

Assessment of Fungal Infection Burden in Females Aged 17-30 Years: A Study From Tamil Nadu, India

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Abstract: A major public health risk is fungal infections. Fungal infections can be systemic, mucosal, cutaneous, subcutaneous, or superficial, depending on how severe they are. To get past the host's defenses and exacerbate illnesses, fungal pathogens employ a number of tactics. Fungal infections can be systemic, mucosal, cutaneous, subcutaneous, or superficial, depending on how severe they are. The study included females between the ages of 17 and 30. The Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital in Kulasekharam, Tamil Nadu, India, served as the study site. After explaining the goal of the study, verbal consent was obtained. This survey was completed by thirty people. There are thirty questions in the survey. The questionnaire asked questions about complaints of constipation, dry skin, sanitization, allergies, sharing personal items, frequent sweating, adequate menstrual hygiene, wet clothes, tight clothing, and habits. The results and discussion of this survey indicate that most women suffer from skin rashes, excessive sweating, boredom, fatigue, poor hygiene, and allergies to cosmetics. Women therefore need to be more mindful of their cleanliness. Future therapies should target these areas to improve women's general health and well-being.

Keywords: Habits, Skin Rashes, Dry SKIN, Fungal Infection, Sanitation, Allergies.

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I. INTRODUCTION

It can be challenging to determine whether a fungus found during disease is a pathogen or a temporary environmental contaminant, because fungi are abundant in nature and are free-living saprobes that do not clearly benefit from parasitizing humans or animals. Fungal infections are a serious public health concern and can manifest as superficial, cutaneous, subcutaneous, mucosal, and systemic infections of varying severity. Molds, *Aspergillus*, *Fusarium*, *Candida*, and *Mucorales* are examples of fungal pathogens that can cause illnesses associated with healthcare. Humans typically coexist peacefully with the microbes that surround them; an infection may only occur when the body's defenses are compromised or the concentration of pathogens reaches an abnormally high density. The majority of infections go undetected, but occasionally the agents that trigger the body to react, resulting in signs and symptoms that are clinically evident. This condition is called an infectious disease. The most common and, until a few decades ago, the most dreaded infectious diseases were caused by common viruses, but they can also be caused by bacteria, viruses, parasites, fungus, prions, worms, and helminthes. Fungi have emerged as the most dangerous pathogens as methods for treating bacterial infections in people have improved. Fungal infections and the illnesses they induce are usually unintentional. Some fungi are a part of the native microbial flora and have established a commensal relationship with humans.

II. PATHOPHYSIOLOGY

There are multiple ways that fungi can enter the body and spread their infection. Most people initially come into contact with fungus during birth when they travel through the vaginal canal and come into contact with the yeast *Candida albicans*. The fungus colonizes the newborn's buccal cavity and parts of the upper and lower gastrointestinal tract during this phase, where it remains commonly for the rest of its life. Many fungi have evolved defense systems that allow them to multiply within the host, even though the majority of fungal infections are the consequence of unintentional contact with the agent. The dermatophytes that live on skin, hair, and nails produce keratin-digesting enzymes. In contrast, the systemic fungi *Histoplasma capsulatum*, *Blastomyces dermatitidis*, and *Paracoccidoides brasiliensis* are molds by nature and transform into unicellular morphologies when they cause disease. The commensal organism *Candida albicans* resembles a unicellular yeast but transforms into filamentous when it enters tissues. The numerous defense systems that keep fungi out of host tissues are the main cause of humans high level of innate resistance to fungal invasion. Fungi can penetrate host tissues by forceful implantation or inhalation. The amount of the inoculum, the extent of tissue destruction, the fungus's capacity to proliferate in tissues, and the host's immune state all affect how severely the disease is brought on by these organisms. Only the outermost layers of the skin's stratum corneum or the hair shaft's cuticle are affected by superficial fungal infections. Rarely do these illnesses cause the host to mount an immunological defense; instead, they are

mostly cosmetic issues. Fungi known as dermatophytes infect live organisms by growing on their skin, hair, and nails. These fungi are more invasive than those that cause superficial infections, but they are only found in keratinized tissues. They are responsible for a broad range of illnesses, from moderate scaling disorders to severe inflammatory conditions. Numerous parasite and host parameters, including organism species, host immunologic condition, garment style, and footwear type, influence these agents capacity to cause disease. A key factor in infection is trauma. Entering and settling in the cornified layers of injured or macerated skin and its integument, these organisms proliferate by generating keratinase, which breaks down the tough, insoluble fibrous protein. It has been postulated that factors including cell-mediated immunity and serum transferrin stop fungus from infiltrating deeper tissue layers. Because they have established a commensal relationship with the host, some dermatophytes are isolated from the skin when there is no sickness.

III. MATERIALS AND METHOD

In Kulasekharam, Tamil Nadu, India, the Sree Ramakrishna Medical College of Naturopathy and Yogic Sciences and Hospital served as the study site. The female participants in this study were between the ages of 17 and 30. Vocal agreement was attained after the study's goals were explained. Thirty people in all answered the poll. In all, there are thirty questions. The questionnaire includes questions about complaints of constipation, dry skin, sanitization, allergies, sharing personal items, frequent sweating, adequate menstrual hygiene, damp clothes, tight clothing, habits, and cosmetics. Female volunteers were excluded from the study because they were forbidden or declined to take part.

IV. RESULTS

Respondents ranged in age from 17 to 30. Thirty women were present. As illustrated in Table 1, symptoms of dry skin are 53.33% and 46.66% of people do not have dry skin symptoms. Infection by worms is 33.33% and 66.66%, there are no worm infestations. Constipation complaints were 23.33% and 76.66% constipation is not a problem. 73.33% have not used antibiotics recently, whereas 26.66% have antibiotics. Signs of dandruff 33.33% and 66.66% do not exhibit the dandruff symptoms. Proper room sanitation 26.66% and 73.33% of rooms lack adequate sanitation. 90% of people frequently take a bath, while 10% don't. 50% of clothing dries in the sun. Food allergy symptoms 86.66% and 13.33% do not exhibit the signs of food allergies. Having trouble breathing 23.33% and 76.66%, breathing is not difficult. Displays a dust allergy reaction 56.66% and 43.33% of people do not show signs of an allergic reaction to dust. Regular washing of bed linens 43.33% and 56.66% of people do not regularly clean their bed linens. It sweats a lot 66.66% and 33.33% of people do not perspire frequently.

Table 1. Assessment of Fungal Infection Burden in Females Aged 17-30 Years

S.NO	CONTENT	YES(%)	NO(%)
1	Have the symptom of dry skin	46.66%	53.33%
2	Have worm infection	33.33%	66.66%
3	Complaint of constipation	23.33%	76.66%
4	Intake any antibiotics recently	26.66%	73.33%
5	Have the symptom of dandruff	66.66%	33.33%
6	Proper room sanitation	73.33%	26.66%
7	Takes a bath regularly	90%	10%
8	Drying of clothes under sunlight	50%	50%
9	Have the symptom of food allergies	13.33%	86.66%
10	Difficulty in breathing	23.33%	76.66%
11	Exhibits allergic reaction to dust	43.33%	56.66%
12	Frequent cleaning of bed linen	56.66%	43.33%
13	Experiences frequent perspiration	33.33%	66.66%
14	Exchanges clothes with friends	6.66%	93.33%
15	Interpersonal sharing of soap	Nil	100%
16	Sharing of combs among peers	13.33%	86.66%
17	Shares towels with others	6.66%	93.33%
18	Indoor drying of clothes	33.33%	66.66%
19	Have the symptom of headache	50%	50%
20	Does laundry everyday	56.66%	43.33%
21	Intake of 2 to 3 liters of water daily	33.33%	66.66%
22	Allergic to cosmetics	20%	80%
23	Trims nails often	33.33%	66.66%
24	Practices proper menstrual hygiene	3.33%	96.66%
25	Cleans hands after using bathrooms	100%	Nil
26	Has been immunized	33.33%	66.66%
27	Suffers from skin rashes	40%	60%
28	Wearing damp attire	36.66%	63.33%
29	Presence with skin pruritus	70%	30%
30	Prefers tight outfits	26.66%	73.33%

Swaps clothing with friends. 93.33% and 6.66% did not swap their clothing. Absolutely no sharing of soap among anyone. Comb sharing among peers: 86.66% and 13.33% of peers do not share combs. Share towels with other people. 93.33% and 6.66% of people do not share towels. Clothes drying indoors 66.66% and 33.33% of people do not dry their clothing indoors. 50% have headache symptoms. Do laundry every day. Of them, 43.33% and 56.66% do not do laundry every day. 33.33% of people consume two to three liters of water each day, whereas 66.66% do not. Cosmetic allergy 20% and 80% do not have a cosmetic allergy. Frequently trims nails 66.66% and 33.33% of people don't frequently cut their nails. Maintains appropriate menstrual hygiene. 96.66% and 3.33% of people do not practice good menstrual hygiene. 100% of hands are cleaned after using the restroom. They have received vaccinations. 64.66% and 33.33% are not vaccinated. Experiences skin rashes 40% and 60% of people do not have skin rashes. Of those wearing moist clothing, 36.66% do so, while 63.33% do not. 70% of people have skin pruritus, but 30% do not. Prefers tight clothing. 73.33% and 26.66% dislike wearing tight clothing.

V. DISCUSSION

The symptoms of dry skin are more common in women 46.66%. Women are more likely to complain of constipation 23.33% and worm infection 33.33%. The majority of females exhibit symptoms of good room sanitation, 73.33% and dandruff 66.66%. 90% of women take regular baths. 50% of clothing dries in the sun. More females experience respiratory problems, 23.33% and dust allergies 43.33%. The majority of women, 56.66%, launder their bed linens on a regular basis. Women are more likely than men to perspire frequently 33.33%. Just 6.66% of women often trade clothing with their pals. Nobody has a 100% soap-sharing habit. Among peers, 13.33% share combs. 50% of women experience headache symptoms, and 33.33% of them dry their clothing indoors. Women are more likely to dry their clothing indoors 33.33%, and 50% report having headache symptoms. Women are more likely to do laundry every day 56.66% and drink two to three liters of water every day 33.33%. 20% more women have a cosmetic allergy. The majority of women 66.66% do not frequently cut their nails. Proper menstrual hygiene is not practiced by 96.66% of people. Their hands are 100% clean after using the restroom. 70% of females suffer from skin pruritus. Skin rashes affect 40% more women, and 26.66% of them favor tight clothing.

VI. CONCLUSION

According to the study's results and discussion, most women suffer from skin rashes, excessive sweating, boredom, fatigue, poor hygiene, allergies to cosmetics, and irritation at work. They also lose their excitement and become lethargic. Women therefore need to pay more attention to hygiene. Women need to understand the importance of maintaining good hygiene and mental wellness. These areas should be the focus of future treatments to improve women's general health and wellness.

REFERENCES

- [1]. Fungal infections: Pathogenesis, antifungals and alternate treatment approaches, GKiran Kumar Reddy , Alwar Ramanujam Padmavathi , YV Nancharaiah.2022.
- [2]. What Are Fungal Infections? Ben E de Pauw. 2011.
- [3]. Disease Mechanisms of Fungi, Medical Microbiology. 4th edition, George S. Kobayashi.
- [4]. Epidemiology of Invasive Candidiasis: a Persistent Public Health Problem, M A Pfaller , D J Diekema, 2007 .
- [5]. The use of prophylactic fluconazole in immunocompetent high-risk surgical patients: a meta-analysis, Kwok M Ho , Jeffrey Lipman , Geoffrey J Dobb , Steven AR Webb. 2005.
- [6]. Pharmacokinetics and Pharmacodynamics of Antifungals in Children and their Clinical Implications, Chris Stockmann , Jonathan E Constance , Jessica K Roberts , Jared Olson , Elizabeth H Doby , Krow Ampofo , Justin Stiers , Michael G Spigarelli , Catherine M T Sherwin. 2017.
- [7]. Detection of Caspofungin Resistance in *Candida* spp. by Etest, Marie Desnos-Ollivier , Françoise Dromer, Eric Dannaoui. 2008.
- [8]. Caspofungin MICs Correlate with Treatment Outcomes among Patients with *Candida glabrata* Invasive Candidiasis and Prior Echinocandin Exposure, Ryan K Shields , M Hong Nguyen , Ellen G Press , Cassandra L Updike , Cornelius J Clancy, 2013.
- [9]. *Candida glabrata*: Multidrug Resistance and Increased Virulence in a Major Opportunistic Fungal Pathogen, Michael A Pfaller , Mariana Castanheira , Shawn R Lockhart , Ronald N Jones. 2012.
- [10]. Epidemiology of invasive candidiasis, Maiken C. Arendrup. 2010.