

## Reasons for seeking oral prophylaxis in a tertiary institution.

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### Abstract

**Objective:** The objective of this study is to determine the reasons for seeking oral prophylaxis and the relationship between such reasons and patients' socio-demographic characteristics, oral hygiene practices, clinical features of periodontal diseases and their mode of payment for the procedure.

**Methodology:** This retrospective study was carried out using the hospital records of 351 patients who had oral prophylaxis done. The information retrieved from the hospital record includes socio-demographic data such as age, sex, marital status and socioeconomic class, reasons for seeking oral prophylaxis, history of past routine cleaning, frequency of tooth brushing, tooth brushing method, clinical features of periodontal diseases and other dental treatment needs. The mode of payment for the procedure was also noted.

**Results:** Majority among non-smokers (54.6%), persons who do not consume diets that can cause extrinsic stains (54.1%), persons with tooth surface irregularities (53.3%), and persons without tetracycline stains (54.0%) had a history of routine oral prophylaxis. While majority in the younger age groups were likely to present for routine oral prophylaxis, other persons in the age group >60 years had oral prophylaxis done as part of periodontal disease management (38.6%) and in preparation for other dental procedures (43.2 %) ( $P=0.011$ ). The proportion that had routine oral prophylaxis reduced from socioeconomic class 1 to class 4 but the greatest proportion (63.5%) was among the lowest class (class 5). A greater proportion of smokers than nonsmokers had oral prophylaxis in preparation for other dental procedures ( $P=0.009$ ). Persons who had a history of past routine oral prophylaxis, those who brush only once a day and those who had no clinical features of periodontal diseases were more likely to present for routine oral prophylaxis. Older persons and persons in higher socioeconomic class were more likely to make 'out of pocket payment for oral prophylaxis.

**Conclusion:** It can be concluded that there is a significant relationship between an individual's socio-demographic characteristics, oral hygiene practices, and clinical features of periodontal diseases and their reasons for seeking oral prophylaxis and mode of payment for the procedure.

**Keywords:** Oral prophylaxis, reasons, mode of payment

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### I. Introduction

Oral diseases are largely preventable through plaque control instituted by the individual and augmented by dental professionals. The professionally performed scaling and polishing is a preventive measure controlling local aetiological factors of periodontal diseases and it is expected to be routinely done to create light reflective surfaces on the tooth enamel and dental restorations.<sup>2</sup> Previously conducted systematic review, though inconclusive, did not identify any harm, damaged to tooth surfaces or tooth sensitivity as result of the routine professional cleaning.<sup>3,4</sup> The procedure ideally should be available, affordable and accessible to the entire population and should be properly integrated in the primary oral health programmes.<sup>5</sup>

However, the reality is that only a small proportion of most populations see the dentist regularly for routine professional cleaning.<sup>6-9</sup> Therefore, it is important to know the motivating factor among the patients who do so. It is necessary to determine if individuals who have scaling and polishing done presented because they were asked to do so as part of their overall treatment plan. It is possible that many individuals will not undergo scaling and polishing unless they have other symptoms whose prognosis or treatment outcome depend on removal of plaque and calculus.<sup>10</sup>

It is also necessary to determine if individuals presented for routine professional cleaning because of a perceived benefit. Were they dental students' patient who benefited from free treatment scheme? Did they present because the procedure is covered by National Health Insurance Scheme, in which case there was no out of pocket payment? Did they present for the procedure as part of their preparation for a special occasion?

It has been suggested that individual's perception of susceptibility to disease and perception of seriousness of the disease have enough strength to improve utilization of health services.<sup>11</sup> It can therefore be expected that periodic regular dental visits will be a norm among those who believe they are susceptible to dental diseases or consider dental diseases a serious problem. It is necessary to confirm if this is so in our

environment. It has also been suggested that perception of bodily state is an important internal cue to action, where utilization of health services is concerned.<sup>11</sup> Some individuals may therefore seek dental cleaning because of unpleasant or undesirable clinical features. Such features may include extrinsic and intrinsic stains, malodour, bleeding on tooth brushing, difficulty in mastication and pain. It is important to know the predominant clinical signs and symptoms seen in such individuals. The objective of this study is therefore to determine the socio-demographic characteristics of persons seeking oral prophylaxis in a tertiary institution, their reasons for seeking this procedure and to determine if there is a relationship between the reasons given and their oral hygiene practices, oral health status, clinical features of periodontal diseases and their mode of payment.

## **II. Methodology**

This retrospective study was carried out using the hospital records of patients who presented at the Periodontology clinic of the University of Benin Teaching Hospital. A total of 506 cases were randomly selected from the available records of patients who had oral prophylaxis done in 2016. However, only 351 cases, with all information fully documented, were included in this study. The information retrieved from the hospital record includes socio-demographic data such as age, sex, marital status and socioeconomic class. They were classified into 5 social classes using a classification<sup>12</sup> where Class 1 represents the highest socioeconomic class and class 5 the lowest. Other information retrieved include reasons for seeking oral prophylaxis, history of past routine cleaning, frequency of tooth brushing, tooth brushing method, clinical features of periodontal diseases and other dental treatment needs. The mode of payment for the procedure was also noted.

The data collected was analyzed using the Statistical Package for Social Sciences version 21.0 for Windows (SPSS Inc., Chicago, IL, USA). Data was presented as frequency tables, percentages, and cross tabulations. Chi-square test was used to identify significant relationship between patients' socio-demographic factors, motivating factors, oral hygiene practices as well as clinical features and their oral prophylaxis experience, reasons for seeking oral prophylaxis and mode of payment for the procedure.

## **III. Results**

A total of 351 patient records was reviewed, with a male: female ratio of 1.2: 1. The highest proportions of patients were 21-30 years of age, single and belong to the lowest socioeconomic class or (Social Class) (Table 1). More persons in the 51-60 years and > 60 year age groups (69.2% and 72.7% respectively) had a history of previous oral prophylaxis but the reverse was the case among persons in the ≤ 20 years and 21-30 year age groups were 59.1% and 53.7% respectively never had oral prophylaxis done before (P= 0.011). More persons in the class 1 and 2 socioeconomic groups (65.7% and 57.6 % respectively) had a history of previous oral prophylaxis while more persons in the 4 and 5 socioeconomic groups (55.6 % and 56.2% respectively) never had oral prophylaxis done before (P= 0.027) (Table 1).

The majority of the following groups of patients: non-smokers (54.6%); non consumers of diet that can cause extrinsic stains (54.1%); those with tooth surface irregularities (53.3%); and persons without tetracycline stains (54.0%), had a history of oral prophylaxis (P> 0.05) (Table 2).

There are statistical significant differences within the age groups, marital status and social class, with respect to reasons for oral prophylaxis. The majority of patients below 40 years of age, presented for routine oral prophylaxis while the majority of those above 40 years had oral prophylaxis done as part of preparation for other dental procedures (P= 0.011). The highest proportion of the male patients (52.9%) presented for routine oral prophylaxis as compared to female patients where the highest proportion had oral prophylaxis as a treatment before other dental procedures. The highest proportion of patients whose marital status is single (62.5%) presented for routine oral prophylaxis as compared to married (35.4%) and widowed patients (26.7%) (P=0.001). The proportion that had routine oral prophylaxis reduced from socioeconomic class 1 to class 4 but the greatest proportion (63.5%) was among the lowest class (Table 3).

There is a statistical significant difference between smokers and non-smokers as regards the reasons for oral prophylaxis. None of the smokers requested for oral prophylaxis for periodontal disease management or aesthetic reasons (0.0% for both) as compared to non-smokers (21.0% and 0.6% respectively). A greater proportion of smokers as compared to non-smokers, had oral prophylaxis done as a prelude to other dental procedures (P= 0.009). However, about half of smokers and non-smokers presented more frequently for routine cleaning (47.8% and 50% respectively). Routine cleaning was also the commonest reasons for oral prophylaxis among consumers of diet that can cause extrinsic staining of teeth (64.4%) (p= 0.083), patients who have tooth surface irregularities (50%) (P= 0.945) and patients with tetracycline stains (100%) (P= 0.379) (Table 4)

Routine oral prophylaxis was a more frequent reason of presentation among those who had previous oral prophylaxis less than 1 year ago (55.2%), who brush once daily (50.7%), who use medium strength bristled toothbrush (50.9%) (P> 0.05) and among those who use toothpick (62.7%) (P=0.006) (Table 5)

Study participants who had pain had oral prophylaxis as part of their periodontal disease management (36.7%) and before other dental procedures (34.9%) while 70.3% without pain presented for routine cleaning (P=0.001). Those who had difficulty in chewing presented because of periodontal disease management (40.3%) and for cleaning before other dental procedures (46.3%) while 61% without difficulty in chewing presented for routine cleaning (P=0.001). Participants with tooth mobility also had oral prophylaxis as part of periodontal disease management (37.5%) and for cleaning before other dental procedures (45.8%) while 52.3% without tooth mobility presented for routine cleaning (P=0.004). However, more persons with food impaction (58.0%) (P=0.312) and gingival bleeding (50.9%) presented for routine oral prophylaxis (P=0.005) (Table 6).

Most study participants in the ≤20 years (80.6%) and 21-30 years (75.7%) age groups had free treatment, while majority >60 years (93.2%) made out of pocket payment for their treatment (P=0.001). The majority of those who were single in this (70.8%) had free treatment, while majority who were married (71.5%) made out of pocket payment for their treatment (P=0.001). More persons in class 5 socioeconomic group (77.4%) had free treatment, while 62.9% in Class 1 socioeconomic group made out of pocket payment for their treatment (P=0.001) (Table 7).

The binary logistic regression revealed that the likely predictor of mode of payment in the study is age groups 31-40 years (P=0.019, OR=6.13, 95% CI=1.35-27.88), 41-50 years (P=0.005, OR=11.66, 95% CI=2.09-64.97), 51-60 years (P=0.018, OR=7.83, 95% CI=1.41-43.34) and >60 years (P=0.001, OR=56.55, 95% CI=6.83-468.26) as well as presence of periodontal disease (P=0.001, OR=17.89, 95% CI=7.63-41.93), a need to clean the teeth before other dental procedures (P=0.001, OR=4.29, 95% CI=2.19-8.40) and presence of oral malodour (P=0.001, OR=14.91, 95% CI=3.20-69.39) (Table 8).

#### **IV. Discussion**

The result of this study showed that young adults are less likely to have done oral prophylaxis previously when compared with older persons. This may be because of their level of plaque and calculus accumulation. It has been established that most dental deposits are found in supra and subgingiva areas of the tooth with increasing age.<sup>13</sup> It is therefore possible that persons in the younger age group did not have the procedure done because their plaque and calculus accumulation is minimal.

The reasons given for seeking oral prophylaxis are the need to remove plaque and calculus buildup, aesthetic improvement by the removal of unsightly stains on the teeth, elimination of oral malodour or alleviation of symptoms of oral disease. Some patients are sometimes requested to have oral prophylaxis done before definitive treatment of their dental condition, where the level of the dental deposit was suspected to adversely affect the outcome of such treatment procedures.

Generally, more persons presented for routine oral prophylaxis in this study than what was previously reported in a study carried out in the South West region of Nigeria where only few persons (28%) presented solely for that purpose while majority (72%) were requested to have the cleaning done before some other dental procedures.<sup>14</sup> The pattern observed in this study may be attributed to the free treatment scheme reserved for dental students' patients, seeking routine oral prophylaxis. This is operational in the institution where this study was carried out.

Individuals have been reported, to be motivated to have frequent oral prophylaxis if they have tooth discolorations or indulge in habits that can cause extrinsic staining of the teeth, such as tobacco smoking, frequent consumption of tea, coffee, cola nut.<sup>15</sup> and presence of some developmental or acquired tooth surface irregularities.<sup>16</sup> The result of this study is in support of this suggestion as those who had habits and features that can lead the stains that eventually act as platform for more plaque deposition, presented for routine for oral prophylaxis (Table 2). However, the majority of individuals with intrinsic tooth discoloration induced by tetracycline in this study did not present for routine oral prophylaxis. This may be because of their level of awareness of the cause of the staining or because they were very few in this study.

A study has reported that individuals in the lower socioeconomic class are less likely to request for routine oral prophylaxis.<sup>17</sup> The result of this study shows that this reduced from class 1 to Class 4 socioeconomic class but was highest among the lowest group (Table 3). This pattern suggests that although individuals in class 1 and 2 may be able to afford the routine treatment, more persons in class 5, made up mostly of students and the unemployed, may have also requested for the treatment because it was free. Unmarried individuals may generally be more concerned about having aesthetically pleasing teeth. This is probably why more single persons in this study requested for routine oral prophylaxis (Table 3).

Tobacco smoking is a modifiable risk factor for many oral diseases and both its local and systemic effects may affect the outcome of the management of these oral diseases.<sup>18</sup> This may be why a significantly large proportion of smokers in this study were referred from other departments to have oral prophylaxis done as part of the overall management of other oral disease conditions (Table 4).

The results of this study also suggest that individuals who have already formed the habit of regular oral prophylaxis are more likely to sustain the habit (Table 5). Therefore, efforts should, be put in place to ensure

that the uptake of such a health habit is automatic with younger individual. This will be a cost effective population based strategy towards the prevention of periodontal diseases.<sup>1, 19</sup> It is also obvious from the result of this study that patients who brush less than twice a day were more likely to request routine oral prophylaxis. This supports the need for twice-daily tooth brushing for effective mechanical plaque control.<sup>20</sup> Majority of those who claimed to make use of toothpicks, requested for routine oral prophylaxis (Table 5). This could be an indication that such persons may have presented for oral prophylaxis with the hope of removing interproximal deposits which they found difficult to remove. It is therefore important to ensure that a less harmful interproximal cleaning option is available and affordable.

Concerning the relationship between clinical features of these patients and their reasons for seeking oral prophylaxis, the results indicate that individuals that are symptoms free are more likely to request for a routine oral prophylaxis. Once there is a symptom, an individual is more likely to take oral prophylaxis as part of a treatment plan to remove his symptoms. In this study, more persons with no clinical features of periodontal disease, such as pain, difficulty in chewing, pus discharge, halitosis and tooth mobility, requested for routine oral prophylaxis (Table 6). However, food impaction and gingival bleeding were seen among those who presented for routine oral prophylaxis. This may be because most people consider such clinical features normal or minor, requiring no treatment.

In this study, the following categories of patients: The younger age groups; the singles; and those in the lowest socioeconomic group, were more likely to have free treatment (Table 7). Patients who belong to these categories may have benefitted more from oral health enlightenment programs and free treatment scheme because of their proximity to the dental students who closer to them in age and status. The result also shows that older patients as well as those with periodontal complains or the need to have other dental procedures done to alleviate symptoms are more likely to pay for their oral prophylaxis (Table 7). These factors are possible predictors of ‘out of pocket’ payment for this procedure in our environment and this should be put into consideration when planning payment schemes. The payment pattern seen in this study is similar to what was previously reported among vulnerable and underserved populations.<sup>21</sup> It was reported that older adults above 65 years had the highest total annual dental expenses paid out of pocket than any other age group while the younger age groups were more likely to enjoy free treatments covered by dental insurance. An organized dental insurance for older persons in our environment will reduce their high ‘out of pocket’ dental expenses and ultimately make them have a better periodontal health.

## V. Conclusion

It can be concluded that there is a significant relationship between patient’s socio-demographic characteristics, oral hygiene practices, and clinical features of periodontal diseases and their reasons for seeking oral prophylaxis. There is also a significant relationship between these studied patient factors and their preferred mode of payment for oral prophylaxis.

**Table 1:** Relationship between study participants’ demographic factors and oral prophylaxis experience

Demographic factors	Previous oral prophylaxis		Total n (%)	P value
	Yes n (%)	No n (%)		
<b>Age group (years)</b>				
≤20	13 (41.9)	18 (59.1)	31 (100.0)	0.011
21-30	63 (46.3)	73 (53.7)	136 (100.0)	
31-40	32 (53.3)	28 (46.7)	60 (100.0)	
41-50	22 (53.7)	19 (46.3)	41 (100.0)	
51-60	27 (69.2)	12 (30.8)	39 (100.0)	
>60	32 (72.7)	12 (27.3)	44 (100.0)	
<b>Sex</b>				
Male	97 (51.3)	92 (48.7)	189 (100.0)	0.306
Female	92 (56.8)	70 (43.2)	162 (100.0)	
<b>Marital status</b>				
Single	95 (49.5)	97 (50.5)	192 (100.0)	0.161
Married	84 (58.3)	60 (41.7)	144 (100.0)	
Widowed	10 (66.7)	5 (33.3)	15 (100.0)	
<b>Social class</b>				
Class 1	23 (65.7)	12 (34.3)	35 (100.0)	0.027
Class 2	53 (57.6)	39 (42.4)	92 (100.0)	
Class 3	49 (62.8)	29 (37.2)	78 (100.0)	
Class 4	4 (44.4)	5 (55.6)	9 (100.0)	
Class 5	60 (43.8)	77 (56.2)	137 (100.0)	
<b>Total</b>	<b>189 (53.8)</b>	<b>162 (46.2)</b>	<b>351 (100.0)</b>	

**Table 2:** Relationship between study participants' motivating factors and oral prophylaxis experience

Possible motivating factors	Previous oral prophylaxis		Total n (%)	P value
	Yes n (%)	No n (%)		
<b>Smoking</b>				
Yes	10 (43.5)	13 (56.5)	23 (100.0)	0.302
No	179 (54.6)	149 (45.4)	136 (100.0)	
<b>Diet causing extrinsic stains</b>				
Yes	31 (52.5)	28 (47.5)	59 (100.0)	0.826
No	158 (54.1)	134 (45.9)	292 (100.0)	
<b>Tooth surface irregularities</b>				
Yes	16 (53.3)	14 (46.7)	30 (100.0)	0.953
No	173 (51.3)	148 (48.7)	321 (100.0)	
<b>Tetracycline stains</b>				
Yes	1 (33.3)	2 (66.7)	3 (100.0)	0.442
No	188 (54.0)	160 (46.0)	348 (100.0)	
<b>Total</b>	<b>189 (53.8)</b>	<b>162 (46.2)</b>	<b>351 (100.0)</b>	

**Table 3:** Relationship between study participants' demographic factors and their reasons for seeking oral prophylaxis

Demographic factors	Reasons for oral prophylaxis					Total n (%)	P value
	Routine n (%)	Periodontal disease management n (%)	Aesthetic reasons n (%)	Cleaning before other procedures n (%)	Oral malodour n (%)		
<b>Age (years)</b>							
≤20	17 (54.8)	6 (19.4)	0 (0.0)	7 (22.0)	1 (3.7)	31 (100.0)	0.011
21-30	91 (66.9)	18 (13.2)	0 (0.0)	21 (15.5)	6 (4.4)	136 (100.0)	
31-40	34 (56.7)	8 (13.3)	1 (1.7)	15 (25.0)	2 (3.3)	60 (100.0)	
41-50	14 (34.1)	9 (22.0)	0 (0.0)	18 (43.9)	0 (0.0)	41 (100.0)	
51-60	12 (30.8)	13 (33.3)	1 (2.6)	13 (33.3)	0 (0.0)	39 (100.0)	
>60	7 (15.9)	17 (38.6)	0 (0.0)	19 (43.2)	7 (2.3)	44 (100.0)	
<b>Sex</b>							
Male	100 (52.9)	33 (17.5)	2 (1.1)	45 (23.8)	9 (4.7)	189 (100.0)	0.017
Female	75 (46.3)	38 (23.5)	0 (0.0)	48 (29.6)	1 (0.6)	162 (100.0)	
<b>Marital status</b>							
Single	120 (62.5)	27 (14.1)	0 (0.0)	38 (19.8)	7 (3.6)	192 (100.0)	0.001
Married	51 (35.4)	38 (26.4)	2 (1.4)	50 (34.7)	3 (2.1)	144 (100.0)	
Widowed	4 (26.7)	6 (40.0)	0 (0.0)	5 (33.3)	0 (0.0)	15 (100.0)	
<b>Social class</b>							
Class 1	19 (54.3)	7 (20.0)	0 (0.0)	9 (25.7)	0 (0.0)	35 (100.0)	0.006
Class 2	41 (44.6)	23 (25.0)	1 (1.1)	26 (28.3)	1 (1.1)	92 (100.0)	
Class 3	26 (33.3)	20 (25.5)	1 (1.3)	28 (35.9)	3 (3.8)	78 (100.0)	
Class 4	2 (22.2)	2 (22.2)	0 (0.0)	5 (55.6)	0 (0.0)	9 (100.0)	
Class 5	87 (63.5)	19 (13.9)	0 (0.0)	25 (18.2)	6 (4.4)	137 (100.0)	
<b>Total</b>	<b>175 (49.9)</b>	<b>71 (20.2)</b>	<b>2 (0.6)</b>	<b>93 (26.5)</b>	<b>10 (2.8)</b>	<b>351 (100.0)</b>	

**Table 4:** Relationship between study participants' motivating factors and their reasons for seeking oral prophylaxis

Possible motivating factors	Reasons for oral prophylaxis					Total n (%)	P value
	Routine n (%)	Periodontal disease management n (%)	Aesthetic reasons n (%)	Cleaning before other procedures n (%)	Oral malodour n (%)		
<b>Smoking</b>							
Yes	11 (47.8)	0 (0.0)	0 (0.0)	11 (47.8)	1 (4.4)	23 (100.0)	0.009
No	164 (50.0)	71 (21.6)	2 (0.6)	82 (25.0)	9 (2.7)	328 (100.0)	
<b>Diet causing extrinsic stains</b>							
Yes	38 (64.4)	7 (11.9)	1 (1.7)	12 (20.3)	1 (1.7)	59 (100.0)	0.083
No	137 (46.9)	64 (21.9)	1 (0.3)	81 (27.7)	9 (3.1)	292 (100.0)	
<b>Tooth surface irregularities</b>							
Yes	15 (50.0)	5 (16.7)	0 (0.0)	9 (30.0)	1 (3.3)	30 (100.0)	0.945
No	160 (49.8)	66 (20.6)	2 (0.6)	84 (26.2)	9 (2.8)	321 (100.0)	
<b>Tetracycline stains</b>							
Yes	3 (100.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	3 (100.0)	0.379
No	172 (49.4)	71 (20.4)	2 (0.6)	93 (26.7)	10 (2.9)	348 (100.0)	
<b>Total</b>	<b>175 (49.9)</b>	<b>71 (20.2)</b>	<b>2 (0.6)</b>	<b>93 (26.5)</b>	<b>10 (2.8)</b>	<b>351 (100.0)</b>	

**Table 5:** Relationship between study participants' oral hygiene practices and their reasons for seeking oral prophylaxis

Oral hygiene practices	Reasons for oral prophylaxis					Total n (%)	P value
	Routine n (%)	Periodontal diseases management n (%)	Aesthetic reasons n (%)	Cleaning before other procedures n (%)	Oral malodour n (%)		
<b>Previous oral prophylaxis</b>							
Less than 1 year ago	16 (55.2)	4 (13.8)	0 (0.0)	7 (24.1)	2 (6.9)	29 (100.0)	0.557
More than 1 year ago	73 (46.2)	33 (20.9)	2 (1.3)	46 (29.1)	4 (2.5)	158 (100.0)	
No previous prophylaxis	86 (52.4)	34 (20.7)	0 (0.0)	40 (24.4)	4 (2.5)	164 (100.0)	
<b>Tooth brushing frequency</b>							
Once daily	110 (50.7)	49 (22.6)	1 (0.5)	53 (24.4)	4 (1.8)	217 (100.0)	0.326
More than once daily	65 (48.5)	22 (16.4)	1 (0.7)	40 (29.9)	6 (4.5)	134 (100.0)	
<b>Strength of toothbrush</b>							
Soft	26 (49.1)	10 (18.9)	0 (0.0)	16 (30.2)	1 (1.9)	53 (100.0)	0.918
Medium	113 (50.9)	46 (20.7)	2 (0.9)	55 (24.8)	6 (2.7)	222 (100.0)	
Hard	36 (47.4)	15 (19.7)	0 (0.0)	22 (28.9)	3 (3.9)	76 (100.0)	
<b>Use of toothpick</b>							
Yes	42 (62.7)	16 (23.9)	0 (0.0)	9 (13.4)	0 (0.0)	67 (100.0)	0.006
No	133 (46.8)	55 (19.4)	2 (0.7)	84 (29.6)	10 (3.5)	284 (100.0)	
<b>Total</b>	<b>175 (49.9)</b>	<b>71 (20.2)</b>	<b>2 (0.6)</b>	<b>93 (26.5)</b>	<b>10 (2.8)</b>	<b>351 (100.0)</b>	

**Table 6:** Relationship between clinical features of study participants and their reasons for seeking oral prophylaxis

Clinical features	Reasons for oral prophylaxis					Total n (%)	P value
	Routine n (%)	Periodontal diseases management n (%)	Aesthetic reasons n (%)	Cleaning before other procedures n (%)	Oral malodour n (%)		
<b>Pain</b>							
Yes	45 (27.1)	61 (36.7)	1 (0.6)	58 (34.9)	1 (0.6)	166(100.0)	0.001
No	130(70.3)	10 (5.4)	1 (0.5)	35 (18.9)	4 (4.9)	185(100.0)	
<b>Difficulty in chewing</b>							
Yes	11 (13.4)	33 (40.3)	0 (0.0)	38 (46.3)	0 (0.0)	82 (100.0)	0.001
No	164 (61.0)	38 (14.1)	2 (0.7)	55 (20.5)	10 (3.7)	269 (100.0)	
<b>Swelling</b>							
Yes	9 (23.1)	18 (26.2)	1 (2.6)	11 (28.0)	0 (0.0)	39 (100.0)	0.001
No	166 (53.2)	53 (17.0)	1 (0.3)	82 (26.3)	10 (3.2)	312 (100.0)	
<b>Pus discharge</b>							
Yes	0 (0.0)	3 (50.0)	0 (0.0)	3 (50.0)	0 (0.0)	6 (100.0)	0.053
No	175 (50.7)	68 (19.7)	2 (0.6)	90 (26.1)	10 (2.9)	345 (100.0)	
<b>Halitosis</b>							
Yes	11 (28.2)	11 (28.2)	0 (0.0)	10 (25.6)	7 (17.9)	39 (100.0)	0.001
No	162 (52.6)	60 (19.2)	2 (0.0)	83 (26.6)	3 (1.0)	312 (100.0)	
<b>Food impaction</b>							
Yes	40 (58.0)	14 (20.3)	1 (1.4)	13 (18.8)	1 (1.4)	69 (100.0)	0.312
No	135 (47.9)	57 (20.2)	1 (0.4)	80 (28.4)	9 (3.2)	282 (100.0)	
<b>Tooth mobility</b>							
Yes	4 (16.7)	9 (37.5)	0 (0.0)	11 (45.8)	0 (0.0)	24 (100.0)	0.004
No	171 (52.3)	62 (19.0)	2 (0.6)	82 (25.1)	10 (3.1)	327 (100.0)	
<b>Gingival bleeding</b>							
Yes	56 (50.9)	33 (30.0)	0 (0.0)	19 (17.3)	2 (1.8)	110 (100.0)	0.005
No	119 (49.4)	38 (15.8)	2 (0.8)	72 (30.7)	8 (3.3)	241 (100.0)	
<b>Malocclusion</b>							
Yes	1 (23.0)	3 (75.0)	0 (0.0)	0 (0.0)	0 (00)	4 (100.0)	0.160
No	174 (50.1)	68 (19.6)	2 (0.6)	93 (26.8)	10 (2.9)	347 (100.0)	
<b>Total</b>	<b>175 (49.9)</b>	<b>71 (20.2)</b>	<b>2 (0.6)</b>	<b>93 (26.5)</b>	<b>10 (2.8)</b>	<b>351 (100.0)</b>	

**Table 7:** Relationship between study participants' demographic factors/ reasons for seeking oral prophylaxis and their mode of payment

	Mode of payment		Total	P value
	Free treatment	Out of pocket payment		
	n (%)	n (%)	n (%)	
<b>Age (years)</b>				
≤20	25 (80.6)	6 (19.4)	31 (100.0)	0.001
21-30	103 (75.7)	33 (24.3)	136 (100.0)	
31-40	27 (45.0)	33 (55.0)	60 (100.0)	
41-50	11 (26.8)	30 (73.2)	41 (100.0)	
51-60	12 (30.8)	27 (69.2)	39 (100.0)	
>60	3 (6.8)	41 (93.2)	44 (100.0)	
<b>Sex</b>				
Male	96 (51.3)	93 (48.7)	189 (100.0)	0.754
Female	85 (52.5)	77 (47.5)	162 (100.0)	
<b>Marital status</b>				
Single	136 (70.8)	56 (29.2)	192 (100.0)	0.001
Married	41 (28.5)	103 (71.5)	144 (100.0)	
Widowed	4 (26.7)	11 (73.3)	15 (100.0)	
<b>Social class</b>				
Class 1	13 (37.1)	22 (62.9)	35 (100.0)	0.001
Class 2	31 (33.7)	61 (66.3)	92 (100.0)	
Class 3	27 (34.6)	51 (65.4)	78 (100.0)	
Class 4	4 (44.4)	5 (55.6)	9 (100.0)	
Class 5	106 (77.4)	31 (22.6)	137 (100.0)	
<b>Reason for oral prophylaxis</b>				
Routine	134 (76.6)	41 (23.4)	175 (100.0)	0.001
Periodontal disease management	11 (15.5)	60 (84.5)	71 (100.0)	
Aesthetic reasons	1 (50.0)	1 (50.0)	2 (100.0)	
Cleaning before other dental procedures	32 (34.4)	61 (65.6)	93 (100.0)	
Oral malodour	3 (30.0)	7 (70.0)	10 (100.0)	
<b>Total</b>	<b>181 (51.6)</b>	<b>173 (48.4)</b>	<b>351 (100.0)</b>	

**Table 8:** Logistic regression predicting study participants' mode of payment from their demographic factors and reasons for seeking oral prophylaxis

Predictor	Mode of payment			
	Wald $\chi^2$	P value	Odds ratio	95% C.I
<b>Age group</b>				
21-30	0.79	0.374	1.69	0.53-5.21
31-40	5.50	0.019	6.13	1.35-27.88
41-50	7.85	0.005	11.66	2.09-64.97
51-60	5.55	0.018	7.83	1.41-43.34
>60	14.00	0.001	56.55	6.83-468.26
<b>Marital status</b>				
Married	0.13	0.723	0.84	0.33-2.16
Widowed	1.23	0.268	0.35	0.56-2.23
<b>Social class</b>				
Class 2	0.67	0.412	0.66	0.24-1.80
Class 3	0.38	0.540	0.73	0.26-2.01
Class 4	1.76	0.184	0.25	0.33-1.93
Class 5	2.51	0.113	0.40	0.13-1.25
<b>Reason for presenting</b>				
Periodontal disease management	44.03	0.001	17.89	7.63-41.93
Aesthetic reasons	0.11	0.737	1.63	0.10-28.03
Cleaning before other dental procedures	17.98	0.001	4.29	2.19-8.40
Oral malodour	11.86	0.001	14.91	3.20-69.39

**Reference points:**

Age= ≤20 years, Marital status= Single, Social class= class 1, Reason for presenting= Routine

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