Patient satisfaction in specialized Dental Healthcare Centers in Baghdad

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ABSTRACT

The assessment of patient satisfaction has been widely recognized as a crucial element in evaluating health outcomes, and the overall quality of healthcare. The current research included individuals who sought medical services at the specialized dental healthcare facility located in Baghdad in cross-sectional descriptive research. The research was conducted, using a pre-designed questionnaire on 334 patients who were selected randomly. The results obtained from the current research revealed that patients typically respond favorably to the quality of general practice care. However, some areas related to clinical conduct and care organization need improvement.

Keywords: - Patient, Satisfaction, Dental, Healthcare Centers, Baghdad.

INTRODUCTION

In Iraq, the usage of healthcare services has seen an upward trend due to several factors, such as an aging population and fast economic and demographic expansion. As a result, there is a need to reevaluate and modify the structure and function of the healthcare system to address the increasing demands [1] effectively. The Sustainable Development Goals (SDGs) in the United Nations emphasize the importance of ensuring that the access to healthcare services is achieved reasonably for the well-being of all people [2,3]. Nevertheless, there are variations in healthcare consumption based on several factors such as socioeconomic factors, especially in low- and middle-income countries (LMICs) [1] which have an increase in the frequencies of multi-morbidity, strongly linked to disability, early mortality, unplanned hospital admissions, and substantial financial burdens. The importance of primary care in solving this problem has been proved [4]. Nevertheless, to achieve optimal primary care outcomes, the healthcare system must serve as individuals' first point of contact, providing patient-centered, comprehensive, and uninterrupted treatment on a broad scale [5,6]. Consequently, several nations have initiated healthcare system reforms that prioritize enhancing primary care services.

The protracted duration of warfare, wars, economic sanctions, and violence spanning more than forty years has significantly contributed to the degradation of Iraq's healthcare infrastructure and the persistence of environmental risks. Consequently, these factors have led to unfavorable health outcomes among the Iraqi population [7]. Non-communicable diseases, such as cardiovascular diseases, cancer, diabetes, and chronic lung diseases, are the primary cause of mortality in Iraq, constituting 62% of all recorded deaths. In comparison to neighboring countries such as Jordan and Iran, where non-communicable diseases account for 76% and 77% of total deaths, respectively, Iraq exhibits a lower prevalence of such diseases [8-10]. Nevertheless, it is worth noting that a significant proportion of non-communicable deaths among Iraqis, namely those in the prime working age group, exceeds 20%. In comparison, the corresponding figures for Jordan and Iran are 20% and 17%, respectively. This disparity has consequential implications on both the economic and social fronts [11].

There has been a significant revolution in Iraq healthcare system in recent decades. This transformation has included a shift in the delivery of health services, moving away from a focus on curative and hospital-based treatment towards a greater emphasis on preventative care. This movement has been facilitated by establishing and using primary health clinics (PHCs) [12]. Two distinct types of Primary Health Centers (PHCs) exist: major PHCs and minor subcenters. The structural differences between these entities are contingent upon their geographical placement, whether urban or rural [13]. Primary healthcare centers (PHCs) provide health services at a reduced fixed cost. Nevertheless, some health services are free of charge to specific demographics, including preventative healthcare and maternity, neonatal, and child health (MNCH) services.

Individuals 60 years of age and older, and other qualifying individuals, are also entitled to a remission of fees. The referral cost exemption is possible if the recommendation originates from a primary healthcare center (PHC) and is directed towards a referral hospital's services [14]. Nevertheless, the insufficient allocation of healthcare resources, insufficient financial support, a scarcity of physicians, and a restricted supply of medications have led to restricted healthcare accessibility, giving rise to notable regional disparities in health outcomes [15]. In Iraq, the number of doctors and nurses/midwives per 10,000 individuals stands at 9.7 and 23.8, respectively, falling below the minimum thresholds recommended by the World Health Organization (WHO) [16–18]. Furthermore, it is worth noting that the Ministry of Health and Environment, hereafter referred to as the Ministry of Health, functions on a budget allocation equivalent to one-twelfth of its usual funding [19].

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According to the World Health Organization (WHO), around 100 million persons are annually driven into poverty worldwide due to the financial burden of out-of-pocket expenses for healthcare services [20]. In the Middle East, Iraq's spending on health is considered as the lowest among other countries, with only 154 USD in 2015. This low healthcare funding is considered the main cause of substandard health services, leading to more significant financial strain on Iraqis. According to estimates, Iraqis financial contribution reached about 70% of the total cost of services received. At the same time, the World Health Organization (WHO) advised a reduction of less than 30%; to protect individuals from the decline in their socioeconomic status that they may experience at a higher level of financial contribution, as in Iraq [11]. Based on recent research of the 2021 Legatum Prosperity Index, the health pillar score in Iraq, which evaluates the population's health and the availability of healthcare systems, showed a slight increase from 63.8 in 2011 to 65.5 in 2021. Despite that, country's ranking declined from 108th to 113th out of 167 countries. Moreover, it is essential to know that Iraq's position in the Middle East and North Africa (MENA) area was also low, representing the 18th out of 19 nations [21].

Health service usage refers to measuring outpatient visits per individual per year, considering whether these visits are made to public or private healthcare facilities. This measurement is further classified according to several factors, including the type of clinics, geographies, age groups, and gender [22]. The usage of health services is documented as a critical metric on the Global Reference List, which the World Health Organization created in collaboration with field experts. This list comprises 100 fundamental health indicators that may be tracked and assessed to gauge nations' adherence to the Sustainable Development Goals. Furthermore, the consumption of health services indicates the accessibility and effectiveness of healthcare systems [22,23].

Furthermore, it is seen as the culmination of efforts to pursue optimal health [24]. The conceptual framework proposed by Levesque et al. 2013, conceptualizes use as the manifestation of access that has been effectively accomplished, facilitating its straightforward quantification. They demonstrated that achieving the conceptual framework of access to health care relies on integrating five key components, which include acceptability, approachability, availability and accommodation, affordability, and appropriateness. Levesque and his colleagues (2013) also demonstrated that five additional components may affect access, including the capacity to perceive, the capacity to seek, the capacity to reach, the capacity to pay, and the capacity to participate [25]. These components are further assembled by the socioeconomic determinants of health [26].

The current research aims to provide an overview of the utilization of health service in Iraq, focusing particularly on the utilization of health care services that offered by specialized dental centers in Baghdad. The present work also aimed to highlight the geographical variations in the utilization of these services and elucidate the factors that may cause unequal access and utilization of health services. Another objective of this research is to evaluate the extent to which the usage of healthcare services in public dental clinics align with the framework proposed by Levesque et al. This work also provides insights into potential areas for determining and solving gaps and bottlenecks in delivering health services.

MATERIALS AND METHODS

Study design and Setting:

This study is a cross-sectional descriptive investigation conducted in public specialized dental healthcare institutions in the Baghdad District. A locally customized questionnaire was used for data collection. The sample was derived from a population of individuals who had medical treatment as inpatients in public dental clinics, and outpatients from specialized dental healthcare facilities and consultation departments in those public clinics. The inclusion criteria for patients in the trial were as follows. This study includes the following criteria for participant selection: (1) individuals who are 18 years of age or older; (2) individuals who are aware and oriented to time, person, and location; (3) individuals who have been admitted as inpatients for at least one time to the dental center; and (4) individuals who have received medical treatment immediately before to the interview, limited to outpatients.

Sampling method

The research included a cohort of 334 participants selected via the convenience sample method. The proportions of girls (48.2%) and boys (51.8%) in the System in the year 2016 were determined using a sample size calculator [27]. The approximate population size of the Baghdad District is believed to be around 8.4 million people. The sample stratification was conducted by considering the patient volume of healthcare providers and the frequency of patient visits to specialized dental services.

Questionnaire

The research used a modified version of the third-generation Patient Satisfaction Questionnaire (PSQ-III) as the primary instrument. The Patient Satisfaction Questionnaire, first created by Ware, Snyder, and Wright in 1976 a,b, served as the basis for developing SQ-III by Hays et al. under the auspices of the National Center for Health Services Research (NCHSR). The first questionnaire consisted of 51 questions, formulated as assertions of opinion. Subsequently, the questionnaire underwent modifications, including removing some items and adding a few others. The revised questionnaire consisted of a total of 39 questions. Three answer categories accompany each topic: agree, unsure, and disagree. Each response is evaluated on a scale from 1 to 3, based on the extent to which the item represents a favorable or unfavorable attitude toward medical treatment [28].

The Modified Patient Satisfaction Questionnaire-III (PSQ-III) consists of 39 questions that assess seven distinct multi-item subscales or components. These subscales include

overall satisfaction, technical quality, interpersonal factors, communication, financial aspects, time spent with the dentist, and access/availability/convenience.

The questionnaire was translated into Arabic to facilitate communication and data collection. Despite the questionnaire's prior establishment of reliability and validity, it underwent retesting via pilot research with 334 patients. Subsequently, some modifications were made to the terminology of certain terms and sentences to enhance patient comprehension.

Data collection method:

All participants had interviews conducted by registered nurses who had received formal education from accredited nursing programs. These nurses were either currently working or had just graduated from medical institutions. The interviews were conducted in person, using direct face-to-face interactions. The data collection period spanned from November 1st to December 30th, 2022, lasting a total of two months. The interviewers underwent training in data collection techniques and accurate questionnaire completion.

The demographic variables that were taken into account were age and gender. The collection of personal information from participants was not conducted, and measures were used to ensure the confidentiality of the data submitted. The researchers got authorization from the Baghdad Health Directorate to expedite the collection of data. Verbal informed permission was obtained from each participant.

The application of the 39-item questionnaire was found to be limited across various healthcare settings due to contextual differences and variations in the questions posed. As a result, a selection process was employed to identify five types of statements tailored to each specific healthcare setting. However, it was observed that approximately 75% of the statements were consistent and applicable across all five groups, indicating a shared core of questions. Conversely, the remaining 25% of statements were found to be specific to the healthcare provider being assessed.

Consequently, five distinct copies were generated, each containing carefully chosen statements. These statements were specifically picked to ensure that the interviewer only inquired about and obtained responses from the patients on the designated statements.

After data collection, the replies were encoded, and a quantitative analysis was conducted using descriptive statistics, calculating every variable percentage and determining each sub-scale satisfaction. The demographic data were subjected to descriptive statistical analysis, including calculating frequencies, percentages, means, and standard deviations (SDs).

The researcher formulated the following hypotheses for the investigation. Patient satisfaction with medical treatment on the periphery of the District is relatively low.

The findings were analyzed using SPSS version 18. The Pearson Chi-square test assessed the statistical significance of the relationship between socio-demographic variables and satisfaction rates for each sub-scale, considering p-value significance.

RESULTS

The present research consisted of a sample of 334 patients, with a response rate of 100%. Figures 1 and 2 provide a detailed depiction of age characteristics. The study participants' age range spanned from 18 to over 40 years old, with a mean age of 29. A total of 72.5% of the patients in the study were below 40, while only 27.5% were 40 years old and beyond. The chi-square test yielded significant results for both males ($\chi^2 = 8.436^*$, $p < 0.05$) and females ($\chi^2 = 37.371^{**}$, $p < 0.001$). Figure 3 and 4 provide a detailed breakdown of the number of reviews for specialist dental healthcare among males and females. The chi-square test results indicate that there is no significant difference in the number of reviews between males and females in Figure 3 ($\chi^2 = 2.866$, $p > 0.05$), but in Figure 4, there is a significant difference ($\chi^2 = 11.171$, $p < 0.01$).

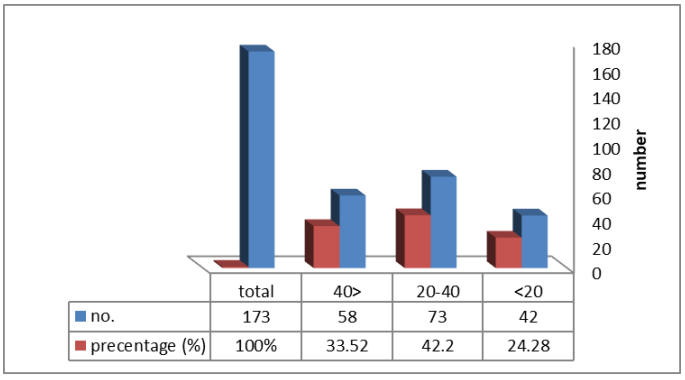

Figure (1): Male Age Group Distribution

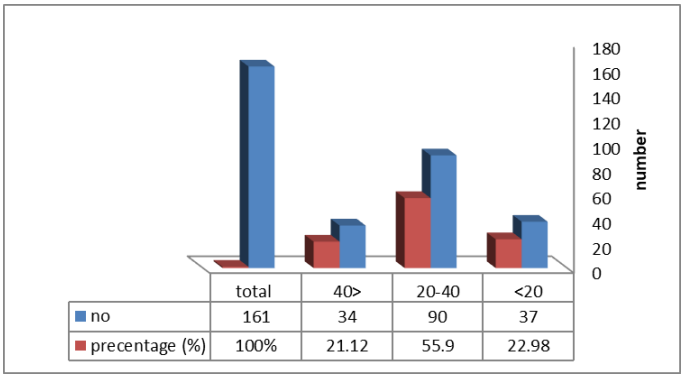

Figure (2): Female Age Group Distribution

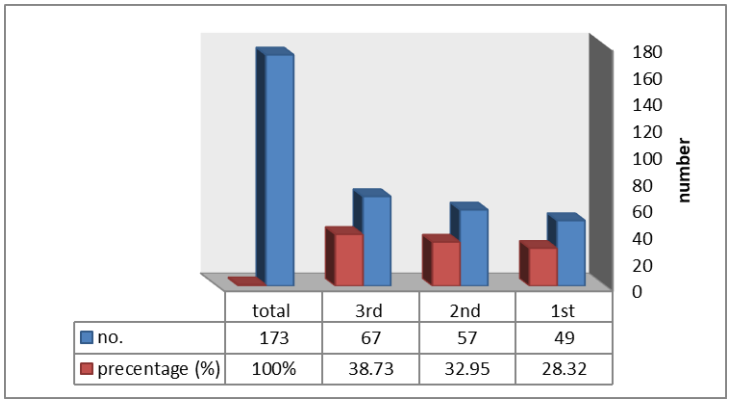

Figure (3): The number and percentage of the survey sample studied according to the number of reviews of male (1st visit, 2nd visit, 3rd visit).

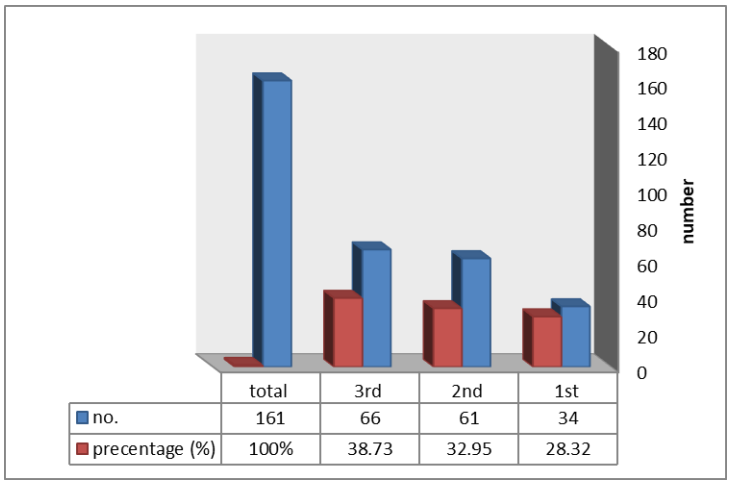

Figure (4): The number and percentage of the survey sample studied according to the number of reviews of female (1st visit, 2nd visit, 3rd visit).

Table 1: Male satisfaction with dentists' performance in clinical dental services.

	agree	Non opinion	Disagree	P-value	SD±	Rank
The availability of enough dentists in the center	165	4	4	**	2.93 ±0.31	1
The dentists' commitment to being on time and punctuality	152	15	6	**	2.84 ±0.26	2
Ability of listening to the patients and empathize with them	152	13	8	**	2.83 ±0.26	3
Providing clear explanation for the patient before treatment and give them post-treatment instructions	140	24	9	**	2.76 ±0.23	4
Dentist's clinical competence in performing the dental procedure at the designated time frame	135	30	8	**	2.73 ±0.28	5
LDS (T-test)	---	---	---	---	0.398 NS	---

Table 2: Female satisfaction with dentists' performance in clinical dental services.

	agree	Non opinion	Disagree	P-value	SD±	Rank
The availability of enough dentists in the center	150	7	4	**	2.91 ±0.45	1
The dentists' commitment to being on time and punctuality	146	11	4	**	2.88 ±0.37	2
Ability of listening to the patients and empathize with them	141	10	10	**	2.81 ±0.41	4
Providing clear explanation for the patient before treatment and give them post-treatment instructions	142	17	2	**	2.87 ±0.32	3
Dentist's clinical competence in performing the dental procedure at the designated time frame	128	27	6	**	2.76 ±0.36	5
LDS (T-test)	---	---	---	---	0.402 NS	---
**** (P≤0.01) high signification**						

Table 3: Male satisfaction with dental assistants' performance in clinical dental services

	agree	Non opinion	Disagree	P-value	SD±	Rank
The availability of enough dental assistants in the center	115	35	23	**	2.53 ±0.24	2
The speed of response of dental assistant to the patients' needs	132	30	11	**	2.70 ±0.38	1
The use of modern dental devices and instruments	99	47	27	**	2.42 ±0.25	4
The availability of all the needed dental materials and instruments	100	44	29	**	2.41 ±0.19	5
The infection control protocol monitoring (availability of bagged sterile instruments, air/ water barriers, disposable bibs, cups and suction tips, and the cleanliness of the facility	104	42	27	**	2.45 ±0.26	3
LDS (T-test)	---	---	---	---	0.438 NS	---
**** (P≤0.01) high signification**						

Table 4: Female satisfaction with dental assistants' performance in clinical dental services

	agree	Non opinion	Disagree	P-value	SD±	Rank
The availability of enough dental assistants in the center	104	39	18	**	2.53 ±0.39	3
The speed of response of dental assistant to the patients' needs	114	34	13	**	2.63 ±0.44	1
The use of modern dental devices and instruments	90	48	23	**	2.42 ±0.34	5
The availability of all the needed dental materials and instruments	109	27	25	**	2.52 ±0.40	4
The infection control protocol monitoring (availability of bagged sterile instruments, air/ water barriers, disposable bibs, cups and suction tips, and the cleanliness of the facility	106	38	17	**	2.55 ±0.35	2
LDS (T-test)	---	---	---	---	0.416 NS	---
**** (P≤0.01) high signification**						

Table 5: Male satisfaction with primary healthcare settings in clinical dental services

	agree	Non opinion	Disagree	P-value	SD±	Rank
The patient's overall satisfaction to the treatments results	106	56	11	**	2.55 ±0.35	3
Getting the patient fast service in case of emergencies	116	46	11	**	2.61 ±0.42	2
Caring about the sterilization and hygiene in the center	122	38	13	**	2.63 ±0.34	1
LDS (T-test)	---	---	---	---	0.291 NS	---
**** (P≤0.01) high signification**						

Table 6: Female satisfaction with primary healthcare settings in clinical dental services

	agree	Non opinion	Disagree	P-value	SD±	Rank
The patient's overall satisfaction to the treatments results	99	47	15	**	2.52 ±0.31	3
Getting the patient fast service in case of emergencies	115	40	6	**	2.67 ±0.27	2
Caring about the sterilization and hygiene in the center	121	29	11	**	2.68 ±0.35	1
LDS (T-test)	---	---	---	---	0.293 NS	---
**** (P≤0.01) high signification**						

The data analysis in this study, titled "Patient Satisfaction in Specialized Dental Healthcare Centers in Baghdad," involved the utilization of the Statistical Analysis System [29]. The study's objectives were to examine the relationships between the independent factors and the paragraphs within the three axes of the questionnaire. Statistical tests such as the Least Significant Difference (LSD), T-test, and F-test were used to determine significant differences. Additionally, the percentages were compared using the Chi-Square ($\chi 2$) test, which involved calculating the ratio of a part to the whole and multiplying by 100.

The rating for each paragraph was established by multiplying the numerical values assigned to each response by the corresponding weight assigned based on the level of agreement (agree = 3, no opinion = 2, disagree = 1). The resulting values were then divided by the total and placed in descending order.

This study examines patient satisfaction with medical care at Clinical Dental Services. Tables 1 and 2 present males' and females' satisfaction with dentists' performance, respectively. Tables 3 and 4 present males' and females' satisfaction with dental assistants' performance, respectively. Tables 5 and 6 present males' and females' satisfaction with primary healthcare settings, respectively. All tables mentioned below exhibited a high level of statistical significance, with a p-value (P≤0.01).

DISCUSSION

The findings of this study indicate that at least 50% of the patients expressed satisfaction with the dental treatments provided. Additionally, it was disclosed that the primary determinants influencing satisfaction include the performance of dentists, the clinical environment, and the accessibility and reception area. Furthermore, it has been disclosed that as individuals get older, their satisfaction with dental treatments tends to decline.

The satisfaction of patients with healthcare services is a crucial part of healthcare that may be enhanced by appropriate assessment and understanding of its status, as well as the identification of the key influencing variables. A previous study was conducted by Ali, who investigated the level of patient satisfaction with dental treatment and demonstrated that the primary determinants of satisfaction with dental services are the performance of the dentist and the clinical environment. The study also showed a negative correlation between the age of the patients and satisfaction with dental treatments, with a decline in this satisfaction beyond the age of 39 years. In conclusion, the results of this study indicate that patients express the lowest level of satisfaction with the accessibility to dental services. Therefore, it is recommended that more interventions be implemented to solve the dental services accessibility problem [30]. Ali's study's results are consistent with the present work's findings.

The current body of information shows variability in establishing a conclusive relationship between age and satisfaction level with dental treatment. Several researches have shown a positive correlation between age and satisfaction with dental treatments, implying that as individuals become older, their contentment tends to rise. Conversely, some studies have proposed that younger populations' satisfaction levels are comparatively greater. The presence of these paradoxes may be ascribed to a multitude of factors. In research done by Gurdal et al., a population characterized by a high level of education (74.7%) was examined. This study's findings indicated no discernible correlation between age and the level of pleasure individuals experience with dental services [31]. The participants in Gurdal et al. study included individuals aged 20 to 40 years, while in our research, a broader spectrum of patients was examined. In contrast, research conducted by Eslamipour et al. examined a population with a comparable age range to the current study and found that satisfaction levels with dental treatments tend to be greater among younger individuals than older individuals. Furthermore, there is a direct correlation between the satisfaction level of patients and other factors, including the performance of the dentist, the clinical environment, the accessibility of the facility, and the reception area. Based on the coefficient derived from the study, the clinical environment and accessibility significantly influence satisfaction. A majority of patients, 65.5%, expressed a preference for a clinical environment that provided satisfaction. In contrast, a somewhat lower percentage of patients, specifically 55.7%, indicated a need for improved accessibility. Hence, it is essential to prioritize the accessibility of dental treatments [32].

In this study, the satisfaction rate is significantly lower than that of industrialized nations [33, 34]. In contrast, the findings of our study analysis demonstrated similarities to a study done by Eslamipour et al. in Iran, where a comparable result of 53.0% was seen. The disparity in the quality of dental care offered in developing and developed nations is evident via the comparatively lower level of satisfaction expressed by individuals. Hence, it is essential to expedite developing and enhancing the services supplied inside these communities [32].

The research conducted in Greece by Karydis et al. found that adherence to health procedures and sterilizing principles is the most influential element in patients' satisfaction. Within the scope of this study, which was conducted in a clinical environment, a significant factor that substantially impacted the overall satisfaction level was the concern for sterilization and cleanliness practices inside the facility. Therefore, the increase in cleanliness and disinfection standards is the most crucial component in potentially enhancing patient happiness, which assures the demand for improving healthcare services [35].

CONCLUSION

The current study results concluded that individuals subjected to the study expressed a high level of satisfaction with the provided dental treatments. The Satisfaction score toward dental services was several factors, including the performance of dentists, the clinical environment, the accessibility of the facility, and the quality of the reception area. Additionally, it was demonstrated that there was a negative correlation between the level of satisfaction with dental care and advancing age. Enhanced focus is required to improve the quality of dental treatments in emerging nations.

Primary healthcare plays a crucial role in the pursuit of justice and efficiency in the healthcare system, serving as an essential tool in realizing universal health coverage (UHC) by the year 2030. Therefore, it is necessary to reorganize and modernize dental healthcare centers. To effectively address the variables impacting the use of specialized dental centers in Iraq, it is imperative to prioritize collaborative activities that specifically target facility-related aspects.

LIMITATIONS

This research findings' generalizability limitation may be due to variations in healthcare facilities, medicinal supplies, human resources, and infrastructure across various healthcare settings. As a result, patient satisfaction may be influenced differently in each context. An additional research constraint pertains to the possible bias introduced by data collection conducted by institutional nursing personnel, which may affect patients' opinions. To address this concern in future iterations of similar studies, the author suggests enlisting alternative individuals, such as jobless trainers or neutral parties, to facilitate the interviews. The institutions' limited availability of dental chairs and resulting congestion constrain interviewers' ability to secure private space for conducting interviews and collecting patients'

data. This situation can impact participants' willingness to openly and honestly voice their perceptions during the survey.

Authorship Contribution: All authors share equal effort contribution towards (1) substantial contributions to conception and design, acquisition, analysis and interpretation of data; (2) drafting the article and revising it critically for important intellectual content; and (3) final approval of the manuscript version to be published. Yes

Potential Conflicts of Interest: None

Competing Interest: None

Acceptance Date: 16-05-2024

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