Summary and conclusion

The present study was carried out on 300 diarrheic patients attending the outpatient clinics and inpatient sections of Benha University Hospital, Benha Teaching Hospital and Benha Specialized pediatric Hospital.

The tested group of patients was classified according to:

- Sex: the studied groups consisted of 149 males and 151 females.
- Immune status: the studied group consisted of 109 immunocompromised patients and 191 immunocompetent patients.
- Age groups (in completed years):

Infants	(0-5) years
Children	(6-12) years
Teenagers	(13-19) years
Adults	(20-50) years
Elderly	(≥51) years

A descriptive study of the occurrence and prevalence of intestinal microsporidia was carried out from January 2009 to December 2009. Patients biodata, such as age, gender, immune status and presenting symptoms (including reasons for stool examination and final diagnosis), were collected from laboratory request forms , from patient medical records and by asking the patients themselves about their medical history.

The collected stool samples were carried to the laboratory at the same day of collection. The collected samples were subjected to the following procedure:

1. Macroscopic examination.
2. Concentration of the collected samples by using ethyl acetate concentration method.
3. Modified trichrome stained smears.
4. PCR technique for confirmation and identification of microsporidia species in microsporidia-positive samples.
5. In microsporidia positive cases, associated parasitic infections were detected by direct smears and Acid-fast trichrome stained smears.

According to the results of the present study, it could be concluded that:

1) Overall, microsporidia were detected by light microscopy in 16.3% of the examined cases.

2) Statistically, there was no significant difference between genders concerning intestinal microsporidia.

3) Statistically, there was no significant difference between clinical types of diarrhea among immunocompetent and immunocompromised microsporidia -positive cases.

4) *Enterocytozoon bieneusi* and *Encephalitozoon intestinalis* were detected in 89% and 34% of microsporidia-positive patients, respectively.

5) As regard the immune status of the examined patients, the rate of infection was higher among immunocompromised patients (27.5%) than immunocompetent patients (9.9%).

6) With respect to the age of examined patients, the rate of infection was higher among cases aged between 0-6 years old (25.7%).

7) With respect to the source of water supply of examined patients, the presence of microsporidia was significantly higher among population used underground water (23.6%) than those used tap water (11.8%).

8) As regards the residence of the examined patients, the presence of microsporidia was significantly more common among rural population (19.2%) than urban population (12%).

9) As regards the effect of seasonal variation, the highest rate of infection with microsporidia (35.5%) was recorded in summer months.

10) Statistically, the risk groups are:

	Rate of infection
♦ Cases aged between 6-11 years old.	25.7%
♦ Cases aged ≥51 years old.	23.3%
♦ Cases suffer from chronic liver diseases.	33.3%
♦ Cases suffer from malignancies.	38.5%