**Human Diseases Caused by Protists**
Protists can be a nasty lot, with the variety and volume of diseases they cause. Read about human diseases caused by protists in the following Buzzle article.
Let's begin by taking a closer look at protists. What sort of organisms are protists? Are there any that we've heard of on a general basis? Well, I'll begin with answering the second question first. Yes, I am sure most of you have heard of the unicellular organism amoeba, when you were still in school. Well, I know that back then, the term protozoa was used instead of protists to refer to the likes of amoeba and paramecium, but the fact is that, protozoans are protists that are closer to animals than plants owing to such typical animal-like characteristics as mobility and locomotion. Now, going back to the first question, protists are commonly defined as eukaryotic microorganisms, that can be both unicellular or multicellular. Both types have very elementary anatomical structures, and their biological functions, too, are totally basic. Even the multicellular variants do not have much of a complex structure as despite being made of more than one cell, they lack specialized tissues. Similar to most other microorganisms, protists also have a pathogenic role to play as far as the health of humans or other eukaryotic animals are concerned.
 **What are Some Illnesses Caused by Protists in Humans?**

The share of infectious human diseases caused by protists is as significant as those caused by bacteria, viruses, or fungi. Most of these pathogenic protists are parasitic in nature that, upon invading a host's body, continue living and flourishing therein till either the host succumbs, or till the parasite is annihilated by treatment and medical intervention. The following list of diseases caused by protists enumerates some of the most significant ones that affect the health of the human population, either directly or indirectly by infecting other organisms in whose contact we come on a regular and inevitable basis, such as animals used as food (plants and crops also included under this), or kept as pets or livestock.

**Malaria:** Protists belonging to the Plasmodium genus are responsible for causing this dangerous human disease, in which the harmful protists invade the red blood cells and begin multiplying inside them. These micro pathogens are carried by female mosquitoes, mostly belonging to the Anopheles genus, and are transmitted to humans, when these mosquitoes bite them to feed on their blood. The salivary glands of the mosquitoes carry these protists, and they get passed on to their secondary hosts through saliva.

**Amoebic Dysentery:** Caused by the protist Entamoeba histolytica, this type of dysentery is caused when food or water contaminated with these amoeba are consumed, or when hands are not properly sanitized and disinfected after having touched contaminated objects. Once the disease-causing protists enter the body of their host, they travel to the intestines, where they settle and form cysts, that cause all the typical symptoms and discomforts associated with amoebic dysentery. The cysts are usually passed out in stool. Besides entamoeba, a few other amoebic species also cause dysentery, but they do not form the signature entamoebic cysts.

**African Sleeping Sickness:** Caused by the protist protozoa Trypanosoma brucei, this disease exhibits symptoms like fever and headaches in the initial stages, which may be accompanied by vital organ dysfunction, followed by swelling of the lymph nodes in the second stage. The last stage is characterized by mental confusion and disruption of the sleep cycle, often reversing the diurnal-wakefulness-nocturnal-slumber sequence. This is accompanied by distorted coordination and extreme fatigue. The parasites invade the lymphatic system, and gradually cross over to the blood stream. The last stage occurs, when they bypass the blood brain barrier, and invade the central nervous system. These protists are usually transmitted from the bite of the tsetse fly, which acts as both the primary host and the disease vector.
 **Chagas Disease:** Spread by blood sucking assassin bugs, this disease is caused by the protozoa Trypanosoma cruzi, which is passed on to the secondary hosts, humans, when these bugs feed on the hosts' blood, and defecate immediately near the site of the bite. The protists carried in the bug excreta enter the host's body, when the site of feeding is scratched, and the skin surface is aggravated as such. They enter through the wound, undergo binary fission to differentiate into trypomastigotes, which invade the blood stream.
 **Giardiasis:** This is a form of diarrhea caused by the infectious protist Giardia lamblia. Giardia cysts can be transmitted on coming in contact with an infected person, who does not maintain proper personal hygiene, or by coming in contact with contaminated water. The parasite invades the small intestine, and the common symptoms are watery stool, flatulence, and accumulation of foul-smelling stomach gas, vomiting, abdominal cramps, and foul breath.

Some other noteworthy but comparatively uncommon diseases caused by protists would include:-
Leishmaniasis, caused by the leishmania genus of protists, and transmitted by the African sand fly;
Toxoplasmosis, caused by Toxoplasma gondii, and transmitted from contaminated animal meat or contaminated feces of infected animals;
Granulomatous amoebic encephalitis, caused by the protists Acanthamoeba and Balamuthia, and they enter the host through open wounds or through the lower respiratory tract;
Red tides, caused by plant-like protists called phytoplankton, and transmitted through contact with water infested by toxic algal bloom and animals contaminated by it.
So, those were some common as well as not-so-common human diseases that protists cause. Most of these protists are transmitted through such an insect vector, that has frequent and regular interactions with particular geographical sections of human populations for feeding purposes. More often than not, these are blood-sucking insects. Others enter human hosts, when issues of sanitation and personal hygiene are ignored, and when possibilities of coming in contact with contaminated objects and infected animals are very high.

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