Factors Affecting Patient Satisfaction During Endoscopic Procedures

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ABSTRACT
Objective: To assess the quality and patient satisfaction in Endoscopy Unit of Shifa International Hospital.
Study Design: Cross-sectional survey.
Place and Duration of Study: Division of Gastroenterology, Shifa International Hospital, Islamabad, Pakistan, from July 2011 to January 2012.
Methodology: Quality and patient satisfaction after the endoscopic procedure was assessed using a modified GHAA-9 questionnaire. Data was analyzed using SPSS version 16.
Results: A total of 1028 patients were included with a mean age of 45 ± 14.21 years. Out of all the procedures, 670 (65.17%) were gastroscopies, 181 (17.60%) were flexible sigmoidoscopies and 177 (17.21%) were colonoscopies. The maximum unsatisfactory responses were on the waiting time before the procedure (13.13%), followed by unsatisfactory explanation of the procedure and answers to questions (7.58%). Overall, unsatisfied impression was 4.86%. The problem rate was 6.22%.
Conclusion: The quality of procedures and level of satisfaction of patients undergoing a gastroscopy or colonoscopy was generally good. The factors that influence the satisfaction of these patients are related to communication between doctor and patient, doctor's manner and waiting time for the procedure. Feedback information in an endoscopy unit may be useful in improving standards, including the performance of endoscopists.


INTRODUCTION
In recent years, the role of endoscopy has increased many folds because of the establishment of ample range of therapeutic endoscopic procedures.1 Endoscopic procedures include diagnostic upper and lower GI endoscopies, injection sclerotherapy and oesophageal variceal band ligation for upper gastrointestinal bleeding or elective procedures like percutaneous endoscopic gastrostomy (PEG) or biliary stenting through endoscopic retrograde cholangiopancreatography (ERCP). The overall complication rates for upper GI endoscopy and colonoscopy are 0.009% and 0.02%. The perforation rates are 0.0009% and 0.005% respectively and the mortality rates 0.0009% and 0.001% respectively. The overall complication rate for all procedures (diagnostic and therapeutic) are lower for gastroenterologists (1 per 5155 procedures) than internists (1 per 1539 procedures).2

Recently, patient satisfaction with endoscopic procedures has become an important outcome measure of gastrointestinal (GI) endoscopies.3 Patient satisfaction is a cognitive and emotional evaluation by the patient on the performance of health care staff and is based on relevant aspects of their experience in healthcare. Compliance of patients with health care system is better if they are satisfied with care givers.4 The American Society of Gastrointestinal Endoscopy (ASGE) have stressed the need of monitoring quality in all endoscopic facilities.5 All quality indicators may not be applicable in every setting and they should be modified accordingly. Different questionnaires have been used to assess quality of procedures and patient satisfaction towards gastrointestinal endoscopy.6,7

Regarding the measurement of patient's satisfaction, a modified version of the Group Health Association of America-9 (GHAA-9) patient satisfaction survey was proposed.8 The questionnaire addressed six specific aspects of participant satisfaction. It includes mainly waiting time, manners of doctor and staff, skills of the doctor, explanation of the procedure and overall impression.

Patient satisfaction not only sets-up performance standards, but also increases the responsibility of physicians and staff, and most importantly, can lead to improvement in the quality of care. Factors that have been appreciably and positively associated with patient satisfaction included polite personal manner of endoscopists, respectful personal manner of nurses, patient positive insight of endoscopists' technical skills, pleasant physical environment in the endoscopy unit, and sufficient time spent by physicians explaining the procedure.9
As the endoscopic procedure can be performed quickly and is associated with few complications, the satisfaction of the patients has rarely been given priority. Despite a low rate of medical complications, the procedure is associated with substantial pre-procedural anxiety and procedure-related discomfort and endoscopists tend to underrate patient discomfort or dissatisfaction.10 Satisfaction of the patients is even more important in our setup, as a part of third world, we got limited resources along with the high cost as another limiting factor for the patients to receive good medical care. Thus, in these circumstances giving relief to the patients in the form of good manner, good explanation of the procedure and less waiting time before the procedure will have a positive effect on the entire outcome.

In a Mexican study, factors that influenced patient satisfaction were: waiting time for appointment (OR 3.104), explaining and answering questions (OR 2.961) and waiting time for performing the procedure (OR 2.408).11

In another Asian study, bowel preparation and waiting times were main factors for patient dissatisfaction.12 While in a Korean study pain control and adequacy of procedure explanation were the two main factors for dissatisfaction (problem rate of 17.2%).13 A Pakistani study highlighted the importance of quality control and feedback during the procedures.14 But there is limited data available from our country as well the region about feedback during the procedures.15

The aim of this study was to assess the quality and patient satisfaction with aspects of endoscopic procedures. The study was carried out at the Division of Gastroenterology, Shifa International Hospital, Islamabad, Pakistan, from July 2011 to January 2012. An informed consent was taken from all study participants. All patients undergoing diagnostic esophagogastroduodenoscopy (EGD) and colonoscopy were interviewed after the procedure. The demographics features like patient age, gender, endoscopist performing the procedure, nature of procedure (endoscopy, colonoscopy, flexible sigmoidoscopy) and immediate complications were noted in a structured manner. All gastroenterologists’ names were given alphabets code (A, B, C and D). Procedures of each individual gastroenterologist were noted and evaluated. Complications were defined as any events which required intervention.

Patient satisfaction was assessed using the modified GHAA-9 questionnaire which was derived from the Group Health Association of America-9 survey.15 The seven core items of the modified GHAA-9 survey comprised of the questionnaire used in this study with few modifications. This questionnaire comprise of 7 questions regarding the satisfaction of patient and quality provided to the patient, both assessed by the patient itself by giving the score for each question. A score of 1 – 4 was assigned to each item response, with 1 representing a poor and 4 representing an excellent satisfaction rating. If number 1 or 2 was marked by the participant, it was taken as unsatisfied, while 3 or 4 were taken as satisfied for every question.

The unsatisfied response was calculated by adding all unsatisfied responses of a particular question and percentages were then calculated by dividing the total number of procedures with total number of unsatisfied responses and multiplying with 100. Similarly, the problem rate was calculated by adding all satisfied or unsatisfied answers in all questionnaires, and dividing them by the total number of questions asked and multiplying the results of this division by 100. These were expressed in the form of tables.

The problem rate and the percentage of satisfied or unsatisfied answers were calculated for each individual question. It was checked for each consultant as well as combined results were also noted. Data was analyzed using Statistical Package for Social Sciences (SPSS) version 16. Results were expressed in the form of tables and graphs. Spearman rank correlations were used to assess the magnitude, direction and statistical significance of the association of patient ranking between pairs of items. This was done to explore potential domains of patient satisfaction with aspects of endoscopy.

RESULTS

A total of 1167 patients were initially selected for the study. Of these, 95 did not give consent for the participation and 44 were unable to understand the questions because of post-procedural sedative effects. Patients who were finally interviewed from GI endoscopy unit were 1028 in number. Majority of patients were of age between 30 – 60 years with mean age of 45 ± 14.21 years. Six hundred and twenty five (61%) were males and 403 (39%) were females.

### Table I: Unsatisfaction expressed by the patients of each question for each consultant.

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Procedures</th>
<th>Waiting time</th>
<th>Manner</th>
<th>Skills</th>
<th>Explanation</th>
<th>Overall impression</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>572</td>
<td>16 (2.79%)</td>
<td>6 (1%)</td>
<td>7 (1.22%)</td>
<td>50 (8.74%)</td>
<td>6 (1.04%)</td>
</tr>
<tr>
<td>B</td>
<td>236</td>
<td>66 (27.96%)</td>
<td>32 (13.5%)</td>
<td>10 (4.6%)</td>
<td>20 (8.47%)</td>
<td>34 (14.56%)</td>
</tr>
<tr>
<td>C</td>
<td>170</td>
<td>40 (23.5%)</td>
<td>4 (2.35%)</td>
<td>8 (4.7%)</td>
<td>6 (3.52%)</td>
<td>10 (5.8%)</td>
</tr>
<tr>
<td>D</td>
<td>50</td>
<td>12 (24%)</td>
<td>3 (6%)</td>
<td>6 (12%)</td>
<td>2 (4.0%)</td>
<td>4 (8.0%)</td>
</tr>
</tbody>
</table>
Out of 1028 procedures, maximum procedures were endoscopies (Figure 1). Maximum number of procedures were done by consultant A (572 procedures) while 236, 170 and 50 procedures were done by consultant B, C and D respectively (Figure 2).

Table I shows the unsatisfactory response percentage for each consultant separately. Most of the unsatisfactory responses were on the waiting time, with the best overall impression of consultant A and comparatively more unsatisfied overall impression by consultant B.

Percentage of unsatisfactory response to each question is shown in the Table II. The relationship between each pair of items based on patient ranking was assessed using the Spearman rank correlation (Table III).

### DISCUSSION

To evaluate patients’ satisfaction and to focus on the area of dissatisfaction is vital for improving structure of healthcare services. This system has been found to be helpful in improving the overall standards; especially performance of endoscopists improves with such feedback. This whole system ultimately leads to good reputation of the department in the long run. This highlighted the importance of judging patient satisfaction, describing this aspect as of prime importance for the economic future of gastrointestinal endoscopy and for gastrointestinal endoscopy to remain competitive against rival technologies. Patient satisfaction can have vital impact on patient motivation to undergo endoscopic procedures regardless of whether the patient has had endoscopy before. Its importance increases when targeting asymptomatic patients for screening purposes without any obvious disease. Moreover, levels of satisfaction also indicates quality of care, and feedback from participants can be used to modify program operations.

Patient satisfaction is a crucial parameter in the management of the quality of endoscopies because it directly reflects patient acceptance of procedures and possibly reflects patient compliance with screening and monitoring, thus, dissatisfaction with the screening experience may lead to non-compliance. Annually, the authors perform about 4000 endoscopic procedures at our institution with patients coming from all areas of the country and from surrounding countries. Both inpatients and outpatients are referred to endoscopy unit for diagnostic and therapeutic interventions.

The studies conducted by Zubark et al. at the Georgetown University Hospital, USA, found that most frequent delayed complications occurring after the upper...
GI endoscopy were throat discomfort and abdominal pain.\textsuperscript{20,21} No immediate significant complications were noted in this study after the diagnostic procedures. One of the significant outcomes of this study was to find the problem rate which in quality perception is an opportunity. Problem rate for every individual consultant varies, which may affect the whole satisfaction rate for the institution. Lee showed a problem rate of 17.2\%, while it was 6.22\% in this study.\textsuperscript{13} In a Chinese study, the problem rate was 17.4\% (732 unfavourable responses out of a total 4200 questions asked). Waiting time for appointment, waiting time on gastroscopy day and discomfort during procedure constituted over 90\% of these unfavourable responses.\textsuperscript{22}

All factors are significantly associated with overall impression of the procedure in this study but main problems which are highlighted in affecting the overall patients' satisfaction and impression were the waiting time for the patients before the procedure, doctor's manner and explanation of the procedure before conducting it, signifying the fact that improvement on these factors will increase the patient satisfaction further more. This is in accordance to other studies in which the waiting time is the main dissatisfaction factor.\textsuperscript{23}

This study was limited by the fact that it was a single centre study. Although it included adequate sample size, it covered a specific group of population. Thus, there is a need to conduct such studies in every recognized unit of gastroenterology in Pakistan to improve the quality of patients care as every centre got its own limitations and patients' feedback is the best indicator of the services that are provided. Despite these limitations, the present study used a reliable and valid survey methodology to evaluate satisfaction. The present study serves as a basis for future interventions to improve satisfaction with the endoscopic procedures, or establishing a program for training staff in communication skills and interpersonal interactions.

**CONCLUSION**

The quality of procedures and level of satisfaction of patients undergoing a gastroscopy or colonoscopy in our centre is good. The factors that influence the satisfaction of these patients are related to communication between doctor and patient, doctor's manner, and waiting time for the procedure. The study demonstrated that the use of feedback information in an endoscopy unit may be useful in improving standards, including the performance of endoscopists. It is possible that the introduction of similar feedback systems in routine endoscopy units may, in the long-run, improve the gastrointestinal endoscopy services to our population.

**REFERENCES**


