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RESEARCH ARTICLE

IMPACT OF ORAL HEALTH CARE SERVICE QUALITY ON INTENTION TO ATTEND RECALL APPOINTMENTS AMONG ORAL PRE CANCER PATIENTS IN A DENTAL TEACHING HOSPITAL, INDIA.

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Abstract

Background: Early diagnosis and periodic follow up through recall appointments plays a vital role in the prevention of oral cancer. Quality of health care is one of the important determinants for patients' intention to attend recall appointments. The aim of this study is to assess the impact of oral health care service quality on intention to attend recall appointment among oral pre-cancer patients in a dental teaching hospital, India.

Materials and Methods: This study included sample of oral potentially malignant disorders (OPMD) patients who visited a dental teaching hospital for dental treatment between May and September 2024 based on inclusion and exclusion criteria. Quality of dental care and their intention to revisit were assessed using 25-item modifies SERQUAL questionnaire in local language. Internal consistency of each question was assessed with Cronbach's Alpha and hierarchical regression model was used to assess the predictors for revisit intention.

Results: A sample of 255 OPMD patients (173 males and 82 females) was participated in this cross-sectional study. Among the SERQUAL items for quality of oral health care provided, empathy got highest mean satisfaction rate 4.32±0.86 and tangibility got least score3.92±0.81. Regression model identified empathy and assurance were the key predictors for patients' intention for revisit.

Conclusion: Patients, who require long-term follow ups such as OPMD cases should be treated with empathy and assurance to encourage them to fulfill recall appointments and dental care personnel should be educated about role of empathy and assurance in patient satisfaction.

Keywords: *oral potentially malignant disorders, Dental care, oral cancer*

INTRODUCTION

Oral cancer is a major health problem in the Indian subcontinent, where it ranks among the top three types of cancer in the country [1]An age-adjusted rate of oral cancer in India is high, which is 20 per hundred thousand population and accounts for more than 30% of all cancers in India[2]. The variation in incidence and pattern of the disease can be attributed to the combined effect of aging of the population as well as regional differences in the prevalence of disease-specific risk factors [1].

Oral cancer is of significant public health importance to India. Firstly, it is diagnosed at later stages, which result in low treatment outcomes and considerable costs to the patients, who typically cannot afford this type of treatment[1]. Secondly, rural areas in middle- and low-income countries also have inadequate access to trained providers and limited health services. As a result, delay has also been largely associated with advanced stages of oral cancer[1]. Early detection of oral cancer offers the best chance for long term survival and has the potential to improve treatment outcomes and make healthcare affordable [3]. Thirdly, oral cancer affects those from the lower socioeconomic groups, that is, people from the lower socioeconomic strata of society, due to a higher exposure to risk factors such as the use of tobacco[1].Oral cancer will remain a major health problem, and efforts towards early detection and prevention will reduce this burden. Incidence of Cancer related deaths in several western countries has declined especially in the USA, due to preventive measures, early diagnosis, and the better availability of better treatment options[4]. A study conducted by Sankaranarayanan R et al found that early diagnosis and follow up for oral cancer in tobacco users for 15 years lead to a 24% reduction in mortality and a 38% decline in oral cancer incidence[5].Oral potentially malignant disorders (OPMDs) always precede oral cancer, and dentists can identify most of these lesions/conditions during routine oral examination, even though most of them are asymptomatic in the early stages. Reduced oral cancer-related morbidity and mortality can be attributed to early identification of these illnesses [6].

Oral potentially malignant disorders (OPMDs) are the clinical conditions or lesions that are known for their increased tendency to malignant changes and include Oral leukoplakia, Erythroplakia, Lichen planus, Proliferative verrucous leukoplakia, Oral sub mucous fibrosis, Lichenoid reactions, Smokers palate, Oral lupus erythematosus, Actnic chelitis, Dyskeratosis congenita, etc[7]. Among these, Oral leukoplakia, Oral sub mucous fibrosis, Oral lichen planus and Erthroplakia, were more common in the Indian population. Even though dentists can do early detection of these OPMDs, follow up of these patients was found to be a difficult process in treating such patients [7]. A 10-year follow up study conducted by Mehta FS et al. in Oral leukoplakia patients in Bombay reported that quality of the oral health care services was one of the major factors influencing patients compliance for follow up visits [8].

There is a paradigm shift in the delivery of oral health care services from a disease-centered approach to a holistic approach that is more patient-centered [9]. Under the disease-centered model, the knowledge of physicians and other medical professionals serves as the foundation for all choices on patient treatment. Furthermore, the majority of dental clinics see a higher proportion of outpatients who are not seriously ill or having any life-threatening health conditions [9]. In order for patients to select the dental clinic where they would like to receive their treatment, it is therefore vital to improve their intention to return for revisits and/or follow-up through patient-centered communication[9]. Beyond simple communication, appropriate doctor-patient interaction goes beyond that and gives patients information about their course of care based on understanding and empathy. By facilitating collaborative decision-making between doctors and patients, it may also guarantee efficient healthcare. As a result, healthcare professionals ought to give their services in a way that is focused on the patient [10]. Medical services that optimize patients' well-being while weighing the anticipated gains and losses over the course of therapy are referred to as high-quality healthcare services [11]. Based on the service outcome, service procedure, and physical environment, the quality of healthcare services is tailored to the patient's needs. It is often difficult for patients to assess the quality of a service before they actually receive it. In fact, unless a particular issue arises, it is challenging to evaluate the quality of a service even after it is rendered[11]. The notions of patient satisfaction, service quality, and the connection between service value and revisit intention have all been discussed a lot recently in scientific literature[11].Various studies about the quality of medical and dental services have been reported in the literature, and most of these studies used the SERVQUAL questionnaire, which includes five domains such as tangible items, reliability, responsiveness, assurance, and empathy. A study conducted by Wu JH, Lee KT et al. in which patient satisfaction about pre-anesthetic oral examination in a university hospital in Taiwan was assessed, and it was reported that reliability and responsiveness were

the two major domains that influenced patient satisfaction[11]. Another study reported from Saudi Arabia used an extended SERVQUAL questionnaire to assess the influence of quality of dental service on revisit intention of the patients. It was found that staff-related factors and responsiveness were the predictors significantly associated with revisit intention of 66% of the patients [12]. Nonetheless, the majority of these studies focus on patient satisfaction, medical service quality, and intention to revisit separately, and very few examine the relationship between them. Since dental services primarily include treatment for dental caries, implants, orthodontics, and oral care, it is crucial for dental clinics to determine the factors influencing patients' propensity to return for follow-ups and incremental care [13]. Patients typically continue their dental care in the clinics where they were initially treated since they need continuous management [13]. This study was intended to analyze the effect of different domains of the quality of service on patient satisfaction and its association with revisit intention in patients who are diagnosed with OPMDs, which requires long-term periodic monitoring. Therefore, the main objective of this study was to assess the impact of oral health care service quality on intention to attend recall appointments among oral pre-cancer patients in a dental teaching hospital, India.

MATERIALS AND METHODS

This cross-sectional study was conducted in the outpatient wing of oral medicine and radiology department of a dental teaching hospital in Coastal Andhra Pradesh, India, between May and September 2024. The study participants were selected from the patients who were diagnosed with oral pre-cancer (OPMDs = oral potentially malignant disorders).

Inclusion criteria:

- Patients who were diagnosed with any of the OPMDs based on clinical and histopathology.
- Patients who are above 18 years old.
- Patients who are mentally coherent. i.e., able to answer the questionnaire.
- Patients who gave voluntary consent to participate in this study.

Exclusion criteria:

- Patients who are unable to answer the questionnaire
- Patients who denied consent to participate
- Patients whose age was below 18 years.

No published literature about revisit intention among OPMD patients was available, and the sample size was calculated based on the approach proposed by Hair JF et al [14]. There were 25 items in the rating scale. i.e., 25x10 = 250, which is the minimum sample required to detect 10% of a significant difference with 80% power. Assuming 10% of non-response or unanswered participants, the sample size has been adjusted to 275, and finally 275 OPMD patients were approached to participate in this study. Every eligible participant who was diagnosed with OPMD and visited the OPD of the teaching hospital between May and September 2024 was included in this study without further sampling.

Data collection tool

This study used questionnaire in local language (Telugu) which was designed into two parts- first part of the questionnaire includes socio-demographic data of the participants and second part of the questionnaire was adopted from SERVQUAL questionnaire[15] with 3 additional questions about revisit intention. It included a total of 25- questions-among those 22 questions were from SERVQUAL questionnaire under 5 domains .i.e. Tangibility(4), Reliability(5), Responsiveness(4), Assurance(4), Empathy(5) and last three questions were about intention to attend recall appointments. Responses were measured using Likert scale (5= Strongly agree to 1= Strongly disagree). Designed questionnaire was evaluated by two expert faculty members who were not part of this study for its content, language and semantics. Final version of the questionnaire was pilot tested on twenty participants for its internal consistency [Cronbach's alpha score = 0.90] and further tested for Corrected Item Total Correlation(CITC) which got CITC score more than 0.40.Ethical approval for this study was obtained from Institutional Review Board prior to the data collection [SNRIDS/IEC/11/2024] and all procedures followed in this study were in compliance with Helsinki's declaration on Human research ethics. Participants who were eligible were explained about the objectives of this study, anonymity and confidentiality of the data. Informed consent was obtained from the OPMD patients who agreed to participate; questionnaires were distributed to them to fill and for those participants who cannot read (illiterates), and two dental receptionists read out questions for them.

Statistical analysis:

Collected data was analysed using statistical software for social Sciences (IBM SPSS statistics version 20, License Authorization Wizard. Ink, Chicago,USA). Initially, descriptive statistics such as frequencies, mean and standard deviation were calculated. Internal consistency of each question was assessed with Cronbach's Alpha and hierarchical regression model was used to test the association between dependent variable (revisit intention) and

independent variables. Multicollinearity was checked with Variance inflation analysis (VIF) and scores less than 10 were considered as nonexistence of multicollinearity.

RESULTS

Out of 275 patients approached, 255 agreed to participate, with a response rate of 92.7%. Among the participants, 67.84% were males and 32.16% were females. Out of these, 26.27 % belong to the 46-55 year age group, 27.85% of them were in the 56-65 year age group, and less than 10% were in each of the above 65 years and 18-25 year age groups. One-third of the participants have completed high school education, 7.45% were illiterates, and just 1.57% have completed a professional degree. Of 255 patients, 31.76% belong to the upper lower class, 30.59% belong to the lower middle class, and nearly 20% of them were in the lower class. Half of the participants (49.8%) were from rural areas, and the rest were from periurban and urban localities(table1).

Table1.Socio-demographic features of participants

Variable	Frequency (n)	Percentage (%)
AGE		
18-25	16	6.25
26-35	30	11.77
36-45	48	18.84
46-55	67	26.27
56-65	71	27.85
>65 years	23	9.02
Total	255	100
GENDER		
Male	173	67.84
Female	82	32.16
Total	255	100
EDUCATION		
No education	19	7.45
Primary school	62	24.31
Middle school	46	18.04
High school	76	29.80
Inter or diploma	21	8.24
Graduate	27	10.59
Professional	4	1.57
SOCIO-ECONOMIC STATUS		
Lower	53	20.78
Upper lower	81	31.76
Lower middle	78	30.59
Upper middle	32	12.55
Upper	11	4.31
AREA OF RESIDENCE		
Rural	127	49.80
Peri Urban	88	34.51
Urban	40	15.69

Oral leukoplakia is the most common type of OPMD present in 36.86% of the participants, followed by smoker's palate (21.18%), oral submucous fibrosis (16.08%), and oral lichen planus (13.3%), respectively (table 2).

Table 2 Frequency distribution of OPMDs in study participants

Type of OPMD	Frequency (n)	Percentage (%)
Oral leukoplakia	94	36.86
Oral submucous fibrosis	41	16.08
Oral lichen planus	34	13.33
Oral erythroplakia	18	7.06
Smokers palate	54	21.18
Actinic cheilitis	8	3.14
Other OPMDs	6	2.35

Study participants responses for the SERVQUAL and revisit intention questions were presented in Table 3. Mean response scores for each question and mean score for each domain were presented. Mean response scores for revisit intention were highest (4.21) among all domains, followed by assurance (4.18) and empathy (4.11). The mean score for the statement “I intend to continue attending recall appointments of this dental clinic” was highest among all, with a mean score of 4.30. The mean response score for tangibles was the least, with a mean score of 3.93,followed by a mean responsiveness score of 4.07, and the least score among all questionnaire items was given for the statement “Clinic staff gives timely service to dental patients," with a mean score of 3.68. The internal reliability scores for each factor measured with Cronbach’s alpha were also presented in the same table (table 3), and all the items displayed excellent reliability with alpha scores ranging from 0.80 to 0.92.Hierarchical multiple regression analysis was conducted to identify the predictors for revisit intention for recall appointments in OPMD pateints. Various assumptions for regression were tested prior to the regression analysis, such as linearity between the variables being checked with scatter plots, variance inflation factor index was used to test for multicollinearity, and all the variables included in the model met these two criteria. Model summary of the regression analysis was presented in Table 4. Only socio-demographic variables such as age, gender, education, socio-economic status, education, area of residence, and type of OPMD were included in Model 1, and these variables could predict just 8.2% (R^2 = 0.082) of revisit intention of OPMD patients for the same oral health care setting of a teaching hospital.

Table 3.Mean response scores for the questionnaire items

Domain	Question	Mean±SD	Cronbach's Alpha
Tangibles	The dental clinic has up to date dental care equipment.	3.88 (.76)	.84
	The dental clinic has good physical facilities and visually appealing.	3.91 (.65)	
	Clinic staff appears neat and professional appearance.	4.04 (.79)	
	The dental clinic has hygienic/ clean facilities.	3.92(.81)	
	Mean Score	3.93(.52)	
Reliability	The dental clinic provided their services as promised.	4.04(.80)	.83
	Clinic staff displayed earnest interest in addressing patients' problems.	4.00(.74)	
	The dental clinic provided right services	4.10(.69)	
	The dental clinic delivered their services at the time as they promised.	4.08(.76)	
	The dental clinic maintains accurate patient records.	4.10(.82)	
	Mean Score	4.09(.70)	
Responsiveness	The dental clinic provides correct information to patients about treatment schedules of patients	4.26(.81)	.86
	Clinic staff gives timely service to dental patients.	3.68(.77)	
	Clinic Staff willingness to help dental patients.	4.15(.83)	
	Clinic Staff gives prompt response to patient's request.	4.20(.71)	
	Mean Score	4.07(.68)	
Assurance	Patients feel safe while getting treatment in this dental clinic.	4.14(.79)	.92
	Patients can sense trustworthiness of dental staff.	4.18(.86)	
	Clinic staffs are polite at all times.	4.28(.80)	
	The dental clinic gives staff members' professional knowledge and skill training top priority.	4.14(.71)	
	Mean Score	4.18(.72)	
Empathy	The dental clinic pays proper attention to every individual dental patient.	4.25(.70)	.80
	The dental clinic treats each patient personally.	3.94(.72)	
	Clinic Staff are aware of specific needs of individual patients.	4.23(.81)	
	The dental clinic has convenient working hours for patients.	3.84(.74)	
	Clinic staff treats patients with respect and decorum.	4.32(.86)	
	Mean Score	4.11(.68)	
Revisit intention	I intend to continue attending recall appointments of this dental clinic for dental care.	4.30(.72)	.88
	I would recommend this dental clinic to my family members, relatives and friends.	4.26(.64)	
	I consider this dental clinic as my first choice in case if I need any dental treatment again.	4.08(.80)	
	Mean Score	4.21(.66)	

Table 4. Model summary of Hierarchical multiple regression

Model	R	R sqaure	Adjusted R square	Std. error	R square change	F change	df 1	df2	P value
1	0.328	0.065	0.049	0.522	0.082	0.924	5	56	0.326
2	0.846	0.716	0.682	0.302	0.745	20.068	5	54	0.000

Model 2 included additional 5 domains of the SERQUAL questions, such as tangibility, reliability, responsiveness, assurance, and empathy. Together, these variables in model 2 could predict 74.5% of the revisit intention, which is statistically significant [F = 20.068 and P = 0.000].

When test scores for individual variables were observed in Model 1 (Table-5), just gender was found to have a statistically significant influence on revisit decisions of study participants. Female respondents have higher revisit intention rates than male respondents [β = 0.446, t = 3.882, P = 0.000]. In model 2, none of the variables tested in model 1 were found statistically significant; just two SERVQUAL items- assurance [β = 0.214, t = 3.972, p = 0.000] and empathy [β = 0.466, t = 4.678, p = 0.000]-were found to have an impact on patients revisit decisions to the dental care settings of a teaching hospital. Among these two significant variables, empathy was a stronger influencer than assurance, as indicated by standardized values of regression coefficients [0.466 vs. 0.214].

Table 5. Hierarchical multiple regression analysis for variables predicting revisit intention

Predictor variables	Unstandardized coefficients		Standardized coefficients	Test value	P-value	Collinearity test values	
	B	SE				Tolerance	VIF
Model 1							
Constant	7.464	9.341		0.678	0.412	-	-
Age	0.125	0.118	0.136	1.163	0.264	0.946	1.076
Gender	0.452	0.111	0.046	3.882	0.000	0.876	1.140
Geographic area	0.107	0.098	0.106	1.028	0.226	0.910	1.015
Education	0.114	0.106	0.121	0.856	0.352	0.165	0.009
Socioeconomic status	0.136	0.122	0.134	0.924	0.478	0.870	0.150
OPMD type	0.116	0.162	0.093	0.644	0.502	0.932	1.023
Model 2							
Constant	38.93	8.348		6.782	0.000	-	-
Age	0.128	0.076	0.102	1.064	0.082	0.784	1.088
Gender	0.102	0.0683	0.109	1.462	0.138	0.688	0.084
Geographic area	0.091	0.066	0.085	1.233	0.188	0.675	0.078
Education	0.072	0.068	0.072	1.022	0.324	0.717	0.058
Socioeconomic status	0.174	0.060	0.178	.775	0.352	0.704	0.108
OPMD type	0.018	0.044	0.016	0.320	0.741	0.153	0.017
Tangibility	0.008	0.049	0.011	0.065	0.955	0.159	0.014
Reliability	0.017	0.060	0.078	1.175	0.442	0.794	0.178
Assurance	0.197	0.058	0 .214	3.972	0.000	0.037	0.174
Responsiveness	0.086	0.075	0.058	1.166	0.240	0.924	1.056
Empathy	0.258	0.057	0.366	4.678	0.000	0.624	0.194

The key objective of this study was to assess the impact of quality of oral health care services on intention to attend recall appointments among oral pre-cancer patients in a dental teaching hospital, India. This research identified the determinants of patients' decision to attend recall appointments and/or revisit intentions among the people who were diagnosed with some form of oral pre-cancer (OPMD), which is essential in secondary and tertiary prevention of oral cancer. Two most significant predictors for revisit intention of the patients identified in this study were empathy and assurance dimensions in dental care delivery. Empathy can be attributed to nearly 36% of the variation, and assurance can be attributed to 21.45% of the variation in patients' decision to attend recall appointments. These findings were similar to the study conducted by Luo JYN et al. from Hong Kong in which patient satisfaction about the dental services was influenced mainly by empathy, and 34.6% of the variation in satisfaction is explained by this factor [16]. Our findings were dissimilar to the study reported by Sharka R et al., in which authors explored the impact of service quality on revisit intention of dental patients in a university teaching hospital in Saudi Arabia, and it was found that three factors were responsible for nearly 67% of the variability: cost-effectiveness, responsiveness, and dental care

provider-related factors [12]. Another study reported by Park et al. from South Korea identified reliability and expertise of the doctors as the two leading factors influencing patient satisfaction [9].

Assurance is one of the factors reported by patients for satisfaction about dental services in this study. One of the potential reasons behind this might be the type of dental care required. i.e., follow-up for OPMDs and such patients represents less than 1% of dental patients in any typical dental care setting. It is not unusual for dentists or dental students to pay special attention to such patients because dental caries and periodontal diseases comprise the majority of their daily cases. In this study setting, both graduate and postgraduate students provide the majority of the dental care with the guidance of the dental faculty, and OPMD cases were predominantly dealt with by postgraduate students who are more experienced than graduate students. These findings were similar to the findings of a study conducted by Alshali RZ et al., where patient satisfaction about dental services provided in an undergraduate student clinic in a university teaching hospital in Saudi Arabia was found to be higher for patients who got treatment from final-year graduate students than others [17].

A study reported by Ismail NM et al. from Jordan about patient satisfaction about dental care provided by dental students identified explaining about treatment plans and addressing their concerns positively influencing patient satisfaction about dental services [18].

A study reported by Raman P et al. identified the three key factors that drive OPMD patients to attend follow-up visits as empathy, counselling, and good communication [19].

A scoping review reported by Arboleda LPA et al. about the impact of communication on long term clinical outcomes in patients who were diagnosed with Oral Potentially Malignant Disorders, study findings revealed that poor communication is one of the factors that drive the patients not to seek health care till malignant transformation of OPMDs [20].

Another significant finding of this study was that empathy has a positive impact on the OPMD patients revisit decisions. This factor contributes to nearly 36% of the variation in revisit intentions of the study participants. These findings were similar to the study conducted by Rai NK et al. at a university veteran hospital in the USA; among the SERQUAL domains answered by patients about their satisfaction with dental care, 83% of the patients rated empathy as the most common reason for patient satisfaction, which is statistically significant [21]. This research finding was dissimilar to the study findings of Rocha et al. from Brazil, where patients identified tangible items and staff-related factors as the main factors influencing their satisfaction about dental services, and least importance was given to reliability[22].

The mean response scores for SERVQUAL domains were high in this study, indicating that OPMD patients' satisfaction about the dental services provided in this dental care setting and their intention to attend recall appointments. Among the domains, tangibles got the least patient satisfaction score, which is similar to the study reported by Sharka et al [12] from Saudi Arabia, where patients who visited a university dental hospital rated tangibles and responsiveness as the least. This can be explained by the differences in the private dental settings and teaching hospitals. In a typical private setting, patient care is the only activity provided in a single room/chamber, whereas in a teaching hospital, patients need to follow various sections or departments of a hospital, such as the opening of patient files, diagnosis, presentation of treatment plans, and approval of faculty. To overcome this kind of time lag in providing patient care, many dental teaching hospitals in India were switching towards concept comprehensive dental care units under one roof to minimize the variations between private dental care and teaching hospital settings. However, it is demanding to maintain the balance between academic activity and patient-oriented care because the main priority of a dental teaching hospital is teaching, and most of the patients were aware of this fact.

This study has few limitations. Firstly, this study was conducted in a single dental teaching hospital; the study sample may represent only a limited geographic area, and the generalizability of the study findings should be done with caution. Second, this study used a convenient sampling technique because OPMD patients cannot be drawn randomly from the general population. However, this selection bias is minimized by the fact that investigators have no role in who is visiting this dental care setting, and every patient who met inclusion criteria during the study period was invited to participate in this study without any discrimination. Lastly, we estimated the intention to attend recall appointments. The intention to revisit is a dynamic concept [12]; it may vary with time and other factors such as the general health of the patient, and future longitudinal studies may provide more accurate information.

The key recommendations of this study should be about empathy and assurance, which have a considerable impact on the revisit intention of the OPMD patients. Thus, dental care providers should be aware of the importance of these factors. Dental

students also should be sensitized about the importance of empathy and assurance during their clinical training.

CONCLUSION

To conclude, the findings of this study highlight two factors: empathy and assurance were the major dental service quality items that significantly impacts patients' intention to attend recall appointments/revisit intentions. The mean satisfaction scores of all SERQUAL domain scores indicate that the services provided in this dental care setting were close to the patients' expectations. However, some improvements are needed in tangible items in patient care for further improvement in the quality of oral health care for oral pre-cancer patients.

DECLARATIONS

Conflicts of interest and financial disclosures

The author declares that he has no conflict percent and there was no external source of funding for the research in question.

Ethical approval

The study was approved by the Institutional Ethics Committee and was conducted in accordance with the Declaration of the World Medical Association.

Informed consent

Informed consent was obtained from all individual participants included in the study.

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REFERENCES

1. Coelho KR. Challenges of the oral cancer burden in India. J Cancer Epidemiol. 2012; 2012:701932. doi: 10.1155/2012/701932.
2. Mathur P, Sathishkumar K, Chaturvedi M, Das P etal; ICMR-NCDIR-NCRP Investigator Group. Cancer Statistics, 2020: Report From National Cancer Registry Programme, India. JCO Glob Oncol.2020;6:1063-1075.doi: 10.1200/GO.20.00122.
3. Hertramp K, Jürgensen M, Wahl S, Baumann E, Wenz HJ, Wiltfang J, Waldmann A. Early detection of oral cancer: a key role for dentists? J Cancer Res Clin Oncol. 2022;148(6):1375-1387. doi: 10.1007/s00432-022-03962-x
4. Jemal A, Thun MJ, Ries LA, Howe HL etal. Annual report to the nation on the status of cancer, 1975-2005, featuring trends in lung cancer, tobacco use, and tobacco control. J Natl CancerInst.2008;3;100(23):1672-94. doi: 10.1093/jnci/djn389.
5. Sankaranarayanan R, Ramadas K, Thara S, Muwonge R, Thomas G, Anju G, Mathew B. Long term effect of visual screening on oral cancer incidence and mortality in a randomized trial in Kerala,India.Oral Oncol.2013 ;49(4):314-21.doi: 10.1016/j.oraloncology.2012.11.004
6. Warnakulasuriya S. Oral potentially malignant disorders: A comprehensive review on clinical aspects and management. Oral Oncol. 2020 Mar;102:104550.doi: 10.1016/j.oraloncology.2019.104550
7. Warnakulasuriya S, Kujan O, Aguirre-Urizar JM, Bagan JV etal. Oral potentially malignant disorders: A consensus report from an international seminar on nomenclature and classification, convened by the WHO Collaborating Centre for Oral Cancer. Oral Dis. 2021;27(8):1862-1880. doi: 10.1111/odi.13704.
8. Mehta FS, Shroff BC, Gupta PC, Daftary DK. Oral leukoplakia in relation to tobacco habits. A ten-year follow-up study of Bombay policemen. Oral Surg Oral Med Oral Pathol. 1972;34(3):426-33.doi:10.1016/0030-4220(72)90319-2.
9. Park S, Kim HK, Choi M, Lee M. Factors affecting revisit intention for medical services at dentalclinics.PLoSOne.2021;4;16(5):e0250546.doi: 10.1371/journal.pone.0250546.
10. Rocha J, Pinto A, Batista M, Paula JS, Ambrosano G. The importance of the evaluation of expectations and perceptions to improve the dental service quality. Int J Health Care Qual Assur.2017;10;30(6):568-576.doi: 10.1108/IJHCQA-01-2016-0008.
11. Wu JH, Lee KT, Cheng KI, Du JK, Lee CY. Patient perception of service quality to preanesthetic oral examination: a cross-sectional study using the SERVQUAL model. BMC Oral Health. 2024;22;24(1):120. doi: 10.1186/s12903-024-03853-2.
12. Sharka R, Sedayo L, Morad M, Abuljadayel J. Measuring the impact of dental service quality on revisit intention using an extended SERVQUAL model. Front Oral Health. 2024;12;5:1362659. doi: 10.3389/froh.2024.1362659.

13. Ebn Ahmady A, Pakkhesal M, Zafarmand AH, Lando HA. Patient satisfaction surveys in dental school clinics: a review and comparison. J Dent Educ. 2015 ;79(4):388-93.
14. Hair JF Jr, Hult GT, Ringle CM, et al.: A primer on partial least squares structural equation modeling (PLS-SEM). Sage publications; 2nd ed.2017
15. Parasuraman A, Zeithaml VA, Berry LL. SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality. J Retail. 1988;64:12–40.
16. Luo JYN, Liu PP, Wong MCM. Patients' satisfaction with dental care: a qualitative study to develop a satisfaction instrument. BMC Oral Health.2018;18:15.doi:10.1186/s12903-018-0477-7
17. Alshali RZ, Mustafa RM, Bukhary DM, Almuntashiri AA, Alshamrani ZK, Albalushi OM. Assessment of the Satisfaction of Patients Treated by Undergraduate Dental Students at a Saudi Government University: A Cross Sectional Study. Clin Cosmet Investig Dent. 2024;19;16:13-23.doi: 10.2147/CCIDE.S449942.
18. Ismail NH, Alzer H, Algurini AH, Alsawalhi DH, Mahmoud SJ, Abu Hait SM, Alsoleihat F. Patients satisfaction with the dental treatment provided at the University of Jordan's student clinics. Eur J Dent Educ. 2024 ;28(1):287-291. doi: 10.1111/eje.12947
19. Raman P. Communication, Counseling and Compassionate Care: The least explored and challenging Palliative Care approaches among Primary Care Physicians - Clinical Case series of Oral Potentially malignant disorders in Tamil Nadu. J Family Med Prim Care. 2021;10(1):572-577.doi: 10.4103/jfmpc.jfmpc_1502_20
20. Arboleda LPA, Pereira TCE, Epstein JB, Migliorati CA, Warnakulasuriya S, Diniz-Freitas M, Lopes MA, Santos-Silva AR. Clinical and Psychosocial Impact of Communication about Oral Potentially Malignant Disorders: A Scoping Review. Dent J (Basel). 2023;4;11(9):209. doi: 10.3390/dj11090209.
21. Rai NK, Tyrrell H, Carey C, Tiwari T. Patient perceptions in quality of care: report from university veterans clinic. BMC Oral Health. 2019;19(1):268.doi:10.1186/s12903-019-0971-6.
22. Rocha J, Pinto A, Batista M, Paula JS, Ambrosano G. The importance of the evaluation of expectations and perceptions to improve the dental service quality.Int J Health Care Qual Assur.2017;10;30(6):568-576.doi: 10.1108/IJHCQA-01-2016-0008.