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A Study on Patient Satisfaction Levels and Expectations during the Radiology Service Process

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Abstract

Today, patient satisfaction and expectations are among the important indicators of the quality of radiology services. This research aims to evaluate the satisfaction levels and expectations of patients inpatients' satisfaction levels and expectations regarding the radiology service process. Additionally, the aim is to examine this study aims to examine whether patient satisfaction and expectations regarding radiology services differ according to differ by socio-demographic characteristics and imaging experiences. The research was designed as a descriptive and, cross-sectional study. The study was conducted with included 750 patients who received radiology services at hospitals in Uşak Province. Data were collected between November 2025 and January 2026. Data were collected through a questionnaire developed by the European Society of Radiology. Exploratory factor analysis, reliability analysis, t-test, ANOVA, heat map, and chi-square tests were used in the analysis of the data to analyze the data. It was determined that the general patient satisfaction level towards with radiology services is was high. Patient satisfaction shows statistically significant differences according tovaries significantly across gender, marital status, age, education level, type of hospital receivedtype of hospital attended, imaging modality, and previous imaging service experience. Patients' expectations regarding radiology services prioritize accurate and safe imaging, and the correct interpretation of results. Patients also expect rapid service delivery, shorter waiting times, and adequate information. Research findings indicate that patient satisfaction and expectations inpatient satisfaction with, and expectations of, radiology services are influenced by demographic characteristics and imaging experience. In addition to providing radiology services in accordance with technical standards, timetiming, communication, information, and service processes need to be adapted to the patient profile.

Keywords: Imaging experience, Patient satisfaction, Patient expectations, Radiology services, Quality in radiology.

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INTRODUCTION

Technological advancements have transformed radiology into a primary diagnostic tool. Today, various imaging modalities such as radiography, computed tomography (CT), ultrasound, and magnetic resonance imaging (MRI) are integral components of healthcare delivery. Advances in cross-sectional imaging technologies have significantly increased the demand for imaging services (European Society of Radiology [ESR] & European Federation of Radiographer Societies [EFRS], 2019; Wang & Summers, 2012). In Turkey, the number of imaging services has approximately tripled in the last decade, placing it first among OECD and EU countries (Bora Başara et al., 2025). The increasing demand for imaging services, the need to improve service quality, diversifying patient expectations, technological innovations, and cost pressures are driving healthcare organizations toward quality-oriented and patient-centered approaches (Freitas et al., 2014; Mulisa et al., 2017).

The concept of quality in healthcare has traditionally been evaluated through adherence to professional and technical standards. However, current approaches consider patients' perceptions and experiences as key indicators of service quality (Hoe, 2007; Khoie et al., 2017). The World Health Organization also recommends that healthcare administrators consider patient expectations and satisfaction in their decision-making processes (World Health Organization [WHO], 2000). Therefore, radiology departments should take into account what patients value during the service process (Brook et al., 2017).

Radiology services require a high-tech infrastructure, a high volume of patients, a variety of imaging modalities, and the simultaneous management of different clinical urgency levels. These characteristics of radiology services present a unique service process in evaluating patient satisfaction (Lang et al., 2013). While the importance of increasing patient satisfaction in radiology services is emphasized in the literature, findings regarding which service dimensions patients value more are limited (Alderson, 2000; Hoe, 2007; van den Broek-Altenburg et al., 2025).

This research aims to compare patient satisfaction levels and expectations within the radiology service process, considering patients' demographic characteristics and imaging experiences. The findings are expected to provide an evidence-based foundation for developing applicable quality improvement strategies that are sensitive to patient characteristics and imaging modalities(Ajam et al., 2021; El-Haddad et al., 2020).

Research Questions

In line with the general scope and purpose of this research, the following questions were addressed:

1. What is the level of satisfaction with radiology services among patients receiving imaging services, and does this satisfaction level vary according to patients' demographic characteristics and imaging experiences?

2. What are the most important expectations regarding radiology services among patients receiving imaging services, and do these expectations vary according to patients' demographic characteristics and imaging experiences?

MATERIAL AND METHOD

Design of Research

This research was a descriptive, cross-sectional field study using quantitative methods. The cross-sectional design allows the evaluation of patient satisfaction levels and expectations regarding radiology services during a specific time period and the examination of relationships between variables. However, it does not aim to draw causal conclusions (Levin, 2006).

Population and Sample of the Study

The research population consists of patients receiving radiological imaging services at hospitals in Uşak Province. Due to limitations, such as the workload and urgency in radiology units, convenience sampling was preferred for the research. Individuals aged 18 and over who received radiological imaging services, completed their procedures at the hospital, were not emergency room patients, and voluntarily agreed to participate in the research were included. Patients who did not meet these criteria were excluded from the research.

An a priori power analysis was performed using G*Power to determine the required sample size for the t-test and ANOVA used in the research. In the power analysis, a minimum sample size of 210 individuals was calculated based on a moderate effect size ($d = 0.50$), a significance level of $\alpha = 0.05$, and statistical power of $1-\beta = 0.95$. Research data were collected between November 2025 and January 2026 from 750 participants.

Data Collection Tools

The research data were collected through a questionnaire adapted by the researchers, based on a study published by the ESR in 2021, which addressed factors affecting satisfaction with radiology services and the most important factors considered by patients when receiving radiology services (ESR, 2021). The translation-back translation method was used in the process of adapting the items related to satisfaction with radiology services and patient expectations in the questionnaire into Turkish (Brislin et al., 1973). Two lecturers proficient in English independently produced translations, followed by back-translation to ensure linguistic and semantic equivalence. The resulting Turkish form was submitted to nine experts in radiology and health management to evaluate content validity. In the content validity evaluation, the item content validity ratio (CVR) and content validity index (CVI) were calculated using the method suggested by Lawshe (1975). For the Radiology Patient Satisfaction Scale, the CVR values ranged from 0.78 to 1.00, and the CVI was 0.92. For patient-expectation items related to radiology services, the CVR values ranged from 0.78 to 1.00, and the CVI was 0.89. These values indicate that content validity has been achieved (Ayre & Scally, 2014).

Research data were collected using a questionnaire consisting of the following sections: “Demographic Information Form,” “Factors Specific to the Imaging Experience,” “Radiology Patient Satisfaction Scale,” and “Patient Expectations Regarding Radiology Services.”

Demographic Information Form

This section contains 4 categorical questions (gender, marital status, age, and education level) regarding the socio-demographic characteristics of participants who received imaging services.

Factors Specific to Imaging Experience

This section contains 3 categorical questions regarding the type of hospital where imaging services were received, the imaging modality, and the participants' prior imaging experiences.

Radiology Patient Satisfaction Scale

This scale contains a total of 8 statements aimed at measuring patient satisfaction in radiology services. These statements were evaluated using a 5-point Likert scale (1=Not satisfied at all, 5=Very satisfied) to determine participants' level of satisfaction with radiology services. In the exploratory factor analysis (EFA) conducted to examine the construct validity of the scale, the Kaiser-Meyer-Olkin (KMO) value was found to be 0.900, indicating that the sample was sufficient for factor analysis. The result of Bartlett's sphericity test is statistically significant (χ^2=4262,458; sd=28; p<0.001). The analysis revealed a single-factor structure with an eigenvalue greater than 1. The scale accounts for 64.806% of the total variance. The factor loadings of the scale items ranged from 0.765 to 0.881. Confirmatory factor analysis (CFA) was also performed to assess the construct validity of the scale. Although the fit index values in the CFA analysis were within acceptable limits, the high value of x^2/df=5.265 prompted an examination of modification proposals, and consequently, a covariance was assigned between e6 and e7. The CFA analysis was repeated, and it was determined that the unidimensional structure of the scale has good fit index values of x^2=81.607, df=19, x^2/df=4.295, GFI=0.972, AGFI=0.947, NFI=0.945, CFI=0.957, RMSEA=0.066, SRMR=0.0381 (Schermelleh-Engel et al., 2003; Wheaton et al., 1977). The scale's unidimensional structure, consisting of 8 statements, was found to be valid. The reliability analysis of the scale resulted in a Cronbach's alpha coefficient of 0.917, an AVE value of 0.648, and a CR value of 0.936. This value indicates that the scale has a high level of reliability (Nunnally & Bernstein, 1994).

Patient Expectations Regarding Radiology Services

In the study that collected items related to patient expectations (ESR, 2021), a preference-based prioritization method was used to determine patients' expectations from radiology services. Following the original study, a similar preference-based prioritization method was also used in this research. Participants were asked to select the five items they considered most important from among the 14 items. This approach is accepted in the literature as a method used to identify the elements most valued by patients in service processes (Brook et al., 2017; Lang et al., 2013).

Data Collection Process

Research data were collected from patients receiving radiology imaging services between November 2025 and January 2026 through face-to-face interviews and an online survey. No personally identifiable information was included in the survey form. This was done to prevent social desirability bias. Data were collected after patients completed their imaging procedures. Each survey took approximately 4-5 minutes to complete. Participation in the study was entirely voluntary. Participants were informed of the purpose and scope of the study and that the data would be used solely for scientific purposes. After the information was provided, informed consent was obtained from individuals who agreed to participate in the study.

Data Analysis

Data were analyzed using SPSS, AMOS, and OriginPro software. Frequency analysis was performed on the participants' socio-demographic characteristics. The construct validity of the patient satisfaction scale in radiology services was

evaluated using EFA and CFA. The reliability of the scale was examined using Cronbach's Alpha, average variance extracted (AVE), and composite reliability (CR) values (Nunnally & Bernstein, 1994). Normality of the data distribution was examined using skewness and kurtosis values (Tabachnick & Fidell, 2013). T-test and ANOVA were used to analyze differences between groups. A univariate general linear model analysis was conducted to evaluate the independent effects of sociodemographic and imaging experience variables on patient satisfaction. Model results included the F value, the significance level (p), and the partial η^2 effect size. Differences in patient expectations regarding radiology services were evaluated using chi-square analysis and a heat map. The heat map was created using OriginPro software based on percentage distributions. The statistical significance level was set at $p<0.05$. Effect sizes were evaluated using Cohen's d(d), eta squared (η^2), and Cramer's V (V) coefficients (Cohen, 1988).

Ethical Aspects of the Research

Ethical approval for the research was obtained from the Uşak University Non-Interventional Clinical Research Ethics Committee (Date: 06/11/2025 and Number: 2025/07). Participants' informed consent was obtained by checking the "I agree to participate in the research" statement on the survey form. The Helsinki Declaration was adhered to throughout all stages of the research.

RESULT

Of the research participants, 72.9% were female, 63.3% were married, the mean age was 37.85 ± 14.60 years, 34.6% were university graduates (associate or bachelor's degree), 91.5% received imaging services from a public hospital, 35.1% received X-ray services, and 90.3% had prior experience receiving imaging services (Table 1).

Table 1. *Descriptive Statistics for Participants' Socio-Demographic Characteristics and Factors Specific to Imaging Experience*

Variables	n	%
Gender		
Female	547	72.9
Male	203	27.1
Marital Status		
Married	475	63.3
Single	275	36.7
Age (minimum=18, maximum=75, mean=37.85, standard deviation=14.60)		
18-29	294	39.2
30-39	118	15.7
40-49	142	18.9
50-59	139	18.5
≥60	57	7.6
Educational Status		
Elementary School	246	32.8
High School	245	32.7
Associate Degree	167	22.3
Bachelor's Degree	92	12.3
The hospital providing the service		
Public Hospital	686	91.5
Private Hospital	64	8.5
Imaging Services Received		
X-ray	263	35.1
MRI	121	16.1
CT	124	16.5
Ultrasound	123	16.4
Mammography	119	15.9
Previously Receiving Imaging Services		
Yes	677	90.3
No	73	9.7
Total	**750**	**100**

n: sample size; MRI: magnetic resonance imaging; CT: computed tomography

The mean total score obtained from the Radiology Patient Satisfaction Scale was determined to be 4.04±0.69. Participants have a high level of satisfaction with radiology services. The skewness (-0.795) and kurtosis (1.180) values of the scale scores are within the ±1.5 range (Table 2). It is assumed that the data meet the assumption of normal distribution (Tabachnick & Fidell, 2013).

Table 2. Descriptive Statistics and Reliability Analysis Results for the Patient Satisfaction Scale in Radiology

Scale	n	min	max	mean±sd	skewness	kurtosis
Patient Satisfaction in Radiology	750	1	5	4.04±.69	-.795	1.180

n: sample size; min: minimum; max: maximum; sd: standard deviation

Table 3 presents a comparison of patient satisfaction scores in radiology according to socio-demographic variables and reports the effect sizes for each analysis. Cohen's d was reported for comparisons between two groups, and eta squared(η^2)was reported for comparisons involving three or more groups.

Table 3. *Examination of Differences in Mean Scores of the Patient Satisfaction Scale in Radiology According to Demographic Variables and Imaging Experience*

Variables	**Category**	**n**	**mean±sd**	**Test statistics**	*p*	**Effect Size**	**Effect level**	**FDR adj. p**
Gender	Female	547	4.09±.67	t=3.209	.001	d=0.264	Small	.00117
	Male	203	3.90±.74					
Marital Status	Married	475	4.16±.64	t=6.427	.001	d=0.487	Medium	.00117
	Single	275	3.82±.73					
Age	18-29	294	3.85±.74	F=23.278	.001	η^2=0.12	Large	.00117
	30-39	118	3.81±.74					
	40-49	142	4.19±.62					
	50-59	139	4.42±.51					
	≥60	57	4.16±.39					
Educational Status	Elementary School	246	4.22±.57	F=11.086	.001	η^2=0.05	Medium	.00117
	High School	245	4.03±.61					
	Associate Degree	167	3.92±.79					
	Bachelor's Degree	92	3.80±.89					
Hospital Type	Public	686	4.01±.68	t=-3.770	.001	d=0.493	Medium	.00117
	Private	64	4.35±.74					
Imaging Modality	X-ray	263	3.96±.75	F=6.509	.001	η^2=0.03	Small	.00117
	MRI	121	3.85±.76					
	CT	124	4.07±.62					
	Ultrasound	123	4.14±.59					
	Mammography	119	4.24±.59					

Variables	Category	n	mean±sd	Test statistics	*p*	Effect Size	Effect level	FDR adj. p
Previous Imaging Experience	Yes	677	4.06±.68	t=3.163	.002	d=0.143	Small	.002
	No	73	3.79±.74					

n: sample size; sd: standard deviation; t = Student's t-test statistic; F: F-statistic; p: p-value; d: Cohen's d effect size; η^2: eta squared effect size; FDR: false discovery rate; adj. p: adjusted p-value; MRI: magnetic resonance imaging; CT: computed tomography.

T-tests and ANOVA were used to analyze differences in satisfaction levels between groups. A post-hoc test was conducted to identify the source of differences in the ANOVA results; the Games-Howell test was employed due to the lack of homogeneity of variances. Levels of satisfaction with imaging services are higher among participants who are female, married, aged 50–59, primary school graduates, recipients of services from private hospitals, or who have previously received imaging and mammography services. Effect sizes are small for gender, imaging modality, and previous imaging experience; medium for marital status, educational status, and hospital type; and large for age. After correcting for the false discovery rate (FDR) as suggested by Benjamini and Hochberg (1995), all differences in patient satisfaction were statistically significant (Table 3).

A General Linear Model analysis was conducted to evaluate the independent effects of sociodemographic characteristics and imaging experience variables on patient satisfaction. The analysis revealed that gender (F=4.378, p=0.037), age (F=13.250, p<0.001), education status (F=2.762, p=0.041), hospital type (F=12.566, p<0.001), imaging modality (F=4.582, p=0.001), and previous imaging experience (F=3.957, p=0.047) were independently associated with patient satisfaction. Marital status did not have an independent effect on patient satisfaction (F=1.860, p=0.173). The model explains 17.6% of the variance in patient satisfaction (R^2=0.176; Adjusted R^2=0.160) (Table 4).

Table 4. *General Linear Model Results for Factors Associated with Patient Satisfaction*

Variable	F	*p*-value	Partial η^2
Gender	4.378	0.037	0.006
Marital Status	1.860	0.173	0.003
Age	13.250	0.000	0.067
Educational Status	2.762	0.041	0.011
Hospital Type	12.566	0.000	0.017
Imaging Modality	4.582	0.001	0.024
Previous Imaging Experience	3.957	0.047	0.005
Model statistics: *R^2 = 0.176; Adjusted R^2 = 0.160*			

F: F-statistic; p: p-value; Partial η^2: partial eta squared(effect size);R^2: coefficient of determination; Adjusted R^2: adjusted coefficient of determination.

Figure 1 presents the top five most frequently expressed expectations of participants regarding radiology services. The expectations participants considered most important were E4 (n=497, 66.27%), followed by E2 (n=437, 58.27%), and E6 (n=366, 48.80%). These findings indicate that participants primarily focus on technical accuracy, patient safety, and diagnostic reliability in radiology services. In addition, expectations regarding the speed and timing of imaging services emerged as significant (E3: n=350, 46.67%; E5: n=294, 39.20%; E13: n=265, 35.33%; and E11: n=102, 13.60%).

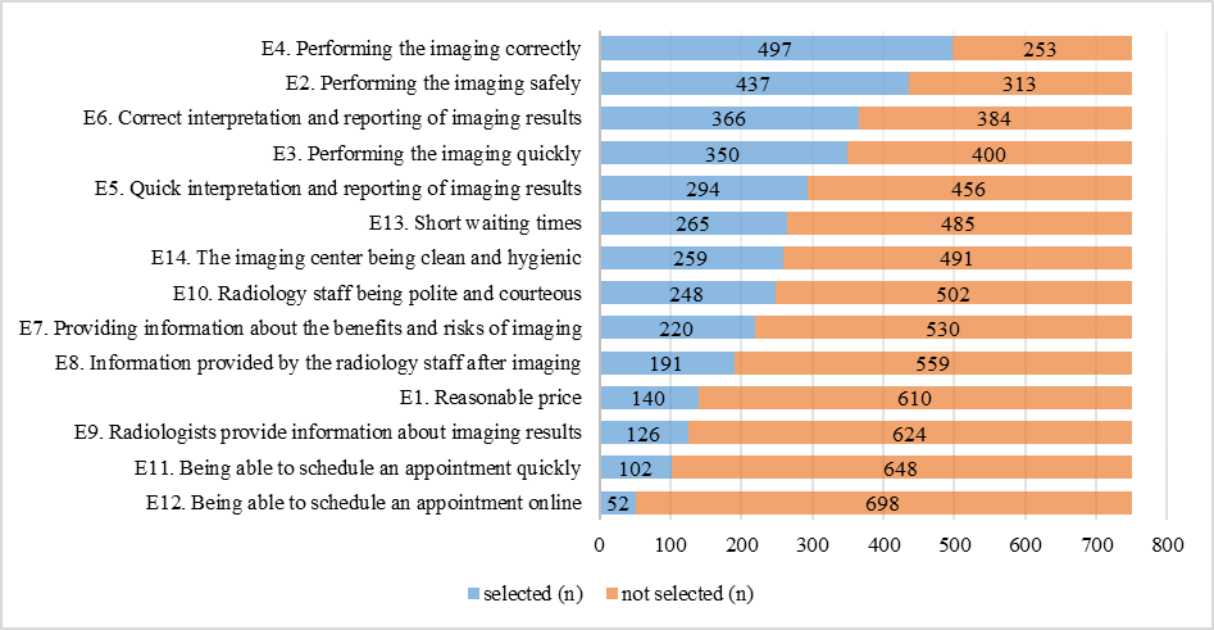


Figure 1. *Participants' Expectations Regarding Radiology Services(Top 5 statements / 750 participants)*

Figure 2 presents differences in participants' expectations regarding radiology services, based on their socio-demographic characteristics and imaging experiences, displayed as a heat map of percentage values. The statistical significance of these differences was assessed using the chi-square test. Effect sizes were analyzed using Cramer's V.

Male participants had higher expectations for E3 (χ^2=17.325; p<0.001; V=0.15) and E13 (χ^2=9.871; p=0.002; V=0.12), whereas female participants had higher expectations for E6 (χ^2=5.347; p=0.021; V=0.08). The expectations that stand out are E5 (single patients; χ^2=9.830; p=0.002; V=0.11), E7 (married patients; χ^2=5.173; p=0.023; V=0.08), E8 (χ^2=13.382; p<0.001; V=0.13), E9 (χ^2=10.780; p=0.001; V=0.12), and E14 (χ^2=6.474; p=0.011; V=0.09). Patients aged 60 and over had higher expectations for E3 (χ^2=13.045; p=0.011; V=0.13) but lower expectations for E7 (χ^2=15.175; p=0.004; V=0.14) and E12 (χ^2=12.833; p=0.012; V=0.13). Patients aged 18-29 had significantly lower expectations for E8 (χ^2=27.359; p<0.001; V=0.19) and E9 (χ^2=9.943; p=0.041; V=0.12) than those in other age groups. In the analysis based on education level, expectations for E5 (χ^2=10.752; p=0.013; V=0.12) and E6 (χ^2=9.252; p=0.026; V=0.11) increase with education level. As the education level decreases, expectations for E8 (χ^2=11.349; p=0.010; V=0.12), E10 (χ^2=16.158; p=0.001; V=0.15), E13 (χ^2=25.554; p<0.001; V=0.19), and E14 (χ^2=8.348; p=0.039; V=0.11) increase. Participants who received services from private hospitals had higher E1 expectations (χ^2=40.847; p<0.001; V=0.23).

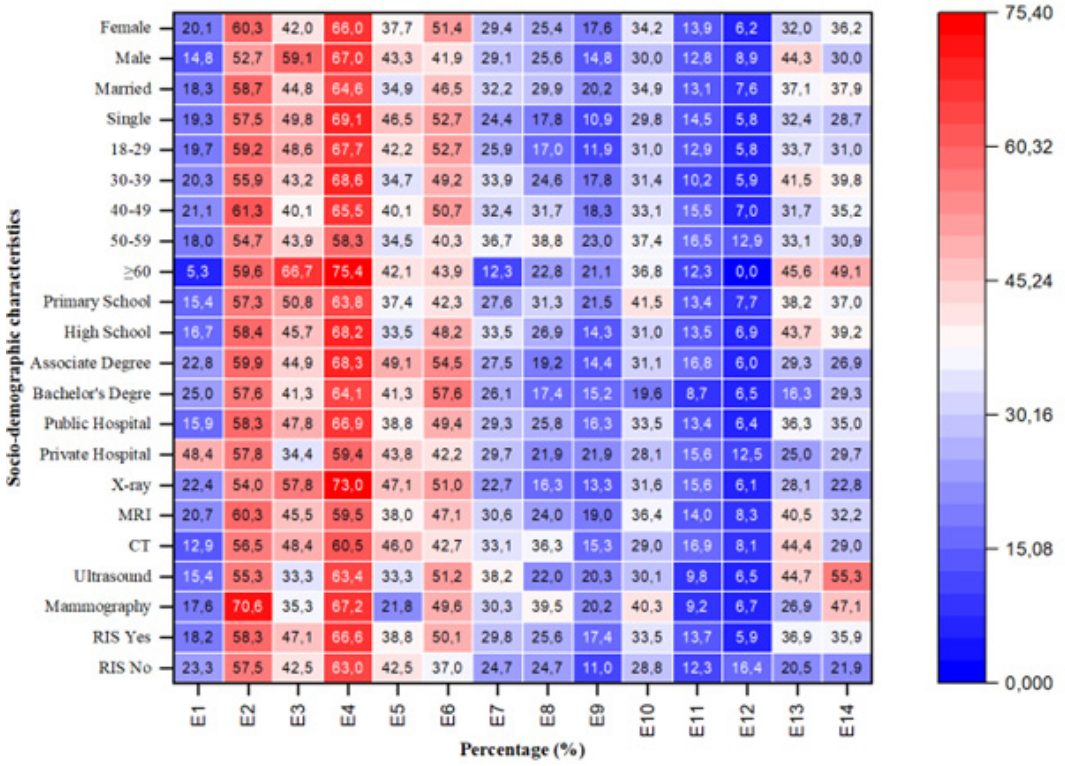


Figure 2. *Heat Map Showing Differences in Expectations Regarding Radiology Services Based on Participants' Socio-Demographic Characteristics and Imaging Experience*

Patients receiving mammography services had high expectations for E2 (χ^2=10.236; p<0.037; V=0.12) but low expectations for E5 (χ^2=10.236; p<0.037; V=0.19). Patients receiving X-ray services had high expectations for E3 (χ^2=28.274; p<0.000; V=0.19) and E4 (χ^2=10.167; p<0.038; V=0.12), and low expectations for E7 (χ^2=11.689; p=0.020; V=0.13), E8 (χ^2=32.453; p=0.000; V=0.21), and E14 (χ^2=49.608; p=0.000; V=0.26). The E13 expectation (χ^2=20.240; p=0.000; V=0.16) was lower for patients receiving X-ray and mammography, and higher for patients receiving MRI, CT, and ultrasound services. Participants who had previously received imaging services showed higher expectations for E6 (χ^2=4.517; p=0.034; V=0.08), E13 (χ^2=7.737; p=0.005; V=0.10), and E14 (χ^2=5.693; p=0.017; V=0.09), their expectations for E12 (χ^2=11.323; p=0.001; V=0.12) were low. The chi-square analysis results regarding patient expectations were adjusted for FDR (Benjamini & Hochberg, 1995). The FDR-adjusted p-value ranged from 0.002 to 0.041. Since these values were less than 0.05, all differences in patient expectations were considered statistically significant.

While the vast majority of differences found in the study were statistically significant, the effect sizes were determined to be small. The research findings indicate that socio-demographic characteristics and imaging experiences have a limited impact on patient satisfaction and expectations regarding radiology services. Therefore, the findings should be interpreted carefully in terms of clinical and practical significance. Radiology services experience high patient volumes. Therefore, although minor effects were identified in the study, it nonetheless has important implications for patient experience, service perception, and the management of quality improvement processes.

DISCUSSION

This research reveals that patient satisfaction and expectations regarding radiology services differ significantly according to socio-demographic characteristics and imaging experience. The increasing levels of health and digital literacy today have led to a differentiation in patient satisfaction and expectations regarding radiology services (Dutruel et al., 2024). The research findings emphasize the necessity of considering patient profiles and experiences in the design of radiology services. Furthermore, the findings demonstrate the importance of providing accessible, timely, safe, and sustainable services in addition to technical quality in radiology (Abujudeh et al., 2016). Therefore, radiology services should be structured to be sensitive to patients' needs, expectations, and preferences (Recht et al., 2024).

The study found that patients' satisfaction level with radiology services was high (4.04±0.69). Participants generally perceived the technical competence and service delivery in radiology services positively. Similarly, studies conducted by Mulisa et al. (2017) and Şanlı et al. (2021) also concluded that satisfaction with radiology services is generally high.

While patient satisfaction in radiology is generally high, it varies according to the socio-demographic characteristics of the participants. The study found that, among patients receiving imaging services, women, married individuals, those aged 40 and over, and those with lower levels of education reported higher levels of satisfaction. Similar results were obtained in a study conducted by Emhan and Bez (2010). Factors such as women receiving quality communication and information, married patients receiving emotional support from their spouses, and older individuals or those with lower education levels having lower expectations may contribute to higher satisfaction with radiology services (Cohen, 1996; Ochonma et al., 2017). Patients with higher levels of education may report lower satisfaction due to their tendency to be more sensitive to delays, the repetition of procedures, and radiation risks (Mulisa et al., 2017).

According to research findings, satisfaction among those receiving imaging services from private hospitals is higher than among those receiving imaging services from public hospitals. Similarly, studies conducted by Ochonma et al. (2014) and Ochonma et al. (2016) concluded that patient satisfaction levels were higher at private imaging centers because these facilities were more responsive to patient expectations and prioritized patient satisfaction.

Satisfaction levels among those receiving mammography services are significantly higher than those receiving other imaging services. A similar result was also found in a study conducted by Ajam et al. (2021). Differences in satisfaction across modalities may be influenced by patients' varying expectations or the nature of the imaging method itself. For instance, many patients undergoing MRI may experience negative outcomes due to anxiety, claustrophobia, physical discomfort, and noise (Ajam et al., 2021).

Research findings indicate that individuals who previously received imaging services report higher satisfaction than other groups. In a study by Ochonma et al. (2014), those experiencing radiology for the first time had a lower satisfaction level due to uncertainty, anxiety, lack of information, and inexperience. Patients who have previously received imaging services have increased satisfaction by reducing uncertainty and anxiety related to the imaging service (Ochonma et al., 2016).

Results of the General Linear Model analysis show that even in the model in which sociodemographic variables are evaluated together, age, educational status, hospital type, imaging modality, and previous imaging experience are independently associated with patient satisfaction. The analysis results are consistent with previous studies showing that patient satisfaction is a multidimensional phenomenon that cannot be explained by a single factor (Ajam et al., 2021;

Emhan & Bez, 2010; Mulisa et al., 2017; Ochonma et al., 2014; Ochonma et al., 2016).

Participants were asked to select the five most important expectations regarding radiology services from a list of 14. The largest proportion of participants' expectations regarding radiology services related to technical accuracy and patient safety (E2, E4, and E6). Following expectations for technical accuracy and safety, those regarding the speed and timeliness of imaging services (E3, E5, E11, and E12) were prominent. Participants' expectations regarding information provided about radiology services (E7, E8, and E9) were also significant. The study indicates that participants prioritize safe, accurate, and timely service delivery over cost and digital conveniences in radiology services.

Research findings indicate that men, single individuals, the elderly, those with lower levels of education, and patients receiving X-ray services place a higher priority on fast, timely service. In contrast, women, married individuals, those with higher levels of education, patients receiving mammography services, and those with prior imaging experience focus on expectations regarding the accuracy of imaging results and on the provision of information. Patients receiving imaging services at private hospitals prioritize affordability. Similar results were also obtained in studies conducted by ESR (2021) and Van den Broek-Altenburg et al. (2025). These findings demonstrate that patient satisfaction and expectations in radiology have a multidimensional structure (Dauer et al., 2011; Rosenkrantz & Pysarenko, 2016). Overall, this study shows that rather than a "the same service to every patient" approach, it should be addressed within a framework sensitive to the patient profile, type of service, and service delivery model (Institute of Medicine, 2001; Towbin, 2018).

Limitations of the Study

This study has several limitations. First, this study employed a cross-sectional design. The findings can be interpreted at a relational level rather than as revealing causal relationships between patient expectations and satisfaction. Second, data were collected using a self-report method, and the possibility of social desirability bias should be considered. Third, a forced-choice format measured patient expectations. Participants were asked to select only five expectations from fourteen items. This method is used to determine the relative priorities of participants' expectations and to reduce response bias. However, this approach also has psychometric limitations. Participants' responses reflect relative preferences rather than their expectations. Furthermore, validity and reliability analyses cannot be applied to forced-choice data structures. Therefore, findings regarding patient expectations should be interpreted in the context of prioritization. Fourth, the use of convenience sampling limits the representativeness of the sample and the generalizability of the findings. The vast majority of study participants were patients receiving services from public hospitals (91.5%) and female (72.9%). Therefore, the findings may predominantly reflect these groups' expectations and perceptions of satisfaction. Since patient profiles, service delivery processes, and expectations may differ in private hospitals and among different demographic groups, caution should be exercised in generalizing the results to all radiology patients. Finally, conducting the research in a single province limits the generalizability of the results to national and international contexts.

CONCLUSION

This research reveals that, although patient satisfaction and expectations regarding radiology services are high, they differ significantly according to patients' socio-demographic characteristics, type of hospital attended, imaging modality, and previous experiences. Furthermore, multivariate analysis results reveal that patient satisfaction is shaped not by a single variable but by the combined influence of multiple factors, including age, educational status, hospital type, imaging modality, and prior imaging experience. Therefore, it is recommended that patient-centered quality improvement practices be planned, taking these variables into account.

According to research findings, providing radiology services using a standardized approach is insufficient to achieve patient satisfaction and meet patient expectations. Therefore, radiology services should be organized in a patient-centered manner, be sensitive to the patient profile, and align with the service quality dimensions of reliability, sensitivity, assurance, empathy, and tangibility. In this regard, regularly monitoring patient expectations and integrating them into service design will significantly contribute to sustainable quality improvement efforts in radiology units.

Ethics Committee Approval: Ethical approval for this research was obtained from the Uşak University Non-Interventional Clinical Research Ethics Committee (Date: 06/11/2025; Number: 2025/07).

Informed Consent: All patients included in the data collection and research participants were informed about the purpose and importance of the study, and their written and verbal consent was obtained. Patients who volunteered were enrolled in the study. No personally identifiable information was included in the survey form.

Peer-review: Externally peer-reviewed.

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