



Dental Care Utilization, Unmet Needs and Perceived Stigma among HIV-Positive Women: A Cross-Sectional Study

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KEYWORDS

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ABSTRACT:

Objective: HIV-related oral health issues are often more severe than those in the general population, thus it's critical to have access to both dental and medical care. This study sought to assess the association between dental care utilization, unmet dental needs and perceived stigma among women living with HIV/AIDS.

Method: In this cross-sectional study conducted on HIV positive women in Chennai include the dental care utilization unmet dental needs and perceived stigma related questions followed by clinical examination for dental caries, periodontitis and oral lesions.

Conclusion: Study revealed that there is an association between dental care utilization, unmet dental needs, and perceived stigma among women living with HIV.

1. Introduction

Since the discovery of HIV in beginning of the 1980s, HIV/AIDS has been one of the greatest health problems in the world [1]. The detection of HIV infection for the first time in India was made in April 1986 in the state of Tamil Nadu. Since then, HIV infection has been spreading at an alarming rate [2]. HIV patients struggle with a range of HIV associated symptoms for extended period along with other social problems such as stigma, poverty, depression, substance abuse, and cultural beliefs which can affect their QOL not only from the physical health aspect, but also from mental and social health point of view.[3]

The deleterious impact of oral health care is of particular importance among PLWHA (people living with HIV and

AIDS) [4-7]. Poor oral health can be a contributing factor to opportunistic infections in persons living with HIV/AIDS [8] Weinert et al. [9] identified 16 oral conditions that might occur in HIV infected patients, seven of which can be suppressed by drug therapy. A number of studies have indicated unwillingness on the part of dental professionals to treat persons with HIV and AIDS due to fear of losing non- HIV infected patients [10,11]. Dental care utilization of the public in light of the Human Immunodeficiency Virus (HIV) epidemic is so far poorly understood [12]. Access to and utilization of dental care is important to HIV-positive persons because, according to some estimates, over 90% of HIV-positive persons will have at least one oral manifestation of HIV disease during the course of their infection [13,9]. Dental care is one of the greatest unmet health care needs among



HIV-infected individuals as demonstrated by data from the oral health component of the HIV Cost and Services Utilization Study (HCSUS) [4,5]

Stigma has been defined as an influential, yet disgraceful social label that totally changes the way people perceive themselves and how they are seen as individuals by society [33]. HIV-related stigma may act as a barrier for PLWHA to access and use dental care. HIV-related stigma may negatively impact oral health care utilization in PLWHA [15,16]. Women with HIV/AIDS may suffer greater stigma than men and they are still invisible in our society. This female vulnerability refers, among other factors, to the remarkable differences in the cultural, social and economic aspects, which give them unequal opportunities of health maintenance, promotion and protection [17]. Considering the prevalence and spread of HIV in India and limited availability of treatment modalities it seems necessary to assess such population. Thus, this study was carried out to assess the association between dental care utilization, unmet dental needs and perceived stigma among women living with HIV/AIDS.

2. Materials and Methods

This cross-sectional study was conducted on HIV positive women in Chennai. Participants for the study were selected using snowball sampling. Ethical clearance has been taken from the institution review board prior to the start of the study. Information of the study was given to all participants and informed consent was taken.

Inclusion Criteria:

- Women reported with HIV positive.

Exclusion Criteria:

- Women those who are not willing to participate in the study.
- Women who were unavailable at the time of study.

3. Survey Methodology

After a brief introduction on the purpose and intent of the study, examination was conducted by a single examiner. Demographic information like age, marital status, level of education etc was collected. Questions like years of being diagnosed with HIV and oral hygiene practices were also include. The dental care utilization, unmet dental needs and stigma related questions [18] were included followed by clinical examination for dental

caries, periodontitis and oral lesions was recorded using WHO criteria.[19]

4. Statistical Analysis

Statistical analysis was carried out using SPSS software (Version 17.0). Chi square test was done to assess the association between the independent and dependent variables. Univariate logistic regression was done to assess the relationship between the variables. A p-value of <0.05 was considered significant.

5. Results

Out of 56 study subjects 31.7 % could not find HIV-friendly dentist and had a fear of pain; 29.3% could not afford the dental care and 7.3% could not get an appointment with the dentist (Fig 1). The main reason for stigmatization was informing new dentists about HIV status (73.2%), followed by hesitancy to visit the dentist (60.7%). Another reason reported was stigmatized due to HIV status in the dental setting (58.9%) and changing dentists after an HIV+ diagnosis (42.9%) (Fig 2). Among the study subjects, 91.1 % required restorative care; 67.9% required prosthodontic treatment followed by 64.28% needed treatment for oral lesions and 50% required oral prophylaxis (Fig 3). Utilization of dental care was seen maximum in the age group of 56-65 years (66.7%) followed by 60% and 57.1% in the age groups of 46-55 years and 36-45 years, respectively. The utilization was reported to be lowest in the age group of 25-35 years (25%). These proportions were found to be statistically significant ($p \leq 0.05$) (Fig 4).

When compared to 25-35yrs, 36-45yrs had 4 times higher odds of utilization of dental care and was found to be significant statistically ($P \leq 0.05$); 46- 55 years had also 4.50 times higher odds, followed by 6 times higher odds in 56- 65 years. However, these odds ratios were not statistically significant ($P > 0.05$) (Table 1). When compared to 7.5- 10 years with HIV, 1- 4 years and 4.5- 7 years had 1.2 times and 1.41 times higher odds respectively. However, these odds ratios were not statistically significant ($P > 0.05$) (Table 2). Among the study subjects who experienced 1-4 yrs of HIV, 61.1% had unmet need followed by those who experienced 4.5- 7yrs and 7.5-10yrs had an unmet need of 84.8% and 40% respectively. The unmet need and years being diagnosed with HIV was found to be significant statistically ($p \leq 0.05$) (Table 3). When compared to 1-4yrs with HIV,



4.5-5yrs and 7.5-10yrs had 3.56- and 0.42-times higher odds of having unmet need respectively. However, these odds ratios were not significant statistically ($P > 0.05$) (Table 4).

Among the study subjects who had decay 72.5% of them had unmet need; those who had missing teeth, 78.9% had unmet need; followed by those who had Periodontitis and oral lesions, 64.3% and 72 % had unmet needs. However, these proportions were not found to be significant statistically ($P > 0.05$) (Table 5). Maximum stigma was experienced for 1-4 yrs of HIV (44.4%) followed by 4.5-7 years (42.4%) and 7.5-10 years (20%) of HIV respectively. However, these proportions were not found to be significant statistically ($P > 0.05$) (Table 6). Among the study subjects who had unmet need 67.6% of them had experienced with stigma. However, these proportions were not found to be significant statistically ($P > 0.05$) (Table 7).

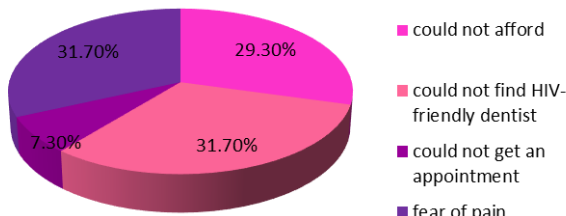


Figure 1: Reasons for unmet dental needs

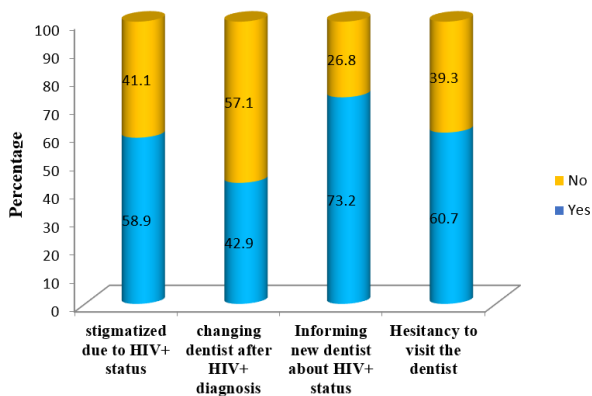


Figure 2: Reason for stigmatization among the study subjects

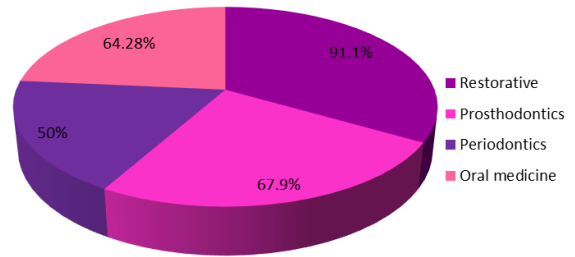


Figure 3: Dental treatment needs among the study subjects

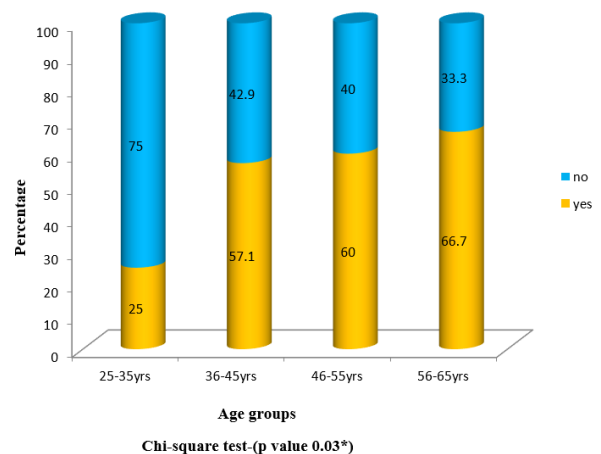


Figure 4: Utilization of dental care among the study subjects

Table 1: Assessment of the risk of age over-utilization of dental care

Age group	Utilization		Odds Ratio	95% CI for OR		P-Value
	N	%		LB	UB	
25-35 yrs (Ref)	5	25.0	1.00			
36-45 yrs	16	57.1	4.00	1.136	14.08	0.031*
46-55 yrs	3	60.0	4.50	0.576	35.15	0.152
56-65 yrs	2	66.7	6.00	0.443	81.19	0.178

Univariate Logistic Regression (p value=0.03*)



Table 2: Assessment of the risk of HIV duration over utilization of dental care

HIV Duration	Utilization		Odds Ratio	95% CI for OR		P-Value
	N	%		LB	UB	
1-4yrs	8	44.4	1.200	0.160	9.013	0.859
4.5-7yrs	16	48.5	1.412	0.208	9.582	0.724
7.5- 10 yrs (Ref)	2	40.0	1.00			

Univariate Logistic Regression

Table 3: Comparison of years being diagnosed with HIV and unmet dental needs

HIV Duration	Unmet need					
	No		Yes		Total	
	N	%	N	%	N	%
1-4yrs	7	38.9	11	61.1	18	100.0
4.5-7yrs	5	15.2	28	84.8	33	100.0
7.5-10yrs	3	60.0	2	40.0	5	100.0
Total	15	26.8	41	73.2	56	100.0

Chi-square test (p value=0.04*)

Table 4: Assessment of risk of HIV duration over unmet need

HIV Duration	Unmet need		Odds Ratio	95% CI for OR		P-Value
	N	%		LB	UB	
1-4yrs (Ref)	11	61.1	1.00	-	-	-
4.5-7yrs	28	84.8	3.56	0.930	13.650	0.064
7.5-10yrs	2	40.0	0.42	0.056	3.213	0.407

Univariate Logistic Regression

Table 5: Comparison of unmet dental need and treatment requirement

Restorative	Unmet need					
	No		Yes		Total	
	N	%	N	%	N	%
No	1	20.0	4	80.0	5	100.0
Yes	14	27.5	37	72.5	51	100.0
Total	15	26.8	41	73.2	56	100.0

Prosthodontic	No		Yes		Total	
	N	%	N	%	N	%
No	7	38.9	11	61.1	18	100.0
Yes	8	21.1	30	78.9	38	100.0
Total	15	26.8	41	73.2	56	100.0

Periodontitis	No		Yes		Total	
	N	%	N	%	N	%
No	5	17.9	23	82.1	28	100.0
Yes	10	35.7	18	64.3	28	100.0
Total	15	26.8	41	73.2	56	100.0

Oral lesions	No		Yes		Total	
	N	%	N	%	N	%
No	7	24.1	22	75.9	29	100.0
Yes	7	28.0	18	72.0	25	100.0
Total	14	25.9	40	74.1	54	100.0

Chi-square test

Table 6: Comparison of stigma with years being diagnosed with HIV

HIV Duration	STIGMA					
	No		Yes		Total	
	N	%	N	%	N	%
1-4yrs	10	55.6	8	44.4	18	100.0
4.5-7yrs	19	57.6	14	42.4	33	100.0
7.5-10yrs	4	80	1	20	5	100.0
Total	33	58.92	23	41.07	56	100.0

Chi-square test

Table 7: Comparison between unmet dental need and stigma

Unmet need	STIGMA					
	No		Yes		Total	
	N	%	N	%	N	%
No	4	18.2	11	32.4	15	26.8
Yes	18	81.8	23	67.6	41	73.2
Total	22	100.0	34	100.0	56	100.0

Chi-square test



6. Discussion

India is home to the third-largest number of people living with HIV in the world [20]. The provisionally estimated number of people living with HIV in India is 2,390,000, with an estimated adult HIV prevalence of 0.31% in 2009 [21]. For every 100 PLHAs, 61 are men and 39 are women [22]. While good oral health is important to the well-being of all population groups, it is especially critical for PLWHA. Inadequate oral health care can undermine HIV treatment, yet many individuals living with HIV are not receiving the necessary oral health care that would optimize their treatment [23]. According to UNAIDS, the “stigma and discrimination associated with HIV and AIDS are the greatest barriers for providing adequate care, support, treatment and alleviating impact” [24]. Therefore, the present study evaluated the impact of utilization, unmet dental needs, and perceived stigma among women living with HIV.

There is a paucity in the literature regarding information on barriers to the utilization of dental services among HIV positive women. They are likely to face greater challenges than HIV positive men related to caring for the family and dealing with social stigma. Thus, the present study included only women as study subjects, and 50% of them fall under the age group of 36-45 years. This finding is similar to the study done by Caroline et al [25].

In our study, more than half (53.6%) of the study participants failed to utilize the dental care, which is in contrast with the study done by Fox et al [26], wherein only 2.8% never utilized the dental care. This huge difference may be because of better treatment modalities available in Western countries. While 48.2% of women reported unmet dental needs in Fox et al [26] study, it was 78.2% in our study. This difference may be because of the limited access to care, which can be due to the lack of dental coverage through either private or public funding and the inability to pay for oral health care. The main reason for the unmet need reported in our study was not being able to find a friendly dentist (31.7%).

In our study, the dental care was utilized mostly by women in the age group of 46-65 years (p value ≤ 0.05) which is correlating with the study done by Jeanty et al [27]. In our study, there was only a slight difference in dental care utilization among literate (46%) and illiterate (50%). However, among the literates, women who

completed primary school reported maximum utilization of dental care (61.5%), and those who completed secondary education had not utilized dental care (55.6%). One of the main reasons for this can be that women possessing secondary education have more resources to address competing life responsibilities, such as work, children, or family, that may prevent them from easily accessing dental care. The likelihood of unmet dental care needs increased as the number of years women suffering from HIV increased. These findings were like the results of the study done by Jeanty et al [27].

The mean DMFT score obtained in our study was 6.87 ± 4.62 . Cross-sectional analysis of coronal caries data revealed 1.2-fold-higher caries prevalence among HIV+ women compared with HIV- women (Phelan et al, 2004) [28]. A higher missing teeth (MT) component of DMFT and a lower filled tooth (FT) component indicate that the extraction was the treatment that was carried out mostly, as compared to the restorative care. 13.44% had periodontal pockets of 4 to 5 mm, and 11.2% had loss of attachment. These findings are similar to the study done by Soares et al [29]. Bleeding on probing was present in 24.08% of women and was found to be statistically significant (p value ≤ 0.05). This may be because women who participated in our study had poor oral hygiene (only 30.4% brushed twice daily). Thus, our study shows that most of the study subjects required an oral prophylaxis. Thus, employing the WHO oral assessment form for adults, this study revealed a great unmet need for dental caries and periodontal treatment in HIV+ patients, as previously reported by several authors [30-35].

Many of the study participants reported being stigmatized, or treated with disrespect during a dental visit (58.9%); 60.7% reported hesitancy to visit the dentist, most responses were related to dental anxiety and receiving appropriate care. These results were like the study done by Patel et al [15]. Previous studies have found that stigma and fear of discrimination can lead to failure to disclose HIV status [6,36]. Our findings suggest that HIV-related stigma is very important concerning the underutilization of dental care.

In our study, women who were not married experienced stigma in the dental setting. This may be because disclosure of their HIV status was always a delicate thing for younger unmarried women. Similar to the findings from a meta-analysis done in sub-Saharan Africa that



stigma decreases over time (Mbonu et al, 2009) [37], our study also found that the experience of stigma decreased with years.

Limitations to this study, include that the data are from a snowball sample using questionnaires, the results of which are based entirely on the respondent's honesty and how they perceived their attitudes towards the variables used in this study. Enrolment in the study was voluntary and by referral, and participants may have been vulnerable to selection bias. Secondly, since this study was based on a cross-sectional research design, caution about causality must be considered when concluding. However, measures were taken to diminish the occurrence of such bias, such as the use of a validated questionnaire.

7. Conclusion

Based on the findings of this study, we concluded that there is an association between dental care utilization, unmet dental needs, and perceived stigma among women living with HIV. Our research points to the necessity of educating HIV-positive women and their primary care physicians more effectively about the accessible benefits and to better educate dental professionals in managing fearful patients.

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