

# Bloody Diarrhoea among Children under five years of Age in Tikirit Teaching Hospital

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## Abstract

**Objectives** to study the causes of bloody diarrhea in children under five years of age and to clarify their relations to the type of food and mothers educational level

**methods** A hospital based study was carried out at Tikreet Teaching Hospital in Tikreet city on 133 children who were admitted to the hospital with bloody diarrhea their ages range between one month -5 years. The period study is from (January 2001-July 2001).

**Results** The pathogens causing bloody diarrhea were *Entamoeba histolytica* in (57) cases (42%) *Salmonella* spp

in (50) cases (37%), *Shigella* spp in (25) cases (18% and *Campylobacter jejuni* 1 cases only (0.75%)

**Conclusion** Bloody diarrhea is common in children under 5 years age who were admitted to Tikreet Teaching Hospital in Tikreet city. There is a strong positive relationship between the occurrence of bloody diarrhea and the type of food. Education of the mother plays an important role for the occurrence of bloody diarrhoea, mostly those who were illiterate

**Keywords** : bloody diarrhoea . children

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## Introduction

Bloody diarrheal episode in 16 cases in 4<sup>th</sup> years (12.03%) and (10) cases at 5<sup>th</sup> years of age (7.51%).

The pathogens causing bloody diarrhea were:

*Entamoeba histolytica* in (57) cases % *salmonella* spp. In (50) cases %; *Shigella* in (25) cases % and *campylobacter. jejuni* 1 cases only.

Eight five percent cases 61% were from rural areas (85) cases about 36.91% and (48) cases from urban areas.

The study is recommended which the loose or watery stools contain blood, pus and mucus. It doesn't include episodes in which blood is present in streaks on the surface of formed stool<sup>(1)</sup>.

Bloody diarrhea in young children is usually a sign of invasive enteric infection and this especially is true in developing countries, here the problem occurs most frequently.

Non infectious cases account for a very small preparation of episodes of bloody diarrhea<sup>(2)</sup>.

As compared with watery diarrhea, bloody diarrhea generally last longer, is associated with more complicated, and is more likely to adversely affected child growth and has a higher case fatality rate<sup>(3)</sup>.

Dysentery is the same meaning of bloody diarrhea, this describes a syndrome of bloody diarrhea with abnormal cramps, rectal pain (tenesmus) fever and mucoid stools<sup>(4)</sup>.

*Shigella* pathogen isolated from the stool of young children with bloody diarrhea in developing countries and have many species including *S. sonnei*, *S. flexneri*, *S. boydii* and *S. dysenteriae* type causes usually epidemic and pandemic shigellosis<sup>(5,6)</sup>.

Bloody diarrhea in young children is associated also with *E. coli*.

One hundred fifty seven organisms that produce shigella like serotoxin material<sup>(7)</sup>.

*Entamoeba histolytica* invasive amoebiasis occurs globally and is important public health problem and characterized by dysentery and presence of trophozoite and serologic evidence of infection<sup>(8)</sup>.

The factors that increase the incidence of bloody diarrhea including type of feeding, age, sex, the presence of viral infection, immune deficiency and season variation<sup>(9)</sup>.

Studies in communities health facilities had shown that the management of patient where bloody diarrhea is frequently irrational, many medications prescribed are ineffective and the correct treatment of bloody diarrhea requires the mother recognize the problem and seek medical care promptly, many episodes of bloody diarrhea and their serious consequences can be resolved if the treatment is given accurately<sup>(10)</sup>.

### *The Aim of study*

is to study the causes of bloody diarrhea in children under five years of age to clarify their relations to the type of food and mother's educational level.

## Methods

A hospital – based study was carried out at teaching hospital in Tikirit City on 133 children who were admitted to the hospital.

With bloody diarrhea their ages range between one month -5 years.

The period of study is from (January 2001-July 2001).

The sample unit was patients with bloody diarrhea including hospital cases, the laboratory work for isolation of micro-organism including:

1. direct wet preparation:

by putting separate drops of saline and iodine on clean glass slide of emulsify a few amount of stool sample with them and then cover them with cover

glass, then examine under microscope to see RBC, pus cell and pathogenic cyst or trophozoite or ova of any pathogenic parasite.

2. Cultural by MacConky ager, peptone water or tetrathionate broth.

The method of data analysis were done by using master tables skeletal tables and are used chi-square r to establish the significance of difference in means Using pie-chart, Bar lines and tables which were done by using Harverd Graphics package.

**Results**

The total number of cases of diarrhea which were admitted during the period of study under five years old were 520 cases, 133 cases (25.58%) were with bloody diarrhea including 78 cases were males (51.13%) and 55 cases were female (41.35%) (Table-1).

(Figure-1) reveals the distribution of cases according to age. The highest number of cases were 68 (51.12%) in the age of group (1-12) months, while the number of cases for age group (13-24) months were 19(14.30%) cases were in the age group of (37-48) months and the lowest number of cases were 10 cases (7.52%) in the age group of (49-60) months.

(Table-2) shows the distribution of cases according to residence ,which reveals that 48 cases (36.09%) were lived in urban area and 85 cases (63.19%) were lived in rural areas .

(Figure-2) shows the relationship between educational level of the mothers and bloody diarrhea is shown in (Figure-2).

(68) cases were illiterate 51% ,and (36) cases secondary 15%,(9) cases were at university level 7%.

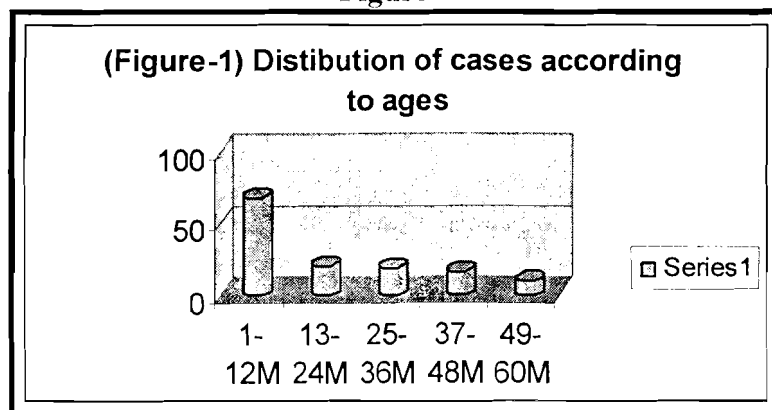
(Figure-3) show the relationship between bloody diarrhea and source of water supply  $p < .01$  (significant )

(Table-3) shows the relationship between the type of feeding and bloody diarrhea which reveals that 11 cases (8.27%) were breast fed and 35 cases (26.31%) were bottle fed and 57 cases (42.85%) were on mixed feeding and 30 cases (22.57%) were on solid type of food.

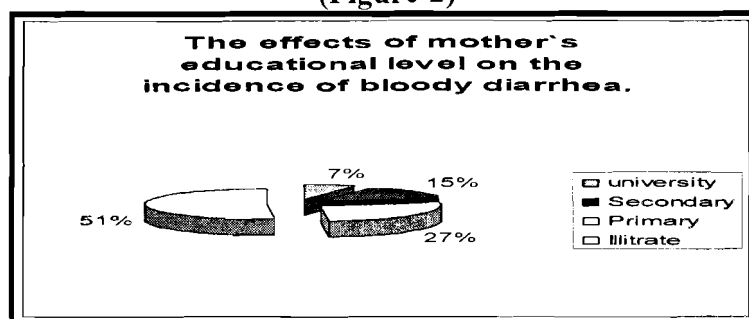
(Figure-4) shows the causative microorganism of bloody diarrhea . Salmonella species presents in 25 cases (37.59%) and E. histolytica appears in 57 cases (42.85%) and campylobacter jej. Presents in one case only (0.75%).

(Table-4) shows the antibiotic usage before admission 81cases has a history of antibiotics use (60.91%) while in 52 cases had not use antibiotic therapy before admission to hospital (39.09).

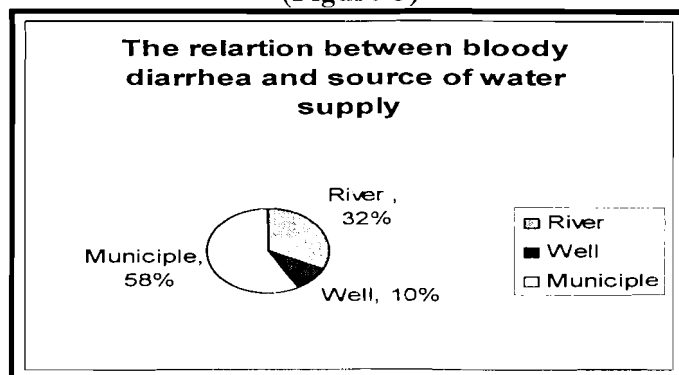
**Figure-1**



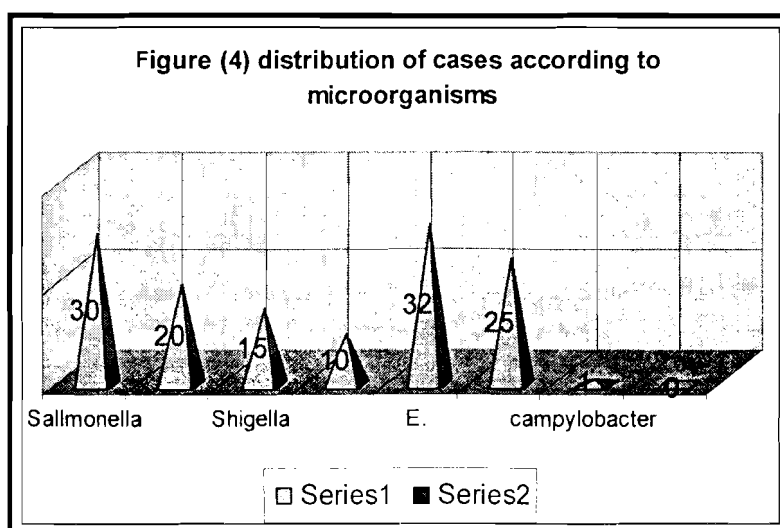
**(Figure-2)**



**(Figure-3)**



**Figure-4**



**(Table-1)**

**Distribution of cases according to sex**

Sex	No. of cases	%
Males	78	51.1
Females	55	41.35
Total	133	100

**(Table -2)**

**Distribution of bloody diarrhea according to residence**

Residence	no. of cases	%
Urban	48	36.09%
Rural	85	63.91
Total	133	100

**(Table-3)**  
**Effects of types of food on the occurrence of bloody diarrhoea**

Food	No. of cases	No.
Brest	11	8.27
Bottle	35	26.31
Mixed	57	42.85
Solid	30	22.57
Total	133	100

**(Table -4)**  
**The antibiotics usage before admission**

Types	No.
Use antibiotics	81
Not use antibiotics	52
Total	133

**Discussion**

Bloody diarrhea is common in our locality and infection is responsible for the majority of cases. From 520 cases of diaechea during the period of study; 133 cases are presented with bloody diarrhea,(25.58%) this is higher than that found in Bangladish due to decrease in water sterilization methods which resulted from the effect of prolong section.

The high rate of E histolytica infestation 57 cases (42.86%) resulted in the present study is approximately equal to a similar study done in New York<sup>(11)</sup>.

The prevalence of shigella 25 cases (18.80%) in disagreed with the result of similar studies carried out in Bangladish were shigela cases were (50%) or more in young children , these differences can be due to geographical distribution , period of study and whether.

Regarding the age, large percentage of cases of bloody diarrhea occur during first and second year of life 88 cases (66.17%) and this study is agreed with another study done in Bangladish in 1982 <sup>(12)</sup> ,were bloody diarrhea occurs among children between six months to three years of age and these results possibly reflect close contact of young children with contaminated environment around home especially in poor societies.

Regarding sex, this study shows differences in prevalence of bloody diarrhea in two sexes, were in male 78 cases (51.13%) and this doesn't agree with study performed in Saudi Arabia in 1992 <sup>(13)</sup> which

showed higher prevalence for shigellosis but equal for both sexes.Regarding the type of feeding in children ,large percentage of cases were on mixed type feeding (42.85%) while (26.31%) on breast feeding ,and this doesn't agree with the study done in Nigerria <sup>(14)</sup> were high prevalence were for those bottle feeding, these result shows the safety of breast milk and it's efficiency in protecting the child from serious illness like bloody diarrhea.

For the resistance most of cases of bloody diarrhea were lived in rural areas about 64% and this is due to lack of proper sanitation and water sterilization methods and poor medical services.

This result agree with samonis *et al* <sup>(15)</sup> ,who report two 446 (54%) in rural .

The source of water supply is important risk factor presents in the study , a good number of cases about 44% is a associated with unclean water supply either directly from river or from sources, with out proper water sanitation.

The high prevalence of bloody dirrea were in children whose mother were illiterate, and this agree with study performed in Zasshi 19997 <sup>(15)</sup>.

**Conclusion**

From our study we can conclude the following :  
Bloody diaerrhea is common in children under five years age who admitted to Tikirit Teaching Hospital in Tikirit city.

- 1- There is a strong positive relationship between the occurrence of bloody diarrhea and the type of blood.
- 2- The high prevalence occur in rural areas .
- 3- Education of mother play an important role for the occurrence of bloody diarrhea mostly in those who were illiterate.
- 4- A considerable amount of cases are supplied by unclean water.
- 5- *E. histolytica* is the most common microorganism isolated.

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