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Barrier to Dental Care

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Abstract

Aim - To compare the influence of barriers to oral health care amongst people from various social classes base on Kuppuswamy scale to assess the need for policies in oral heath care. So this study was designed to assess the barriers in dental care.

Objective :- To evaluate different barrier in assessing dental care.

Method : It was a descriptive cross-sectional questionnaire based study, conducted among participants in India. A total 760 questionnaire were distributed, out of which 750 (98.68%) were responded

Results : Total 750 people participated in the study, out of which 450 (60%) are males and 300(40%) are females. In which 27.2% (204) were from 18-30yrs, 46.5% (349) were from 31 -50yrs, 26.3%(197) age range, The result showed out that major barrier was dental treatment is expensive according to kuppuswamy scale of socio-economic class (I,II,III,IV)

Conclusion: Challenges faced by people in accessing dental care for that some policy makers or government policies have to bring affordable and accessible policies for people of every socio-economic group to reduce burden of disease and improve quality of life in oral health care.

Keywords: Barrier, dental care, policies, challenges, socio-economic class

Introduction

Oral health is integral and essential to general health and wellbeing. It implies freedom from oral diseases, disorders, and pain. Oral health is a determining factor in the quality of life. Oral diseases restrict daily routine activities causing loss of work each year the world over. Furthermore, the psychosocial impact of these diseases often diminishes the quality of life. [1] WHO emphasized that despite improvements in the oral health of populations in several countries, global oral health problems persist. Oral diseases such as dental caries, periodontal disease, tooth loss, oral mucosal lesions, and oral cancers are major public health problems worldwide. [1]

Oral health of the older population is a global concern that involves a high prevalence of missing teeth, dental caries, periodontal disease, and wasting diseases. The negative impact of poor oral conditions on daily life is particularly significant among older people. [2] A nationwide survey conducted by the Dental Council of India (DCI) on 18,233 older people from 19 states of the country, reported a prevalence of 85% and 80% among the 65–74 year-old for dental caries and periodontal disease respectively. [3]

A healthy Smile is more than just aesthetics; it is a gateway to overall wellbeing. Yet, for many,

achieving that smile is hindered by a significant obstacle: cost. Dental care, unlike general health care, often falls outside the realm of comprehensive insurance coverage, creating a substantial financial barrier. This article delves into the realities of this barrier, exploring its impact on oral health and introducing the kuppuswamy scale – a valuable tool for assessing the socioeconomic burden of dental treatment. By understanding this limitation and the kuppuswamy scale in measuring them, we can strive towards future where a bright smile isn't privilege, but a right accessible to all.

Many studies done in India had revealed that utilization of dental care is limited due to the lack of perceived need for care and accessibility, availability and affordability of services. [4]The majority of Indians do not have access to basic oral health care, despite the fact that roughly 25,000 dental graduates graduate each year. Being a price-sensitive market, India's affordability as insurance would be a godsend once and for all. [5]. Attempts to be made to improve the oral health for all privileged ans underprivileged groups in both developed and developing countries by proper research, provision of services, and the promotion of policies.

Studies had shown that oral health care utilization is low among older people, particularly among the socio-economically disadvantaged group due to significant barriers that exist. Previous studies suggest that there is a significant barrier to access oral health care among the older population. Dental care costs, lack of time, and lack of awareness with regards to accessibility and availability have been important barriers to the utilization of dental services among older adults [6]

It is important to emphasize that the unaffordability of dental care has been a significant concern in other countries as well. In the United States, for example, cost has been reported as one of the main barriers to dental care. Although cost barriers for children fell from 2005 to 2019, there was an increasing trend among adults and seniors [7]. Similarly, Australians reported cost as the primary reason for not visiting a dentist [8]. Studies have shown that the proportion of Australians who avoided or delayed visiting a dentist due to cost increased from 27%in 1994 to 34%in 2008 and to 39%in 2017–18 [9–11]. In the United Kingdom, while clinically necessary dental treatment is covered under the National Health Service (NHS), there are concerns about the affordability of dental care. Results from the 2009 Adult Dental Health Survey revealed that almost one-fifth of respondents delayed dental treatment due to cost, and around 25% claimed that the cost of treatment had affected the type of treatment they had chosen in the past [12]. Additionally, 43% of survey participants in 2010 avoided visiting a dentist due to cost [13].

Unlike other health services, dental care frequently operates outside the realm of comprehensive health insurance coverage, leaving many individuals to face the high costs of preventive and restorative procedures alone. This financial burden disproportionately impacts low – income populations, creating a stark disparity in oral health outcomes. In this article we will explore the various factors contributing to this challenges, including the high cost of procedures, limited dental insurance coverage, and the socio-economic factors that often intertwine with oral health.

To effectively address this issue, a standardized tool for measuring socioeconomic status and its impact on oral health is crucial. This is where kuppuswamy socio-economic scale comes into play. Developed in India, this scale offers a simple yet effective method for categorizing individuals based on their socioeconomic background. By incorporating the Kuppuswamy scale into dental assessments, healthcare professionals can gain valuable insights into a patient's financial capacity for seeking dental care. This understanding can then inform treatment recommendations, potentially leading to the exploration of alternative treatment options or the identification of patients who may benefit from financial assistance programs.

Throughout this article, we will explore the strengths and limitations of the Kuppuswamy scale, analyzing its effectiveness in the context of barriers to dental care. will compare it to other potential socioeconomic assessment tools, highlighting its unique advantages and identifying areas for potential improvement. Ultimately, our goal is to shed light on the crucial role such scales play in bridging the gap between barriers and access to essential dental services.

Methodology:

It was a descriptive cross-sectional questionnaire study, conducted among people of different age groups and different socio-economic status in India.

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The study protocols was discussed and the ethical approval was taken from the ethical committee of the Goenka Research Institute of Dental Science. The questionnaire method was preferred for data collection as it is convenient and suitable for recording potential sensitive and personal information related to their financial status dental experience than personal interviews.

The questionnaire was given in google form through social media. The purpose of the study was cleared to the people before asked to fill the form and were asked to fill with trustworthiness. There were also assured about confidentiality of their information. Total 760 questionnaire were distributed out of which 750 (98.68%) were responded. So total 750 people took part in this study

The google survey was having total 15 questions. It was designed to be completed in less than 2 minutes. The language, phrasing and sentence formation was checked and later questions were modified wherever required.

The following variables were included in the study:

1. Occupation
2. Education
3. Income
4. Preference of Dentist
5. Reasons for visiting a dentist
6. Barriers in accessing of dental service
7. Opinion on dental health polices

Statistical Analysis :

Data was coded and entered into excel sheet which was later analyzed by using Statistical Package for Social Science (SPSS) version 17 software package. Descriptive statistics were generated for relevant items. Chi-square test was used to analyze the association between scores and other factors. The level of significance was set up at $p<0.05$.

Results:

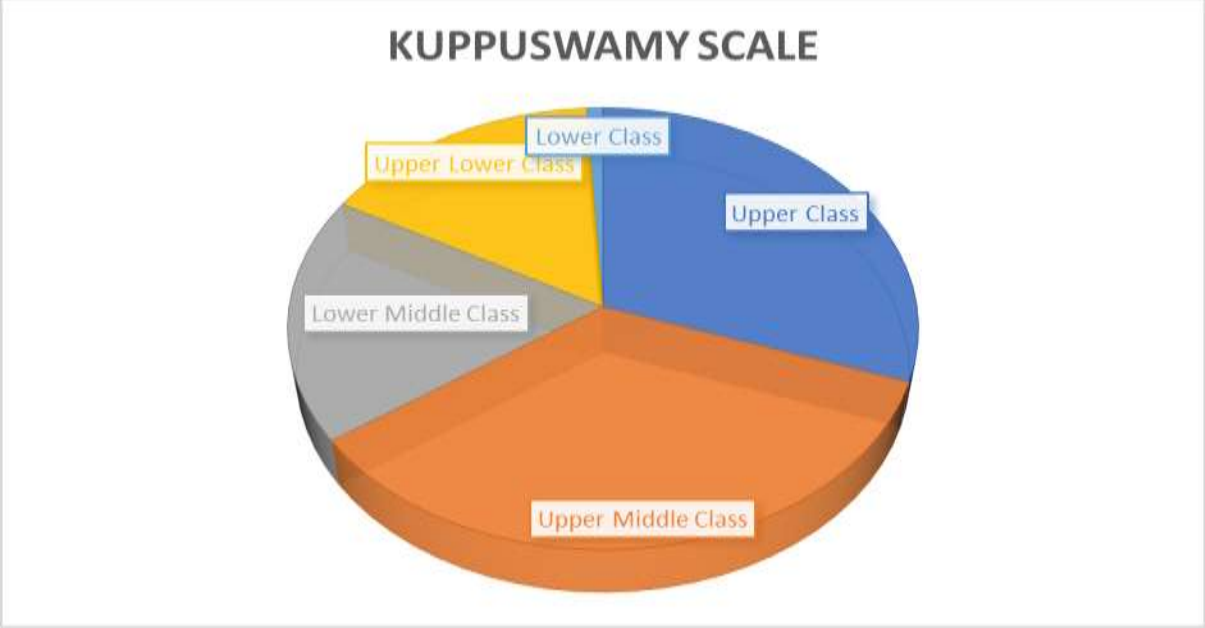
Population characteristic:

Total 750 people participated in the study, out of which 450 (60%) are males and 300(40%) are females. In which 27.2% (204) were from 18-30yrs, 46.5% (349) were from 31 -50yrs, 26.3%(197) age range.

According to Kuppuswamy Scale these population were segregated into five classes

Upper class (268), upper middle class (261), middle class (135), lower middle class (119) and lower class (7) (as shown in Fig 1).

Figure 1: Pie - Chart Showing distribution of subjects under various socio-economic status



Acording to survey Distribution of Choice of subjects under various socio-economic status (as shown in Table 1) were :-

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In Upper class 80(35.1%) preferred government dental college, 13(5.7%) preferred private dental college, 126(55.3%) preferred private practioner, 9(3.9%) preferred unregistered roadside dentist. In Upper middle class 88(33.7%) preferred government dental college, 13(5%) preferred private dental college, 151(57.9%) preferred private practioner, 9(3.4%) preferred unregistered roadside dentist. In Upper middle class 88(33.7%) preferred government dental college, 13(5%) preferred private dental college, 151(57.9%) preferred private practioner, 9(3.4%) preferred unregistered roadside dentist. In lower middle class 52(38.5%) preferred government dental college, 8(5.9%) preferred private dental college, 69(51.1%) preferred private practioner, 6(4.4%) preferred unregistered roadside dentist. In Upper lower class 44(37%) preferred government dental college, 8(6.7%) preferred private dental college, 63(52.9%) preferred private practioner, 4(3.4%) preferred unregistered roadside dentist. In lower class 5(71.4%) preferred government dental college, 0(0%) preferred private dental college, 2(28.6%) preferred private practioner, 0(0%) preferred unregistered roadside dentist where X2 value is 0.898 and p-value is 6.33.

Table 1 :- Frequecy of Choice of subjects under various socio-economic status :-

	Government Dental College	Private Dental College	Private Practioner	Unregistered Roadside Dentist	Chi-square value	P-Value
Upper Class	80	13	126	9	0.898	6.33
Upper Middle Class	88	13	151	9		
Lower Middle Class	52	8	69	6		
Upper Lower Class	44	8	63	4		
Lower Class	5	0	2	0		

There were 5 barriers which was assesed in this survey according to different socio-economic status (as shown in Fig 2)

Long waiting hours in dental hospital acted as barrier to oral health care in various socio-economic status were 47(20.6%) in class 1, 59(22.6%) in class 2, 30(22.2%) in class 3, 28(23.5%) in class 4, 1 (14.3%) in class 5.

Dental Treatment costing acted as barrier to oral health care in various socio-economic status were 74(32.5%) in class 1, 82(31.4%) in class 2, 40(29.6%) in class 3, 36(30.3%) in class 4, 1 (14.3%) in class 5.

Fear of dental procedure acted as barrier to oral health care in various socio-economic status were 38(16.7%) in class 1, 37(14.2%) in class 2, 22(16.3%) in class 3, 21(17.6%) in class 4, 0(0%) in class 5.

Does not think dental care as emergency acted as barrier to oral health care in various socio-economic status were 32(14.0%) in class 1, 42(16.1%) in class 2, 21(15.6%) in class 3, 18(15.1%) in class 4, 2 (28.6%) in class 5.

Multiple visit to dentist to complete dental care acted as barrier to oral health care in various socio-economic status were 37(16.2%) in class 1 ,41(15.7%) in class 2, 22(16.3%) in class 3, 16(13.4%) in class 4, 2 (28.6%) in class 5 where X2 value is 0.937 and p-value is 8.362.

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Figure 2: Frequency of barriers assessing to dental care according to socio-economic status

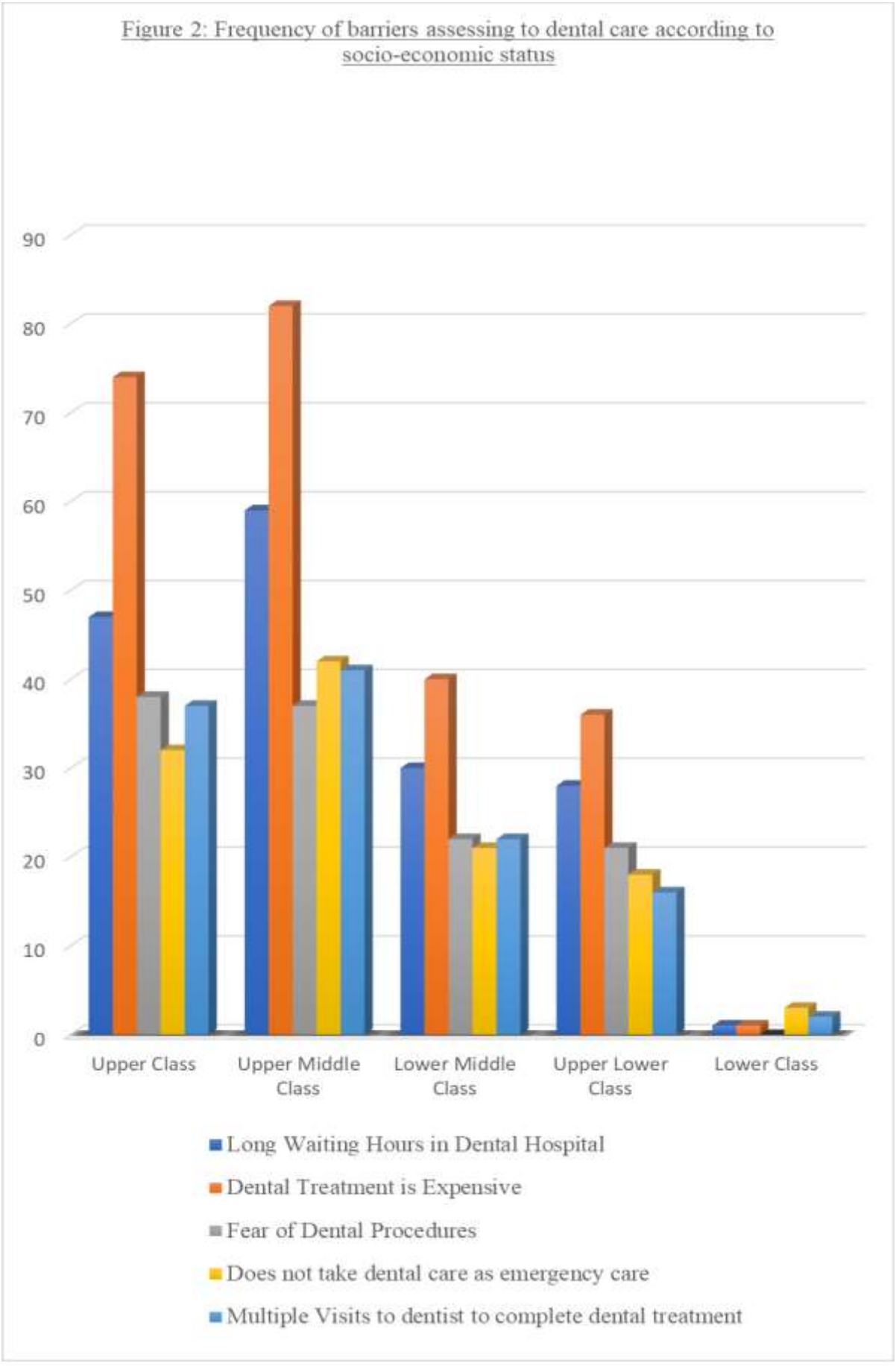

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Table 3: Showing responses to questions by the subjects classified under different socio-economic groups

Questions	Responses	Social Class I n (%)	Social Class II n (%)	Social Class III n (%)	Social Class IV n (%)	Social Class V n (%)	X^2 p-value
Have you ever undergone any dental treatment ?	Yes No	115 (50.4%) 113 (49.6%)	129(49.4%) 132(50.6%)	68(50.4%) 67(49.6%)	60(50.4%) 59(49.6%)	4(57.1%) 3(42.9%)	0.995 0.205
You go to the dentist only in case of unbearable pain or in case of emergency?	Yes No	186(81.6%) 42(18.4%)	210(80.5%) 51(19.5%)	105(77.8%) 30(22.2%)	106(89.1%) 13(10.9%)	4(57.1%) 3(42.9%)	0.069 6.700
Do you like to seek only expert / professional advice when you take dental treatment and you would not like to go to a dentist who does not have specialized qualification?	Yes No	176(77.2%) 52(22.8%)	207(79.3%) 54(20.7%)	106(78.5%) 29 (21.5%)	96(80.7%) 23(19.3%)	5(71.4%) 2(28.6%)	0.930 0.865
Do you think Patients are satisfied with the dental treatment given for what they pay?	Yes No	178(78.1%) 50(21.9%)	208 (79.7%) 53(20.3%)	106(78.5%) 29(21.5%)	87(73.1%) 32(26.9%)	6(85.7%) 1(14.3%)	0.670 2.360
Do you find dental treatment costlier?	Yes No	176(77.2%) 52(22.8%)	195(74.7%) 66(25.3%)	108(80.0%) 27(20%)	96(80.7%) 23(19.3%)	5(71.4%) 2(28.6%)	0.650 2.469
Do you think govt should implement health policy regarding dental treatment?	Yes No	222(97.4%) 6 (2.6%)	253(96.9%) 8(3.1%)	131(97%) 4(3%)	114(95.8%) 5(4.2%)	7(100%) 0(0%)	0.926 0.887
Inadequate government policies makes it difficult for you to take to oral health care?	Yes No	164(71.9%) 64(28.1%)	186(71.3%) 75(28.7%)	98(72.6%) 37(27.4%)	87(73.1%) 32(26.9%)	5(71.4%) 2(28.6%)	0.997

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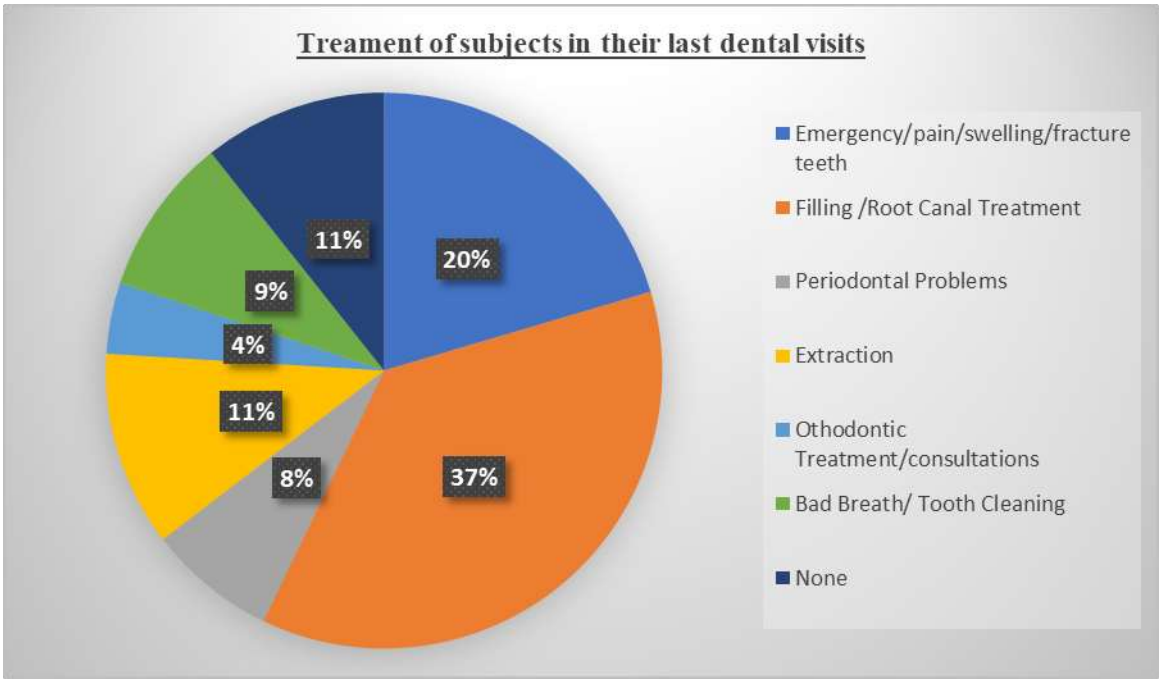
In this study 750 participants took part in study. according to the responses (shown in table 3) 85.3%(640) had gone to dentist for dental treatment rest 14.7%(110) has never undergone any dental treatment. Out of which there are 45.1%(337) participants felt that they go to dentist only in case of unbearable pain and 54.9%(410) thinks of going to dentist without any pain also. From these there are 94.8%(711) participants who think they should undergo dental treatment from the specialized qualified dentist and rest 5.2%(39) think they can go to normal dentist for their treatment.

About 32%(240) participants felt that they are satisfied with the treatment for what they pay and rest 68%(510) feels that they are not satisfied with the treatment for what they pay they find that treatment is costlier , around 94.9%(712) participants think that dental treatment is costlier and only 5.1%(38) thinks that treatment is not costlier. But 97.3%(730) people think that government should make policies in dental treatment to reduce their burden and make them ease for the treatment and 96.4%(723) participants think that inadequate government policies make difficult for the participants to take oral health care these in briefly classified according to kuppusawmy scale in table 3 which has test of significance it depicts that the values are not significant and it shows no co-realtion between dental care and kuppuswamy scale.

According to our survey these statistical analysis shows that which treatment subjects has taken in their last visit to dentist :-

Figure 3: Treament of subjects in their last dental visits



In this study 750 subjects took part in study according to the responses (shown in table 3) 85.3%(640) had gone to dentist for dental treatment rest 14.7%(110) has never undergone any dental treatment. Out of which 153(20.4%) have visited dentist for emergency/pain/swelling/fractured teeth. 275(36.7%) have visited dentist for Filling/ Root canal treatment. 56(7.5%) have visited dentist for periodontal problems. 85(11.3%) have visited for extraction. 31(4.1%) have visited for Orthodontic treatment/consultation. 69(9.2%) have visited for Bad breath/tooth cleaning. Rest 14.7%(110) has never undergone any dental treatment.

Discussion:

This study was conducted among subjects of different socio-economic status in India to assess barrier in

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dental care. Many of this studies have previously been reported in different literature about barrier faced in dental care in India and other countries, and this was the pioneer step taken to know the barrier to dental care.

This discussion is divide into 2 parts i) Barriers to all subjects ii) Factors to to seeking care influenced by different social class

Barriers to all subjects

When speaking of access to dental care today, we must consider both the availability of care and the willingness of patients to seek care (Guay, 2004). Participants who were generally satisfied with their oral health did not feel the need to utilize dental services irrespective of the presence of any pathology. The reason for the low utilization of dental services among older people is due to individual's perspectives and prior experiences with the health care system. [14]

Long waiting hours (29.5%) and multiple visits to the dental clinic (30.8%) are considered as major barriers Fear of dental procedure Fear of dental procedure (15.3%) was also a barrier for treatment. A study done by Elena Borreani et al. reported that fear of dental treatment and long waiting hours are associated. The anxiety or fear of treatment along with the sound of drill will give a negative perception in older people. This anticipation is build up during the waiting hours.[15] Mittal et al. also reported that older people are aware of the long waiting hours but they continue to visit the same dentist whom they have trust. It is the responsibility of the dentist to reinforce the need for the older person to have a trusting relationship.[16] Other studies showed that fear of dental injection, the sound of the drill and instruments constituted the barrier among the people. Avoiding dental care due to fear is a well-recognized phenomenon. Older people tend to avoid stressful situations and emphasis on dental literacy also plays a key role. Studies done by Kakatker et al., Ajayi et al. and Thomas S found that dental fear is related to dental attendance. [17,18,19]

Another important major barrier reported is dental treatment costing (31.06%). This result corresponds to the study done by Poduval et al., and many other authors. Dental care is predominantly provided by the private practicing dentists in our country and there are only a few hospitals in the public sector. [20]. The older people who have less income are finding it very difficult to afford dental care. Affordability is an important barrier in the utilization of services. The expensive nature of dental care has steadily remained a highly rated barrier to oral health care utilization worldwide particularly in developing countries with diminishing resources and lack of strong medical insurance.[21]

People usually take traditional remedies (salt, cloves, eucalyptus oil, etc.) to relieve tooth problems (76.9) [22]. People find dental care to be unaffordable and tend to manage with the available home remedy. This barrier has an association with the affordability of services. "Lack of time" and "Inaccessibility to dental care" are considerable barriers among the study population as most of the study participants work on daily wages and unorganized sector, visit the dentist might lose them a whole or part of their earnings for the day leading to a low dental attendance among the study population. Our results are similar to the studies conducted by Devaraj and Eswar and Jaafar et al. [17,23] Most of the studies had explained that pain was the most single concern of people. People tend to take treatment only in severe conditions like pain.[24,25].

Factors to seeking care influenced by different social class :-

The cost of dental treatment is the sum total of the consultation fee and treatment cost which may include laboratory charges and transportation costs if the clinic is located far away. Cost has undoubtedly been a major barrier in seeking appropriate heath care (Freeman,1999 a) Our study shows that Class I,II,III & IV major barrier is dental treatment is expensive. In India, the magnitude of out-of-pocket expenses on dental care is almost always 100% which is not the case in countries like the United States (Manski et al., 2002) and Australia (Marshall and Spencer, 2006) which have governmental or insurance support.

Our study identified insurance, age, and income as the three predominant predictors to experience cost barriers to dental care. Hence, this study confirms research emphasizing the crucial role of insurance and income to facilitate the utilization of, and access to, dental care [26-30].

In this study 750 participants took part in study. according to the responses (shown in table 3) 85.3% (640) had gone to dentist for dental treatment rest 14.7%(110) has never undergone any dental treatment.

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Around 94.9% (712) participants think that dental treatment is costlier and only 5.1% (38) thinks that treatment is not costlier. But 97.3%(730) people think that government should make policies in dental treatment to reduce their burden and make them ease for the treatment and 96.4%(723) participants think that inadequate government policies make difficult for the participants to take oral health care these in briefly classified according to kuppusawmy scale in table 3 which has test of significance it depicts that the values are not significant and it shows no co-realtion between dental care and kuppuswamy scale.

Conclusion:-

As there are no significant values and doesn't prove a co-relation between any barrier and dental care, but there are challenges faced by people in accessing dental care for that some policy makers or government policies have to bring affordable and accessible policies for people of every socio-economic group to reduce burden of disease and improve quality of life. The health system needs to be strengthened especially the primary health care centres with the need to include oral health programs and emphasis on health promotion.

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