RESULTS

By examining the stool specimens on Behring ELISA processor the rotavirus antigen was detected in 30 from 71 diarrhoea specimens and in 2 from 24 non-diarrhoea specimens of control cases.

- The incidence of rotavirus among different age groups revealed that infection is more common between 6-12 months more and below one year mostly as shown in table (1).

- The incidence of rotavirus among different sex revealed that males are more affected than females as shown in table (2).

- The incidence of rotavirus according to feeding pattern revealed that formula feeding and mixed feeding infants are more subjected to rotavirus infection than Breast feeding infants as shown in table (3).

- The clinical data of diarrhoeal cases with rotavirus in their stool revealed that diarrhoea is most commonly accompanied by vomiting and sometimes fever as shown in table (4).

- The incidence of rotavirus according to duration of illness revealed that rotavirus appear in stool in the 1st 5 days of diarrhoea but to less extent from 5-10 days and not appear in stool after 10 days as shown in table (5).

- The incidence of rotavirus according to cevelization level revealed that there is increase in the rate of rotavirus infection in rural areas than cevelised one as shown in table (6).

Table (1)

Age group	Cases			Control		
	Total No.	+ve cases	%	Total No.	+ve cases	%
Below 1 year	57	25	43.8			
1-6 months	27	11	40.7			
6-12 months	30	14	46.6			
Above 1 year	14	5	35.7			
12-18 months	11	5	45.4			

Table (2)

Sex	Cases			Control		
	Total No.	+ve cases	%	Total No.	+ve cases	%
Males	43	20	46.5			
Females	27	10	37.0	8	2	25%

Table (3)

Type of feeding	Cases			Control		
	Total No.	+ve cases	%	Total No.	+ve cases	%
Breast feeding only	34	12	35.2			
Mixed feeding	17	10	58.8	13	1	7.6
No breast feeding	20	8	40.0	11	1	9.0

Table (4)

Clinical data	Cases		
	Total No.	+ve cases	%
Diarrhoea only	15	5	33.3
Diarrhoea & vomiting	56	25	44.6
Diarrhoea & fever	30	13	43.3

Table (5)

Duration of illness	Cases		
	Total No.	+ve cases	%
1-5 days	51	22	43.1
5-10 days	19	8	42.1
>10 days	1	-	

Table (6)

Risedence	Cases		
	Total No.	+ve cases	%
Cevelised areas	16	4	25.0
Rural areas	55	26	47.2

DISCUSSION

In developing countreis, acute diarrhoeal disease are considered to be among the most important of public health problems. The aetiology of diarrhoea among children in Egypt is a complex problem resulting from the interaction of microbial, environmental and host factors (Mourad et al., 1977).

The problem of viral diarrhoea is particularly important since evidence has indicated that viruses are responsible for the majority of diarrhoeal episodes in infants and young children in both developed and developing countries and may cause considerable malnutrition due to associated malabsorption (WHO, 1980).

The aim of this work was to study the causal association of rotavirus with random sample of infantile diarrhoea in Egypt (Benha City) to follow world wide interest in rotavirus which accepted to be the most important cause of infantile diarrhoea (Steinhoff, 1980), for this purpose, the stool specimens from 95 Egyptian infants under 2 years of age from benha city have been examined for the presence of rotavirus including 71 babies with watery diarrhoea. The

control group were 24 babies with no diarrhoea were collected
in two weeks before the stool specimes examination.

Stool specimens were examined by ELISA for detection
of rotavirus in stools.

Rotavirus positive cases:

Rotavirus was detected in 42.2% of diarrhoeal cases
but in only 8.3% of control group. This rate is within
the range reported in other Egyptian studies which varied
from 3% to 44% in rotavirus +ve cases. For example in a
study of the role of rotavirus in acute winter diarrhoea
in Alexandria, Podgore et al. (1982) examined 43 stool spe-
cimens from infants with acute diarrhoea during only the
months of December and January 1981 using ELISA (Rotazyme)
they found rotavirus antigen in 44% of their cases. While
Salam et al. (1983) in the same city examined 348 stool
specimens of cases of diarrhoea below five years of age
all over one year (1981) to determine the frequency of
rotavirus diarrhoea using(ELISA). They detect the virus
in 29% of cases. Massoud et al. (1983) examined 400 cases
of diarrhoea below two years of age attending oral rehyd-
ration centre in Alexandria and found rotavirus in 19.5%

of cases using polyclonal ELISA kits.

In Egyptian rural area Massoud et al. (1985), examined 50 stool specimens of infants with diarrhoea below two years of age to study the prevelance of rotavirus among rural children during winter months using ELISA. They detect (14% of cases to be positive) while Zaki et al. (1985) found 3% in a family based study in eight rural village and 34% of 529 hospitalized diarrhoeal cases examined during a study conducted to investigate the aetiology of diarrhoea, in Cairo University Paediatric Hospital.

Study of collected date on 30 cases of diarrhoea excreting rotavirus in their stool specimens revealed the following:

Age distribution:

In the present study, rotavirus was detected in stool specimens of cases aged from 6-12 months [(46.6%) of 30 rotavirus positive cases] more frequently than in cases of 1-6 months [(40.7%) of 30 rotavirus positive cases] and those are more frequently than 12-18 months [(45.4%) of 30 rotavirus positive cases].

This agrees with report of Massoud et al. (1983) in Alexandria, also. Similar finding reported by Panicker et al. (1982) in India, Al-Nakib et al. (1980) in Kuwait and Steele et al. (1986) in South Africa.

Sex:

Rotavirus was encountered more in males (46.5%) 30 rotavirus positive cases), than in females (37%) 30 rotavirus positive cases. This finding was also reported by Shepherd et al. (1975) and Gurwith et al. (1981). Massoud et al. (1985) found no differences in the incidence of rotavirus between sexes.

Feeding:

Rotavirus was encountered more in formula feeding infants (40%) than breast feeding (35.2%). Similar finding reported by Massoud et al. (1985) in Alexandria, Egypt.

Clinical symptoms:

The most common clinical symptoms in rotavirus positive cases in the present study were diarrhoea associated with vomiting (44.6% of 30 rotavirus positive cases) but some

also develop fever this was also reported by Massoud et al.
(1983) in Alexandria, Zaki et al. (1985) in Egyptian rural
villages, Shepherd et al. (1975); Rodriguez et al. (1977)
and Steele et al. (1986) in South Africa.

Seasonal distribution:

For this study, stool specimens from cases of diarrhoea
were collected throughout the period from May 1987 to Septe-
mber 1987, to demonstrate seasonal variation the samples
must be collected all over the year. However, Podgore et
al. (1982) in Allexandria; Massoud et'al. (1983) in Alexand-
ria and Zaki et al. (1985) in Cairo reported that rotavirus
was detected more frequently in cooler months and this
agrees with most reports from temperate countries with
similar climate. Steele et al. (1986) in South Africa re-
ported that rotavirus was detected more in autumn. However,
in some tropical areas there is no seasonal variation of
rotavirus disease (Heiber et al. 1978).

Rotavirus in non-diarrhoeal group:

Rotavirus was detected in the present study in two out
of 24 non-diarrhoeal control group (8.2). But in Alexandria
Egypt, Podgore et al. (1982) reported that rotavirus was not

detected in stool specimen from their ten non-diarrhoeal in-
fants. Rotavirus was found by Engleberg et al. (1982) in
only two (17%) out of 12 control infants in comparison with
11 (58%) out of 19 infantile diarrhoea, Hull et al. (1982)
detect it in 23% of cases and in 1% of controls and Champsaur
et al. (1984) detected that 16% of infants which not diarr-
hoeic and develop no seriological response were virus carr-
iers.

This infant could be considered as carrier of rotavirus
or as a symptomatic case of rotavirus or rotavirus could
preceede the onset of clinical diarrhoea. This could con-
firms if baby had been follow up with consecutive stool
specimens being examined for any change in the frequency
or consistency additionally testing for serum samples for
arise in the level of antirotavirus antibodies would have
helped.

To conclude, the forgoing presentation could indicate
a significant association between rotavirus excretion and
diarrhoea illness in the infants studied. The difference
between rate of detection of rotavirus in diarrhoeal cases
(42.2%) and that in the nondiarrhoeal control cases (8.3)
is suggestive for the pathogenic role of rotavirus in infan-
tile diarrhoea.

Conclusion:

This study was done on 95 stool specimens from Egyptian infants under 2 years of age (from benha city and its rural areas).

The need to collect stool specimens in order to do polyclonal ELISA for testing rotavirus antigen. Present study performed in May, June, Jule, August, and September the samples collected from infants under 2 years of age of cases of diarrhoea attending the dehydration centre in Benha University Hospital and from Paediatric Department from patients treated by intravenous rehydrating measures as the dehydration is a complication of diarrhoea and vomiting in the same hospital.

This study could be considered as preliminary study for detection of excreted rotavirus in stool specimens and its association with diarrhoea in infants.

This study revealed that exposure to rotavirus infection occur at an early age in Egypt producing a symptomatic or symptomatic infection the symptomatic infection in infants below one year and who did not totally rely on breast

feeding was more this could be attributed to absence of
immunity against virus taken from mother in formula feed-
ing infants due to introduction of the virus with weaning
food.

For diagnosis of rotavirus diarrhoea it is important
to collect the stools as early as possible after the onset
of diarrhoea.

To detect rotavirus, ELISA could be used in Egypt, it
was easier and need less experience than EM but the problem
in the cost entailled in the supply of reagents.