



**ADDIS ABABA UNIVERSITY**

**COLLEGE OF HEALTH SCIENCE SCHOOL OF MEDICINE**

**DEPARTMENT OF INTERNAL MEDICINE**

**ASSESSMENT OF THE QUALITY OF OUTPATIENT  
ENDOSCOPIC PROCEDURES BY USING A PATIENT  
SATISFACTION QUESTIONNAIRE AT TIKUR  
ANBESSA SPECIALIZED HOSPITAL ADDIS ABABA  
ETHIOPIA, 2024**

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**ADVISOR –DR YOHANNES BIRHANU (CONSULTANT INTERNIST,  
GASTROENTEROLOGIST AND HEPATOLOGIST)**

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**THESIS SUBMITTED TO ADDIS ABEBA UNIVERSITY COLLEGE OF MEDICINE AND  
HEALTH SCIENCE, DEPARTMENT OF INTERNAL MEDICINE FOR THE PARTIAL  
FULFILLMENT OF THE REQUIREMENTS FOR CERTIFICATE OF SPECIALTY IN  
INTERNAL MEDICINE**

## **Declaration**

I, Amanuel Alemayehu ,do hereby declare that this manuscript is a result of the works of my own making except where due is made in a review of previous literature in the content, and by my knowledge, has never been submitted for any prior academic award or qualification in this institution.

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## Approval of thesis submission

I hereby certify that I have read this thesis prepared under my direction and recommend that it can be accepted as fulfilling the thesis requirement.

Name of Thesis Advisor

Signature

Date

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Name of Head of Department

Signature

Date

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## **Acknowledgment**

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## Research summary information

Name of investigator	Amanuel Alemayehu(MD)
Name of Advisor	Dr Yohannes Birhanu (Consultant Internist, Gastroenterologist and Hepatologist )
Title of the research	Assessment of quality of outpatient endoscopy by using patient satisfaction questionnaire at Tikur Anbessa specialized hospital , prospective study
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Study area	Tikur Anbessa Specialized Hospital, Addis Ababa Ethiopia
Total cost	28,107 Ethiopian birr.
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## List of abbreviations

GESQ-Global endoscopy satisfaction questionnaire  
PORM –patient-reported outcome measure  
TASH –Tikur Anbessa Specialized hospital  
SD-standard deviation

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## **Abstract**

**Background** Outpatient endoscopic procedures, such as gastroscopy and colonoscopy, are essential diagnostic and therapeutic tools in gastroenterology. As healthcare systems increasingly focus on quality improvement and patient-centered care, patient satisfaction has emerged as a critical indicator of the overall quality of healthcare services. The Global Endoscopy Satisfaction Questionnaire (GESQ) is a validated tool measuring patient satisfaction in endoscopic settings

**Objective** To assess the quality of outpatient endoscopic procedures at Tikur Anbessa Specialized Hospital in Addis Ababa, Ethiopia, by evaluating patient satisfaction using the Global Endoscopy Satisfaction Questionnaire (GESQ)

**Method** Single center institution-based cross-sectional prospective study conducted From January 1 2024 to March 30, 2024 at Tikur Anbessa specialized hospital was included in the study.

Collected data from the patient was entered and analyzed with SPSS version 26, and chi-square test was used to assess the association of independent variables with the dependent variable.

**Result** – Total of 200 patient who were eligible was included for final analysis. Majority of the study participants were in the age group of 18-30 years with mean and SD of 40.81±16.99 respectively and male accounts 51% .Seventy-five percent of the patient had community health insurance and 38% of the participants were waited for endoscopic procedure for more than 4weeks. 75% of the patient had community health insurance

Concerning to the information before endoscopy, the overall mean score is 74% and regarding the hospital and the skill of provider, the mean score of satisfaction was 87%, rate of communication skills of the person who performed the endoscopy 92%. Regarding to pain and discomfort, the mean score is 61.5% and 76.2% of the participants were satisfied on information after endoscopy.

The current study found that the overall mean satisfaction score on quality of endoscopy procedure using GESQ was 75%.

Having community health insurance ( $p=0.041$ ) and increasing duration of waiting for endoscopic procedure ( $p=0.019$ ) were significantly associated with lesser satisfaction. Those who were Informed about potential complication of the procedure ( $p=0.004$ ) and were told what to do after procedure ( $p=0.000$ ) had significantly higher satisfaction

**Conclusion** - The current study found that the overall mean satisfaction score on quality of endoscopy procedure using GESQ was 75%. Statistical significance on satisfaction of quality of procedure seen on community health insurance, duration of waiting for endoscopic procedure, information about potential complication of the procedure and informed what to do after the procedure.

**Key words**- Patient Satisfaction Questionnaire, Outpatient Endoscopy, Patient Satisfaction Questionnaire, GESQ (Global Endoscopy Satisfaction Questionnaire), Quality Improvement in Endoscopy Tikur Anbessa Specialized Hospital

# CHAPTER ONE INTRODUCTION

## **Background Information**

Endoscopic procedures represent an important part of daily practice, for both gastroenterologists and nurses, enabling timely diagnosis and precise treatment of digestive diseases.

Gastrointestinal endoscopy became an important, but also time-consuming diagnostic and therapeutic procedure. An optimal level of quality needs to be obtained for endoscopic procedures to be efficient, which is reflected directly to patient satisfaction (2).

Research demonstrates that higher levels of patient satisfaction correlate with improved adherence to medical advice, enhanced health outcomes, and lower healthcare costs (1, 4). In this context, effective communication, comfort during procedures, and the adequacy of information provided to patients before and after procedures become paramount. Therefore, assessing patient satisfaction can provide valuable insights into the effectiveness of healthcare delivery in outpatient settings.

The Global Endoscopy Satisfaction Questionnaire (GESQ) is a validated tool measuring patient satisfaction in endoscopic settings. By assessing various dimensions of patient experience—such as pre-procedure information, comfort during the procedure, and post-procedure care—the GESQ offers a comprehensive framework for evaluating and enhancing the quality of endoscopic services (9, 11).

## **Justification of the Study**

Despite the critical role of outpatient endoscopic procedures in managing gastrointestinal disorders, there is limited understanding of patient satisfaction regarding these services at Black Lion Specialized Hospital in Addis Ababa, Ethiopia.

Without a systematic assessment of patient experiences, healthcare providers may miss valuable opportunities for improvement, potentially compromising the quality of care and patient outcomes. Therefore, this study was designed to investigate the level of patient satisfaction with outpatient endoscopic procedures, identify key factors influencing satisfaction, and provide actionable recommendations for enhancing service delivery at Black Lion Specialized Hospital

## **Significance of the Study**

This research systematically assessed patient satisfaction with outpatient endoscopic procedures at Black Lion Specialized Hospital, identified areas for improvement and ultimately to enhance the quality of care provided to patients.

To the best of my knowledge, there is a notable lack of research on patient satisfaction in endoscopic services in Ethiopia. The study aims to fill this gap, providing localized data that can inform practice improvements in the Ethiopian healthcare system.

The findings from this study can guide healthcare administrators and policymakers in developing strategies to improve patient-centered care in outpatient endoscopy, ensuring that services are aligned with patient needs and expectations.

The research will add to the existing body of literature on patient satisfaction and quality improvement in healthcare, particularly within the context of low- and middle-income countries.

## **CHAPTER TWO LITERATURE REVIEW**

### **Patient Satisfaction in Healthcare**

Patient satisfaction plays a critical and credible role in healthcare quality assessment, reflecting patients' perceptions of their healthcare experiences. It includes various dimensions, like the quality of care, communication with care providers, and overall patient experience. Studies have shown that satisfied patients have a high rate of adherence to treatment recommendations, better health outcomes, and higher trust in their healthcare providers (1, 4).

Studies have shown that patient satisfaction Medical care, communication with the patient, and waiting time, patient's age, perceived health status, and patient's education are the factors that most influence patient satisfaction (6).

Patient satisfaction has become an important outcome measure in and of itself (5)

Furthermore, high levels of satisfaction can lead to increased patient loyalty and improved healthcare utilization, underscoring the importance of incorporating patient feedback into service delivery (7).

### **Quality Assessment in Endoscopy**

Patient satisfaction with endoscopy has been investigated over the past decade (14-18). Patient satisfaction was found to be associated with the personal manner of the endoscopy unit staff, length of time devoted by the physician in explaining the procedure, rating of the environment of the endoscopy suite and pain control during the procedure

The use of patient-reported outcomes measures (PROMs) has gained attention in assessing the effectiveness of endoscopic procedures. It provides insights into the patient's perspective on the outcomes of care, implying the need for a holistic approach to quality assessment (21).

### **The Role of GESQ**

The Global Endoscopy Satisfaction Questionnaire (GESQ) has emerged as a standardized tool for measuring patient satisfaction specifically within endoscopic settings. Its validity and reliability have been established in various studies, demonstrating its ability to capture multiple

dimensions of the patient experience (9). The original GESQ has 21 items which assesses aspects such as:

- **Pre-Procedure Information:** Evaluates whether patients received adequate information about the procedure, including potential risks and benefits.
- **Comfort during the Procedure:** Assesses patients' physical and emotional comfort during the endoscopy.
- **Communication with Healthcare Providers:** Measures the quality of interactions between patients and their healthcare team.
- **Post-Procedure Care:** Evaluate the support and information provided after the procedure, including follow-up instructions.

GESQ has been translated and validated to Dutch with high internal consistency having overall Cronbach  $\alpha$  of 0.88(11). Similarly it was also validated to Asian after translated to Korean with overall Cronbach  $\alpha$  of 0.87(12). The mean overall satisfaction rate of outpatient endoscopy is generally over 85% (9, 11, 12), among the domains the mean for pain and discomfort before and after endoscopy has got the lowest 73%(12)

### Patient Satisfaction in Ethiopia

Research on patient satisfaction at outpatient setting in Ethiopia demonstrated 50% (20). The Ethiopian healthcare system faces unique challenges, including resource limitations, varying standards of care, and cultural factors that influence patient experiences (20)

Cultural sensitivity is essential when assessing patient satisfaction, as patients from diverse backgrounds may have different expectations regarding healthcare delivery. Studies suggest that culturally competent care can significantly improve patient satisfaction and outcomes (10).

### Methodologies for Assessing Patient Satisfaction

Various methodologies exist for assessing patient satisfaction, ranging from qualitative interviews to quantitative surveys. Surveys are the most common approach, allowing for the

collection of standardized data that can be analyzed statistically. The choice of methodology influences the reliability and validity of the findings.

Quantitative surveys, such as the GESQ, provide a structured approach that allows for comparability across different studies and settings (8). Qualitative methods, including focus groups and interviews, can complement survey data by providing deeper insights into patient experiences and expectations (8).

### **Impact of Patient-Centered Care on Outcomes**

The shift towards patient-centered care in outpatient settings has been associated with improved satisfaction and outcomes. Research shows that patient-centered communication, which includes active listening and empathetic interactions, significantly enhances patient satisfaction (19). Moreover, incorporating patient feedback into clinical practice can lead to substantial improvements in care quality and patient experiences (3).

### **Cultural Considerations in Patient Satisfaction**

Cultural factors play a significant role in shaping patient expectations and satisfaction levels. Understanding these cultural nuances is vital for delivering effective healthcare services, particularly in diverse populations (10). This study will consider the cultural context of patients at Black Lion Specialized Hospital, ensuring that the GESQ is appropriately adapted for the local population.

## **CHAPTER THREE OBJECTIVE**

### **General objective**

To assess the quality of outpatient endoscopic procedures at Black Lion Specialized Hospital in Addis Ababa, Ethiopia, by evaluating patient satisfaction using the Global Endoscopy Satisfaction Questionnaire (GESQ).

### **Specific objective**

To measure overall patient satisfaction with outpatient endoscopic procedures at Black Lion Specialized Hospital using the GESQ.

To evaluate the effectiveness of pre-procedure information provided to patients and its impact on their satisfaction levels.

To assess patients' comfort during the endoscopic procedures and how it influences their overall experience.

To examine the quality of communication between healthcare providers and patients throughout the endoscopy process and its correlation with patient satisfaction.

To analyze the adequacy of post-procedure care and follow-up information provided to patients and its effect on their satisfaction.

To identify demographic factors (such as age, gender, and previous endoscopic experience) that may influence patient satisfaction with outpatient endoscopic procedures.

To provide actionable recommendations for improving the quality of outpatient endoscopic services based on the findings from patient satisfaction assessments.

## **CHAPTER FOUR METHODS AND MATERIALS**

### **Study Design**

This study utilized institution based single center prospective cross-sectional design to assess patient satisfaction with outpatient endoscopic procedures. The study was conducted over a 2 month period to gather data from patients receiving endoscopic services.

### **Study Area**

The research was conducted at Tikur Anbessa Specialized Hospital. Tikur Anbessa Specialized Hospital is located in the capital city of Ethiopia, Addis Ababa. It is the largest specialized hospital in Ethiopia and a referral center from all over the country. The inpatient department has over 700 beds and provides Specialty services including Internal Medicine, Gynecology and obstetrics, Surgery, and Pediatrics. The College of Health Sciences provides training for undergraduate and postgraduate medical students, dentists, nurses, midwives, pharmacists, medical laboratory technologists, and radiology technologists among others. The Internal Medicine department provides services in different subspecialties in both outpatient and inpatient departments including emergency and intensive care units. The outpatient department is a medical referral clinic composed of, among others subspecialty clinics Gastroenterology, Cardiac, Pulmonology, Neurology, Hematology, Nephrology, and Rheumatology clinics which is one of the leading healthcare facilities in the country. The hospital offers various outpatient endoscopic services, making it an appropriate site for this study.

### **Study Population**

The target population included were adult patients (aged 18 and older) undergoing outpatient endoscopic procedures such as gastroscopy and colonoscopy during the study period. Patients was recruited from the outpatient endoscopy clinic of TASH.

## Sample Size

$$n = \frac{(Z_{\alpha/2})^2 [p(1-p)]}{(d)^2}$$

Where: n = the sample size ;  $(Z_{\alpha/2})^2$  = at 95% confidence interval Z value ( $\alpha = 0.05$ ) P= 50%

d = margin of error at 5% (0.05)

P was taken as 50% because there is no previous local study done in our setup.

Since the population size is <10,000 the following correction formula was used to reduce the sample size. The estimated number of patients who underwent outpatient endoscopy at TASH was taken as 400 after the revision of the health management information system (HMIS) registry.

$$n = \frac{n_0}{1 + \frac{n_0}{N}}$$

Where,

n = Final sample size

n<sub>0</sub> = Initial sample size =383

N= 400

The sample size after taking N as 400 is 196 adding a ten percent non-response rate final sample size is 216, but I was able to collect data from 200 patient over 2 months which account for 92% of the sample size

**Sampling Procedure** –all patients who me the inclusion and exclusion criteria was included in the study

### **Eligibility criteria**

#### **Inclusion Criteria**

- Adults aged 18 years and older.
- Patients undergoing outpatient endoscopic procedures (gastroscopy or colonoscopy).
- Patients who can provide informed consent.

#### **Exclusion Criteria**

- Patients with cognitive impairments that prevent them from understanding the study.
- Individuals undergoing emergency endoscopic procedures.
- Patients who refuse to participate in the study.

Study variable

#### **Dependent variable**

Patient Satisfaction Scores.

#### **Independent variables**

Age  
Sex  
Educational status  
Insurance status  
Waiting time  
Comorbidity  
Type of endoscopic procedure  
Level of physician  
Information on side effect of the drug  
Told what to do after the procedure  
Told about potential complication of the procedure  
Oral anesthesia gurgle

## Data Collection Instruments

### Global Endoscopy Satisfaction Questionnaire (GESQ):

The primary data collection tool was the GESQ, which was used to measure patient satisfaction. These questionnaires were selected and reviewed because it align with our research objectives. After the selection, permission was obtained from the original authors to simply adapt it to our language. The questionnaires were reviewed and they didn't require cultural and contextual adaptations. In order not to compromise the validity of the original instrument, no questions were added or removed. The questionnaire went through a rigorous forward and back translation which was then reviewed by a bilingual expert to resolve discrepancies. Training was given on the objective of the study and procedure of data collection. The trained nurse collected the data felt by the patient after endoscopy under the supervision of the principal investigator. The questionnaire was pilot tested on two patients to test for clarity and comprehension. After feedback collection, there were no improvements made on the questionnaire.

**Demographic Questionnaire:** A supplementary demographic was collected on participants' age, gender, educational background, insurance, comorbidity, and waiting time

### Operational definitions

**Patient Satisfaction:** Defined as the degree to which patients feel that their expectations regarding the endoscopy service were met or exceeded.

**Procedure Comfort:** Defined as the patient's level of physical and emotional comfort during the endoscopy procedure.

**Pain:** is defined as any uncomfortable sensory or emotional experience related to actual or potential tissue damage.

**Clarity of Information Provided:** Defined as the extent to which patients feel that they received clear and understandable information about the procedure, including pre-procedure instructions, potential risks, and post-procedure care.

**Staff Professionalism:** Defined as patients' perceptions of the courtesy, respect, and attentiveness of the healthcare staff involved in the endoscopy process

## **Data Collection Procedure and Tools**

**Recruitment:** Patients were approached in the outpatient endoscopy unit after their procedures. Research staff explained the study's purpose, and those who meet the inclusion criteria were invited to participate and included in the study

1. **Informed Consent:** Participants were signed on an informed consent form, ensuring they understand the study's purpose and their right to withdraw at any time without penalty.
2. **Administration of the GESQ:** After the procedure, patients were given to complete the GESQ, which took approximately 10-15 minutes. The questionnaire was administered in a private setting to ensure confidentiality and encourage honest responses.

## **Data Analysis**

All information was checked after each data collection for its completeness. Data was entered into Epi info. Software version 7 and was exported and analyzed using SPSS statistical software version 26. Descriptive statistics was used for presenting summary data using tables. The associations between the independent and outcome variables were checked using independent t-test and one-way ANOVA and statistical significance was declared at a p-value of <0.05.

## **Ethical Considerations**

Ethical approval was obtained from the hospital's Institutional Review Board (IRB) prior to data collection. Informed consent was secured from all participants, ensuring their rights and confidentiality. Participants were informed that their participation is voluntary and that they can withdraw at any point without affecting their care.

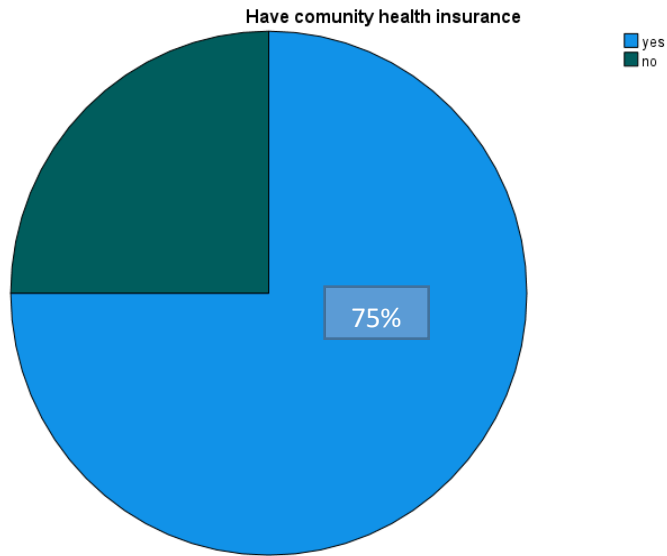
## CHAPTER FIVE RESULT

### Sociodemographic characteristics of the study participants

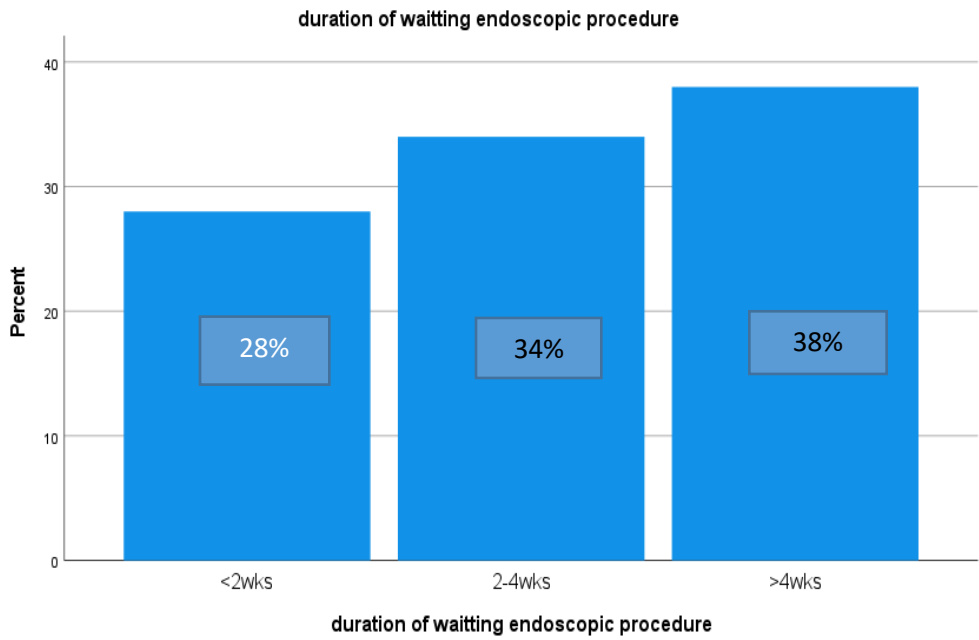
Majority of the study participants were in the age group of 18-30 years with mean and SD of  $40.81 \pm 16.99$  respectively. Almost fifty-one percent of the participants were male and 43% were secondary and above education level. Seventy-five percent of the patient had community health insurance and 38% of the participants were waited for endoscopic procedure for more than 4 weeks. Almost twenty-nine percent of the participants had comorbid disease and from those DM accounts 71.9% followed by hypertension (61.4%).

**Table 6. The sociodemographic characteristic of the study participants among patients who had endoscopic procedure at Tikur Anbessa Specialized Hospital Addis Ababa**

Variable	Frequency	Percent
Age (mean &SD)	40.81±16.99	
18-30	68	34
31-35	32	16
36-45	31	15.5
46-60	36	18
>60	33	16.5
Sex of the patient		
Male	103	51.5
Female	97	48.5
Educational status		
Illiterate	26	13
Can read and write	48	24
Primary	40	20
Secondary and above	86	43
Have community health insurance		
Yes	150	75
No	50	25
Duration of waiting in endoscopic procedure in weeks		
<2	56	28
2-4	68	34
>4	76	38
Have comorbid disease		
Yes	57	28.5
No	143	71.5
Types of comorbid disease (n=57)		
CKD	8	14
DM	41	71.9
HTN	35	61.4
Upper respiratory disease	10	17.5
Chronic hepatitis	2	3.5



**Fig 1:** A pie chart on **status** of community health insurance



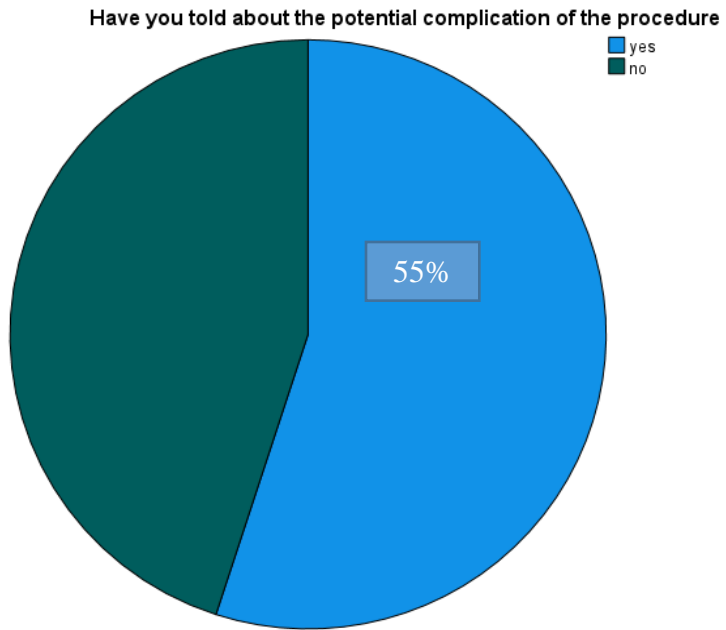
**Fig 2:** Bar chart on duration of waiting for endoscopy

## Provider and procedure related characteristics of the participants

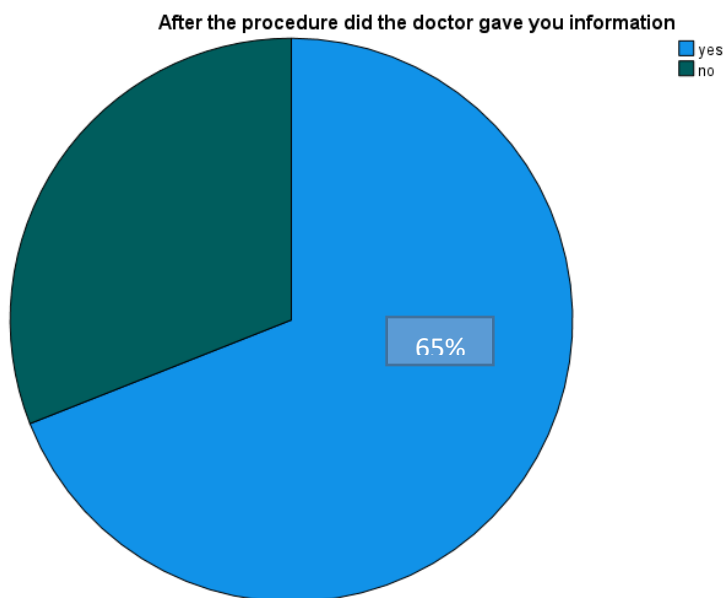
Fifty-three percent of the study participants were received information about side effect of the drug given during endoscopy and 55% were told about potential complication of the procedure. Sixty-nine percent of the study participants was received information about what to do after the procedure. Majority (46%) of the procedure were done for upper GI diagnosis and 61.5% of the procedure was done by year II fellow.

**Table 7. Provider and procedure related characteristics of the participants**

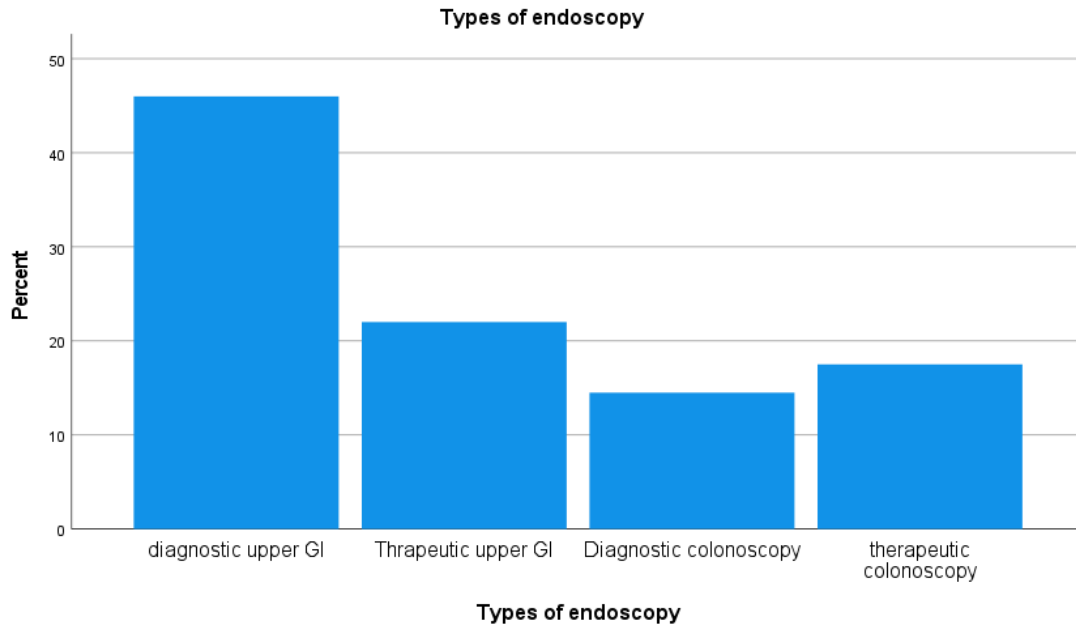
Variable	Frequency	Percent
Was the nurse gave you medication to gurgle		
Yes	136	68
No	64	32
Receive information about side effect of the drug		
Yes	107	53.5
No	93	46.5
Told about the potential complication		
Yes	110	55
No	90	45
Told what to do after procedure		
Yes	138	69
No	62	31
Types of endoscopies		
Diagnostic upper GI	92	46
Therapeutic upper GI	44	22
Diagnostic colonoscopy	29	14.5
Therapeutic colonoscopy	35	17.5
Procedure performed by		
Year I fellow	28	14
Year II fellow	123	61.5
Senior	49	24.5



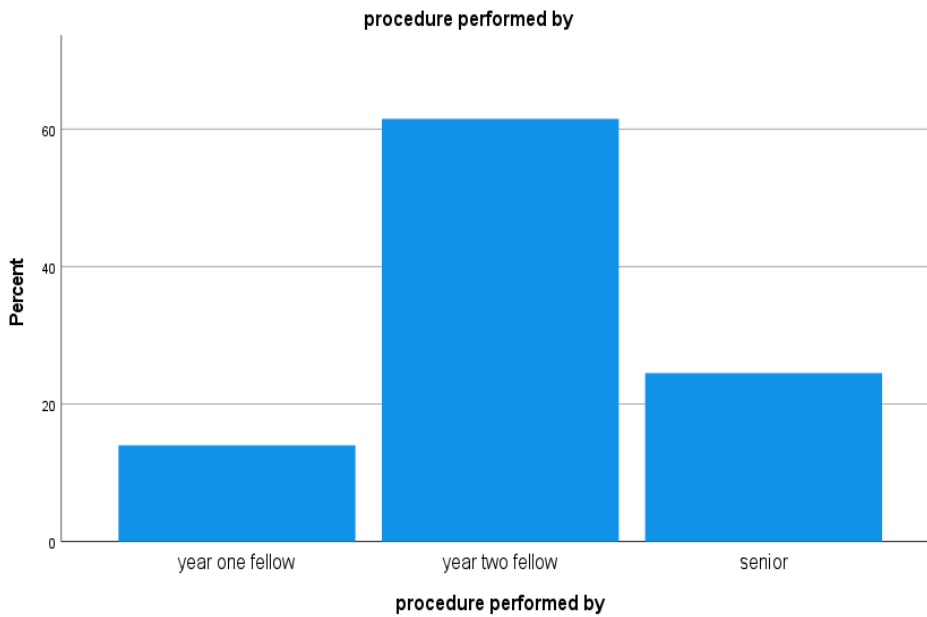
**Fig3:** A pie chart for percentage of patient told about potential complication of the procedure



**Fig 4 :** A pie chart for present of patients who were told what to after procedure



**Fig 5** Bar chart for the percentage type of endoscopy done



**Fig 6** Bar chart for percentage of procedure done by year I , year II GI fellow and senior

## The Quality of Outpatient Endoscopic Procedures

Thirty-four percent of the study participants found very easy to understand the information about endoscopy before procedure and fifty percent of the participants found the information given about endoscopy before the appointment was very useful. Forty-one percent of the study participants had plenty of opportunity to ask questions about the endoscopy procedure before the endoscopy. Forty-seven percent of the participants received very useful explanation given before the endoscopy. 50.5% of the participants had moderate experience of discomfort during endoscopy and 49% of the participants had experience of discomfort after endoscopy as shown in the figure below. Forty and 44% of participants experienced moderate pain during and after endoscopy respectively

**Table 8. The Quality of Outpatient Endoscopic Procedures**

Variable	Response of GESQ				
	Very easy	easy	Fair	Difficult	Very difficult
Information given before endoscopy appointment was easy to understand	68(34%)	19(9.5%)	88(44%)	25(12.5%)	
<b>Measurement</b>	<b>Very useful</b>	<b>useful</b>	<b>Fair</b>	<b>Not very useful</b>	<b>Not useful</b>
The information given before endoscopy was useful in answering questions?	100(50%)	57(28.5%)	33(16.5%)	4(2%)	6(3%)
<b>Measurement</b>	<b>Plenty</b>	<b>A little</b>	<b>None</b>		
Before having endoscopy, the opportunity to ask questions about the endoscopy procedure?	81(40.5%)	65(32.5%)	54(27%)		
<b>Measurement</b>	<b>Very easy</b>	<b>easy</b>	<b>Fair</b>	<b>Difficult</b>	<b>Very difficult</b>
How easy was to understand the explanation given before the endoscopy?	70(35)	64(32)	44(22)	17(8.5)	5(2.5)
<b>Measurement</b>	<b>Very useful</b>	<b>useful</b>	<b>Fair</b>	<b>Not very useful</b>	<b>Not useful</b>
The explanation given before the endoscopy is useful in answering questions?	94(47)	57(28.5)	42(21)	3(1.50)	4(2)
<b>Measurement</b>	<b>Very poor</b>	<b>poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very good</b>
rate of communication skills of the person who performed the endoscopy	2(1%)	1(0.5%)	8(4%)	54(28%)	135(67.5%)
The rate of technical skills of the person who performed your endoscopy?		2(1%)	9(4.5%)	55(27.5%)	134(67%)
The rate of communication skills of the other staff in the endoscopy unit?	2(1%)	2(1%)	27(13.5%)	68(34%)	101(50.5%)
<b>Measurement</b>	<b>Very severe</b>	<b>severe</b>	<b>Moderate</b>	<b>Mild</b>	<b>none</b>
Experience of discomfort during endoscopy	19(9.5%)	27(13.5%)	101(50.5%)	18(9%)	35(17.5%)
Experience of pain during endoscopy	36(18%)	25(12.5%)	81(40.5%)	42(21%)	16(8%)
Experience of discomfort after endoscopy	15(7.5%)	20(10%)	98(49%)	32(16%)	35(17.5%)
Experience of pain after endoscopy	20(10%)	31(15.5%)	88(44%)	34(17%)	27(13.5%)

					)
<b>Measurement</b>	<b>Plenty</b>	<b>A little</b>	<b>Non</b>		
After endoscopy procedure, opportunity did to ask questions about the Findings?	108(54%)	61(30.5%)	31(15.5%)		
<b>Measurement</b>	<b>Too much</b>	<b>About right</b>	<b>Not enough</b>		
After endoscopy procedure, receive explanation of the findings	52(26%)	110(55%)	38(19%)		
<b>Measurement</b>	<b>Yes</b>	<b>No</b>			
the person who performed endoscopy gave explanation	136(68%)	64(32%)			
<b>Measurement</b>	<b>Very easy</b>	<b>easy</b>	<b>Fair</b>	<b>Difficult</b>	
Easy to understand the explanation given to you after endoscopy?	50(29.2%)	30(17.5%)	90(52.6%)	1(0.5%)	
<b>Measurement</b>	<b>Very useful</b>	<b>useful</b>	<b>Fair</b>	<b>Not very useful</b>	<b>Not useful</b>
the explanation given after endoscopy useful in answering of the questions	53(31%)	70(40.9%)	42(24.6%)	1(0.6%)	5(2.9%)
<b>Measurement</b>	<b>Very poor</b>	<b>poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very good</b>
The rate of comfort of the recovery area in the endoscopy suite?	26(13%)	41(20.5%)	63(31.5%)	49(24.5%)	21(10.5%)
<b>Measurement</b>	<b>V. Satisfied</b>	<b>satisfied</b>	<b>Neither satisfied</b>	<b>Very dissatisfied</b>	<b>Nor dissatisfied</b>
Overall satisfied by the endoscopy?	65(32.5%)	116(58%)	13(6.5%)	3(1.5%)	3(1.5%)
If, in the future, you have another endoscopy, how satisfied would you be to have it done by the Same person?	112(56%)	62(31%)	15(7.5%)	10(5%)	1(0.5%)
<b>Measurement</b>	<b>Very poor</b>	<b>poor</b>	<b>Fair</b>	<b>Good</b>	<b>Very good</b>
The overall rate of reputation of the hospital?	10(5%)	5(2.5%)	21(10.5%)	67(33.5%)	97(33.5%)

## The level of satisfaction on quality of endoscopic procedure

Concerning to the information before endoscopy, the mean score of satisfaction on information before endoscopy were 75% and with regarding to skill of the provider and hospital the mean score in 87% largely influenced by the score from rate communication and technical skills of the person who performed the endoscopy which account 92% for each .Regarding to pain and discomfort during and after endoscopy the mean score satisfaction was 61.5% and information after endoscopy the mean score of satisfaction were 76.2%.The overall mean satisfaction is 75%

**Table 9. The level of satisfaction on endoscopic procedure**

Variable	Skills and Hospital	Pain and discomfort during/after endoscopy	Information before endoscopy	Information after endoscopy
GESQ score mean $\pm$ SD				
Information told before endoscopy was easy to understand			0.73	
the information given before endoscopy appointment useful in answering questions?			0.84	
Before having endoscopy, an opportunity to ask questions about the endoscopy procedure?			0.71	
easy to understand the explanation given before the endoscopy?			0.77	
The explanation given before the endoscopy is useful in answering questions	0.83			
rate of communication skills of the person who performed the endoscopy	0.92			
The rate of technical skills of the person who performed your endoscopy?	0.92			
The rate of communication skills of the other staff in the endoscopy unit	0.86			
Experience of discomfort during endoscopy		0.62		
Experience of pain during endoscopy		0.58		
Experience of discomfort after endoscopy		0.65		
Experience of pain after endoscopy		0.62		
After endoscopy procedure, opportunity did to ask questions about the Findings?				0.79
After endoscopy procedure, receive explanation of the findings				0.69
the person who performed endoscopy given explanation				0.75
easy to understand the explanation given to you after endoscopy				0.75
the explanation given after endoscopy useful in answering of the questions				0.79
The rate of comfort of the recovery area in the endoscopy suite		0.59		
Overall satisfied by the endoscopy	0.84			

If, in the future, you have another endoscopy, how satisfied would you be to have it done by the Same person?	0.87			
the overall rate of reputation of the hospital	0.84			

### The correlation between patient satisfaction on quality of endoscopic procedure

The study found that, having community health insurance were significant factor for less satisfaction ( $p=0.041$ ) and increasing duration of waiting for endoscopic procedure were significantly reduced the level of satisfaction ( $p=0.019$ ). Participant who were informed about potential complication of the procedure were significantly satisfied ( $p=0.004$ ) and those who were informed about what to do after the procedure had significant higher satisfaction rate ( $p=0.000$ ).

**Table 10. The correlation between patient satisfaction qualities of endoscopic procedure**

Factors influencing GESQ demographics	Total GESQ score	p-value
Variable	Mean $\pm$ SD	
17-30	77 $\pm$ 8.62	0.236
31-35	73.8 $\pm$ 10.1	
36-45	74.8 $\pm$ 8.08	
46-60	72.8 $\pm$ 10.37	
>60	74.9 $\pm$ 10.63	
Sex of the patient		0.761
Male	74.8 $\pm$ 9.82	
Female	75.25 $\pm$ 9.20	
Educational status		0.839
Illiterate	74.9 $\pm$ 10.94	
Can read and write	74.47 $\pm$ 8.13	
Primary	76.24 $\pm$ 9.29	
Secondary and above	74.83 $\pm$ 9.51	0.041
Have community health insurance		
Yes	74.38 $\pm$ 9.64	
No	77.1 $\pm$ 8.88	0.019
Duration of waiting in endoscopic procedure in weeks		
<2	76.1 $\pm$ 10.91	
2-4	75.67 $\pm$ 8.66	
>4	73.75 $\pm$ 9.1	
Have comorbid disease		0.844
Yes	74.8 $\pm$ 8.5	
No	75.1 $\pm$ 9.9	
Information given by nurses		0.124
Yes	74.4 $\pm$ 9.90	
No	77.6 $\pm$ 7.28	
Receive information about side effect of the drug		0.216
Yes	75.82 $\pm$ 8.56	

No	74.14±10.47	
Told about the potential complication		0.004
Yes	76.78±8.07	
No	72.89±10.67	
After the procedure received information about what to do		0.000
Yes	76.99±7.56	
No	70.68±11.76	
Types of endoscopies		0.953
Diagnostic upper	74.77±10.16	
Therapeutic upper GI	74.66±8.91	
Diagnostic colonoscopy	75.88±8.51	
Therapeutic colonoscopy	74.84±9.24	
Procedure performed by		0.108
Year I fellow	71.1±12.39	
Year II fellow	75.1±9.21	
Senior	76.2±7.99	

## CHAPTER SIX DISCUSSION

The current study found that the overall mean satisfaction score on quality of endoscopy procedure using GESQ was 75%. This finding lower than the study done in UK (9), Dutch (11) and Korea (12). This difference was patients may have high expectations about the procedure and its outcomes. If these expectations are not met, even if the procedure was technically successful, the satisfaction may be rated as average. Clear communication from medical professionals before, during, and after the procedure can significantly impact satisfaction. If patients feel they haven't been well-informed about what to expect, their anxiety may increase, leading to a lower satisfaction level.

Concerning to the information before endoscopy, the mean score of satisfaction on easy information before endoscopy were 74%. This finding was lower than the study done at Korea (12). This may be due to as we know endoscopy is a medical procedure that involves complex techniques and terminology. For many patients, understanding the details of these procedures can be difficult. If healthcare providers do not simplify the explanation or offer patient-friendly resources, it can lead to a lack of easy-to-understand information.

Concerning to the hospital and skill of provider, the mean score of satisfaction was 87% this is largely driven by the score of satisfaction on rate of communication and technical skills of the person who performed the endoscopy which accounts for 92% each. This finding was supported with other studies done at UK (9) Korea (12). Skilled communicators in healthcare actively listen to their patients. This allows them to address specific concerns, clarify doubts, and provide relevant information tailored to the individual's needs. Active listening ensures that patients feel heard, which fosters a better overall experience.

Regarding pain and discomfort during and after endoscopy the mean score is the lowest accounting 61%.the lower satisfaction on pain and discomfort about endoscopy is universal across different studies (9, 11, and 12) .when it is compared to other domain of GESQ score but it was as low as ours

Having community health insurance were significant factor for less satisfaction ( $p=0.041$ ). This was unexpected yet explainable finding. Community health insurance is supposed to reduce out-of-pocket costs for the patients. But majority of supplies required for endoscopy is not available in the government pharmacy, so patient has to buy them from outside out of pocket which impose additional financial burden to the already paid health insurance cost which they didn't expect. If the patients are covered by community health insurance and if they worry about high medical bills, which will increase anxiety about the procedure. The increased financial burden means that patients can focus more on the higher medical

bills that their health, leading to a more negative overall experience and lesser satisfaction with the procedure.

Increased duration of waiting time for endoscopic procedure had significantly reduced the level of satisfaction ( $p=0.019$ ). This is also supported by studies done at Jimma the rate patient satisfaction is inversely related to the duration of waiting time(23). This may be due to waiting for a medical procedure like an endoscopy can increase anxiety and stress for patients, especially if they are unsure about the nature of their condition. Extended waiting times can heighten feelings of uncertainty and worry, leading to a negative perception of the quality of care. Patients may feel neglected or uncertain about the urgency of their condition, which can reduce overall satisfaction.

Participant who were informed about the potential complication of the procedure were significantly satisfied ( $p=0.004$ ). This was also similar to the study done by (Ermiyas et al) over postsurgical patient satisfaction (22). This may be due to when patients are informed about the potential complications, they may feel they are fully involved in the decision-making process regarding their care. This autonomy can lead to satisfaction, as patients prefer to have the knowledge and control to make informed choices about their health and the risks they are willing to take.

Participants who were informed what to do after the procedure were significantly higher satisfaction ( $p=0.000$ ). This may be due to the fact that when healthcare providers offer detailed, transparent information about post-procedure care, it fosters trust between the patient and the medical team. Patients who feel well-informed and supported are more likely to trust the healthcare professionals managing their care, leading to a more positive overall experience and greater satisfaction with the procedure.

## **CHAPTER SEVEN CONCLUSION**

The current study found that the overall mean satisfaction score on quality of endoscopy procedure using GESQ was 75%. Statistical significance on satisfaction of quality of procedure seen on community health insurance, duration of waiting for endoscopic procedure, information about potential complication of the procedure and information about what to do after the procedure.

## **CHAPTER EIGHT RECOMMENDATIONS**

This study concern for endoscopy unit staff to pay attention to pain and discomfort of the patient during and after the procedure. We recommend the routine use of GESQ at outpatient endoscopy unit to assess the rate of out patient satisfaction at outpatient endoscopy unit. This study will be used as a base line for the future study and will be utilized for development of improvement plane.

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## CHECK LIST

### Demographic information

- 1) age
- 2) sex male  female
- 3) educational status  
Can't read and wright  can read and wright  primary school and above  2ry school and above
- 4) do you have community health insurance  
Yes  no
- 5) How long do you wait for endoscopy from your appointment date  
Less than 2 weeks  less than a month  more than a month
- 6) Do you have chronic disease? if yes  
Hypertension  diabetes  renal disease  chronic lung disease  if other list

**GESQ**

1. How easy to understand was the information that was given to you before your endoscopy?

Very easy  Easy  Fair  Difficult  Very difficult

2. Was the information given to you before your endoscopy appointment useful in answering your questions?

Very useful  Useful  Fair  Not very useful

3. Before you had your endoscopy, how much opportunity did you have to ask questions about the Endoscopy procedure?

Plenty  A little  none

4. How easy to understand was the explanation given to you before your endoscopy?

Very easy  Easy  Fair Difficult  Very difficult

5. Was the explanation given to you before your endoscopy useful in answering your questions?

Very useful  Useful  Fair  Not very useful

6. How would you rate the communication skills (eg. courtesy, respect, sensitivity, friendliness) of the person who performed your endoscopy?

Very poor  Poor  Fair  Good  Very good

7. How would you rate the technical skills (eg. thoroughness, carefulness, competence) of the person who performed your endoscopy?

Very poor  Poor  Fair  Good  Very good

8. How would you rate the communication skills (eg. courtesy, respect, sensitivity, friendliness) of the other staff in the endoscopy unit?

Very poor  Poor  Fair  Good  Very good

9. How much discomfort did you experience during your endoscopy?

Very severe  Severe  Moderate  Mild  None

10. How much pain did you experience during your endoscopy?

Very severe  Severe  Moderate  Mild  None

11. How much discomfort did you experience after your endoscopy?

Very severe  Severe  Moderate  Mild  None

12. How much pain did you experience after your endoscopy?

Very severe  Sever  Moderate  Mild  None

13. After you had your endoscopy, how much opportunity did you have to ask questions about the Findings?

Plenty  A little  None

14. After you had your endoscopy, how much explanation of the findings did you receive?

Too much  about right  Not enough

If you did not receive an explanation, then please go directly to question 18.

15. Did the person who performed your endoscopy give you the explanation?

Yes  No

16. How easy to understand was the explanation given to you after your endoscopy?

Very easy  Easy  Fair  Difficult  Very difficult

17. Was the explanation given to you after your endoscopy useful in answering your questions?

Very useful  Useful  Fair  Not very useful  Not at all useful

18. How would you rate the comfort of the recovery area in the endoscopy suite?

Very poor  Poor  Fair  Good  Very good

19. Overall, how satisfied are you with your endoscopy?

Very satisfied  Satisfied  Neither satisfied Dissatisfied  Very dissatisfied   
nor dissatisfied

20. If, in the future, you have another endoscopy, how satisfied would you be to have it done by the Same person?

Very satisfied  Satisfied  neither satisfied Dissatisfied  Very dissatisfied   
not dissatisfied

21. How would you rate the overall reputation of the hospital?

Very poor  Poor  Fair  Good  Very good

### Supplemental questions

1) Did the nurses gave you anti pain to gurgle before the procedure

- Yes  no
- 2) Have you told about the side effects of the drugs given during your endoscopy?  
Yes  no
- 3) Have you told about the potential complication of the procedure  
Yes  no
- 4) Have you told what to do after the procedure  
Yes  no

**To be felt by data collector**

1) Type of endoscopy

Diagnostic upper GI  therapeutic upper GI  Diagnostic colonoscopy   
therapeutic colonoscopy

2) Done by

Year one fellow  year two fellow  senior

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1) □□□□ \_\_\_\_\_





2) Done by

Year one fellow

year two fellow

senior