

Patient satisfaction with services in outpatient clinics at Mulago hospital, Uganda

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Abstract

Objectives. To identify factors associated with general satisfaction among clients attending outpatient clinics in a referral hospital in Uganda.

Design. Cross-sectional exit survey of patients and care-givers in selected outpatient clinics.

Setting. Seven outpatients' clinics at Mulago National Referral and Teaching Hospital.

Main Outcome Measures. Mean score of clients' general satisfaction with health-care services.

Results. Overall the clients' general satisfaction was suboptimal. Average satisfaction was higher among clients with a primary or secondary education compared with none, those attending HIV treatment and research clinic compared with general outpatient clients, and returning relative to new clients. Conversely, satisfaction was lower among clients incurring costs of at least \$1.5 during the visit, and those reporting longer waiting time (>2 h). Client's perceived technical competence of provider, accessibility, convenience and availability of services especially prescribed drugs were the strongest predictor of general satisfaction.

Conclusions. This study highlights the important findings about outpatient services at Mulago hospital. The sub-optimal satisfaction scores for outpatient care strongly suggest that more could be done to assure that services provided are more patient centered. Significant factors including category of clinic visited, waiting time, costs incurred, accessibility of services and perceived providers' technical competence at this hospital should be explored by the Makerere University College of Health Sciences and Mulago hospital for potential improvements in quality of the health service delivered.

Keywords: patient satisfaction, dimensions of health care, quality improvement, outpatient care

Introduction

Patient satisfaction is a key criterion by which the quality of health care services is evaluated [1, 2]. It can be defined as a subjective evaluation of the service received against the individual's expectations [3]. Patients' judgment of hospital service quality and their feedback are essential in quality of care monitoring and improvement [4, 5]. Patient satisfaction data are routinely collected and used for continuous quality improvement by health-care institutions and hospitals in developing countries [6, 7]. Although there is growing

experience with patient satisfaction measures in Asia [8–10], they have been rarely used in African settings.

Patient satisfaction is measured over a wide range of health service dimensions, including availability, accessibility and convenience of services, technical competence of the providers, interpersonal skills and the physical environment where services are delivered [3, 11–13]. However, it remains controversial whether patients' ratings reflect anything about technical quality or simply the interpersonal skills of the providers [12]. Patient perceptions of quality are often influenced by their interaction with the health provider; the

thoroughness with which the providers examine and communicate with them [12, 14, 15]. Some studies suggest that certain patient demographic and clinical characteristics, including age, health status and the severity of illness, are associated with satisfaction scores more than the technical quality of care they provide [3, 7, 16].

In Uganda, as part of the Health Sector Strategic Plan to improve in health-care service delivery policy-makers have sought to understand patient and institution characteristics that determine satisfaction with care [17]. There are few published studies on patient satisfaction or perceptions of quality with services that are delivered in public or private hospital settings [18, 19], and the practice of assessing patient satisfaction is rare. At the Mulago National Referral and Teaching Hospital (MNRTH), the largest hospital in Uganda, there is no routine system for assessing patient satisfaction. MNRTH is the teaching hospital for Makerere University College of Health Sciences (MakCHS). It is the oldest training ground for most physicians and other health professions in the country, and is intended to provide quality health-care leadership in Uganda.

The study was done as part of a larger collaborative initiative for MakCHS, which was designed to show how the college can exert a leadership role in improving health outcomes in Uganda [20]. The mission of MakCHS is to teach, conduct research and engage in community service, including those provided through Mulago hospital. The specific objectives of the study reported in this paper was to evaluate the general level of patient satisfaction, the factors associated with level of satisfaction and the specific health-care services dimensions that influence general satisfaction with outpatient services at MNRTH. The results generated are to be used to inform MakCHS of the gaps that exist in the health service delivery that can be addressed to improve the provision of care at MNRTH.

Methods

Design, setting and participants

MNRTH provides about 400 000 outpatient visits per year, including many different specialty clinics. In November 2009, a cross-sectional client exit survey was conducted at seven major outpatient clinics at the Mulago hospital complex that offer services that address national health priority areas. The clinics included the General Outpatient Clinic (for adult assessments), and several specialty clinics including the Children's Acute Care, the Antenatal Care, the Family Planning, the Tuberculosis, the Mental Health, and the HIV Care and Research at the Infectious Disease Institute. Patients or care-givers aged 18 years or older, who consented to participate and were able to speak either English or Luganda were enrolled, but excluded those too sick to participate were excluded. Study ethical approval was provided by the Higher Degrees and Research Ethics Committee (HDREC) of Makerere University School of Public Health, the Johns Hopkins Bloomberg School of Public Health

Committee on Human Subjects and permission sought from the office of the Director of MNRTH.

Sampling

We estimated the sample size of 210 subjects using Kish-Leslie formula with the following assumptions: 50% of patients would report being satisfied with the services provided (a figure chosen because we did not find any prior published studies on patients satisfaction in this or a similar setting), a precision of 10%, an alpha of 5% and a 10% non-response rate. We used a design effect of two to account for clustering of patients' outcomes within the contributing clinics. The number of patients to be interviewed per selected clinic was obtained using probability proportional to size based on the daily average patient load in these clinics. We then used systematic sampling with a sampling interval of five to select the respondents.

Questionnaire development

A satisfaction questionnaire was developed by a team of six practicing health providers (three doctors and three nurses) who have some experience in research. The questions included 18 items from the previously validated patient satisfaction questionnaire [11] that was adapted to the Ugandan context. The items were constructed with a four-point Likert scale with categories ranging from 'strongly disagree' to 'strongly agree'. Questions included both positively and negatively worded questions items to minimize the potential bias that occurs from clustering of responses to one side of the scale. The responses were recorded on a four-point scale (range: 1–4) so that higher scores reflect higher patient satisfaction.

Study measurements

General patient satisfaction. The primary outcome was general satisfaction, a continuous variable constructed as a composite variable from the mean of the total score of three question items including the following: (1) I am satisfied with the quality of service I have received today; (2) I feel perfectly satisfied with the way I have been treated by the health providers at this health facility today; (3) I have not received the best health care as I expected from this health facility today.

Satisfaction with dimensions of care and service. The secondary outcomes were satisfaction with dimensions of care and service. These were divided into four subscales (and number of items used) were: (1) accessibility, availability, and convenience of the health services [three items]; (2) provider interpersonal skills [five items]; (3) provider technical competence with respect to patient education, examination and counselling [four items]; (4) health facility environment, specifically with respect to the cleanliness and space in the waiting area [two items]. The purpose of evaluating satisfaction with these dimensions was to identify the specific areas of health services provision that could be targeted for

improvement by MakCHS. Data were also gathered on socio-demographics, type of visit, reason for the visit, the amount of money spent at the visit and time spent at the health facility.

Data collection. The questionnaire was pilot tested in a non-participating clinic in Mulago hospital. Necessary modifications were made to improve the clarity and understandability of the question items. Six trained research assistants screened patients for eligibility at exit points from the health facilities. Written informed consents were obtained and face-to-face interviews administered to participants for about 10 min.

Data analysis. Mean scores were calculated as a composite measure of satisfaction using each of the items in the general satisfaction indicator. Also, mean scores for the four dimensions of care and service were calculated for each subject. In descriptive analysis frequencies and proportions were obtained for categorical variables, while means and standard deviations (SDs) and median (inter-quartile range) were calculated for continuous variables. We used linear regression to obtain expected scores and their 95% confidence intervals and *P*-values and corresponding coefficient of determination (R^2) of general satisfaction—as the primary outcome and the secondary outcomes by (1) patient and facility characteristics and (2) dimensions of health-care services. We used robust standard errors and adjusted for clustering at the clinic level to account for potential correlation between patients within the same clinic given that patients were sampled from seven different units. Finally, we obtained Pearson's linear correlation coefficients between the general and the specific dimension scores and their associated *P*-values and coefficient of determination (R^2). All associations were considered statistically significance at *P*-values of ≤ 0.05 . Data were entered into Epidata software and analyzed using the STATA version 10.0.

Results

A total of 210 outpatients from seven health service and care facilities participated in the exit survey, with 77 (36.7%) of respondents obtained from the General Outpatient Clinic. The remaining patients were obtained from the Specialized Outpatient Clinics, Children's Acute Care (53 patients; 25.2%), Antenatal Care (33 patients; 15.7%), Family Planning (12 patients 5.7%), Tuberculosis (10 patients; 4.8%), HIV Care and Research (15 patients; 7.6%) and the Mental Health (10 patients, 4.8%). The non-response rate was 6%, mostly comprising patients who stated that they did not have time to take the survey.

Table 1 shows the baseline characteristics of the respondents. Females (88.1%), young adults aged <30 years (61%), returning patients (on follow-up visit) (67%) and those visiting the hospital because of a new illness (50.5%) were the majority. Waiting time for about 39.5% of patients was at least 4 h at the health facility since their arrival, while 44.5% spent at least 3000 Uganda shillings (USD ~1.50) during the hospital visit.

Table 1 Baseline characteristics of survey respondents at Mulago hospital, outpatient clinics, November 2009

Characteristics	Frequency (<i>n</i> = 210)	Percent
Category of clinic		
General Outpatient Clinic	77	36.7
Specialized Outpatient Clinic	118	56.2
HIV Care And Research Clinic	15	7.1
Respondents' sex		
Female	185	88.1
Male	25	11.9
Age group (years) ^a		
<30	128	61.0
30–39	43	20.5
40–49	20	9.5
≥50	19	9.0
First time visit		
Yes	69	32.9
No	141	67.1
Reason for visiting		
New diagnosis	106	50.5
Prescription refill	43	20.5
Review visit with test results	20	10.0
Preventive services ^b	39	19.0
Time spent (waiting time) at facility (hours)		
<2	58	27.6
2–4	68	32.4
>4	83	39.5
Estimated expenditure at clinic visit (UgShs) ^c		
0–3000	116	55.2
>3000	94	44.8

^aMean (SD): 30.8 (12.4) and median (IQR): 27 [23, 25].

^b'Preventive services' include visits for immunizations, family planning or pregnancy tests.

^cUgShs, Uganda Shillings (local currency); 1 US dollar ~2000 UgShs.

Table 2 shows mean scores of general patient satisfaction by patient's and facility characteristics. The overall mean score (SD) of general patient satisfaction was 2.7 (0.82) and the median score was 3 [interquartile range (IQR) 2.3, 3.3], suggesting that half of the patients surveyed gave ratings of agreeing or strongly agreeing with being 'satisfied' on the scale used. The mean satisfaction scores did not differ by respondents' sex or age. However, level of education, clinic type, patient's reason for visiting hospital, waiting time and estimated expenditure were associated with mean general satisfaction scores.

Table 3 shows adjusted and unadjusted expected mean general satisfaction scores by patient and facility characteristics. In the adjusted model, factors significantly associated with higher mean general satisfaction scores were education level (primary and secondary relative to no education, $P < 0.0001$), receiving services from the HIV Care and Research Clinic compared with the General Outpatient Clinic ($P <$

Table 2 General satisfaction scores according to respondents' and clinic characteristics

Characteristic	<i>n</i>	Mean (SD)	Median (IQR)	<i>P</i> -value (difference in mean scores)
Overall	210	2.7 (0.82)	3.0 (2.3, 3.3)	
Respondents' sex				
Female	185	2.7 (0.84)	3.0 (2.3, 3.3)	0.90
Male	25	2.8 (0.72)	3.0 (2.3, 3.0)	
Age (years)				
18–24	83	2.7 (0.83)	3.0 (2.0, 3.3)	
25–29	45	2.6 (0.89)	3.0 (2.0, 3.0)	0.50
30–49	63	2.8 (0.78)	3.0 (2.3, 3.3)	
50+	19	2.9 (0.75)	3.0 (2.3, 3.7)	
Education level				
None	17	2.3 (1.0)	2.3 (1.3, 3.0)	
Primary	73	2.8 (0.84)	3.0 (2.3, 3.3)	0.008
Secondary	106	2.8 (0.72)	3.0 (2.3, 3.3)	
Post-secondary (College/university)	14	2.3 (0.93)	3.0 (1.3, 3.0)	
Clinic type				
General Outpatients Clinic	77	2.7 (0.82)	3.0 (2.0, 3.0)	0.007
Specialized Outpatient Clinic	118	2.9(0.72)	3.0 (2.7, 3.7)	
HIV Care and Research Clinic	15	3.3 (0.72)	3.2 (3.0, 4.0)	
Reason for visit				
New diagnosis	105	2.3 (0.70)	2.3 (2.0, 3.0)	
Prescription Refill	43	3.0 (0.86)	3.0 (2.0, 3.4)	<0.001
Review visit	10	2.8 (0.85)	3.0 (2.7,3.0)	
Other	52	3.3 (0.50)	3.3 (3.0,3.7)	
Time spent (waiting time) at facility (hours)				
<2	58	3.2 (0.73)	3.2 (3, 3.7)	
2–4	69	2.7 (0.81)	2.7 (2.3, 3)	<0.001
>4	83	2.5 (0.77)	2.3 (2, 3)	
Estimated expenditure at clinic visit (UgShs)				
0–3000	116	2.8 (0.78)	3 (2.3, 3.3)	0.07
>3000 (USD 1.50)	94	2.6 (0.86)	2.8 (2, 3)	

All bold values are significant at $P < 0.05$ in the column marked *P*-values.

0.0001), and patients returning for prescription refill ($P = 0.011$), clinical review ($P = 0.04$) or for 'other' reasons including preventive services ($P < 0.0001$) all relative to a new diagnosis visitation. Conversely, factors that were significantly associated with a lower mean general satisfaction score were waiting times of 2–4 h ($P = 0.008$) or >4 h ($P < 0.0001$) compared with <2 h, and patient visitation costs/expenditure amounting to at least UgShs 3000 (~ US\$1.5) compared with costs of up to UgShs 3000 ($P = 0.04$).

Table 4 shows linear correlation coefficients and coefficients of determination between mean scores of general satisfaction and the satisfaction of the four specific dimensions of health care. Overall, mean scores were similar across each of the scales. Correlations between mean scores of general satisfaction and satisfaction with specific dimensions of health care were all positive, but were widely varying (0.15–0.68). All correlations, r , except that of health facility environment ($P = 0.3$), were significantly different from zero (0). Provider technical competence had the strongest correlation with general satisfaction ($r = 0.68$, ($P < 0.0001$), and

explained about 46% of the variance in the mean general satisfaction score. Although the other dimensions had a positive linear correlation with mean general satisfaction score, the associations were relatively weak, suggesting that they measure factors other than the patient's assessment of general satisfaction. In the linear regression models (Table 5), we obtained unadjusted and adjusted regression coefficients for the mean general satisfaction score for the different dimensions of health care and services. In the adjusted model, increase in patients' perceptions of provider technical competence ($P < 0.001$) and accessibility of services ($P < 0.001$) were associated with increasing mean general satisfaction.

Discussion

To our knowledge, this is one of the first systematic assessments of patient satisfaction among outpatients at Mulago hospital. The mean general patient satisfaction score was quite low,

Table 3 Adjusted and unadjusted coefficients for mean general satisfaction by patient and clinic characteristics

Characteristics	Unadjusted			Adjusted			P-value
	β	95% CI	CI	β	95% CI	CI	
Respondents' sex							
Females (reference)							
Male	0.02	-0.51	0.55	0.09	-0.32	0.50	0.7
Age (years)							
18-24 (reference)							
25-29	-0.08	-0.31	0.15	0.02	-0.13	0.16	0.8
30-49	0.13	-0.38	0.64	0.20	-0.06	0.45	0.1
50+	0.19	-0.38	0.76	0.37	-0.16	0.89	0.2
Education level							
None (reference)							
Primary	0.53	0.12	0.94	0.57	0.41	0.72	<0.001
Secondary	0.59	0.28	0.90	0.56	0.46	0.67	<0.001
Post-secondary (college/university)	0.05	0-0.38	0.48	-0.04	-0.31	0.23	0.8
Clinic type							
General Outpatient Clinic (reference)							
Specialized Outpatient Clinic	0.36	-0.27	0.99	0.08	-0.18	0.34	0.5
HIV Care and Research Clinic	0.79	0.57	1.01	0.41	0.20	0.62	<0.001
Reason for visit							
New diagnosis (reference)							
Prescription refill	0.69	0.22	1.17	0.52	0.12	0.93	0.01
Review visit	0.44	0.37	0.84	0.36	0.02	0.70	0.04
Other (including preventive services)	1.00	0.75	1.25	0.83	0.50	1.15	<0.001
Time spent (waiting time) at facility (hours)							
<2 (reference)							
2-4	-0.50	-0.82	-0.19	-0.26	-0.46	-0.07	0.008
>4	-0.70	-1.04	-0.36	-0.53	-0.74	-0.31	<0.001
Estimated expenditure at clinic visit (UgShs)							
0-3000 (reference)							
>3000 (USD 1.50)	-0.21	-0.40	-0.01	-0.12	-0.24	-0.04	0.04
Constant				2.10	1.84	2.35	<0.001

Note. β , beta coefficient from the general linear models, unadjusted and adjusted for all variables shown. Positive values indicate a higher mean general satisfaction score relative to the referent category/variable level, while negative values indicate a lower satisfaction compared with the reference category. All bold values are significant at $P < 0.05$ in the column marked P-values.

2.7 based on a scale ranging from 1 (low satisfaction) to 4 (high satisfaction), suggesting that there is need for improvement. Studies conducted in outpatient clinics [18, 21, 22] and in a variety of developing country settings [9-10, 14, 19] showed mixed results on levels of general satisfaction. The inconsistent findings are not surprising, since there are not only large differences in how care is provided across settings, but patients have very different experiences and expectations. Our study was conducted in a national referral hospital setting, where patients seeking care may be sicker [23, 24] or have higher expectation of the services than could be realistically met, thus resulting in a low mean general satisfaction score.

Observed inconsistencies in previous studies may be due to variations in the type of clinic where patients are selected. Our study sample was very heterogeneous due to the diverse selection of clinics from which patients were recruited. However, we observed variations in general satisfaction score

by type of clinic when we compared General Outpatient to the more specialized HIV Care and Research Clinics.

In some settings, patient's socio-demographic characteristics have been shown to contribute minimally to patient satisfaction [13, 16, 25]. In our study, there was a positive relationship between having primary or secondary education and higher levels of satisfaction compared with no education. Patients with these education levels may be able to follow instructions compared with those with no education, thus increasing their mean satisfaction scores. However, those with post-secondary education tended to score lower than those with no education, though the differences were not statistically significantly partly due to small numbers in some education categories. The lower score relative to the no education may also be due to potentially higher expectation of good services by the more highly educated patients.

Table 4 Correlation between mean general satisfaction score and satisfaction with other dimensions of health care

Satisfaction scale	Mean score (SD)	Correlation coefficient (<i>r</i>)	<i>P</i> -value	R ²
General satisfaction	2.7 (0.82)	1.00		
Provider technical competence	2.8 (0.73)	0.68	<0.001	0.46
Provider interpersonal skills	2.9 (0.57)	0.29	<0.001	0.08
Health facility environment	2.9 (0.43)	0.15	0.30	0.02
Accessibility	2.8 (0.54)	0.31	<0.001	0.10

All bold values are significant at $P < 0.05$ in the column marked *P*-values.

Table 5 Unadjusted and adjusted linear regression coefficients for mean scores of patient's general satisfaction by specific dimensions of health care

Dimensions of health-care scores	Unadjusted		Adjusted		<i>P</i> -value
	β	95% CI	β	95% CI	
Provider technical competence	0.76	0.63 0.89	0.70	0.58 0.83	<0.001
Provider interpersonal skills	0.54	0.20 0.88	0.17	-0.10 0.44	0.20
Health facility environment	0.22	0.01 0.43	-0.04	-0.21 0.13	0.70
Accessibility	0.47	0.31 0.65	0.17	0.07 0.27	0.001
Constant			-0.11	-0.73 0.50	0.70

Note. β , beta coefficient from the general linear models, unadjusted and adjusted models. Positive values of β indicate increase in mean general satisfaction score per unit increase in a specific dimension of health care; while negative values of β indicate decrease in mean general satisfaction for every unit change in the dimension of health care. All bold values are significant at $P < 0.05$ in the column marked *P*-values.

Patients returning for clinical review or prescription refill had relatively higher general satisfaction than those attending for a new illness, a finding that is consistent with results from elsewhere [23–25]. One possible explanation for greater satisfaction could be that returning patients are self-selected for high perceived satisfaction at this hospital but the perceptions of those who do not return possibly because of poor satisfaction are not captured. Ware and Hays [13] demonstrated that satisfaction predicted patient's intention to return for the same service in future. Also, returning patients have presumably had some experience with the health system enabling them to navigate inherent barriers such as locating the different service points.

Waiting time is a well-established predictor of patients' satisfaction and health-care quality [21, 25, 26]. In our study, we found that long waiting times as measured by time spent at the facility from arrival to completion of the visit were associated with lower satisfaction levels. This may suggest the need to identify inefficiencies in the process of service delivery. In the case of this hospital, very high outpatient load mainly from the peripheral areas of the underserved Kampala city may be overwhelming the resources, including human resources thus resulting in poor patient satisfaction [27, 28]. With virtually non-existent computer systems to handle this huge level of patient load, especially in record keeping and manual retrieval of records, patients are bound to continue having longer waiting time.

Costs incurred during the clinic visit negatively impacted patients' rating of satisfaction in our study. A qualitative study done in Tanzania showed that costs incurred during antenatal visits were associated with dissatisfaction with service, especially because most of them were unofficial payments [22]. In Uganda, the government funds most of the services provision in public hospitals therefore patients expect to get mostly free services. However, in a number of instances, unprepared patients are required to pay out-of-pocket for specific diagnostic services and treatments against their expectations, which may lead to the poor satisfaction levels. Providing the relevant information upfront about the services available and those that require out-of-pocket payment would help improve transparency and alleviate the potential stress and dissatisfaction. Some private health facilities have implemented this approach by using video messages with general health information that is relayed on TV screens in the patients waiting areas.

Our study points to the accessibility of services and providers' technical competence as the dimensions of health care that significantly predicted general satisfaction among the outpatients at Mulago hospital this finding is consistently with other studies done elsewhere [3, 12]. A possible limitation to the interpretation of our result is that the full range of services was not evaluated, so it is not possible to pinpoint which services were particularly problematic. Nonetheless, the results highlight the patient dissatisfaction

with issues of access, and give some insight into areas where future studies would be valuable.

Perceptions of provider' technical competence have been known to influence patient satisfaction [11, 12]. In our study, perceptions of technical competence explained nearly half of the variability in satisfaction. Some studies conducted in developing countries are inconclusive on this aspect [20–22]; this could be due to cultural differences in perception of technical competence. Patients' evaluations are often subjective, therefore it is debatable whether their ratings truly reflect technical quality or the providers' interpersonal skills [14–15]. Nonetheless, this finding collaborates with results from a recent qualitative study on care and services at Mulago hospital [29] suggesting possible gaps and the need for more objective measurement. A situation analysis of teaching and learning of medical and nursing students in MaKCHS also highlighted the need to re-orient the professional training to a more competence-based education which aligns with the health needs of the local communities [30].

Our study findings should be interpreted in light of several limitations. The study sample was over-represented by women respondents. Most of the clinics included in the sample were either women only or children's clinics. Although there were no significant differences in scores between men and women, we should not fully generalize the findings to all outpatients. The cross-sectional design gives only a snap shot of events whereas clients' satisfaction is likely to vary from one visit to another depending on a variety of external factors such as staff and drug shortages at time of the study. MakCHS could provide the research expertise to the hospital to conduct periodic patient satisfaction surveys for continuous quality monitoring and improvement. Our results are not conclusive about the causes of dissatisfaction with outpatient services because we did not have a comparison group. Finally, the majority of dimensions of healthcare that were studied did not explain much of variability in general patient satisfaction suggesting that there are other factors that influence overall satisfaction. This presents excellent research opportunities to be explored by faculty and students in MakCHS.

This study highlight important findings about outpatient service in Mulago National referral hospital. The sub-optimal satisfaction scores for outpatient care strongly suggest that more could be done to assure that out-patients services are more patient centered. Key factors such as category of clinic visited, waiting time, costs incurred, accessibility of service and providers' technical competence should be addressed when improving the quality of health service delivery at Mulago hospital.

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