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Knowledge, Attitude And Practices Towards Oral Hygiene Maintenance Among Diabetic Patients

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ABSTRACT

Dental or oral care is very important to keep up healthy teeth, gums, and tongue. Oral issues together with Bad breath, dry mouth, canker or cold sores, Temporomandibular disorder, decay, or thrush are all treatable with correct diagnosis and care.It is documented that oral health and general health are non divisible. Bad breath, medically referred to as halitosis, may result from poor dental health habits and should be an indication of alternative health issues. Xerostomia is over simply feeling thirsty. It affects your overall health. Brushing teeth a minimum of double every day with a fluoride-containing dentifrice and rinse daily with a fluoride-containing gargle can stop tooth Associated disorders. It is reported that there is an increased incidence of complications in the oral cavity associated with diabetes mellitus when the oral hygiene maintenance is not practised properly. The aim of the study is to assess the knowledge, attitude and practice towards oral hygiene maintenance among the diabetic patients.

Materials and methods :

The sample size of the study was 100 diabetic patients from saveetha dental college. A set of questionnaires were developed by the use of google form software, and responses collected from the participants. Data recorded were statistically analyzed and results obtained. To test the association between categorical variables the statistical test used is Chi square test (p value <0.05 is considered as statistically significant).

Results :

From the result, it is shown that 43% of people were aware that diabetes leads to mouth ulcer and 44 % of people were aware that diabetes leads to dental caries. 39% of people were not aware that diabetes leads to delayed wound healing.

Conclusion :

Within the limitations of the study, it can be concluded that diabetic patients were moderately aware about the oral hygiene maintenance and the complications that can arise in the oral cavity due to diabetes mellitus. Among the study population males were more aware about the complications in the oral cavity than females. Most people use a toothbrush to maintain their oral health. It is important for the diabetic patients to maintain the oral hygiene since it can lead to various secondary infections and diabetic related complications in the oral cavity.

Keywords:

Oral hygiene, innovative technology, complications, diabetes mellitus, knowledge, Attitude.

INTRODUCTION :

It is documented that oral health and general health are non divisible. Dental or oral care is very important to keep up healthy teeth, gums, and tongue(1). Oral issues together with Bad breath, dry mouth, canker or cold sores, Temporomandibular disorder, decay, or thrush are all treatable with correct diagnosing and care(2)(3). Bad breath, medically referred to as halitosis, may result from poor dental health habits and should be an indication of alternative health issues. Xerostomia is over simply feeling thirsty(4)(5). It affects your overall health(6). Brushing teeth a minimum of double every day with a fluoride-containing dentifrice, cleansing between your teeth daily with floss or interdental cleaners, like the Oral-B Interdental Brush, Reach Stim-U-Dent, or Sulcabrush, and rinse daily with a fluoride-containing gargle can stop tooth Associated disorders(7).

According to the WHO, a minimum of 2200 million individuals or 2.8% of the population within the world suffer from diabetes(8). Its prevalence is turning into larger quickly and is roughly calculated that, by 2030, this may nearly double in variety(9). The best increase in prevalence is predicted to occur in Asia and Africa(10). The rise within the prevalence of diabetes within the developing countries follows the trend of constructing a vicinity of additional urban and style changes(11). diabetes might cause changes within the oral cavity, particularly gum-related issues like gingival dysplasia and disease (pyorrhea)(12). Different diabetes-related dental issues include decaying of teeth, infection with fungus, and pain. Some individuals will observe a fruity (acetone) breathe, and others report waterlessness(13). diabetes may be a chronic metabolic unwellness with serious oral health complaints. individuals with diabetes, particularly those with uncontrolled or dangerous controlled diabetes, have associate degree accrued condition to chronic infections and inflammation of oral tissues, as well as disease(chronic periodontal disease and periodontitis), tooth cavity, and oral candidiasis, that contributes to substantial oral practical incapacity and impaired quality of life(14). Doctors had shown that polygenic disease failed to considerably have an effect on OHRQL within the cluster they surveyed. Previous article had reached nearly an equivalent end in their case–control study(15). Moreover, there's tiny proof concerning awareness of the accrued risk of disease among the diabetic patients. Allen et al. found that solely thirty third of the diabetic patients were responsive to their larger risk for odontology diseases. Our team has extensive knowledge and research experience that has translated into high quality publications(16),(17),(18),(19),(20–29) (30),(31–33).(34,35).The aim of the study is to assess the knowledge, attitude and practice towards oral hygiene maintenance among diabetic patients.

MATERIALS AND METHODS:

Sample Selection:

100 diabetic patients were randomly selected from the university as participants in the survey. The age range was between 25- 60 years of age with the mean age of 30 years. The data collection questionnaire was developed after reviewing various similar literature.

Inclusion And Exclusion Criteria:

All the diabetic patients who visited our dental college were included in the study. Patients without diabetes mellitus were excluded from this study. In the present study, the sampling method used was a random sampling method.

Data Collection And Tabulation

The questionnaire was taken on a survey planet concerning 11 questions. It was used to evaluate the diabetic patients' knowledge, attitude and practices towards oral hygiene maintenance [Table 1]. Their responses were entered into the excel sheets and tabulation of the data was done.

Statistical Analysis

The Types of analysis used were descriptive analysis, and inferential statistics. The statistical software used IBM SPSS V22. To test the association between categorical variables the statistical test used is Chi square test (p value <0.05 is considered as statistically significant).

Table 1. Questionnaire regarding knowledge, attitude and practices towards oral hygiene maintenance among diabetic patients

S.no	Questions	Responses	Cumulative percentage
1	Age	21-30 years of age 31-40 years of age Above 41 years of age	10% 32% 58%
2	Sex	Male Female	54% 46%
3	Are you aware that dental caries occur due to diabetes mellitus ?	Yes No Don't know	44% 38% 18
4	Are you aware that loose teeth occur due to diabetes mellitus ?	Yes No Don't know	41% 44% 15%
5	Are you aware that delayed healing is due to diabetes mellitus ?	Yes No Don't know	45% 39% 16%

6	Are you aware that mouth ulcers occur due to diabetes mellitus ?	Yes No Don't know	43% 42% 15%
7	Are you aware that diabetes mellitus leads to loss of taste sensation ?	Yes No Don't know	36% 45% 19%
8	Are you aware that fungal infection occurs due to diabetes mellitus ?	Yes No Don't know	45% 44% 11%
9	How frequently do you brush a day ?	Once a day Twice a day Thrice a day	51% 29% 20%
10	What is your mode of brushing ?	Finger Tooth brush Wooden stick	37% 42% 21%
11	What are the other interdental cleaning aids ?	Floss Interdental brush None of the above	48% 36% 16%

RESULTS

In figure 1, Among the males 24% people were aware about dental caries associated with diabetes mellitus and 23% people were not aware about it. Whereas, among females 20% people were aware about dental caries associated with diabetes mellitus. Collectively among males and females, males were more aware about dental caries associated with diabetes mellitus. In figure 2, Among the males 24% of people were not aware about loose teeth associated with diabetes mellitus and 23% of people were aware about it. Whereas, among females 20% people were not aware about loose teeth associated with diabetes mellitus and 18% were aware about it . Collectively among males and females, males were more aware about loose teeth associated with diabetes mellitus. In figure 3, Among the males 24% of people were aware about delayed healing associated with diabetes mellitus and 24% people were aware about it. Whereas, among females 21% people were aware about delayed healing associated with diabetes mellitus and 15% were not aware about it. Collectively among males and females , males were more aware about delayed healing associated with diabetes mellitus.

In figure 4, Among the males 33% people frequently use dental floss interdentally followed by 17% of people who use interdental brush. Whereas, among females 19% people use interdental brush frequently followed by 15% of people who use dental floss. Collectively among males and females, males use floss more frequently. In figure 5, Among the males 23% of people use a toothbrush to brush their teeth followed by 20 % of people use a finger to brush their teeth. Whereas, among females 19% of people use a toothbrush to brush their teeth. Collectively among males and females, toothbrushes are used more frequently. In figure 6, Among the males 28% people used to brush once a day followed by 15 % of people brush twice a day. Whereas, among females 23% people brush once a day. Collectively among males and females, males mostly used to brush once a day.

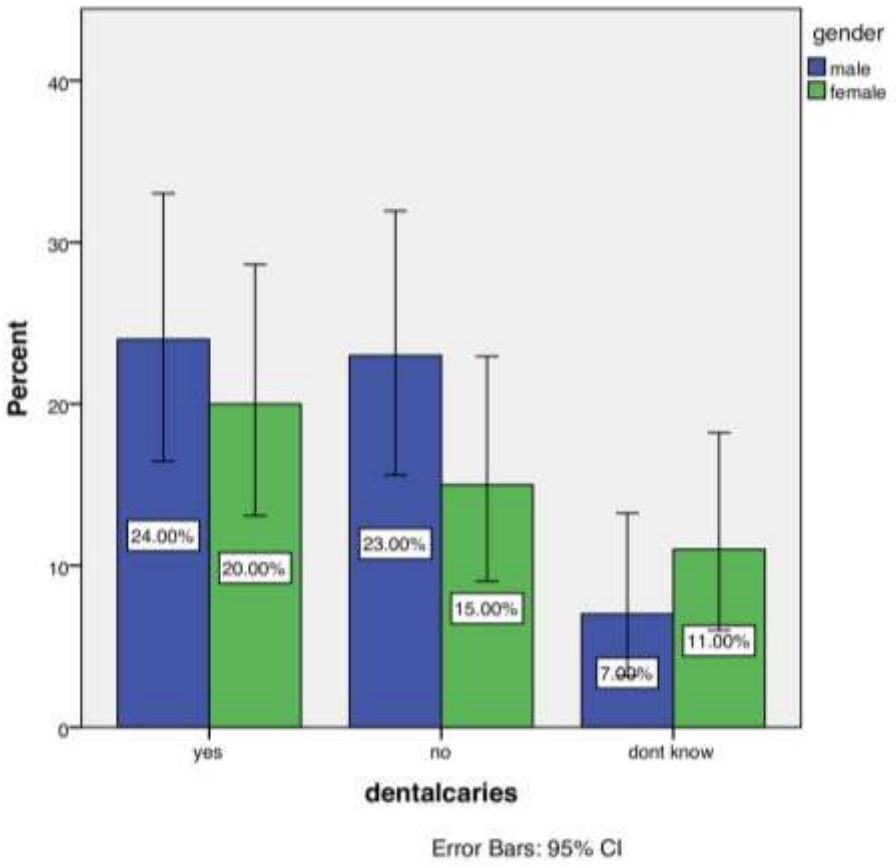

Figure 1 : Bar graph shows the association graph between gender and awareness regarding dental caries. X axis represents awareness of dental caries. Y axis represents the percentage. Blue colour denotes male, green colour denotes female. Among males and females, males were more aware about dental caries. Chi square test, P value= 0.315 (p>0.05) and the results were statistically not significant.

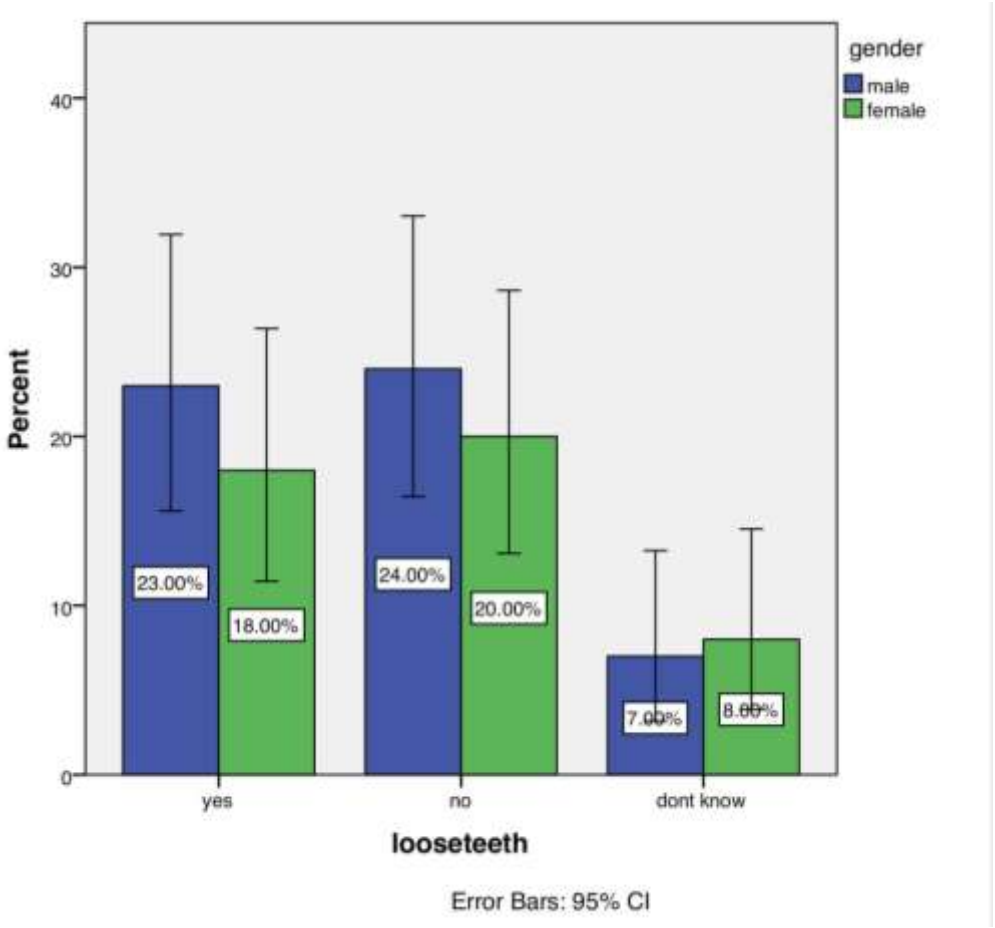

Figure 2 : Bar graph shows the association graph between gender and awareness regarding loose teeth. X axis represents awareness of loose teeth. Y axis represents the percentage. Blue colour denotes male, green colour denotes female. . Among males and females, males were more aware about loose teeth. Chi square test, P value= 0.818 (p>0.05) and the results were statistically not significant.

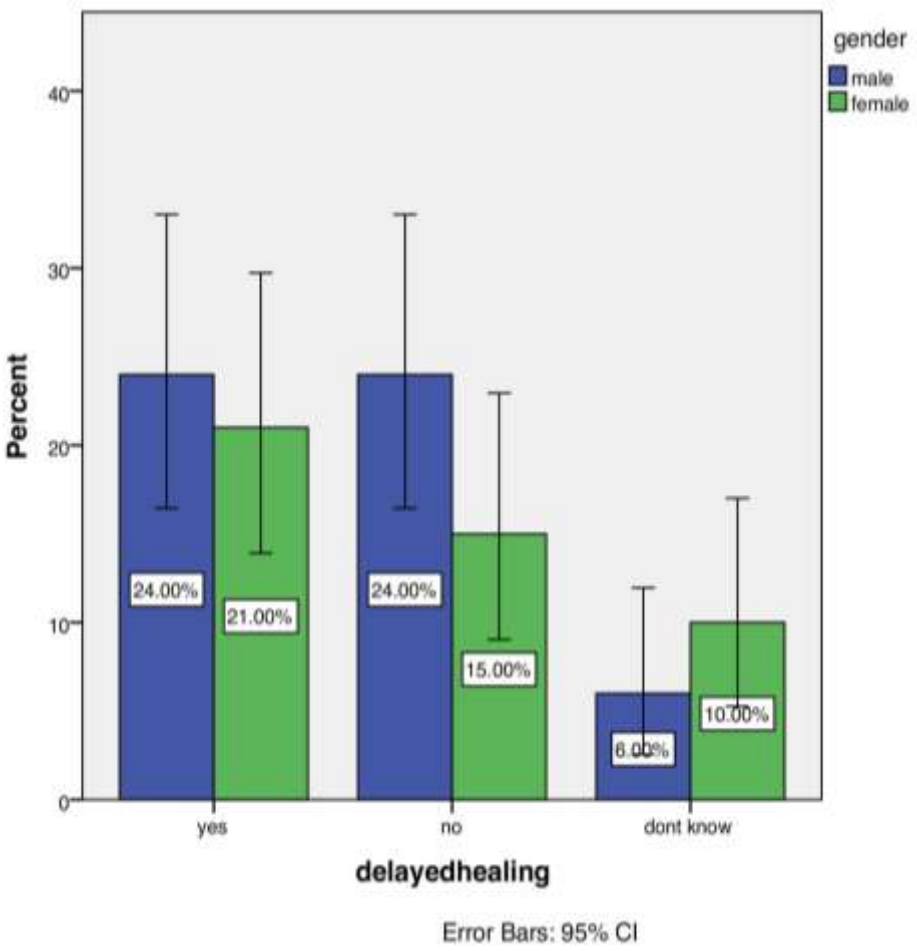

Figure 3: Bar graph shows the association between gender and awareness regarding delayed wound healing. X axis represents awareness of delayed wound healing. Y axis represents the percentage. Blue colour denotes male, green colour denotes female. Among males and females, males were more aware about delayed healing. Chi square test, P value= 0.264 ($p>0.05$) and the results are statistically not significant.

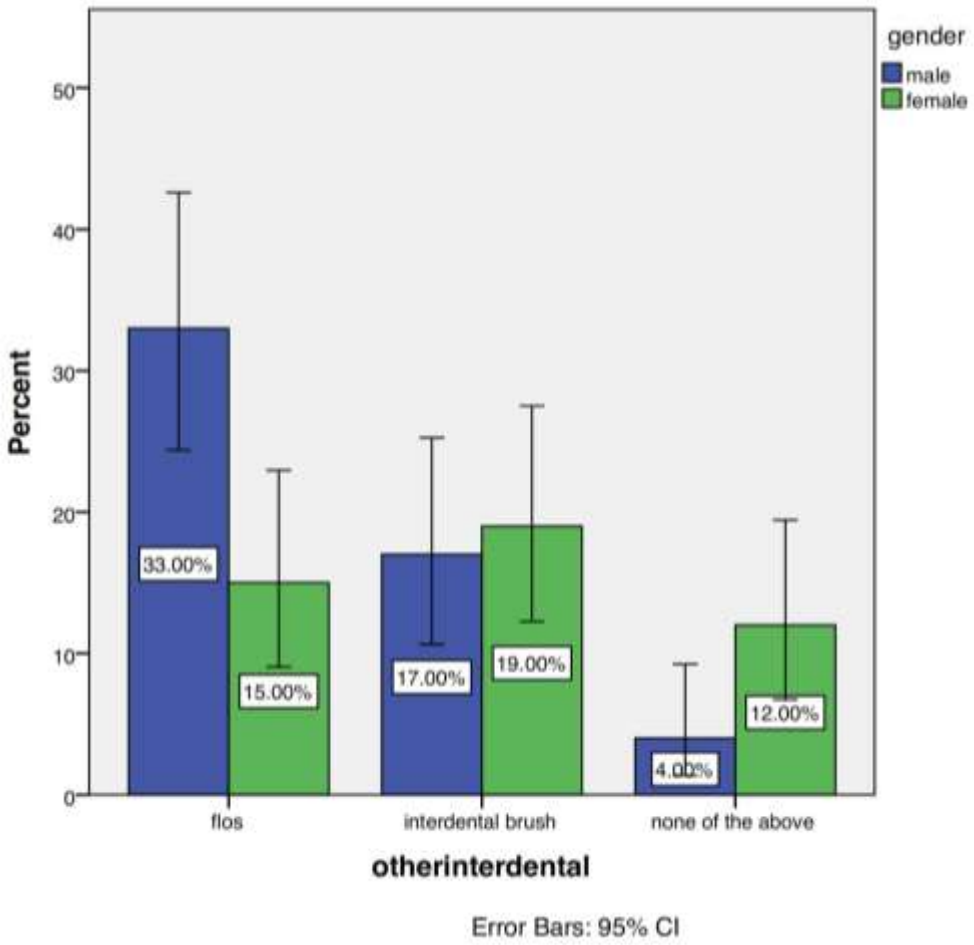

Figure 4: Bar graph shows the association between gender and the use of interdental aids.

X axis represents awareness of other interdental aids. Y axis represents the percentage. Blue colour denotes male, green colour denotes female. Among males and females, males use floss more frequently. Chi square test, P value= 0.006 ($p<0.05$) and the results are statistically significant.

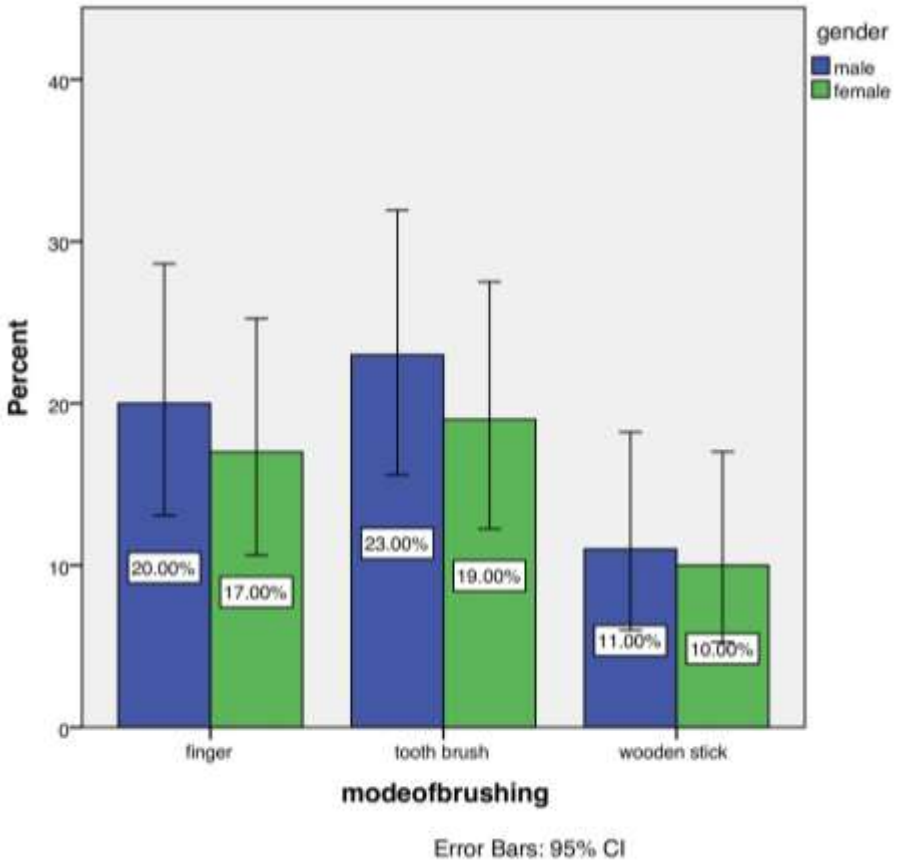

Figure 5 : Bar graph shows the association between gender and mode of tooth brushing.
X axis represents awareness of modes of brushing . Y axis represents the percentage. Blue colour denotes male, green colour denotes female. Among males and females, males use toothbrushes more frequently. Chi square test, P value= 0.032 ($p<0.05$) and the results were statistically significant.

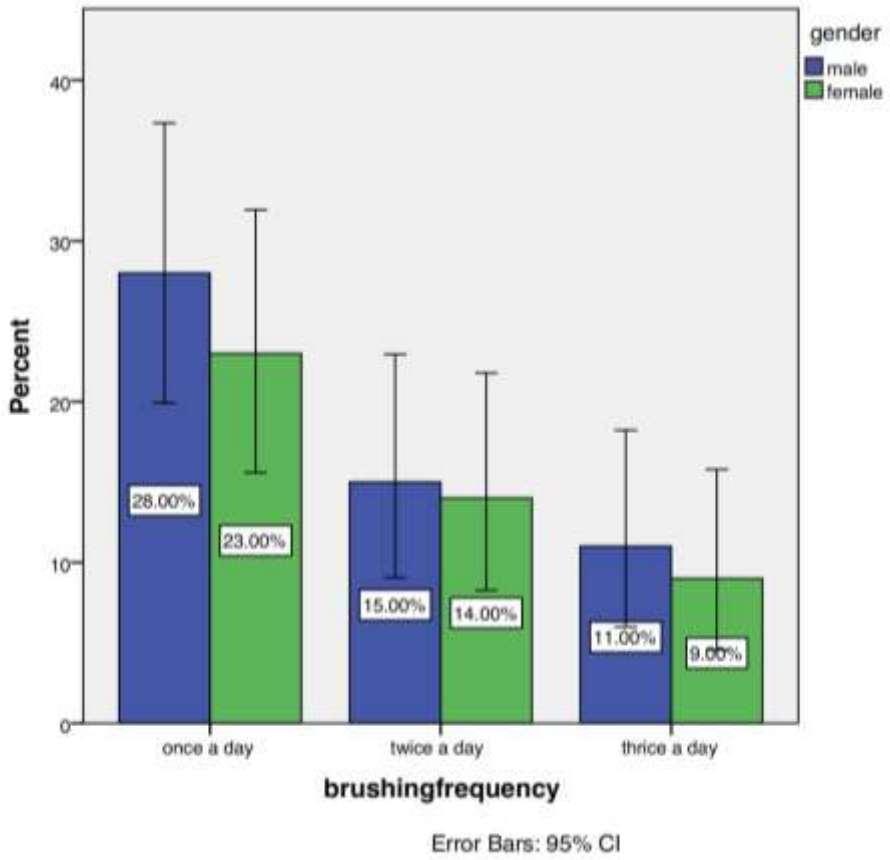

Figure 6: Bar graph shows the association between gender and brushing frequency. X axis represents awareness of brushing frequency. Y axis represents the percentage. Blue colour denotes male, green colour denotes female. Among males and females, males mostly used to brush once a day. Chi square test, P value= 0.085 (p>0.05) hence statistically not significant.

DISCUSSION :

The awareness level was good among patients in the age group of 30-40 years. Among the males 24% of people were aware about dental caries associated with diabetes mellitus and 23% of people were not aware about it. Whereas, among females 20% people were aware about dental caries associated with diabetes mellitus. Thus, among males and females, males were more aware about dental caries associated with diabetes mellitus. With elevated blood sugar levels, people living with diabetes may have high sugar content in their saliva and very dry mouths. These conditions lead to formation of dental plaque on teeth, which pave the way to tooth decay and cavities.

Dental plaque can be fully removed by complete cleaning of teeth and gums twice daily with a toothbrush and fluoride toothpaste. One can use interdental aids or dental floss daily to clean in between their teeth. Having good concern on your teeth prevents cavities and gum disease (36)

Among the males 24% of people were not aware about loose teeth associated with diabetes mellitus and 23% of people were aware about it. Whereas, among females 20% people were not aware about loose

teeth associated with diabetes mellitus and 18% were aware about it. Thus, among males and females, males were more aware about loose teeth associated with diabetes mellitus.(4)

Gum disease is caused by a bacterial infection that invades the bone surrounding and supporting structures of your teeth and causes progressive degeneration. This bone helps to hold your teeth into your jawbone and makes you chew comfortably. Bacteria with food debris forms a hotspot called dental plaque and it is essential for gum disease. Plaque if left on the teeth and gums, subsequently it hardens to form calculus or tartar. The plaque and calculus will continuously degenerate the gums around teeth so they become red, swollen and bleed. As gum disease progresses in an invasive manner, more bone is lost. Teeth become loose and may fall out by themselves from the socket or may need to be extracted.(5)

Among the males 24% of people were aware about delayed healing associated with diabetes mellitus and 24% people were aware about it. Whereas, among females 21% were aware about delayed healing associated with diabetes mellitus and 15% were not aware about it. Thus, among males and females, males were more aware about delayed healing associated with diabetes mellitus. Gum disease is usually more common and more severe in people with elevated blood glucose levels. This is basically due to their lower resistance to infection and delayed healing capacity.(7)

Among the males 33% people frequently use floss interdentally followed by 17% of people use interdental brush. Whereas, among females 19% people use interdental brush frequently followed by 15% of people use floss. Thus, among males and females, males use floss more frequently. Among the males 28% people used to brush once a day followed by 15 % of people brush twice a day. Whereas, among females 23% people brush once a day. Hence, among males and females, males mostly used to brush once a day. Among the males 23% of people use a toothbrush to brush their teeth followed by 20 % of people use a finger to brush their teeth. Whereas, among females 19% of people use a toothbrush to brush their teeth. Collectively among males and females, toothbrushes are used more frequently. It is important to look over your oral health and must control your blood sugar levels to prevent gum disease. It is like a weight scale to have good oral health, both blood sugar level and oral hygiene should be maintained equally. Treating gum disease helps to maintain blood sugar levels in people living with diabetes, and people with maintained blood glucose levels respond very quickly to dental treatment.(9)

Awareness must be created among the individuals about the complications associated with diabetes mellitus which can affect both general and oral health. The limitations of the study include, it is a single centered study with a small population and does not include information about genetic disorder, ethnic groups, races. Future scope of this study would be to conduct similar studies with a larger sample size.

CONCLUSION :

Within the limitations of the study, it can be concluded that diabetic people were moderately aware about the complications in the oral cavity. Among the study population males were more aware about the complications in the oral cavity than females. Most people use a toothbrush to maintain their oral health.

It is important for the diabetic patients to maintain the oral hygiene since it can lead to various secondary infections.

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CONFLICTS OF INTEREST:

The authors declare declare no potential conflict of interest

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