

The Prevalence of Some Intestinal Parasites in Al-Ubaidy Region/Baghdad Province

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Abstract :-

This study had investigated the prevalence of human intestinal parasites in Al-ubaidy region 722 stool sample had been collected from people of different age groups and with different educational levels. The pathogenic parasites detected by laboratory examination in this study were *Giardia lamblia*, *Entamoeba histolytica* with prevalence rate 3.6%, 1.7% respectively. The higher rates were among primary school children 3.4%, 0.7% in comparison with higher education level students 2.9%, 0.7% respectively, *Enterobius vermicularis* worms were detected with prevalence rate of 7.9%, the higher rates were among children between 6-11 years than other age groups.

Introduction:

Parasitic protozoan infections of the intestine cause a wide variety of clinical syndromes which ranges from asymptomatic carrier states to severe disease associated with pathological lesions in the gastrointestinal tract or other organs. *Entamoeba histolytica* and *Giardia lamblia* belong to this group and cause important and clinically well-defined pathologic lesions (7). Infection with any of the intestinal protozoa is usually acquired orally through fecal contamination or water or food. As a group, they are more endemic in countries with unsanitary water supply. *Giardia lamblia* has been recognized as a major cause of epidemics of waterborne diarrhea in North America (12).

Infection with *Enterobius vermicularis* occurs in all areas of the world. Enterobiasis or pin worm infection affects individuals of all ages but is especially common in children, it occurs in all socioeconomic groups (15).

Living in congested districts, institutions, or families with pinworm infection predispose to enterobiasis. The infection is essentially harmless and causes social more than medical problems in affected children and their families (14)

Human infection with intestinal Parasites is a common health problem in developing countries, particularly in rural areas.

The present study describes the Prevalence of intestinal parasites in Al-ubaidy city and investigates their relationship to socioenvironmental factors.

Al-ubaidy city is an urban community in the north of Baghdad, it is a crowded district and the sewage system in this city, at the time this study was performed, is an open system for this reason it was selected for the study.

Materials and Methods:

After performing clinical examination all the cases expected to have parasitic infection were requested to give stool samples. Specimens were collected and then sent to the laboratory to be examined by general stool examination to identify ova, cyst or trophozoites by taking small amount of stool and mixing it with normal saline or lugol's iodine solution. Statistical analysis included cross-tabulation of the interest, and the statistical significance of observed differences in the prevalence was tested by X² test.

Results:

Only *Giardia lamblia*, *Entamoeba histolytica* and *Enterobius vermicularis* were detected in the community under study. The prevalence rate shown in this section was computed by dividing the number of positive cases for a particular parasite by the number of population examined in each specific category and multiplied by 100. Table 1 -show the prevalence of intestinal parasites among different age groups.

The total number of patients examined was 722. The prevalence rate of *Giardia Lamblia*, *E. histolytica* and *Enterobius vermicularis* were 3.6% (26 +ve cases), 1.7 % (12 +ve cases) and 7.9% (57 +ve cases) respectively and the overall prevalence of parasites was 13.2% (95+ve cases out of 722 examined).

The prevalence of parasites decreases consistently with the increase in the level of education (Table-2-). The difference was statistically significant ($p < 0.05$), when X² test was applied for the two groups. The prevalence rates of all parasites combined decreases reversely proportional with different age groups of the population under this study as shown in table -1- . The difference was statistically significant ($p < 0.05$). Giardiasis was more among 12-17 years, amoebiasis and enterobiasis were more encountered among children 6-11 years of age.

Discussion :-

The overall prevalence rates of parasitic infection in this study were higher in school - age children and less in educated families (1). The *Giardia lamblia* overall prevalence of 3.6% and *E. histolytica* 1.7% in this study was lower than what was reported by other investigators (11), Hashim et al 1996, reported 15% and 14.7% respectively in Al-Hilla city (9) this differences could be due to the fact that some people in Al-Hilla city specially those at the margins, take their water supply directly from the river on need (9). The high levels of pathogenic infection in this study may indicate exposure to potentially infectious. The existence of *Enterobius vermicularis* at high levels (7.9%) may reflect the level of environmental sanitation. Source of drinking water is liable for cross - contamination by human excreta secondary to contamination of water supplies with raw sewage coming from open sewage system in this city which eventually leads to contamination of the food supply if not treated well (8), also less educated people may have bad personal habits which may enhance oral fecal contamination. Giardiasis has been reported in the USA secondary to contamination of water supply with sewage (12). We recommend further large scale studies both epidemiologically and bacteriological to confirm

and test these results, efforts to educate the public and to provide safe public water supplies should be made

Table-1-Prevalence of intestinal parasites among different age groups

Age -groups (Years)	NO. examined		<i>G. lamblia</i> % +		<i>E. histolytica</i> %+		<i>Entrob ius vermicu laris.</i> %		Total %+	
	No	%	No+v e	%	No +ve	%	N o	%	No +v	%
1-5	116	16.1	4	3.4	5	4.3	10	8.6	19	16.4— 16.4
6-11	263	36.4	10	3.8	4	1.5	29	11.0	43	11.0
12-17	214	29.6	9	4.2	1	0.5	11	5.1	21	9.8
18 and above	129	17.9	3	2.3	2	6.1	7	5.4	12	9.3
Total	722	100	26	3.6	12	1.7	57	7.9	95	13.2

Table-2- Prevalence of intestinal parasites depending on education of population examined

Education levels	population examined		<i>G. lamblia</i> %+		<i>E. histolytica</i>		<i>Entrob ius vermic ularis</i> %		Total	
	No	%	No	%	No	%	No +v	%	No +ve	%
University.	98	13.8	3	3.1	-	-	6	6	9	9.2
High school.	136	18.8	4	2.9	1	0	7	5	12	8.8
Primary school	253	35.0	11	4.4	6	2	19	7	36	14.
Not educated	253	32.6	8	3.4	5	2	25	1	38	11.
Total	722	100	26	3.6	1	1	57	7	95	13.

References:

- 1- Hamer DH :(1997) IDCP Guidelines , Infectious diarrhea . Infectious diseases practice. ; 6 :68 -81 , 141 -152 , .
- 2- Maguire JH. Keystone JS:(1993). Parasitic diseases. Infectious diseases Clin. 7:467-738
- 3- RoseG; (1995). Drugs for Parasitic Infections. Med lett Drugs Ther. 37:99-103
- 4- R. Brian Haynes, (2005). Clinical Epidemiology; 14;22-38.
- 5- Warren Levinson; (1998). Medical microbiology and immunology, 207;153-156.
- 6- penny Webb , (2005). Chris Bain and Sandi Perozzo;Essential Epidemiology Cambridge Un. Press 13; 824-826.
- 7- Nicky R . cuffed Brian R . walker Davidson's principle and practice of, 20th. Ed . 2006
- 8- Braidech, Thomas and Richard.(1985). Am. Works J, vol.2, 48-51.
- 9- حمزة، هاشم:(1996). انتشار الطفيليات المعوية بين طلبة المدارس الابتدائية لمدينة الحلة، مجلة التقني:50، 17:-20.
- 10- جواد، كاظم. (1996) انتشار الطفيليات المرضية دون سن الثامنة في قضاء الدور، مجلة التقني:18:30-21.
- 11- حسين، عبد الرزاق (1992): انتشار الطفيليات المعوية بين سكان محافظة واسط، مجلة التقني، السنة السابعة: 12:37
- 12- Groun GF. (1999). water born giardiasis in the USA: a review. Am J Public health 69:817-821.
- 13- Taubes G: (1995). Epidemiology faces its limits. Science: 269:164-169.
- 14- MacMahon B: (1991). Multiple factors in the causations of Environmentally Induced Disease. New York, Academic Press, 43; 619-629.
- 15- Boyer A, Berdknikoff IK: (1982). Pinworm infestation in children: the problem and its management, Can Med Assoc. 60- 86.

مدى انتشار بعض طفيليات الامعاء في مدينة العبيدي /محافظة بغداد

اديبه يوسف

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الخلاصة :-

اجريت هذه الدراسة للتحري عن انتشار طفيليات الامعاء في مدينة العبيدي. تم اخذ 722 عينة براز من اشخاص من مختلف الاعمار و المستوى التعليمي. أظهر الفحص المختبري ان اكثر انواع الاخماج انتشارا هي الجياردية لامبليا و المتحولة الحالة للنسيج وبنسبة انتشار 3.6% و 1.7% على التوالي، وكانت نسبة الاخماج اكثر بين تلاميذ المدارس الابتدائية 3.4% و 2.1% بالمقارنة مع طلاب الجامعات 2.9% و 0.7%. وتم التعرف على الدودة الدبوسية و بنسبة خمج 7.9% و كانت نسبة الخمج بين الاطفال من عمر 6-11 اكثر من بقية الفئات العمرية.