



AWARENESS REGARDING BLASTOCYSTOSIS DISEASE; A NEGLECTED ZONOTIC DISEASE

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ABSTRACT

Objective: The purpose of this study was to evaluate awareness regarding blastocystosis, its cause, symptoms, diagnosis and treatment. Blastocystis hominis is a microscopic parasite found in the stools of healthy people as well as in the stools of those who have diarrhea, abdominal pain or other GI gastrointestinal problems. Infection which is caused by blastocystosis is called blastocystosis. **Method:** The survey is conducted which is based on questionnaire, in which students of pharm D and microbiologist were questioned regarding blastocystosis disease. **Results:** At t-test reveal a statistically reliable difference between the mean number of awareness percentage that the microbiologist has (M=4.12, s=1.995) and that the pharmacist has (M=2.76, s=2.42), t(94)=3.084, p=1.66, $\infty=0.05$. **Conclusions:** From this survey we found that awareness regarding blastocystosis disease microbiologist have more awareness than pharmacist about blastocystosis.

Keyword: Blastocystosis, Awareness, Microbiologist, Pharmacist

INTRODUCTION

Blastocystis hominis is a microscopic Zoonotic parasite it found in stools of healthy people as well as in those who have diarrhea, abdominal pain or any other GIT gastrointestinal problems. Infection with blastocystis hominis is called blastocystosis. Different subtypes of blastocystis may be more likely to cause symptomatic infection when combined with other types of infection. Blastocystis resides in the digestive tract without causing harm. There are no proven treatments for blastocystosis and the infection usually clears up on its own [1-3]. Presently 17 subtypes or species of *Blastocystis* have been described based on sequence analysis, of which 9 have been reported in humans and mainly subtype 3 is predominantly the most common subtype infecting humans. The correlation between the genotype and the symptoms was evaluated, subtype 3 was the most common genotype in both symptomatic and asymptomatic groups and the other common genotype was subtypes 1 and 2 in symptomatic and asymptomatic groups, respectively. Blastocystis is transmitted through faecal-oral route which may be attributed to poor hygiene, exposure to animals, pig ownership, consumption of contaminated foods, raw water plants and unboiled water which considered to be play significant role [4].

The consumption of raw water plants was positively associated with subtype 1 one infections, and using unboiled water with subtype 3 infections. The Blastocystis hominis infection causes (manifest) clinical gastrointestinal signs and symptoms principally diarrhea and abdominal pain, constipation, alternating diarrhea and constipation as well as nonspecific gastrointestinal symptoms such as nausea, vomiting, loss of weight, dizziness, lassitude flatulence and fatigue. Blastocystis hominis is found in stool samples of symptomatic and asymptomatic individuals were considered to cause gastro-intestinal problems. Studies reporting its association with diarrhea and clinical symptoms in both Immunodeficiency and immunocompetent patients are increasing. The severity of this infection increased when the number of parasites was more than five trophozoites per field at a magnification of x400 (referred to hereafter as an x400 field).

Diagnosis of infection is generally made by demonstrating the vacuolar form in the direct microscopic examination of the stool with presence of more than five parasites in a microscope field at X40 magnification accepted as pathogenic¹ stool microscopic examinations with Merthiolate-iodine-formalin stain technique. For this purpose, native-Lugol and formol ethyl acetate concentration method was applied to these stool specimens initially and the suspicious cases were checked by trichrome staining method extensive genetic diversity among both *Blastocystis hominis* /*Blastocystis* sp. isolates has been described mostly by random amplified polymorphic DNA (RAPD) and restriction fragment

length polymorphism (RFLP) analyses of PCR-amplified small-subunit (SSU) rRNA Techniques currently in use include molecular detection, microscopy and xenic *in vitro* culture test.

Direct smear, formaline-ethyl acetate sedimentation concentration, stool culture, kinyon carbol-fuchin stain, enzyme immunoassay, morphometric study, and experimental infection of mice were done. The results indicated that the central body cysts (CB), granular and multivacuolar forms isolated from symptomatic patients were larger than those from asymptomatic ones [5].

Metronidazole is considered first-line treatment, but the success of eradicating *Blastocystis* with this drug has been reported to be anywhere from 0% to 100%. The authors evaluated the efficacy of garlic and metronidazole at conc. of 0.01 or 0.1 mg/mL for suppressing the growth of *Blastocystis*. Garlic and metronidazole were equally effective at both concentrations. Clinical cure was found in 77.7% of the *Saccharomyces* group and 66.6% of the metronidazole group at 15 days, compared with 40% in the placebo group. Our research group has done this types of awareness programme for pharmacist, doctors and normal population and these are useful for professionals [6-13].

METHODOLOGY

Age group between 18-30 and no of students, N= 100.

It is survey based study which was conducted in Jinnah University for women Karachi. The survey conducted consisted of different questions which were all related to blastocystosis disease, its cause, symptoms and treatment etc. The answers were carefully evaluated by using SPSS software.

RESULTS AND DISCUSSION

The study found significant differences between pharmacist and microbiologist. Microbiologist students knew significantly more about blastocystosis, sign symptoms and treatment. This results shows 50 pharmacists and 50 microbiologist have been chosen, pharmacist have on average of 2.76 percent awareness about the blastocystosis and standard deviation of 2.42908. Where as microbiologists on average has 4.12 percent awareness of blastocystosis and standard deviation of 1.9555. Pvalue =0.35 > 0.05, it shows that there is the variability exist in two groups of pharmacist and microbiologist about the awareness of the blastocystosis results are given in table one and two. Microbiologist have more awareness of blastocystosis as compare to pharmacists as the t value 3.084 and its critical value is 1.66, it is less than its tabulated value, so we will accept the null hypothesis that microbiologist have more awareness than pharmacist about blastocystosis. At t-test reveal a statistically

reliable difference between the mean number of awareness percentage that the microbiologist has ($M=4.12, s=1.995$) and that the pharmacist has ($M=2.76, s=2.42$), $t(94) = 3.084$,

$p=1.66, \alpha=0.05$. it is statistically significant that microbiologist has more awareness about blastocystosis.

Table 1: Group Statistics.

	profession	N	Mean	Std. Deviation	Std. Error Mean
awareness	pharmacists	50	2.7600	2.42908	.34352
	microbiologists	50	4.1200	1.95500	.27648

Table 2: Independent Samples t, Test.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower		upper
Awareness	Equal variances assumed	4.571	0.035	-	98	0.003	-1.36	0.44096	-2.23508	-0.48492
	Equal variances not assumed			-	93.7	0.003	-1.36	0.44096	-2.23558	-2.23558

CONCLUSION

Although it was done on limited scale, the study found interesting results highlighted by significantly low awareness about blastocystosis, sign symptoms, treatment, transmission, and others especially in pharmacist. A modified education program, along with continued practical experiences, could help to health care for blastocystosis disease.

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