



Examining the dry mouth in hemodialysis patients

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Abstract

Introduction: The most commonly used method for renal replacement in most patients is hemodialysis. Dry mouth is one of the most commonly observed symptoms in patients undergoing hemodialysis.

Method: The present single-group descriptive-analytic study was conducted in order to examine the dry mouth(xerostomia) in hemodialysis patients. The sample size was determined to be 60 subjects using Cochran's formula, with $\alpha = 0.05$ and $\beta = 0.20$.

Result: The mean age of patients was 52.68 years, The mean of oral dryness in patients was 44.02.75% of patients suffered from dry mouth. There was no significant relationship between the number of dialysis per week and the history of dialysis in patients and the age of research units with dry mouth ($p > 0.05$)

Conclusion: it is recommended to conduct larger studies to investigate the methods for reducing thirst and dry mouth in hemodialysis patients in order to improve the quality of life of these patients by controlling and preventing these complications.

Keywords: dialysis, oral dryness, hemodialysis patients

Introduction

Chronic Kidney Failure (CRF) is a progressive and irreversible degeneration of the kidney function in which the body's ability to keep fuel and balance the water and electrolyte eliminated (1). End stage renal disease (ESRD) is a severe form of chronic renal disease associated with an irreversible reduction in renal function, which will cause death if not treated with dialysis or kidney implant (2,3). The most commonly used method for renal replacement in most patients is hemodialysis(4). More than 200,000 patients with chronic kidney failure in the United States account for more than one million people worldwide through dialysis(5,6). Dry mouth is a condition in which the saliva is not secreted sufficiently. Next to

the real dry mouth Which is due to reduced salivation, There is another definition of that, The feeling is that the patient describes her dry mouth And it does not necessarily mean reducing the flow of saliva. To feel dry mouth, say((Zerostomyia))(7,8,9) Dry mouth is one of the most common and commonly observed symptoms in patients undergoing hemodialysis(10,11). Dry mouth can affect the quality of life of patients with dialysis and can lead to discomfort and distress in these patients(12). Dry mouth in hemodialysis occurs due to a variety of causes: Observe a limited diet of fluids at intervals between two dialysis, Uremia, Taking medications including: Anti-blood pressures, Painkillers, Diuretics, Antidepressants And

anti-inflammatory drugs Which is commonly used in these patients(13). Periodontal status is suggested as an indicator for the risk of developing kidney disease(14). Dialysis can cause severe oral complications in patients And dry mouth is the most common oral complication in these patients. Probably due to a decrease in the flow of saliva in hemodialysis patients than in healthy people, Dry mouth in these patients has a high prevalence(15,16,17).Dry mouth has many complications, including cardiovascular problems(18).Considering the high prevalence of oral dryness in patients undergoing hemodialysis(10) And the negative impact on the quality of life of these patients(12) And even the risk of cardiovascular disorders followed by mortality in patients undergoing hemodialysis with dry mouth(18) It is also probably due to severe involvement of hemodialysis patients with illness and weekly dialysis Do not pay attention to their oral problems. therefore, the present study was conducted to examine the dry mouth in hemodialysis patients In Zabol.

Materials and Methods

The present single-group descriptive-analytic study was conducted in order to examine the dry mouth in hemodialysis patients. The sample size was determined to be 60 subjects using Cochran's formula, with $\alpha = 0.05$ and $\beta = 0.20$. The main inclusion criteria were like the followings: aging between 18 to 65 years, lack of mental disorders and cognitive-emotional disturbances that prevent effective communication, and lack not having underlying diseases, such as diabetes or those which might affecton dry mouth. Required data was collected through demographic characteristics checklist, dry mouth(xerostomia) assessment instrument (XI), Oral dry mouth questionnaire has 11 questions Which completed before dialysis and oral dryness from the end of the previous dialysis session to the end of the

current dialysis session, Based on the Likert scale, it measures 5 options. A score of 11 indicates non-dryness of the mouth and score of 55 indicates excessive dry mouth. the content validity of which was confirmed in HajarEbrahimiRigi and Saied Reza Mazloom's study (18); additionally, the validity of this instrument was examined and confirmed in the present study as well, 0.763 for Xi. Finally, collected data was analyzed using descriptive and inferential statistics and SPSS version.

Research Findings

The mean age of patients was 52.68 years, and 70% (42 individuals) of subjects were female and 30% (18 individuals) of subjects were male in the present study; 52 (86.6%) subjects of the research units were married and 8 (13.4%) were single. The range of changes for the first dialysis history was between 1 and 11 years; i.e. the maximum history of dialysis was 11 years and the minimum history of dialysis was 1 year. The lowest number of dialysis per week was 2 times and the highest was 3 times a week. The results of this study showed that 35 (58.3%) of the research units received 45 to 55 oral dysmotility questionnaire and 16 (26.7%) scored 21 to 44, 9 subjects (15%) also received a score of 11, indicating no dry mouth in these patients. Therefore, the results of this study showed that 75% of patients suffered from dry mouth And in 58.3% of them, the severity of this dry mouth is high. Based on the results of the present study, the mean and standard deviation of dry mouth turned out to be 44.02 and 7.31 in patients; according to dry mouth assessment questionnaire, dry mouth of these patients is very high. There was no relationship between the history of dialysis with dry mouth and the number of dialysis per week with dry mouth and also between age and oral dryness ($P > 0.05$)

Table 1: Relationship between oral dry mouth and age and the history of dialysis and dialysis per week

p-value	Spearman correlation coefficient	Variable	
0.14	0.22	age	Dry mouth with
0.26	0.16	history of dialysis	
0.18	0.28	dialysis per week	

Discussion and Conclusion

Based on the results of the present study, the mean of dry mouth turned out to be 44.02 in patients. And these patients suffer from a lot of dry mouth. The results of this study with Babae studies in 2014, Which 63.3% of patients had dry mouth, Chamani study in 2009, Which 67% of patients had dry mouth And patil study in 2012, 91% of dialysis patients suffered from dry mouth, Is the same (15,20,21). Kia in a study on hemodialysis in diabetic patients in 2014, The conclusion is that in these patients, Dry mouth is the most common oral disorder And after that too Mucosal disorders and uremic odor were highly prevalent (17). This study matched our study And the results of this study indicate that in addition to dialysis Diabetes mellitus can also be the cause of oral dryness in patients. BorhanMojabi et. al. In a study that they did, The average level of urea saliva in dialysis patients was 48.7 mg / dL, While this was 14.85 mg / dl in healthy subjects. Also, the saliva pH of patients with dialysis was 7.9, while in healthy subjects it was 6.64. There was a significant difference between the mean urea saliva and the PH in hemodialysis patients with the control group (P <0.05). Also, in 95% of dialysis patients there was a skin rash and oral mucosa And 80% of them suffered from dry mouth (16). The results of this study indicate that in patients undergoing hemodialysis Salivary urea was higher than healthy people and This has led to an increase in PH in these patients That with these changes, Dry mouth occurred in 80% of patients, and the results of this study were consistent with the study in which 75% of the patients suffered from dry mouth. In many studies, dry mouth was one of the most common oral complications in patients undergoing hemodialysis (11,21) The results of this study showed that there is no significant relationship between age with dry mouth. The results of this study are consistent with Haddad et al. study (22) but, it does not conform to the results of Shirzai, Babae and Sardari studies And in these studies, it was concluded that oral dryness is greater in patients with dialysis who are older (7, 15, 23) Which is probably the sample size of these studies, Measuring the dry mouth, The history of dialysis and the age of the units studied The reasons for the differences in the results of these studies with the present study. In a study by Maryam Baharvand, it was found that there is a meaningful relationship between age with oral dryness in the elderly (24) This study is likely to contradict the study because of differences in the studied population and research tools as well as the history of dialysis. From other results in this study, there was no association between

the history of dialysis and the number of dialysis per week with dry mouth. The results of this study are based on the results of Chamani studies in 2009 and wahdani in 2003. (19 and 21) Is consistent. And with the results of parker studies in 2012, hamissi in 2009, Cengiz in 2009, and Mortazavi in 2014, which found significant relevance in their studies of the history of dialysis with the oral condition of patients And concluded that people with a longer history of dialysis have a weaker oral condition, Does not match (25,26,27,28). It is likely that factors such as the sample size and the difference in the duration of dialysis and other factors that affect the oral status of patients, such as the fluid used between the two dialyses and the number of dialysis per month are due to this difference. According to the results of this study, and high prevalence of oral dryness in patients undergoing hemodialysis And the negative effects of dry mouth on patients' quality of life, Therefore, it is necessary to prevent and treat these complications in these patients. A lot of studies have been done and there are several ways to treat oral dryness, which are very supportive, Such as the use of ice, chewing gum and candy and even the use of artificial saliva And Limit of salt intake (29 and 30) It is recommended that these methods be used in these patients and more studies are needed to find a more reliable solution to reduce the dry mouth of the patients.

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	Website: www.ijarbs.com
	Subject: Medical Sciences
Quick Response Code	
DOI: 10.22192/ijarbs.2017.04.10.014	

How to cite this article:

Sadeghdehghanmehr, Elhamallahyari, Safooranooraen. (2017). Examining the dry mouth in hemodialysis patients. *Int. J. Adv. Res. Biol. Sci.* 4(10): 105-109.

DOI: <http://dx.doi.org/10.22192/ijarbs.2017.04.10.014>