a tablet, try it and I recommend you to use it". I used it, I really liked it. I was very regretful to use the bleach before the medication. I wondered whether I would have a problem in terms of health "(P3).

Some said that the price of cleaning materials used was high, which also had an impact on maintaining hygiene.

"(Cleansing tablet) .. I buy it, it is 30 Turkish Liras you know, it is very expensive"(P4).

"They (cleansing tablets) a little pricey since we're retired... To speak the truth, you cannot always buy it

"(P2).

Participants stated that the lack of facilities required for denture hygiene. These participants stated that denture hygiene was a personal activity and requires privacy.

"... sometimes I can not do it when I'm out in a neighbor's house. I have to endure it, I cannot wash it in there ... I am a very meticulous sensitive man, I do not want to put any of my personal belongings into anyone's something, then I sleep with it without removing it. I cannot find an opportunity, even if did, I hesitate"(P1).

Theme 3: You need to know value of own teeth before you lose it

Some individuals stated that they better understood the importance of dental health when they had lost their teeth. So they advised young people and children to give as much importance to oral and dental health as possible.

We were not aware of the situation (dental hygiene) so much that we were coming from a village, I tried to do it regularly when we I started the work as officer, but I was 27-28 when I started the office service, it might have been too late for certain things. My recommendation is to teach this habit in childhood"(P3).

Another participant said

"When the teeth are lost, their value increases even more. Teens healthy people should take care of their teeth, teeth are very important"(P2).

Individuals With Extremely Poor Denture Hygiene

Theme 1: Denture... I have no other choice... I got used to and I am pleased

Five participants in this group expressed their experience of starting to use denture similar to those in the clean denture hygienegroup. Unlike these, they ended their experience by specifying their satisfaction with denture adaptation process, and their lives after getting used to it.

"When I started using it for the first time, it was a bit of a nuisance until I got used to it, then I was relieved, it caused me trouble for a year. So it feels like a piece of wood in your mouth. Placing it, getting used to it, it is a trouble. After that, I'm very comfortable now. But now I

got used to this, I cannot stopwearing it (the prosthesi) (smiling) " (P9).

A participant's stated that the denture was like his own teeth now;

"My own teeth in my mouth were decayed, they were malodorous and when I laughed, I was felt bad and decided to put it. Toothlessness was difficult. I felt bad (when I first got it) as if a wood was sitting in my mouth, you can not taste what you eat, you cannot feel exactly what you drink, but I get used to it over time. I got used to it, I do not realize it, I am comfortable as it is like my own teeth"(P15).

A participant from poor denture hygiene group emphasized that the patience was necessary for using denture;

"Now you have to be patient. Just 2 days, 3 days and 5 days, if you can be patient, yes everything is hard. For 3 days, 5 days you put something extra in your mouth and you have to tolerate it, otherwise you will be toothless"(P16).

Another participant an "all or nothing" thoughts on getting used to the denture was as follows:

"(When first used it) my mouth was very wounded I felt like wearing a shoe, my mouth was very wounded, still I did not leave it, I could not put it back on if I put it out. I said, if I take it out of my mouth now, I can not put it again, I will be toothless, it will be worse, I did not leave it for this. I got used to it, now I wear it like my own teeth." (P17).

Eight participants stated that they felt that they were comfortable and satisfied with the use of denture as their own teeth considering the difficulties in their lives before denture.

"It was as if I was born again because I was like a rabbit, I was biting with my front teeth the backs were empty, I was biting my right and left cheeks from inside when I was eating, of course it was bleeding, I was born again, I was very pleased when I got denture (P7).

The statements of one of the participants stating that "it was as comfortable as his own teeth" is as follows:

"Of course, it is not like your own teeth, there are some deficiencies compared to your own teeth, but thanks to the doctor who made the denture, I felt like it was my own teeth, I thank him very much I never felt

strange. Two weeks later it became like my own teeth. It was placed to my gums completely, zero faults, no one could sense that I am wearing denture. I am very pleased with my teeth now. It is time that I am more comfortable than my own teeth"(P8).

Four participants had set up their discourse on aesthetics and youth.

"I had no teeth, I have started getting my teeth pulled out when I was 25 years old, I could not eat, I could not speak a word when I was laughing, I said I will use it... I looked worse when I was not using it. I was looking better when I put it on and I said I should get used to it. So I got used to it." (P14).

The statements of another participant who thought the denture was more "comfortable" and "nice" is as follows:

"... I was bitter already because of the empty space in my mouth, I bitten the bread and it pricked into there. So I did not notice it (prosthesis), it was good. If I put them, it's as if I'm nice (laughing) I'm comfortable, I can eat nicely"(P5).

Theme 2: Dental Hygiene... I only do when I have to do.

Eight participants from the poor denture hygiene group stated that they cleaned the denture only when they had to do it in the circumstances when sesame, poppy seeds and fig kernel getting under the denture. When the denture was compatible with the jaw and the food did not enter underneath, these participants stated that they did not remove their dentures and did not feel the need for cleaning.

A participant who stated that he did not need to remove the denture and he was cleaning the denture once in every 15 days expresses the following:

"I never remove it, from cleaning to cleaning only, I do not remove it, during the day I am already brushing it, I usually brush before bedtime. I do not brush in the daytime, but I brush before bedtime. I usually brush it while it is in my mouth, I remove it every 15 days while I am cleaning, I do not remove it, I do not need like removing it. It is placed as if it my own teeth, it looks very nice, not gross"(P8).

One participant stated that he had sometimes put this denture into bleach (when it gets yellow);

"In the evening, I put it in the water so that it does not dry out, in the morning before meal I take it, brush it and put it on... if I am in a hurry, I rinse under water, if I have time; I brush it. If something goes under, bothering me, I take it out immediately. I have to do it then, I feel pain in my gums, occasionally I put it in the bleach which does not smell. I do not left it there too much. I do not know if I have to put it in the bleach or not "(P13).

Individuals with poor denture hygiene did not remove the denture before sleeping if they were compatible with the denture. These participants did not feel compulsory to clean it unless they felt uncomfortable, like it was sufficient to clean only with water during the day or religious practices such as ablution. It was understood that religious or traditional practices (ablution, miswak) were effective in the cleaning habits of denture:

"I continuously have my denture on, I never put it out, I brush them and put my teeth back on, when I do not have them I cannot get comfortable... Sometimes when I eat nuts or figs, I take it out, if it gets stuck under the dental prosthesis. If nothing goes under, I mostly put it out during ablution, I'm holding and rubbing it under running water and put it back on"(P11).

A participant stated the positive effects of ablution, miswak and eating fruit on cleaning the dentures;

"We take ablution for 5 times a day, so I clean it with soap with my hands, I do not use brush, I clean it with soap in every ablution respecting the traditions... I do not take it off unless something goes under it. I clean it over. The teeth are also made with a little better material, it does not keep stains, it is cleaned nicely with soap and miswak. Since the bottom is irremovable, I clean it with miswak, I use miswak 3-4 times a week... Miswak is very useful, it the saying of our prophet, I recommend it... (toothbrush, toothpaste) Now they stand at the sink and I do not like to use it so much I like soap and miswak more. (in the summer) even if you do not clean it, you eat cherries, you eat peaches, those blessed ones clean your teeth better than brushes, then you get plain water in your mouth you are mouthwashing. In the summer we eat fruit, when I eat apple or quince or orange or mandarin in the evening, it is like the teeth are brushed, we mouthwash with water and that is it"(P7).

Theme 3: You need to know the value of own teeth before you lose it

A participant stated that when he loose his teeth, he understood the importance of dental health better and recommended that young people and children should pay attention to oral and dental health.

"Young people need to take care better, think about their health, health first, think that you can not put them when there are no teeth. It's no problem for me since I put it on, but other who cannot put it on what will they do, it is harder. When I put it out, I can not even bite a single bread, I can not eat hard stuff like chickpeas, but when I put on denture I can eat it like it is my own teeth"(P14).

Other participants in poor denture hygiene group had no advice for oral-dental health and care to the youngs and/or people who already had own theets.

DISCUSSION

The aim of this study was to determine the motivations, supports, barriers, and the basis of the cleaning practices of the removable denture. Identifying the participants from the contrary groups facilitated the determination of hygiene experiences and the motivation, emotions and beliefs that underlie these experiences. Subject's responses closely reflected their baseline beliefs and cultural perspectives. Although the context for this study and the cultures of the Turkey may be unique, the findings of this study share commonalities with findings of other studies, particularly of studies conducted. During the two-month interview period, the most important limitation of the study was to find participants for extremely clean hygiene group. Therefore, the study was performed with four participants with extremely clean hygiene out of seventeen people using removable denture. Relate literature was also indicated individuals' poor oral and denture hygiene in Turkey (Kulak-Özkan, Kazaoğlu & Arikan, 2002; Kanli, Demirel & Sezgin, 2005; Atay *et al.*, 2008).

Individuals' acceptance of denture and compliance were influenced by factors such as age, gender, personality traits, previous experiences, individual's psychological status, and expectations (Gaspar *et al.*, 2013; Marachlioglou *et al.*, 2010; Shah, 2009). Naturally, a good quality denture was expected to be adapted in

time. On the other hand, some individuals experienced difficulties in adaptation to a high quality denture while others can could adapt very well to a poor quality denture (Adıgüzel *et al.*, 2014). An interesting result of this research all the participants with clean denture hygiene stated that they never got used to their denture and always had some difficulties in using dentures. On the other hand many of the participants with poor denture hygiene also had difficulties in using denture but they all got used to it over time. Even their satisfaction with the dentures (aesthetically and/or solving the eating problems) was more than their dissatisfaction. When the characteristics of the participants were considered, this result could not be explained by the gender, the duration of denture or the place of residence. From the discourse of the participants it could be said that their personality traits and past hygiene habits were more effective on this result.

In some studies conducted in Turkey, it was reported that most of the people did not pay enough attention to oral hygiene, and they did not see this as a problem (Keskin *et al.*, 2012; Gürkan, Köse & Atilla, G. (2011); Gokalp *et al.*, 2007). In addition, several studies in Turkey and other countries indicated that individuals were not adequately informed about denture care (Zenthöfer *et al.*, 2013, Peracini *et al.*, 2010; Dikbaş, Koksall & Calikkocaoğlu, 2006). In our study, it was determined that the individuals in both groups were not informed about denture cleaning by health personnel. While individuals with clean denture hygiene stated that they paid attention to hygiene in terms of health concerns, they consulted to dentists, pharmacists, neighbors, etc. about cleaning methods and tried to do the right thing, the individuals with poor denture hygiene stated that they were doing denture care when they felt compulsory, they took advice from friends, relatives, imams etc., but even if they knew the right way of the denture hygiene, they continued to apply it as they knew.

Culture was the determinant of shaping knowledge, attitudes and behaviors related to health and disease. Oral health behaviors were also shaped by socioeconomic status, traditions, attitudes and beliefs of the individual and varies from one culture to another. (Petersen & Ogawa, 2016; Andrade *et al.*, 2012; Vivek *et al.*, 2012, İsmail, 2016; Saha *et al.*, 2012). For example in India, a large proportion (68.3%) of the Paniya Tribe believed the importance of natural teeth (Vivek *et*

al., 2012). On the other hand in Chinese migrants living in UK considered that tooth loss with aging as "natural" and "good" and those elderly did not believe in preventive applications, preferred traditional practices, and did not refer to health facilities for financial, spiritual and cultural reasons, even if they had problems (Kwan & Holmes, 1999). In this study, the most of the participants except one with poor denture hygiene attached no importance to oral health, or expressed the value of their own teeth. On the contrary they had expressed that their teeth were taken at a young age in order to not to need dental treatment again. This result made us thought that these participants saw the tooth loss as a natural circumstance. So they could unable to develop an understanding of oral hygiene and treatment of minor problems in the maintenance of oral-dental health. Of course the high cost of oral dental treatment may explain the preference of early denture use of those people, but did not disclose the poor oral hygiene.

In the developed countries, progress has been made in terms of oral health in parallel with the development of preventive oral health services in recent years. However, in emerging and developing countries, such as Eastern Europe, Central Asia, Africa and Latin America, oral health problems were common due to lack of preventive programs, urgent treatment based approaches and lack of sufficient health personnel (Petersen & Ogawa, 2016). In Turkey, oral dental health services were presented as curative and denture based just like in developing countries and preventive oral dental care services were not common (Akar, 2014).

Oral toothbrushes and toothpaste are commonly used in high-income countries as oral hygiene tools. On the other hand for thousands of years in Asia, Africa, the Middle East and South America, as a means of oral hygiene, chewing sticks have been used widely for thousands of years prepared from the branches or roots of various plants (Wu, Darout & Skaug, 2001). In Turkey, despite the increase in usage of toothpaste and brush for oral hygiene in recent years, annual paste and brush usage per capita is less than 1 and paste usage rate is ¼ of US and developed European countries (Akar, 2014). The findings about participants who had poor denture hygiene such as poor oral hygiene habits, no need for cleaning, not be disturbed by poor denture hygiene and prone to use traditional applications such

as miswak in this study were very similar to literature mentioned above. Miswak, a cultural and history-based oral hygiene tool, is frequently used and becomes widespread in Qatar, India, Pakistan, Saudi Arabia, African countries and many other Muslim countries (Cheema *et al.*, 2017; İsmail, 2016; Saha *et al.*, 2012; Dahiya *et al.*, 2012; al-Otaibi, M 2004). In Turkey, with the rise of Islamic conservative approaches for the last 20 years, the use of miswak in tooth cleaning has been more prominent.

CONCLUSION

The results of this study showed that culture, individual attitudes and beliefs and hygiene habits were effective on removable denture care. It also showed that patients were not subject to standardized training in removable denture hygiene and they often learn the hygiene practices from their environment. To relieve or less the removable denture hygiene' problems, it is recommended that health care personnel; (1) plan personal or group meetings with removable denture users so thus they will have the opportunity to change their old removable denture hygiene' habits with new ones, (2) develop culture and religious sensitive understanding and if necessary different overcome strategies on different dental hygiene practices and (3)

support their development of positive dental hygiene practices for their general health.

LIMITATIONS

A limitation of this study was the small sample size limited to volunteer participants from one hospital. Findings cannot be generalized to all hospitals in Turkey. Further research is needed to explore whether or not stated or anticipated practices common all over the Turkey. In addition, further research will be needed to evaluate the efficacy of any educational programs and preventative dental health care services provided for removable denture users in Turkey.

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CONFLICTS OF INTEREST

Authors declare no conflicts of interest

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