Ain Shams University
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# New trends in the treatment of the infantile and childhood diarrhea

## A THESIS

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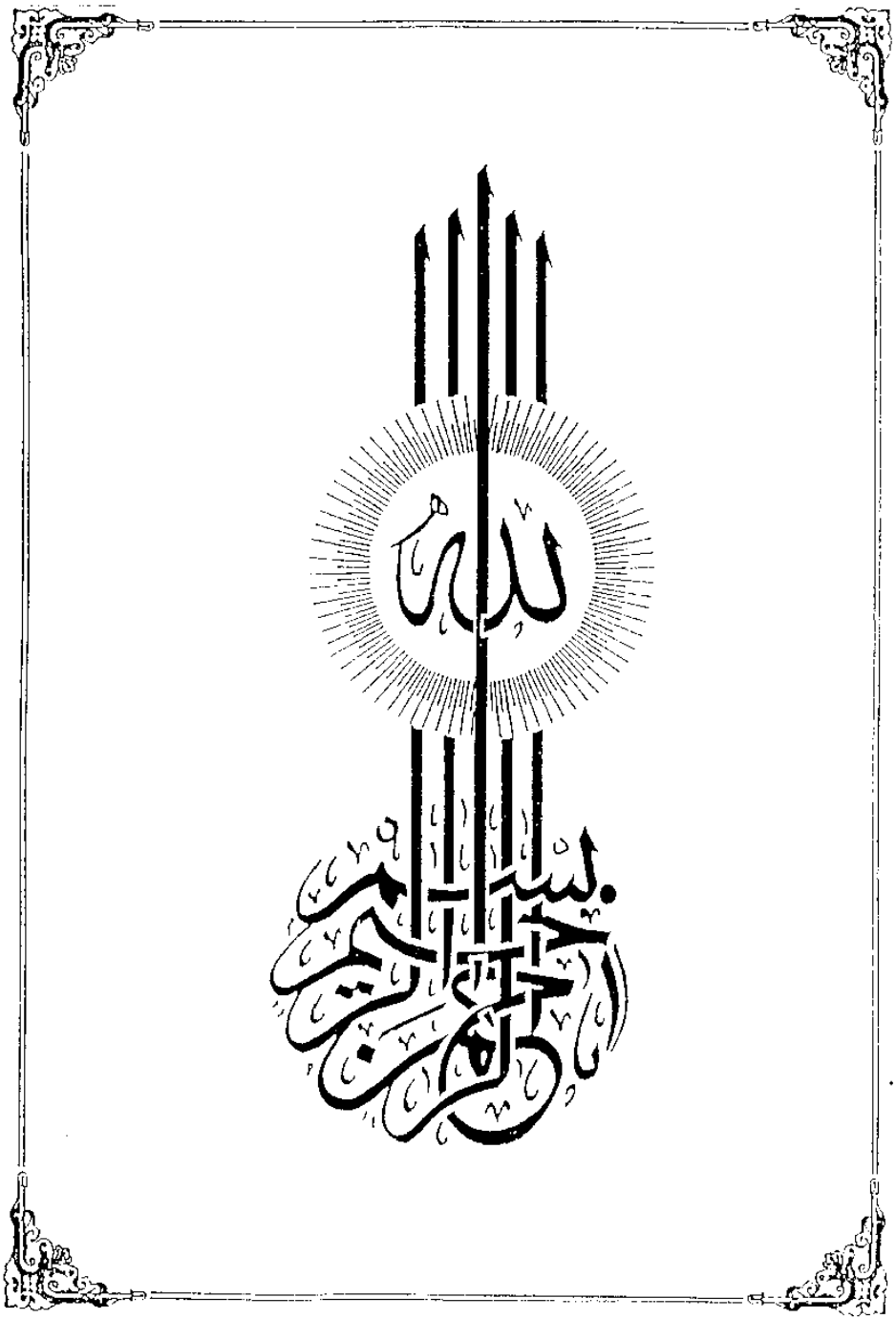
# Introduction

## AND AIM OF THE WORK



## CONTENTS

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[ **Mohmoud** Abbas]
1987

# INTRODUCTION
# And
# AIM OF THE WORK

The word diarrhea means abnormal liquidity of stools that may contain pus, blood or mucus or may be colourless. [El-Mougi, 1984].

Diarrhea is one of the most frequent problems encountered by physicians who provide care for children [ W.H.O., 1984].

Diarrhea is among the most common symptoms in pediatrics, and in underdeveloped countries it is the most common cause of morbidity and mortality in childhood. [Aubsrey J. Katz, 1980].

Acute diarrheal diseases are one of the leading causes of childhood mortality and morbidity in the developing countries, and a major contributor to malnutrition [ WHO, 1984].

Around 750 million children below 5 years of age in Asia, Africa, and Latin America suffer from acute diarrhea each year and it is estimated that between 3 and 6 million in

this age group die annually from acute diarrhea, 80% of these deaths occur in the first 2 years of life [ W.H.O., 1984].

Diarrhea is a leading cause of mortality. In Egypt, it is the main killer of children after the 28th day of life. It is representing 52% of all causes of infant deaths and 38% of deaths of preschool children. [ Nahid M. Kamel, 1983].

Diarrhea may be acute, lasting hours or days, or chronic lasting weeks or months. There are infectious and non infectious causes of diarrhea.

Death in diarrhea is often due to dehydration which results from excessive loss of water and salts in stool and vomitus.

Patients with dehydration associated with acute diarrhea usually have deficits of sodium, potassium and water, and as base-deficit acidosis [W.H.O., 1984].

Thus, it is feasible to use similar rehydration solutions to treat dehydration associated with diarrhea of all

causes in all age groups. The enhanced absorption of sodium chloride and water in the presence of glucose by the small intestinal mucosa forms the basis of oral rehydration therapy.

Oral rehydration salts containing 90 m Eq/L of sodium have proven safe and effective for the treatment of dehydration with infectious diarrhea. [Hirschorn, 1983].

A study had been done to evaluate the effect of the commonly used antibiotics on the duration and severity of diarrhea in infants with acute diarrhea. Five hundred children under two years of age with acute or liquid diarrhea were included. Cases were divided randomly into five groups, four groups received one of the following, chloramphenicol, streptomycine, trimethoprim-sulfamethoxazol, or neomycine respectively, all got oral rehydration. The fifth group was given oral redhydration but no antibiotics.

Results :

These was significant reduction in the frequency of diarrheal motions in the oral redhyration-only group as compared to the other groups receiving antibiotics plus oral rehydration. The mean duration of the diarrheal

In Egypt, the National control of Diarrheal Disease project has success fully promoted mass use of ORS for dehydrating diarrhea of infant and childhood, only, with proper nutrition at the proper time during treatment.

A study to evaluate the role of the oral rehydration salts, the WHO formula presently used, and the proper nutrition in the treatment of the acute diarrhea of infant and childhood whatever the aetiology be, will be carried out.

# Review of Literature

## EPIDEMIOLOGY OF ACUTE DIARRHEA

Definition of diarrhea :

Diarrhea has been defined as an increase in frequency, fluidity, or volume of bawel movements relative to the usual habits of each individual [Philips, 1975].

Diarrhea may be defined as to the passing of liquid watery stool. These liquid stools are usually passed more than three times in a day, however, it is the consistency rather than the number of stools that is the more important feature.

Frequent passage of formed stools cannot be considered as diarrhea.

One must differentiate whether a pathological disease exists or a variation of normal [ W.H.O., 1984].

The term gastroenteritis, though is better avoided, is the clinical syndrome of acute diarrhea with or without vomiting that may be accompanied by fever and constitutional disturbances and is due to infection in the gut.

In Egypt, infective diarrhea is responsible for more than 50% of deaths in the first few years of life. In 1983, it is estimated that the yearly number of deaths from infantile diarrhea is 150,000 in our country [ M.El-Mougi 1984].

Predisposing factors :

.. Season : Summer provides optimal environmental temperature for spread of organisms together with lot of flies.

.. Type of feeding : infective diarrhea is more frequent in the formula fed due to dirty feed preparation. Moreover, the intestine of a breast fed infant is mainly populated by lactobacillus acidophilus while that of formula fed is mainly inhabited by E.coli, thus favouring the infection with pathogenic E. coli. further, breast milk contains lactoferin which inhibits the growths of E. coli.

.. Nutritional state : repeated diarrheal attacks are frequent among the malnourished. The serious mistake of prolonged and repeated starvation therapy further compromises the nutritional state. Not only does malnutrition predispose to diarrheal disease, but also

the mortality from the latter is much higher in malnourished children [M. El-Mougi, 1984].

Diarrheal disease is much commoner after the age of 9 months. This is largely because most Egyptian infants are breast-fed before that age. Although the beneficial effect of breast feeding in the prevention of diarrhea is mainly due lack of exposure to contaminants, recent studies have revealed that breast milk, at least during the early period of loctation, contains many protective substances against intestinal infection [Mamdough Gabr, 1983].

Epidemiologic studies in Egypt showed that approximately four episodes of acute diarrhea occur per child 6-36 months of age.

All ages whether males or females are susceptible to diarrhea. However, it affects young children more because children are more likely to have malnutrition than any other age group and they lack resistance. Moreover they are more liable to dehydration. Their liability to dehydration is due to the greater proportionate insensible loss of water in children compared to adults, and their inability to fetch

their own fluids. So if mothers refrain from giving fluids during diarrhea, they accelerates the dehydration process.

Diarrhea indeed prevails where ignorance, poverty poor personal hygiene, poor food preperation and poor housing are present. So, diarrhea is more prevalent in developing countreis, where the disease affects more rural areas and slum dwellers. It usually attacks the poor sectors of the country and cities [Nahid M. Kamel 1983].

Research done in Assiut suggest several basic intervention. The study shows that diarrhea is less frequent if:

.. An infants is breast-fed.
.. The family has an indoor source of water.
.. The family is small.
.. The child has not yet been weaned.
.. The father is better-off

[ Farouk Hassanein, 1984].