Original Article

Patients Satisfaction with and Perception of the Quality of Care in Ophthalmology Clinics in Al-Baha Region, Saudi Arabia

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ABSTRACT

Background: Patient satisfaction is an important measure of healthcare quality. This study evaluated satisfaction among patients attending ophthalmology clinics in Al-Baha region and investigated the factors associated with it.

Methods: A cross-sectional study was conducted among 390 male and female patients attending ophthalmology clinics in Al-Baha. An anonymous, Arabic-translated, modified Patient Satisfaction Questionnaire Short Form (PSQ-18) was used. Descriptive statistics and appropriate tests examined associations between demographic characteristics and total PSQ-18 scores.

Results: Females constituted 60.5% of the 390 participants, and 32.1% were aged 18–25 years. The mean total PSQ-18 score was 3.48 ± 0.53; general satisfaction had the highest mean score (4.15 ± 0.85) and time spent with the doctor the lowest (3.08 ± 0.69). Overall, 86.2% were satisfied with their medical care experience, and 81.0% would recommend the ophthalmology clinics in Al-Baha. In the unadjusted analysis, scores differed significantly across age groups ($P = 0.023$) and monthly income categories ($P = 0.013$), but not marital status ($P = 0.157$); no demographic characteristic remained significant after multivariable adjustment. Perceived adequacy of waiting time was significantly associated with total satisfaction ($P < 0.001$).

Conclusion: Satisfaction with ophthalmic services in Al-Baha was generally favorable, highest for general satisfaction and communication and lowest for time spent with the physician and interpersonal manner. Perceived waiting-time adequacy was significantly associated with total satisfaction. Better appointment management, fewer avoidable delays, and more patient-centered consultations may improve ophthalmic care.

Keyword: Patient satisfaction, Ophthalmology, Cross-sectional studies, Surveys and questionnaires, Saudi Arabia.

Introduction

Vision, the most fundamental human sense, is essential to every phase of life [1]. Eye disease causes vision impairment [2]; it can affect anyone but most frequently affects children and older adults, adding to the social and financial burden on society [3].

The quality of ophthalmology services should therefore be a top priority, and enhancing patient satisfaction is critical to raising the standard of care, and vice versa, with higher satisfaction linked to better patient health status [4].

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Satisfied patients tend to remain loyal and recommend the hospital, whereas dissatisfied ones may seek care elsewhere [5]. Patient satisfaction is a widely used metric of healthcare performance and quality [6], and facilities seek to meet the needs of their clients, consumers, customers, or patients [7]. Although satisfaction is a complex, subjective construct whose conceptualization remains debated [8,9] and can be assessed by simply asking patients [10], satisfaction surveys used appropriately are a very useful tool in medical practice [11]. Positive patient–healthcare system relationships support therapeutic adherence and better health outcomes [12], and satisfaction is influenced by service quality, provider–patient communication, interpersonal interactions, accessibility, waiting time, and patient characteristics [13]. Owing to the paucity of research in Saudi Arabia, particularly in the Al-Baha region, this study aimed to assess patients' satisfaction with ophthalmology clinics in Al-Baha and to explore associated factors.

Methods

Study design and study period: This cross-sectional study was conducted from March to July 2026 at three main ophthalmology clinics in Al-Baha Region, Saudi Arabia. It followed the Declaration of Helsinki and was approved by the Institutional Review Board at the Faculty of Medicine, Al-Baha University, on May 29, 2025 (Approval No. REC/SUR/BU-FM/2025/67). Study population and inclusion criteria: Participants were male and female patients aged 18 years and older who had received care at an eye clinic in the study area, and completed the questionnaire in full. Excluded were non-consenting individuals, those residing in or treated outside the study region, and those who had received ophthalmic care outside Al-Baha region clinics. Sample size calculation: The sample size was calculated using the 'Sample Size for a Proportion' module in OpenEpi [14]. To achieve the target of 384 participants, the following parameters were applied: population size (N) of 1,000,000, anticipated frequency (p) of 50% (to maximize sample size), margin of error (d) of 5% at a 95% confidence level, and design effect (DEFF) of 1. Sample size $n = [DEFF \times N \times p(1 - p)] / [(d2 / Z21-\alpha/2 \times (N - 1)) + p(1 - p)]$ where n is the sample size, DEFF the design effect, N the population size, p the expected proportion, d the margin of error (precision), and $Z1-\alpha/2$ the standard normal deviate corresponding to the chosen confidence level. Sampling and data collection: A non-probability voluntary-response sampling approach was used. An electronic questionnaire was distributed via QR code at the three participating clinics, and patients chose independently whether to complete it. Study objectives, confidentiality, and voluntary participation were explained beforehand, and electronic informed consent was obtained. The platform recorded only completed submissions; the numbers of patients who viewed the QR code, started without submitting, or declined were unavailable, so the response rate could not be determined. A total of 390 completed questionnaires were analyzed. Survey instrument: Data were collected using an anonymous, self-administered, Arabic-translated, and modified version of the Patient Satisfaction Questionnaire Short Form (PSQ-18). A certified translator translated the questionnaire into Arabic, and a consultant ophthalmologist reviewed it for clarity and appropriateness. The questionnaire had two sections. The first collected sociodemographic information (gender, age group, marital status, educational level, occupation, and monthly income). The second was the validated 18-item PSQ-18, covering seven domains: general satisfaction, technical quality of care, interpersonal manner, communication, financial aspects, time spent with the physician, and accessibility/convenience. Items were rated on a 5-point Likert scale from "strongly agree" to "strongly disagree." Eight supplementary items developed by the research team (Table 3) captured aspects of the visit not covered by the original instrument; the 18 PSQ-18 items comprise the 17 statements in Table 2 and the overall satisfaction item in Table 3. Negatively worded items were reverse-scored, and domain and total scores were the mean of the relevant items (range 1–5), with higher scores indicating greater satisfaction.

Statistical analysis

Data were coded, entered, and checked before analysis in SPSS version 26. Categorical variables were summarized as frequencies and percentages, and continuous variables as means and standard deviations or medians and interquartile ranges, as appropriate. Normality was assessed using the Shapiro–Wilk test and distribution plots. Continuous outcomes were compared between two groups using the independent-samples t-test or Mann–Whitney U test, and across three or more groups using one-way analysis of variance (ANOVA) or the Kruskal–Wallis test; categorical associations used the chi-square or Fisher's exact test. Effect sizes were expressed as Cohen's d, eta-squared (η^2), and Cramér's V, respectively. All tests were two-sided, with $p < 0.05$ considered statistically significant.

Results

(Table 1) summarizes participant demographics (n = 390). Females outnumbered males (236, 60.5% vs. 154, 39.5%). The largest age group was 18–25 years (125, 32.1%), followed by 36–45 years (82, 21.0%), 46–55 years (76, 19.5%), >55 years (58, 14.9%), and 26–35 years (49, 12.6%). Most respondents were married (231, 59.2%) or single (155, 39.7%), with 3 (0.8%) widowed and 1 (0.3%) divorced. Most were college educated (228, 58.5%), followed by high school (73, 18.7%), postgraduate (44, 11.3%), primary school (25, 6.4%), and intermediate school (20, 5.1%). Almost half were employees (192, 49.2%), 109 (27.9%) were students, 48 (12.3%) were not working, and 41 (10.5%) were retired. Monthly income was <5000 Saudi Riyals (SR) for 147 participants (37.7%), 10,000–15,000 SR for 90 (23.1%), 5000–10,000 SR for 89 (22.8%), and >15,000 SR for 64 (16.4%). Participants' answers to the adapted PSQ-18 are shown in (Table 2). Agreement was highest for doctors explaining the reasons for medical tests (217, 55.6% strongly agreed; 127, 32.6% agreed). Likewise, 343 (87.9%) agreed or strongly agreed that doctors were friendly and courteous (199, 51.0% strongly agreed; 144, 36.9% agreed). Most felt their doctor's office had the resources to offer full medical care (308, 79.0%) and that their care was almost as good as it could be (310, 79.5%), and 301 (77.2%) strongly agreed or agreed that everything was carefully checked during examination and treatment. Financial perceptions were generally positive: 310 participants (79.5%) strongly agreed or agreed that they could access needed medical services without financial difficulty, although 138 (35.4%) strongly agreed or agreed that they had to pay more for care than they could afford. Access to required specialists was also good (267, 68.5%), and 283 (72.6%) strongly agreed or agreed that they had access to medical care when needed. Regarding interpersonal skills, 301 (77.2%) agreed or strongly agreed that doctors acted in a business-like and impersonal manner, whereas 190 (48.7%) disagreed or strongly disagreed that doctors sometimes ignored what they said and 208 (53.3%) that they had doubts about their doctors' ability. Lastly, 190 (48.7%) strongly agreed or agreed that doctors typically spent enough time with them. (Table 3) shows mostly positive perceptions of ophthalmic care: 359 participants (92.1%) strongly agreed or agreed that registration staff were polite and professional, 318 (81.5%) found the waiting area clean and comfortable, and 278 (71.3%) found the waiting time from registration to examination adequate. Regarding communication, 332 (85.1%) strongly agreed or agreed that doctors explained examination procedures clearly, and 344 (88.2%) that doctors answered their questions in an easy-to-understand manner. Satisfaction was also high with other staff: 332 participants (85.1%) strongly agreed or agreed that they were satisfied with how nurses treated them, and 334 (85.6%) with how medical records staff treated them. Similarly, 336 (86.2%) strongly agreed or agreed that they were satisfied with their overall medical care experience, and 316 (81.0%) that they would recommend the eye clinics in Al-Baha to others. (Figure 1) presents the PSQ-18 domain scores. The mean total score (scale 1–5) was 3.48 ± 0.53 (median 3.40; range 1.60–4.80). General satisfaction had the highest mean score (4.15 ± 0.85), followed by communication (3.76 ± 0.84), financial aspects (3.66 ± 0.87), technical quality (3.52 ± 0.70), and accessibility and convenience (3.24 ± 0.72), while interpersonal manner (3.14 ± 0.48) and time spent with the doctor (3.08 ± 0.69) had the lowest scores. In the univariate analysis of total PSQ-18 scores by demographic characteristics (Table 4), mean satisfaction scores differed significantly across age groups ($P = 0.023$) and monthly income categories ($P = 0.013$), but not by gender ($P = 0.433$), educational level ($P = 0.116$), or occupation ($P = 0.568$). Scores were lowest in the 26–35-year group (3.38 ± 0.42) and rose progressively thereafter to 3.67 ± 0.56 among those aged >55 years, while the youngest group (18–25 years) scored 3.46 ± 0.52. Married participants scored higher than unmarried participants (3.51 ± 0.54 vs. 3.43 ± 0.51), and scores increased across income categories, from 3.38 ± 0.51 among those earning less than 5,000 SAR to 3.62 ± 0.48 among those earning more than 15,000 SAR per month. In the multivariable regression analysis, none of the demographic variables showed a statistically significant adjusted association with total PSQ-18 scores (gender, $P = 0.618$; age groups, all adjusted $P \geq 0.383$; marital status, $P = 0.498$; educational level, all adjusted $P \geq 0.443$; occupation, all adjusted $P \geq 0.381$; monthly income, all adjusted $P \geq 0.279$). Thus, the significant univariate differences for age and monthly income were not retained after adjustment (Table 4). Perceived adequacy of the waiting time between registration and examination showed a strong association with total satisfaction ($P < 0.001$). Participants who strongly agreed that waiting time was adequate had the highest total PSQ-18 score (3.68 ± 0.53), and those who strongly disagreed the lowest (2.98 ± 0.49), respectively (Table 5).

Table 1: Patients' demographic characteristics (N = 390).

Variable		n	%
Gender	Male	154	39.5%
	Female	236	60.5%
Age	18-25	125	32.1%
	26-35	49	12.6%
	36-45	82	21.0%
	46-55	76	19.5%
	> 55	58	14.9%
Marital status	Single	155	39.7%
	Married	231	59.2%
	Widowed	3	0.8%
	Divorced	1	0.3%
Educational level	Primary school	25	6.4%
	Intermediate school	20	5.1%
	High school	73	18.7%
	College	228	58.5%
	Postgraduate education	44	11.3%
Occupation	Not working	48	12.3%
	Student	109	27.9%
	Employee	192	49.2%
	Retired	41	10.5%
Monthly income	< 5000 SR	147	37.7%
	5000-10000 SR	89	22.8%
	10000-15000 SR	90	23.1%
	> 15000 SR	64	16.4%

Table 2: Responses to the modified Patient Satisfaction Questionnaire (PSQ-18) items (N = 390; the 18th item is shown in Table 3).

	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	n	%	n	%	n	%	n	%	n	%
Doctors are good about explaining the reason for medical tests	217	55.6%	127	32.6%	21	5.4%	17	4.4%	8	2.1%
I think my doctor's office has everything needed to provide complete medical care	171	43.8%	137	35.1%	56	14.4%	17	4.4%	9	2.3%
The medical care I have been receiving is just about perfect	155	39.7%	155	39.7%	50	12.8%	20	5.1%	10	2.6%
Sometimes doctors make me wonder if their diagnosis is correct †	93	23.8%	101	25.9%	87	22.3%	71	18.2%	38	9.7%

I feel confident that I can get the medical care I need without being set back financially	163	41.8%	147	37.7%	38	9.7%	26	6.7%	16	4.1%
When I go for medical care, they are careful to check everything when treating and examining me	149	38.2%	152	39.0%	53	13.6%	26	6.7%	10	2.6%
I have to pay for more of my medical care than I can afford †	66	16.9%	72	18.5%	51	13.1%	97	24.9%	104	26.7%
I have easy access to the medical specialists I need	131	33.6%	136	34.9%	55	14.1%	53	13.6%	15	3.8%
Where I get medical care, people have to wait too long for emergency treatment †	89	22.8%	111	28.5%	91	23.3%	59	15.1%	40	10.3%
Doctors act too businesslike and impersonal toward me †	165	42.3%	136	34.9%	47	12.1%	23	5.9%	19	4.9%
My doctors treat me in a very friendly and courteous manner	199	51.0%	144	36.9%	26	6.7%	14	3.6%	7	1.8%
Those who provide my medical care sometimes hurry too much when they treat me †	85	21.8%	91	23.3%	95	24.4%	80	20.5%	39	10.0%
Doctors sometimes ignore what I tell them †	66	16.9%	68	17.4%	66	16.9%	116	29.7%	74	19.0%
I have some doubts about the ability of the doctors who treat me †	63	16.2%	62	15.9%	57	14.6%	122	31.3%	86	22.1%
Doctors usually spend plenty of time with me	79	20.3%	111	28.5%	113	29.0%	70	17.9%	17	4.4%
I find it hard to get an appointment for medical care right away †	105	26.9%	98	25.1%	69	17.7%	81	20.8%	37	9.5%
I am able to get medical care whenever I need it	138	35.4%	145	37.2%	64	16.4%	34	8.7%	9	2.3%

† Negatively worded item (reverse-scored for domain and total scores).

Table 3: Patients' perceptions of and satisfaction with ophthalmic clinic services (N = 390).

	Strongly agree		Agree		Neutral		Disagree		Strongly disagree	
	n	%	n	%	n	%	n	%	n	%
The registration staff were polite and professional.	190	48.7%	169	43.3%	14	3.6%	11	2.8%	6	1.5%
The waiting area was clean and comfortable.	162	41.5%	156	40.0%	29	7.4%	30	7.7%	13	3.3%

The waiting time between registration and examination was adequate.	127	32.6%	151	38.7%	42	10.8%	49	12.6%	21	5.4%
The doctor explained the examination procedures clearly.	171	43.8%	161	41.3%	30	7.7%	21	5.4%	7	1.8%
The doctor answered my questions in an easy-to-understand way.	186	47.7%	158	40.5%	24	6.2%	17	4.4%	5	1.3%
I am satisfied with the way nurses treat me.	185	47.4%	147	37.7%	34	8.7%	13	3.3%	11	2.8%
I am satisfied with the treatment I receive from medical records staff.	174	44.6%	160	41.0%	32	8.2%	15	3.8%	9	2.3%
Overall, I am satisfied with my experience with the medical care I receive.	173	44.4%	163	41.8%	28	7.2%	16	4.1%	10	2.6%
I would recommend the eye clinics in Al-Baha to others.	179	45.9%	137	35.1%	40	10.3%	16	4.1%	18	4.6%

All items were rated on the five-point agreement scale (strongly agree to strongly disagree). The item “Overall, I am satisfied…” is the 18th item of the PSQ-18 and is included in the total and general-satisfaction scores.

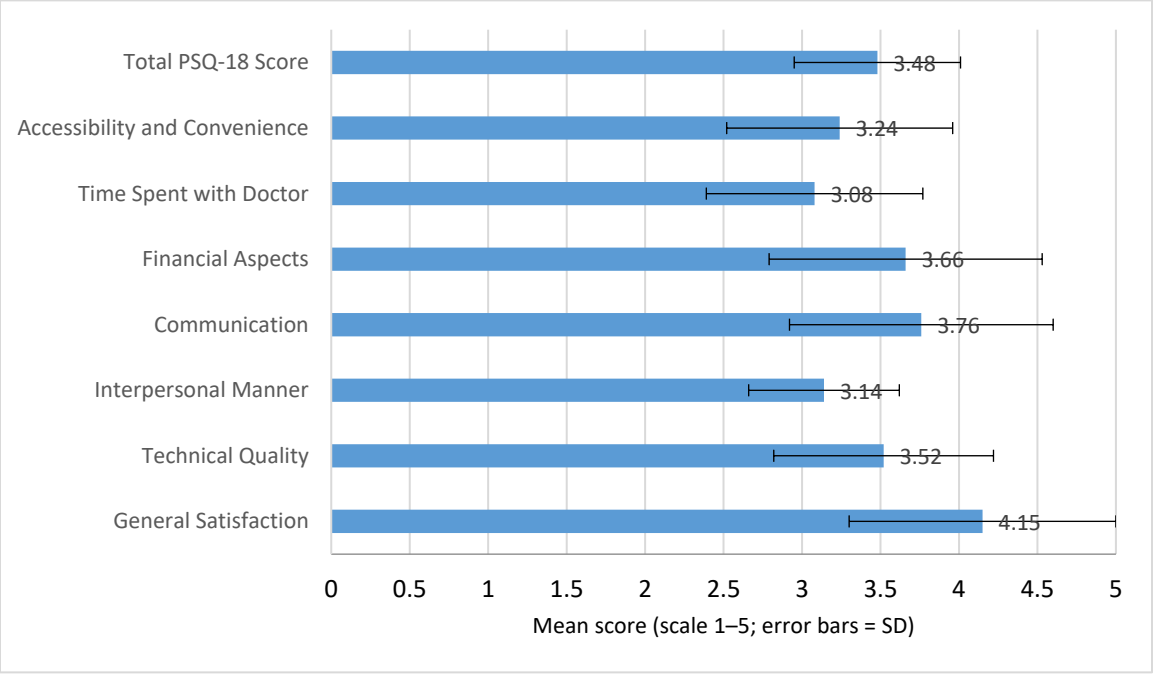

Figure 1: Mean scores of the PSQ-18 domains and total PSQ-18 score (scale 1–5; higher scores indicate greater satisfaction).

Table 4: Differences in total PSQ-18 scores according to patients' demographic characteristics and perceived adequacy of waiting time.

Demographic variables		Total PSQ-18 Score		P-value	Multivariable regression			
		Mean	Standard Deviation		B	SE	95% CI	Adjusted P-value
Gender	Male	3.51	0.49	0.433	-0.767	1.53	−3.79 to 2.26	0.618
	Female	3.46	0.55		Reference			
Age	18-25	3.46	0.52	0.023*	7.73	9.41	−10.81 to 26.27	0.412
	26-35	3.38	0.42		1.18	1.36	−1.49 to 3.85	0.383
	36-45	3.41	0.55		−1.15	1.72	−4.53 to 2.23	0.504
	46-55	3.52	0.52		−0.41	1.62	−3.60 to 2.78	0.801
	> 55	3.67	0.56		Reference			
Marital status	Unmarried	3.43	0.51	0.157	Reference			
	Married	3.51	0.54		−0.66	0.97	−2.58 to 1.25	0.498
Educational level	Primary school	3.48	0.65	0.116	−0.66	3.53	−7.62 to 6.29	0.851
	Intermediate school	3.43	0.54		1.80	2.34	−2.81 to 6.41	0.443
	High-school	3.42	0.53		−1.09	2.11	−5.24 to 3.04	0.602
	College	3.47	0.51		−0.83	1.42	−3.63 to 1.96	0.558
	post-graduated education	3.68	0.49		Reference			
Occupation	Not working	3.49	0.59	0.568	0.13	3.76	−7.29 to 7.55	0.973
	Student	3.42	0.52		4.82	5.48	−5.99 to 15.63	0.381
	Employee	3.51	0.52		−0.46	1.59	−3.60 to 2.67	0.770
	Retired	3.47	0.46		Reference			
Monthly income	< 5000 SR	3.38	0.51	0.013*	−1.85	1.71	−5.21 to 1.51	.279
	5000-10000 SR	3.48	0.53		−0.44	1.54	−3.47 to 2.59	.776
	10000-15000 SR	3.54	0.55		−1.52	2.12	−5.69 to 2.65	.472
	> 15000 SR	3.62	0.48		Reference			

* Statistically significant (P < 0.05).

Table 5: The association between total PSQ-18 score and patients' perception of waiting time.

Demographic variables		Total PSQ-18 Score		P-value
		Mean	Standard Deviation	
Was the waiting time between registration and examination adequate?	Strongly agree	3.68	.53	0.001*
	Agree	3.52	.44	
	Neutral	3.24	.43	
	Disagree	3.26	.57	
	Strongly disagree	2.98	.49	

Discussion

Overall satisfaction with ophthalmic services was favorable (mean total PSQ-18 score 3.48 ± 0.53), with general satisfaction the highest-rated domain and time spent with the doctor and interpersonal manner the lowest. A PSQ-18 survey in tertiary facilities in Riyadh likewise found relatively high overall satisfaction and the lowest rating for time spent with the doctor [15]. Notably, 77.2% of participants agreed that doctors acted in a business-like and impersonal manner, whereas 87.9% agreed that they were friendly and courteous. This apparent inconsistency may reflect acquiescence bias or difficulty with negatively worded items, so scores for domains relying on reverse-scored items (interpersonal manner, time spent) should be interpreted with caution. Item-level responses supported this: most participants reported that doctors explained tests and examination procedures clearly, examined them carefully, treated them courteously, and answered questions understandably. Listening, understandable information, empathy, and enough time to ask questions are consistently identified as important elements of satisfaction and quality of care [16], including in ophthalmology [17,18]. The high scores for registration staff (92.1% agreed they were polite and professional), nurses, and medical records staff (both over 85%) suggest that satisfaction extended beyond the doctor visit, consistent with satisfaction being multi-dimensional rather than only a measure of clinical interaction [19]. Previous PSQ-18 studies likewise showed that satisfaction with components such as communication and accessibility is interrelated and associated with higher overall satisfaction [15,20]. A key finding was that perceived waiting-time adequacy was significantly associated with overall satisfaction, with higher total PSQ-18 scores among participants who strongly agreed than among those who strongly disagreed that the wait from registration to examination was adequate. Consistent with ophthalmology evidence that wait time matters for satisfaction [21–23], McMullen and Netland found satisfaction with waiting time to be the strongest predictor of overall satisfaction, and actual waiting time to be significantly related to it [21], and another ophthalmology outpatient study found it positively correlated with overall service quality and willingness to return and to recommend the clinic [24]. The perception of waiting can influence the overall assessment even when clinical care is adequate [25]. Patients who wait less for examination or results tend to be more satisfied, although some remain satisfied despite long waits [26]. Satisfaction with waiting appears to depend on perceived and expected rather than actual waiting time alone, suggesting that expectation management may be as relevant as reducing waits [27]. Better appointment organization, prompt notification of delays, and clear communication about anticipated waits may therefore improve the patient experience. The relatively low score for time spent with the doctor (3.08 ± 0.69) is noteworthy: although almost half of participants agreed that doctors spent sufficient time with them, 51.3% were neutral or disagreed. Previous Saudi PSQ-18 studies in general populations likewise rated this domain lowest [15,28]. Improving perceived physician time, not merely consultation length, may be important; when time is limited, listening attentively and explaining clearly may enhance satisfaction. In the current study, total PSQ-18 scores differed significantly across age groups and monthly income in the univariate analysis, but no demographic characteristic remained significantly associated with

total scores after multivariable adjustment. Satisfaction was highest among those aged >55 years, although the age relationship was not strictly linear. Associations between demographic characteristics and satisfaction vary between settings, possibly owing to differences in settings, expectations, culture, and measures; a previous Saudi PSQ-18 study reported significant relationships with age, employment, education, and marital status, differing in direction and strength from the present results [28]. Male and female patients did not differ significantly in total PSQ-18 score, suggesting that they perceived ophthalmic services similarly. This is plausible because communication, perceived wait time, appointment availability, and physician attentiveness have been found to predict satisfaction in ophthalmology populations better than demographic factors [22,24]. Limitations: This study has several limitations. Its cross-sectional design precludes causal inference. Data were self-reported through an online QR-code survey, which may have introduced selection bias (for example, under-representation of older patients and those without smartphone access or digital literacy) and social desirability bias. Recruitment was non-probability-based, so findings may not generalize beyond the Al-Baha Region. The response rate could not be determined because only completed submissions were recorded. The supplementary items were developed by the research team and were not formally validated, and the high level of agreement with negatively worded items suggests possible acquiescence bias. Finally, the multivariable analysis adjusted only for demographic variables, and clinical factors (such as diagnosis, new versus follow-up visit, and actual waiting time) were not recorded, so residual confounding is possible. Despite these limitations, the study provides baseline local data.

Conclusion

Participants generally reported high satisfaction with ophthalmic services in Al-Baha, particularly with overall care, communication, and registration, nursing, and medical records staff. Time spent with physicians and interpersonal manner were rated lower, and perceived waiting-time adequacy was associated with total satisfaction. Appointment flow, avoidable delays, waiting-time communication, and patient-centered consultations merit attention in local quality improvement; the cross-sectional design precludes causal inference.

Conflict of Interest

None

Funding

None

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