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## Patient satisfaction with medical consultations among adults attending Mulago hospital assessment centre

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### Abstract

**Background**—Patient satisfaction is known to positively influence patients' compliance with medical advice. In Africa, and specifically Uganda, this interaction has rarely been put to scientific inquiry. This study aimed to determine the level of patient satisfaction and identify factors influencing satisfaction with medical consultations among adults attending Mulago Assessment Centre.

**Methods**—This was a quantitative descriptive cross-sectional study where 384 respondents were interviewed using a structured questionnaire adapted from the Medical Interview Satisfaction Scale (MISS-21) with a four-point Likert scale. Patient satisfaction was measured using four dimensions namely: information provision, clinicians' communication skills, perceived consulting time and patient's confidence in the clinician. Respondents' mean scores were categorised as satisfied or dissatisfied. Multivariate linear regression analysis assessed the effect of independent variables on the regression factor score of the dependent variable. Significance level was set at  $p < 0.05$ . Final data analysis was done using STATA version 11.0.

**Results**—Of the sample, 53.9% were satisfied with the medical consultation. Patients' average scores showed lowest satisfaction for information provision (2.7 points) compared with communication skills (3.22 points), patient confidence in the clinicians (3.22 points) and consultation time (3.05 points). Being older, employed, living further away from the health centre and frequently visiting the centre were positively associated with patient satisfaction.

**Conclusions**—Patient satisfaction was largely affected by interpersonal factors. This highlights the need for training of clinicians on the importance of adequate information provision, good communication skills and technical competences like thorough examination of patients and relieving worries about illness during the consultation.

### Keywords

medical consultations; patient satisfaction; patient; clinician interaction

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## Background

As the quality of health care improves, utilisation of health services increases.<sup>1–3</sup> To achieve high quality, the World Health Organization now recommends a ‘people-centred’ approach to health care whereby the patient is a whole person with multidimensional needs as opposed to only managing their disease condition.<sup>4</sup> One way of assessing quality of health care is through patients’ satisfaction with the services they receive.<sup>5, 6</sup> An important aspect of health care services that influences health outcomes is the patient–clinician interaction in the medical consultation.<sup>1, 7–9</sup> There is documented evidence of a positive relationship between a patient’s consultation experience and his/her actual health outcomes.<sup>10–12</sup> There is also a positive influence between effective communication during medical consultations and patient adherence to scheduled appointments and other clinician instructions.<sup>12, 13</sup> Improvement in the quality of clinician–patient interactions can therefore result in better patient care and help patients adapt to illness and treatment.<sup>14</sup>

Studies done in Africa found patient satisfaction with physician interaction to be generally low at 63.3% and 62.6% respectively.<sup>7, 9</sup> In Uganda, a study at Mulago National Referral and Teaching Hospital found satisfaction with general services in outpatient clinics to be as low as 54%.<sup>15</sup> Few studies in Uganda have, however, assessed satisfaction with aspects of the medical consultation, yet this would be one way of generating evidence to be used to better health outcomes.<sup>16</sup> Patient satisfaction can refer to the degree to which the patient’s experience with the clinician meets their expectations during the consultation.<sup>17–19</sup> In this study, patient satisfaction referred to the degree to which the consultation met the patient’s expectations with regard to the effectiveness of the interaction and efficiency in which care was given. This study measured patients’ satisfaction and its influencing factors using four dimensions of the medical consultation, namely: information provision, clinicians’ communication skills, perceived consulting time and patient’s confidence in the clinician among adults attending Mulago Assessment Centre.

## Methods

### Study setting

The study was conducted in the adult clinic at Mulago Assessment Centre (MAC) located in Mulago National Referral and Teaching Hospital (MNRTH) situated in Kampala Uganda during February 2, 2015 to February 28, 2015. The adult clinic receives a high number of patients and, according to hospital records, 78,192 in the year 2012 and 56,328 in year 2013. It is the first contact clinic for both referred and non-referred patients visiting the hospital. During their time at the centre, patients consulted with the clinician after which those with severe or complicated conditions were admitted through the emergency units and wards while others were discharged from the centre. The outpatient clinic at the centre opens from 8 am to 5 pm on weekdays and Saturdays and is closed on Sundays and public holidays.

The study population comprised adult patients aged 18 years who attended the general outpatient clinic at MAC during the period of this research and consented to participate in it. We excluded patients who were severely ill and required admission, those whose

consultation consisted mostly of interaction between the clinician and any third party, e.g. their caregiver, and those who were returning to see the clinician for follow up of medical investigations.

A sample size of 384 adult patients was calculated using the Kish–Leslie formula with the following assumptions: 50% reported being satisfied (a figure chosen because we did not find any prior published studies on patient satisfaction with the medical consultation in this or a similar setting), a precision of 5%, an alpha level of 5% and a 5% non-response rate.

### Sampling technique

A systematic random sampling method with replacement was used. With a daily attendance between 180 and 200 patients, and an average monthly attendance of 4670, a sampling interval of 12 was used. A maximum of 15 patients were recruited as they exited the consultation room. This continued for 26 consecutive clinic days till the sample size of 384 was reached.

### Data collection

Data were collected using an interviewer-administered structured questionnaire adapted from the Medical Interview Satisfaction Scale-21 questionnaire (MISS-21),<sup>20</sup> a validated questionnaire that had been adapted to the Ugandan context. The questionnaire was pretested in the medical outpatients' clinic to highlight any problems with wording and responses. A Likert scale scoring approach was used to quantify the data for satisfaction ranging from 1 to 4, where 1 = strongly disagree, 2 = disagree, 3 = agree and 4 = strongly agree. Interviews were conducted by trained research assistants who were social scientists to limit bias. The clinicians working at the centre were blinded as to the true nature of the study and did not have access to the data collected from patients during this period.

### Study measurements

The primary outcome was patient satisfaction with the medical consultation, a continuous variable constructed as a composite variable from the mean of the total score of question items from four<sup>4</sup> dimensions of the consultation; information provision, clinicians' communication skills, the patient's confidence in the clinician, and perceived consulting time. Information regarding compliance with treatment, instructions and continuity of care was also sought. The effect of socio-demographic factors and institutional factors on satisfaction was also explored.

### Data analysis and presentation

The individual mean score was calculated by dividing the total score by the total number of items. The mean subscale score was also determined for information provision, communication skills, patient's confidence in the clinician and perceived consultation time. Individual mean scores  $\geq 3$  were categorised as satisfied. Using descriptive analysis, frequencies and proportions were determined for categorical variables while means and standard deviations (SDs) and median (inter-quartile range) were calculated for continuous variables, e.g. age. Using bivariate analysis, the f-test was used to compare mean scores of all variables (socio-demographic variables, institutional variables and interpersonal

interaction). The significance level was set at  $p = 0.05$ . Using multivariate linear regression analysis, we compared scores by their 95% confidence intervals,  $p$ -values and corresponding coefficient of determination ( $R^2$ ) of patient satisfaction. All associations were considered statistically significant at  $p$ -values of  $\leq 0.05$ . Data were entered into Epidata software 3.1 (<http://www.epidata.dk>) and analysed using STATA version 11.0 (StataCorp LP, College Station, TX, USA).

## Results

A total of 384 adults agreed to participate in this study. The non-response rate was 4%, mostly consisting of patients who stated that they did not have time to take the questionnaire. The mean age was 39 years, standard deviation 16 years, median 36 years, and inter-quartile range was 18 to 96 years. The female to male ratio was 2.3. This is summarised in Table 1.

Table 2 shows that the majority had their consultations conducted by medical assistants (62%); a large number (74.0%) did not know the clinician at all.

Table 3 shows mean subscale scores where communication skills and patient confidence in the clinician contributed 3.22 points. Perceived consultation time and information provision contributed the least at 3.05 and 2.71 points respectively.

### Level of satisfaction

The mean satisfaction score of the group was found to be 3.03 points. The median score was found to be 3.06 points. The range for the score was found to be 1.25–3.97 points. The standard deviation was 0.58. Accordingly the level of satisfaction was determined using the number of individuals with scores  $\geq 3$  points. Patient satisfaction was found to be at 53.9%. This is summarised in Table 4.

### Predictors of patient satisfaction with medical consultations at Mulago Hospital Assessment Centre

Table 5 shows coefficients of determination between mean scores of patient satisfaction and the satisfaction of significant variables across the four dimensions. Socio-demographic factors contributed 13.36% of the variation in patient satisfaction. Occupational status of the patient ( $p$ -value = 0.011) and distance from the health centre ( $p$ -value = 0.008) were found to be significantly associated with the satisfaction score. Institutional factors contributed 18.25% of the variation in patient satisfaction. The frequency of visit to the centre in 12 months ( $p$ -value = 0.010) was found to be the most significant predictor. Interpersonal interaction variables contributed 77.66% of the variation in patient satisfaction. Information provision: being told the cause of illness ( $p$ -value = 0.018), being told the name of illness ( $p$ -value = 0.005), being told about further treatment for the illness ( $p$ -value = 0.000), being told about future ways of preventing illness ( $p$ -value = 0.014), being given information to take to the doctor who referred them ( $p$ -value = 0.000), and being given all the information they were expecting to receive about their health ( $p$ -value = 0.046) were the significant predictors towards patient satisfaction with the medical consultation. Communication skills: friendliness of the clinician ( $p$ -value = 0.003) was the main predictor for satisfaction. Patient

confidence: being examined thoroughly ( $p$ -value = 0.000) and relieving worries about illness ( $p$ -value = 0.017) were most significantly associated with satisfaction. Perceived consultation time ( $p$ -value = 0.005) was also a significant predictor towards patient satisfaction with the medical consultation. The Cronbach's alpha had an average score of 0.9222, which showed high internal consistency of the items on the scale used in this study.

## Discussion

### Level of patient satisfaction

The overall satisfaction with medical consultations at MAC was found to be 53.9%. Previous studies in Uganda have found satisfaction with services at MNTRH to be low at 54.4%.<sup>15</sup> This finding is lower than in Nigeria where patient satisfaction with physician services was reported at 63.3%<sup>7</sup> and another study in Ethiopia found satisfaction with health care providers to be 62.6%.<sup>9</sup> Satisfaction with the medical consultation in this study is significantly low when compared with other settings like the 74% rate reported in Trinidad and Tobago by Singh *et al.*<sup>21</sup> and the 84% rate reported among out-of-hours primary health care patients in the Netherlands by Van Uden *et al.*<sup>22</sup> These findings could be due to the centre being in the national referral hospital where patients are usually sicker and are likely to have higher expectations.<sup>23</sup>

### Socio-demographic factors influencing patient satisfaction with medical consultations

Higher scores were found among the elderly compared with younger patients. This is similar to findings by Danielsen *et al.*<sup>24</sup> who reported younger patients who demanded more from their physicians scored less for patient satisfaction when compared with the elderly who were more conservative towards their consultation and had higher satisfaction scores. Patients who were unemployed reported greater satisfaction scores than those who were employed. This is similar to other studies<sup>7, 25</sup> and could be attributed to those who are employed having more expectations, being more demanding of their clinicians and therefore having higher expectations.

In this study, patients that lived more than 20 km away from the hospital reported being more satisfied. This is a different finding from other studies,<sup>3, 26</sup> which reported lower satisfaction scores for patients who lived far from the health centre. Patients coming from > 20 km away from the centre were more likely to have been referred to the centre which has more resources than the centres they had previously attended and were more likely to have had a better understanding of their illness or to have been familiar with the consultation process.

Education status has been found to be a significant factor in predicting patient satisfaction in other studies<sup>9, 15, 25</sup> but not in this study. This could be due to a greater number of the respondents having primary (38.6%) and secondary education (36.7%) compared with those that had no formal education (10.4%). The religion of the patient did not have a significant association with satisfaction, which is similar to findings by Kuteyi *et al.*<sup>7</sup> Marital status did not have a significant association with satisfaction in this study, which is not consistent with findings of other studies<sup>7, 27, 28</sup> that have found marital status to be an important predictor of

satisfaction. This could be because this study was conducted in an outpatient setting where the involvement of the spouse may be less than an inpatient setting. Although married patients had lower satisfaction scores than those who were single, gender did not contribute significantly to patient satisfaction, which is consistent with the findings of Afzal *et al.*<sup>28</sup> The evidence for gender contribution to satisfaction is mixed; one study reported that women tend to be more critical of medical care than men and therefore report lower scores than men<sup>28</sup> while others report women are more satisfied than men.<sup>29</sup>

### **Institutional factors influencing patient satisfaction with medical consultations**

The respondents who reported being familiar with the doctor were more satisfied than those who did not know the clinician. Other studies have reported that knowing the provider well is associated with higher satisfaction.<sup>9</sup> It is more likely that these patients felt comfortable enough to share their personal feelings about their illness. The patients who frequented the centre reported higher satisfaction scores than those who were coming for the first time. This is possibly because they were familiar with the centre services and the clinicians and could be the same reason why those who were visiting for a new disease episode reported lower satisfaction than those who were coming for a follow-up visit.

### **Interpersonal factors influencing patient satisfaction with medical consultations**

Information provision during the medical consultation contributed the lowest scores for patient satisfaction (2.71 points). This highlights the need for clinicians to acknowledge that patients need to be educated about the nature of their illness, the possible causes, and ways of prevention of future illness and how to care for their medical condition in order to avoid negative consequences in the management of the patients. There is a need to improve the way clinicians provide this information by spending sufficient time talking with the patient in order to fully understand the nature of the problem, provide a plausible explanation and give correct information on the management of their illness. Information provision to patients regarding their expectations at the health centre and their illness has been linked to higher patient satisfaction, compliance with health advice and improved health outcomes.<sup>30</sup>

Patients who had the reason for their ill health explained to them were more likely to be satisfied than those who did not. Those who reported that their clinicians greeted them, were polite to them, listened to their needs and did not use words they did not understand recorded higher satisfaction scores than those who reported otherwise. Patients who viewed their clinicians as being friendly were more likely to be satisfied than those who did not. This is similar to other findings.<sup>7</sup> Effective clinician communication skills have been linked to greater satisfaction during the consultation<sup>14</sup> which enables the ability to build a rapport with patients and explore deeply their illness and the context in which they present.<sup>13</sup>

Patients who were not examined were less likely to be satisfied than those who were. This is similar to findings in other studies.<sup>7, 9</sup> The patients who felt their conversations, examinations and procedures were not conducted in a private environment were less satisfied than those that had private environment. Privacy during the medical consultation has been found to increase the comfort level of the patient by making him/her feel at ease.<sup>31</sup> This

helps to improve the quality of the clinical examination and improves the overall patient–clinician encounter.

Patients who spent a shorter time with the clinician had lower satisfaction scores. Consultation time has been positively associated with patient satisfaction.<sup>10, 11, 32</sup> MAC receives a high number of patients and clinicians are under pressure to see as many as they can within a short period of time. This does not make it conducive to having an adequate consultation time. Measures to reduce the number of patients attending the centre and a proper appointment system to ensure enough time for follow-up visits will improve the centre's performance.

We did not find a strong association between satisfaction score and intent to comply with treatment, instructions and continuity of care. Other studies have, however, reported that patients who are satisfied are more likely to comply with their treatment and instructions as well as to utilise health care services better.<sup>30, 33, 34</sup> Prospective studies are needed to explore this more in our setting.

The limitations of this study include the fact that, being a cross-sectional design, it only could capture satisfaction for one visit while periodic surveys could be more informative to the centre. This study did not give information on what third parties, e.g. caregivers, may have contributed to the medical consultation. It also has to be noted that the findings of this study may suffer from response bias due to being a facility-based study; these are known to produce more positive responses for satisfaction. There could have been a possibility of a 'halo effect' where patients might feel more satisfied immediately after their consultation than they do later. This study was purely a quantitative study; a qualitative study would have allowed us to explore some of the underlying reasons patients could be dissatisfied and further support the finding of this study.

## Conclusion

This study showed that by clinicians communicating better and providing more information to patients they can address individual needs, concerns and expectations during the medical consultation. Although socio-demographic and institutional factors play a smaller role, patient satisfaction with the consultation is largely affected by the interpersonal factors and further studies with a qualitative approach could explore their role in the consultation and provide more knowledge on how to improve satisfaction with the consultation.

## Ethical consideration

Study ethical approval was sought from the Makerere University School of Medicine Research and Ethics Committee (SOMREC) and Mulago Hospital Ethics and Research Committee (MERC) and the Uganda National Council of Science and Technology (UNCST) before commencement of the study. Free and informed consent was obtained from all patients included in this study.

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**Table 1**

## Respondents' socio-demographic characteristics

Socio-demographic variables	Frequency ( <i>n</i> = 384)	Percentage (%)
Sex		
Female	269	70.0
Male	115	30.0
Age (yrs)		
18–24	81	21.0
25–44	170	44.2
45–64	104	27.3
65	29	7.5
Education status		
No formal education	40	10.4
Primary	148	38.6
Secondary	141	36.7
Tertiary	55	14.3
Occupational status		
Unemployed	168	43.8
Employed by other	87	22.7
Self-employed	129	33.5
Distance from health centre		
< 5 km	138	35.9
5–10 km	123	32.2
11–15 km	30	7.8
16–20 km	8	2.0
> 20 km	85	22.1
Region		
Central	215	56.0
Eastern	49	12.8
Northern	20	5.2
Western	75	19.5
others	25	6.5
Religion		
Catholic	124	32.3
Muslim	82	21.3
Protestant	178	46.4
Marital status		
Married	195	50.8
Single	189	49.2

**Table 2**

## Respondents' institutional characteristics

<b>Institutional variables</b>	<b>Frequency (n = 384)</b>	<b>Percentage (%)</b>
Familiarity with clinician		
Know very well	15	3.9
Know well	36	9.4
Know little bit	49	12.7
Don't know at all	284	74.0
Frequency of visit in 12 months		
Once	226	58.9
Twice	56	14.6
Three times	19	4.9
Four times	83	21.6
Type of visit		
New	244	63.5
Follow-up	140	36.5
Room privacy		
Poor	59	15.4
Good	175	45.6
Very good	71	18.5
Excellent	11	2.8
Consultation in language you understand		
Yes	379	98.7
No	5	1.3
Clean consultation room		
Yes	382	99.5
No	2	0.5
Family or attendant involvement		
Yes	62	16.2
No	322	83.8
Cadre of clinician		
Medical assistant	238	62
Intern doctor	37	9.6
Medical officer	98	25.5
Consultant	11	2.9
Sex of clinician		
Female	249	65
Male	135	35

**Table 3**

Interpersonal interaction variables and mean satisfaction scores

<b>Interpersonal interaction variables</b>	<b>Mean score</b>
1. Information provision	2.71
2. Communication skills	3.22
3. Patient confidence in the clinician	3.22
4. Perceived consultation time	3.05
Overall mean score	3.05

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**Table 4**

Level of patient satisfaction with medical consultations

Level of satisfaction	No. (n = 384)	Percentage (%)
Dissatisfied	177	46.1
Satisfied	207	53.9
Total	384	100

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Table 5

Predictors of patient satisfaction with medical consultations at Mulago Hospital Assessment Centre

Variables	No. (%) <i>n</i> = 384	<i>p</i> -value	Unstandardised $\beta$ coefficient	95% CI for B
Age (yrs)				
18–24	81 (21.0)			
25–44	170 (44.2)	0.889	–0.005	(–0.081, 0.070)
45–64	104 (27.3)	0.420	–0.036	(0.125, 0.052)
65	29 (7.5)	0.836	0.013	(–0.110, 0.136)
Occupational status				
Unemployed	168 (43.8)			
Employed by other	87 (22.7)	0.182	0.051	(–0.024, 0.126)
Self-employed	129 (33.5)	<b>0.011</b>	0.086	(0.020, 0.152)
Distance from health centre				
< 5 km	138 (35.9)			
5–10 km	123 (32.2)	0.580	0.018	(–0.047, 0.084)
11–15 km	30 (7.8)	<b>0.008</b>	0.140	(0.036, 0.243)
16–20 km	8 (2.0)	0.956	0.005	(–0.171, 0.181)
> 20 km	85 (22.1)	0.397	0.035	(–0.047, 0.118)
Knowing clinician				
Know very well	15 (3.9)			
Know well	36 (9.4)	0.155	0.113	(–0.043, 0.270)
Know little bit	49 (12.7)	0.953	0.005	(–0.150, 0.159)
Don't know at all	284 (74.0)	0.461	0.057	(–0.096, 0.210)
Frequency of visit in 12 months				
Once	226 (58.9)			
Twice	56 (14.6)	<b>0.010</b>	0.137	(0.033, 0.240)
Three times	19 (4.9)	0.061	0.145	(–0.007, 0.297)
Four times	83 (21.6)	0.180	0.084	(–0.039, 0.207)
Type of visit				
New	244 (63.5)			
Follow-up	140 (36.5)	0.617	–0.0256	(–0.126, 0.075)
Room privacy				
Poor	59 (15.4)			
Fair	68 (17.7)	0.550	0.0278	(–0.064, 0.119)
Good	175 (45.6)	0.722	–0.014	(–0.095, 0.066)
Very good	71 (18.5)	0.945	0.003	(–0.089, 0.096)
Excellent	11 (2.8)	0.782	0.025	(–0.151, 0.201)
Clinician told me cause of illness				
Disagree	208 (54.2)			
Agree	176 (45.8)	<b>0.018</b>	0.082	(0.014, 0.149)

Variables	No. (%) <i>n</i> = 384	<i>p</i> -value	Unstandardised $\beta$ coefficient	95% CI for B
Clinician told me name of illness				
Disagree	205 (46.6)			
Agree	179 (53.4)	<b>0.005</b>	0.111	(0.034, 0.188)
Clinician told me how to care for my condition				
Disagree	177 (46.1)			
Agree	207 (53.9)	0.304	0.049	(-0.045, 0.142)
Clinician told me about further treatment for my illness				
Disagree	180 (46.9)			
Agree	204 (53.1)	<b>0.000</b>	0.166	(0.083, 0.250)
Clinician told me about future ways of preventing my illness				
Disagree	214 (55.7)			
Agree	170 (44.3)	<b>0.014</b>	0.108	(0.022, 0.194)
Clinician gave information to take to the doctor who referred me				
Disagree	220 (57.3)			
Agree	164 (42.7)	<b>0.000</b>	0.144	(0.073, 0.216)
Clinician didn't tell me enough about my treatment				
Disagree	177 (46.1)			
Agree	207 (53.9)	<b>0.009</b>	0.098	(0.025, 0.171)
Clinician gave me all the information I was expecting to receive about my health				
Disagree	168 (43.8)			
Agree	216 (56.2)	<b>0.046</b>	0.086	(0.002, 0.171)
Clinician seemed interested in me as a person and not just in my illness				
Disagree	132 (34.4)			
Agree	252 (65.6)	0.521	0.021	(-0.044, 0.087)
Clinician was good at explaining the reason for my ill health				
Disagree	256 (67.7)			
Agree	128 (33.3)	<b>0.003</b>	0.133	(0.047, 0.219)
Clinician was not friendly to me				
Disagree	114 (29.7)			
Agree	270 (70.3)	<b>0.000</b>	0.261	(0.195, 0.327)
Clinician examined me thoroughly				
Disagree	118 (30.7)			
Agree	266 (69.3)	<b>0.000</b>	0.225	(0.138, 0.311)
Clinician did not relieve my worries about my illness				
Disagree	71 (18.5)			
Agree	313 (81.5)	<b>0.017</b>	0.117	(0.021, 0.214)
I wish it had been possible to spend a little longer with the clinician				
Disagree	149 (38.8)			
Agree	235 (61.2)	0.005	0.091	(0.028, 0.154)

Best fitting multiple linear regression:  $F=48.22$   $p = 0.0000$   $R\text{-squared}= 0.8918$   $\text{Adj } R\text{-squared} = 0.8733$

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