

**ORIGINAL ARTICLE****Descriptive Cross-Sectional Study of Appendicitis Among Patients Admitted to a Tertiary Care Surgery Department**

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**ABSTRACT:**

**Background:** This study aimed to assess the prevalence of appendicitis in patients undergoing surgery at the department. The vermiform appendix is commonly regarded as a vestigial organ, and inflammation of the appendix leads to the clinical syndrome known as acute appendicitis. This research aimed to provide insights into the frequency of appendicitis cases encountered in the surgical department. **Methods:** The present study was a hospital-based, descriptive investigation that focused on patients admitted to the surgery inpatient department who were diagnosed with appendicitis based on symptoms and confirmed through ultrasonography. This study included a total of 140 patients with confirmed appendicitis, as determined by ultrasonography. Data collection was carried out using a pretested, semi-structured questionnaire to gather all the necessary information related to these patients. **Results:** The findings of the present study indicated that appendicitis was most commonly observed in the age group of 21-30 years. Additionally, the study found that appendicitis had a higher prevalence among males. Among the presenting symptoms, the most common feature of appendicitis was abdominal pain. **Conclusion:** The study revealed that appendicitis was most prevalent in the age group of 21-30 years, with a higher occurrence among males. The predominant symptom associated with appendicitis was abdominal pain.

**Keywords:** Surgery, Appendicitis, Histopathologically, ultrasonography.

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**INTRODUCTION**

Acute appendicitis is a globally prevalent and time-sensitive surgical emergency. Its first accurate description dates back to 1886 when Dr. Reginald Fitz provided a comprehensive account of this condition. This landmark description was followed by the first-ever appendectomy performed by Sir Frederick Treves in England, thereby establishing the surgical removal of the appendix, or appendectomy, as the preferred treatment for acute appendicitis. Acute appendicitis ranks among the most common causes of acute abdominal pain, frequently necessitating urgent surgical intervention. This condition poses a substantial health concern, with a lifetime risk of approximately 8%, meaning that 8 out of every 100 individuals will experience an episode of acute appendicitis during their lifetime<sup>1,2</sup>. In terms of its epidemiology, acute appendicitis is a condition with a significant impact on public health. It is estimated that there are 86 cases of acute appendicitis per 100,000 individuals in the general population each year. These statistics underscore the frequency with which this condition presents in medical practice.

One notable observation is that acute appendicitis exhibits a gender-based difference in its occurrence. In general, males have a higher incidence of appendicitis compared to females. This observation holds true across all age groups, resulting in an overall ratio of 1.4 males affected for every 1 female affected. This gender disparity in the incidence of acute appendicitis is a noteworthy aspect of this condition's

epidemiology. Appendectomy, the surgical removal of the appendix, is a common procedure, but it is not without its complications. The complication rate for appendectomy ranges from 8% to 11%, and this rate can vary depending on the specific surgical technique employed. Interestingly, the incidence of acute appendicitis is likely lower in Asian and African countries, possibly due to the dietary habits prevalent in these regions. It is believed that a diet rich in dietary fiber can have a protective effect<sup>3</sup>. Dietary fiber is thought to reduce the viscosity of feces, promote faster bowel transit, and discourage the formation of faecoliths (hardened fecal matter), which can predispose individuals to obstructions of the appendiceal lumen. In terms of age distribution, the incidence of appendicitis follows a specific pattern. It gradually rises from birth, reaching its peak in individuals in their late 10s, and then gradually declines in the geriatric years. The age group most affected by appendicitis is the 10-18-year-old range. Notably, recent years have seen an increase in the number of appendicitis cases occurring in patients aged 30-68, accounting for 6.4% of cases. This demographic shift in the age distribution of appendicitis cases underscores the importance of ongoing research and clinical investigation to better understand the factors contributing to these trends<sup>4</sup>. The present study was undertaken with the aim of assessing the prevalence of appendicitis in patients treated at the surgery department, with the

goal of shedding more light on the current status of this condition in the patient population.

### MATERIALS AND METHODS

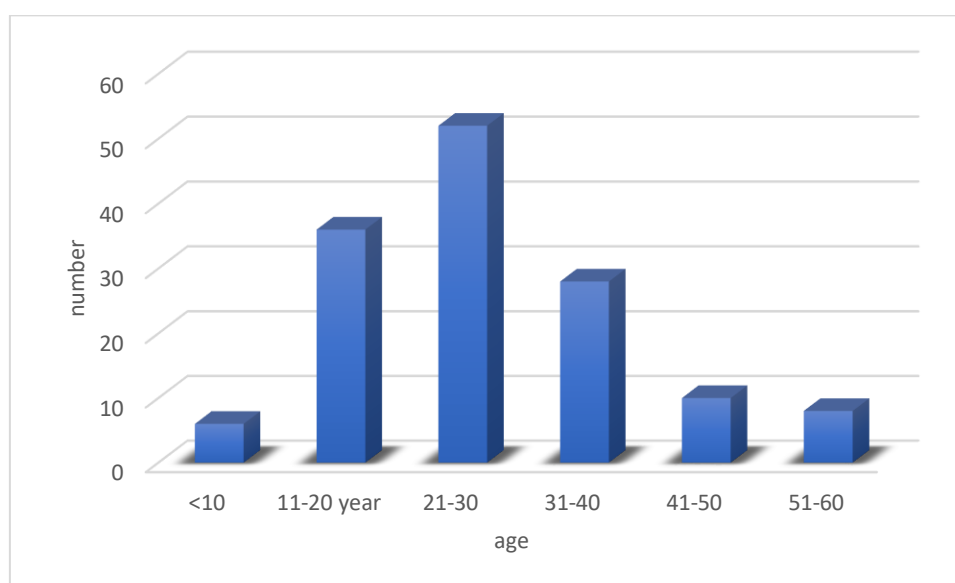
The present study was conducted within a hospital setting and was designed as a descriptive investigation. It focused on patients who were admitted to the surgery inpatient department with a diagnosis of appendicitis based on their symptoms and subsequently confirmed by ultrasonography. In total, the study encompassed 140 patients, all of whom had their diagnosis confirmed through ultrasonography<sup>5</sup>. To gather the required data and information, the researchers utilized a pretested and semi-structured questionnaire. This questionnaire allowed for the systematic collection of relevant details from the patients, contributing to a comprehensive and informative assessment of the condition and its management within the hospital environment.

### RESULTS

The results of the present study shed light on the epidemiology of appendicitis within the studied population. It was evident that appendicitis was most commonly observed among individuals in the age group of 21-30 years, indicating a heightened susceptibility within this demographic. Furthermore, the study revealed that males had a higher prevalence of appendicitis compared to females, emphasizing a gender-based difference in susceptibility. Importantly, the primary presenting feature of appendicitis, as indicated by this study, was abdominal pain. This underscores the pivotal role of abdominal pain as a primary symptom and clinical indicator for the diagnosis of appendicitis, aligning with the typical clinical presentation of this condition. These findings contribute valuable insights into the characteristics and prevalence of appendicitis in this particular population.

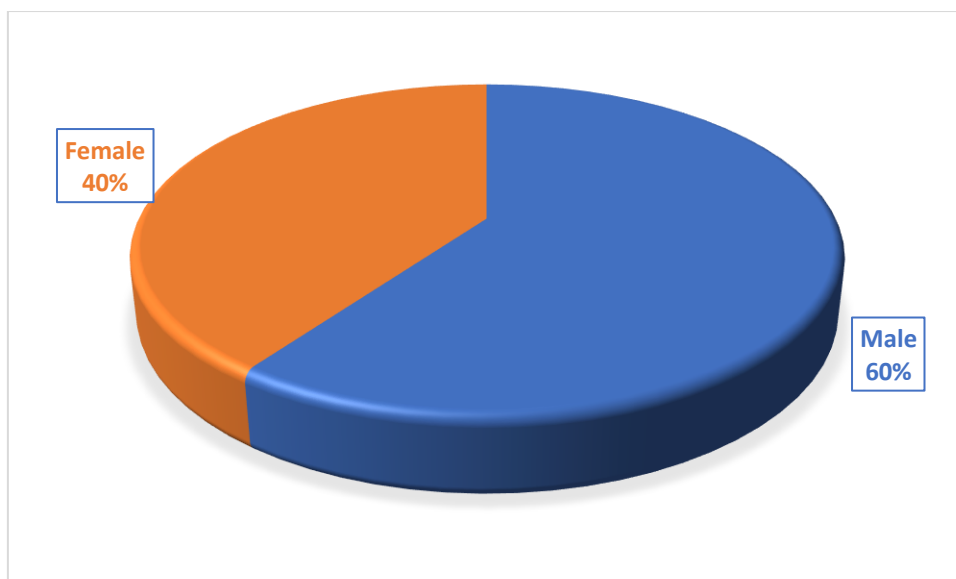
**Table1: Distribution of the Appendicitis patients according to age group**

Age group	Number(%)
<10	6(4.2%)
11-20	36(25.71%)
21-30	52(37.14%)
31-40	28(20%)
41-50	10(7.14%)
51-60	8(5.71%)



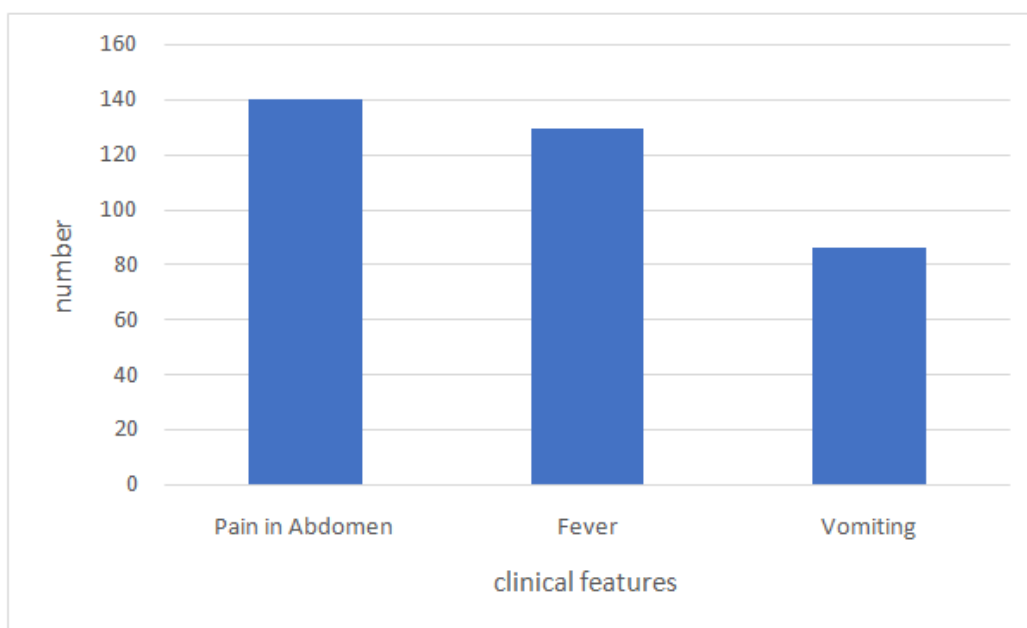
**Table 2: Distribution of the appendicitis according to sex**

Sex	Number(%)
Male	84(60%)
Female	56(40%)



**Table 3: Distribution of the patients as per the most common Presenting clinical feature**

Presenting clinical feature	No.(%)
Pain in Abdomen	140(100%)
Fever	129(90%)
Vomiting	86(61.42%)



**DISCUSSION**

Our study's findings, which revealed a higher prevalence of appendicitis among individuals in the age group of 21-30 years, parallel the trends observed in prior research on the epidemiology of this condition. This age-related susceptibility suggests that young adults are at a heightened risk of developing appendicitis<sup>6</sup>. Moreover, our investigation confirmed that appendicitis has a stronger presence in males, consistent with previous studies, highlighting a gender-based disparity in vulnerability to this ailment. It is important to note that the primary presenting

symptom of appendicitis, as observed in our study and corroborated by earlier research, is abdominal pain. This reinforces the significance of abdominal pain as the primary clinical indicator for diagnosing appendicitis, in line with the typical clinical presentation of this condition.

Notably, the congruence between our study and earlier research demonstrates the consistency of epidemiological patterns in different populations. A study conducted by Al-Omran<sup>7</sup> in 1998 and another by Nudeh in 2006, both of which support our findings, further validate our observations. These collective

insights from various studies across different regions and timeframes contribute to a more comprehensive understanding of the demographics and clinical manifestations of appendicitis, enriching our knowledge of this prevalent medical condition.

The collective body of research on the epidemiology of appendicitis provides valuable insights into the patterns of this condition in various populations. Macklin CP et al<sup>8</sup> conducted a study that indicated a higher prevalence of appendicitis in the 10-29 years age group. This age-related susceptibility suggests that adolescents and young adults are particularly at risk for developing appendicitis. Additionally, their findings, like ours, highlighted that males are more susceptible to appendicitis than females, confirming a gender-based difference in prevalence.

Another study conducted by Lohar HP et al<sup>9</sup> revealed intriguing trends in the occurrence of appendicitis. According to their findings, the highest incidence of appendicitis was observed in the 11-20 years age group, accounting for a substantial 45.6% of cases. This was closely followed by the 21-30 years age group, constituting 36.1% of cases. As individuals advanced in age, the occurrence of appendicitis gradually declined, with the age group 31-40 years accounting for 11.5% of cases and the 0-10 years age group representing only 3%. The study also indicated that both male and female individuals were almost equally affected by appendicitis.<sup>10,11</sup> Furthermore, nonvegetarians were found to be more susceptible to appendicitis compared to vegetarians. Additionally, their study unveiled a seasonal variation in the occurrence of appendicitis, with peak incidence in the spring and lower rates during the summer.

These diverse findings from different studies contribute to a broader and more comprehensive understanding of the epidemiology of appendicitis<sup>12</sup>. They underscore the role of age, gender, dietary habits, and seasonal factors in the prevalence of this condition, enriching our knowledge of its patterns in diverse populations.

The study conducted by Chaudhari YP et al<sup>13</sup> aligns with the broader trends observed in research on appendicitis epidemiology. Their findings revealed that the most common age group affected by appendicitis was 21-30 years, emphasizing the heightened risk within this age range. This observation is consistent with the trends identified in several other studies, underscoring the vulnerability of young adults to appendicitis<sup>14</sup>. Furthermore, their study, like ours, confirmed that appendicitis exhibited a higher prevalence in males, highlighting a gender-based disparity in susceptibility. This gender difference in appendicitis prevalence has been consistently noted in various research studies. Additionally, the primary presenting complaint in their study, as in many others, was abdominal pain. Abdominal pain remains the hallmark symptom and a crucial clinical indicator for diagnosing appendicitis. The concurrence of their findings with those of other

studies reinforces the significance of abdominal pain as a key clinical feature in the diagnosis of appendicitis<sup>15</sup>. Overall, the study by Chaudhari YP et al contributes to the existing body of knowledge on appendicitis, affirming the consistency of these epidemiological patterns in diverse populations.

## CONCLUSION

The statement reiterates the key findings of your study on appendicitis epidemiology. It emphasizes that appendicitis is most prevalent in the age group of 21-30 years, reinforcing the vulnerability of young adults to this condition. Furthermore, it highlights the gender-based disparity in appendicitis prevalence, with males being more commonly affected than females. Additionally, your observation underscores that the primary presenting feature of appendicitis is abdominal pain, emphasizing the clinical significance of this symptom in diagnosing and recognizing the condition. These findings align with the broader trends observed in appendicitis research, providing valuable insights into the epidemiology of this common medical condition.

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