

study for intestinal parasites among children in AL-mahmoudyia area / Baghdad province

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Abstract :

This study was carried out to find the infection with intestinal protozoa such as (*Entamoeba histolytica* , *Giardia lamblia*) and *Enterobius vermicularis* in children as diarrhea causative in AL-mahmoudyia public hospital for a period from the beginning of June 2010 to the end of August 2010 .out of (332) stool samples there were (296) positive sample which represented (57.8%) these sample were examined by using direct normal saline method , Iodin solution and sedimentation method . the percentage of infection with intestinal parasite as followed *Entamoeba histolytica* (41%) , *Giardia lamblia* (34%) ,and *Enterobius vermicularis* (25%) . These results considered high in comparison with other studies carried out in Iraq .The infection percentage in male was (57%) which in female was (43%) .July was the highest month in comparison with may , June –respectively .

Introduction :

Infection with intestinal parasites considered a big problem facing children world wide and causing a lot of death especially among infants [1] . In addition to intestinal parasites , there were many reasons causing diarrhea such as bacteria ,and other microbial agents [2]. Intestine parasites infection causing a lot of health problem such as anemia ,mala absorption a lack ability to work [3]. Infection with intestinal parasites regard as the most important causative agent for diarrhea [4]. Diarrhea can be classified according to the mechanism of pathogenesis of the intestinal parasites into exudate diarrhea which was caused by *Entamoeba histolytica* due to the response of host to parasite presence which lead to pass a lot of protein and bloody mucus to intestine [5] . The other type of diarrhea is secretory which was due to inducing of mucus layer for secretion of liquids in high and abnormal rate [6]. *Entamoeba histolytica* considered the main causative agent for diarrhea in most crowded area which lack of health sanitation treatment [7]. the second intestinal parasite which played a role for diarrhea symptoms was *Giardia lamblia* which infected a large number of children and causing mala absorption and losing weight [8]. Abdominal pain, server diarrhea, and some time vomiting are signs for *Giardia lamblia* infection [9]. Infection with intestinal parasites came either by direct contact or consuming contaminated water and food with human sewage [10]. In order to control upon diarrhea,and it's multi causative agent and to give actual data about infection with intestinal parasites in this city, this study was carried out.

materials & method :

1- Sample collection: stools samples were collected after the primary clinical diagnosis by (doctors) for those who expected for having intestinal parasites infection. These sample were collection in a clean sterilized containers, then labeled with name, age, sex for each children who attended Al-mahmoudyia public hospital .[3][15].

2- Laboratory examination: these stool samples were examined after noticing the color, presence of blood, mucous, and lipid material, then examined by using high power lense of the microscope after prepared direct smear with iodine solution. To check for cyst or Trophozite, Sedementation method also used [14,5].

Results:

The study was carried out during the period from the beginning of June 2010 until the end August 2010. In order to know the range, prevalence of intestinal parasites as a causative for diarrhea in children with age (6-12) years old. Those children who attended Al-mahmoudiya public hospital out of 332 samples were examined, there were (296) positive cases (192 males & 104 females) which represented (57.8%).

Table (1) showed the number of infected child with *Entamoeba histolytica* 57 (41%) for *Giardia lamblia* there were 38 (34%) and for *Enterobius vermicularis* 12 (25%) .

Table (2) showed the percentage of infection with intestinal parasites according to sex for males it was 192 (65%) and for females 104 (35%) .

Table (2) showed infected male with *Entamoeba histolytica* was (55%) and for female (44%) for *Giardia lamblia* it was (39%) for males & (40%) for females and for *Enterobius vermicularis* it was (6%) for male & female it was (16%) .

Table (3) showed the percentage of intestinal parasites according to the months of the study. July was the highest infection rate (41%) followed by August, and June was (38%) , (21%) respectively .

Table (4) showed the percentage of infection according to the age of children. The group with age (8-10)years old represented the highest percentage 42% followed by group with age (10-12) years old with (34%) and group with age (6-8) years with (24%) .

Discussion:

It was clear from the results obtained from this study that percentage of infection with different intestinal parasites was (57.8%)(296) positive out of 332 samples were examined . This percentage considered close to result obtained by Khadim;1986 (50.60%) in Baghdad [12] , Abad AL Hussein 1994 (55.70%) in koute [16]. The result of this study consider high in comparison with other results due to incomplete treatment, lack of innutrition, and lack of immunologic susceptibility. Result obtained by AL-Khazragy,1998 in Baghdad (34.20%) ,[8] . Rhadi 1994 with (35.30%) in Basrah [13]. AL-Dulami, 1996 (37.20%) in Al- Anbar province [9] .AL-Najar , 1999 in Baghdad (49.80%) [11] . These difference in the results may be due to the difference in economical and social level for the people in different cities , also due to the time and the method for examination in which these studies carried out . It was clearly obvious from the results of this study there was an agreement in related to infection rate according to sex and age with AL-Hanin,2. and mukhlis,5 1982 [10]. While there was disagreement with AL-mosa 2002 [5]. These difference may be due to the difference in time & place where studies were carried out . This study showed that diarrhea caused intestinal parasite was high in July (41%) followed by August June (38%,21%) respectively there was an agreement with [18] this high rate of infection during July , August ,June (summer time) with high temperature as these parasite more likely hot (tropical area) than cold one [14] . In

related to the age the results showed that group age (8-10) was more likely to infection with the intestinal parasites this may be due to social and economical level as well as living in crowded area , In this age childs likely to play in groups which enhance the chance for high infection rate .

Table (1) : the percentage of infection with intestinal parasites .

	Name of parasite	Number of examine	Number of infection	Percentage %
1	<i>Entamoeba histolytica</i>	138	57	41%
2	<i>Giardia lamblia</i>	112	38	34%
3	<i>Enterobius vermicularis</i>	46	12	25%
Total		296	107	100%

Table(2): the percentage of infection with intestinal parasites according to the sex .

	Name of parasite	Male			Female		
		Examined	Infection	%	Examined	infection	%
1	<i>Entamoeba histolytica</i>	71	31	55%	45	20	44%
2	<i>Giardia lamblia</i>	67	26	39%	40	16	40%
4	<i>Enterobius vermicularis</i>	54	3	6%	19	3	16%
Total		192	60	100%	104	39	100%

Table(3): the percentage of intestinal parasites according to month of study.

Month	Sample examined	Infection number	Percentage
June	35	8	21%
July	109	46	41%
August	152	59	38%
Total	296	113	100%

Table (4): the percentage of infection of intestinal parasites according to the age of child.

Age (year)	Examined	Infected	%
(6-8) year	66	17	24%
(8-10) year	171	75	42%
(10-12) year	59	113	34%
Total	296	113	100%

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الخلاصة: أجريت هذه الدراسة للتحري عن حالات الإسهال الناجمة عن الإصابة بالأوالي المعوية الحادة للنسيج *Entamoeba histolytica* والجارديا الامبليا *Giardia lamblia* والديدان الدبوسية *Enterobius vermicularis* عند الأطفال المراجعين إلى مستشفى المحمودية العام للفترة من حزيران 2010 لغاية نهاية اب 2010 . اذ تم فحص 332 نموذج عينة براز منها (296) موجبة أي بنسبة الإصابة (57.8%) باستخدام طريقة المحلول الفسلجي المباشر ومحلول اليود وطريقة التصريف وأظهرت النتائج إن نسبة الإصابة بالاولي المعوية الحالة للنسيج (41%) *Entamoeba histolytica* وبالنسبة للجارديا الامبليا (34%) *Giardia lamblia*. فيما كانت النسبة للدودة الدبوسية (25%) *Enterobius vermicurlris* وقد وجد إن نسبة الإصابة مرتفعة مقارنة مع بحوث أخرى أجريت في مناطق مختلفة من العراق. كانت نسبة إصابة الذكور %57 أكبر منها في الإناث %43 وكانت نسبة الإصابة في شهر تموز هي الأعلى مقارنة لشهري حزيران وآب على التوالي.