

THE PREVALENCE OF *GIARDIA DUODENALIS* AND *ENTAMOEBIA HISTOLYTICA* IN AL-SIDDER CITY, BAGHDAD, IRAQ

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ABSTRACT : *Giardia duodenalis* and *Entamoeba histolytica* are one of most important protozoan parasites causing diarrhea in Baghdad. This study done through three years (2013, 2014, 2015). Total of 7188 stool samples examined, 208 were infected with *G. duodenalis* (2.89%) and 1176 were infected with *E. histolytica* (16.36%) in patients attended Primary Health Care Center (PHCC) and Al-Imam Ali General Hospital (AAGH) in Al-Sidder city. These two-parasite found in all months, all ages and in both genders, but the prevalence of giardiasis was higher ($P<0.05$) in PHCC than AAGH (5.15% and 0.87%, respectively). Also, giardiasis was higher in PHCC than AAGH (5.15% and 0.87%, respectively) but without significant differences. According to the age, prevalence of *Giardia* was high (12.92%) among category 1-4 years in PHCC, while high prevalence of *Giardia* (1.75%) in AAGH was among category 15-44 years. In concern to amoebiasis infection, the prevalence of the parasite was high among category 15-44 years in both AAGH and PHCC (31.15% and 27.09%, respectively). Females shows high infection with giardiasis and amoebiasis than males in both PHCC and AAGH. According to seasons of year the infection with *G. duodenalis* increased in both PHCC and AAGH in Autumn and winter but decreased in Summer. In other hand, the infection with *E. histolytica* increased in both PHCC and AAGH in summer and decreased in winter.

Key words : Prevalence, *Giardia duodenalis*, *Entamoeba histolytica*, Baghdad.

INTRODUCTION

One of important causes of morbidity and mortality in the developing countries especially in the children is diarrheal disease (Kosek *et al*, 2003; Boschi-Pinto *et al*, 2008). In Iraq, the second cause of mortality in children is due to diarrheal disease which leads to severe dehydration and death (Al-Kaisi and Al-Khoja, 2006). Giardiasis and amoebiasis, protozoan parasites caused by *Giardia duodenalis* and *Entamoeba histolytica* are common diarrheal diseases in both children and adults. The clinical manifestation characterized by diarrhea (with blood especially in infection with *Entamoeba histolytica*), vomiting, nausea, anemia, epigastric, abdominal pain and weight loss (WHO, 1987).

Recently, *G. duodenalis* and *E. histolytica* have been become very important because of their increasing association with contaminated water and food (Jaralah, 2016; Guirges and Al-Mofti, 2005). In developing nations such as in Asia and Africa, about two hundred million human have infected by giardiasis each year and the disease more incidence in children less than five years old (Shakkoury and Wendy, 2005). The prevalence of stool positivity may range from 1% to 40% depending on the geographic area and age group surveyed, its higher

in poor sanitation areas (Benenson, 1995). In developed countries, infection rates vary from 2% to 5% (Farthing, 1996). The prevalence of infection with *E. histolytica* is approximately 10% through the world and 50 millions of people infection were recorded yearly (Torl and Weiss, 1997). High annual death, reach to 100,000 is due to infection with *E. histolytica* in the worldwide (Stanley, 2003). In Iraq, giardiasis and amoebiasis are endemic diseases and many researcher recorded different prevalence of infection with *E. histolytica* and *G. duodenalis*. The lowest incidences of giardiasis 1.77% and 2.55% were recorded in Baghdad (Ibrahim, 2012; Sachit, 2016), while highest incidence 38.5% was found in Dohuk (Al-Saeed and Issa, 2006) and 26.92% in Baghdad (Al-Khayat *et al*, 2015). In the recent years, all studies performed in Iraq recorded the infection rate of amoebiasis more than giardiasis. The prevalence of *E. histolytica* to *G. duodenalis*, in Baghdad was 9.8% to 1.77% (Ibrahim, 2012). In the holy city of Karbala, the prevalence of infection with *E. histolytica* was 22.34% while *G. duodenalis* was 4.21% (Karim, 2018).

The aim of this study is to focusing on the prevalence of giardiasis and amoebiasis in Al-Sidder city, Baghdad in recent years and study the relationship between