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

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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

Background
As the quality of health care improves, utilisation of health services increases.1–3 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.4 One way of assessing quality of health care is through patients’ satisfaction with the services they receive.1,5,6 An important aspect of health care services that influences health outcomes is the patient–clinician interaction in the medical consultation.7–9 There is documented evidence of a positive relationship between a patient’s consultation experience and his/her actual health outcomes.10–12 There is also a positive influence between effective communication during medical consultations and patient adherence to scheduled appointments and other clinician instructions.13,14 Improvement in the quality of clinician–patient interactions can therefore result in better patient care and help patients adapt to illness and treatment.14

Studies done in Africa found patient satisfaction with physician interaction to be generally low at 63.3% and 62.6% respectively.7–9 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%.15 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.14 Patient satisfaction can refer to the degree to which the patient's experience with the clinician meets their expectations during the consultation.15–17 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), 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 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 ≥ 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 \( p \leq 0.05 \). 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 ≤ 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.

### Table 1: Respondents’ socio-demographic characteristics

| Socio-demographic variables | Frequency (n = 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

| Institutional variables                        | Frequency (n = 384) | Percentage (%) |
|------------------------------------------------|--------------------|----------------|
| 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

| Interpersonal interaction variables | Mean score |
|------------------------------------|------------|
| 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       |

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 MNTTRH to be low at 54.4%. This finding is lower than in Nigeria where patient satisfaction with physician services was reported at 63.3% and another study in Ethiopia found satisfaction with health care providers to be 62.6%. 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. and the 84% rate reported among out-of-hours primary health care patients in the Netherlands by Van Uden et al. 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.

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 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 and could be attributed to those who are employed having more expectations, being more demanding of their clinicians and therefore having higher expectations.
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            |

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, 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 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. Marital status did not have a significant association with satisfaction in this study, which is not consistent with findings of other studies 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 in 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. 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 while others report women are more satisfied than men.

**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. 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.

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. Effective clinician communication skills have been linked to greater satisfaction during the consultation which enables the ability to build a rapport with patients and explore deeply their illness and the context in which they present.

Patients who were not examined were less likely to be satisfied than those who were. This is similar to findings in other studies. 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. 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. 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. 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.
### Table 5: Predictors of patient satisfaction with medical consultations at Mulago Hospital Assessment Centre

| Variables                          | No. (%) | p-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) | 0.011   | 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) | 0.008   | 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) | 0.010   | 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) | 0.018   | 0.082                              | (0.014, 0.149)|
| **Clinician told me name of illness** |         |         |                                    |                |
| Disagree                          | 205 (46.6) |         |                                    |                |
| Agree                             | 179 (53.4) | 0.005   | 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) | 0.000   | 0.166                              | (0.083, 0.250)|
| **Clinician told me about future ways of preventing my illness** |         |         |                                    |                |
| Disagree                          | 214 (55.7) |         |                                    |                |
| Agree                             | 170 (44.3) | 0.014   | 0.108                              | (0.022, 0.194)|
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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