

Patient Satisfaction Level toward Conservative Dentistry Treatment in a Dental Hospital in Jakarta Indonesia

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Abstract

Patient satisfaction is one of the indicators of a health service's success. Rumah Sakit Khusus Gigi dan Mulut (Dental Hospital), Faculty of Dentistry, Universitas Indonesia (RSKGM FKG UI) is a dental care provider, focused at providing conservative treatment. The present study aimed to evaluate the level of patient satisfaction toward conservative dentistry treatment and compare the level of satisfaction between the Integrated and Conservative Dentistry Clinics in RSKGM FKG UI. A total of 100 patients who recurrently visited the clinic were given a 40-item questionnaire. The latter was used to assess patients' expectations and the quality of conservative treatment based on patients' perspective. Our Chi-square tests results show no significant differences in patient satisfaction level between Integration and Conservative Dentistry Clinics in RSKGM FKG UI, based on five different aspects. Both the quality of conservative treatment and patients' satisfaction toward it in Integration and Conservative Dentistry Clinics RSKGM FKG UI were categorized as good.

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Introduction

Conservative dentistry is a branch of dentistry that consists in preventive and curative measurements. Specifically, it covers areas such as tooth surface defects prevention, tooth surface defects treatment, and periapical infection. The majority of cases in dental practices fall in the conservative dentistry category.¹ Treatments performed in conservative dentistry include tooth restoration and root canal treatment (endodontic). Conservative dentistry practices are leaning toward minimal intervention dentistry (MID) approaches, first introduced by Tyas *et al.* in 2000.^{2,3} The MID concept integrates preventive, curative, and minimal intervention in dental restorations and endodontic treatments. The aim is to maximize the preservation of healthy tissue with the goal of preventing the development of additional defects.⁴

The success of a dental treatment is

influenced by both the dentist's quality of treatment and the patient's satisfaction level.⁵ Specifically, it has been shown that the latter has an influence on the patient's choice of a dentist, commitment in attending dental appointments, and keenness in following dentist's instructions.⁶ According to Newsome and Wright (1999), a patient's satisfaction level in dental treatment can be measured by assessing five aspects, as follows: treatment quality, interpersonal factors, patient's comfort, financial aspects, and clinic environment.⁷

In Lovelock and Wright's study (2005), the authors demonstrated that the quality of service can be measured by comparing perceptions of expected and perceived service.⁸ It has been shown that the discrepancy between expected and perceived health service can be expressed as disappointment and anger.⁹ In the cases of patients for whom the experiences did not exceed their expectations, a direct complaint to the dentist may not take place. However, the experience may affect the patient's compliance in returning to the dentist for follow-up treatments.^{5,6} The assessment of patient satisfaction levels can be used by health institutions as a benchmark to evaluate their services' quality.

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(RSKGM FKG UI) is a specialized hospital for oral and dental diseases, specifically, conservative dentistry cases. This institution must provide high-quality dental service in order to satisfy patients. The main reasons for this are: the high competition between hospitals, an increase in patients' expectation due to ongoing technological development, and increased patients' awareness toward the importance of oral and dental health. The aim of this study was to analyze patients' satisfaction levels toward conservative treatment in RSKGM FKG UI.

Methods

This research was approved by the local ethics committee in compliance with its requirements (code 010720717). The present study was a cross-sectional study. Importance-performance analysis was used to compare patients' expectations and perceived service during treatment. The study was conducted between August and October 2017 in Rumah Sakit Khusus Gigi dan Mulut, Faculty of Dentistry, University of Indonesia (RSKGM FKG UI), in Integrated Clinic (operated by undergraduate students of the Faculty of Dentistry, University of Indonesia) and Conservative Dentistry Clinic (operated by conservative dentistry residents of the Faculty of Dentistry, University of Indonesia). We enrolled patients who received conservative treatment for more than one visit.

Data were collected from respondents by using a questionnaire. Each statement in the questionnaire had a 1 to 5 score, with the lowest score considered "very poor" and the highest "very good." The importance of an aspect in conservative treatment and perceived conservative treatment services were assessed using a univariate and importance-performance

analysis. Such an approach allowed us to assess patient satisfaction toward conservative treatment in RSKGM FKG UI. Levels of patient satisfaction were obtained following the comparison of perceived and expected services in each aspect. The cut-off point method was used to categorize both the assessment of perceived service into "good" and "poor," and the assessment of patient satisfaction level into "satisfied" and "not satisfied." The cut-off point was obtained through the maximum and minimum average scores from each question.

The bivariate analysis was performed by comparing the levels of perceived service and patient satisfaction in Integrated and Conservative Dentistry Clinics in RSKGM FKG UI. The analysis was performed with the use of the SPSS data processing program, through a comparative category analysis, Chi-square.

Results

This study was conducted on 100 individuals. Specifically, these were divided in 2 groups: 50 respondents in Integrated Clinic and 50 respondents in Conservative Dentistry Clinic. A categorical comparative analytic test was performed using Chi-square for table 2×2 .

As shown in Table 1, the quality of conservative treatment was scored "good" by 40 (80%) of the respondents in the Integrated Clinic, 37 (74%) of the respondents in the Conservative Dentistry Clinic, and 77 (77%) of the respondents in RSKGM FKG UI. The score "poor" was given by 10 (20%) of the respondents in the Integrated Clinic, 13 (26%) of the respondents in the Conservative Dentistry Clinic, and 23 (23%) of the respondents in RSKGM FKG UI.

Aspects	Integrated Clinic				Conservative Dentistry Clinic				P value
	Good		Poor		Good		Poor		
Treatment Quality	40	80%	10	20%	37	74%	13	26%	.635
Interpersonal Factors	42	84%	8	16%	31	62%	19	38%	.610
Patient's Comfort	39	78%	11	22%	40	80%	10	20%	1
Financial Aspect	39	78%	11	22%	40	80%	10	20%	1
Clinic Environment	32	64%	18	36%	30	60%	20	40%	.837

Table 1. Performance Assessment toward Conservative Treatment in Integrated and Conservative Dentistry Clinics.

In the assessment of interpersonal factors between operator and patient, the score “good” was given by 42 (84%) of the respondents in the Integrated Clinic, 31 (62%) of the respondents in the Conservative Dentistry Clinic, and 73 (73%) of the respondents in RSKGM FKG UI. The score “poor” was given by 8 (16%) of the respondents in the Integrated Clinic, 19 (38%) of the respondents in the Conservative Dentistry Clinic, and 27 (27%) of the respondents in RSKGM FKG UI.

In the assessment of patient’s comfort, the score “good” was given by 39 (78%) of the respondents in the Integrated Clinic, 40 (80%) respondents in the Conservative Dentistry Clinic, and 79 (79%) of the respondents in RSKGM FKG UI. The score “poor” was given by 11 (22%) of the respondents in the Integrated Clinic, 10 (20%) of the respondents in the Conservative Dentistry Clinic, and 21 (21%) of the respondents in RSKGM FKG UI.

In the assessment of financial aspect related to the treatment fee, the score “good” was given by 39 (78%) of the respondents in the Integrated Clinic, 40 (80%) of the respondents in the Conservative Dentistry Clinic, and 79 (79%) of the respondents in RSKGM FKG UI. The score “poor” was given by 11 (22%) of the respondents in the Integrated Clinic, 10 (20%) of the respondents in the Conservative Dentistry Clinic, and 21 (21%) of the respondents in RSKGM FKG UI.

In the assessment of the clinic’s environment, the score “good” was given by 32 (64%) of the respondents in the Integrated Clinic,

30 (60%) of the respondents in the Conservative Dentistry Clinic, and 62 (62%) of the respondents in RSKGM FKG UI. The score “poor” was given by 18 (36%) of the respondents in the Integrated Clinic, 20 (40%) of the respondents in the Conservative Dentistry Clinic, and 38 (28%) of the respondents in RSKGM FKG UI.

The bivariate analysis of the “perceived service” showed that the 5 aspects (i.e., quality of treatment, interpersonal aspect, patient’s comfort, financial aspect, and clinic environment) had a *P* value of .635, .61, 1, 1, and .837, respectively, indicating no statistical significance.

As shown in Table 2, patient satisfaction levels with respect to the quality of conservative treatment were as follows: in the Integrated Clinic, 43 (86%) of the respondents were satisfied and 7 (14%) of the respondents were not; in the Conservative Dentistry Clinic, 42 (84%) of the respondents were satisfied and 8 (16%) of the respondents were not; overall, in RSKGM FKG UI 85 (85%) of the respondents were satisfied and 15 (15%) of the respondents were not.

Patient satisfaction levels toward the interpersonal relationship between operator and patient were as follows: in the Integrated Clinic, 45 (90%) of the respondents were satisfied and 5 (10%) of the respondents were not; in the Conservative Dentistry Clinic, 43 (86%) of the respondents were satisfied and 7 (14%) of the respondents were not; overall, 88 (88%) of the respondents were satisfied and 12 (12%) of the respondents were not.

Aspects	Integrated Clinic				Conservative Dentistry Clinic				<i>P value</i>
	Good		Poor		Good		Poor		
Treatment Quality	43	86%	7	14%	42	84%	8	16%	1
Interpersonal Factors	45	90%	5	10%	43	86%	7	14%	.758
Patient’s Comfort	42	84%	8	16%	44	88%	6	12%	.773
Financial Aspect	43	86%	7	14%	44	88%	6	12%	1
Clinic Environment	41	82%	9	18%	39	78%	11	22%	.803

Table 2. Patient Satisfaction Level Assessment toward Conservative Treatment in Integrated and Conservative Dentistry Clinics.

Patient satisfaction levels toward a patient's comfort during treatment were as follows: in the Integrated Clinic, 42 (84%) of the respondents were satisfied and 8 (16%) of the respondents were not; in the Conservative Dentistry Clinic, 44 (88%) of the respondents were satisfied and 6 (12%) of the respondents were not; overall, 86 (86%) of the respondents were satisfied and 14 (14%) of the respondents were not.

Patient satisfaction levels toward the financial aspect, specifically, the treatment fee, were as follows: in the Integrated Clinic 43 (86%) of the respondents were satisfied and 7 (14%) of the respondents were not; in the Conservative Dentistry Clinic, 44 (88%) of the respondents were satisfied and 6 (12%) were not; overall, in RSKGM FKG UI, 87 (87%) of the respondents were satisfied and 13 (13%) of the respondents were not.

Patient satisfaction levels toward clinic environment were as follows: in the Integrated Clinic, 41 (82%) of the respondents were satisfied and 9 (18%) were not; in the Conservative Dentistry Clinic, 39 (78%) of the respondents were satisfied and 11 (22%) were not; overall, in RSKGM FKG UI, 80 (80%) of the respondents were satisfied and 20 (20%) of the respondents were not.

The bivariate analysis of the "satisfaction level" showed that the 5 aspects (i.e., quality of treatment, interpersonal aspect, patient's comfort, financial aspect, and clinic environment) had a *P* value of 1, .758, .773, 1 and .803, respectively, indicating absence of statistical significance.

Discussion

By means of the questionnaire, we measured the importance and the performance of each aspect affecting patient satisfaction levels toward conservative dentistry treatment. Results of our study showed different levels of satisfaction among each aspect in the Integrated and Conservative Dentistry Clinics.

In the Integrated Clinic, the aspect with the highest level of satisfaction was the interpersonal relationship between operator and patient (90%). Specifically, respondents were satisfied with the friendliness of their operator. This result was in line with a study conducted by Mahrous and Hifnawy (2012) on undergraduate students in Taibah University, Saudi Arabia. The

authors observed a 98.1% interpersonal relationship satisfaction level.¹⁰ Importantly, based on a study conducted by Holt and McHugh, the operator's friendliness toward patients is one of the most influential factor in the interpersonal relationship.⁷

In the Conservative Dentistry Clinic, the aspects with the highest level of satisfaction were a patient's comfort and financial aspect (88%). Compared to undergraduate students, conservative dentistry residents have more knowledge on patient comfort management, and more experience in treating patients; thus residents have enhanced skills for patient treatment.¹¹ Operators in the Conservative Dentistry Clinic are residents, who have higher ability and working experience. Furthermore, every step of the treatment is also assessed by the conservative dentistry consultants. Additionally, since RSKGM FKG UI is a teaching hospital, compared to other hospitals, conservative dentistry treatment fees in this institution are more reasonable.

The aspect with the lowest satisfaction level in both the Integrated and Conservative Dentistry Clinics was clinic environment. Specifically, 18% of respondents in the Integrated Clinic and 22% of respondents in the Conservative Dentistry Clinic were not satisfied with the prolonged waiting time. All provided treatments have to follow the standard operating procedure and must be assessed by the conservative dentistry consultants, as stated in *Undang-undang No. 20 Tahun 2013* Article 18 about Medical and Dental Education.¹² These aspects may prolong the treatment time with respect to timing in non-teaching hospitals. Moreover, in the Integrated Clinic, undergraduate students have less working experience in patient treatment, resulting in slower work and longer treatment time. Additionally, the limited number of dental units in the Integrated Clinic contributes to prolonged waiting times. Based on the secondary data from RSKGM FKG UI, the number of conservative dentistry patients in the Integrated Clinic can reach up to 50 patients per day. However, in the Integrated Clinic there were only 62 dental units, some of which were not working properly. Therefore, due to the high patient volume, the limited number of dental units, and the presence of numerous patients with problems other than conservative dentistry, we observed prolonged waiting times in the Integrated Clinic.

Additionally, the work shift layout can also affect a patient's waiting time. Specifically, we observed treatment delays in the morning shifts due to absence of the conservative dentistry consultants who may not be available in the clinic, and treatment delays in the afternoon shifts following problems related to the dental units and equipment.

In the Conservative Dentistry Clinic, the prolonged waiting time can be related to several factors similar to those in the Integrated Clinic. Furthermore, the prolonged waiting time can be influenced by the complexity of the case treated in Conservative Dentistry Clinic. In the present study, 96% of respondents in the Conservative Dentistry Clinic were patients with endodontic cases. Wong (2015) stated that the average duration of endodontic treatment time of a single-rooted teeth was 74 min.¹³ Therefore, based on this observation, a case's complexity, operator skills and knowledge, and a patient's cooperation in arriving to the appointment on time can affect the next patient's waiting time.

Results from bivariate analysis on the perceived service and patient satisfaction level in the Integrated and Conservative Dentistry Clinics showed no significant differences.

A patient's comfort and financial aspect had a higher satisfaction level in the Conservative Dentistry than Integrated Clinics. Of note, operators in the Conservative Dentistry Clinic are conservative dentistry residents, who have more experience in treating patients. As shown in a study by Khattab (2015), a person is more likely to trust individuals with higher education.¹⁴

Additionally, several aspects in the Integrated Clinic had higher satisfaction levels than in the Conservative Dentistry Clinic. A total of 43 respondents in the Integrated Clinic were satisfied with the quality of the treatment. In a study performed by Zeithaml *et. al* (1993), the authors observed that personal needs were a factor influencing an individual's expectation toward a service. In turn, these could be affected by an individual's background.⁹ Importantly, choice of operators can be affected by patients' education level and knowledge toward conservative dentistry treatments. Due to the fact that the high expectation from patients can directly affect patient satisfaction, a balance with good performance by the operators should be found.

Data of respondents showed that cases in the Integrated and Conservative Dentistry Clinics were not entirely similar. In the Integrated Clinic, 60% of the respondents received restorative treatment and 40% of the respondents received endodontic treatment. In the Conservative Dentistry Clinic, 96% of the respondents received endodontic treatment, and only 4% of respondents received restorative treatment. The duration of the treatment and the number of visits needed for restorative and endodontic treatment differ, therefore affecting operators' performance assessment.

Conclusion

In conclusion, we observed a good quality of conservative treatment in the Integrated and Conservative Dentistry Clinics (average percentage between 76.8% and 71.2%). Overall, the quality of conservative treatment in RSKGM FKG UI is good (74%). We determined a patient's positive satisfaction levels toward conservative treatment in the Integrated and Conservative Dentistry Clinics (average percentage between 85.6% and 84.8%). Overall, the level of patient satisfaction toward conservative treatment in RSKGM FKG UI is good (85.2%). No statistically significant difference was observed in patients' satisfaction levels between Integrated and Conservative Dentistry Clinics, assessed based on five aspects, as follows: treatment quality, interpersonal factors, patient's comfort, financial aspects, and clinic environment.

Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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