

## Prevalence of *Entamoeba gingivalis* by using direct wet mount among students in college of Nursing / University of Kirkuk.

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### Abstract:-

The current study carried out to reveal the prevalence of *Entamoeba gingivalis* among students of college of Nursing/ University of Kirkuk for period from April to June 2016, this study included (135) students (45 males and 90 females) using direct wet mount, their aged between (18- 22) years old. The result showed that the prevalence of *Entamoeba gingivalis* among students was 63% (85 of 135), According to the sex, the study showed that the prevalence of *Entamoeba gingivalis* among males was 82% (37 of 45) while among females was 53% (48 of 90) , According to the smoking the result showed that the incidence of parasite among smokers was 60 % (27 of 45) while among non – smokers was 22% (10 of 45). Regarding to the residence place of students, The study showed that the prevalence of *Entamoeba gingivalis* among students whom lived in university residence was 59% ( 50 of 85) while among students whom lived in their home was 41% (35 of 85) and according to the number of brushing per day the study showed that the prevalence of *Entamoeba gingivalis* among students whom brushed their teeth twice daily and after each meal was lower than students whom brushing their teeth once daily.

### Introduction:-

*Entamoeba gingivalis* was the first ameba of human to be described. It is present in all populations, resides in the mouth, Some authors consider *Entamoeba gingivalis* as commensal and others think it is a pathogenic protozoan (1). *Entamoeba gingivalis* lives on the surface of teeth and gums , in gingival pockets near the base of teeth and some times in the crypts of tonsils(2). The life cycle includes trophozoites only, and cyst does not occur, the trophozoites are (10 to 35  $\mu$ m) in size and are quite transparent in life (3). They move rather quickly by numerous blunt pseudopodia, like *Entamoeba histolytica* the spherical nucleus has small central endosome, food vacuoles are numerous and contain cellular debris , bacteria and occasionally blood cells. *Entamoeba gingivalis* is the only amoeba that ingest white blood cells, this distinguishing characteristic is very important it to differentiate between *Entamoeba gingivalis* and *Entamoeba histolytica*(4). Transmission must be direct from one person to another by kissing , airborne droplets or by sharing eating utensils .Up to 95% of persons with unhygienic mouths infected and up to 50% of persons with healthy mouths may harbor this ameba (5). The study aimed to show the prevalence of *Entamoeba gingivalis* among students of college of nursing in Kirkuk university by direct wet mount, also to reveal the relationship between the incidence of parasite and preservation of oral cavity hygiene.

### Materials and methods:-

The current study included (135) students (45 males and 90 females) from college of Nursing/ University of Kirkuk to show the prevalence of *Entamoeba gingivalis* from April to June 2016, their aged between (18- 22) years old. The specimen is taken by using sterile swab and scraping the surface of teeth and around gingival area, also from caries if viewing during sampling, then the swab is indulges in sterile tubes containing 1 ml of normal saline , the smear was performed by direct wet mount and examined using light microscope to detect occurrence of *Entamoeba gingivalis* trophozoites (6).

### Results and discussion:-

The current study involved 135 students of both sexes( 45 males and 90 females), the results showed that the prevalence of *Entamoeba gingivalis* among students was 63% (85 of 135) , This result is agree with (7) and (8). The high rate of prevalence is related with oral cavity and especially among students with periodontal diseases, In addition the study done during mid- course and final examination period when the students may be neglecting their oral hygiene and because their examination, anxiety which has a complicated relationship with the immune system activity and weaken it (9) . This reason lead to enhance occurrence of *Entamoeba gingivalis* among students with a lowered body immunity(10) Table( 1).

Table (1) Prevalence of *Entamoeba gingivalis* among students in college of Nursing/University of Kirkuk.

Parasite	Examined samples	+ ve samples	%	-ve samples	%
<i>Entamoeba gingivalis</i>	135	85	63	50	37

According to the sex, the study showed that the prevalence of *Entamoeba gingivalis* among males was 82.2% (37 Of 45) while among females was 53.3%(48 of 90). This result is agree with (11) and disagree with (12) , and other study which done by (13) found the rate of infection was equal , so that mean both sexes are infected with this parasite (Table 2).

Table (2) Prevalence of *Entamoeba gingivalis* among students in college of Nursing/ University of Kirkuk according to sex

Sex	Examined samples	Positive samples	%
Male	45	37	82.2
Female	90	48	53.3
Total	135	85	63

According to the smoking among students, the study showed that the prevalence of *Entamoeba gingivalis* among smokers is higher than among non- smokers. The result showed that the incidence of parasite among smokers was 60 % (27 of 45) while among non – smokers was 22% (10 of 45) because smoking is very important factor that cause imbalance between micro biota that found in oral cavity and lead to many problems including developing gum diseases and increased build up of plaque and other dental problems which enhanced prevalence of *Entamoeba gingivalis* and other pathogens(14) Table 3.

Table (3) Prevalence of *Entamoeba gingivalis* among students in college of Nursing/ University of Kirkuk according to smoking

Total Positive No.	Positive No smokers	%	Positive No, non-Smokers	%
45	27	60%	10	22%

According to the residence place of students, The study showed that the prevalence of *Entamoeba gingivalis* among students whom lived in university residence was 59% ( 50 of 85) while among students whom lived in their home was 41% (35 of 85), this result may be due to socio-economic status for students whom lived in university residence , in addition rising prices of private clinics and those students expend their income on food and essential requirements for life, so it is difficult for payiny to private dental clinics( 15).

Table (4) Prevalence of *Entamoeba gingivalis* among students in college of Nursing/ University of Kirkuk according to their residence place.

Total Positive samples	Students live in university residence	%	Students live in their home	%
85	50	59	35	41

According to the number of brushing per day, the study showed that the prevalence of *Entamoeba gingivalis* among students whom brushed their teeth after each meal and twice daily was 25% (2 of 8) , 40% (27 Of 40) respectively, while among students whom brushed their teeth once daily , the prevalence of *Entamoeba*

*gingivalis* was 92% ( 55 of 60), this result reveal the benefits of teeth brushing to prevent gum disease, plaque and other dental problems and maintain oral cavity hygiene (16).

Table (5) Prevalence of *Entamoeba gingivalis* among students in college of Nursing/ University of Kirkuk according to brushing numbers per day.

No of brushing/ day	Positive samples	%	Negative samples	%	Total of examined samples
Once daily	55	92%	5	8%	60
Twice daily	27	40%	40	60%	67
After each meal	2	25%	6	75%	8

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