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EPIDEMIOLOGICAL OF INFECTION WITH CUTANEOUS LEISHMANIASIS IN THI - QAR PROVINCE

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ABSTRACT

To detect the relationship between prevalence rate of infection with Cutaneous leishmaniasis and some factors, information has been collected about (755) infected (male and female) with Leishmania tropica from forms which were got on it from Statistic Division / Thi-Qar Health Office during the period from October 2014 to April 2015. The disease was identified by a doctors with depend upon clinical symptoms and a few cases of it depend upon laboratory diagnosis. The result were as following: higher total infection percentage for both males and female (41.19%) appeared in February but lower percentage (3.84%) in November. Higher infection percentage was (31.52%) in age group (5-10) and lower infection percentage (0.39%) in age groups (55-60) and (60-65). Higher infection (50.46%) appeared in AL-Nassiriyah and lower infection (2.25%) in Suq-AL-Shuyukh. Infection percentage in rural was higher than infection rate in town. Infection rate was (3.84%) for 2012 while the percentage (67.86%) for only January, February and March for 2015.

KEYWORDS: Leishmania Tropica, Epidemiological, Cutaneous Leishmaniasis, Baghdad Boil

INTRODUCTION

Leishmaniasis disease is one of important sex infections on the list of the World Health Organization for research tropical region disease (Berman,2001), it is global especially tropical and sub – tropical region and yearly are infected more than 12 million people (WHO,2007), this disease is endemic in 98 countries or territories (WHO,2010),where prevalence in 16 developed country and 72 developing country (Chappuis et al.,2007), it also causes about 70000 deaths (Guillon et al.,2007).

Leishmaniasis parasite back to blood and tissues flagellates (Haemoflgellates) which includes all flagellates taken from human and animal home for hers (Chandler and Read, 1961).

There are about 30 species of Leishmaniasis from of them Leishmania tropica that cause urban or dry ulcer, and Leishmania major that cause rural or wet ulcer, infection with this disease is known by Oriental sore as well as other names as areas where they get such as Aleppo boil, Baghdad boil and Delhi boil (Gorbach et al., 1998).

The insect carrier of the parasite Leishmaniasis is known sand fly (which is small fly with length of 2mm almost one – third the size of mosquito and has body is covered with hair and is found around places that humans have settled and the insect enrich on organic waste like faece, animal manure, waste and in rodents burrows and remnants of leaves) (Markel, W.H. and Makhoul 2004). This insect belong to genus Phlebotomus, order Diptera (Abul-hab and AL-Hashimi 1988).

Clinical manifestations of disease depend on the ferocity of species or strain as well as the variation in response of host and its degree of interaction with parasite (Kadir, 1988). The infection with disease begin in the form reddish small papule in bite site of sand fly and gradually crust will form on it then grow in size (Soulsby, 1982). Ulcer was got over by itself after two months to six months and sometime require a year or more (Burns et al., 2004) but it will leave light – colored atrophic wail call scar (Gorbach et al., 1992) and leave lasting immunity toward recurrence of infection (Roberts and Jr 1996).

The increasing prevalence of Cutaneous leishmaniasis disease recently push to conduct this study for knowing the extent of the relationship between infection percentage for this disease and many factors to find out the causes and thus access to the best solution to reduce the prevalence of this disease.

METHODS AND MATERIALS

Information has been collected about (755) infected (male and female) with Leishmania tropica and it was included (sex, age, month, geographical distribution and residence type). A few cases of that disease depend upon laboratory diagnosis, where the smears were prepared from the edge of ulcer materials and after fixed them, they were stained by Leishman,s stain and then examined under microscope under 40x power.

Statistical Analysis

T- test was used in Statistical analysis related with this study according to (Al- beldawi, 2009).

RESULTS AND DISCUSSIONS

Table 1: Percentage of Infection with Cutaneous Leishmaniasis According to Sex and Month

Months	Infected male	percentage	Infected female	percentage	Infected male and female	percentage
October	21	4.82	10	3.12	31	4.10
November	18	4.13	11	3.43	29	3.84
December	52	11.95	68	21.52	120	15.89
January	71	16.32	50	15.62	121	16.02
February	190	43.67	121	37.81	311	41.19
March	83	19.08	60	18.75	143	18.94
Total	**435**	**57.6**	**320**	**42.4**	**755**	**13.24**
Statistical analysis	T Calculated = 6.494, df=1, sig=0.097				T Calculated =2.930, df=5, sig=0.033	

The statistical analysis T-test with level P< 0.05 didn’t find any significant difference and this result agreement with (EI-Shafi and Peter 1991; Moker, 2006). Higher percentage of total infection for males and females appeared in February and lower percentage of infection was in November so the significant differences were found (table 1). Reason of height infection percentage in February belong to that month represent eggs hatching season of the insect vectors of parasite (Moker, 2006)

Table 2: Percentage of Infection with Cutaneous Leishmaniasis According to Age Groups

Age Group	Infected	Percentage
Less than five year	195	25.82
5-10	238	31.52
10-15	148	19.60
15-20	63	8.34
20-25	23	3.04
25-30	13	1.72
30-35	16	2.11
35-40	16	2.11
40-45	13	1.72
45-50	9	1.19
50-55	11	1.45
55-60	3	0.39
60-65	3	0.39
65-70	4	0.52
Total	**755**	
Statistical analysis	T Calculated =2.547,df=13,sig=0.024	

The highest percentage was found in age group (5-10) while the lowest percentage of infection was in age groups (55-60) and (60-65) therefore the significant differences were found (table 2). This result was agreement with (Tarish, 2002) that attributed the reason to that age groups lower than 20 years old are more going out from their houses to the street or other land region thus allowing the opportunity for exposure to insecticide more than ages larger 20 years old.

Perhaps the reason is due to be less aware of the health risks resulting from insect vectors and they are not trying to stay away from insect or get rid of the insect and they are also more ignorant and less committed to the health rules in wash their faces and hands, for example, when coming into contact with insects, especially if there is no emphasis on them to do that by their relatives.

Table 3: Percentage of Infection with Cutaneous Leishmaniasis According to Districts of the Province

Districts	Number of infections	Percentage
AL-Nassiriyah	381	50.46
Suq – AL- Shuyukh	17	2.25
AL – Shatra	246	32.58
AL – Rifaai	87	11.58
AL – Jibaish	24	3.17
Total	**755**	

Higher infection percentage appeared in AL-Nassiriyah which is agreement with (Atshan, 2014) while lower infection percentage was in Suq – AL- Shuyukh (table 4). And the reason might belong to that AL-Nassiriyah represent center of province therefore has an advantage in containing the most pathological analysis laboratories where specialist doctors, in addition to scientific research laboratories and thus be the closest source to the spread disease specially if precautions are not taken with regard to the sterilization and correct health ways to get rid of the samples or laboratory

animals which conducted experiment.

Table 4: Percentage of Infection with Cutaneous Leishmaniasis According to Residence

Residence	Number of Infections	Percentage
Town	285	37.75
Rural	470	62.25
Total	**755**	

Infection percentage in rural was higher than from infection percentage in town (table 4), this result was agreement with (Moker, 2006) that gave the reason to lower health and cultural level of the rural community and the lack of attention to hygiene and lack of rodent control in residential area or near of it, which is perhaps form reservoir host and its holes as appropriate places for hiding the insect vectors, as well as neglect of this fight against stray dogs that possible that disease was transmitted from it by sand fly itself or other types of insect such as the stable fly.

Table 5: Percentage of Infection with Cutaneous Leishmaniasis According to years

Year	Number of Infections	Percentage
2012	30	3.48
2013	51	5.91
2014	196	22.73
January + February + March for 2015	585	67.86
Total	**862**	

High infection was observed over time, where the lowest infection percentage was in 2012 while the highest infection percentage appeared in only the first three month of 2015 (table 5), perhaps the high rate of infection due to the large number of studies recently without prevention from Leishmaniasis properly and thus polluting the places where the tests conducted on that parasite or the reason may be due to the war that took place in Iraq and that was the reason for entering people from different countries, bringing with them the epidemic.

CONCLUSIONS

There are age groups more ready for infection with disease, this disease prefers particular season or month for prevalence in it largely and its epidemiological has concentrated in one region more than other. Experiences and studies that are established for advantage the society may be run into damage that society if the precise and care weren't taken to prevent pollution of places which the treatment with that parasite was taken place in its and get rid of rats and other animals that are treated with that parasite by recommended ways and do sterilization for the tools and also for the ground and all thing that related with place which the experiences are taken place in it, because these laboratory with presence the insect will be regarded source for infection. For the war which happened in Iraq recently role in an increase prevalence infection with Cutaneous leishmaniasis because of entering persons from different countries carrying the epidemic with them.

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