



**College of Medicine and Health Science**

**Department of Public Health**

**PATTERNS OF ADMISSION AND TREATMENT OUTCOME OF PATIENTS  
ADMITTED TO SURGICAL WARD BY ACUTE ABDOMEN AT WOLKITE  
UNIVERSITY SPECIALIZED REFERRAL HOSPITAL, GURAGE ZONE, SOUTH  
NATION AND NATIONALITY OF PEOPLE ETHIOPIA, 2021**

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**A RESEARCH REPORT TO BE SUBMITTED TO WOLKITE UNIVERSITY,  
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## ABSTRACT

**Introduction:** Patients have been admitted to surgical ward at Wolkite University Specialized Hospital (WUSH) throughout the year since its establishment. However, there is no study up to date that was done to determine admission pattern and treatment outcome of patients admitted to surgical ward by acute abdomen. Thus, the aim of this study is to describe type of patient admitted to surgical ward by acute abdomen at WUSH and their outcome.

**Objectives:** The objective of the study was to describe the admission pattern and treatment outcome of patients admitted to surgical ward by acute abdomen at WUSH, 2021.

**Methods:** Retrospective descriptive observational study of all patients admitted to surgical ward of WUSH by acute abdomen from September 2019 up to September 2021. Data were extracted using a checklist from a logbook, Medical records of the patients, surgical ward acceptance note, discharge note and death summary. The data were entered in to SPSS software v 25 and cleaned for analysis and finally summarized using descriptive statistics with tables and figures.

**Results:** three hundred and twenty-seven patients who met the inclusion criteria were recruited. There were 179 males and 148 females with male to female ratio of 1.2: 1. The mean age of the patients was 35.50 years with age range of 15-84 years. Acute appendicitis was the commonest cause of surgical acute abdomen in the study. One hundred and seventy-four patients were treated and discharged while 8 patients died. The overall mortality rate was 2.4%.

**Conclusion:** This retrospective descriptive study has shown that acute appendicitis is the commonest cause of surgical acute abdomen at WUSH and the 15-30 years age group was most commonly affected.

**Keywords:** Acute abdomen, Treatment Outcome, surgical patients



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# INTRODUCTION

## 1.1. Background

Non traumatic surgical acute abdomen is a part acute abdomen caused by surgical cases excluding trauma and it is common challenge. A clinical scenario requires a thorough and expeditious workup to determine the need for operative intervention and to initiate appropriate therapy. Many diseases, some of which are not surgical or abdominal can produce acute abdominal pain and tenderness. The diagnoses associated with an acute abdomen vary according to age and gender. Appendicitis is more common in the young whereas biliary disease, bowel obstruction, intestinal ischemia and infarction, and diverticulitis are more common in elderly patients [1].

A large proportion of cases of acute abdominal pain remain classified as unspecified abdominal pain, in many published research in developed countries ranging from 16.5% in Italy, 21.1% in the US, 39.9% United Kingdom [2]. In contrast to developed countries, the etiology of the acute abdomen is different in developing countries in Africa and Asia. A study conducted Combined Military Hospital Kharian identified the most frequent cause of acute abdomen was found to be acute appendicitis (21.4%), followed by nonspecific abdominal pain (15.4%), acute intestinal obstruction (14.5%), acute cholecystitis (12.7%), perforated duodenal ulcer (11.8%) [3].

A study conducted in Nigeria identified that the common surgical acute abdomen were appendicitis 30.3%, bowel obstruction 27.9%, typhoid ileal perforation 14.9% and perforated Peptic ulcer disease 7.6% [4]. A research conducted in Ethiopia also identified that the three top causes of acute surgical abdomen were acute appendicitis 48% followed by bowel obstruction 28% and Peritonitis 24% [5].





## 2. LITERATURE REVIEW

### 2.1. Definition And Concept

#### Acute abdomen

Acute abdomen is a condition that needs early treatment. Acute abdomen may be caused by an infection, vascular occlusion, or obstruction. A patient with acute abdomen usually presents with sudden onset of abdominal pain. Others abdominal symptoms and they appear ill.

The patient with acute abdomen first diagnosis by history and physical examination. The causes of an acute abdomen are appendicitis, perforated peptic ulcer, acute pancreatitis, intestinal obstruction, ovarian torsion. The locations of abdominal pain are used to identify localized process. However, in patients with free air, it may present with diffuse abdominal pain. Absent bowel sounds during auscultation and tenderness, guarding during palpation are suggestive of peritonitis. (12)

### 2.2. Etiology And Epidemiology Of Acute Abdomen

The etiology for acute abdomen includes acute appendicitis, bowel obstruction, PUD, cholecystitis, pancreatitis, diverticulitis. D Q G (Obstetric and gynecologic causes include ruptured ectopic pregnancy and ovarian torsion. Urologic conditions including ureteral colic and pyelonephritis can also present as acute abdominal pain. Peritonitis is a cause of acute abdomen and can result from complication. Newborns can present with necrotizing enterocolitis. Mid volvulus present 40% of the time in the first week of life, 50% in the first month and 75% in the first year. Intussusception usually occurs at ages 2-4 months. The most common cause of an acute pediatric abdomen is appendicitis. (13)

No exact numbers are available but between 7% and 10% of emergency department visits are for abdominal pain. The Centers for Disease Control and Prevention (CDC), using data from the 1999 through 2008 National Hospital Ambulatory Medical Care Survey, reported that 11% percent of emergency room department visits in 2008 were for abdominal pain and that abdominal pain accounted for 12.5% emergent or urgent patients. About one-third of abdominal pain patients are diagnosed with specific abdominal pain. Another 30% have acute renal colic. (14)



abdominal ultrasound for 157 (92.7%) patients and the imaging result of these patients indicated that 97 (57.4%) had acute appendicitis, 35 (20.7%) had perforated appendix, 22 (13%) had appendiceal abscess and one (0.6%) had gangrenous appendicitis (11)

Outcome of Non-Traumatic Surgical Acute Abdomen in Nekemte Referral Hospital were used all patients who had undergone appendectomy for a clinical diagnosis of appendicitis as their study population. They were collected the data through physical examination, patients interview and operation registration book mainly. The researchers were used Statistical Package for Social Sciences (SPSS) version 23 to analyzed the data collected. They were argued that during their study period abdominal ultrasound was used in the majority of the patients as supplementary imaging for the diagnosis of acute appendicitis. According to their descriptive analysis result, half of the study participants were in the age range of 25-48 years with male preponderance (63.9%) of the total data. The mean duration of symptoms was 51.3 hours. They were also confirmed that, the most common presenting symptom was abdominal pain (98.2%), while right lower quadrant tenderness was the most common sign (93.4%). According to their analysis result, abdominal ultrasound was done in 81% of the study population with a sensitivity and specificity of 95.7% and 33.3%, respectively. They were also indicated that 74.4% (74.4%) of the patients had uncomplicated appendicitis, while 1.8% had a grossly normal appendix. The analysis result of their study was also revealed that, none of the appendectomy specimens were sent for pathology and concluded that the mean hospital stay of the patient was 3.2 days. Their research finding was also confirmed that the morbidity and mortality rate were not that much high which is 3.8% and 0.4% of the admitted patients, respectively. They were concluded that the acute appendicitis was the most common emergency surgical procedure in the study period. Finally their finding was indicated that the, the uncomplicated appendicitis took the major share of the intraoperative finding leading to acceptable morbidity and mortality rates.

A study conducted on the outcomes of Non-Traumatic Surgical Acute Abdomen was made based on retrospective cross sectional data collected at Nekemte Referral Hospital. The researcher were examined 295 records of the patients from the medical records in the hospital which was collected using checklist based on registration books. They were used SPSS version 20.0 statistical package to analyze the data. They were tried to assess the association between the independent and dependent variable by bivariate and multivariate regression analyses and 95%

confidence interval and- $\gamma$  D O X H R I " Z H U H n e X i n d e p e n d e n t W h e n R e p r e s e n t e d W i t h P L

outcome of surgical acute abdomen. According to descriptive analysis result of this study, out of 295 patients, 230 were males and 65 were females and the age ranged from 6 months to 80 years with a mean age of  $33.7 \pm 18.6$  years. As detailed in their discussion, out of 295 patients, 57.6% was rural and 46.4% were urban dwellers. Their analysis result confirmed that, most common cause of acute abdomen was acute appendicitis 140(47.4%) followed by bowel obstruction 118(40.0%). They were also confirmed that, acute appendicitis accounts the majority of the cases registered 74(52.8%) of appendicitis followed by appendiceal abscess 38 (27.1%) and perforated appendicitis 28 (20%). Based on their study result they were also stated that appendiceal abscess was high in elder age groups (>60 years=50%) where as low in 1st decade and Perforated appendicitis was high in two extreme age groups (42.86% in 1st decade and 33.35% in >6th decades). Wound infection was the commonest post-operative complication of appendicitis 14(10%) followed by pneumonia 3(2.1%) and sepsis 1(0.7%) from total appendicitis cases there were 3(2.2%) deaths of these 66.6% were from age group 0-6 years and those who came after 7 days. Age, Residence, Duration of illness and length of hospital stays are independent predictors of treatment outcomes of acute abdomen in the study area. They were concluded that complications were more cases from rural area due to delay at presentation and operation facility and surgeons for solutions(8)(



### **3. OBJECTIVES**

#### **General objectives**

To describe the pattern of admission and treatment outcome of patients admitted to surgical ward by acute abdomen

#### **Specific objectives**

- x To describe the pattern of admission by acute abdomen
- x To identify the most common disease of acute abdomen
- x To show the duration of illness at presentation
- x To assess treatment outcome of patients admitted to surgical ward by acute abdomen



## 4.5 Sampling

## 4.6 Sample size determination

All patients admitted to surgical ward by acute abdomen over Two-year period from September, 2019 till September 2021

## 4.7. Data Collection And Questioner Development

Data collection tool: to identify those patient that were admitted surgical ward from September, 2019 till September 2021. Different logbooks was looked through. Card number of these patient was collected from surgical ward logbook to discharge surgical ward acceptance note and death summary. Those miss patient from these chart was collected from liaison office admission data. Questioner will be prepared which comprised of demographic data of patient, length of stay in surgical ward, reasons for admission in surgical ward, the types of management, type of surgery, death will be collected.

## 4.8 Operational Definition

**Non traumatic acute abdomen-** it is acute abdomen which is not secondary to trauma diagnosed by top senior (general surgeon) in the ward.

**Surgical acute abdomen-** Acute abdomen secondary to surgical cases.

**Appendicitis-** Inflammation of appendix.

**Appendectomy-** Surgical Removal of appendix.

**Colostomy-** Connecting the colon to the abdominal wall for stool drainage.

**Intussusceptions-** Invagination of one part of bowel lumen in to the other.

**Laparotomy-** Incision through the abdominal wall.

**Peritonitis-** Inflammation of peritoneum.

**Intestinal obstruction (IO)-** Intestinal obstruction is prevention of passage intestinal contents.

**Intra-operative procedure-** The procedure that can be done after laparotomy which can be resection & anastomosis or colostomy or etc. depending on the causes & operative finding of obstruction.







Table. 2 clinical characteristics of the patents admitted to surgical ward with acute abdomen at WUSH from September, 2019 till September 2021

| Variables                        | Categories                       | Frequency | Percentage |
|----------------------------------|----------------------------------|-----------|------------|
| Chief compliant                  | Vomiting                         | 40        | 12.2       |
|                                  | Constipation                     | 16        | 4.9        |
|                                  | Pain                             | 235       | 71.9       |
|                                  | Abdominal distension             | 36        | 11         |
| Comorbidities                    | Diabetes Mellitus                | 7         | 2.1        |
|                                  | Hypertension                     | 13        | 4          |
|                                  | Asthma                           | 2         | 0.6        |
|                                  | None                             | 305       | 93.3       |
| Previous surgical history (n=25) | Acute abdomen                    | 7         | 28         |
|                                  | Cesarean section                 | 8         | 32         |
|                                  | BPH                              | 4         | 16         |
|                                  | Others*                          | 6         | 24         |
| Causes of admission              | Appendicitis                     | 187       | 57.2       |
|                                  | Cholelithiasis and Cholecystitis | 39        | 11.9       |
|                                  | Perforated PUD                   | 13        | 4          |
|                                  | Bowel obstruction                | 83        | 25.4       |
|                                  | Others**                         | 5         | 1.5        |
| Primary outcome                  | Improved                         | 272       | 83.2       |
|                                  | Referral                         | 17        | 5.2        |
|                                  | Self-discharge                   | 8         | 2.4        |
|                                  | Complication                     | 28        | 8.6        |
|                                  | Death                            | 2         | 0.6        |
| Causes of complications (n=28)   | Infection                        | 23        | 82.1       |
|                                  | Sepsis                           | 4         | 14.3       |
|                                  | Bleeding                         | 1         | 3.6        |

\*: Thyroidectomy, Nephrectomy and trauma

\*\* : Pancreatitis, Intussusception





cause of death in acute abdomen in this study was gastric ulcer perforation and intestinal obstruction.

### **LIMITATION OF THE STUDY**

the absences of recorded data on client cart like educational status ,income and occupation

## 7. CONCLUSIONS AND RECOMMENDATIONS

In this study, surgical acute abdomen occurred most commonly between the age group of 5 and 30. Acute appendicitis was the commonest cause of surgical acute abdomen followed by intestinal obstruction.

The most common cause of complication is infection to reduce this problem we have to use antibiotic coverage, wound care, cleaning of the room and follow-up. The percent of perforated peptic ulcer disease is high to decrease this and its complications early medical management of dyspepsia and prevent peptic ulcer is important.

to decrease the mortality rate regional health officials and health care providers create awareness in the community to encourage early presentation of patients and good patient referral linkage and quality surgical service in order to reduce its associated impacts.





## DATA COLLECTION CHECK LIST

¾ This checklist is designed to identify the patterns of admission and treatment outcome patients admitted to surgical ward by acute abdomen.

Part-1:- Items related to socio-demographic variables of the study group in WUSH 2021 GC

Data collectors name \_\_\_\_\_ Questioner no: \_\_\_\_\_

Data collection date \_\_\_\_\_

Patient registration number \_\_\_\_\_

|                    |                   |  |
|--------------------|-------------------|--|
| Age                |                   |  |
| Sex                | Male              |  |
|                    | Female            |  |
| Residence          | Urban             |  |
|                    | Rural             |  |
| Educational status | v [ š œ v Á œ ]   |  |
|                    | Read and write    |  |
|                    | Primary           |  |
|                    | Secondary         |  |
|                    | College and above |  |
| Occupation         | Farmer            |  |
|                    | Employee          |  |
|                    | Student           |  |
|                    | Merchant          |  |
|                    | others            |  |
| Income             |                   |  |



|                         |                      |  |
|-------------------------|----------------------|--|
|                         | RBC                  |  |
|                         | platelet             |  |
|                         | WBC                  |  |
|                         | Eosinophil           |  |
|                         | Neutrophil           |  |
|                         | basophil             |  |
|                         | lymphocytes          |  |
| treatment               | conservative         |  |
|                         | Surgical             |  |
|                         | Medication           |  |
|                         | Surgery + medication |  |
|                         | Others               |  |
| duration of admission   |                      |  |
| primary outcome         | Improved             |  |
|                         | Complicated          |  |
|                         | Refer                |  |
|                         | Death                |  |
|                         | Self discharge       |  |
| causes of complication  | infection            |  |
|                         | sepsis               |  |
|                         | bleeding             |  |
| outcome of complication | Improved             |  |
|                         | Refer                |  |
|                         | Further complicated  |  |
|                         | Death                |  |