

# Perception Among the Sufferers of Recalcitrant Dermatophytosis Regarding its Causation, Prevention, Care-Seeking Behaviour and their Personal Hygiene: A Qualitative Research

## Abstract

**Background:** Recalcitrant dermatophytosis has become a menace in recent times. The perception of the hosts or patients regarding the disease gives a real-life picture of the deep-rooted host-factors and the way to overcome the socio-economic and cultural milieu that becomes a hindrance in preventing the relapse and recurrence of this infection. **Aims:** This qualitative study was conducted to assess the perception regarding the patients' understanding of causation and prevention of dermatophytosis, role of personal hygiene, and healthcare seeking behavior, and consequently, exploring the socio-economic and cultural milieu that contributes to the menace of recalcitrant dermatophytosis. **Materials and Methods:** Two focus group discussions (FGDs) consisting 12 patients with recalcitrant dermatophytosis, who speak the vernacular, were conducted with the help of a predetermined FGD-guide. Both FGD sessions were recorded, transcribed, and translated into English. These verbatims were thematically analyzed and emerging themes were identified with illustrative quotations. Free listing and pile sorted data obtained were analyzed by Visual Anthropac version 1.0 software for Smith's salience value, cognitive mapping with two-dimensional scaling and hierarchical cluster analysis. **Results:** Washing of clothes with soap antiseptics and drying the clothes under the sun prevents diseases, whereas, not changing undergarments for prolonged periods of time, bathing in ponds using mustard oil spreads the disease, furthermore, staying in wet clothes, working for more than five hours under sun, playing outdoors, household jobs cause tinea, etc. were the most common reported perceptions. Overall, five themes emerged after pile sorting the data, namely, ignorance about the disease, understanding of the predisposing factors of the disease, prevention, role of personal and traditional belief, and care-seeking behavior. **Conclusions:** There is a dire need to address the myths or traditional beliefs, which are not supported by scientific evidence. Expense of the treatment of dermatophytosis calls for price control of the commonly prescribed antifungals. Poor socio-economic conditions and professional responsibilities hinder people from implementing the preventive measures in spite of their knowledge.

**Keywords:** Care-seeking behaviour, focus group discussion, perception, personal hygiene, predisposing factors, recalcitrant dermatophytosis, traditional beliefs

## Introduction

Superficial fungal infections are caused by dermatophytes, non-dermatophytic molds, and commensal yeasts.<sup>[1]</sup> Dermatophytosis is a superficial fungal infection with an affinity for keratin-rich structures, such as skin, hair, and nails. Recalcitrant tinea infection is a generic term that may refer to relapse, recurrent, re-infection, persistent, and chronic infection.<sup>[2]</sup> Recalcitrant dermatophytosis has become a menace in recent times due to its unresponsiveness toward available oral and topical antifungal drugs and has evolved as a major threat

in terms of achieving complete cure. It is pertinent to find out the factors hidden behind the recalcitrant nature of this infection. Dermatophyte infections are widespread and cause significant distress to the patients socially, emotionally, and financially. Recurrent dermatophytosis is fast emerging as a challenge for dermatologists in India.<sup>[3]</sup>

There is a dearth of evidence which elucidates the true reason for this outbreak. Host susceptibility for dermatophytosis is well known among diabetic, immune-suppressed, and atopic patients

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along with those on systemic corticosteroids for being more threatening and recently, the use of topical corticosteroid has been added to the risk category as well.<sup>[4,5]</sup> There are many studies, that have discussed changing clinical profile and recurrence related to corticosteroid abuse for tinea.<sup>[6]</sup> Many have focussed on the inadvertent use of over the counter (OTC) medication. Practising rational therapy is even more relevant today in view of the misuse of topical steroids and the phenomenon of antimicrobial resistance. The issue of unresponsive dermatophyte infections has become a public health disaster in this country.<sup>[7]</sup>

Researchers have also focused their attention on exploring the changing patterns of infective agent and resistance of the fungal agent toward the existing antifungal agents. There has been a paradigm shift in the etiological agent with *Trichophyton rubrum* not being the predominant species anymore with its place being taken up by *T. mentagrophytes*. Raised minimum inhibitory concentration (MIC) values are seen in the case of fluconazole, terbinafine, and griseofulvin. Although the authors have concluded that recurrent dermatophytosis cannot be explained by high MIC alone, thus highlighting on various host factors, including compliance to therapy.<sup>[5]</sup>

The perception of the hosts or patients regarding the disease gives a real-life picture of how deep-rooted the host-factors are. It would give us an idea regarding overcoming the socio-economic and cultural milieu that becomes a hindrance in prevention of the relapse and recurrence. Hence, a qualitative research was undertaken to assess the perception regarding their understanding of causation and prevention of dermatophytosis, the role of personal hygiene, and healthcare seeking behavior. The study also aimed to explore the socio-economic and cultural milieu that contributes to the menace of recalcitrant dermatophytosis.

## Materials and Methods

This study was conducted among patients with recalcitrant dermatophytosis of dermatology out-patient department in a rural tertiary care hospital in Eastern India. Ethical clearance from the Institutional Ethics Committee and informed consent from each respondent were obtained. Participants were assured of the anonymity and confidentiality of their responses.

Operational definition: For the purpose of this study, all patients with cutaneous dermatophytosis, in whom the infection reoccurred within six weeks of stopping the adequate antifungal treatment with at least two such episodes in last six months, were considered as recalcitrant dermatophytosis.

Patients who were unwilling and unable to communicate in vernacular were excluded from the study. Thus, out of 20 patients with recalcitrant dermatophytosis for more than six months in the reference period, finally, 12 patients were recruited (eight patients were unable to communicate in vernacular).

Background characteristics of the study population were collected with a semi-structured schedule. Two focus group discussions (FGD) involving 12 study subjects, who met the eligibility criteria, were conducted to explore perceptions toward the disease. One FGD session was conducted with six male patients and another FGD with six female patients with the help of a predetermined FGD guide composed of some guiding questions. There was a moderator for conducting the discussions and a recorder to note down the proceedings. FGDs were conducted at the dermatology department of Bankura Sammilani Medical College in the rural setting of Eastern India. Participants were asked to sit in a semi-circle so that each one of them were visible by all of the group members. A predetermined logical sequence of open-ended questioning was done to stimulate discussion among the participants to understand their perceptions, preventive measures taken by them, treatment seeking behavior, whether they maintain personal hygiene, etc. Participants were presented with questions in a neutral manner, their responses were heard attentively, and if necessary, follow-up questions were asked. There were no leading questions and participants were not shown approval or disapproval of their response. The complete proceedings of the FGD, including level of participation and sociogram, were prepared and it revealed equal level of participation among the respondents. These sessions were electronically recorded and each lasted for not more than 30 minutes.

Data collection and analysis were done simultaneously. After each FGD, data including all field notes and recorded audio were transcribed and translated close to verbatim from local vernacular into English on the day of data collection. All researchers, then, coded interview transcripts separately and any discrepancies in the coding were sorted out following exhaustive discussions. These coded notes were thematically analyzed and emerging themes were identified with illustrative quotations, where statements in italics indicated direct quotations from the participants.

Finally, free listing using Smith's Saliency value [Table 1] and pile sorting exercise were conducted. In the pile sorting exercise, perceptions were clubbed by the researchers individually, according to their harmonisation [Table 2]. The data were analyzed by the Visual Anthropac version 1.0.<sup>[8]</sup> To get the collective picture, two-dimensional scaling and hierarchical cluster analysis of pile sort data was undertaken [Figure 1]. Debriefing of the findings of free list, pile sorting, and FGD to the participants were done to increase the credibility of the results.

## Results

### Background characteristics

Total of 12 study subjects participated in the FGDs out of which six were male. The mean age of female patients was  $34 \pm 11.50$  years whereas, the mean age for male patients

**Table 1: Relative ranking of perceptions given by respondents**

Item	Smith's Saliense Score
Washing of clothes with soap antiseptics prevent disease	0.753
Drying the clothes under sun prevent disease	0.723
Not changing undergarments for prolonged time spreads disease	0.643
Bathing in ponds using mustard oil spreads the disease	0.574
Staying in wet clothes causes tinea	0.500
Cleaning rooms with antiseptics prevents disease	0.462
Working for more than 5 h under sun, playing outdoors, household job, synthetic clothing all lead to more sweating and cause tinea	0.457
Earthen wall and floor smearing with cow dung prevent disease	0.413
Conjugal life spreads disease	0.390
Bathing with neem leaves prevents disease	0.364
Caused due to treatment of concurrent illnesses (leprosy and MDT; acidity and proton pump inhibitor)	0.323
Do not change the amulet sacred thread even after bathing or when gets wet	0.318
Sharing clothes should be avoided	0.232
Sharing the same soap/toiletries/towel does not have influence	0.218
Diabetes causes disease	0.192
Visit quack doctors as they have faith in them and words of mouth	0.161
Have to use/share/reuse clothed napkins during menstruation due to limited resources	0.134
Depends on OTC drugs due to limited resources	0.131
Changing clothes twice is sufficient to prevent disease	0.120
Changing clothes only if it gets wet	0.109
Getting treated by dermatologist is costly and medicines are expensive	0.101
Attended Govt hospital as free treatment is given	0.099
Frustration due to recurrence of disease despite of spending lot of money	0.090
Not taking regular bath predisposes tinea	0.038
Treatment interruption due to pregnancy	0.030

was  $37 \pm 11.43$  years. Study subjects were from both rural and urban areas (66.67% vs 33.33% for females and 50% vs. 50% for males). Only 33% were illiterate and 11% were from tribal population.

Overall two FGDs were conducted to explore perceptions toward the disease. The participants were patients with dermatophytosis, who received treatment but were having relapsing-and-remitting course for more than six months. Simultaneously, their perceptions regarding preventive measures and personal hygiene were also assessed. Among the 12 patients, nine had both tinea corporis and cruris, two had tinea corporis and manuum, and one had tinea corporis only. Some major themes obtained from them were as follows:

### **Prevention and role of personal hygiene**

Most of the patients thought that cleaning rooms with antiseptics (solutions containing cetrimide and chlorhexidine) is a good way of getting rid of persistent dermatophytosis. They have highlighted their understanding that changing of clothes soaked with sweat at least twice a day and cleaning them in soap or antiseptic solution can prevent the recurrent infection. The respondents felt strongly that sun-dried clothing plays an important role in preventing recurrence. Regular and repeated bathing was perceived as one of the factors which could prevent the

disease. One of the study participants said, "We don't have much economic well-being and we share clothes with our siblings which might have played a role in propagation of the infection among the family members." Few ladies in the study population highlighted that they have to use cloth sanitary napkins and reuse it after cleaning and said, "We don't have the money to buy sanitary pads."

### **Traditional belief**

Socio-cultural beliefs also play an important role in disease propagation. A few participants shared their belief that smearing earthen wall with cow-dung is enough to prevent the disease. They did not consider that amulet and sacred threads soaked with sweat or water during bathing can play any role in propagation of the disease and said, "The amulet is to protect us from ill-fate and we would never let it go." They were under the belief that bathing with neem leaves offer protection from the disease.

### **Ignorance about the disease**

Ignorance about the cause of dermatophytosis plays an important role in disease propagation. Sharing the same soaps, toiletries, and towels was revealed by most of the participants and it was not perceived to spread the disease. Besides ignorance, they had to follow few habits because of poor economic resources. One person said, "We share

**Table 2: Pile sorting of perceptions given by tinea patients into themes**

Pile number	Theme	Perception of respondents regarding tinea	Reasons for grouping
1.	Prevention and role of personal hygiene	<ol style="list-style-type: none"> <li>1. Washing of clothes with soap and antiseptics prevent disease</li> <li>2. Drying the clothes under sun prevent disease</li> <li>3. Cleaning rooms with antiseptics prevents disease</li> <li>4. Changing clothes twice is enough to prevent disease</li> <li>5. Changing clothes only if it gets wet</li> <li>6. Sharing clothes should be avoided</li> <li>7. Have to use/share/reuse clothed sanitary napkins during menstruation due to limited resources</li> <li>8. Not taking regular bath predisposes tinea</li> </ol>	Directly related to personal hygiene and prevention of disease
2	Traditional belief	<ol style="list-style-type: none"> <li>1. Earthen wall and floor smearing with cow-dung prevents disease</li> <li>2. Bathing with neem leaves prevents disease</li> <li>3. Do not change the amulet, sacred thread even after bathing or when gets wet</li> </ol>	Directly related to traditional belief of the respondents.
3.	Ignorance about the disease	<ol style="list-style-type: none"> <li>1. Caused due to treatment of concurrent illnesses (leprosy and MDT; acidity and proton pump inhibitor)</li> <li>2. Sharing the same soap/toiletries/towel does not have influence</li> </ol>	Directly related to lack of knowledge and awareness gap of the patients
4.	Understanding the predisposing factors of disease	<ol style="list-style-type: none"> <li>1. Bathing in ponds, using mustard oil spreads the disease</li> <li>2. Conjugal life spreads the disease</li> <li>3. Working for more than 5-6 hours, under sun, playing outdoors, household job, synthetic clothing all lead to more sweating and cause tinea</li> <li>4. Staying in wet clothes causes tinea</li> <li>5. Not changing undergarments for prolonged time spreads disease</li> <li>6. Treatment interruption due to concurrent pregnancy</li> <li>7. Diabetes cause tinea</li> </ol>	Directly related to factors responsible for development of disease
5.	Care seeking behaviour	<ol style="list-style-type: none"> <li>1. Visit unqualified doctors/quack doctors as they have faith in them and words of mouth</li> <li>2. Depends on OTC drugs due to limited resources</li> <li>3. Getting treated by dermatologist is costly and medicines are expensive</li> <li>3. Frustration due to recurrence of disease despite spending lot of money</li> <li>4. Attended Govt. hospital as free treatment is given</li> </ol>	Directly related to care seeking behaviour of patients.

same soap as it is not possible to buy for everyone.” A few patients thought that the disease arose from the treatment of concurrent illnesses. One respondent said, “My uncle told me that it is due to the MDT I am receiving for leprosy.” Even some participants thought that the disease was caused by the treatment they received for acidity and heart burn. They considered the medicines they took for unrelated illnesses as the cause for persistence of dermatophytosis.

### *Understanding the predisposing factors of disease*

The study population identified various factors which they perceived as the cause of the disease. One patient said, “I think bathing in pond after applying mustard oil must be the cause of the disease persistence”. The patients were in agreement that staying in wet clothes and not having the opportunity to change the undergarments when they are working outdoor for prolonged time periods (five—six hours) played definite role in the predisposition and propagation of the disease. The study participants strongly believed that sweating predisposes people to tinea and even household jobs with synthetic garments lead to lots of

perspiration and thus, propagates the disease. Transmission of disease from the spouse as a result of conjugal life was identified as a predisposing factor. There was one lady said, “I contacted the disease in the early months of pregnancy, but could not take medicine risking the health of my child; thus the disease had spread and became unresponsive to medicines later.” Diabetes was also perceived to play a role in predisposing people to unresponsive tinea.

### *Care seeking behavior*

Very few of the patients attended government hospitals and those who attended went there because of the availability of free treatment. One patient said, “I thought this will be cured by applying cream bought in local medicine shop.” Another respondent said, “I had consulted local quack as we often do for other diseases.” Majority of the patients had consulted local quack or health centers initially and subsequently, either got referred or visited the tertiary care center for treatment.

Patients thought that visiting a dermatologist and buying medicines would be expensive. Two patients even got

frustrated due to recalcitrant nature of the disease in spite of spending lots of money.

## Discussion

Maintenance of personal hygiene has been identified since ages as an important pillar to avoid dermatophytosis, its spread, recurrence, and persistence. People living in hot and humid conditions are at a greater risk of developing the infection. Experts agreed that patients should be educated about personal hygiene, clothing, skin care, corticosteroid abuse, adherence to general measures, and compliance to treatment to ensure successful outcome.<sup>[9]</sup> Our study has highlighted that traditional beliefs and social customs hinder the maintenance of personal hygiene in some cases. In our study participants, the presence of tinea was noted around the site of amulet and religious thread [Figures 2 and 3] but the patients paid no heed to it and were reluctant to take them off even after the debriefing at the end of the session. Similar instances of tinea around areas of religious thread was also found in other case reports as well.<sup>[10]</sup> This is one of the many instances where religion takes precedence over science and the need of the hour becomes to ensure proper information, education, and communication (IEC).



**Figure 1: Cognitive Map with Two-dimensional scaling and hierarchical cluster analysis of perceptions among dermatophytosis patients.** 1. Caused due to treatment of concurrent illnesses (leprosy and MDT; acidity and proton pump inhibitor) 2. Bathing in ponds, using mustard oil spreads the disease 3. Conjugal life spreads the disease 4. Working for more than 5-6 hours, under sun, playing outdoors, household job, synthetic clothing all lead to more sweating and cause tinea 5. Staying in wet clothes causes tinea 6. Not changing undergarments for prolonged time spreads disease 7. Washing of clothes with soap and antiseptics prevent disease 8. Drying the clothes under sun prevent disease 9. Cleaning rooms with antiseptics prevents disease 10. Earthen wall and floor smearing with cow-dung prevents disease 11. Bathing with neem leaves prevents disease 12. Sharing the same soap/toiletries/towel does not have influence 13. Changing clothes twice is enough to prevent disease 14. Changing clothes only if it gets wet 15. Sharing clothes should be avoided 16. Do not change the amulet, sacred thread even after bathing or when gets wet 17. Have to use/share/reuse clothed napkins during menstruation due to limited resources 18. Visit unqualified doctors/ quack doctors as they faith in them and words of mouth 19. Depends on OTC drugs due to limited resources 20. Getting treated by dermatologist is costly and medicines are expensive 21. Frustration due to recurrence of disease inspite of spending lot of money 22. Attended Govt. hospital as free treatment is given 23. Treatment interruption due to pregnancy 24. Diabetes cause tinea

Attributing dermatophytosis to concurrent illnesses and the treatment they are receiving for those disorders has got profound implications. Such misconception is likely to encourage people to discontinue the other essential treatments they are receiving and would make them ignore actual predisposing factors. The false notions result due to ill-informed or misinformed patients. The society, including family and friends, plays an important role in spreading such erroneous ideas. Thus, it is important to have widespread dissemination of IEC materials to disperse the ignorance. Similarly, ignorance about the role of shared soaps, toiletries, and towels is an important factor playing a role in dissipation of the disease and proper counselling can help in breaking this barrier of ignorance. Ignorance is compounded by the fact that purchasing ability also restricts maintenance of proper hygiene. The qualitative research brought forth the fact that many household cannot afford to buy separate soaps for all family members due to lack of economic resource. Similarly, ladies have to continue using cloth-napkin even in today's world because of economic constraints.

Our study has found that the patients have also gained some insight into the predisposing factors through their own experience, understanding, and common sense. Most of them apprehended the role of sweat in predisposing and propagating the disease but they were forced to stay in wet clothes for long hours because of the quality of their work. Few of them could realize that the disease is contagious and spreads through conjugal relations and the risk factor of diabetes could be realized as well. The contagious nature of this disease has been established by the fact that having tinea patient in the family is a definite risk factor. Studies have also highlighted the role of diabetes as a risk factor for recurrent tinea.

Tinea in pregnancy is a bigger threat and in one of the participants, the tinea grew extensively during the period of pregnancy since oral antifungals could not be used. It needs to be emphasised that with the Food and Drug Administration (FDA)'s Pregnancy and Lactation Labeling Rule (PLLR) the world is moving away from the pregnancy category but we have to depend on the former system till the PLLR list is upgraded for antifungals.<sup>[11]</sup> Choosing antifungals during pregnancy is a



**Figure 2: Tinea around the religious thread (Tulsi beads) around neck**



Figure 3: Tinea around the religious thread around arm

difficult issue since sparing systemic antifungals and a few topical antifungals (clotrimazole, terbinafine, ciclopirox, naftifine, oxiconazole) none are of the pregnancy category B.<sup>[12]</sup> Thus in the present time, tinea during pregnancy is a major challenge which continues during lactation as well.

The people of rural areas mostly take bath in the pond and smear their body with mustard oil and few of them have attributed this habit to their recurrent tinea. There have been studies which has reported antifungal properties of mustard oil<sup>[13]</sup>; thus the notion regarding the role of mustard oil needs further bio-medical research and meanwhile,

exploring other confounders which may be related to their bathing habits is also the pertinent to the issue. Traditional beliefs are deep-rooted in the minds of participants and they expressed it through their faith on the antifungal property of cow-dung and neem leaves. A search in pubmed data base with key words “cow dung’ AND “antifungal” returned no articles where the role of cow-dung is documented to have antifungal property. Presence of small antifungal peptide produced by strain D4 of *Bacillus megaterium* found in dung of wild plateau yak has been highlighted in one study.<sup>[14]</sup> It needs to be emphasised that this data cannot be extrapolated to cow-dung since strain D4 is not reported in cow-dung.<sup>[14]</sup> Thus, it is needed that myths regarding the antifungal role of cow-dung be dispelled by adequate counselling.

On the contrary, in a study exploring the antifungal property of neem leaves, it was documented that 20% ethyl acetate extract has its inhibitory effect on *Aspergillus flavus*, *Aspergillus fumigatus*, *Aspergillus niger*, *Aspergillus terreus*, *Candida albicans*, and *Microsporium gypseum*. Similarly, another study has documented antifungal effects of aqueous extracts of neem inhibiting both spore germination and mycelial growth of *Epidermophyton floccosum*, *Microsporium canis*, and *Trichophyton mentagrophytes*.<sup>[15]</sup> Thus, traditional beliefs on neem have scientific evidence to back up the claim.

Regarding antiseptics, we have noted most of the study participants have strong conviction on these antiseptic lotions to combat the menace of fungal infection. There are reports that antiseptics, including chlorhexidine and chloroxylenol<sup>[16]</sup> have antifungal properties but all the studies have investigated its efficacy on *Candida*; thus it would be premature to rely on the antiseptics to control dermatophytes.

Moist, warm environment, sharing of towels and clothing, and wearing of occlusive clothing<sup>[17]</sup> have been long recognized as risk factors of tinea. The role of sweating was perceived by the study participant and they have dispelled the idea that only outdoor work is responsible for the spread of the disease. Indoor household jobs, especially with occlusive synthetic garments, are equal culprits in causing perspiration and predisposing tinea. In recent years, role of personal hygiene has been highlighted to have huge impact on chronic and relapsing tinea. Increase in the frequency of daily bath, washing clothes (as well as undergarments) have been shown to be associated with less incidence of tinea.<sup>[18]</sup> The study participants reiterated the same and uphold their belief that sun-dried clothes can help in preventing the condition by controlling the dampness in the clothes. Similar recommendation on sun-dried clothes have been introduced recently,<sup>[19]</sup> for managing the menace; thus, there is no conflict in ideation in this regard. There is also realization among our study population that wet and sodden clothes can harbor fungal agent and this would

prove beneficial if these notions can be dissipated to the community as educational material of IEC. Understandably, those ideas, which have emerged in their own mind, would be more welcome and better adapted in life-style modifications.

One of the big impacts of dermatophytosis is on the quality of life (QoL) among patients of dermatophytosis, particularly in the young, economically active group. Chronic dermatophytosis with increasing cost of therapy is seen to be producing severe financial strain for lower socio-economic class of patients.<sup>[20]</sup> The participants of our study also emphasized on the cost of therapy and it was evident that the care seeking behavior is largely dictated by the economic burden. In India, the treatment cost comes from out-of-pocket expenses and the participants expressed the rising cost of medications as a hindrance that forces them to go for OTC medications. Previous studies have highlighted the fact that benefit of the drug-price control (DPCO) on antifungal drugs is not reaching the needy since the drugs mostly prescribed (azoles and allylamines) are not included in DPCO.<sup>[21]</sup> Thus, there is a need for revising the DPCO list as per the present prescription pattern and evidence-based medicine. The government hospitals are favoured by many since they get consultation and medicines free of cost. The choice for non-qualified doctors (quack doctors) is a result of the faith that patients have in them. This is a matter of serious introspection for doctors as to how the faith on qualified medical system be restored among patients. In this regard, the Indian Association of Dermatologists, Venereologists and Leprologists (IADVL) constituted a task force (IADVL Task Force against Recalcitrant Tinea [ITART]) in 2017, to combat this public health menace. One of ITART's activities has been the formation of a group of experts to formulate guidelines for the management of dermatophytosis in India since the standard treatment regimens are not particularly effective.<sup>[4]</sup> The resulting frustrations are perceived in the study population since they have spent a lot of money without getting relief. This frustration can lead to depression and psychological morbidity due to tinea in years to come.

The study is limited by the fact that only those participants who can communicate in the vernacular are included in the study.

## Conclusions

The study has highlighted the need for addressing the myths and traditional beliefs which are not supported by scientific evidence. These false beliefs can further deteriorate the appalling situation that we are facing now. Economic burden in the treatment of dermatophytosis is a practical problem since the healthcare expense comes from out-of-pocket expenditure and the need for intruding price-control for mostly-prescribed antifungals can bring relief to the sufferers. People are mostly aware of the

preventive measures but cannot implement them because of their socio-economic conditions and professional responsibilities, which requires them to stay in hot and humid environment and does not afford the opportunity to frequently change their wet and sodden clothing. The study highlights that the IEC activities should focus more on eradicating the ignorance regarding the disease, predisposing factors, prevention and role of personal hygiene, dispelling the traditional beliefs and myths, and, of course, prompting them to adopt early healthcare seeking attitude.

## Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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## Conflicts of interest

There are no conflicts of interest.

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