

# Patients' Lived Experience and Injuries Observed during Upper Digestive Endoscopy at KARA Teaching Hospital (Togo)

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## Abstract

**Background:** Endoscopy remains the most performant medical exam exploring the upper digestive tract; but depending on patients, its tolerance is variable. **Objective:** This study aimed at describing the experience and evaluating the tolerance, acceptability and injuries observed during upper gastrointestinal endoscopy. **Methods:** This is a prospective and descriptive study carried out from April to July 2017 in the digestive endoscopy unit of the Kara teaching hospital (Togo). The gastroscopy was performed by the same operator (Hepatogastroenterologist). The premedication was done with direct intravenous injection of 10 mg of Metoclopramide hydrochloride and viscous Lidocaine oral gel. Previously, essential information about the examination course was given to patients after obtaining their verbal consent. Patients' impressions of the experience, tolerance and acceptability were collected on a survey sheet, before and after the examination. **Results:** One hundred and eleven patients were included, 62 women and 49 men. The average age was 45.9 years (15 - 88 years), and the sex ratio (F/M) was 1.2. Most of the patients (89.2%) were experiencing the gastroscopy for the first time, and the main reason was epigastralgia in 55%. The examination duration was good at 88.3% and tolerance was good at 72.1%. Tingling, irritation, pain or sore throat feelings were noted in 13.5%. Patients agreeing to make an ulterior UDE if necessary were up to 92.8%. Observed injuries were dominated by antral erythematous gastropathy (28.8%). **Conclusion:** UDE is well tolerated among our patients and its acceptability is high. Injuries are dominated by inflammatory pathologies of the stomach in our population.

## Keywords

Upper Digestive Endoscopy, Experience, Tolerance, Acceptability, Injuries,

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Togo

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## 1. Introduction

Upper digestive endoscopy (UDE) remains the most efficient examination, to explore the upper digestive tract, for both diagnostic and therapeutic [1]. But its unpleasantness is sometimes reported by patients. Its tolerance, experience and acceptability may be poor and, in some cases, make it laborious or impossible to complete. However, the tolerance of UDE remains variable among patients, and previous studies have shown that several factors may be associated with better acceptability of UDE [2] [3]. UDE is performed most of the time without anesthesia, especially in sub-Saharan Africa, due to the lack of anesthesia specialists. In Togo, there is no precedent study describing the tolerance and acceptability of this examination in patients. Our study aims at describing the experience, tolerance and acceptability of UDE among our patients, and then highlighting the pathologies observed.

## 2. Methods

It was a prospective and descriptive study, in the digestive endoscopy unit of the Kara teaching hospital (Togo). It was based on an anonymous questionnaire, and took place from April to July 2017. Patients aged 15 years and over (hospitalized or outpatients), come for UDE during the study period were included, after obtaining their oral consent (which was mentioned on the survey sheet). The material used for endoscopy performance was an Olympus brand video endoscope with axial vision, equipped with a cold light source, a screen making it possible to visualize the different stages of the endoscopic examination and the pathological aspects observed in real time. Examination was performed by the same doctor (specialist in hepatology and gastroenterology). The material disinfection after use was carried out, according to the manual disinfection protocol, recommended by the French Society of Digestive Endoscopy (SFED); placing the endoscope and its accessories in a Hexanios solution, and brushing accessories. Sterilization was carried out in a 2% solution of Steranios (glutaraldehyde). The patient should be fasting at least six hours before the exam. The premedication was done with direct intravenous injection of 10 mg of Metoclopramide hydrochloride and viscous Lidocaine oral gel. Before beginning the examination, once the patient is on the examination table, the doctor and/or his assistant reassure and give the patient useful information on the importance and progress of the examination. The patient's questionnaire included items relating to: socio-demographic data (age, sex, marital status, level of education, profession), knowledge or information obtained on UDE before arrival in the center, experience for patients who have already experienced it and the experience description of this examination (painful, painless, unpleasant). The exam lasted from

three to five minutes. During the endoscopy, the monitor was placed above the patient's head, with an approximate distance of 60 centimeters. Encouragement messages and advices to focus on breathing were given to him. The doctor and his assistant assessed the tolerance by observing the patient's facial expressions and gestures. Tolerance was described as very poor when the patient tried to remove the endoscope with his hand, preventing the gesture from being performed after two attempts. Bad when the patient exhibited body agitation without compromising the examination processing. It was rated as good if the patient remained calm during the course of the exam. At the end of the session, the second part of the questionnaire, relating to the experience of the examination, was completed according to the answers given by the patient. The last part of the questionnaire dealt with the acceptability, which was judged on the patient's willingness or not to repeat the same examination using the same procedure if a subsequent request was made by the attending physician. Three answers were possible (yes, no, don't know). The Epi-Info 6 software was used for data processing and analysis. The Chi2 test was used to compare percentages and Fischer's test when a calculated count was less than 5.

### 3. Results

Our study has included 111 patients. The average age was 45.9 years (from 15 to 88), including 49 men (44.1%) and 62 women (55.9%) with a sex ratio (F/M) of 1, 2. The most represented group was 40 - 50 years old (27.9%) (n = 32). Socio-demographic characteristics of the population are shown in **Table 1**. According to the education level, patients with high school education were the most represented (39.6%) (n = 44), followed by university level (26.2%) (n = 29). Estimated 89.2% (n = 99) of patients were experiencing their first UDE. Among the 10.8% of patients who had already performed this test, 8.1% (n = 9) did it only once and 0.9% (n = 1) twice. The UDE was mainly indicated to explore epigastralgia (59.4%), to look for oesophageal varicose veins (15.3%) and to explore an ulcer syndrome (**Table 2**). Medical information concerning the examination was given to patients in 37.8% (n = 42); through the endoscopist, or his assistant (22.5%). The endoscopy was asked by a doctor in 84.7%, and a medical assistant in 9.9%. Information about the examination process was given to patients just before its performance in 97.3% (n = 108). Most of the patients found the welcome good in 94.74% (n = 108) and acceptable in 3.6%. The majority of patients, 97.3% (n = 108) thought that the achievement of UDE was important to resolve their health problem. Only 25.2% (n = 28) knew someone who had once performed the exam, and 14.4% (n = 16) told them that it was unpleasant and/or painful. The examination was rated unpleasant in 16.2% (n = 18), frightening and worrying in 8.1% (n = 9). Most of the patients (72.1%) had no impression of the exam before it was performed. Eighty-five patients (76.6%) said they were confident before the exam. At the end of the examination, 40.5% of the patients (n = 45) found it painful and 27.9% unpleasant (**Table 3**). The exam room had

**Table 1.** Sociodemographic characteristics of patients.

	<b>n</b>	<b>%</b>
<b>Gender</b>		
Female	62	55.9
Male	49	44.1
Average age	45.9 (15 - 85)	
<b>Marital status</b>		
Married	71	64
Single	29	26.1
Widow(er)	9	8.1
Divorced	2	1.8
<b>Level of study</b>		
Unschoolled	18	16.2
Primary school	20	18
Secondary school	44	39.6
University	29	26.6
<b>Jobs</b>		
Officials	27	24.3
Housewife	22	19.8
Trader	18	16.2
Student	16	14.4
Farmer	10	9
Artisan	9	8.1
Retired	5	4.5
Religious	1	0.9
Unemployed	3	2.7

**Table 2.** Reasons motivating the upper digestive endoscopy.

	<b>n</b>	<b>%</b>
Epigastralgia	66	59.4
Looking for esophageal varicose veins	17	15.3
Ulcer syndrome	13	10.8
Upper gastrointestinal bleeding	3	2.7
Gastroesophageal reflux	5	4.5
Abdominal pain	4	3.6
Chest pain	2	1.8
Etiological research of severe anemia	1	0.9

**Table 3.** Patients' impressions after performing the UDE.

	<b>n</b>	<b>%</b>
Painful	45	40.5
Painless	29	26.1
A bit unpleasant	31	27.9
Unpleasant	4	3.6
A bit painful and a bit unpleasant	6	5.4

no effect on patients in 49.5% and 36% of them rated the exam room clean, well equipped, well-appointed and comfortable. The room also had no effect on exam processing in 87.4% of cases. A minority of patients (5.4%) said the exam room was too cold. The exam duration was considered good in 88.3% (n = 98) and long in 10.8%.

After examination, 46.8% of patients reported feeling nothing, and similarly, 46.8% reported relief. Tingling, irritation or sore throat feelings were reported in 13.5% (n = 15). No complications were observed. The acceptability of a subsequent UDE under the same conditions was noted in 92.8% (n = 103). At the end of the examination, 39.6% of patients expressed their thanks to the medical team and 9.9% had encouraged them to continue working the same way. The patient cooperation's degree was rated acceptable in 76.6% (n = 85) and good in 23.4% (n = 26). The endoscopy performance was normal in 87.38% (97 patients), then a bit laborious in 12.61% (14 patients). The most found pathology was antral erythematous gastropathy (28.8%) (**Table 4**).

#### 4. Discussion

This study, focusing on the experience, tolerance and acceptability of UDE among patients, is the first one in Togo. Responding to the post-endoscopic questionnaire immediately, while some patients were still feeling emotional, could constitute a bias. Likewise, the question relating to the acceptability of UDE could vary if the investigation was carried out a few days later. On another side, the fact that the questionnaire was not self-administered (but administered by someone) could influence the patients' answers as they don't want to compromise the medical team. The female predominance in our study population is also reported by other African authors [4] [5] [6]. This female predominance could be explained by the great attention that women pay to their health. Male predominance cases have been reported by Soro *et al.* in Ivory coast [7]. Our patients'

**Table 4.** Patients according to pathologies observed at the UDE.

Pathology	n	%
Erythematous antral gastropathy	32	28.8
Duodenogastric bile reflux	20	18
Erythematous fundic gastropathy	13	11.7
Congestive pangastropathy	13	11.7
Erythematous pangastropathy	11	9.9
Bulbite and erythematous bulboduodenitis	4	3.6
Uncomplicated hiatus hernia	2	1.8
Peptic ulcer	1	0.9
Peptic esophagitis	1	0.9
Mycotic esophagitis	1	0.9
Normal	13	11.71

average age was 45.9 years (ranging from 15 to 88) and was higher than the one reported by Sombié *et al.* in Burkina-Faso [4]. Officials were the most represented, probably due to the health insurance for officials granted in Togo. Our patients were mostly educated as is the case in the African literature [4] [5]. Only 37.8% of patients had medical information about the procedure before arriving in the examination room and in 22.5%, it was given by the endoscopist assistant. This is due to the lack of gastroenterologists; Togo has only eight gastroenterologists, including only one working in the northern part of the country. Once on the examination table, the majority of patients (97.3%) had received the necessary information on the course of the UDE before its realization against 30.8% according to Sombié *et al.*, thus explaining the good tolerance of UDE observed in our study. However, information given to patients was verbal, whereas the French Society of Endoscopy Digestive recommends the use of an information sheet which should be commented on and given to patients during consultation [8]. This information should be given to patients during a pre-examination consultation, preferably the day before as this could improve safety and acceptability [9] [10]. Unfortunately, this was not the case at the Kara teaching hospital where we work in a rural hospital environment with a critical deficit of paramedical personnel. Indeed, the tolerance of EDH may be assessed differently by patients or doctors [3] [11], the latter being able to minimize the discomfort caused by the examination. Thus, the good tolerance of UDE in our survey was 72.1% and approached the results of Sombié *et al.* in Burkina-Faso [4], Ibara *et al.* in Congo [12], Amourreti in France [13] and Ndjitoyap N'dam *et al.* in Cameroon [6] who reported a good tolerance rate of 84.6%, 85.7%, 86% and 86.6% respectively. Most of our patients (89.2%) were at their first realization of the UDE and this fact had no influence on the tolerance or not of the exam. The key element of good safety was the exam duration, and 88.3% (n = 98) found the duration good (less than 5 minutes) as was the case in the literature [5] [12]. Likewise, the examination room had no effect on the UDE performing, thus explaining, on the one hand, the good tolerance of the examination by the patients. Tingling, irritation, or sore throat sensation was reported in 13.5%. These different feelings described in the throat were noted in 40% according to Sombié *et al.* [4] and in 44% according to Sehonou *et al.* [5]. The patient's acceptability to repeat the exam under the same conditions was 92.8%. This result is stackable on those of African authors [5] [6], with rates ranging from 91% to 97.7%. This excellent acceptability of UDE in our context could be explained by the good quality of the reception (96.4%), information given to patients just before the examination by the doctor or his assistant (97.3%); the exam short duration (88.3% good duration); the absence of complications, and finally the good behavior of the digestive endoscopy team because at the end of the examination 39.6% of the patients wanted to thank us for the work done. The examination performance happened in 97% without any incident with patient cooperation judged acceptable in 76.6%. However, this degree of cooperation could be improved if the examina-

tion was performed under anesthesia. The predominance of antral erythematous gastropathy as the main pathology observed was also reported by Lawson-Ananisso *et al.* [14].

## 5. Conclusion

The majority of our patients have well experienced the UDE as evidenced by the absence of noted complications. Tolerance and acceptability of the exam are good in our study population and a large number of patients are willing to repeat the exam under the same conditions. The level of cooperation was acceptable and this level could be improved if the examination was performed under anesthesia.

## Authors' Contributions

Oumboma Bouglouga is the initiator and coordinator of the drafting of the manuscript in its final version. Rafiou El-Hadji Yakoubou participated in data collection, bibliographic research and drafting of the manuscript. Aklesso Bagny, Laté Mawuli Lawson-Ananissoh and Redah Datouda participated in the bibliographic research, the reading and correction of the manuscript in its final version.

## Conflicts of Interest

The authors declare that they have no competing interests.

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## Abbreviation

UDE: Upper digestive endoscopy.

## Annex

### Survey sheet concerning the experience of patients during upper digestive endoscopy at the teaching hospital of kara

1) Do you agree to participate in this survey? YES\_\_\_ NO\_\_\_

#### A) Pre-endoscopy questionnaire

2) Gender: Male\_\_\_ Female\_\_\_ Transgender\_\_\_

3) Age: \_\_\_ years

4) Marital situation: Single\_\_\_ Married\_\_\_ Divorced\_\_\_ Widower\_\_\_

5) Job: \_\_\_\_\_

6) Study level: Primaire\_\_\_ Secondaire\_\_\_ Universitaire\_\_\_

7) Reasons motivating this upper digestive endoscopy: \_\_\_\_\_

8) Who has asked you to do the upper digestive endoscopy?

Doctor\_\_\_ Medical assistant\_\_\_ Nurse\_\_\_ Midwife\_\_\_ Another\_\_\_

9) Have you been informed about the endoscopy exam processing?

YES\_\_\_ NO\_\_\_

10) What are your impressions concerning this exam? \_\_\_\_\_

11) Do you think this exam is important to solve your health problem?

YES\_\_\_ NO\_\_\_

12) Did you ever realize this endoscopic exam? YES\_\_\_ NO\_\_\_

If YES, how many times? \_\_\_\_\_

13) Do you know someone who have almost realized this exam?

YES\_\_\_ NO\_\_\_

If YES, what did he/she tell you about this exam?

14) How do you feel before starting this exam?

Confident\_\_\_ Anxious\_\_\_ Stressed\_\_\_ Depressed\_\_\_

#### B) After endoscopy questionnaire

15) After the exam, what are your impression about the upper digestive endoscopy?

Painless\_\_\_ A bit painful\_\_\_ Painful\_\_\_ Very painful\_\_\_

A bit unpleasant\_\_\_ Unpleasant\_\_\_ Very unpleasant\_\_\_

16) What are your impressions concerning the exam room?

Did the exam room have an impact in the exam processing? YES\_\_\_ NO\_\_\_

If YES, which one? \_\_\_\_\_

17) How did you appreciate the exam duration?

Good\_\_\_ Long\_\_\_ Very long\_\_\_

18) Did the endoscopiste and his helper give you necessary informations about the exam processing? YES\_\_\_ NO\_\_\_

19) What can you say about the welcome you received?

Good\_\_\_ Acceptable\_\_\_ Bad\_\_\_ Nothing to say\_\_\_

20) What do you feel after the exam? \_\_\_\_\_

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21) Would you agree to make it again one day?

YES\_\_\_ NO\_\_\_ DON'T KNOW\_\_\_

22) Which particular thing do you have to tell us? \_\_\_\_\_

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**C) Endoscopist point of view**

23) What was the patient's level of cooperation?

Bad\_\_\_ Acceptable\_\_\_ Good\_\_\_

24) How do you appreciate the process of the exam with this patient?

Normal\_\_\_ A bit laborious\_\_\_ Laborious\_\_\_