

ORIGINAL ARTICLE

Satisfaction Level of Doctor-patient Relationship in Ophthalmology Clinic

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ABSTRACT

Introduction: Patient satisfaction is essential for overall patient care as it may directly influence patient engagement and compliance with treatment. This study aims to determine patient satisfaction level of doctor-patient relationship in the ophthalmology clinic. **Materials and methods:** This was a cross-sectional study carried out at an ophthalmology clinic. There were 203 patients who attended the ophthalmology clinic who were recruited using random sampling. A questionnaire was given after a doctor consultation, which included sociodemographic background, doctor characteristics and 'Skala Kepuasan Interaksi Perubatan' (SKIP-11). Fisher's Exact Test was used to evaluate the association between patient satisfaction level of doctor-patient relationship with sociodemographic factors and medical personnel factors. **Results:** A 100% response rate was obtained where 96.6% of patients were satisfied with the doctor-patient relationship. Based on the subdomains, rapport obtained the highest satisfactory percentage of 94.1%, followed by distress relief (91.6%) and interaction outcome (86.2%). Middle-aged patients reported lower satisfaction rates compared to other age groups ($p=0.002$). However, there was no significant association for other sociodemographic factors including patients' gender ($p=0.708$), religion ($p=0.547$), ethnicity ($p=0.346$), marital status ($p=1.00$) and education level ($p=0.268$). The doctor gender had no significant association with level of patient satisfaction ($p = 0.567$). **Conclusion:** This study demonstrated a high level of patient satisfaction in doctor-patient relationships at our ophthalmology clinic. The analysis revealed effective doctor-patient communication across all domains, with only patient age showing significant association with satisfaction levels. These findings suggest the quality of doctor-patient interaction transcends gender considerations in our ophthalmology setting.

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INTRODUCTION

Satisfaction can be defined as the pleasant feeling when doing or receiving something according to expectations. Patients' satisfaction is related to the subjective evaluation of the health care services acquired against the patient's presumptions (1). It remains a key factor in determining patient compliance with the medical advice and treatment provided, the doctor-patient relationship, use of medical services and continuity of care. Satisfied patients are more inclined to seek out and adhere to recommended treatment regimens (2). The doctor-patient relationship is a challenging concept to due to the unique nature of the developing

relationship between doctors and patients. Various scholars have investigated this concept, including medical professionals, healthcare economics, social psychologists, medical sociologists, rhetoricians, and healthcare communication experts. Studies have shown that changes in medical technology, law, education, ethics, and research over the past half-century have impacted the shape of current physician-patient relationships worldwide. The term "doctor-patient relationship" is defined as a consensual relationship in which the patient knowledgeably seeks the doctor's help and the doctor at the same time knowingly accepts that person as the patient (3).

The satisfaction degree of the doctor-patient relationship comprises three aspects: the doctor's communication skills, the patient's trust toward doctors and patient-centred care. It has been shown that the doctor-patient relationship is crucial in boosting patient compliance

and continuity of care, which leads to improved health outcomes. Satisfied patients are more likely to adhere to medical recommendations, come back for follow-up care, share more details during history taking, and maintain a long-lasting professional relationship with their career (4). There are limited studies concerning patient satisfaction in ophthalmology. A study done in Vietnam involving inpatients only found that 50% of their patients were satisfied with the health service with those from rural areas and females were more likely to be satisfied (5). Effective doctor-patient communication is central to the therapeutic doctor-patient relationship which is said to be the art and heart of medicine (6). However, studies have shown that many physicians find their communication appropriate or even good when in reality, patients are actually discontent with it. This shows that doctors may overestimate their communication skills with their patients, which may result in dissatisfaction for patients (6). A study done in an ophthalmology department in India found that 74.1% of the faculty members noted that poor communication was the main reason for patient complaints, hence establishing the need for communication skills training to improve patient satisfaction for those in the postgraduate training (7). In the United States, it was also found that there was a need for formal communication skills training in the residency program. A survey done among program directors found that 90% of them agreed that the communication skills training in the program could be improved (8). Among the key modules include managing the difficult patient, disclosing an adverse event and discussing guarded visual prognosis and loss of ability to drive (8). Although the first two modules are relevant to other specialities as well, specific topics with regards to ophthalmology such as the significance and impact of vision on an individual's life, be it in terms of managing activities of daily living and on their occupational demands requires a special skillset in the management of such cases to ensure patient satisfaction. Diseases like glaucoma usually require lifelong medications and follow-up. Hahn highlighted that patient-centred communication may help engage the patient in shared decision-making of their medications and may help reveal and reduce nonadherence to treatment (9). While patient satisfaction studies have been conducted extensively in primary care settings using various tools including SKIP-11, research in speciality care settings, particularly ophthalmology, remains limited. Ophthalmology consultations present unique challenges in doctor-patient communication, as visual impairment itself can affect interaction dynamics and comprehension. The complexity of eye examinations, diagnostic procedures like pupillary dilation, and the need to explain intricate eye conditions require specialized communication approaches. Studies from various countries have demonstrated the importance of measuring patient satisfaction, but these predominantly focus on general medical consultations, with only one study from Vietnam showing 50% satisfaction rates in an inpatient ophthalmology setting

(5,10,11,12). Moreover, while chronic conditions like glaucoma demand effective communication for treatment adherence and visual rehabilitation, there is limited research on how these specific aspects affect patient satisfaction in eye care settings. In Malaysia, although SKIP-11 has been validated and used successfully in primary care and among specific patient groups like diabetics and those with cardiovascular disease, its application in speciality care settings has not been well explored (13-14). This gap is particularly significant in teaching hospital ophthalmology settings, where the dynamics of doctor-patient relationships may be influenced by the involvement of trainees and the need for family participation in eye care decisions. Therefore, we aim to determine the satisfaction level of the doctor-patient relationship among patients in an ophthalmology clinic and to identify the factors associated with their satisfaction level.

MATERIALS AND METHODS

Study design

A cross-sectional study was conducted among patients in the outpatient ophthalmology clinic, Hospital Sultan Abdul Aziz Shah (HSAAS), UPM. The study was conducted over a two-week period in June 2023, which was determined to capture both new and follow-up cases across different clinic sessions, while ensuring adequate representation of various medical officer and specialist rotations, as some specialists only consult on specific days of the week. Random sampling was used to select the patients. The outpatient clinic had 6 consultation rooms with 5 medical officers and at least 2 ophthalmologists per clinic session. The clinic serves an average of 75 patients daily, with a doctor-to-patient ratio of 1:14 per session. The patient population primarily consists of Malays between the ages of 55 to 60 years old. The inclusion criteria were all patients attending the clinic who are 18 years old and above. Those who were unable to understand the Malay language and were unable to follow instructions were excluded. Healthcare workers in the ophthalmology clinic were also excluded from this study. The total sample size calculation was 185 which was based on overall patient satisfaction (15). With a precision of 0.08 and 95% confidence interval, the sample size was increased by 30% to account for potential non-response due to anticipated challenges such as time constraints after consultation, effects of pupillary dilation, and possible incomplete questionnaires. This resulted in a final calculated sample size of 200. All eligible patients were invited to participate in the study.

Data Collection

Eligible patients were approached in the waiting area after completing their consultation to minimize any potential influence on their responses regarding doctor-patient interaction. A research assistant briefly explained the study's purpose and procedures before obtaining

written informed consent from participants. Patients then completed the online, self-administered questionnaire, either independently or with the help of one of the three research assistants using an iPad to enable a larger text view as some patients had poor vision either due to their ocular condition or because of eye dilation, which is part of the comprehensive ocular examination.

Study Instruments

A self-administered online questionnaire was used to collect the variables of interest in this study. The questionnaire comprised of three parts. The first part was on sociodemographic data which included age, gender, ethnicity, religion, marital status, and education level. The second part was on patients' satisfaction by using the Skala Kepuasan Interaksi Perubatan (SKIP-11). The SKIP-11 (Skala Kepuasan Interaksi Perubatan-11) is a validated Malay language tool that measures patient satisfaction with physician interaction across three domains: Distress Relief (4 items), Rapport (4 items), and Interaction Outcome (3 items). The tool demonstrated good construct validity through Confirmatory Factor Analysis with satisfactory fit indices (CFI = 0.927, RMSEA = 0.061). Its reliability was established through internal consistency measures, with Cronbach's alpha values ranging from 0.747 for Interaction Outcome domain to 0.708 for Rapport domain, while the overall scale showed satisfactory internal consistency (α = 0.669). The tool also demonstrated moderate criterion validity when correlated with the shared decision-making questionnaire (SDMQ-9) (r = 0.406, p < 0.001). Each item is scored on a 5-point Likert scale ranging from 1 - strongly disagree to 5 - strongly agree (16). This questionnaire is a Malay version of the Medical Interview Satisfaction Scale (MISS-21) which is simpler and has good validity and reliability (12,16). The overall satisfaction of the patient towards the doctor was graded in the form of a five-point Likert scale, from one to five (1= Strongly Disagree, 2= disagree, 3=Uncertain, 4=Agree, 5= Strongly Agree). The total score ranged from 11 to 55 and those that scored 44 and above were considered satisfied. For the subcomponents, for distress relief and rapport, a score of more than 16 was considered satisfied, and for interaction outcomes, a score of more than 12 was considered satisfied. The third part of the questionnaire included the doctors' gender, overall satisfaction, and there was also one open question for general feedback from patients regarding the consultation or treatment given to them.

Statistical Analysis

Statistical data analysis was performed using Statistical Package for Social Science, version 22.0 (SPSS, Inc., Chicago, Ill., USA) for Windows. Descriptive statistics were used to describe the sociodemographic characteristics, medical personnel factors and the proportion of patients who were satisfied with the doctor-patient relationship. The Kolmogorov-Smirnov test was used for normality testing. Fisher's Exact Test

was used to determine the association between the factors (sociodemographic factors, medical personnel factors, and doctor's gender) and the satisfaction level of the doctor-patient relationship. A p -value of < 0.05 will be considered statistically significant.

Ethical Clearance

The study protocol was approved by the Ethics Committee for Study involving Human subjects of Universiti Putra Malaysia (JKEUPM-2023-088). Patients were explained about the study and written consent was obtained. Data were kept confidential throughout the whole process.

RESULTS

A total of 203 patients responded to the questionnaire and all were included in the study. Table I shows the socio-demographic factors of the respondents. Around half of the respondents were male (n =108, 53.2%) and between the age of 55 to 60 years old (n =104, 51.2%). The majority of them were Malays (n =157, 77.3%), Muslims (n =157, 77.3%), married (n =183, 90.1%) and had a tertiary level of study (n =100, 49.3%). For the distribution of the doctor's gender, most respondents were seen by a female doctor in the ophthalmology clinic, which was 66.5% (n =135) and 33.5% (n =68) were seen by a male doctor. Table II shows the results of the doctor-patient interaction based on SKIP-11 subscales. Most of the patients were satisfied with the doctor-patient relationship which was 96.1%. Table III shows the association between the level of patient satisfaction and sociodemographic factors. Only age was statistically significant with p =0.002. Other factors were not statistically significant which included gender (p =0.708), religion (p =0.547), ethnicity (p =0.346) marital status (p =1.0) and education level (0.268). For doctor gender, the association between the overall level of patient satisfaction and doctor's gender was not statistically significant with p =0.567.

Table I: Sociodemographic factors

Variables	Frequency (n)	Percentage (%)
Age		
18-24	9	4.4
25-34	8	3.9
35-44	13	6.4
45-54	20	9.9
55-60	104	51.2
61-70	32	15.8
>70	17	8.4
Gender		
Male	108	53.2
Female	95	46.8
Religion		
Islam	157	77.3
Hindu	19	9.4
Buddha	18	8.9
Christian	9	4.4

CONTINUE

Table I: Sociodemographic factors (CONT.)

Variables	Frequency (n)	Percentage (%)
Ethnicity		
Malay	157	77.3
Chinese	21	10.3
Indian	25	12.3
Marital Status		
Married	183	90.1
Single	20	9.9
Education Level		
No education	1	0.5
Primary	22	10.8
Secondary	80	39.4
Tertiary	100	49.3

Table II: The proportion of patients satisfied with doctor-patient interaction based on SKIP-11 subscales

Subscale	Score	Mean	SD	n	%
Distress relief	>16	19.1	1.76	186	91.6
Rapport	>16	19.36	1.33	191	94.1
Interaction outcome	>12	14.04	1.62	175	86.2
Total SKIP-11 score	>44	52.42	3.72	196	96.6

Table III: Association between level of patient satisfaction and sociodemographic factors.

Variables	Satisfaction Level		p-value
	Satisfied, n (%)	Not Satisfied, n (%)	
Age			0.002*
18 - 24	9 (100.0%)	0 (0.0%)	
25 - 34	8 (100%)	0 (0.0%)	
35 - 44	10 (76.9%)	3 (23.1%)	
45 - 54	18 (90.0%)	2 (10.0%)	
55 - 60	102 (98.1%)	2 (1.9%)	
61 - 70	32 (100.0%)	0 (0.0%)	
> 70	17 (100.0%)	0 (0.0%)	
Gender			0.708
Male	105 (97.2%)	3 (2.8%)	
Female	91 (%)	4 (%)	
Religion			0.547
Islam	150 (%)	7 (%)	
Hindu	19 (100.0%)	0 (0.0%)	
Buddha	18 (100.0%)	0 (0.0%)	
Christian	9 (100.0%)	0 (0.0%)	
Ethnicity			0.346
Malay	150 (%)	7 (%)	
Chinese	21 (100.0%)	0 (0.0%)	
Indian	25 (100.0%)	0 (0.0%)	
Marital Status			1.000
Single	20 (100.0%)	0 (0.0%)	
Married	176 (96.2%)	7 (3.8%)	

CONTINUE

Table III: Association between level of patient satisfaction and sociodemographic factors. (CONT.)

Variables	Satisfaction Level		p-value
	Satisfied, n (%)	Not Satisfied, n (%)	
Education Level			0.268
No education	1 (100.0%)	0 (0.0%)	
Primary	22 (100.0%)	0 (0.0%)	
Secondary	79 (98.8%)	1 (1.3%)	
Tertiary	94 (93.0%)	6 (7.0%)	

Fisher's exact test. *Significant at p <0.05

DISCUSSION

For this study, the majority of the participants were 55 years and above (75.4%) which is in keeping with earlier studies which found that 80-90% of visual impairment and blindness occurred in those 50 and above (17). Based on the National Eye Survey (NESII), most of the elderly population, aged 50 and above in Malaysia experience poor vision due to untreated cataract (58.6%), followed by diabetic retinopathy (10.4%) and glaucoma (6.6%) (18). Hence these patients make up most of the cases seen in the clinics.

The majority of the patients were Malays and Muslims (77.3%), which is slightly higher than the proportion of Bumiputera of 61.8% in Malaysia (19). For the education level, almost half had at least a tertiary level of education and this is in keeping with the local area being an education hub.

Amongst the sociodemographic factors, only age was statistically significant ($p=0.002$) when assessing patient satisfaction, middle-aged patients reported lower satisfaction rates compared to other age groups with the doctor-patient interaction. The result of this aspect has been inconsistent in literature with a possible psychological aspect underlying variability in patient satisfaction (20). Although a few other studies have not shown similar results, it has been found in a study conducted in northern California, that Asian, younger, and female patients had lower satisfaction scores and less favourable ratings (4, 21,22). Different age groups of patients may have different communication preferences and styles which may be one of the reasons influencing this finding. Some patients may desire more individualised and sympathetic communication from their doctors, with an emphasis on taking the time to listen to their problems and providing clear explanations. This may improve trust and relationship satisfaction when doctors can successfully interact with their patients in a way best suited to them.

In our cohort of patients, we found a relatively high

satisfaction rate of 96.6%. This is in comparison to other studies with a satisfactory level of 63.3% to 80% (22-24). All these studies were carried out in a primary care setting as opposed to our setting of a speciality clinic in a relatively new university hospital outpatient department. Our clinic is staffed by a mix of five medical officers and five ophthalmologists, with varying levels of experience. Unlike private settings where consultants handle most cases, our teaching hospital environment involves medical officers under specialist supervision, which could influence consultation dynamics. Despite this staffing model, our satisfaction rates remained high. The nature of ophthalmology consultations, which often require detailed examinations and specific procedures, typically results in longer consultation times compared to general outpatient visits. In our clinic, the average consultation time was 21 minutes, with specialised procedures such as visual field testing and pupil dilation requiring an additional 30 minutes per patient. The complexity of cases also affects consultation duration, with new cases requiring longer consultation times for comprehensive assessments, while follow-up visits are typically shorter due to their focused nature. Based on the subdomains, rapport obtained the highest satisfactory percentage of 94.1%, followed by distress relief (91.6%) and interaction outcome (86.2%). It has been shown that patient satisfaction is positively correlated with the perceived quality of doctor-patient communication (4). The patients in our ophthalmology clinic were very satisfied with the way the doctors communicated with them. They clearly understood the explanations of both their illness and treatment plan. On top of that, patients also mentioned that they 'felt comfortable sharing their personal health-related details when consulting the doctors'. They 'truly appreciate the positive and optimistic nature of the doctors'. These were obtained from the final part of the questionnaire which allowed the patients to provide general feedback regarding the consultation. Patient-centred communication allows patients to actively participate in clinic consultations, hence facilitating engagement and compliance with treatment (25). Satisfaction may significantly drop when the clinic gets busy. This prolonged waiting time was highlighted by a portion of the unsatisfied patients. The average waiting time was 76 minutes during a general clinic, with a large variation of a minimum of 10 minutes, and up to 170 minutes when additional procedures are required.

When there is an increase in patient load within the limited resources, doctors play a pivotal role in ensuring patient satisfaction. Ganesagaran et al found that in a busy outpatient medical clinic, patient satisfaction was low for the service orientation of doctors, in particular time spent with doctors, interpersonal manners, and communication during the consultations (1). This remains an issue, especially in the developing countries with limited resources. It was also highlighted that experienced doctors opting to serve in the private sector

resulting in shortages in the public sector also contribute to this burden (1).

Attitudes of doctors towards patient-centred care are also crucial. Based on a study done in Beijing, those with higher patient-centred attitudes tend to be female, intermediate titles, working in a tertiary centre, non-surgeons and those who have received prior training in doctor-patient communication (26). Hence it is vital to conduct training on doctor-patient communication from early on and at regular intervals so that the skills will become deeply ingrained and allowing doctors to perform at their best despite unfavourable circumstances. Hopefully, these efforts will help increase medical professionalism and interpersonal competencies among doctors, leading to higher patient satisfaction.

The main limitation of the study was the fact that patients needed assistance with the questionnaire as majority of the patients had blurred vision due to eye dilation for the clinic reviews. To strengthen future research in doctor-patient relationship satisfaction, several key confounding factors should be addressed. First, clinic workload and waiting times should be systematically measured and controlled through balanced data collection across different time slots and days, with specific sampling quotas for morning and evening sessions. Case complexity requires careful consideration through stratified sampling of new versus follow-up cases, ensuring proportional representation of different eye conditions and their varying care requirements. Doctor experience level, a crucial variable, should be controlled by stratifying the sample based on medical officer versus specialist categories and documenting years of experience, while ensuring balanced patient distribution across different experience levels. The study should also account for temporal variations by analyzing different clinic timings and patient loads throughout the week. Additionally, patients' previous experiences with healthcare services should be documented and analyzed as these could significantly influence current satisfaction ratings. Implementation of these methodological controls would help minimize bias and provide a more comprehensive understanding of factors influencing patient satisfaction in ophthalmology clinics.

CONCLUSION

This study demonstrated a high level of patient satisfaction (96.6%) in doctor-patient relationships at our ophthalmology clinic, as measured by SKIP-11. The subscale analysis revealed highest satisfaction in rapport (94.1%), followed by distress relief (91.6%) and interaction outcome (86.2%), indicating effective doctor-patient communication across all domains. Among all sociodemographic and medical personnel factors studied, only age demonstrated a significant relationship with patient satisfaction, where middle-aged patients reported lower satisfaction rates compared

to other age groups. Notably, doctor's gender did not significantly influence patient satisfaction, suggesting that the quality of doctor-patient interaction transcends gender considerations in our ophthalmology setting.

Based on the study findings, a comprehensive improvement strategy should focus on three key areas. First, given the lower satisfaction rates among middle-aged patients, developing targeted communication approaches for this specific age group is crucial through focused research to understand their unique needs and expectations. This should be complemented by enhanced patient education initiatives, particularly through the implementation of multimedia resources tailored to different age groups, ensuring information is accessible and engaging for all patients. Additionally, maintaining high-quality care requires ongoing staff development, with emphasis on regular assessment of communication skills and continued gender-neutral training approaches, as the study showed gender did not influence patient satisfaction. This integrated approach addresses both patient-specific needs and staff competency, ultimately aiming to elevate the already high satisfaction levels in the ophthalmology clinic.

Furthermore, healthcare administrators should consider implementing systematic quality improvement measures at the organizational level. This can include regular monitoring of patient satisfaction using SKIP-11 as a standardized assessment tool, particularly focusing on the interaction outcome domain which showed relatively lower satisfaction scores (86.2%). The development of clear communication protocols and guidelines specific to ophthalmology consultations could help standardize and optimize patient interactions. Healthcare institutions should also consider establishing peer mentorship programs where experienced clinicians with high patient satisfaction ratings can guide their colleagues in effective communication strategies. Given the unique nature of ophthalmology consultations, where visual impairment may affect communication dynamics, investing in specialized communication tools and adaptive technologies could further enhance the patient experience. Additionally, creating platforms for regular patient feedback could provide valuable insights for continuous service improvement. These organizational-level interventions, combined with the previously mentioned individual-focused strategies, would create a comprehensive framework for sustaining and improving the high levels of patient satisfaction observed in this study.

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