

The Risk Factors of Acute Appendicitis in Children at Selected Hospitals in Mogadishu Somalia

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ABSTRACT

Appendicitis is one of most common surgical emergencies, in its disease course, the appendix becomes inflamed and swollen as intestinal bacteria multiply in the lumen, recruiting white blood cells and forming pus. The objective of this study was to determine the Risk factors of acute appendicitis at selected hospitals (Digfer, Shafi, and Medina) in Mogadishu Somalia.

The study design was descriptive, quantitative design and were conducted at selected hospitals. The sample size was 192 cross sectional, draw from 384 by using Keisha and Leslie formula for calculating sample size. Administrated closed-ended questionnaire was used as data collection tools and the study employed statistical package for social science SPSS version (20.0) for data analyzing and data was present descriptive statistics graphs and frequencies tables.

The study found 192 patients who had appendicitis and the majority those patients 81(42.2%) were between the age of 14-18, 68(35.4%) were between the age of 10-13, 26(13.5%) were between 6-9 years and the 17(8.9%) were between the age 0-5 also the results shown that 126(65.6%) of the patients were male while female only formed 66(34.4%). And the Majority of the patients. Our study found, most responders were eaten low fiber diet and drink ground water, and also majority of the responders didn't diagnosed by histopathology due to cost.

The people eat high fiber diet and drinking clean water to prevent appendicitis, the patients feel lower abdomen to visit the health centers and the government provide free health care to low income people.

Keywords: Appendicitis, risk factor of appendicitis at selected hospitals in Mogadishu Somalia

1.0 Background of the study

Appendicitis is defined as inflammation of the vermiform appendix, the most common surgical emergency in children and young adults with abdominal pain. The current standard of care for patients with appendicitis is the surgical appendectomy, either laparoscopic or open. A non-operative strategy with antibiotics is favorable in some cases and emerging evidence suggests there could be wider applicability. Rupture can then either lead to a contained abscess or widespread soiling of the abdominal cavity. (Paul Froggatt, 2018).

The risk of developing appendicitis during a lifetime is reported to be 8.7% for boys and 6.7% for girls. The overall negative appendectomy rate among all children is suggested to be 8.4%, but in children under 6 years of age, the rate has been reported to be as high as 56.7%.

Postoperative abscesses, hematomas, and wound complications are all complications that can be seen after appendectomies. "Recurrent" appendicitis can occur if too much of the appendiceal stump is left after an appendectomy. This acts just like an appendix and can become occluded and infected just as with the initial episode. Therefore, it is important to ensure that there be very minimal and preferably no residual appendiceal stump after an appendectomy. If left untreated, appendicitis can lead to abscess formation with the development of an enter-cutaneous fistula. Diffuse peritonitis and sepsis can also develop which may progress to significant morbidity and possible death. (Jones & Deppen., 2019).

The gold-standard treatment for acute appendicitis is to perform an appendectomy. Today the laparoscopic appendectomy is preferred over the open approach. Most uncomplicated appendectomies are performed laparoscopic ally. In cases where there is an abscess or advanced infection, the open approach may be needed. The laparoscopic approach affords less pain, quicker recovery, and the ability to explore most of the abdomen through small incisions. Situations, where there is a known abscess from a perforated appendix, may require a percutaneous drainage procedure usually done by an interventional radiologist. This stabilizes the patient and allows the inflammation to subside over time enabling a less difficult laparoscopic appendectomy to be

performed at a later date. Practitioners also start patients on broad-spectrum antibiotics. There is some disagreement regarding preoperative antibiotic administration for uncomplicated appendicitis. Some surgeons feel routine antibiotics in these cases are not warranted, while others give them routinely. There have also been several studies promoting the treatment of uncomplicated appendicitis solely with antibiotics and avoiding surgery altogether. (Zani A, 2019).

Pilot study showed, majority of people were eating low fiber diet (rice and spaghetti), which increased chance of developing of acute appendicitis among patients in hospital staying.

Acute appendicitis is one of the commonest surgical emergencies, in its disease course, the appendix becomes inflamed and infected by intestinal bacteria, leading to swelling and eventual wall rupture if left untreated. If ruptured, the abdominal cavity is then susceptible to widespread infection, leading to sepsis and death. Patients with ruptured appendicitis have longer hospital stays, more complications, and higher mortality than patients who do not progress to rupture. (Thomas SH, 2003).

Given the consistent progression to perforation and potential health gains with early treatment, rates of rupture have been advocated as a public health measure of access to medical care. Expressing the concern at the lack of progress in the prevention and control of acute appendicitis in the world particularly in sub Saharan countries region. (Andersen BR, 2005).

Specific Objectives: -

- 1.To determine patient demographics and characteristics of acute appendicitis at selected hospitals (Digfer, Shafi, and Medina).
- 2.To identify risk factors of acute appendicitis at selected hospitals (Digfer, Shafi, and Medina).

METHODOLOGY

3.0 Study Designs

Cross sectional study was Used for this research, which means that the sample was take from the study population and the information was obtained at the same time on a particular point in time.

3.1 study site and Target population

In this study, we have chosen at Selected Hospitals (Digfer, Shafi, and Medina) in Mogadishu was conduct as more case about acute appendicitis study. They are the right people to give their views on the issues concerning acute appendicitis.

The study population comprised of patients diagnosed with appendicitis admitted was selected hospitals (Digfer, Shafi, and Medina) in Mogadishu, these patients elective and emergency surgery.

The target population was be all Consenting patients between 0 up to 18 years with presenting at Selected hospitals (Digfer, Shafi, and Medina), with diagnosed by the attending clinician to have appendicitis.

3.2 Sample Size and Instrument for data collection

To determine the idea sample size for a population, the study was use Keisha and Leslie formula

$$\text{which is } n = \frac{Z^2pq}{d^2} = \frac{Z^2p[1-p]}{d^2}$$

Where n is required sample size

d- precision/error: A precision of 5% will be used

Z- Stand normal deviation corresponding to 95% confidence interval which is 1.96

P- Prevalence and risk factor of acute appendicitis hospitalization patients in hospitals 50%

$$n = \frac{(1.96)^2 * 0.5(1-0.5)}{(0.5)^2} = 384 \text{ patients}$$

The study continuous 1 year, but this study was conduct January 1st, up to June 30.

quantitative data analysis was be used to analyze the data in this study, the research was be proceed to field work to collect date, the data collection instrument was be the use of questions the data analysis will perform by analyzing classification and showing in any format that makes possible much understand descriptive and deferential statistics will be necessary to use at this stage to calculate the correction variable (Risk factors of acute appendicitis among children at selected Hospitals (Digfer, Shafi, and Madina)

3.3 Data Processing and Analysis

The data will be gathered major data collection instruments used in this study will be primary data that included questionnaire, and secondary data such as study documents. The choices of these

instruments were guided by the data requirements and the objectives of the study questionnaire during data collection, the researcher will determine gathering a reliable and valid data.

The data collection scientific calculation, and Statistical package of social scenes (SPSS) and excel was used tables and charts to present the data. And Interpretation to the tables and graphs by using descriptive.

3.4 Ethical Consideration and Approval

Ethical approval for the study was obtained from the Institutional Research Hospitals, Faculty of Health Science, and Jamhuriya University for Science and Technology.

Verbal consent was give subject who agreed to be part of the study after explanation of the aim of the study and re-assurance of confidentiality of the information.

3.0 Results

4.1 Age of the Respondents

variables	Frequency	Percent%
14-18 yrs	81	42.2
10-13 yrs	68	35.4
6-9yrs	26	13.5
0-5 yrs	17	8.9
Total	192	100.0

Table: 4.1 age of the respondents

As the result shows table shows the age of the majority 42.2 % of the respondent aged between 14-18 % years old, 35.4 % of the respondents aged 10-13 % years old, 13.5% of the total respondent aged between 6-9years old and finally 8.9% 0-5 yrs.

4.2 Gender of the respondents

Variables	Frequency	Percent%
Male	126	65.6
female	66	34.4
Total	192	100.0

Table 4.2 Gender of the respondents

As the result shows table, On the gender of the respondents, the study found that the below figure summarized demographics in gender characteristics the results shown that 65.6% of the respondents were male while female only formed 34.4%. This indicates that the most respondents of the patients were male gender.

4.3 Education of the respondents.

variables	Frequency	Percent%
Primary education	89	46.4
Secondary education	67	34.9
Quran	36	18.8
Total	192	100.0

Table: 4.3 Education of the respondents

As the result shows table shows, that the researchers classified the levels of education of respondents into Secondary education is the greatest percentage value of 46.4%, while 34.9%. Primary education, and finally 18.8 % Quran of the respondents.

4.4 What is demographic region from?

Variables	Frequency	Percent%
Benadir Region	83	43.2
Galmudug	67	34.9
Jubo land	30	15.6
South West land	12	6.2
Total	192	100.0

Table: 4.4 what is demographic region from?

As the result shows table shows the demographic region of major of the patients 43.2 % Benadir Region, 34.9 % of the them Galmudug, 15.6 % of the patients from Jubo land and finally 6.2 % of the patients South West land. This indicates that most of demographic region of respondents is Benadir Region.

4.5 Do you have any chronic disease like?

Variables	Frequency	Percent%
Diabetes mellitus (DM)	13	6.8
no have chorionic diseases	178	92.7
Chronic obstructive	1	2
Total	192	100.0

Table 4.5 Do you have any chronic disease like?

As the result shows table, 92.7 % no have chorionic diseases, 6.8 % of the patient have Diabetes mellitus (DM), and finally 1 % of Chronic obstructive.

4.6 Which type of food do you eat?

Variables	Frequency	Percent%
Rice	98	51.0
Spagate	86	44.8
beans	8	4.2
Total	192	100.0

Table 4.6 which type of food do you eat?

As the result table shows the researchers interest to know which type of food that the patient eats. 51.0% of the patients eat rice, 44.8 % of them Spagate and finally 4.2 % of the patients eat beans. The result indicates the most common of the people is rice.

4.0 Discussion

This chapter deals with the discussion of the study interpreted from the analysis. The findings of the study are discussed in relation to the objectives, need for the study and related literature of the study.

5.1 Discussion

As the study found 192 patients who had appendicitis and the majority those patients 81 (42.2%) were between the age of 14-18, 68 (35.4%) were between the age of 10-13, 26 (13.5%) were between 6-9 years and the 17 (8.9%) were between the age 0-5 also the results shown that 126 (65.6%) of the patients were male while female only formed 66 (34.4%). as well as 89 (46.4%) their education level was secondary and 67 (34.9%). were Primary education, while the majority of the patients 83 (43.2%) their residence was Benadir Region, 67 (34.9%) were come from Galmudug, 30 (15.6%) of the patients were from Jubbo land and finally 12 (6.2%) of the patients were from South West land.

Similarly, other studies show in children and in adults, appendicitis is a common emergency condition occurring at any age, but usually between 10 and 20 years. There is a male preponderance, with a male to female ratio of 1.4 to the overall lifetime risk is 6.7 % for females and 8.6 % for males in the USA. (Shaffer N, 2019).

Acute appendicitis represents the most common surgical cause of acute abdominal pain among children. It accounts for one third of abdominal pain admissions to the surgical ward. Boys are affected more than girls with a life time risk of 8.67% vs. 6.7%. (McKay R, 2018)

Which is supported by a study conducted in India. 100 patients diagnosed as acute appendicitis and observed that male were more in number (55%) than female shows that male predominance in acute appendicitis is one of the remarkable factor and most of the sufferer were in the age group of 15 to 30 years and has observed that Pain abdomen was in 100%, fever was in 81% and vomiting in 75% of the patients which is almost close to 99%, 76% and 56% respectively (K. Suresh Babu and S. Savitha, 2017)

5.0 Conclusion

Appendicitis is one of most common surgical emergencies, in its disease course, the appendix becomes inflamed and swollen as intestinal bacteria multiply in the lumen, recruiting white blood cells and forming pus. The objective of this study was to determine the Risk factors of acute appendicitis at selected hospitals in Mogadishu Somalia. As the study found 192 patients who had appendicitis and the majority those patients 81 (42.2%) were between the age of 14-18, 68 (35.4%) were between the age of 10-13, 26 (13.5%) were between 6-9 years and the 17 (8.9%) were between the age 0-5 also the results shown that 126 (65.6%) of the patients were male while female only formed 66 (34.4%).

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