

Patients' satisfaction with outreach eye care service provided in South West Ethiopia

Yeshigeta GB, Aemero AM, Tsedeke AA

Jimma University, Department of Ophthalmology, Jimma, Ethiopia

Corresponding author: Dr. A.M. Aemero. Email: alma.aem@gmail.com

ABSTRACT

Background: Nowadays, assessing patient satisfaction is an integral part of monitoring and evaluation of health service delivery and quality assurance. Patient satisfaction with the outreach based eye care service in Ethiopia has not been studied.

Objective: This study was conducted to determine the overall patient satisfaction and its factors and predictors in Southwest Ethiopia.

Methods: A cross-sectional study was conducted on 411 sampled ophthalmic patients who received eye care service during regular ophthalmic outreach programs of Jimma University from January-December, 2013. Overall patient satisfaction was measured using a validated patient satisfaction questionnaire (PSQ-18). The physical facility of the outreach sites were assessed by complementary questions. Mean satisfaction scores were calculated and compared among variables using ANOVA test. Multivariate analysis and linear regression models were tested and were considered significant if $P < 0.05$.

Results: Majority, 402(97.8%) of the study subjects were satisfied and the overall mean satisfaction score of the study subjects was 4.7(SD±0.5) out of 5. This was statistically different among subgroups of age ($P=0.000$), education level ($P=0.007$) and occupation type ($P=0.000$) but not with sex ($P=0.393$), religion ($P=0.059$) and marital status ($P=0.124$). Age was the only independent factor for the overall satisfaction ($P=0.007$). Among components of patient satisfaction, the highest mean was in communication 4.63(SD±0.6) followed by technical quality of health care providers 4.60(SD±0.6). The interpersonal manner of health care providers had the lowest mean score 3.3(SD±1.6). Each of the components (technical quality, interpersonal manner, communication, financial aspect, time spent with care providers, accessibility and convenience, physical facility) were significantly associated with overall satisfaction ($P < 0.05$). All these components except physical facility and financial aspect were significant linear predictors of overall satisfaction.

Conclusion: The overall patient satisfaction to the regular outreach eye care services was very high. Jimma University should therefore continue the program while improving on each domain of satisfaction measures with the focus on interpersonal manner and accessibility and convenience.

Key words: Patient satisfaction, Eye Care, outreach, Ethiopia, Jimma

INTRODUCTION

Patient's satisfaction is an attitude, a person's general orientation towards a total experience of health care¹. It can be defined as the degree to which an individual regards the health care service or the manner in which it is delivered by the provider as useful, effective, or beneficial^{2,3}. It is achieved when the patients' perception of the quality of care and services received in healthcare setting has been positive, satisfying and meets expectations and therefore is an indicator of quality service⁴.

Patient satisfaction has been considered an important area of research since the 1960s⁵. The purpose of doing patient satisfaction studies is not only to reach at the desired clinical outcome and suggest ways to improve patient compliance⁶. Nowadays, assessment of patient satisfaction is an integral part of monitoring and evaluation and quality assurance standard⁷. In addition, patient satisfaction studies help to affirm that patients experience are considered in health care planning⁸.

Patient satisfaction can be measured in terms of structure, process and outcome⁷. Structure refers to the attributes of the organization in delivering the care and the general conditions under which the care is provided.

This may include access, physical setting, cost and convenience. The process may include the technical (knowledge, quality of care and competence of staff) and interpersonal (communication, empathy and education) aspects of the care. The outcome may include the final improvement in health status, knowledge, change in behavior and overall satisfaction of the patients. Based on these, patient satisfaction is shown to depend on personal care given by the provider, availability of medical personnel on a continuous basis^{8,9} outcome of treatment^{9,10}, the way health care is delivered, the type of health care setting, and patient characteristics such as age, gender, education, socio economic status, etc.¹¹⁻¹⁴.

Although patient satisfaction studies have been done in different parts of Ethiopia¹⁵⁻²¹, the studies were either limited to the static health care services or not specific to eye care services. To our knowledge there is no patient satisfaction study on outreach eye care services in Ethiopia. The objective of the study was, hence, to determine the overall patient satisfaction to the outreach eye care services of Jimma University, Department of Ophthalmology and identify factors and predictors of the overall satisfaction of patients.

MATERIALS AND METHODS

A cross-sectional study was conducted from January-December, 2013 on satisfaction of patients who received eye care services in the regular ophthalmic outreach programs of Jimma University, Department of Ophthalmology in the Southwest Ethiopia. The outreach service sites included in the study period were Bonga Gebre Tsadik Shwo and Mizan-Aman hospitals in South Region, and Bedele and Limu Genet hospital in Oromia region of Ethiopia.

The data collection tool comprised of socio-demographic questions validated patient satisfaction questionnaires (PSQ-18)²² and complementary questions on physical facility of the ophthalmic outreach sites²³. The PSQ-18 evaluates technical quality, interpersonal manner, doctor-patient communication, financial aspects, time spent for patient, convenience, accessibility and overall satisfaction.

Patients and caretakers of paediatric age patients were interviewed using Amharic and Oromiffa languages and an interpreter was used whenever required. The data were checked for consistency and completeness, and analyzed using SPSS version 16 software. Associations between overall patient satisfaction and socio-demographic characteristics, type of eye care service, and with the different categories of satisfaction measurement were checked using ANOVA test. Multivariate analysis

was done to test for independent factors for overall satisfaction. Linear regression model was tested for the components of patient satisfaction as predictors of overall satisfaction. Test results were considered significant when $P < 0.05$.

Prior to the study ethical approval was obtained from Jimma University, Department of Ophthalmology and official letter was written to the health facility administration where the outreach eye care services were conducted and informed verbal consent was obtained from the clients and caretakers of paediatric age patients. All clients received appropriate eye care services irrespective of their consent to participate in the study.

This study is subject to a limitation due to the Hawthorne effect since members of the eye care service providers collected the data and the participants might have reported an exaggerated satisfaction level for courtesy. Participants were, however, encouraged to give honest answers.

RESULTS

A total of 411 study participants were interviewed. The mean age of the study participants was 52.2(SD±1.72) years ranging from 9-100 years. Majority of them were males 279(67.9%), married 344(83.7%), illiterate 252(61.3%), Orthodox Christian 219(53.3%) and farmers 261 (63.5%) (Table 1).

Table 1: Distribution of study subjects by their sociodemographic characteristics (n=411)

Variables		Satisfied No. (%)	Uncertain No. (%)	Dissatisfied No. (%)	Total No. (%)
Age group (years)	1-15	11(2.7)	1(0.2)	0(0.0)	12(2.9)
	16-30	47(11.4)	3(0.7)	2(0.5)	52(12.7)
	31-45	66(16.1)	2(0.5)	0(0.0)	68(16.5)
	46-60	165(40.1)	1(0.2)	0(0.0)	166(40.4)
	>60	113(27.5)	0(0.0)	0(0.0)	113(27.5)
Sex	Male	272(66.2)	5(1.2)	2(0.5)	279(67.9)
	Female	130(31.6)	2(0.5)	0(0.0)	132(32.1)
Marital status	Married	339(82.5)	4(1.0)	1(0.2)	344(83.7)
	Single	39(9.5)	3(0.7)	1(0.2)	43(10.5)
	Widowed	8(1.9)	0(0.0)	0(0.0)	16(3.9)
	Divorced/separated	16(3.9)	0(0.0)	0(0.0)	8(1.9)
	Illiterate	250(60.8)	2(0.5)	0(0.0)	252(61.3)
Educational status	Read and write	24(5.8)	0(0.0)	0(0.0)	24(5.8)
	Grade 1-8	77(18.7)	4(1.0)	1(0.2)	82(20.0)
	Grade 9-10	21(5.1)	0(0.0)	0(0.0)	21(5.1)
	College and above	30(7.3)	1(0.2)	1(0.2)	32(7.8)
	Orthodox Christian	215(52.3)	2(0.5)	2(0.5)	219(53.3)
Religion	Protestant Christian	123(29.9)	3(0.7)	0(0.0)	126(30.7)
	Muslim	62(15.1)	2(0.5)	0(0.0)	64(15.6)
	Others	2(0.5)	0(0.0)	0(0.0)	2(0.5)
	Farmer	259(63.0)	2(0.5)	0(0.0)	261(63.5)
	Government employee	45(10.9)	2(0.5)	0(0.0)	47(11.4)
Occupational status	Self employee	29(7.1)	0(0.0)	1(0.2)	30(7.3)
	House wife	24(5.8)	1(0.2)	0(0.0)	26(6.3)
	Student	23(5.6)	2(0.5)	1(0.2)	25(6.1)
	Daily laborer	2(0.5)	0(0.0)	0(0.0)	10(2.4)
	Retired	10(2.4)	0(0.0)	0(0.0)	10(2.4)
	Unemployed	10(2.4)	0(0.0)	0(0.0)	2(0.5)
Total		402(97.8)	7(1.7)	2(0.5)	411(100)

Majority 402(97.8%) of the study subjects were satisfied with the outreach eye care service they received and the rest 2(0.5%) were dissatisfied. Among the participants who were satisfied with the eye care service, 165(40.1%) were in the age range of 46-60 years, 272(66.2%) were male, 339(82.5%) were married, 250(60.8%) were illiterate, 215(52.3%) were Orthodox Christians and 259(63.0%)

were farmers (Table 1). Eye care service delivered to the patients in the outreach site included: cataract surgery 201(48.9%), medical treatment 82(20.0%), spectacle prescription 66(16.1%) and eye lid surgery 45(10.9%) (Table 2). Among the study subjects satisfied with the service, 201(48.9%) patients had cataract surgery while 76(18.5%) patients received medical treatment (Table 2).

Table 2: Eye care service delivered to the patients in the outreach site

Service delivered	Satisfied No. (%)	Uncertain No. (%)	Dissatisfied No. (%)	Total No. (%)
Medication prescribed	76(18.5)	4(1.0)	2(0.5)	82(20.0)
Lid surgery	45(10.9)	0(0.0)	0(0.0)	45(10.9)
Cataract surgery	201(48.9)	0(0.0)	0(0.0)	201(48.9)
Other surgery	3(0.7)	0(0.0)	0(0.0)	3(0.7)
Spectacle prescribed	64(15.6)	2(0.5)	0(0.0)	66(16.1)
Health education and counseling	6(1.5)	0(0.0)	0(0.0)	6(1.5)
Others	7(1.7)	1(0.2)	0(0.0)	8(1.9)
Total	402(97.8)	7(1.7)	2(0.5)	411(100)

On univariate analysis age group, literacy, and occupation were found to be associated with patient satisfaction levels with p-value<0.05 (Table 1). The overall mean satisfaction score of the study subjects was 4.7(SD±0.5) out of 5. One way Anova's tests showed that the overall

satisfaction score was statistically different among subgroups of age (p = 0.000), education level (p = 0.007) and occupation type (p=0.000) but not with sex (p = 0.393), religion (p = 0.059) and marital status (p=0.124) (Table 3).

Table 3: The overall satisfaction of study subjects by their socio-demographic characteristics (n=411)

Variables	Mean	SD	P value
Age group (years)*	1-15	4.7500	0.000
	16-30	4.4423	
	31-45	4.5882	
	46-60	4.7530	
	>60	4.8319	
Sex	Male	4.6738	0.059
	Female	4.7803	
	Single	4.5349	
Marital status	Married	4.7267	0.124
	Divorced/separated	4.6250	
	Widowed	4.8125	
	Illiterate	4.7817	
Educational status	Read and write	4.7083	0.007
	Grade 1-8	4.5854	
	Grade 9-10	4.5714	
	College and above	4.5312	
Religion	Muslim	4.7031	0.059
	Orthodox Christian	4.6849	
	Protestant	4.7460	
	Others	5.0000	
Occupational status	Farmer	4.7969	0.000
	Government employee	4.5532	
	Self employee	4.4333	
	House wife	4.7200	
	Student	4.3846	
	Daily laborer	4.0000	
	Retired	4.7000	
	Unemployed	4.9000	

* Age group was the only independent socio-demographic factor for overall satisfaction

Table 4: Mean satisfaction score of the study subjects and linear regression model for overall satisfaction in relation to factors to overall patient satisfaction

No.	Variables	Mean (SD)	B	t	P-value	95% CI
1	Overall satisfaction*	4.7080(0.53411)	1	5.573	0.000	0.951-1.987
2	Technical quality	4.603(0.6385)	0.376	7.505	0.000	0.271-0.463
3	Interpersonal manner	3.2968(1.6045)	-0.015	-0.349	0.727	-0.103-0.072
4	Communication	4.6302(0.64352)	0.177	3.692	0.000	0.069-0.226
5	Financial aspect	4.4672(0.73965)	0.055	1.146	0.252	-0.028-0.107
6	Time spent with care providers	4.5985(0.67491)	0.141	2.893	0.004	0.036-0.187
7	Accessibility and convenience	3.7469(1.4379)	0.126	2.948	0.003	0.030-0.150
8	Physical facility	4.4538(0.7116)	-0.026	-0.556	0.579	-0.107-0.060

* constant

In multivariate analysis (stepwise method), age group was the only independent socio-demographic factor for the overall satisfaction ($p=0.007$).

The overall mean satisfaction score of the study subjects was 4.7(SD $\pm$ 0.5). The highest mean satisfaction score of the study subjects was related to communication 4.63 (SD $\pm$ 0.6) followed by technical quality of health care providers 4.60(SD $\pm$ 0.6). The lowest satisfactions mean score was in the interpersonal manner of health care providers 3.3(SD $\pm$ 1.6) (Table 4). One way ANOVAs test showed each of the components (technical quality, interpersonal manner, communication, financial aspect, time spent with care providers, accessibility and convenience, physical facility) were significantly associated with overall satisfaction ($P<0.05$). Linearity was tested and technical quality, communication, time spent with health care providers and accessibility and convenience were found to be significant predictors of overall satisfaction (Table 4).

DISCUSSION

The overall patients' satisfaction to the outreach based eye care service in this study was very high (97.8%) as compared to other patient satisfaction studies on general health care done in Jimma University Specialized Hospital and other hospitals in Ethiopia (22-57.1%)¹⁵⁻²¹. These studies were, however, done on static services and were not specific to eye care services. A study done in India on patient satisfaction regarding eye care services showed that 48.1% of outpatients and 97.5% of inpatients were satisfied²⁴.

In our study, the mean overall satisfaction score measured by the PSQ-18 was 4.71 $\pm$ 0.5 from a maximum of 5. This is higher than a similar study done in Iran²³ on patient satisfaction of ophthalmic services (4.05 $\pm$ 1.1). There was also a study on overall patient satisfaction regarding eye care in Nigeria²⁵ where 93.5% were satisfied; this figure was slightly lower than our finding. Nonetheless, these two studies concentrated on static eye

care services making accurate comparison with our study difficult.

The very high patient satisfaction in our study does not truly imply that the outreach based eye care service is a preferred way of eye care service, at least from gross satisfaction point of view, than the static eye care services as receiver of outreach eye care service are generally expected to have better satisfaction variety of reasons. Outreach based eye care services tends to ensure accessibility, equity, affordability as the service is taken to places/health facilities where rural/semi urban people live nearby; and moreover these patients will be able to save their resources (time, transport cost, accommodation cost money) that the static eye care service (in a distant location) may incur. Variation in the visual demands between rural/semi urban and urban people areas might also contribute to high satisfaction in outreach based services as users of outreach health services are often from rural/semi urban areas at least in Ethiopian context.

In this study, the physical facility mean satisfaction score was 4.45 $\pm$ 0.7 which is higher than the finding (4.2 $\pm$ 0.9) of the study in Iran²³. This difference might be related to the lower expectation of patients receiving outreach service than those who use the static hospital service.

Interpersonal manner had the lowest mean satisfaction score (3.30 $\pm$ 1.6). This is in contradiction to the Iran study²³ which showed that patients were satisfied most with the interpersonal manner (4.6 $\pm$ 0.7). This difference might be attributed to the high volume eye care service often given in a limited time during outreach eye care service.

Though several studies done in India and Bangladesh²⁶⁻²⁸ showed that provider behavior, respect, politeness, patient engagement in provider-patient relationship are important and powerful predictors for patient satisfaction, both interpersonal manner and physical facility were not significant predictors in our study.

Gender doesn't seem to determine the satisfaction of patients as depicted in this study. This was also described

by Sitiza and Wood⁷ and the same finding was described in a patient satisfaction study in Iran²³. But this is not a general truth. In a study done in Ibadan, Nigeria²⁹ females had, however, excellent satisfaction (as compared to males) attributable to the emotional buildup of females to overlook unpleasant things.

In our study older age is significantly associated with higher satisfaction. In line with this, studies in Jimma, Ethiopia^{15,16}, Nigeria²⁹, Trinidad and Tobago³⁰ have similarly demonstrated that older age is associated with higher satisfaction. However, the Iranian study reported that age had no influence on patients' satisfaction²³. According to Hall and Dornan³¹ older patients tend to be more satisfied with their health care when compared with younger people; and this was related to lower expectations of the elderly people making them satisfied with whatever minimal care they get as they tend to accept and attribute their illness and any poor outcomes to their age.

Occupation was significantly associated with the overall satisfaction of patients and students had the lowest mean satisfaction in our study. Similar association was found in the Jimma study¹⁶ where satisfaction had significant association with occupation where students and governmental employees had lower satisfaction levels than farmers. Client satisfaction might also be influenced by social situation and is related with patient expectancy of services²³. The low satisfaction with students in our study may, thus, be related to their high expectation due to their demands of high visual acuity for their education and related work. Furthermore, the lower satisfaction of students may be related to their literacy status since literate people were found to have lower satisfaction with significant association with overall satisfaction as shown in several studies done in Nigeria²⁹, Trinidad and Tobago³⁰ and Ethiopia^{15,16}.

Age may be the confounding factor for students and their literacy status as younger people have more access to education than the older people who are usually illiterate/less educated. This partly explains why age group was the only independent socio-demographic factor for overall satisfaction of the patients in our study. However, there is a controversy regarding the importance of socio-demographic characteristics in determining patient satisfaction^{14,23}.

In conclusion, the overall patients' satisfaction to the outreach based eye care service was very high. Technical quality, interpersonal manner, communication, financial aspect, time spent with care providers, accessibility and convenience, and physical facility contributed significantly to the overall patient satisfaction. Of these, technical quality, communication, time spent with health care providers and accessibility and convenience were found to be significant predictors of overall patient satisfaction. The communication and the technical quality of eye care providers had the highest patient satisfaction while patients were least satisfied with the interpersonal manner of the eye care providers. Age group, occupation and literacy status were significantly associated with the

overall mean satisfaction. Jimma University Hospital should continue the regular outreach-based eye care service provision while improving on each domain of satisfaction measures with the focus on interpersonal manner and accessibility and convenience.

ACKNOWLEDGEMENTS

The authors would like to thank the study subjects for their participation in this study. The authors also acknowledge administration staff of each hospital for their cooperation and Light for the world for financially supporting the research.

REFERENCES

1. Jenkinson C, Coulter A, Bruster S, Richards N, Chandola T. Patients' experiences and satisfaction with health care: Results of a questionnaire study of specific aspects of care. *Qual Saf Health Care*. 2002; **11**:335-339.
2. Mahon PY. An analysis of the concept 'patient satisfaction' as it relates to contemporary nursing care. *J Adv Nurs*. 1996; **24**:1241-1248.
3. Fitzpatrick R. The assessment of patient satisfaction. In: Jenkinson C, editor. *Assessment and evaluation of health and medical care*. Buckingham: Open University Press; 1997. p. 85-101.
4. Saila T, Mattila E, Kaila M, Aalto P, Kaunonen M. Measuring patient assessments of the quality of outpatient care: A systematic review. *J Eval Clin Pract*. 2008; **14**:148-154.
5. Hall JA, Dornan MC. Meta-analysis of satisfaction with medical care: description of research domain and analysis of overall satisfaction levels. *Soc Sci Med*. 1988; **27**:637-644.
6. Williams B. Patient satisfaction: a valid concept? *Soc Sci Med*. 1994; **38**:509-516.
7. Sitiza J, Wood N. Patient satisfaction: a review of issues and concepts. *Soc Sci Med*. 1997; **45**: 1829 - 1843.
8. Uhlmann RF, Inui TS, Carter WB. Patient requests and expectations. Definitions and clinical applications. *Med Care*. 1984; **22**:681-685.
9. Hall JA, Milburn MA, Epstein AM. A causal model of health status and satisfaction with medical care. *Med Care*. 1993; **31**:84-94.
10. Kerr EA, Hays RD, Mitchinson A, Lee M, Siu AL. The influence of gate keeping and utilization review on patient satisfaction. *J Gen Intern Med*. 1999; **14**: 287-296.
11. Saultz JW. Defining and measuring interpersonal continuity of care. *Ann Fam Med*. 2003; **1**: 134- 143.
12. Hall JA, Dornan MC. What patients like about their medical care and how often they are asked: A meta-analysis of the satisfaction, literature. *Soc Sci Med*. 1988; **27**:935-939.
13. Hall JA, Irish JT, Roter DL, Ehrlich CM, Miller LH. Satisfaction, gender, and communication in medical visits. *Med Care*. 1994; **32**:1216-1231.

14. Hall JA, Dornan MC. Patient sociodemographic characteristics as predictors of satisfaction with medical care: A meta-analysis. *Soc Sci Med*. 1990; **30**: 811-818.
15. Abebe B, Girum T, Yared M, *et al*. Levels of outpatient satisfaction at selected health facilities in six regions of Ethiopia. *Ethiop J Health Dev*. 2008; **22**(1): 42-48.
16. Fekadu A, Andualem M, Yohannes HM. Assessment of clients' satisfaction with health service deliveries at Jimma University Specialized Hospital. *Ethiop J Health Sci*. 2011; **21**(2).
17. Dagnew M, Zakus D. Community perception on OPD performance of a teaching hospital in Gondar town, Ethiopia. *Ethiop Med J Dev*. 1997; **35**: 153-60.
18. Mitike G, Mekonnen A, Osman M. Satisfaction on outpatient services in hospitals of the Amhara region. *Ethiop Med J*. 2002; **40**: 387-395.
19. Girmay A. Assessment of clients' satisfaction with outpatient services in Tigray Zonal Hospitals. [Online]. 2006; Available from: URL:<http://www.etd.edu.et/>
20. Birna A. The quality of hospital services in eastern Ethiopia: Patient's perspective. *Ethiop J Health Dev*. 2006; **20**(3): 199-200.
21. Olijera L, Gebresilasse S. Satisfaction with outpatient health services at Jimma hospital, South West Ethiopia. *Ethiop J Health Dev*. 2001; **15**(3):179-84.
22. Marshall GN, Hays RD, Sherbourne CD, Wells KB. The structure of patient satisfaction with outpatient medical care. *Psychological Assessment*. 1993; **5**: 477-483.
23. Ziaei H, Katibeh M, Eskandari A, Mirzadeh M, Rabbanikhah Z, Javadi MA. Determinants of patient satisfaction with ophthalmic services. *BMC Res Notes*. 2011; **4**:7.
24. Sudhan A, Khandekar R, Deveragonda S, *et al*. Patient satisfaction regarding eye care services at tertiary hospital of central India. *Oman J Ophthalmol*. 2011; **4**(2): 73-76.
25. Ezegwui IR, Okoye OI, Aghaji AE, Okoye O, OguegoN. Patients' satisfaction with ophthalmic services in a tertiary eye care facility in Nigeria. *Nigerian J Clinic Prac*. 2014; **17**(5): 585- 588.
26. Kovai V, Rao GN, Holden B. Key factors determining success of primary eye care through vision centres in rural India: Patients' perspectives. *Indian J Ophthalmol*. 2012; **60**:487-491.
27. Zhang X, Andersen R, Saaddine JB, Beckles GL, Duenas MR, Lee PP. Measuring access to eye care: A public health perspective. *Ophthalmic Epidemiol*. 2008; **15**: 418-425.
28. Mendoza Aldana J, Piechulek H, al -Sabir A. Client satisfaction and quality of health care in rural Bangladesh. *Bull World Health Organ*. 2001; **79**: 512 -517.
29. Ibraheem WA, Ibraheem AB, Bekibele CO. Socio-demographic predictors of patients' satisfaction. *Afr J Med Health Sci*. 2013; **12**:87-90.
30. Singl H, Haqq ED, Mustapha N. Patient's perception and satisfaction with health care facilities in Trinidad and Tobago. *Bull World Health Organ*. 1999; **77**:356-358.
31. Hall JA, Dornan MC. Meta-analysis of satisfaction with medical care: Description of research domain and analysis of overall satisfaction levels. *Soc Sci Med*. 1988; **27**:637- 644.