

The Perception of Dermatologists towards the Outcome of Ayurvedic Therapy for Psoriasis

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Abstract

Introduction: The use of Ayurvedic medicines have been increasing for skin ailments. The medical fraternities are concerned about the safety and efficacy of Ayurvedic products. We conducted this study because there is a scarcity of data regarding the perception of dermatologists towards the Ayurvedic treatment for psoriasis.

Objective: We would like to understand the perception of dermatologists regarding the outcome of Ayurvedic therapy for psoriasis.

Method: This cross-sectional pilot survey was executed after an approval from the institutional ethics committee, in Mumbai metropolitan area in India using pre-validated questionnaire to collect the data from 100 dermatologists. The questionnaire consisted of 4 sections: 1) Dermatologists' demographics, 2) Dermatologists' perception regarding the Ayurvedic therapy, 3) Dermatologists' general attitude towards the use of the Ayurvedic therapy for psoriasis and 4) Their personal experiences about the Ayurvedic therapy. The data were analyzed by descriptive statistics.

Results: The dermatologists perceived that the impact of the Indian culture and the desire for a better outcome were the primary reasons for the use of Ayurvedic medicines by the patients. 95% of the dermatologists were aware about the patients' use of the Ayurvedic medicines for psoriasis. 56% dermatologists observed various skin related outward effects in the patients who claimed taking Ayurvedic medicines for psoriasis. 55% dermatologists did not comment on the effectiveness of the Ayurvedic therapy on scaling, thickness and the redness of skin. 57% dermatologists did not comment on the effectiveness of the Ayurvedic therapy on itching and the size of the affected areas in psoriatic patients. 22% Dermatologists strongly agreed and 55% agreed that they should have the knowledge of Ayurvedic drugs for psoriasis. As per the dermatologists (53% strongly agreed and 38% agreed), the patients should inform them about their use of Ayurvedic medicines. 36% dermatologists strongly agreed and 40% agreed that they should be able to advise their patients about the pros and cons of the concomitant use of the Ayurvedic therapy with the modern medicine. 56% dermatologists strongly agreed and 26% agreed that the Ayurvedic medicines not tested by modern scientific methods should be discouraged. 16% dermatologists reported that they used Ayurvedic medicines.

Conclusion: The perception of dermatologists regarding the Ayurvedic drugs-use is mixed. Rigorous steps are needed to bridge the gap between dermatologists and their knowledge about Ayurvedic therapies for treating the patients suffering from incurable diseases like psoriasis. We provide recommendations to bridge this gap.

Keywords: Psoriasis; Dermatologists; Perception; Ayurvedic drugs; Ayurveda; Questionnaire; Adverse effects; Concomitant ayurvedic; Allopathic therapy

Introduction

The role of the traditional, complementary and alternative medicine (CAM) is becoming important in the healthcare systems of both the developing and the developed countries [1-3]. There is a growing evidence of an extensive CAM use among the patients of psoriasis. A variety of therapeutic procedures as well as medicines derived from plants are included in CAM. Medicinal plants are an integral part of CAM. The plant-derived medicines have made large contributions to human health and well-being [4]. Patients perceive that CAM has a

potential to heal diseases and improve the quality of life in skin diseases including psoriasis. This is one of the primary reasons behind the CAM usage. Some patients have chosen CAM because they have an interest in a less toxic treatment, and are disappointed with conventional treatments. Some patients also seek CAM in the hope of the stress reduction needed for the psoriasis control [5,6].

However, the use of some of the complementary and alternative therapies has been associated with adverse reactions, drug interactions, and a low adherence to prescription drugs [7]. Therefore, the importance of open patient-doctor discussions on CAM has been repeatedly highlighted [8]. Despite a high prevalence of the CAM usage for skin ailments, there is very limited data on dermatologists' attitudes and knowledge about CAM. The dermatologists are less likely

to predict the CAM use in their patients and in the majority of cases the CAM use was not discussed [9,10]. Ayurveda, a well-recognized alternative system of medicine by National Center for Complimentary and Integrative Health (NCCIH), is the oldest Indian traditional system of Medicine. It has been practiced in India since at least 5000 years. The Government of India has officially accepted Ayurveda as a system of medicines. Ayurveda has also been used in countries where the modern medicine is primarily used in the national healthcare system [11,12].

Ayurveda medicines have been used by a majority of the Indians either alone or in combination with the modern medicines for various ailments at least once in their lifetime [12-14]. Sometimes patients used Ayurveda on their own without taking the advice of Ayurveda physicians. As most of the Ayurvedic drugs are not tested in modern scientific ways and as the system is not integrated with the modern medicine therapy, there can be issues affecting the modern medicine physicians as well as the patients. There is a popular mistaken belief about the Ayurvedic medicines that the Ayurvedic therapy is totally safe and without any adverse reactions. In the study done by Thatte et al., the majority of Ayurvedic physicians accepted the possibility of adverse effects by Ayurvedic drugs if prescribed irrationally and or due to faulty manufacturing processes [15].

A few studies were conducted in Europe to find out the perception of the modern medicine physicians regarding the integration of CAM therapies for the benefits of patient care [3,5,6,16]. Some studies were carried out in India to find out the perceptions of the modern medicine physicians towards the Ayurvedic therapy and patients seeking the Ayurvedic therapy [17-21]. They found some positive vibes towards Ayurveda. However, there is a scarcity of data regarding the perception of dermatologists toward this ancient medical science. With this background of the increased use of Ayurveda medicines for skin ailments [13,14] and the concerns of the medical fraternities' regarding the safety and efficacy of the Ayurvedic products [7,22,23], it is critical to understand the perception of dermatologists towards the outcome of the Ayurvedic therapy for psoriasis. Therefore, we conducted this study.

Methodology

This cross-sectional pilot survey was executed from December 2014 to January 2017 after an approval from the institutional ethics committee (EC/OA-01/2014) of Seth G.S.M.C. & KEM Hospital, Parel, Mumbai, India. A pre-validated questionnaire was used for the data collection. The questionnaire was distributed in-person to the participating registered practicing dermatologists. Their written consent was taken for the participation. 205 dermatologists practicing either in a tertiary care or in a private clinic in Mumbai, and its suburban area were approached in order to collect the data. Registered dermatologists who were practicing in Mumbai metropolitan area, having experience of treating psoriatic patients during their practice, and able to give written consents for the volunteer participation were included in the study. 100 practicing dermatologists consented to participate (Figure 1).

The questionnaire consisted of 4 sections:

- Section 1: Covered dermatologists' demographics. The questions collected information on age, gender, qualification, the years of experience, clinical practice set up, the number of psoriatic patients seen per month and the training of Ayurveda.

- Section 2: Focused on the dermatologists' perception regarding the Ayurvedic therapy. The questions captured data on the dermatologists' awareness regarding the patients' past use of Ayurvedic drugs alone (without any allopathic therapy), the number of patients taking the Ayurvedic therapy in combination with the allopathic therapy, and the dermatologists' perception regarding the reasons behind the patients seeking the Ayurvedic care. The questions captured information whether the dermatologists gathered Ayurvedic treatment history of the patients, and the role of the dermatologists in modulating the Ayurvedic treatment. We inquired about the dermatologists' role in deciding whether to make changes in the allopathic therapy, stop the Ayurvedic drugs completely or taper the dose of Ayurvedic drugs based on the patients' needs. Questions regarding the dermatologists' awareness of various Ayurvedic drugs and procedures received by psoriatic patients were asked. Questions also inquired about any adverse effects related to the Ayurvedic drugs observed by the dermatologists in their practice, and their perception regarding the effectiveness of the Ayurvedic therapy.

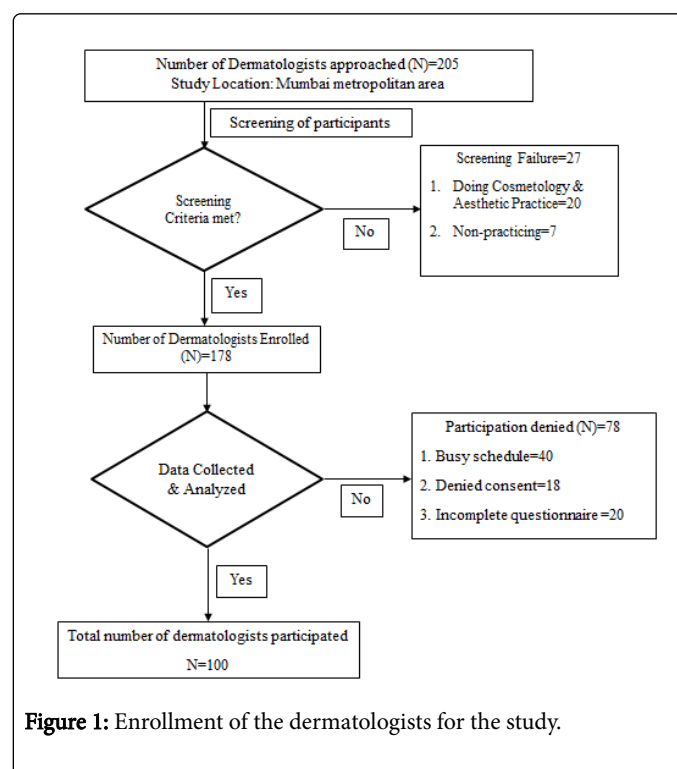


Figure 1: Enrollment of the dermatologists for the study.

- Section 3: Included questions related to the dermatologists' general attitude towards the use of the Ayurvedic therapy for psoriasis and communicating to the patients about the Ayurvedic therapy. The dermatologists' perceptions regarding the integration of the Ayurvedic therapy with allopathy for psoriasis were also recorded.
- Section 4: Inquired about the dermatologists' personal experiences about the use of the Ayurvedic therapy for their own health or the health of their friends or family.

All the questions were validated by 8 subject-experts. The range of the Content Validity Ratio (CVR) of the questions was 0.5 to 1. The Content Validity Index of the questionnaire was 0.96 [24]. The questionnaire contained 12 yes/no type questions, 8 open-ended questions, 12 questions with options in 5-points-Likert-scale. The data were analyzed by descriptive statistics (i.e., providing useful summaries of the data observed <https://en.wikipedia.org/wiki/>

Descriptive_statistics). Results are reported in percentage (%), medians and ranges of the parameters.

Results

The data analyses are depicted in Tables 1-4. Out of 100 participant dermatologists, only 2 dermatologists had taken training in Ayurveda. Table 3 depicts the dermatologists' perception regarding the patients' reasons for seeking the Ayurvedic care. The following were the other reasons given by the dermatologists. 20% dermatologists felt that the patients have a misconception that the Ayurvedic drugs have no side

effects, 10% dermatologists reported that the patients have a belief that Ayurvedic drugs provide a permanent cure; 8% reported peer pressure as another reason. According to 5% dermatologists, the patients perceived that Ayurvedic drugs would be a better option for chronic diseases. Dissatisfaction with the modern therapy was the reason given by other 5% dermatologists. A social stigma with the disease, advertisements of Ayurveda therapies and lower prices were the reasons given by 2% dermatologists each. 1% dermatologists thought self-medication might be the reason behind using the Ayurvedic therapy.

| | |
|-----------------------------|----------------------------------|
| Gender | Male: 52, Female: 48 |
| Years of Experience (range) | 1-35 years |
| Median experience | 10 years |
| Median Age | 39 years (age-range 26-63 years) |

Table 1: Demographics of the dermatologists.

| | |
|--|--|
| Number of dermatologists aware about the past use of Ayurvedic therapy for psoriasis in their patients | 95 (95%) |
| Number of dermatologists aware about the past use of Ayurvedic therapy along with allopathy for Psoriasis in their patients | 81 (81%) |
| The range of psoriatic patients treated per year by dermatologists | 24-3600 (Median=240) (Interquartile range=180-360) |
| The range of patients who consulted dermatologists in the previous year with the history of the use of Ayurvedic medicines for psoriasis. | 1-1080 (Median=72) (Interquartile range=24-144) |
| The range of patients who consulted dermatologists in the previous year with the past history of the use of Ayurvedic Medicines along with allopathy for psoriasis | 0-1200 (Median=24) (Interquartile range=5-72) |

Table 2: The dermatologists' awareness regarding the use of the Ayurvedic therapy for psoriasis in their patients.

| | |
|--|-----|
| Allopathic drugs have more side effects | 59% |
| Allopathic drugs are not effective | 18% |
| A desire for better outcome | 63% |
| Due to lifestyle changes and dietary advices | 46% |
| The impact of the Indian culture | 72% |
| A high accessibility of Ayurvedic medicines without prescription | 57% |
| Other reasons | 46% |

Table 3: The dermatologists' perception regarding the patients' reasons for seeking the Ayurvedic Care.

| | Strongly agreed (%) | Agreed (%) | Neutral (%) | Disagreed (%) | Strongly disagreed (%) | Did not attempt the question (%) |
|---|---------------------|------------|-------------|---------------|------------------------|----------------------------------|
| Dermatologists should have some knowledge about the most common Ayurvedic medicines/therapies used for psoriasis. | 22 | 55 | 10 | 10 | 3 | 0 |
| The use of Ayurvedic medicines/therapies should be asked during history-taking | 50 | 44 | 3 | 2 | 1 | 0 |
| Patients should inform the doctor about their use of Ayurvedic medicines for psoriasis | 53 | 38 | 6 | 1 | 2 | 0 |

| | | | | | | |
|--|----|----|----|----|----|----|
| Dermatologists should be able to advise their patients about the pros and cons of the combination of Ayurvedic therapies with allopathic medicines used for psoriasis. | 36 | 40 | 13 | 7 | 1 | 3 |
| The Ayurvedic medicine is complementary to regular medicine for psoriasis | 8 | 11 | 44 | 24 | 11 | 1 |
| Clinical care should integrate the best of the allopathic and Ayurvedic medicine/therapy to treat psoriasis | 19 | 28 | 27 | 16 | 6 | 2 |
| Ayurvedic therapies/medicines, which are not tested scientifically should be discouraged | 56 | 26 | 13 | 1 | 3 | 0 |
| The use of the Ayurvedic medicine/therapy in the treatment of psoriasis is debatable | 25 | 33 | 26 | 8 | 1 | 7 |
| Dermatologists should not discuss the Ayurvedic therapy/medicine with their patients | 10 | 22 | 34 | 22 | 3 | 10 |

Table 4: The dermatologists' attitude towards the Ayurvedic therapy for psoriasis.

Ninety three percent of dermatologists asked their patients about the history of the use of Ayurvedic Medicines for psoriasis. On the question about the impact of the Ayurvedic therapy on allopathic drugs, 52% dermatologists felt that the patients' Ayurvedic therapy have an impact on the allopathic treatment. When asked about the dermatologists' decision on the continuation of the Ayurvedic medicines while starting an allopathic therapy; 66% dermatologists stopped the Ayurvedic therapy before giving the allopathic treatment. 26% dermatologists tapered the Ayurvedic medicines. 28% dermatologists started the allopathic therapy irrespective of the Ayurvedic therapy (more than 1 option was selected by some dermatologists). Their decisions were based on the types of the medicines taken, and the patients' conditions.

When asked about the Ayurvedic therapy (either drugs or therapeutic procedures) taken by the psoriasis patients, 60% dermatologists came across the various Ayurvedic medicines or procedures taken by their patients. However, only 9% were able to tell names of the Ayurvedic medicines. These were Immupsora, 777 Oil, Manjisthadi kadha, Karanj oil, Gandhak Rasayan (detoxified Sulfur processed with herbal juice), Skiwa capsules, Neem-leaves-water-bath, Haldi (turmeric) capsule etc. 10% dermatologists told that the psoriatic patients used the panchakarma (a 5-steps detoxification process purifying the patient's body) procedure as an Ayurvedic therapy for psoriasis but couldn't tell which types of medicines or procedures were used for panchakarma. Most of the dermatologists were unable to tell the name of the Ayurvedic procedures or medicines used by the patients. The dermatologists mentioned that the patients could not tell the name or did not have the prescriptions or sometimes showed loose medicines in the form of powders (churna) or liquids without any name tags.

Fifty six percent dermatologists observed untoward effects in the psoriatic patients with a history of Ayurveda medicines. The types of untoward effects observed in patients taking Ayurveda medicines included contact dermatitis, precipitation of pustular psoriasis, exacerbation of psoriasis or existing patches, allergic rashes, erythroderma, increased pruritus, Cushing syndrome, sudden weight loss, wait gain, acneiform eruption, multiple furuncles, bloating of face, steroid induced moon face, erythema and irritation, pigmentation of the skin, and phototoxic dermatitis.

The dermatologists felt that it was inappropriate to comment on the effectiveness of the Ayurvedic therapy because they did not know about Ayurveda as they were not exposed to Ayurveda in their medical schools (Figure 2). We also wondered if the healing of psoriasis by Ayurveda improved the social life of the patients. When asked the dermatologists regarding this aspect; 59% did not comment, while 23% remained neutral. 7% said it improved the patients' social life (Figure 3).

When asked the dermatologists about their personal experiences of Ayurveda, 16% dermatologists reported that they had consulted and taken treatment from Ayurvedic practitioners for their own health and 8% dermatologists got benefited by the Ayurvedic therapy. When enquired about the personal experiences of Ayurveda in regards to family and friends; 59% dermatologists reported that their friends or family members consulted Ayurvedic practitioners for various ailments. Out of 59%; 31% dermatologists reported that their friends/family benefited due to the Ayurvedic treatment obtained from Ayurvedic physicians (Figure 4).

We also wondered if the dermatologists used Ayurvedic therapies to treat illnesses for their own. Only 16% dermatologists self-administered Ayurvedic medicines or homemade remedies. 12% dermatologists benefitted from the self-administration of the Ayurvedic medicines or homemade remedies. 16% dermatologists followed dietary restrictions. 15% dermatologists got a benefit from dietary restrictions. 4% dermatologists reported the use of Ayurvedic therapeutic procedures (panchakarma) under the guidance of Ayurvedic physicians. The dermatologists also mentioned the self-administered lifestyle changes.

The dermatologists gave the name of Ayurvedic preparations like Kutaj, Adulsa syrup, Triphala churna, Sitophaladi churna, Ashwagandha, Yastimadhu, Kumari asav, Amala, Haridra, Vekhand, Curcumin powder with milk, Cystone, Septiline, Spirulina, capsule Swika, psoralen, Liv 52, Vitiloplex, Whit Care ointment, and Ayurvedic lotions. Shirodhara (head-bath with oil), Nasya (nasal instillation), Abhyangsnanam (oil-massage followed by a shower), Basti (enema) were the panchakarma procedures used by the dermatologists themselves under the guidance of an Ayurvedic physicians. Relaxation and improved skin tone were the benefits experienced by them.

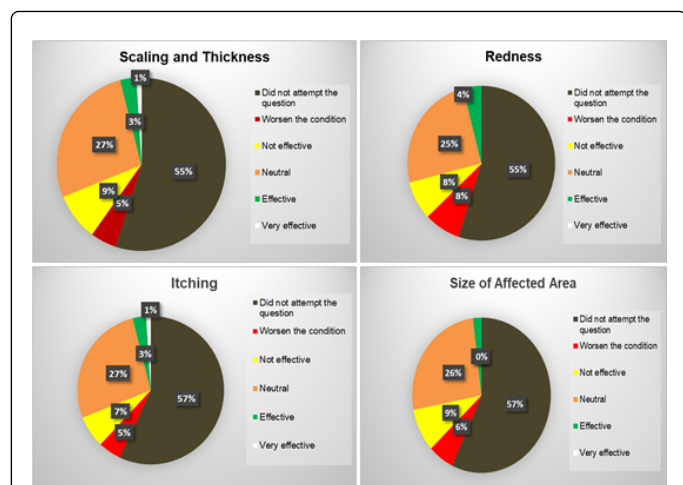


Figure 2: The dermatologists' perception regarding the effectiveness of the Ayurvedic therapy on psoriatic skin lesions.

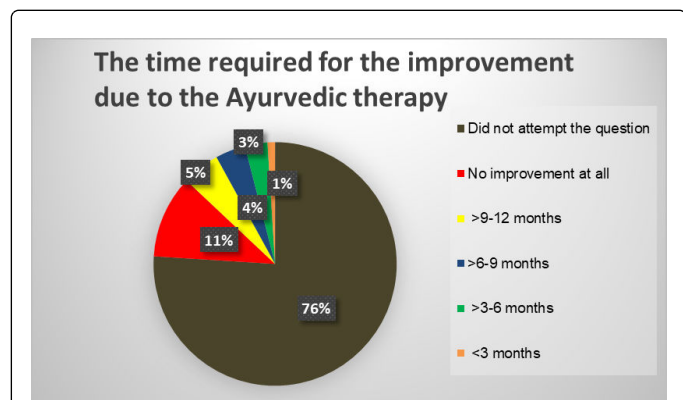


Figure 3: The dermatologists' perception regarding the time required for the improvement due to the Ayurvedic therapy in psoriatic patients.

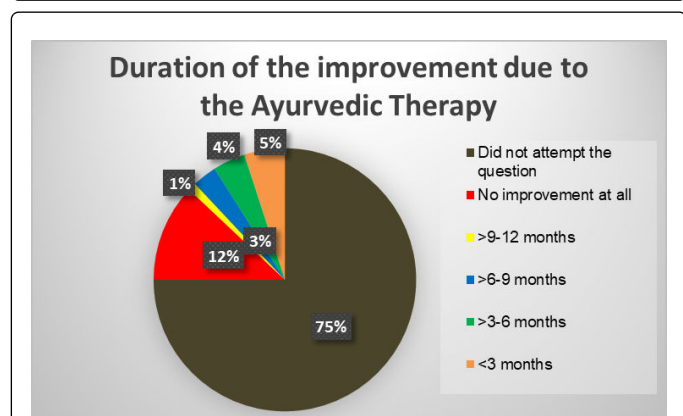


Figure 4: The dermatologists' perception regarding the duration of the improvement due to the Ayurvedic therapy in psoriatic patients.

Discussion

This study reports the perceptions of the practicing dermatologists regarding the outcome of the Ayurvedic therapy for psoriasis. We found that psoriatic patients ranging from 24-3600 (Median=240, interquartile range=180-480) consulted the dermatologists in the previous year for psoriasis. It is a self-reported figure by the dermatologists. So there could be a potential recall bias. A proper record/register of the psoriatic patients visiting the dermatologists could give a more accurate rate of psoriasis patients visiting the dermatologists.

The data of our study indicate that a substantial percentage of the dermatologists enquired about the use of Ayurvedic medicines for psoriasis while capturing the history. This indicates an awareness of the dermatologists regarding the patients' inclination towards Ayurveda. As per the dermatologists' perception 1 to 1080 (median=72, interquartile range=24-144) psoriatic patients (seen in the previous year in their practice) used Ayurveda (without allopathy) for psoriasis during their lifetime. As per the dermatologists' perception 0 to 1200 (Median=24, interquartile range=5-72) psoriatic patients (seen in the previous year in their practice) used Ayurveda along with allopathy for psoriasis. The dermatologists felt that an impact of the Indian culture and a desire for a better outcome were the main reasons for the psoriatic patients to seek the Ayurveda treatment.

59% dermatologists opined that the patients perceived that allopathic drugs have more side effects. A majority of the dermatologists felt that Ayurvedic drugs may affect the allopathic therapy if given concomitantly. A tendency to stop the Ayurvedic therapy before starting allopathic therapy was observed among dermatologists. Despite dermatologists' awareness about the use of Ayurvedic medicines by their patients, dermatologists were not able to tell the names of the Ayurvedic medicines. The dermatologists' major concern was their patients were not able to tell the names of the Ayurvedic preparations or did not have prescriptions and sometimes brought loose medicines without name tags. On enquiry from dermatologists, the patients simply mentioned that they had taken Ayurvedic medicines.

Many dermatologists observed untoward effects in their psoriatic patients who claimed using Ayurvedic medicines. As per the dermatologists, exacerbation of psoriatic lesions like erythema, itching, scaling, contact dermatitis, irritant dermatitis, photosensitivity, localized pustular psoriasis, etc., were the observed untoward effects in psoriatic patients (seeking their help) who claimed taking Ayurvedic therapy. However, there should be a proper investigation and a causality assessment before coming to any conclusion. The causality assessment for skin related adverse-drug-reactions (ADRs) from Ayurvedic therapies are not clear and whether the practicing dermatologists are really trained enough to do this analysis is an area for future investigation.

The majority of the dermatologists could not comment on the effectiveness of the Ayurvedic therapy for psoriasis because they felt it was inappropriate to comment on the therapy for which they did not have an expertise. In the dermatology curriculum as well as in the MBBS curriculum, the students are not exposed to the alternative medicine science. As per the medical council of India, allopathic practitioners are not allowed to prescribe the Ayurvedic medicines [25]. However, in India, the use of the Ayurvedic medicines is common in the society [12-14,19-21]. Under such a background, there is an urgent need to sensitize the dermatologists toward this ancient

traditional therapy of "Ayurveda" in order to prepare them in handling such cases with a positive approach. According to 6% dermatologists; some of their patients felt relief from psoriasis while on the Ayurvedic therapy.

Regarding the general attitude of the dermatologists towards the Ayurvedic therapy; the following things emerged from the study. A majority of the dermatologists were open to learn about the most common Ayurvedic medicines/therapies used for psoriasis. This indicates the willingness of the dermatologists to understand the Ayurveda. As the Ayurvedic therapy-use is increasing in the society, this type of attitude of dermatologists is very important and necessary. This is a positive vibe for a condition like psoriasis where different disciplines are tried by patients as well as physicians. A study conducted by Al Ghamdi et al. [26] has a finding similar to our study, where they have reported that 69% of the dermatologists were interested in CAM therapies and 65.6% dermatologists were interested in receiving CAM-specific-education. Shankar et al. [27] carried out a study in a medical school in Nepal to find out the medical students' opinion about CAM. They also reported that 62.2% of Medical students agreed to introduce the study module on CAM in the medical curriculum. As per Mankar et al.'s study on undergraduate medical students [28], most of the medical students felt the knowledge of Ayurveda was important. 89% of the students wished to gain the knowledge of Ayurveda [28]. The study done by Gawde et al. [21] in a tertiary care hospital in Mumbai reported that 76% modern medical physicians were interested in Ayurveda and they felt the integration of the modern medicine with Ayurveda might attract more patients.

In our study, the majority of dermatologists felt that they should be able to advise their patients about the pros and cons of the combination of the Ayurvedic therapy with allopathic medicines used for psoriasis. Our results are in concordance with Corbin et al. study [29]. They have found that 60% of the physicians' from a metropolitan city like Denver were interested in learning more about CAM. Their interest was mainly to understand the safety and efficacy of CAM; to receive factual information about CAM as well as to satisfy the patients' queries related to CAM [29].

There is a growing concern about the doctor-patient-communication regarding the use of CAM. A majority of the patients do not inform modern physicians about their use of CAM and the patients are also hardly inquired by the doctors about CAM use [13,14,29]. Our study indicated that a majority of dermatologists felt that the use of Ayurvedic therapy should be asked to the patients during the history-taking and the patients should co-operate in this process by informing dermatologists about their use of Ayurvedic medicines. So, the communication and history-taking becomes a rigorous exercise, but is needed to get an up-to-date information from the patients. This can help in prescribing a safe, effective patient-centric therapy.

In our study, many dermatologists (48%) agreed to integrate the best of the allopathic and the Ayurvedic medicine/therapy to treat psoriasis. However, only 2% dermatologists have taken training related to Ayurveda. If such a suggestion is taken into the consideration, and common alternative medicine therapies are introduced in the dermatology curriculum; it would open a new horizon for dermatologists and psoriatic patients. The patients' co-operation in informing the dermatologists about the Ayurvedic medicine use, and the dermatologists' awareness about the Ayurveda and its basic principles could be important in treating drugs-interaction cases. It would also help to give a proper therapeutic guidance to psoriatic

patients. In any chronic disease like psoriasis; where there is no cure, the patient has every right to venture into different medical disciplines. Therefore, the physicians handling such cases need to be aware of the different therapies for a proper guidance to the patients and to manage patients effectively.

A handful of dermatologists agreed that the Ayurveda medicine is complementary to the regular medicine for psoriasis. Our results are not in concordance with AlGhamdi et al. who reported 68% of dermatologists considered CAM to be a useful supplement to conventional medicine [26]. Our results might be due to a lack of exposure of dermatologists to Ayurveda. The dermatologists also expressed concerns about the safety of Ayurvedic medicines. They felt that the use of Ayurvedic medicines/therapy in the treatment of psoriasis is debatable. A majority agreed that the Ayurvedic therapies/medicines, which are not tested scientifically, should be discouraged. Our results are in accordance with AlGhamdi et al. who found that 69.9% dermatologists thought there should be a scientific basis for CAM [26].

However, a majority of the dermatologists remain neutral when asked if dermatologists should not discuss the Ayurvedic therapies/medicines with their patients. These might be because of MCI (Medical Council of India) rules and regulations in India, which sets rules for practicing allopathy [25]. As per the regulations; cross-discipline practices are not allowed for dermatologists. The reported rate of personal CAM use by dermatologists varies widely throughout the world [9,26]. In our study, very few dermatologists consulted Ayurvedic physicians for themselves and the most of those who consulted got benefited. Very few dermatologists were able to tell the names of Ayurvedic products. As these are not routinely used by dermatologists, it is difficult to memorize the names. A handful of dermatologists used Ayurvedic procedures for themselves with a proper guidance of Ayurvedic physicians and they found it to be beneficial.

Roy et al. study [14] reported that 58% modern physicians used CAM. Homeopathy and Ayurveda was two commonly used CAM by the physicians (for treating themselves) of the modern medical background in their study [14]. In our study, possible reasons for the less usage of Ayurveda by dermatologists for themselves could be a lack of knowledge of Ayurveda, their concerns regarding the effectiveness and safety of the Ayurvedic therapy, and an absence of the scientific evidence towards Ayurvedic therapies. These were reflected in the questions related to their opinion on the effectiveness of the Ayurvedic therapy for psoriasis.

A majority of the dermatologists reported that their friends and family members consulted Ayurvedic physicians for many clinical conditions. More than half of the dermatologists (who reported positively about friends/family use of Ayurveda) reported that their friends and family members got benefited from the Ayurvedic therapies received from Ayurveda physicians. This shows the popularity of Ayurveda and its inherent traditional culture which has been followed for years in the Indian population. The perception of dermatologists regarding Ayurvedic drugs-use is mixed. It would help their practice if a proper guidance on Ayurveda is provided.

Limitations of the Study

Our study sample was from only one region i.e. the metropolitan Mumbai, which represents only the urban area; so the data is not generalizable to other setups. The questionnaire was not complete in

terms of the detailing of Ayurvedic therapy enquiry (the information on procuring Ayurvedic treatment from registered Ayurveda practitioners or on their own or from quacks, the details of the Ayurvedic therapy taken by the patients, drugs-names, the duration of the Ayurvedic therapy taken by the patients, as well as the patients' compliance) and the availability of Ayurvedic therapies. The project is questionnaire-based so the data is based on the respondent's memory and his/her willingness to report it accurately. 50% practitioners, who were eligible, denied participation (due to their busy schedule) and their participation could have a different impact on the study findings.

Recommendations

- Dermatologists-patients communication: Dermatologists and patients should have an open and candid discussion regarding the use of the Ayurvedic therapy. Dermatologists should proactively ask psoriatic patients about the use of Ayurvedic medicines.

- An exposure to the Ayurvedic system of medicine:

- The dermatology students or medical undergraduates can be sensitized to commonly used Ayurvedic preparations for psoriasis in the medical curriculum. They could be posted for 2-3 months in Ayurvedic clinics in order to gain a basic knowledge of Ayurveda as well as commonly used Ayurvedic therapies for psoriasis and other skin ailments.
- Continuing Medical Education (CME) for practicing dermatologists: Topics related to Ayurveda, its principle and its role in treating chronic skin conditions like psoriasis should be discussed during CMEs. Dermatologists should be updated for commonly used Ayurvedic drugs for psoriasis as well as the basic concepts of Ayurvedic therapies.
- Diploma/certificate courses in Ayurveda for dermatologists can provide the gross knowledge of various Ayurvedic therapies as well as the basic principles of Ayurveda. The therapies/drugs and methodologies used in Ayurveda specifically for skin ailment including psoriasis should be incorporated in those courses.

- The guidelines from the Medical council of India, (including judiciary section) and the government policies should be modified for incurable chronic diseases such as psoriasis so that Ayurvedic practitioners and dermatologists could administer integrated therapies.

- Dermatologists-Ayurvedic physicians' communication: An open discussion between dermatologists and Ayurveda physicians while treating patients on concomitant therapy should be encouraged. Dermatologists should seek an expert opinion from the Ayurvedic doctor regarding the patients' past history of Ayurvedic medicines and potential untoward effects. A forum should be developed for both the disciplines to share their experiences and create an awareness regarding the common issues while treating patients on the concomitant therapy.

With this knowledge, dermatologists could also educate patients, answer the queries related to the concurrent use of both the therapies confidently and give a better individualized treatment to psoriasis patients.

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References

1. Clarke TC, Black LI, Stussman BJ, Barnes PM, Nahin RL (2015) Trends in the use of complementary health approaches among adults: United States, 2002-2012. *Natl Health Stat Report* 79: 1-16.
2. Subramanian K, Midha I (2016) Prevalence and Perspectives of Complementary and Alternative Medicine among University Students in Atlanta, Newcastle upon Tyne, and New Delhi. *Int Scholarly Res Notices*.
3. Falci L, Shi Z, Greenlee H (2016) Multiple Chronic Conditions and Use of Complementary and Alternative Medicine Among US Adults: Results From the 2012 National Health Interview Survey. *Prev Chronic Dis* 13: E61.
4. Mahomoodally M, Sreekeesoon D (2014) A Quantitative Ethnopharmacological Documentation of Natural Pharmacological Agents Used by Pediatric Patients in Mauritius. *BioMed Res Int* 1-14.
5. Ben-Arye E, Ziv M, Frenkel M, Lavi I, Rosenman D (2003) Complementary Medicine and Psoriasis: Linking the Patient's Outlook with Evidence-Based Medicine. *Dermatology* 207: 302-307.
6. Landis E, Davis S, Feldman S, Taylor S (2014) Complementary and Alternative Medicine Use in Dermatology in the United States. *J Altern Complement Med* 20: 392-398.
7. Sreekeesoon U, Shanoo S, Mahomoodally MF (2018) Adverse reactions of herbal medicine-A quantitative assessment of severity in Mauritius. *J Herb Medi* 12: 49-65.
8. Ge J, Fishman J, Vapiwala N, Li S, Desai K, et al. (2013) Patient-Physician Communication About Complementary and Alternative Medicine in a Radiation Oncology Setting. *Int J Radiat Oncol Biol Phys* 85: e1-e6.
9. Renzi C, Mastroeni S, Paradisi M, Mazzotti E, Pasquini P (2009) Complementary and Alternative Medicine: Knowledge and Attitudes among Dermatologists. *Acta Derm Venereol* 89: 642-644.
10. Barnes PM, Bloom B, Nahin R (2008) Complementary and Alternative Medicine Use Among Adults and Children: United States, 2007. *Natl Health Stat Report* 12: 1-23.
11. Elaheebocus N, Mahomoodally M (2017) Ayurvedic medicine in Mauritius: Profile of Ayurvedic outlet, use, sale, distribution, regulation and importation. *J Ethnopharmacol* 197: 195-210.
12. Gupta M, Shafiq N, Kumari S, Pandhi P (2002) Patterns and perceptions of complementary and alternative medicine (CAM) among leukemia patients visiting haematology clinic of a north Indian tertiary care hospital. *Pharmacoepidemiol Drug Saf* 11: 671-676.
13. Solanki RS (2016) Complementary and Alternative Medicine: Hidden presence among doctors and patients, an explorative study. *Panacea J Medi Sci* 6: 159-163.
14. Roy V, Gupta M, Ghosh RK (2015) Perception, attitude and usage of complementary and alternative medicine among doctors and patients in a tertiary care hospital in India. *Indian J Pharmacol* 47: 137-142.
15. Thatte U, Bhalerao S (2008) Pharmacovigilance of ayurvedic medicines in India. *Indian J Pharmacol* 40: 10-12.
16. Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, et al. (1998) Trends in alternative medicine use in the United States, 1990-1997: results of a follow-up national survey. *JAMA* 280: 1569-1575.
17. Kong FH, Man LK, Shetty RS, Kamath VG (2013) Knowledge, Attitude and Practice of Complementary and Alternative Medicine (CAM) among Medical Practitioners. *IJRRMS* 3: 5-9.
18. Telles S, Gaur V, Sharma S, Balkrishna A (2011) Attitude of conventional and CAM physicians toward CAM in India. *J Altern Complement Med* 17: 1069-1073.
19. Verma U, Sharma R, Gupta P, Gupta S, Kapoor B (2007) Allopathic vs. Ayurvedic practices in tertiary care institutes of urban North India. *Indian J Pharmacol* 39: 52-54.
20. Subrahmanian MU, Venkatesan PR (2011) Awareness on Ayurvedic system of medicine in Chennai city. *Int J Multidis Res* 1: 37-45.
21. Gawde S, Shetty Y, Pawar D (2013) Knowledge, attitude, and practices toward Ayurvedic medicine use among allopathic resident doctors: A

-
- cross-sectional study at a tertiary care hospital in India. *Perspect Clin Res* 4: 175-180.
22. Posadzki P, Watson LK, Ernst E (2013) Adverse effects of herbal medicines: an overview of systematic reviews. *Clin Med (Lond)* 13: 7-12.
23. Gogtay NJ, Bhatt HA, Dalvi SS, Kshirsagar NA (2002) The use and safety of non-allopathic Indian medicines. *Drug Saf* 25: 1005-1019.
24. Lawshe CH (1975) A quantitative approach to content validity. *Pers Psychol* 28: 563-575.
25. Paul Y, Tiwari S (2014) Issues to settle-cross system medical practice. *J Assoc Physicians India* 62: 244-247.
26. AlGhamdi KM, Khurram H, Asiri Y (2017) The welcoming attitude of dermatologists towards complementary and alternative medicine despite their lack of knowledge and training. *Saudi Pharm J* 25: 838-843.
27. Shankar PR, Das B, Partha P, Shenoy N (2002) Medical students' opinions about complementary and alternative medicine: a questionnaire based survey. *J Inst Med* 25: 9-12.
28. Mankar NN, Zad VR, Agharia MM, Sawant SD, Bansode AA (2015) Knowledge, attitude, and practices towards Ayurvedic Medicine use among second year MBBS students. *J Evol Med Dent Sci* 4: 223-227.
29. Corbin WL, Shapiro H (2002) Physicians want education about complementary and alternative medicine to enhance communication with their patients. *Arch Intern Med* 162: 1176-1181.