

# UNDER MY SKIN: A REVIEW ON DELUSION OF PARASITOSIS

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## Abstract

*Background: Delusion of parasitosis is a fixed and firm belief of being infested by parasite, usually perceiving those parasites are crawling and burrowing beneath skin with onset at 20-30 age groups and other at 50 years and older. Women show a greater prevalence of developing this condition. Diagnosis can only be confirmed if the most essential criteria are met. Patient should be experiencing two conditions: idea of being infested by pathogen and abnormal sensation in skin that can only be explained because of the first situation. Management is focused on Dermatological therapy to include treatment for the visible damage on skin like intensified skin care, Psychopharmacology and Social psychiatric services.*

**Keywords:** Delusion, Parasitosis

## INTRODUCTION

Delusion of parasites is a psychotic illness where the patient feels as if he or she is infested by parasites such as mites, lice, fleas, worms, bacteria, or other organisms (Huber et al., 2007). It was first described in the year 1894, by Thibierge. This disease is also known by various other names such as acarophobia, Ekbom syndrome (Rapini et al., 2007) and morgellons. It falls under the category of primary psychiatric disorder, thus indicating that there are no primary symptoms of the disease and if any, they are a result of the patient's own manipulation. The pathology of this disease is completely psychological (Wong & Koo, 2013). Although usually believed that it is a single psychiatric disorder, it possesses two significant forms. These two can be separated based on the presence or absence of the underlying cause of the disease. The primary form is when psychopathology of the condition arises from delusions and result in unusual tactile sensations the patient experiences. Apart from the issue of infestation, the patient is perfectly normal (Trabert, 1995; Trabert, 1993). In secondary form, the symptoms arise because of some other disorder. These symptoms amplify the symptoms of the existing disorder (Berrios, 1985; Skott, 1978). This condition could also be classified into three categories: primary, secondary and organic (Prakash et al., 2012). As mentioned before, primary refers to a single delusional belief of one being infected by parasites and is usually considered under monosymptomatic hypochondriacal psychosis. Secondary delusion parasitosis usually appears in the presence of some other mental disorder such as schizophrenia, depression, and dementia, schizophreniform illnesses, paranoid states, bipolar disorders, depression, anxiety disorders, and obsessional states. Organic delusional parasitosis, is also referred as apparent delusion of parasitosis and it usually occurs secondary to organic illness such as diabetes, vitamin B12 deficiency, hypothyroidism, diabetes, cerebrovascular disease cerebrovascular disease, HIV allergies, menopausal state and even cocaine intoxication (Hinkle, 2000; Alves et al., 2010; Donabedian, 2007). Certain drugs have an extreme potential to induce this condition. This phenomenon is so prominent that it is referred as cocaine bugs by cocaine users.

## PREVALENCE OF THE DISEASE

It shows a bimodal distribution i.e., there are two major age groups where the chance of developing this disease is at a peak. One is at 20-30 age group and the other is at 50 years and older. Women show a greater prevalence of developing this condition. At a younger age, the ratio of developing this condition is same in males and females, yet as age progresses, the ratio of females to males becomes 2:1 (Wong & Koo, 2013). In a study conducted in India, several noteworthy facts came to light. The number of cases that the researchers received was quite high and unexpected. It was quite prominent that the younger population (contradictory to the general epidemiological data that is available) has been suffering from the disease (Srinivasan et al., 1994).

## CORE SYMPTOMS

Patients have a firm belief that they are suffering from an infestation of parasites. Commonly reported symptoms include skin lesions, excretion, shedding of skin fibers, and other numerous cutaneous sensations which can vary from crawling, stinging sensations with or without pruritus, pins and needles which can be chronic or recurrent. The second symptoms involve patients usually perceiving those parasites are crawling and burrowing beneath their skin. Patients often excessively scratch and bruise themselves to extract the parasite (Prakash et al., 2012). This often results in severe injuries and the patients have often been seen to gather evidence for inspection which may include dust, fibers, scab, or debris scraped from the skin often in a matchbox, hence, commonly referred as the matchbox sign (Tucci et al., 2009). These two symptoms are complementary to each other.

## OTHER MANIFESTATIONS OF THE DISEASE

**Classic patients:** These types of patients exhibit some basic characters. They are female, usually middle aged, having almost negligible social interactions. Other characteristics that also fall under classic criteria include a multimorbid obese person, usually having dementia along with visual or audio impairment. Usually in this case, symptoms of delusion parasitosis develop over time, along with paranoid symptoms, which might be often due to vague ideas such as fear of being prosecuted, fear of being robbed etc. Another profile, that falls in this category, is of an elderly patient suffering from vascular encephalopathy and cortical atrophy (with or without dementia) who might develop this delusion condition as a secondary effect (Freudenmann et al., 2009; Freudenmann, 2003; Freudenmann et al., 2007; Huber et al., 2008).

**Atypical manifestations:** This condition is quite different from the usual parasitosis and is observed rarely. A case for atypical manifestation was when women had developed an irrational condition and believed that her house was infested by rats. The unique fact was that in this case, she believed that infestation was in her house rather than in any organ of her body (Freudenmann & Lepping, 2009).

## OTHER ASPECTS OF THIS CONDITION

**(a) Description of the pathogen:** Various types of infestations are reported by the patients. The descriptions include vermin, insect, parasites, small animals, worms, bugs, fleas, ticks. Microscopic pathogens such as bacteria, virus etc. are less frequent to be reported by the patients (Bers, 1954; Hopkinson, 1970; Wilhelmi, 1935; Wilson & Miller, 1946; Mallet & Male, 1930; Freudenmann & Lepping, 2009). Not only this, but patients also often complain about infestations from inanimate objects such as hair, sand, threads, fibres, dots, pigments etc. (Hopkinson, 1970; Harbauer, 1949; Freudenmann, 2003). Usually, the pathogen reported is black in colour, but other colours are also reported (Bers, 1954). Other description indicates the size of the insect. Usually, the patients describe the insects as tiny, too small to see (Harbauer, 1949; Mallet & Male, 1930; Black, 1929). If the reported pathogen or insect is larger in size, it does not indicate primary delusional infestation (delusion parasitosis) and is a symptom of toxic psychosis, delirium, or schizophrenia. Sometimes, in such cases the patient is unable to explain anything substantive about the pathogen (Wilson & Miller, 1946).

**(b) Source of pathogen:** The source of pathogen is mostly reported as transmitted from another human. Plants, garden, and housing are the next source that is commonly mentioned. Animals and pets are less frequently blamed. However, a real infection from pets can act as a trigger for this disease (Freudenmann & Lepping, 2009).

**(c) Region of infestation:** The most prominent body parts that are reported to be infested are skin of the hands, arms, feet, lower legs, scalp, the upper back and breast region, and the genitals. Along with that, patients also complain about body orifices (nose, ears, mouth, anus, and the whole gastrointestinal tract) being infested with the pathogen. Size of the pathogen is an important criterion that determines the region of infestation. Most common infection to be reported is with regards to the skin (Ekbohm, 1938; Freudenmann, 2002; Freudenmann et al., 2009; Freudenmann et al., 2007; Podoll et al., 1993; Freudenmann & Lepping, 2009).

**(d) Patient behavior:** The patients start thoroughly examining themselves, especially their skin. Slowly, over the time, compulsion develops, and the examination grows more thorough and severe. They also start using various instruments such as magnifying glass and tweezers. These examinations can be very thorough and take up a lot of their time, which might also be perceived as obsessive-compulsive disorders. They meticulously take notes and collect evidence to show the physician what is bothering them. These days, taking pictures has become very common (Freudenmann, 2002; Freudenmann & Lepping, 2009).

Patients can start assessing their own observations and accordingly form descriptions of the vermin. This type of behavior is very common with primary delusion infestation. Patients are usually adept at describing how the pathogen infestation is living beneath their skin surface. How they are breeding, spreading, and displaying fallacious behavior. The interruptions in tactile sensations are often referred as worms resting or transient inactivity of the worm. Doctor hopping is another very common phenomenon that is observed. Firstly, the patients approach a dermatologist. In some cases, patients also approach microbiologists, entomologists. Sometimes the patients also go to pest control with some hope of finding the insect. In case the pathogen or the causative organism cannot be found, the patient usually believes in incompetence of the doctor or complains

about incorrectness of the test. They vehemently refuse psychiatric help, which is due to their delusional belief. Patients usually ask for more therapy-oriented approach rather than diagnostic approach as according to them they already know what they are affected with. The patients often request to be prescribed with a stronger and more aggressive pesticide or other medication that might help them get rid of the infestation. Patients often end up consulting many doctors. After every diagnosis, the patient remains unsatisfied and keeps on consulting one physician after the other and some might also start collecting specimens. Cutaneous findings in this disease can range from none to minor excoriations, prurigo nodularis, and frank ulcerations, all of which are not real as their origin is from the patient's efforts to dig out the parasites (Koo & Lee, 2001). The evidence can vary from skin scabs, crusts, scabs from healing skin lesions, hair etc. anything they can get their hands on, they collect in little containers such as small vessels, bins, paper. They develop this weird tendency to collect these items like trophies (Freudenmann & Lepping, 2009).

## DIAGNOSIS

Delusion of parasitosis can only be confirmed if the most essential criteria are met. Patient should be experiencing the two conditions: idea of being infested by pathogen and abnormal sensation in skin that can only be explained because of the first situation. The patient's history should be considered. This should be followed by a thorough skin examination. This eradicates the chance of any true skin infestation. One should know that formication is different from delusion parasitosis. Person affected with formication are not delusional and can agree to the fact that they do not possess any infestation. Further proper assessment of the symptoms expressed by the patient is required. The process can be time consuming as it would require thorough and detailed exploration. Origin can be explored; also, intake of psychotropic substances could be assumed as possible reasons for the onset of this condition.

## MANAGEMENT

Therapy options are usually focused on Dermatological therapy to include treatment for the visible damage on skin like intensified skin care. Psychopharmacology or the treatment carried out by the antipsychotic agents. Earlier Pimozide used to be referred (Driscoll et al., 1993). However, there are many side effects attached to the use of this drug. Also, the chances of relapse are quite high. Therefore, its use has been discontinued for safety reasons (Freudenmann & Lepping, 2009). Other drugs that are referred are triflupromazin, chlorpromazine, haloperidol, sulpirid (Takahashi et al., 2003), risperidone (Elmer et al., 2000), olanzapine (Freudenmann, 2003). The proper prognosis of the condition is quite difficult even after the treatment has been started. There are cases where patients have faced a relapse of the disease after the medication was stopped. Hence, the physicians should be in constant touch with the patient. Also, the healthcare professional should plan the medication as a long-term measure. Often, connecting to a social psychiatric service can prove to be extremely helpful. These groups help the patients and ease the path to recovery.

## CONCLUSION

Delusion of parasitosis- a fixed and firm belief of being infested by a parasite is found to be more prevalent in females than males and can be managed through a combination of medication and social psychiatric service.

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