

Service Quality, Patient Satisfaction, and Challenges of Multi-Specialty Dental Clinics in Highly Urbanized Cities in Western Visayas, Philippines



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ABSTRACT. This multi-methods study assessed service quality and patient satisfaction in multi-specialty dental clinics across highly urbanized cities in Western Visayas, Philippines. Using the SERVQUAL framework, quantitative surveys of 180 personnel and patients evaluated dimensions such as reliability and empathy, while qualitative interviews identified operational challenges in management, safety, and compliance. Findings indicated consistently high ratings for both service quality and satisfaction, establishing a significant positive correlation between them. The study concludes that operational efficiency, rigorous quality assurance, and strict regulatory adherence are essential for sustaining clinical excellence. Although limited by its urban focus and cross-sectional design, the results highlight the critical link between service standards and patient outcomes. Future research should expand the geographic scope, utilize longitudinal designs, and explore the impact of digital technologies on dental healthcare delivery to further validate these findings.

1.0. Introduction

Dental service quality encompasses professional competence, treatment effectiveness, and the overall patient experience (Dopeykar et al., 2018). To ensure access to this level of exceptional care, multi-specialty dental clinics have emerged as a prominent solution, housing a diverse range of specialists under one roof to provide streamlined and comprehensive treatment (Htang, 2019). Research indicates that these settings often yield high-quality outcomes, noting superior service quality and patient satisfaction across various categories. Indeed, service quality is considered the most significant factor in improving care (Bahadori et al., 2015), with specific dimensions such as assurance, reliability, and tangibility driving these perceptions (Akbar et al., 2019).

Patient satisfaction serves as a crucial measure of how well treatment meets expectations. In today's market-oriented environment, prioritizing patient satisfaction is paramount for long-term business performance and sustained purchasing behavior. The

nuances of this relationship vary; for instance, a study in Vietnam by Nguyen et al. (2021) found that while the four dimensions of service quality significantly impact patient-perceived value and satisfaction, factors such as emotion and function do not always have the same statistical influence on patient outcomes.

In the Philippines, the evaluation of dental service quality addresses both the effectiveness of infection control measures and the extent of patient contentment (Diana, 2020; Sitio & Ali, 2019). Given the country's highly competitive business environment, providing superior dental services is essential for fostering patient loyalty and ensuring regular visits. Furthermore, understanding a patient's oral health literacy is vital for effective patient-doctor communication and the maintenance of a comprehensive quality management system (Htang, 2019; Timofe & Albu, 2016).

Specifically, the dental landscape in Western Visayas is experiencing a boom driven by dental tourism, a growing urban population, and technological advancements. Multi-specialty dental clinics are well-positioned to capitalize on this growth by offering comprehensive services that appeal to both dental tourists and urban residents seeking orthodontic

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treatments. By leveraging cutting-edge technology and prioritizing the patient experience, these facilities can secure their place as leaders in the growing regional market.

Despite these advancements, the relationship between quality and satisfaction remains complex. Manzoor et al. (2019) underscored that patient satisfaction influences perceptions of healthcare quality, particularly when moderated by physician behavior. However, conflicts often arise in patient-centered care because patients and providers may prioritize different aspects of treatment (Obadan-Udoh et al., 2019). While some view patient perceptions as subjective, others argue they are intrinsic to care evaluation. Consequently, a notable gap persists in understanding if high service quality invariably leads to satisfaction, necessitating further investigation.

This study assessed the levels of service quality and patient satisfaction in multi-specialty dental clinics (MSDCs) across highly urbanized cities in Western Visayas, specifically examining dimensions such as tangibility, reliability, and empathy alongside patient loyalty and complaint behavior. By analyzing significant differences based on clinic characteristics (specialization, personnel, population) and patient demographics (sex, education, visits), the research sought to determine the correlation between service quality and satisfaction while identifying operational challenges. The resulting findings may provide dental practitioners and policymakers with crucial insights to enhance care delivery and ensure sustainability, ultimately serving as the baseline for a Continuous Improvement Plan for MSDCs.

2.0. Framework of the Study

This study theorizes that patient satisfaction and service quality in multi-specialty dental clinics can be comprehensively evaluated by integrating the theoretical models of Parasuraman's Framework on Service Quality (1988) and Donabedian's Framework (1980). These foundational frameworks provide a nuanced understanding of the factors influencing healthcare assessment. Parasuraman's (1988) model identifies key dimensions that shape patient perceptions, and its utility has been validated in diverse settings—ranging from hospital care to outpatient services—demonstrating high adaptability across the healthcare spectrum.

Parasuraman's Framework identifies key dimensions that influence patients' perceptions of service quality. The robustness of this model has been demonstrated across numerous healthcare settings, extending beyond its original service industry context; for example, it was applied to assess service quality in a hospital setting (Zeithaml et al., 1990) and to evaluate patient satisfaction in outpatient healthcare

services. Complementing this, Donabedian's Framework (1980) is utilized for its emphasis on the assessment of structure, process, and outcome—core components widely adopted to evaluate healthcare quality. Its utility has been proven in various contexts, including the assessment of ambulatory care and the evaluation of primary care quality.

The significance of this study lies in the convergence of Parasuraman's service quality dimensions with Donabedian's structure, process, and outcome components. This integration allows for a deep, holistic assessment of quality; for instance, the physical characteristics of the clinic staff (Donabedian's structure) directly relate to Parasuraman's dimensions of tangibility and assurance. Similarly, Donabedian's dimensions of reactivity and interaction align with Parasuraman's responsiveness and process efficiency dimensions. Consequently, this study seeks to enrich the understanding of the intricate interplay between service quality parameters and patient satisfaction in multi-specialty dental clinics, underscoring the complexity of patient satisfaction and the importance of a comprehensive assessment of dental healthcare quality.

3.0. Methodology

Research design. This study utilized a multi-method research design, allowing for a combination of methodologies that contribute to a better understanding of the research problem compared to studies based solely on a single approach. The researcher integrated, linked, combined, and merged data sequentially so that the different datasets were rooted within one another, prioritizing specific data deemed significant for answering questions that required a mixed approach. For the quantitative component, the study evaluated service quality and patient satisfaction rooted in Donabedian's (1980) and Parasuraman's (1988) frameworks. This involved correlational methods to identify variable interactions and a comparative strategy to examine differences across demographic groups. The qualitative component employed a descriptive phenomenology design to describe the essential structures of lived experiences without imposing preconceptions, utilizing bracketing, horizontalization, clustering, and textualization.

Respondents and sampling. The respondents for the quantitative phase included staff and patients from multi-specialty dental clinics in highly urbanized cities in Western Visayas. They were selected using quota sampling, a non-probability method where participants are chosen to reflect specific attributes within the population to ensure proportional representation. Conversely, the qualitative phase utilized purposive sampling to select business owners who had operated a

multi-specialty dental clinic within the same jurisdiction for at least three years.

Instrumentation and Validation. The study employed a four-part researcher-made survey

Table 1

Distribution of Respondents

Respondents	N	n	%
Dental Personnel			
Clinic A	80	39	21.7
Clinic B	100	51	28.3
Sub Total	180	90	50.0
Patients			
Clinic A	80	39	21.7
Clinic B	100	51	28.3
Sub Total	180	90	50.0
Total	360	180	100

questionnaire to gather demographics and assess service quality, patient satisfaction, and operational challenges using a four-point Likert scale. Validity was confirmed using Lawshe's Content Validity Ratio, with a panel of experts yielding valid indices for dental personnel service quality (0.87), patient service quality (0.93), and patient satisfaction (0.90). Reliability was established through pilot testing in Davao, Baguio, and Metro Manila, resulting in Cronbach's alpha coefficients of .872, .749, and .764, respectively. For the qualitative phase, a semi-structured interview protocol was used to explore unusual survey responses, comprising introduction, content questions with probe prompts, and closing instructions to ensure ethical and comprehensive data gathering.

Interpretative Scale for the Service Quality of Multi-Specialty Dental Clinics

Scale	Range	Description	Interpretation
4	3.26 – 4.00	Very High	The dental clinic exceeds the standard requirements.
3	2.51 – 3.25	High	The dental clinic meets the minimum standard requirements.
2	1.76 - 2.50	Low	The dental clinic could be improved.
1	1.75 - 1.00	Very Low	The dental clinic did not meet the standard requirement.

Interpretative Scale for the Patient Satisfaction of Multi-Specialty Dental Clinics

Scale	Range	Description	Interpretation
4	3.26 – 4.00	Very Satisfied	I am extremely happy with the dental services.
3	2.51 – 3.25	Satisfied	I am generally happy with the dental services.
2	1.76 - 2.50	Dissatisfied	I am generally unhappy with the dental services.
1	1.75 - 1.00	Very Dissatisfied	I am extremely unhappy with the dental services.

Data Collection Procedure. Data collection commenced after securing formal permission from respondents. Enumerators administered the quantitative survey, allotting respondents 30 minutes to one hour to complete the questionnaire without pressure. Simultaneously, qualitative data were gathered through face-to-face or videoconferencing interviews, which

were recorded with consent. Following data retrieval, quantitative responses were tabulated, and qualitative interviews were transcribed. All materials were stored in secured devices for analysis, with strict protocols for the removal of personal identifiers and the eventual shredding of documents to maintain confidentiality.

Data Analysis. Quantitative analysis utilized descriptive statistics (mean, SD, frequency, percentage) and inferential tests. Shapiro-Wilk testing revealed that variables such as tangibility, reliability, and patient satisfaction were not normally distributed ($p=0.000$); consequently, non-parametric tests were employed. These included the Wilcoxon signed-rank test for differences in service quality assessment, the Mann-Whitney U and Kruskal-Wallis tests for demographic group differences, and the Spearman rank correlation for variable relationships. Qualitative analysis followed the five steps: organizing data, reading for general meaning, coding into categories, generating themes, and representing findings narratively. Finally, the study employed a joint display to integrate results, allowing for meta-inferences that compared the integrated findings against existing literature.

Ethical considerations. Strictly adhering to the ethical guidelines of the Philippine Health Research Ethics Board (PHREB), this study upheld the principles of autonomy, beneficence, and justice to ensure high social value for the Western Visayas dental community. Informed consent was prioritized, with participants assured of their right to withdraw without consequence, while privacy was rigorously maintained in compliance with Republic Act 10173 (Data Privacy Act of 2012) through strict anonymity and secure data disposal. To minimize risks such as time consumption, data collection was conducted at the respondents' convenience, balancing these minor inconveniences with significant benefits, including professional insights for clinic personnel and enhanced care standards for patients. The selection process adhered to strict inclusion criteria to ensure justice, providing tokens of appreciation without discrimination or conflict of interest. Facilitated by a qualified researcher—a Doctor of Dental Medicine and Fellow of the Pierre Fauchard Academy with adequate self-financed facilities—the study maintained transparency regarding its purpose and limitations. Finally, community involvement was fostered by sharing findings and a Continuous Improvement Plan with multi-specialty dental clinics, ultimately contributing new knowledge and supporting the long-term development of the local dental landscape.

4.0. Results and Discussion

Profile of the dental clinics

Table 2 outlines the demographic profile of the 90 dental clinics surveyed, revealing a sector increasingly oriented toward integrated, patient-centered care. A significant majority reported having multiple specializations (62.2%, $n = 56$) compared to those with a single specialization (37.8%, $n = 34$), while 61.1% ($n = 55$) employed three or more staff members, averaging 2.97 employees per clinic. The patient population was evenly split (50.0% each) between those aged 18 and below and those older, with an average patient volume of 18.6. This structural composition suggests a transition from traditional single-specialty setups toward comprehensive service models that enhance continuity of care and minimize delays. While the robust staffing in most clinics supports delegation and a focus on prevention rather than reactive treatment, the persistence of single-specialty practices points to potential underlying challenges—such as shortages in pediatric or geriatric specialists—necessitating educational reforms to ensure a more even distribution of expertise.

Table 2

Profile of the Dental Clinics

Variable	f	%
Specialization		
Single	34	37.8
Multiple	56	62.2
Number of Employees		
2 or less	35	38.9
3 or more	55	61.1
Patient Population		
18 and below	45	50.0
more than 18	45	50.0
Whole	90	100.0

The prevalence of multi-specialization underscores a commitment to comprehensive oral healthcare, aligning with research on the benefits of diverse specializations for addressing varied patient needs (Eregie & Enabulele, 2019), though challenges regarding the equitable distribution of specialists remain (Ameh et al., 2022). Furthermore, the workforce composition—where a majority employ three or more staff—indicates an operational capacity consistent with WHO (2020) standards for adequate staffing. This resource level positions clinics to focus effectively on preventive services and workforce planning, as highlighted by Bayat et al. (2022). Finally, the even distribution of patient populations across age groups demonstrates the clinics' ability to cater to diverse demographics, aligning with global health perspectives on equitable access. Collectively, these findings portray a sector moving toward modern oral health goals, though

targeted policies are still required to address lingering gaps in workforce planning and specialization.

Profile of the patients

Table 3 summarizes the demographic profile of the 90 patients surveyed, revealing a predominantly female cohort (72.2%, $n = 65$) compared to males (27.8%, $n = 25$). Additionally, the patients were highly educated, with 81.1% ($n = 73$) being college graduates. This strong female presence aligns with findings suggesting that women are generally more proactive in seeking healthcare and place greater emphasis on interpersonal communication and rapport with providers (Shaikh et al., 2021; Omar et al., 2024). Consequently, clinics should prioritize emotional intelligence and active listening not only to retain female patients but also to encourage participation from men, who often face higher psychological barriers to care. Similarly, the high percentage of college graduates supports research indicating that higher education levels correlate with increased engagement in dental visits and preventive care (Ghanbarzadegan et al., 2023; Piotrowska et al., 2018), suggesting a client base with high health literacy and the means to prioritize oral health.

Regarding visitation patterns, half of the patients reported visiting occasionally (50.0%, $n = 45$), while 37.8% ($n = 34$) were regular visitors and 12.2% ($n = 11$) visited rarely. While education supports the intention to seek care, the prevalence of occasional attendance suggests that awareness does not automatically translate to consistent visits; factors such as convenience, cost transparency, and service accessibility remain critical. These frequency patterns emphasize the role of service quality in fostering patient retention, as patients tend to favor facilities that effectively meet their needs and expectations (Pamungkas et al., 2023). Therefore, to convert occasional visitors into regular patients, clinics must ensure that larger operational teams and broad service offerings are balanced with fair pricing structures that do not alienate cost-sensitive individuals.

Table 3

Profile of the Patients

Variable	f	%
Sex		
Male	25	27.8
Female	65	72.2
Educational Qualification		
Undergraduate	17	18.9
College Graduate	73	81.1
Number of Visits		
Rarely (once)	11	12.2
Occasionally (twice)	45	50.0
Regularly (thrice or more)	34	37.8
Whole	90	100.0

Level of service quality ratings of multi-specialty dental clinics as perceived by dental personnel

Tables 4A and 4B present the service quality ratings of multi-specialty dental clinics, revealing that dental personnel perceive service quality as "Very High" across all categories. Specifically, clinics with single specializations ($M = 3.90$, $SD = 0.12$) and those with multiple specializations ($M = 3.93$, $SD = 0.11$) received consistently high marks. This trend held true regardless of workforce size—whether clinics had two or fewer employees ($M = 3.94$, $SD = 0.12$) or three or more ($M = 3.91$, $SD = 0.12$)—and regardless of the patient population served, with identical high ratings for those serving patients under 18 and those serving adults ($M = 3.92$). Overall, the combined service quality was rated very high ($M = 3.92$, $SD = 0.12$). These results indicate that clinics have successfully institutionalized high standards in tangibility, reliability, responsiveness, and assurance. The positive reception of physical attributes, such as cleanliness and equipment, alongside high scores for staff dependability and trust, suggests effective quality control practices are in place. This uniformity implies that rather than focusing on foundational improvements, these clinics are well-positioned to explore advanced strategies like enhanced patient engagement and innovative technologies.

Table 4B further details the high ratings in dimensions such as Empathy and Total Quality, underscoring a system-wide commitment to patient-centered care. The data consistently show "Very High" ratings, reflecting a uniformly caring approach where personnel treat patients with attentiveness and compassion. This aligns with the necessity for clinics to continually evaluate and enhance service quality to meet rising expectations (Skariah, 2022). In multi-specialty settings, patient satisfaction is significantly influenced by the seamless integration of services, which allows individuals to access comprehensive oral healthcare without external referrals (Bahadori et al., 2015). The minimal variation in empathy and total quality scores across different clinic configurations affirms that robust quality management practices are solidly in place, providing a stable platform for future innovations and improved patient retention.

Finally, the specialization of dentists and the composition of the workforce play pivotal roles in maintaining this service quality. As Eregie and Enabulele (2019) highlighted, the diversity of dental specialties enables clinics to address a wide array of oral health needs, enhancing the overall patient experience. This supports findings by Carter and Carter (2012), who noted that clinics offering extended services through multi-specialty practices often achieve better outcomes due to advanced technology and unique marketing strategies. Furthermore, the data suggests that clinics maintain high quality regardless of personnel numbers, resonating with the World Health Organization's (2020) assertion regarding the importance of a well-trained workforce over sheer numbers. Ultimately, strategic workforce planning and team composition significantly influence service quality and satisfaction (Bayat et al., 2022), validating the integral role of personnel in the success of multi-specialty dental clinics.

Table 4A

Level of Service Quality of Multi-Specialty Dental Clinics as Perceived by Dental Personnel

Variable	Tangibility			Reliability			Responsiveness			Assurance		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Specialization												
Single	3.86	0.26	VH	3.91	0.20	VH	3.84	0.25	VH	3.93	0.15	VH
Multiple	3.89	0.24	VH	3.93	0.14	VH	3.91	0.18	VH	3.95	0.14	VH
Number of Employees												
2 or less	3.89	0.24	VH	3.97	0.14	VH	3.89	0.22	VH	3.97	0.09	VH
3 or more	3.88	0.25	VH	3.89	0.18	VH	3.88	0.21	VH	3.92	0.17	VH
Patient Population												
18 and below	3.92	0.21	VH	3.92	0.18	VH	3.87	0.21	VH	3.94	0.15	VH
more than 18	3.84	0.28	VH	3.92	0.16	VH	3.90	0.21	VH	3.95	0.14	VH
Whole	3.88	0.25	VH	3.92	0.17	VH	3.88	0.21	VH	3.94	0.14	VH

Note: M- Mean, SD- Standard Deviation, Int- Internal Validity, VH- Very High

Table 4B

Level of Service Quality of Multi-Specialty Dental Clinics as Perceived by Dental Personnel

Variable	Empathy			Total Quality			Overall Service Quality		
	M	SD	Int	M	SD	Int	M	SD	Int
Specialization									
Single	3.93	0.16	VH	3.95	0.10	VH	3.90	0.12	VH
Multiple	3.95	0.15	VH	3.96	0.13	VH	3.93	0.11	VH
Number of Employees									
2 or less	3.94	0.17	VH	3.97	0.09	VH	3.94	0.12	VH
3 or more	3.94	0.15	VH	3.95	0.13	VH	3.91	0.12	VH
Patient Population									
18 and below	3.91	0.21	VH	3.96	0.09	VH	3.92	0.12	VH
more than 18	3.97	0.07	VH	3.95	0.14	VH	3.92	0.11	VH
Whole	3.94	0.16	VH	3.96	0.12	VH	3.92	0.12	VH

Note: M- Mean, SD- Standard Deviation, Int- Internal Validity, VH- Very High

Level of service quality ratings of multi-specialty dental clinics as perceived by patients

Tables 5A and 5B summarize patients' perceptions of service quality across Tangibility, Reliability, Responsiveness, Assurance, Empathy, and Total Quality. The results indicate a uniformly positive evaluation, with mean scores ranging from 3.87 to 3.94, interpreted as "Very High." While male patients rated tangibility and reliability slightly lower than females,

scores for responsiveness, assurance, and empathy were comparably high across genders. Furthermore, the data reveals that regardless of educational background or visit frequency, patients consistently perceive these clinics as delivering exceptional care. Notably, regular visitors and those with undergraduate education provided the highest ratings, reflecting a strong appreciation for the professional and responsive care received.

The relationship between educational background and satisfaction levels offers significant insight into patient expectations. The trend showing slightly lower ratings from college graduates compared to undergraduates supports findings by Ghanbarzadegan et al. (2023) and Piotrowska et al. (2018), who noted that individuals with higher educational attainment often hold more refined and critical expectations regarding healthcare services. Despite these minor variations, the consistently high ratings across all demographics suggest that these clinics successfully meet the diverse needs of their clientele. This aligns with Shaikh et al. (2021), who observed that patients choose dental facilities based on the perception of high-quality service, often equating that quality with better health outcomes.

Finally, the correlation between visit frequency and high service ratings highlights the importance of operational consistency. Regular visitors provided the most favorable assessments, likely due to the trust and rapport developed over time. This finding is crucial for long-term sustainability; as Pamungkas et al. (2023) emphasized, inconsistent service quality often leads to reduced return visits. The study affirms that multi-specialty dental clinics in Western Visayas are successfully maintaining a high standard of care regardless of how often patients visit, thereby fostering the patient trust and engagement necessary for ensuring long-term loyalty and improved oral health.

Level of patient satisfaction with the service quality of multi-specialty dental clinics

Table 6 outlines the level of patient satisfaction with the service quality of multi-specialty dental clinics, revealing a consistently high rating of "Very Satisfied" across all demographics (M = 3.95, SD = 0.12). In terms

Table 5A

Level of Service Quality of Multi-Specialty Dental Clinics as Perceived by Patients

Variable	Tangibility			Reliability			Responsiveness			Assurance		
	M	SD	Int	M	SD	Int	M	SD	Int	M	SD	Int
Sex												
Male	3.81	0.38	VH	3.84	0.31	VH	3.90	0.24	VH	3.93	0.23	VH
Female	3.90	0.24	VH	3.92	0.19	VH	3.90	0.21	VH	3.95	0.12	VH
Educational Qualification												
Undergraduate	3.94	0.17	VH	3.94	0.15	VH	3.99	0.05	VH	4.00	0.00	VH
College Graduate	3.86	0.30	VH	3.89	0.24	VH	3.88	0.24	VH	3.93	0.17	VH
Number of Visits												
Rarely	3.87	0.26	VH	3.91	0.16	VH	3.96	0.08	VH	3.93	0.18	VH
Occasionally	3.82	0.33	VH	3.85	0.29	VH	3.87	0.26	VH	3.92	0.19	VH
Regularly	3.94	0.21	VH	3.96	0.10	VH	3.92	0.18	VH	3.98	0.06	VH
Whole	3.87	0.28	VH	3.90	0.23	VH	3.90	0.22	VH	3.94	0.16	VH

Note: M- Mean, SD- Standard Deviation, Int- Internal Validity, VH- Very High

Table 5B

Level of Service Quality of Multi-Specialty Dental Clinics as Perceived by Patients

Variable	Empathy			Total Quality			Overall Service Quality		
	M	SD	Int	M	SD	Int	M	SD	Int
Sex									
Male	3.94	0.14	VH	3.96	0.13	VH	3.90	0.19	VH
Female	3.92	0.15	VH	3.92	0.17	VH	3.92	0.13	VH
Educational Qualification									
Undergraduate	3.92	0.19	VH	3.96	0.11	VH	3.96	0.09	VH
College Graduate	3.93	0.14	VH	3.93	0.17	VH	3.90	0.16	VH
Number of Visits									
Rarely	3.95	0.13	VH	3.96	0.08	VH	3.93	0.12	VH
Occasionally	3.89	0.18	VH	3.92	0.16	VH	3.88	0.19	VH
Regularly	3.97	0.09	VH	3.94	0.18	VH	3.95	0.09	VH
Whole	3.93	0.15	VH	3.93	0.16	VH	3.91	0.15	VH

Note: M- Mean, SD- Standard Deviation, Int- Internal Validity, VH- Very High

of sex, female patients reported slightly higher satisfaction (M = 3.96, SD = 0.09) compared to males (M = 3.94, SD = 0.18). Regarding education, patients with an undergraduate level (M = 3.98, SD = 0.07) expressed marginally higher satisfaction than college graduates (M = 3.95, SD = 0.13). Similarly, satisfaction remained stable regardless of visit frequency, with high ratings observed among those who visited regularly (M = 3.97, SD = 0.10), rarely (M = 3.95, SD = 0.12), and occasionally (M = 3.94, SD = 0.14).

These results demonstrate that patients from diverse backgrounds consistently value the service quality provided. The slightly higher scores among female patients align with observations by Noro et al. (2018), who emphasized the influence of gender concordance and patient-centeredness on female patients' perceptions of care. Regarding educational attainment, the finding that undergraduates expressed the highest levels of contentment supports Ganasegeran et al. (2015), who suggested that higher education often leads to more complex expectations, necessitating that providers tailor their communication strategies to meet these varying benchmarks.

Crucially, the data show that visit frequency does not significantly impact satisfaction, indicating that service quality is maintained consistently across all patient touchpoints. This echoes the findings of Yong et al. (2021), who highlighted that strong communication and relationship-building practices help sustain patient

satisfaction regardless of how often a patient engages with the clinic. Overall, these findings underscore the clinics' success in delivering equitable care and meeting the needs of a diverse clientele, thereby reinforcing the value of reliable, patient-centered care in building long-term trust.

Table 6

Level of Patient Satisfaction of Patients with the Service Quality of Multi-Specialty Dental Clinics

Variable	Loyalty			Complaint Behavior			Patient Satisfaction		
	M	SD	Int	M	SD	Int	M	SD	Int
Sex									
Male	3.94	0.21	VS	3.94	0.16	VS	3.94	0.18	VS
Female	3.95	0.14	VS	3.97	0.08	VS	3.96	0.09	VS
Educational Attainment									
Undergraduate	3.96	0.11	VS	3.99	0.05	VS	3.98	0.07	VS
College Grad	3.94	0.18	VS	3.95	0.11	VS	3.95	0.13	VS
Number of Visits									
Rarely	3.95	0.13	VS	3.95	0.13	VS	3.95	0.12	VS
Occasionally	3.94	0.18	VS	3.94	0.13	VS	3.94	0.14	VS
Regularly	3.95	0.16	VS	3.98	0.06	VS	3.97	0.10	VS
Whole	3.94	0.16	VS	3.96	0.11	VS	3.95	0.12	VS

Note: M- Mean, SD- Standard Deviation, Int- Internal Validity, VS- Very Satisfied

Difference in the level of service quality in multi-specialty clinics

Table 7 illustrates that there is no significant difference in the level of service quality in multi-specialty clinics when assessed by clinic personnel versus patients [$z=-0.060$, $p=0.952$]. This lack of statistical disparity holds true across all specific dimensions of the SERVQUAL model: tangibility [$z=-0.206$, $p=0.837$], reliability [$z=-0.724$, $p=0.469$], responsiveness [$z=-0.784$, $p=0.433$], assurance [$z=-0.192$, $p=0.848$], empathy [$z=-1.143$, $p=0.253$], and total quality [$z=-1.032$, $p=0.302$]. The analysis confirms that both the service providers and the recipients hold statistically similar views regarding the standard of care provided.

Table 7

Difference in the Level of Service Quality of Multi-Specialty Dental Clinics as assessed by the Personnel and Patients

Variable	Z	p
Tangibility	-0.206	0.837
Reliability	-0.724	0.469
Responsiveness	-0.784	0.433
Assurance	-0.192	0.848
Empathy	-1.143	0.253
Total Quality	-1.032	0.302
Overall Service Quality	-0.060	0.952

The alignment between the assessments of clinic personnel and patients indicates a shared perception of service quality. The absence of significant divergence suggests that the staff's understanding and execution of service standards effectively match the patients'

experiences and evaluations. This consistency implies that the quality of care intended by the providers is being accurately received and recognized by patients across all facets of care, from physical tangibles to interpersonal empathy.

Broader research supports the idea that core service

behaviors often outweigh structural distinctions, such as specialization, in driving quality perceptions. Kim et al. (2017) and Xiong et al. (2018) note that while patient expectations may vary by service type, perceived quality often remains consistent across different specializations, highlighting the universal importance of professionalism and clear communication. Similarly, Omar et al. (2024) argue that specialized services do not automatically translate to satisfaction without strong interpersonal components, a finding reinforced by Rao et al. (2025), who

identify responsiveness, assurance, and empathy as the true drivers of patient satisfaction. Therefore, the success of multi-specialty clinics relies not just on the range of services offered, but on maintaining consistent, personalized care across all patient interactions.

Difference in patient satisfaction based on demographics

Table 8 reveals no significant difference in patient satisfaction ($U=786.000$, $p=0.74$), loyalty ($U=789.500$, $p=0.735$), or complaint behavior ($U=803.500$, $p=0.900$) when respondents were grouped according to sex. This lack of statistical variance indicates that a patient's gender does not determine their overall satisfaction or propensity to complain. Instead, the findings suggest that the quality of service provided by multi-specialty dental clinics is the primary driver of patient sentiment. This aligns with Siripattanakul and Nyen (2021), who highlight that clinical expertise, staff service, and communication are more critical to satisfaction than demographic factors. Furthermore, while Noro et al. (2018) discuss the potential influence of physician-patient sex concordance, the results of this study suggest that within this specific clinical context, high standards of care override gender-based preferences.

Similarly, Table 9 indicates that educational qualification does not significantly influence patient satisfaction ($U=538.000$, $p=0.250$), loyalty ($U=598.500$, $p=0.711$), or complaint behavior ($U=536.500$, $p=0.181$). Although previous research suggests that expectations vary by education—where lower education may lead to modest expectations (Ganasegeran et al., 2015) and

higher education to complex standards (Adhikari et al., 2021)—this study found consistent positive responses across all levels. This uniformity likely stems from the clinics' ability to provide individualized treatment

Table 8

Difference in the Patient Satisfaction of Patients with Service Quality of Multi-Specialty Dental Clinics according to Sex

Variable	U	z	p
Loyalty	789.500	-0.339	0.735
Complaint Behavior	803.500	-0.125	0.900
Patient Satisfaction	786.000	-0.323	0.747

Note: The difference in the means is significant when $p \leq 0.05$

Table 9

Difference in the Patient Satisfaction of Patients with Service Quality of Multi-Specialty Dental Clinics according to Educational Qualification

Variable	U	z	p
Loyalty	598.500	-0.371	0.711
Complaint Behavior	536.500	-1.338	0.181
Patient Satisfaction	538.000	-1.149	0.250

Note: The difference in the means is significant when $p \leq 0.05$

Table 10

Difference in the Patient Satisfaction of Patients with Service Quality of Multi-Specialty Dental Clinics according to Number of Visits

Variable	χ^2	df	p
Loyalty	0.347	2	0.841
Complaint Behavior	2.629	2	0.269
Patient Satisfaction	2.208	2	0.332

Note: The difference in the means is significant when $p \leq 0.05$

(Shaikh et al., 2021) and responsive staffing (Siripipatthanakul & Nyen, 2021) that bridges potential gaps in health literacy. Additionally, while Aelbrecht et al. (2019) noted that communication preferences differ by education, the lack of significant variance here implies that current communication practices are sufficiently inclusive to satisfy a diverse patient base.

Finally, Table 10 shows that the frequency of visits does not significantly impact patient satisfaction ($\chi^2(2) = 2.208$, $p=0.332$), loyalty ($\chi^2(2) = 0.347$, $p=0.841$), or complaint behavior ($\chi^2(2) = 2.629$, $p=0.269$). This finding supports Yong et al. (2021), who assert that visit frequency alone is not a reliable measure of satisfaction; rather, the quality of interpersonal interactions drives perception. The data suggest that even occasional visitors report high satisfaction if their experiences are marked by the empathy and soft skills emphasized by Rambhia et al. (2015). Consequently, the consistent quality of care appears to neutralize the theoretical "trust-building" benefit of

repeated visits, indicating that strong initial impressions are sufficient to foster loyalty and satisfaction regardless of how often a patient attends the clinic.

Relationship between patient satisfaction and overall service quality

Table 11 reveals a significant positive relationship between patient satisfaction and overall service quality [$r_s(88) = 0.567$, $p = 0.000$]. This correlation suggests that improvements in service delivery directly enhance how patients evaluate their experience, underscoring the value of consistent high performance across the key dimensions of tangibility, reliability, responsiveness, assurance, and empathy. Although previous analyses indicated minimal variation across patient demographics, this finding demonstrates that even subtle enhancements in the care experience—such as more attentive communication or reduced wait times—can meaningfully influence satisfaction levels.

The strength of this correlation also provides critical insight into the "ceiling effect" observed in the data; as service quality nears optimal levels, patients become increasingly sensitive to incremental improvements. For clinic managers, this highlights the strategic importance of refining operational details through continuous feedback mechanisms, staff training, and real-time service monitoring. Sustaining high satisfaction is not simply about maintaining current standards but requires an ongoing commitment to elevating the patient experience in ways that foster loyalty and long-term trust.

These findings align with broader research underscoring the central role of service quality in shaping patient experiences. Studies by Shaikh et al. (2021) and Adhikari et al. (2021) highlight that satisfaction is closely tied to meeting expectations for attentive, high-quality care, regardless of cost or setting. Furthermore, Afrashtehfar et al. (2020) and Ali (2016) emphasize that patient satisfaction extends beyond clinical outcomes to include interpersonal interactions, transparency, and the overall clinic environment. Therefore, achieving high patient satisfaction in multi-specialty dental clinics requires a holistic approach that combines clinical competence with strong communication and a supportive atmosphere.

Table 11

Relationship between Patient Satisfaction of Patients and Level of Service Quality of Multi-Specialty Dental Clinics according to Number of Visits

Variable	r_s	df	p
Patient Satisfaction x Overall Service Quality	0.567*	88	0.000

Note: correlation is significant when $p \leq 0.05$

To substantiate the quantitative results within the multi-method design, qualitative data were collected through ten (10) interviews with Doctor of Dental Medicine who own and manage multi-specialty dental clinics in highly urbanized cities in Western Visayas.

Theme 1. Clinic operations management

Scheduling, workflow, and patient flow optimization. These are pivotal to efficient clinic operations, directly influencing patient satisfaction, staff productivity, and overall performance. Effective scheduling minimizes wait times and maximizes resource utilization, while streamlined workflows ensure seamless transitions between care stages. Furthermore, optimizing patient flow involves strategic adjustments to physical layouts and operational processes to eliminate bottlenecks from arrival to departure. By refining these interconnected elements, clinics can enhance efficiency and reduce operational costs, a reality reflected in the experiences shared by the informants:

Managing schedules and staff is a common challenge. Specifically, we often face difficulties optimizing appointment slots for multiple specialists, ensuring efficient patient flow, and managing staff schedules to meet varying patient demands and specialist availability. We really need to look into all these aspects to ensure smooth operations...Yes, so we need to consider factors like specialist availability, patient preferences, treatment duration, and emergency situations. Finding the right balance while minimizing patient waiting times and maximizing clinic ^[1]utilization can be quite complex and challenging. (Dr. Felice, Zoom Conference, December 15, 2024)

Balancing availability and optimizing clinic resources is a major challenge for my clinic, especially when ^[2]there are many patients. (Dr. Julie, Zoom Conference, December 14, 2024)

Number one is the recall, so um patients do not come in time, especially when it comes to their dental appointment. Let's say we have orthodontic adjustment; they don't come in on a two-week mark because life happens and yeah, we understand, but it is our duty as well as doctors to go by exactly what the timeline, you know, Doc, uhm but yeah, we... we always compromise in that situation, so the quality care is compromised as well. So that's... that's with orthodontics. Sometimes, I deal with surgery as well; they don't come in for suture removal because there are so many issues that they need to tend to rather than prioritizing their oral health. (Dr. Jai, Personal Communication, December 16, 2024)

Patient charting... That is it. The staff's recording is really the problem. It is still wrong. They can't understand and can't see. (Dr. Mikee, Personal Communication, December 13, 2024)

But, well, and at the same time, their work ethic is what it is called. There are even some who have a schedule, but they still do not show up for their scheduled appointment. (Dr. Rea, Personal Communication, December 18, 2024)

Specifically, having patients sign consent forms. It is very important, especially in the medical and dental fields. Sometimes, they forget to have the patients sign or have questions and concerns about the consent forms. Another challenge is the availability of materials and equipment needed for specific surgeries or procedures. (Dr. Mike, Personal Communication, December 18, 2024)

Equipment, materials, and inventory management. Effective equipment, materials, and inventory management are fundamental to the seamless functioning of modern multi-specialty dental clinics. As rapid technological advancements introduce sophisticated resources ranging from digital imaging systems to surgical tools, maintaining high standards of care requires not only acquiring these assets but also ensuring their consistent availability and proper maintenance across all specialties. Consequently, a reliable inventory system, supported by responsive staff communication, is crucial for minimizing disruptions, controlling costs, and sustaining clinical excellence. Underscoring this operational necessity, informants emphasized the importance of integrating technology with daily workflows, stating that:

Technology will play a pivotal role. We need to embrace digital solutions like teledentistry consultations and online appointment scheduling to improve patient access and convenience. (DJUL, Zoom Conference, Dec 14, 2024)

Well, when you do surgeries or practice, you need to check if everything is complete. Sometimes things are missing, or equipment gets damaged. These issues are often tied to how the staff manages things. (DEFL, Personal Interview, December 20, 2024)

Adopting advanced technology and continuous staff training will help address future demands. We will invest in the latest dental technologies, such as 3D printing and computer-aided design/computer-aided manufacturing (CAD/CAM) systems. We will also prioritize continuous staff training and professional development to ensure our team is equipped with the necessary skills and knowledge to deliver

high-quality care in the evolving healthcare landscape. (Dr. Felice, Zoom Conference, December 15, 2024)

AI can help in areas like diagnosis, treatment planning, and patient care. For example, AI-powered tools can analyze patient data to identify potential risks and personalize treatment plans. Robotics can assist in complex procedures, improving accuracy and reducing invasiveness.) (Dr. Julie, Zoom Conference, December 14, 2024, number line 46)

Uhm, what else, uh, the equipment. You have to upgrade every time; you have to be there for seminars, monthly, yearly, whatever good seminars there are. Uhm, yeah, the performance level of the clinic will vary because there's no communication within, so every time we would have a workspace, we separate a group... we do Viber, we do Slack to separate, or Discord, maybe... there is a technology for that... that you guys could talk it out... it will be a workspace for everybody. (Dr. Jai, Personal Communication, December 16, 2024)

Managing supplies is also an issue. Sometimes assistants fail to inform us when stocks are low, ^{SEP}which can disrupt operations. (Dr. Rea, Personal Communication, December 18, 2024)

That is right... it is really difficult to get some things here in Bacolod, right? The availability itself... it is like... not available here in Bacolod. So, they still order it from Manila. So, it will take time to be delivered here, and sometimes, it is also unavailable in Manila. So, they have to order it somewhere international! (Dr. Mike, Personal Communication, December 13, 2024)

Operational efficiency and resource optimization.

Operational efficiency and resource optimization are fundamental to the success and sustainability of healthcare clinics, requiring streamlined workflows, waste minimization, and the strategic allocation of personnel and financial capital to ensure cost-effective, high-quality care. By prioritizing these areas, clinics can enhance their capacity to serve the community, improve patient outcomes, and maintain financial viability within the evolving healthcare landscape. regarding operational excellence, informants emphasized the critical importance of integrating technology with workflows, specifically stating that:

One of the biggest challenges is ensuring patient satisfaction and quality assurance. You have to focus on reliability, tangibility, and responsiveness. For example, patients should feel comfortable during treatments—pain-free if

possible. You also need to be responsive to their needs and ensure they trust your clinic.) (Dr. Herm, Personal Communication, December 16, 2024)

This is when we need proper resources in our procedures, specifically for all of our staff and dental assistants. (Dr. Julie, Zoom Conference, December 14, 2024)

So, number one would be labor. So, not all the time people will work for you. So, you need to adjust and manage them, whatever their personal needs may be. That's number one. Number two would be the market. So, wherever you are, location-wise, so it has been a factor as well with regard to operation. And then the last one, time. Time is always of the essence. So, you will never know if you will finish or make it on time, especially with regard to the patient's needs. So, that is about it. Those are the three most challenging parts when you do operations. (Dr. Jai, Personal Communication, December 16, 2024)

Well, number one is, actually, even if you have had many years of practice, communication with your staff is still there. Sometimes, even if you have explained it many times, they still do not get it. What are the challenges? Well, maybe, the scheduling... the scheduling. (Dr. Mike, Personal Communication, December 13, 2024)

Administrative processes and record-keeping.

Efficient administrative processes and meticulous record-keeping constitute the backbone of well-managed clinics. Streamlining tasks such as patient registration, scheduling, billing, and insurance processing significantly enhances operational efficiency and the overall patient experience. Furthermore, accurate record-keeping—encompassing medical histories, treatment plans, and financial transactions—is crucial for ensuring continuity of care, legal compliance, and effective communication among healthcare providers. Whether utilizing electronic health records or organized paper-based methods, implementing robust information systems is essential for the smooth operation of dental clinics in the local context. Regarding this, informants have mentioned that:

Yes, it is difficult, if they are like that, you fire them... you replace them right away. (Dr. Rea, Personal Communication, December 18, 2024)

Yes, it is really difficult actually, that is why many... like in our government, it is more on what their priority is, it is not the employer but only the employees, right? It is like there are no laws for employers, only for employees. So, well, what I

usually do is, at first, I warn them, I give them warnings.) (Dr. Mike, Personal Communication, December 18, 2024)

If... maybe if you really focus, because if you multitask, it seems like there is a lot to take care of. There is just a lot of paperwork. If there are many staff, there are also many papers to arrange. (Dr. Nikko, Personal Communication, December 13, 2024)

Okay, for sole practice, I have encountered, yes, it is really good to have just one branch for now, but uhm, as soon as... as soon as I expanded, I realized that the inflation is going crazy, especially in this generation uhm for the administrative uhm... you need to train your staff really well. (Dr. Jai, Personal Communication, December 16, 2024)

Operational disruptions and contingency planning. In highly coordinated multi-specialty dental clinics, operational disruptions often stem from minor oversights—such as an empty box of anesthetic carpules—rather than complex clinical procedures. Because various specialties rely on shared tools, materials, and sterilization systems, a single supply shortfall can trigger cascading delays across the entire facility. Consequently, to safeguard the patient experience and maintain operational integrity, clinics must prioritize contingency planning and supply chain responsiveness as essential components of daily management.

Competition will undoubtedly increase. There are dental schools here in Western Visayas, especially. We will see more specialized clinics and even telehealth options emerging. To remain competitive, we need to differentiate ourselves by offering high-quality, patient-centered care with a focus on personalized experiences. (Dr. Julie, Zoom Conference, December 14, 2024)

For me, it will be more on personality and then honesty-wise so ah... perspective. Because uhm, not everybody. I'm sorry, education is good, especially in the States when you do have to be registered to be a dental assistant, but here in the Philippines, it doesn't apply, so what we do, I train them really well as if they have been a dental... registered dental assistant, ahh make sure that they know what they do because we are dealing with patients. (Dr. Jai, Personal Communication, December 16, 2024, number line 93)

Yeah, they have been taught, but they easily forget. And, of course, their specialty is not dentistry. So, it is like they do not understand. They do not remember what you tell them about

the... the terms... of a dentist. (Dr. Rea, Personal Communication, December 18, 2024)

Poor teamwork: If our staff does not have teamwork, the treatment takes longer, and there are more problems, so the treatment is not successful. (Dr. Krina, Personal Communication, December 17, 2024)

Patient management and communication. Effective patient management and clear communication are cornerstones of quality dental care. Patient management encompasses all interactions, from initial contact and appointment scheduling to treatment delivery and follow-up, while clear, empathetic communication ensures patients fully understand their options, costs, and instructions. Building trust through open dialogue and active listening significantly contributes to patient satisfaction, treatment adherence, and the overall success of the clinic within the community. Regarding this, informants said:

So, yes, you should minimize missed appointments and lessen... to lessen that. So, that is what I see: if your clinic is well-equipped, the missed appointments will lessen, and the anxiety will lessen. And, ah, because they are satisfied enough. Because in one way, you know, I could say that... that is something, ah, I always put myself in. So, if I were the patient, ah, that is what I would want. I mean, I am the provider, and that is what I do for the patient. Doc, thank you so much because you made me beautiful! (Dr. Herm, Personal Communication, December 16, 2024)

So, I would go direct, I would go straightforward: tell them we are human beings and we sleep at night, ma'am/sir. So please give us a break sometimes, especially at night. Uhm, but here in the clinic, I will be your doctor; I will treat you right and give you the best dental care. (Dr. Jai, Personal Communication, December 16, 2024)

Well, ah, what is really certain is... you really need skilled employees... ah, they really need to know... ah, it is really difficult... especially in our practice in the medical field or dental field, where our employees do not have the know-how. Number 2 is poor communication. So, before procedures or every surgery, I make sure that I meet with my staff, and we go through the procedures. (Dr. Mike, Personal Communication, December 18, 2024)

Ah, when you get the, ah, patient records, ah, especially their... you have to take individually what their teeth really look like, so you don't get confused, especially if your assistant doesn't know... so, it just resides in your... what you call your cases, ah, what their teeth look like. But

sometimes, they don't understand. You really have to be specific to them. That's one thing that's a bit difficult sometimes. (Dr. Rea, Personal Communication, December 18, 2024)

Sometimes, it is the patient's expectations regarding the procedure and treatment. They dictate them because of Google, and they assume that it should be like this. Sometimes, that is the problem... they think they know more than the dentist. (Dr. Krina, Personal Communication, December 17, 2024)

Service differentiation and specialization in a multi-specialty dental clinic. Service differentiation and specialization within multi-specialty dental clinics present significant opportunities to attract a broader patient base and enhance convenience, though these benefits necessitate robust internal systems and clear communication among specialists to be managed effectively. By focusing on niche areas, utilizing advanced technologies, and curating a unique patient experience, clinics can effectively distinguish themselves from single-specialty practices to build a strong reputation and foster long-term loyalty. In relation to these operational dynamics, informants mentioned:

Okay, for prosthodontics, we would go into oral rehab first, then you meet the prosthodontist right at the end of the treatment. So, we would do conservation first, conservative treatment, let us say restoration, oral prophylaxis, and then we all go well down to the end, which is prosthodontics and dentures and all that... Biopsy, we do sedation, but yeah, the market doesn't call for sedation here every time. Not unlike in the States, we do uhm nitrous oxide. So, we do odontectomy; that is just a regular thing here in the Philippines. Uhm, biopsy again; what else? Sinus lifting, implants, and all that. (Dr. Jai, Personal Communication, December 16, 2024)

Hmm, yes. It's different if there is a specialization. It is better if there is a specialist. Their focus is really on their specialization. (Dr. Nikko, Personal Communication, December 13, 2024)

We offer orthodontic services, prosthodontics, general dentistry, and minor surgeries. If you are a multi-specialty dental clinic, you should offer a lot. (Dr. Mikee, Personal Communication, December 13, 2024)

Financial and revenue management. Effective financial and revenue management is fundamental to the sustainability and expansion of multi-specialty dental clinics. This process requires meticulous income and expense tracking, efficient billing, and strategic planning, all grounded in an understanding of local economic conditions and patient affordability. By

managing operational costs, exploring diverse revenue streams, and ensuring regulatory compliance, clinics can maintain the financial health necessary to reinvest in quality care, technology, and staff development. Emphasizing this necessity, they stated that:

Ah, one way to improve the practice of the staff and associates is to increase the revenue, so... of course, we do what... we check, we check, we control at the same time. They should also recall patients to increase the clinic's revenue. We give them quotas. (DEFL, Personal Communication, December 20, 2024)

As I mentioned earlier, investing in our staff is crucial, and giving them the proper training can help our management. This includes providing continuous training and education on the latest technologies and techniques. Building a strong team culture that fosters collaboration and communication among specialists is also essential. (Dr. Herm, Personal Communication, December 16, 2024)

The patient's budget is not enough for the procedure they need. For their oral cavity treatments. (Dr. Krina, Personal Communication December 17, 2024)

Market dynamics and financial barriers. Multi-specialty dental clinics operate within complex market dynamics and face distinct financial barriers, making an understanding of the local competitive landscape, patient demographics, and economic conditions essential for strategic planning. These financial hurdles typically include the high costs of establishing and maintaining facilities, securing capital for technological investments, and addressing patient affordability within the local context. To navigate these challenges and ensure long-term viability and service accessibility, clinics must develop effective marketing strategies, foster strong community relationships, and implement efficient financial management practices. Regarding these specific economic pressures, informants stated that:

Okay. So, one would be finance for Filipinos; we are in a third-world country, and we cannot pay for dentistry because food is essential. We would rather spend money on food rather than our healthcare, even if we cannot chew because of a toothache. That's one way to look... Uhm, second would be giving them uhm the quality care because we are limited again to finance. We want to upgrade whatever we have in the clinic, let's say go digital, but we cannot do so because of the market again; that is one way to look at it. (Dr. Jai, Personal Communication, December 16, 2024)

That's really the biggest thing, because even if you want to give them the best treatment, but, you know... money is really the problem. That's why they can't afford the best treatment, so, in the end, instead of giving the best treatment, you just give a lesser option for treatment... another thing is, what is difficult also, aside from the budget, you know, is the patients' acceptance of the procedures. Like for example, surgery or dental implants, they are afraid, they are really afraid, especially if the treatment seems aggressive and all. That is really one thing: the acceptance of patients. Although this has been out, I think dental implants have probably been in dentistry for a long time, but here, for us, it is still new. It has not been that long yet. (Dr. Mike, Personal Communication, December 18, 2024)

There are, sometimes, special cases where the procedure is expensive. So, they decline because it is expensive... the current trend is, ah, millennials immediately put up their own dental clinic, while others have not really saved up yet. Well, I mean, I am not criticizing them, right? But what I see is that sometimes they don't have specialization. (Dr. Rea, Personal Communication, December 16, 2024)

Theme 2. Quality and safety procedures

Interdisciplinary treatment coordination and collaboration. Effective interdisciplinary treatment coordination and collaboration are essential for providing comprehensive care within multi-specialty dental clinics. When patients require the expertise of multiple dental specialists, seamless communication and coordinated treatment plans are crucial for ensuring optimal outcomes and patient satisfaction. This approach necessitates well-defined referral pathways, shared patient records, and regular inter-professional collaboration to integrate each specialist's contribution into a cohesive and timely treatment strategy, which ultimately benefits the patient and enhances the clinic's reputation. Informants noted:

For proper coordination, we follow our protocol when it comes to the referral system between specialists. We conduct regular team meetings to discuss patient cases, address concerns, and ensure that we are all on the same page. (Dr. Felice, Zoom Conference, December 15, 2024)

Hmm, yes, of course, ah, once you check the patients already, that's where you'll see what the different services they need. So, there are some, sometimes, patients that you explain to them that they have to... they need fillings, root canal, implants, or something... I'll suggest... There are some who say, "I don't want that," "I don't want that," "That's all I want." They end up declining

the procedure. (Dr. Rea, Personal Communication, December 18, 2024)

Ah, yes, I have associates. One focuses on root canals, and the other on orthodontics (braces). So, if a patient needs braces and a root canal, those two dentists will work on him or her. (Dr. Mikee, Personal Communication, December 13, 2024)

So, firsthand, I would do the consultation and the management, then I let them, you know, take a feel of it, and then I would offer it to my associate for the rest of the treatments because they already know the system. (Dr. Jai, Personal Communication, December 16, 2024)

Patient experience and satisfaction. Prioritizing patient experience is paramount for the success and sustainability of dental clinics, as it encompasses the entire patient journey—from initial contact and scheduling to clinical treatment and follow-up care. Key factors such as clear communication, a welcoming environment, efficient processes, and staff empathy significantly influence overall satisfaction. High satisfaction not only fosters loyalty and positive word-of-mouth referrals within the community but also strengthens the practice's reputation and contributes to better health outcomes. Regarding these factors, informants mentioned:

Doing different types of treatment while ensuring patient comfort is often difficult. There are patients who want a very detailed explanation of the procedures, and they want it to be explained step by step. For instance, coordinating complex treatment plans that involve multiple specialists requires clear communication, there should be what we call a holistic approach... We also need to address patient anxieties and concerns related to undergoing various procedures in a single setting. (Dr. Felice, Zoom Conference, December 15, 2024)

Oh yeah, so and in every... every time they do the procedures, I would ask for reviews so that we could, you know, uhm, correct whatever mistakes we have for their satisfaction because, you know, patient satisfaction is always a spike for your practice wherever you go. (Dr. Jai, Personal Communication December 16, 2024)

Hmm, because there are patients who... they inquire about prosthetics, right? It seems like they do not really understand the process. They just want it done quickly. They like new procedures... because they want it done quickly. They are interested in a fixed denture. (Dr. Mikee, Personal Communication, December 13, 2024)

Inclusive and adapted communication strategies. Implementing inclusive and adapted communication strategies is vital for effectively serving a diverse patient population. This process involves tailoring methods to accommodate varying educational levels, cultural backgrounds, and linguistic preferences, including the use of local dialects alongside Tagalog and English. By utilizing diverse channels—such as clear verbal explanations, visual aids, accessible written materials, and digital platforms—clinics can significantly enhance patient understanding and engagement. Ultimately, prioritizing inclusive communication fosters stronger patient-provider relationships, improves health literacy, and ensures that all community members feel comfortable and well-informed about their dental care options. Informants said:

We explain procedures thoroughly, answer questions patiently, and provide a comfortable and reassuring environment. We also involve patients in decision-making regarding their treatment plans. That is what I said earlier; we present all the procedure details so the patient will not worry too much. (Dr. Felice, Zoom Conference, December 15, 2024)

It is difficult, especially if the patient speaks a different dialect. Here in Panay, there are many dialects. There is Ilonggo, Karay-a, Akeanon, and many more. English will do, hahaha. (Dr. Nikko, Personal Communication, December 13, 2024)

For now? Uhm, yeah, I am still working on how to reach out to them with regards to diagnostics first; that is always the key... increase patient safety, yes... that is... that is one way to look at it because there are many patients that are uhm having traumas. (Dr. Jai, Personal Communication, December 16, 2024)

Managing external information influences. Managing external information influences has become critical for dental clinics, particularly as patients increasingly derive health advice from the internet, social media, and word-of-mouth. To counter potential misinformation and establish trust, clinics must proactively disseminate accurate and reliable content through professional online platforms and community outreach programs. By strategically navigating these information channels, dental providers can effectively shape public perception, enhance credibility, and empower patients to make informed healthcare decisions based on trustworthy sources. In this context, informants stated that:

The Akeanon... that is what they call it... it is not easy. It is possible, right? Other languages so we

can understand each other. Actually, no? Ah, where is that you know? And because of that super high-tech, that super high-tech thing... every time you search, you search on Google, you see everything. Although it is not amazing, right? However, for me, I am more afraid because the patients are becoming smarter in the end. (Dr. Herm, Personal Communication, December 16, 2024)

Okay. So, well, it is really like that now, right, especially the challenges now, especially with the patients, they're knowledgeable now, right? Especially with Google. (Dr. Mike, Personal Communication, December 18, 2024)

So, usually, many patients who come to the clinic, even before their procedure, have already done research on Google. So, sometimes, ah... it contradicts with the patients, you see. Because of their beliefs, because what Dr. Google says is different from my experience in the clinic... Sometimes, it is the patient's expectations regarding the procedure and treatment. They dictate them because of Google, and they assume that it should be like this. Sometimes, that is the problem... they think they know more than the dentist.) (Dr. Krina, Personal Communication, December 17, 2024)

Infection control and sterilization protocols. In multi-specialty dental clinics, infection control and sterilization protocols are paramount for ensuring the safety of both patients and staff. To effectively prevent the transmission of infectious diseases, clinics must strictly adhere to guidelines established by the Department of Health and international best practices. These protocols encompass thorough hand hygiene, the use of personal protective equipment (PPE), proper disinfection of clinical areas, and the meticulous sterilization of instruments using validated methods. Consequently, the consistent implementation and monitoring of these measures are essential for maintaining a hygienic environment, fostering patient trust, and upholding high standards of dental care. Informants shared:

Ensuring uniform standards for all patients can be challenging because they have different demands. Maintaining high-quality standards across all specialties requires ongoing staff training, regular equipment calibration, and adherence to strict infection control protocols. We must also ensure that all specialists adhere to the clinic's established protocols and guidelines. (Dr. Felice, Zoom Conference, December 15, 2024)

It has to be sterile. Everything sterile... I have to make sure that post-operative does not fail, my

procedures do not fail, because it is also, you know, a hassle for the patient if it has to be repeated, or it is also traumatic for the patient if it fails. Because of, um, well, uh, the instruments are not sterile, or the instruments are incomplete. (Dr. Mike, Personal Communication, December 18, 2024)

They will be safe if we provide quality dental care and then really quality treatment. Handling all instruments during the treatment that are sterile will make all our treatments more successful, and there will not be any infections or anything. (Dr. Krina, Personal Communication, December 17, 2024)

Quality assurance and continuous improvement. A commitment to quality assurance and continuous improvement is fundamental to sustained success and patient satisfaction. Quality assurance ensures consistent, high-quality service delivery through established standards, while continuous improvement involves a proactive, data-driven effort to identify enhancements and monitor their impact. By employing mechanisms such as regular audits, patient surveys, and staff training, clinics can elevate patient outcomes and strengthen their reputation. Highlighting the practical importance of these concepts, the informants said:

Okay. Uhm, so for the next associates, they have to step up with regard to high-quality care. We started it. We have a good practice here in Visayas, uhm high-quality dental care. It is time for them to pave the way for future patients and let them know that we need to have high-quality dental care, not just sit down and do whatever they like. It's not. It should be a routine procedure, from diagnostics to maintenance. (Dr. Jai, Personal Communication, December 16, 2024)

Ah, of course, once you provide services, you really have to see to it that there won't be many complications that will happen after the dental service you provided. So, that's how you... lessen the risk, so to speak... of the service you provide. That's one of the... (Dr. Rea, Personal Communication, December 18, 2024)

Mostly because of the pandemic, most dentists do not have experience in dental procedures, even basic ones, and they are a bit unaware. So, if you hire young dentists lately, they lack the skills... dental skills. (Dr. Krina, Personal Communication, December 17, 2024)

Patient safety and risk management. Patient safety and risk management are paramount in multi-specialty dental clinics, requiring the implementation of rigorous protocols to minimize adverse events during treatment. This process encompasses accurate assessment, diagnosis, treatment planning, safe anesthesia

administration, and the effective management of complications. Complementarily, risk management involves the systematic identification and mitigation of potential threats to patients, staff, and the clinic organization. By proactively addressing these concerns, clinics foster a culture of safety that enhances patient trust and reduces liability; in this context, informants mentioned that:

They are the ones who self-diagnose their illnesses, then they impose what should be done, what should be. So, difficult... lately, it is a bit difficult for us to handle patients because they self-diagnose. (Dr. Krina, Personal Communication, December 17, 2024)

The clinic provides available treatments with definitions. There are many patients who choose what treatment they can afford. If they choose, sometimes the maintenance cost is not included. Sometimes the chosen treatment becomes more expensive later... Yes, safety is really very important. Especially for those who are medically compromised or have medical problems. History is also important. (Dr. Rea, Personal Communication, December 18, 2024)

First; that is always the key... increase patient safety, yes... that is... that is one way to look at it because there is a lot of patients that are uhm having traumas. (Dr. Jai, Personal Communication, December 16, 2024)

Theme 3: Regulatory compliance and legal considerations

Multi-specialty dental clinics must strictly adhere to regulatory and legal frameworks to ensure ethical operation and legal compliance. This entails satisfying government licensing requirements for both practitioners and facilities, following guidelines established by the Philippine Dental Association and the Department of Health, and upholding data privacy regulations regarding patient information. Mastery and implementation of these protocols are essential for guaranteeing safe, high-quality dental care, maintaining professional standards, and mitigating legal risks. Regarding these requirements, the participants mentioned:

Multi-specialty, especially yes, yes, maybe... the mayor's permit and many other permits are needed. The government benefits are really a lot. I really have to comply with the employees. Again, SSS, Pag-IBIG, and PhilHealth. The mayor's permit here, etc. That is why we got an accountant to focus on treatment. (DEFL, Personal Communication, December 20, 2024)

Because it is difficult actually, that is why there is a lot... like in our government, it is more on what their priority is, it is not the employer but only the employees, right? It seems there are no laws for employers, only for employees. So, well, what I usually do is, at first, I warn them, I give them warnings... And then, what I think is, let us say, three warnings, and then I write them a letter. Then, after the third letter, they still have not changed. I just suspend them, right? So, if they continue, then I really have to let them go. (Dr. Mike, Personal Communication, December 18, 2024)

There is also the DOLE... they say, "Ah, if you comply, it is probably about the eh... regulations for safety permits and all." So that's really it. Because we really have permits, right? Compared to those... it seems they do not have it, right? For traditional or individual dental clinics, it seems they do not really bother. You just need a DTI, and you are okay as long as your... whatchamacallit is there. Your hazards... but if you are multi-specialty, there is a lot. (Dr. Rea, Personal Communication, December 18, 2024)

Discussion

Efficient clinic operation acts as the linchpin of quality healthcare delivery, relying on the seamless integration of time, tools, and financial processes. By scrutinizing workflows, multi-specialty clinics can identify bottlenecks; for instance, real-time scheduling dashboards allow staff to pair procedures with available slots to reduce wait times and cancellations (Rahimi & Saadati, 2025). Behind the scenes, automated systems for inventory and maintenance prevent supply crises and equipment failure (Martin et al., 2021). Furthermore, addressing financial transparency through phased treatment quotes in price-sensitive communities raises case acceptance more effectively than lump-sum fees (Bas et al., 2020). Ultimately, optimizing these logistics enables targeted interventions and fortifies the foundation upon which exceptional patient care and a thriving practice are built.

Moreover, the bedrock of effective healthcare lies in robust quality and safety procedures that foster a culture of continuous improvement. Coordination strategies, such as daily huddles and shared records, keep specialists aligned and reduce hand-off errors (Leeftink et al., 2018). Simultaneously, plain-language explanations increase patient empathy and assurance, which are strong predictors of loyalty (Kristensen et al., 2023). Visible safety habits, such as posting autoclave logs and using color-coded instruments, transform infection control into a shared promise and are associated with lower cross-contamination rates (Patiño-Marín et al., 2025). This analytical rigor

ensures that quality is not merely a periodic audit but an everyday rhythm of patient care that minimizes preventable harm.

Furthermore, adherence to regulatory frameworks is non-negotiable, requiring a focused evaluation of policies against evolving legal standards and technological shifts. Modern compliance involves clear digital consent forms and honest fee posts to reduce medico-legal risk (Rattan & D'Cruz, 2023). As digital dentistry expands, clinics must implement robust encryption to satisfy privacy rules (Mariño & Zaror, 2024) and establish clear policies on human oversight to leverage AI diagnostics without violating regulations (Surdu et al., 2024). When these compliance measures reinforce operational workflows—such as automated stock alerts preventing shortages that might derail consent—the clinic delivers safe, trusted care while remaining agile amidst competitive and technological pressures.

Finally, the study's findings align closely with the SERVQUAL model (Parasuraman et al., 1988), with high ratings across tangibility, reliability, responsiveness, assurance, and empathy indicating that clinics in Western Visayas effectively meet patient expectations. Quantitative data highlights success in physical resources and dependable care, while qualitative insights underscore the operational challenges—such as equipment integration and patient flow—that correspond to the tangibility and reliability dimensions. Managers emphasize that sustaining assurance requires consistent specialized care and effective communication to counter external misinformation. Ultimately, the positive correlation between service quality and patient satisfaction confirms that rigorous attention to these dimensions is essential for patient safety and long-term loyalty.

5.0. Conclusion

The multi-specialty dental clinics in Western Visayas deliver consistently high-quality services that translate into very high patient satisfaction. The alignment between internal service standards and patient perceptions is evident. Demographic variables have negligible influence on satisfaction, reinforcing that quality of care and operational practices are the primary drivers of positive outcomes. The strong correlation between service quality and satisfaction suggests that even minor enhancements in service can yield significant patient loyalty benefits.

6.0. Limitations of the Findings

Despite vigorous findings, the study is limited by its regional focus on highly urbanized cities in Western Visayas, which may not reflect rural or less-developed settings. The cross-sectional nature of the research also

limits the ability to establish causality. Additionally, patient satisfaction and service quality were self-reported, introducing the possibility of response bias. The qualitative component, while insightful, relied on a limited number of interviews, which may not capture the full diversity of operational experiences.

7.0. Practical Value of the Findings

The findings offer actionable insights for dental clinic operators and healthcare policymakers, demonstrating that prioritizing consistent service delivery alongside investments in staff training and specialization can significantly enhance patient satisfaction. The observed alignment between personnel and patient perceptions further confirms the effectiveness of internal quality management systems. Consequently, clinics should leverage these results to fine-tune operational workflows, refine communication strategies, and strengthen initiatives aimed at fostering patient loyalty.

8.0. Directions for Future Research

Future research should broaden its geographic scope to include rural and provincial areas, offering a more inclusive understanding of dental service quality across diverse contexts. Additionally, employing longitudinal designs would allow for the assessment of specific interventions and the tracking of changes over time. Finally, further exploration into the impact of technology, such as digital diagnostics and automated scheduling, is recommended to uncover new strategies for enhancing both service quality and patient satisfaction.

9.0. Declaration of Conflict of Interest

The authors declare no potential conflicts of interest regarding the research, authorship, or publication of this article.

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