

Patient Satisfaction Survey in two Medical centers in Bahrain as a Tool Towards Quality Improvement

¹*Salim Hasan Al Arrayed

¹Arrayed Eye Centre Manama, Kingdom of Bahrain.

Abstract

Background: Patient satisfaction serves as a key indicator for evaluating healthcare quality and service effectiveness. Comparing perceptions between patients in eye care and fertility centers allows for identifying service strengths and areas requiring targeted improvement.

Objective: This study aimed to assess patient satisfaction levels and identify their sociodemographic determinants across two specialized medical centers in Bahrain, an ophthalmology center and a fertility clinic.

Methods: A descriptive, cross-sectional design was employed, including 350 patients (175 from each center) selected through simple random sampling. Data were collected using a structured questionnaire and analyzed using the Statistical Package for the Social Sciences (SPSS). Statistical significance was set at $p < 0.05$.

Results: Significant associations were observed between satisfaction levels and sociodemographic factors. Female patients reported higher overall satisfaction compared to male patients (Mean = 192.37 vs. 184.57; $p = 0.001$). Educational attainment was inversely correlated with satisfaction, with patients having elementary education reporting higher satisfaction than university graduates (Mean = 191.82 vs. 181.88; $p = 0.014$). Marital status significantly affected perceptions of access to care ($p = 0.021$), with widowed patients demonstrating the highest satisfaction. No significant differences were found between patients from the two clinic types (surgical vs. medical).

Conclusion: Patient satisfaction is significantly influenced by sociodemographic variables, particularly sex, educational level, and marital status. Healthcare providers should adopt patient-centered approaches that address the unique expectations of diverse demographic groups rather than applying uniform service models.

Keywords: Patient Satisfaction; Health Care Surveys; Socioeconomic Factors; Cross-Sectional Studies; Quality Improvement; Bahrain

Introduction

In the current healthcare environment, the paradigm has confidently shifted toward a fundamentally patient-centered model, as opposed to the traditional paternalistic approach (Alruwais et al., 2024, Ozam et al., 2022). Over the past two decades, the concept of patient satisfaction has gained growing attention as a crucial source of information for identifying service gaps and formulating effective strategies to enhance healthcare quality. Consequently, healthcare managers have been compelled to integrate patient-centered care as a fundamental aspect of their mission (Rasouli and Zarei, 2016).

Moreover, patient satisfaction surveys have evolved from mere administrative tools to strategic instruments that assess patient evaluations of various touchpoints during their healthcare experience, such as staff responsiveness,

clinician communication, professional competence, and environmental conditions (Poudel et al., 2020). Patient satisfaction remains a subjective construct that largely depends on how closely expectations align with the care received (Thapa and Nyaupane, 2024). Although the requirement for quality care is universal, its effective implementation is particularly vital in specialized fields such as ophthalmology and reproductive medicine (Springborg, 2020).

Globally, visual impairment represents a significant public health issue, affecting more than 161 million individuals, including 37 million who are blind, with additional millions suffering from uncorrected refractive errors (Pesudovs et al., 2024). Similarly, infertility affects millions of couples worldwide, leading to profound personal, social, and economic consequences (Sudhan et al., 2011, Springborg,

Salim Hasan Al Arrayed

Arrayed Eye Centre Manama, Kingdom of Bahrain

Email: ssarrayed@gmail.com

Received: 25-Oct-2025

Revised: 24-Nov-2025

Accepted: 3-Dec-2025



©2025 Copyright by the Authors.

Licensed as an open access article using a [CC BY 4.0 license](https://creativecommons.org/licenses/by/4.0/).

2020, Dharmadasa et al., 2023). In both domains, quality of care encompasses more than clinical outcomes, it includes the overall patient experience, which influences treatment adherence, retention, and ultimately, institutional success. Recent research across Bahrain and neighboring Gulf countries has increasingly focused on patient satisfaction as an essential indicator of healthcare quality and service effectiveness. For instance, Fatima Juma (2020) examined Patient Satisfaction and Marketing Effectiveness in Private Hospitals in the Kingdom of Bahrain (Juma, 2020). The study explored how marketing effectiveness, personnel quality, clinical care processes, and hospital infrastructure influence patient satisfaction (Juma, 2020). Although the study offered valuable insight into the determinants of satisfaction within Bahrain's private healthcare sector, it did not include a comparative analysis between medical specialties, such as ophthalmology and reproductive care (Juma, 2020).

Similarly, Almuhanadi et al. (2020) conducted a study titled *Assessing Service Quality Dimensions and Their Effect on Patients' Satisfaction in Bahrain Primary Healthcare Using a Modified Version of the General Practice Assessment Questionnaire*. The research focused on the validity and reliability of the GPAQ-R2 tool in assessing service quality in Bahrain's primary healthcare system (Almuhanadi et al., 2020). However, the findings highlighted the need for culturally and systemically adapted instruments to evaluate patient satisfaction effectively, especially for patients with chronic conditions (Almuhanadi et al., 2020). Despite these contributions, this study was limited to primary healthcare facilities and did not address specialized medical services. Additionally, Simsekler et al. (2021) explored patient satisfaction determinants in a hospital in Abu Dhabi using a random forest algorithm. The study revealed significant methodological gaps in measuring satisfaction, including the unclear relative importance of patient- versus provider-related determinants and the absence of standardized theoretical frameworks for comparison (Simsekler et al., 2021). Although the study provided innovative insights into data-driven satisfaction modeling, it did not consider inter-specialty comparisons or the Bahrain context.

Moreover, Dharmadasa et al. (2023) examined *Satisfaction Levels Among Infertile Women Regarding Patient-Centered Care in the Fertility Clinic at CSHW in Sri Lanka* (Dharmadasa et al., 2023). The research emphasized the need to enhance patient-centered care through improved appointment systems, better informational materials, and upgraded clinical facilities (Dharmadasa et al., 2023).

Nevertheless, the study's geographical scope limits its applicability to the Bahraini healthcare context.

Likewise, Alruwais et al. (2024) conducted a cross-sectional study on patient satisfaction with ophthalmology services in Saudi Arabia. The study addressed a major gap in regional ophthalmology literature by assessing patient experiences in the Makkah region. However, the findings underscored the necessity for more comprehensive studies to explore patient needs and satisfaction determinants across different specialties and geographic settings.

Lastly, Ali et al. (2023) examined *Treatment Satisfaction Among Bahraini Patients With Psoriasis using the PsoSat Questionnaire* (Ali et al., 2023). While the study highlighted the importance of understanding treatment satisfaction and its relationship to non-compliance, it remained limited to a single clinical specialty and did not provide insights into broader service satisfaction across diverse medical contexts (Ali et al., 2023).

Collectively, these studies demonstrate a growing interest in patient satisfaction within Bahrain and the Gulf region. However, they also reveal several key gaps. Most existing research focuses on either general hospital settings or single specialties, with minimal comparative analysis across different medical disciplines. Furthermore, limited attention has been given to how sociodemographic factors, such as sex, education, and marital status; shape patient satisfaction in specialized healthcare centers. To address these gaps, the current study aimed to compare patient satisfaction levels and their sociodemographic determinants across two specialized medical centers in Bahrain.

Methodology

Study Design

The current study used a descriptive cross-sectional design to assess patient satisfaction in two healthcare centers in Bahrain. This design helped compare patient perceptions between the centers and provided an overview of their satisfaction during the study period.

Study Setting

The study was carried out in two private health institutions. The first was Al Arrayed Eye Center (AEC), a specialized eye hospital providing diagnostic and surgical services such as cataract and refractive surgery, corneal transplants, glaucoma management, and retinal operations. The second was Janeen Fertility and Genetic Center (JFGC), a reproductive and genetic center offering assisted reproductive technologies such as in vitro fertilization

(IVF), intracytoplasmic sperm injection (ICSI), and intrauterine insemination (IUI), along with prenatal diagnostic and genetic services.

These centers were selected to represent two distinct patient groups: AEC mainly served individuals with age-related eye conditions, while JFGC served patients of reproductive age seeking fertility treatment.

Study Population and Sampling

The study population included all patients who attended AEC and JFGC during the data collection period from January to February 2020. At AEC, 200 questionnaires were distributed, and 175 were completed, resulting in a response rate of 87.5%. The same number of patients (n=175) participated from JFGC, giving a total sample of 350 respondents.

Participants were selected using simple random sampling from outpatient clinics. Inclusion criteria required that participants were patients of either AEC or JFGC, were alert and oriented, and agreed to participate voluntarily. Patients who declined (n=25 at AEC) were excluded from the study.

Data Collection Instrument

Data were collected using a structured patient satisfaction questionnaire developed from existing literature and expert input. The tool measured key areas including access to care, physical environment, waiting time, communication, interaction with staff, and overall satisfaction. The questionnaire was available in Arabic and English and was completed immediately after the consultation, either by the patients themselves or with the researcher's assistance.

Data Collection Procedure

Data were gathered over two months. Patients at AEC were surveyed in January 2020, and those at JFGC in February 2020. After receiving care, participants were informed about the study's purpose and asked to complete the questionnaire voluntarily and confidentially.

Ethical Considerations

Ethical standards were maintained throughout the study. Verbal consent was obtained from the directors of both centers, as no formal ethics committees existed at that time. All participants gave verbal informed consent, and anonymity was ensured. The study was conducted for academic purposes only.

Data Analysis

Data were entered into Microsoft Excel and analyzed using the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics such as mean, standard deviation (SD), and frequency distributions were used to summarize participant characteristics and satisfaction scores. Independent t-tests and one-way analysis of variance (ANOVA) were used to examine satisfaction differences by sex, marital status, education level, and clinic type. A p-value of <0.05 was considered statistically significant.

Results

Patient Demographics

The study included a total of 350 patients, with 175 recruited from AEC and 175 from JFGC. Table 1 summarizes the age distribution of the respondents from both centers. Most patients at JFGC were between 20 and 40 years old (83%), reflecting the younger demographic typically seeking fertility treatment. In contrast, the majority of patients at AEC were aged 40 to 60 years (41%), consistent with the higher prevalence of age-related eye conditions. The proportion of patients below 20 years was low in both centers (1% at JFGC; 16% at AEC), while those above 60 years were also few (2% at JFGC; 11% at AEC).

Such demographic trends suggest that different populations of patients can be found in the two centers, with the population being younger and mainly seeking fertility treatment, and an older population with need of ophthalmic treatment.

Patient Satisfaction by Sex

The results indicated that the patient satisfaction was varying based on sex (Table 1). Although there were no differences between males and female reporting, the differences were statistically significant in the three areas namely patients expectation, information and interaction, as well as overall satisfaction. The female patients always ranked higher in satisfaction scores as compared to male patients in these areas. Particularly, females expressed a much higher degree of satisfaction with their expectations of the same (Mean = 45.83 vs. 42.79; $p = 0.001$), communication and interaction with the medical personnel (Mean = 43.16 vs. 41.05; $p = 0.013$), and overall (Mean = 192.37 vs. 184.57; $p = 0.001$). These data show that female patients were more prone to consider the care as meeting their expectations and being marked by effective

Table 1. Classification of Patients Based on Age Group in Both Centers

Age Group	Janeen (n=175)	%	Al Arrayed (n=175)	%
0–20	2	1	28	16
20–40	145	83	57	33
40–60	24	14	71	41
60–80	4	2	19	11
Total	175	100	175	100

Table 2. Comparison of Patient Satisfaction by Sex

Dep. var. “Patient Satisfaction”	Indep. var. “Sex”	N	Mean	T	P-Value
<i>Access to care</i>	Male	208	29.9856	-1.462	0.145
	Female	197	30.6294		
<i>Physical environment</i>	Male	208	33.2543	-1.802	0.072
	Female	197	34.1726		
<i>Patients’ expectations</i>	Male	208	42.7991	-4.133	0.001*
	Female	197	45.8376		
<i>Waiting time</i>	Male	208	37.4809	-1.822	0.069
	Female	197	38.6041		
<i>Information & Interaction</i>	Male	208	41.0529	-2.493	0.013*
	Female	197	43.1629		
<i>Overall satisfaction</i>	Male	208	184.5721	-3.295	0.001*
	Female	197	192.3706		

* P-values statistically significant at level equal or less than 0.05.

communication.

Patient Satisfaction by Marital Status

Additional analysis of patient satisfaction was based on the marital status (Table 2). The gap was quite considerable ($p = 0.021$) in the area of access to care. Widowed patients indicated the best access scores (Mean = 32.65), and then, the divorced patients (31.67), the unmarried patients (30.83), and married patients (29.90). Other areas of satisfaction, however, such as the physical environment, patient expectations, and waiting times, information and interaction, as well as overall satisfaction did not indicate any significant differences by marital status groups. These findings indicate that the marital status can cause perceived access to services but not the strong impact on the overall satisfaction levels.

Patient Satisfaction by Educational Level

Patient satisfaction levels varied notably across different education groups (Table 3). Patients with elementary education reported the highest satisfaction scores for both the physical environment (Mean = 34.54; $p = 0.003$) and overall satisfaction (Mean = 191.82; $p = 0.014$). In contrast, patients with university education showed significantly lower satisfaction in these areas. Similarly, there was a significant difference in patient expectations by education level ($p = 0.045$), with those holding elementary and secondary education reporting higher satisfaction than university graduates. However, no significant differences were found in access to care, waiting time, or information and interaction. These findings suggest that higher education levels may lead to more critical evaluations of healthcare services, particularly regarding the physical environment and service expectations.

Table 3. Comparison of Patient Satisfaction by Marital Status

Dep. var. "Patient Satisfaction"	Marital Status	No	Mean	Indep. var. Marital status	DF	F	p-value
<i>Access to care</i>	Married	274	29.9015	Between Groups	3	3.277	.021*
	Unmarried	108	30.8333				
	Divorced	20	31.6667				
	Widow	3	32.6500				
<i>Physical environment</i>	Married	274	33.7336	Between Groups	3	0.417	.741
	Unmarried	108	33.4167				
	Divorced	20	34.5000				
	Widow	3	34.8004				
<i>Patients' expectations</i>	Married	274	44.2963	Between Groups	3	1.825	.142
	Unmarried	108	43.9259				
	Divorced	20	45.0500				
	Widow	3	48.0000				
<i>Waiting time</i>	Married	274	37.9467	Between Groups	3	1.309	.271
	Unmarried	108	37.7407				
	Divorced	20	38.1500				
	Widow	3	39.6500				
<i>Information & Interaction</i>	Married	274	41.2139	Between Groups	3	1.669	.173
	Unmarried	108	42.1185				
	Divorced	20	45.7500				
	Widow	3	43.5000				
<i>Overall satisfaction</i>	Married	274	187.5000	Between Groups	3	2.274	.079
	Unmarried	108	192.3333				
	Divorced	20	192.3333				
	Widow	3	201.9000				

* P-value statistically significant at level equal or less than 0.05.

Table 4. Comparison of Patient Satisfaction by Education Level

Dep. var. "Patient Satisfaction"	Education Level	No	Mean	Indep. var. Education Level	DF	F	p-value
<i>Access to Care</i>	Elementary	90	30.3667	Between Groups	3	2.363	.071
	Preparatory	105	31.1714				
	Secondary	130	30.5944				

Cont. Table 4

	University and more	80	29.5250				
Physical environment	Elementary	90	34.5444	Between Groups	3	4.632	.003*
	Preparatory	105	34.2952				
	Secondary	130	33.7385				
	University and more	80	31.9125				
Patients' expectations	Elementary	90	44.4333	Between Groups	3	2.662	.045*
	Preparatory	105	44.2952				
	Secondary	130	44.4923				
	University and more	80	42.9000				
Waiting time	Elementary	90	38.8889	Between Groups	3	2.307	.076
	Preparatory	105	38.6667				
	Secondary	130	36.9308				
	University and more	80	36.6000				
Information & Interaction	Elementary	90	43.7889	Between Groups	3	1.949	.121
	Preparatory	105	42.2190				
	Secondary	130	41.2462				
	University and more	80	41.3750				
Overall satisfaction	Elementary	90	191.8222	Between Groups	3	3.561	.014*
	Preparatory	105	192.0190				
	Secondary	130	187.0154				
	University and more	80	181.8750				

* P-value statistically significant at level equal or less than 0.05.

Patient Satisfaction by Type of Clinic Visited

When comparing satisfaction across surgical, medical, and other clinics (Table 4), no statistically significant differences were identified across any of the domains. Mean satisfaction scores remained consistent across clinic types, suggesting that the quality of care and patient experience were perceived as comparable irrespective of clinical specialty.

Discussion

Evaluating patient satisfaction in specialized healthcare settings provides valuable insight into how demographic and institutional factors shape care experiences. This is particularly relevant in Bahrain,

where private medical centers such as ophthalmology and fertility clinics serve diverse patient populations with different expectations. The current study aimed to fill a knowledge gap on patient satisfaction rates. It investigated their connection to key sociodemographic variables at two specialized centers in Bahrain, AEC and JFGC. The specialization of each center was highlighted in the demographic profile used in the current study. JFGC had a higher population of patients receiving fertility treatments. This was because the age range was 20-40 years, which is the typical age bracket for individuals seeking such treatments. In contrast, the cohort at AEC was much older, at 40-60 years. This aligns with the prevalence of age-related ophthalmic conditions. This distinct demographic

Table 5. Patient Satisfaction Across Clinic Types

Dep. var. "Patient Satisfaction"	Visited clinic	No	Mean	Indep. var. Visited clinic	DF	F	p-value
<i>Access to care</i>	Surg. clinics	129	30.0698	Between Groups	2	0.526	0.591
	Med. clinics	241	30.4813				
	Others	35	29.8857				
<i>Physical Environment</i>	Surg. clinics	129	33.4496	Between Groups	2	0.272	0.762
	Med. clinics	241	33.5845				
	Others	35	33.5714				
<i>Patients' expectations</i>	Surg. clinics	129	43.7132	Between Groups	2	1.108	0.331
	Med. clinics	241	44.7261				
	Others	35	43.2571				
<i>Waiting time</i>	Surg. clinics	129	37.3256	Between Groups	2	1.551	0.213
	Med. clinics	241	38.4730				
	Others	35	37.5429				
<i>Information & Interaction</i>	Surg. clinics	129	41.7597	Between Groups	2	0.469	0.626
	Med. clinics	241	42.0415				
	Others	35	43.3143				
<i>Overall Satisfaction</i>	Surg. clinics	129	186.3178	Between Groups	2	0.789	0.455
	Med. clinics	241	189.5768				
	Others	35	187.5714				

profile confirmed that the study successfully recruited the exclusive patient profiles of these specialized clinics. Furthermore, it formed a strong basis for analyzing satisfaction determinants.

One of the key findings of the current study was a significant difference in satisfaction based on patient sex. Female patients showed statistically higher satisfaction in important areas. These areas included the meeting of expectations, information provision, interaction, and overall satisfaction. This indicates that the care provided aligned more closely with what female patients expected. Moreover, their perception of communication with healthcare providers was more positive. This result is partially supported by Alburmawi et al. (2024), who also found significant sociodemographic influences on satisfaction. Nevertheless, the strong gender disparity

here also suggests an area for improvement. Specifically, communication and expectation management for male patients could be refined. This could be particularly important in the context of specialized practice.

The analysis of marital status showed that it did not affect overall satisfaction. However, there was a substantial effect on perceptions of access to care. A larger percentage of widowed and divorced patients reported higher satisfaction with access compared to married individuals. This might mean that single people require different logistics. Alternatively, they may interpret service provision differently. This is a nuanced element that healthcare administrators should consider for their patient access channels.

Another factor connected to satisfaction was educational attainment. The current study observed that patients with

lower education levels expressed greater satisfaction. This was particularly true for the physical environment and overall satisfaction, compared to university graduates. This inverse relationship between education and satisfaction is common in health services research. The hypothesis is that better-educated individuals are often more critical of healthcare services. Consequently, they can be more demanding consumers. For example, Poudel et al. (2020) demonstrated that while overall satisfaction was high, complaints about accessibility were more common among those with higher education (Poudel et al., 2020). Likewise, Ozam et al. (2022) established that service quality sometimes failed to meet expectations, which was more personally experienced by highly educated patients (Ozam et al., 2022). The current study reinforces this trend. It implies that to achieve excellence, facilities must meet the high standards of more knowledgeable customers.

Interestingly, no statistically significant differences were observed in the current study regarding satisfaction when the type of clinic visited was compared. This shows that the quality of care and patient experience was consistent across the various clinical specialties within the centers (Alruwais et al., 2024). This is a positive observation. It suggests that a strong, organization-wide culture of patient-centered care can transcend specific medical fields. This finding aligns with the high satisfaction reported by Thapa and Nyaupane (2024) in private specialty hospitals, where consistent service quality was a key driver of patient approval (Thapa and Nyaupane, 2024).

Finally, the evidence from the current study proves that patient satisfaction is a complex entity. It is influenced by sociodemographic factors, including sex, marital status, and education level. Although overall satisfaction was high, the findings suggest that specific areas of quality can be enhanced, as shown in studies (Springborg, 2020, Simsekler et al., 2021). To improve patient-centered care delivery, the centers could implement targeted measures. For instance, they could offer communication training for staff to better engage male patients (Al Owaifeer et al., 2022). Furthermore, facilities could strive to meet the standards expected by patients across all education levels (Alburmawi et al., 2024, Alkhateeb et al., 2025). They could also address access perceptions among different marital groups. This knowledge adds to the global understanding of patient satisfaction. Moreover, it highlights the importance of an individualized, data-centered strategy for quality improvement in specialized care facilities.

Future Directions

Expanding on this work, future research could use longitudinal designs. These would track changes in patient satisfaction over time. Furthermore, they could measure reactivity to specific quality improvement initiatives. Moreover, including public healthcare centers and a wider spectrum of medical specialties would be beneficial. Expanding the scope to the Gulf region and beyond would also improve the generalizability of the findings. Adding a qualitative approach, such as in-depth interviews or focus groups, would offer a deeper perspective. This would help uncover the motivations behind the quantitative satisfaction scores. Finally, investigating the correlation between patient satisfaction scores and objective clinical outcomes is critical. This would help validate satisfaction as a comprehensive quality measure.

Conclusion

This study demonstrated that patient satisfaction is largely influenced by sociodemographic factors, even in specialized care settings. The key findings were that female patients and those with lower educational attainment expressed higher satisfaction levels. These findings highlight that patient experience is not uniform. Instead, it is shaped by individual expectations and perceptions. Therefore, a one-size-fits-all strategy is inadequate for healthcare centers aiming for excellent patient-centered care. Instead, the results support tailored quality improvement plans. These plans should address the unique needs and perspectives of different patient groups. Ultimately, this approach harnesses patient feedback as a powerful tool for organizational excellence and enhanced service delivery.

Declarations

Ethical Approval and Consent

Verbal permission to conduct this study was granted by the directors and administrators of both the Arrayed Eye Centre and the Janeen Fertility and Genetic Centre. Informed consent was obtained from all individual participants included in the study. As the organizations surveyed did not have an institutional ethical review committee at the time of the study, a formal approval number was not issued. This research was initially conducted as an academic thesis and was not intended for public dissemination.

Data Availability

The datasets generated and analyzed during the current study are not publicly available due to the privacy agreements made with the participating medical centers but may be available from the corresponding author upon reasonable request.

Competing Interests

The author, Salim Hassan Al Arrayed, is affiliated with the Arrayed Eye Centre. To mitigate potential bias, the study was designed as a comparative analysis with another center, and data collection was facilitated by administrative staff at both sites to ensure objectivity.

Funding

No funding was received for conducting this study.

Authors' Contributions

Salim Hassan Al Arrayed is the sole author responsible for the conceptualization, methodology, investigation, data curation, formal analysis, writing of the original draft, and project administration.

Acknowledgements

The author would like to acknowledge the secretarial staff of both medical centers for their assistance in distributing the surveys. Gratitude is also extended to Dr. Sheikha Salem for her mentorship and to Dr. Haleama Al Sabbah for her research advice.

References:

AL OWAIFFEER, A. M., AL-SWAILEM, S. A., AL DEHAILAN, A. M., AL NAIM, A., AL MOLHIM, M. F., KHANDEKAR, R. B., AL OWAIFFEER, A. M., ALNAIM, A. & AL MOLHIM, M. 2022. Physician satisfaction with virtual ophthalmology clinics during the COVID-19 pandemic: a tertiary eye care center experience. *Cureus*, 14.

ALBURMAWI, R. A., HAMDAN, K., SHAHEEN, A. & ALBQOOR, M. A. 2024. Patient satisfaction with primary health care services and primary health care providers. *Public Health Nursing*, 41, 466-475.

ALI, M., TOORANI, Z. A. & AL AWADHI, A. 2023. Treatment Satisfaction Among Bahraini Patients With Psoriasis: A Single Center Cross-Sectional Study Using the PsoSat Questionnaire. *Cureus*, 15.

ALKHATEEB, M., ALTHABAITI, K., AHMED, S., LÖVESTAD, S. & KHAN, J. 2025. A systematic review of the determinants of job satisfaction in healthcare workers in health facilities in Gulf Cooperation Council countries. *Global Health Action*, 18, 2479910.

ALMUHANADI, S., ALHAMMADI, H., SURESH, A. & AL ALAWI, S. 2020. Assessing service quality dimensions and their effect on patients satisfaction in Bahrain primary healthcare using a modified version of the General Practice Assessment Questionnaire. *Patient preference and adherence*, 2541-2549.

ALRUWAIS, A. T., ALLIHYANI, A., SINDY, E. A., ALHOWAIDI, R., MULLA, O., MALIBARI, J. S., ALHOTHALI, T. N., ALJUWAYBIRI, R., ALGHAMDI, A. & ALKALASH, S. H. 2024. A Cross-Sectional Study on Patient Satisfaction With Healthcare Services Provided at the Ophthalmology Clinics in Saudi Arabia. *Cureus*, 16.

DHARMADASA, M. M., SRIDHARAN, S., PRASANTHI, N., KALANSOORIYA, W., HERATH, C., HERATH, T., PRAMUDIKA, H., FERNANDO, M. T. & THILAKASIRI, D. L. 2023. Satisfaction level among infertile women regarding patient-centered care in the fertility clinic at CSHW. *International Journal of Science and Technology Research Archive*, 5, 086-097.

JUMA, F. H. 2020. Patient Satisfaction and Marketing Effectiveness in Private Hospitals in the Kingdom of Bahrain.

OZAM, T. S., GARNAN, A. A. S. & ALQAHTANI, N. M. 2022. Patients' satisfaction with healthcare services at private and public hospitals in Aseer Region. *Journal of Pharmaceutical Research International*, 34, 36-66.

PESUDOVS, K., KANDEL, H., NAIK, G. R., SHOROFI, S. A. & STUDY, V. L. E. G. O. T. G. B. O. D. 2024. Global estimates on the number of people blind or visually impaired by Uncorrected Refractive Error: A meta-analysis from 2000 to 2020. *Eye (Basingstoke)*, 38, 2083-2101.

POUDEL, L., BASKOTA, S., MALI, P., PRADHANANGA, P., MALLA, N., RAJBHANDARI, B. & NEPAL, S. 2020. Patient satisfaction in out-patient services at a tertiary care center: a descriptive cross-

sectional study. JNMA: Journal of the Nepal Medical Association, 58, 301.

RASOULI, O. & ZAREI, M. H. 2016. Monitoring and reducing patient dissatisfaction: a case study of an Iranian public hospital. *Total Quality Management & Business Excellence*, 27, 531-559.

SIMSEKLER, M. C. E., ALHASHMI, N. H., AZAR, E., KING, N., LUQMAN, R. A. M. A. & ALMULLA, A. 2021. Exploring drivers of patient satisfaction using a random forest algorithm. *BMC Medical Informatics and Decision Making*, 21, 157.

SPRINGBORG, R. 2020. *Political economies of the middle east and north africa*, John Wiley & Sons.

SUDHAN, A., KHANDEKAR, R., DEVERAGONDA, S., DEVI, S., JAIN, B., SACHAN, R. & SINGH, V. 2011. Patient satisfaction regarding eye care services at tertiary hospital of central India. *Oman journal of ophthalmology*, 4, 73-76.

THAPA, S. & NYAUPANE, P. 2024. Patients' Satisfaction towards the Treatment and Awareness of Health Facilities in the Hospital. *NPRC Journal of Multidisciplinary Research*, 1, 84-93.