

Patient Satisfaction in Dental Radiology Installation, Dental Teaching Hospital, Universitas Trisakti

Rachel Judithya Sabatini Pasaribu¹, Caesary Cloudya Panjaitan², Sri Lestari³

¹Student of Faculty of Dentistry, Universitas Trisakti, Jakarta, Indonesia

Email: [racheljudithya\[at\]gmail.com](mailto:racheljudithya[at]gmail.com)

²Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Trisakti, Jakarta, Indonesia

Email: [caesary\[at\]trisakti.ac.id](mailto:caesary[at]trisakti.ac.id)

³Department of Dental Public Health and Preventive Dentistry, Faculty of Dentistry, Universitas Trisakti, Jakarta, Indonesia

Email: [sri\[at\]trisakti.ac.id](mailto:sri[at]trisakti.ac.id)

Abstract: ***Background:** Patient satisfaction is one of the main indicators to assess and evaluate the quality of health services. Dental Teaching Hospital, Faculty of Dentistry, Universitas Trisakti (RSGM-P FKG USAKTI) provides several forms of services, one of which is radiology services. The results of satisfaction can be divided into 5 categories; reliability, assurance, tangibles, empathy, and responsiveness. **Objective:** To determine patient satisfaction with services at the Dental Radiology Installation of the RSGM-P FKG USAKTI. **Methods:** Descriptive observational study with a cross sectional study design on 108 respondents. The data collection instrument was a patient satisfaction questionnaire consisting of 20 questions divided into 5 categories; reliability, assurance, tangibles, empathy, and responsiveness. **Results:** Based on this study, patients were very satisfied with the services provided by the Dental Radiology Installation with an average score of the reliability category is 3.34, the assurance 3.35, the tangibles 3.44, the empathy 3.38, and the responsiveness 3.34. **Conclusion:** The level of patient satisfaction with the services at the Dental Radiology Installation of RSGM-P FKG USAKTI is very satisfied.*

Keywords: dentistry, radiology, patient, satisfaction, service

1. Introduction

As knowledge and technology in the field of dentistry increases, so do the needs and expectations of patients for the best quality of dental and oral health services. Patient satisfaction can be influenced by several factors such as product characteristics, price, service, location, and facilities.¹ Measurement of the quality of health services can be divided into 5 categories: reliability, assurance, tangibles, empathy, and responsiveness.²

The facilities of health services are places to provide health services for promotive, preventive, curative and rehabilitative.³ One of the special hospitals in the field of dental and oral health is the Dental and Oral Hospital. The Faculty of Dentistry, Universitas Trisakti (FKG USAKTI) that located in West Jakarta, has a Dental Teaching Hospital which is Plenary accredited from the Standar Nasional Akreditasi Rumah Sakit (SNARS) 2018. RSGM-P FKG USAKTI provides several forms of services, one of which is radiology services. Dental radiology is important for dentists to determine the diagnosis and treatment.

Based on research by Okaro et al. in the radiodiagnostic department in Enugu, Nigeria, patients are known to be dissatisfied with several factors that cause problems in radiology installations. There were 85% of patients that complained about the discomfort of the waiting room and 95% of patients thought that the radiation protection provided was poor.⁴ Based on research at the Syarif Hidayatullah Hospital, the number of human resources and waiting time at the hospital's Radiology Installation were still not in accordance with the standards, 62 patients (58.5%) felt that the waiting time for radiology services was ≥ 3 hours.⁵ Based on this,

researchers wanted to find out the patient satisfaction with services at the Dental Radiology Installation of RSGM-P FKG USAKTI.

2. Methods

This type of research is a descriptive observational study with a cross sectional study design. Sampling using accidental sampling method, and obtained as many as 108 respondents who participated in this study.

The instrument used in this study was a questionnaire consisting of 20 questions divided into 5 categories: reliability, assurance, tangibles, empathy, and responsiveness. The measurement scale (ordinal scale), consists of dissatisfied (1), less satisfied (2), satisfied (3), and very satisfied (4). The average score of each question is grouped into class intervals, thus the satisfaction categories are: dissatisfied (1.00-1.75), less satisfied (1.76-2.50), satisfied (2.51-3.25), and very satisfied (3.26-4.00). The validity (Pearson correlation) and reliability (Cronbach's Alpha) test of the questionnaire was conducted on 30 respondents. The results showed that the questionnaire was valid (r calculated $>$ r table) and reliable (Cronbach's Alpha = 0.966). This research was approved by the FKG USAKTI Health Research Ethics Commission 590/S1/KEPK/FKG/8/2022.

3. Results

The majority of respondents were female (63%), and the majority of respondents aged 17-25 years (51%). The recent level of education for most of the respondents was S1

(42.6%) followed by SMA (38.9%). Most of the respondents' occupation were private employees(38.9%) and living in West Jakarta (54.7%)(Table 1).

Table 1: Characteristics of Respondents

Characteristics of Respondents	N	%
Sex		
Male	40	37
Female*	68	63
Age		
17-25*	55	51
26-35	17	15,7
36-45	17	15,7
46-55	19	17,6
Recent Level of Education		
SD	4	3,7
SMP	10	9,3
SMA	42	38,9
D1	1	0,9
D3	3	2,8
S1*	46	42,6
S2	2	1,8
Occupation		
Student	1	0,9
University student	28	25,9
Private employees*	42	38,9
Government employees	3	2,8
Self-employed	12	11,2
Housewife	16	14,8
Driver	4	3,7
Architect	1	0,9
Laborer	1	0,9
Residential Area		
West Jakarta*	59	54,7
Central Jakarta	8	7,4
East Jakarta	7	6,5
South Jakarta	8	7,4
North Jakarta	7	6,5
Depok	3	2,8
Tangerang	6	5,6
Bogor	4	3,7
Karawang	2	1,8
Bekasi	2	1,8
West Java	2	1,8

In the reliability category, it was found that patients were very satisfied with an average score of 3.34 for the services provided by the Dental Radiology Installation of RSGM-P FKG USAKTI. Patient admission procedures, services provided by the officers before radiographic examinations, timeliness of waiting before radiographic examinations, and service procedures during radiographic examinations received a very satisfied level of satisfaction (Table 2).

Table 2: Patient satisfaction results based on reliability category

No.	Questions	Score	Satisfaction Level
1.	What do you think about the patient admission procedures in Dental Radiology Installation of RSGM-P FKG USAKTI? (Includes: registration, submission of referral letters, administration, and payment)	3,3	Very satisfied
2.	What do you think about the services	3,37	Very satisfied

No.	Questions	Score	Satisfaction Level
	provided by the officers before radiographic examinations in Dental Radiology Installation		
	of the RSGM-P FKG USAKTI? (Includes: provision of aprons, explanation of costs)		
3.	What do you think about the timeliness of waiting before radiographic examinations?	3,3	Very satisfied
4.	What do you think about the service procedures during radiographic examinations in Dental Radiology Installation of the RSGM-P FKG USAKTI?	3,38	Very satisfied
	Average score	3,34	Very satisfied

Patients were very satisfied in the assurance category with an average score of 3.35 for the services provided by the Dental Radiology Installation of RSGM-P FKG USAKTI. Radiology officers' communication before radiographic examinations, during radiographic examinations, and in motivating patients to follow directions when taking radiographic images received a very satisfied level of satisfaction (table 3).

Table 3: Patient satisfaction results based on assurance category

No.	Questions	Score	Satisfaction Level
1.	What do you think about the communication of radiology officers before radiographic examinations? (Includes: explanation of costs and types of radiographic examinations provided)	3,33	Very satisfied
2.	What do you think about the communication of radiology officers during radiographic examinations? (Includes: the procedures of radiographic examination, removing accessories, biting the film, positioning the patient)	3,37	Very satisfied
3.	What do you think about the communication skills of the officers in motivating patients to follow directions when taking radiographic images?	3,35	Very satisfied
	Average score	3,35	Very satisfied

Patients were very satisfied in the tangibles category with an average score of 3.44 for the services provided by the Dental Radiology Installation of RSGM-P FKG USAKTI. Radiology officer skills, examination room comfort and cleanliness, waiting room comfort and cleanliness, the convenience in finding the location of dental radiology installation, completeness and cleanliness of radiology equipment, cleanliness and tidiness of the officers' appearance, and patient privacy in the examination room received a very satisfied level of satisfaction (table 4).

Table 4: Patient satisfaction results based on tangibles category

No.	Questions	Score	Satisfaction Level
1.	What do you think about the skills of the officers when taking radiographic examinations?	3,43	Very satisfied
2.	What do you think about the comfort, tidiness and cleanliness of the examination room in the dental radiology installation?	3,43	Very satisfied
3.	What do you think about the comfort, tidiness and cleanliness of the waiting room at the dental radiology installation?	3,42	Very satisfied
4.	What do you think about the convenience in finding the location of dental radiology installation?	3,45	Very satisfied
5.	What do you think about the completeness, readiness, and cleanliness of the equipment provided in the dental radiology installation?	3,45	Very satisfied
No.	Questions	Score	Satisfaction Level
6.	What do you think about the cleanliness and tidiness of the officers' appearance?	3,49	Very satisfied
7.	What do you think about the patient's privacy in the examination room? (Includes: X-ray data, disease diagnosis)	3,44	Very satisfied
	Average score	3,44	Very satisfied

Patients were very satisfied in the empathy category with an average score of 3.38 for the services provided by the Dental Radiology Installation of RSGM-P FKG USAKTI. The ability of radiology officers to provide services without discriminating between patients' social status, the friendliness and courtesy of radiology officers at work, the ability of the officers to pay attention/empathy to patient complaints, and the sincerity of officers in serving patients received a very satisfied level of satisfaction (table 5).

Table 5: Patient satisfaction results based on empathy category

No.	Questions	Score	Satisfaction Level
1.	What do you think of the officers in providing services without discriminating the patient's social status?	3,42	Very satisfied
2.	What do you think about the friendliness and courtesy of the officers at work?	3,39	Very satisfied
3.	What do you think of the officers in giving attention/empathy to patient cases/complaints?	3,33	Very satisfied
4.	What do you think about the officers who sincerely serve patients?	3,39	Very satisfied
	Average score	3,38	Very satisfied

Patients were very satisfied in the responsiveness category with an average score of 3.34 for the services provided by the Dental Radiology Installation of RSGM-P FKG USAKTI. The accuracy of the officers in responding to patient complaints and the alertness of the officers when the patients need an explanation regarding radiology services received a very satisfied level of satisfaction (table 6).

Table 6: Patient satisfaction results based on responsiveness category

No.	Questions	Score	Satisfaction Level
1.	What do you think about the accuracy of the officers in responding to patient complaints?	3,31	Very satisfied
2.	What do you think about the alertness of the officers when you need an explanation regarding radiology services?	3,36	Very satisfied
	Average score	3,34	Very satisfied

4. Discussion

This study was conducted on 108 respondents who had been given treatment by Dentist Professional Study Program Students and Dental Conservation Specialist Dentists at the Radiology Installation RSGM-P FKG USAKTI with an age range of 17-55 years. Based on the results, it was found that there were more female respondents (63%) than male respondents (37%). The results of this study are in line with research at Andi Djemma Masamba Hospital, North Luwu Regency, where the number of female respondents (57.5%) was more than male (42.5%).⁶ Based on a national survey in the United States, it was shown that women have an important role in determining health service decisions, not only for themselves but also for their families.⁷

The majority of respondents in this study were aged in the 17-25 years (51%). The results of this study are in line with research at Fayoum University, Egypt where the majority of respondents aged <35 years (83.1%) and at the Maranatha Dental and Oral Hospital aged 21-30 years (54.4%) visited a teaching hospital for health service facilities.^{8,9} Respondents of young age generally have a higher level of awareness to get health services compared to old age.¹⁰

The most recent level of education of the respondents was S1 (42.6%) followed by SMA (38.9%). This study is in line with research at the Puskesmas Depok 1, where most respondents had high school education/SMA (46.7%) and undergraduate/S1 (40%).¹¹ The level of education can influence individual awareness of the importance of health, thus it can encourage the need for health services and the choice of health services quality. According to Budiman, people with higher education have higher service criteria and standards in accordance with the service references they have.¹²

In this study it was also found that most of the respondents' occupations were private employees (38.9%). The results of this study are in line with research at Madiun City Hospital, where the majority of respondents worked as private employees (46.7%).¹³ Occupations can influence the community and usually respondents will exchange information about the health services they obtain. Someone who works tends to use health services more than someone who doesn't work.¹⁰

The residential area of the most respondents in this study was found in West Jakarta (54.7%). The results of this study are in line with research at Sanglah Hospital in Denpasar, where the majority of respondents resided in Denpasar (51%).¹⁴ Location of the hospital can affect respondents in seeking treatment, where they tend to look for hospitals that are close to their area of residence.

Based on this study, patients were very satisfied in the reliability category with an average score of 3.34 (Table 2). Patients were very satisfied with the indicators of the timeliness of waiting around 30 minutes before radiographic examinations with an average score of 3.3. These results are different from research at the Department of Radio-Diagnostic Enugu, Nigeria which showed that patients were dissatisfied by 51%, with waiting times for radiology services more than 1 hour and at Syarif Hidayatullah Hospital, patients were dissatisfied by 58.5% with waiting time for radiology services ≥ 3 hours.^{4,5} The communication is one of the special concerns for radiology officers at RSGM-P FKG USAKTI, where officers have a definite jobdesc, workload adjusted to estimated patient visits each year, and communication between teams are always evaluated, thus the service time can be measured for good. In addition, proper and good time management leads to greater efficiency and productivity.¹⁵

Based on this study, patients were very satisfied for the assurance category with an average score of 3.35 (Table 3). Patients were very satisfied with the indicators of the radiology officers' communication before radiographic examinations with an average score of 3.33. These results are in line with research at the Maranatha Dental and Oral Hospital where patients were satisfied by 52.9% with the ability of radiology officers to provide explanations about the dangers of radiation and protection before examination.⁹ This shows that radiology officers at RSGM-P FKG USAKTI and RSGM Maranatha can provide clear information about what patients should know and do before radiographic examination. In addition, good communication allows officers to work faster and more responsively, thus it can help dentists' performance in treating patients.¹⁶

Based on this study, patients were very satisfied in the tangibles category with an average score of 3.44 (Table 4). Patients were very satisfied with the indicators of comfort, tidiness and cleanliness of the examination room with an average score of 3.43. These results are in line with research at the Arifin Achmad Hospital in Riau, where patients were satisfied by 64.2% with cleanliness, tidiness, and comfort in the radiology installation room.¹⁷ These results show that officers at RSGM-P FKG USAKTI and RSUD Arifin Achmad Riau always maintain the cleanliness of the examination room.

The results of the study for the empathy category found that patients were very satisfied with an average score of 3.38 (Table 5). On the indicator of the ability of radiology officers to provide services without discriminating between patients' social status, it was found that patients were very satisfied with an average score of 3.42. This can be seen that respondents working as drivers (3.7%) and private employees (38.9%), both were very satisfied with the

services provided by the dental radiology installation of RSGM-P FKG USAKTI (Table 1). These results are in line with research at the Arifin Achmad Hospital in Riau, where patients were satisfied by 63% of the services provided by radiology officers to patients regardless of social status.¹⁷

The results of the study for the responsiveness category found that patients were very satisfied with an average score of 3.34 (Table 6). On the indicator of the accuracy of officers in responding to patient complaints at RSGM-P FKG USAKTI, it was found that patients were very satisfied with an average score of 3.31. This can be seen from the patient's satisfaction with the officer's communication before and during the radiographic examinations, where the patient was very satisfied (Table 3). This shows that officers have the ability to respond to patient complaints during the examination. These results are in line with research at the Jakarta Sukapura Islamic Hospital, where patients were satisfied by 65.5% with the response of doctors and nurses in dealing with patient complaints.¹⁸

The limitation of this research is that some respondents did not fill out the questionnaire completely so the data results were inaccurate and could not be used as research respondents. This was due to the researchers' lack of time in distributing questionnaires to patients who visited and received services at the Dental Radiology Installation of RSGM-P FKG USAKTI, thus the researchers calibrated to the Dentist Professional Study Program Students who were in radiology stations to assist in distributing the questionnaires.

5. Conclusion

This study showed that patients were very satisfied (3.26–4.00) with the services at the Dental Radiology Installation of RSGM-P FKG USAKTI in the reliability category with an average score 3.34, assurance 3.35, tangibles 3.44, empathy 3.38, and responsiveness 3.34. Therefore, radiology officers at RSGM-P FKG USAKTI are expected to maintain their services and periodically evaluate to increase patient satisfaction with services, especially at the Dental Radiology Installation of RSGM-P FKG USAKTI.

References

- [1] Nooria, Widoningsih. Pengaruh persepsi kualitas jasa pelayanan terhadap kepuasan dan loyalitas pelanggan di RSU Saras Husada Purworejo. Skripsi (Tidak Diterbitkan). Fakultas Psikologi: Universitas Muhammadiyah Surakarta; 2008.
- [2] Ulfa M, Trenggonowati D, Arina F, Ferdinant P, Sonda A. Peningkatan kualitas pelayanan kesehatan menggunakan metode Servqual dan *Lean healthcare*. Journal Industrial Services. 2022;8(1):38-45.
- [3] Permenkes RI. Peraturan Menteri Kesehatan RI Nomor 47 tahun 2016 tentang Fasilitas Pelayanan Kesehatan. Jakarta : Menteri Kesehatan RI; 2016.
- [4] Okaro AO, Ohagwu CC, Njoku J. Evaluation of patient care in radio-diagnostic departments in Enugu, Nigeria.

- European Journal of Scientific Research. 2010;41(2):310-4.
- [5] Amanah P, Mustakim. Analisis waktutanggungpelayanan radiologi di RumahSakitSyarifHidayatullahTahun 2018. Visikes. 2020;19(1):118-27.
- [6] Yanti, Nur. Gambaran Kepuasan Pasien Terhadap Fasilitas dan Pelayanan Keperawatan di Ruang Rawat Inap RSUD Andi Djemma Masamba Kabupaten Luwu Utara. Repository UIN Alauddin Makassar; 2013.
- [7] Kotler P, Shalowitz J, Stevens Robert J. Strategic Marketing for Health Care Organizations : Building A Customer – Driven Health System. San Francisco : Jossey – Bass; 2008.
- [8] Wahed Wafaa YA, Mabrook Shaimaa E. Assessment of patient satisfaction at Radiological Department of Fayoum University Hospitals. IJMDC. 2017;1(3):126-131.
- [9] Meilasari W, Suwindere W, Polii H. Tingkat kepuasan pasiendewasa pada pelayanan radiografi panoramik di Instalasi Radiologi RumahSakit Gigi dan Mulut Maranatha. Padjajaran J Dent Res Students. 2018;2(2):87.
- [10] Fitriani L, Nur AA, Rahayu R, Jinan R, Selviana R, Rahman F, et al. Keputusan Pemilihan Pelayanan Pengobatan Ditinjau dari Karakteristik Individu dan Aksesibilitas. J Penelit dan PengembKesehatMasy Indonesia. 2021;2(1):67-75.
- [11] Inayah AN. Analisis tingkat kepuasan pasien terhadap pelayanan kefarmasian di Puskesmas Depok 1. Universitas Islam Indonesia; 2020.
- [12] Budiman, Suhat, Herlina N. Hubungan Status Demografi Dengan Kepuasan Masyarakat Tentang Pelayanan Jamkesmas Di Wilayah Puskesmas Tanjungsari Kabupaten Bogor Tahun 2010. Jurnal Kesehatan Kartika; 2010.
- [13] Waluyo GE. Pengaruh pendidikan kesehatan terhadap kepuasan pasien di ruang rawat inap RSUD Kota Madiun tesis Gakuk 2010. Magister KedoktKel. 2010;1-141.
- [14] Januraga PP, Satiawati DKD. Survei Kepuasan Pasien RSUP Sanglah Denpasar Terhadap Layanan yang diberikan oleh Dokter Residen. FakKedokt Univ Udayana. 2016;1-48.
- [15] Juliawati M. Pentingnya Manajemen Waktu Untuk Menunjang Keberhasilan Praktik Dokter Gigi (The Importance of Time Management in Supporting Successful Dental Practice). Makassar Dent J. 2015; 4(5):143-147.
- [16] Lestari S, Aqmarina SN. Gambaran Kepuasan Pasien Peserta Jaminan Kesehatan Nasional Terhadap Mutu Pelayanan Di Poliklinik Gigi Dan Mulut (Kajian Pada Pasien JKN di RSPAD Gatot Soebroto Jakarta). PDGI. 2016; 65(1):12-18.
- [17] Nurullita W. Analisa Tingkat Kepuasan Pasien Rawat Inap Terhadap Mutu Pelayanan Di Instalasi Radiologi RSUD Arifin Achmad Provinsi Riau. Repository Institusi STIKES Awal Bros Pekanbaru; 2020.
- [18] Chairunnisa C, Puspita M. Gambaran kepuasan pasien rawat jalan terhadap pelayanan di