



International Journal of Ayurveda and Pharma Research

Review Article

EFFICACY OF AYURVEDIC THERAPIES ON PSORIASIS: A REVIEW ON RESEARCHES CONDUCTED AT GUJARAT AYURVED UNIVERSITY, JAMNAGAR

Sandeep Agrawal^{1*}, Rohit Sharma², Prashant Bedarkar³, PK Prajapati⁴

¹M.D. Scholar, ²Ph.D. Scholar, ³Assit. Professor, ⁴Professor and Head, Dept. of Rasashastra & Bhaishajya Kalpana, I.P.G.T. & R.A., Gujarat Ayurved University, Jamnagar, Gujarat, India.

Received on: 16/07/2014

Revised on: 22/08/2014

Accepted on: 28/08/2014

ABSTRACT

Psoriasis is a chronic disease that has substantial psychological and social impact on a patient's life. However the treatment options available in contemporary system of medicine are not much satisfactory. Psoriasis is far more than 'just a skin disease' and is equated to *Eka Kushtha* in *Ayurveda*. Various clinical studies have been carried out at different research centers in India on Psoriasis (*Eka Kushtha*). Present study is aimed to compile such available research works in various departments of two PG institutes under Gujarat Ayurved University. Total 27 completed research works on Psoriasis were found at PG (24) and PhD (3) levels, which revalidated the impact of various Ayurvedic treatment modalities (viz. *Shodhana* and *Shamana*). In *Shamana* therapy maximum drugs were of *Vata Kapha Shamaka*, *Rakta Prasadana*, *Vishaghna*, *Kushthaghna* and *Kandughna* etc. properties, which effectively counteract the etio-pathogenesis of Psoriasis. Whereas, in *Shodhana* therapy maximum times *Virechana* procedure was carried out. The therapies were found to be significantly effective and clinically safe as no adverse drug reactions were reported during treatment period.

KEYWORDS: Ayurveda, *Eka Kushtha*, Psoriasis, Research, *Shodhana*, *Shamana*.

Introduction

Ayurveda, a life science has contributed healthy lifestyle to humanity. Along with suitable diet and lifestyle recommendations, Ayurveda also offers medicinal interventions (herbal and herbo-mineral/single and compound formulations) to combat various menacing disorders. Life style disorders are affecting all the sectors of society and emerging as a global threat today. In today's fast track life style, people are shifting more toward mechanistic world and are adopting unhealthy dietary and lifestyle choices, which have resulted in increasing trend of lifestyle diseases.^[1] Psoriasis is one amongst these notorious auto-immune disorders having deep psychological and social impacts.^[2] It is a chronic inflammatory disease with skin manifestations, aggravated by or can recur by number of triggering factors such as psychological (anxiety, stress, depression etc),^[3] dietary (incompatible diet),^[4,5] lifestyle disturbances,^[6] environmental stress / changes,^[3] medications^[7] etc. The prevalence of Psoriasis is raising an alarming picture, as presently about 120-180 million of global

population suffer from Psoriasis.^[8] In India, overall incidence of Psoriasis among total skin patients is 1.02%.^[9]

Contemporary available management options (synthetic drugs) are not much promising and are reported to have associated adverse effects,^[10] Ayurvedic herbs, which are relatively significantly potent, more suitable and having negligible side effects than available synthetic agents, provide a better therapeutic intervention. Along with medicinal treatment, Ayurvedic procedures viz. *Vamana*, *Virechana* etc. are being successfully practiced by traditional physicians since long to manage Psoriasis.

Kushtha (skin disorders) has been considered among *Ashtamahagada*^[11] (octominous disorders) in *Ayurveda*. *Eka Kushtha* is one of the subtypes of *Kushtha*, which is equated with Psoriasis as they show similar manifestations such as *Aswedanam* (anhydrosis), *Mahavastu* (extent of lesion), *Matsyashakalopamam* (scaling).^[12-14]

Various clinical studies have been conducted in different Institutes of India on management of Psoriasis. Considering the wide range of treatment modalities of Psoriasis in Ayurveda many research works have been carried out in Gujarat Ayurved University, Jamnagar aimed to achieve most suitable, effective management of Psoriasis. These studies (PG-24 and PhD-3) were carried out in department of Basic Principle (3), Kaya Chikitsa (9), Rasa Shastra and Bhaishajya Kalpana (6) and Pancha Karma (9). The present study is an attempt to compile all available research works done on psoriasis, and provide brief information about management contributions.

MATERIAL AND METHODS

Works carried out in Institutes under Gujarat Ayurved University viz. IPGT and RA, Jamnagar and Akhandanand Institute, Ahmedabad, at PhD and PG levels during 1959 – 2013 were compiled and screened to provide the guidelines for further research works in Psoriasis management. All collected thesis from the various departments of both the Institutes under Gujarat Ayurved University, Jamnagar were thoroughly analyzed. Reported studies related to present subject were also screened and cited.

Observations

Number of works has been carried out at GAU, Jamnagar, under various departments which are as follows:

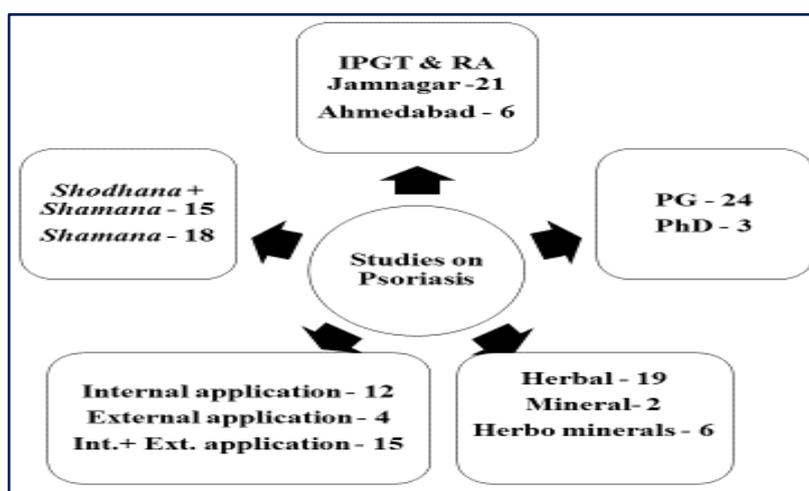


Figure 1: Number of works in different levels and several modes of treatment

Table 1: Researches on Psoriasis conducted in IPGT and RA

Scholar	Regimen	Patients	Durati on	Observations
MD Dissertations				
Makwana MM ^[15]	<i>Arogyavardhini Rasa</i> and <i>Gandhaka Rasayana</i> (1 gm twice a day orally) <i>Gandhaka Malhara</i> (externally)	20	30 days	Significant relief was reported.
Sabu NR ^[16]	Gp A: <i>Brihata Manjishthadi Kwatha</i> (decoction), <i>Talasindura</i> (125 mg twice a day orally) and <i>Haritala Mishrana</i> (externally) Gp B: <i>Rakta Mokshana</i> (blood letting)	14	60 days	Gp A: 54.14% patients were completely improved. Gp B: 71.43% patients showed marked improvement.
Parvani I ^[17]	Gp A: <i>Shodhana</i> (purification procedures), <i>Shamana</i> with <i>Pathya Ahara</i> (wholesome diet) Gp B: <i>Shamana</i> Gp with <i>Pathya Ahara</i> Gp C: <i>Pathya Ahara</i>	25	60 days	Complete remission: 9.09% in Gp A. Moderate improvement: 36.36% in Gp A, 62.5% Gp B and 33.33% in Gp C.
Dhuri KD ^[18]	Gp A: <i>Shodhana</i> [<i>Vamana</i>	27	30 days	Complete remission: 35.7% in

	(medical vomiting) and or <i>Virechana</i> (purgation)] with <i>Shamana</i> Gp A: <i>Shamana</i> (<i>Gandhakadi Vati</i> 500 mg twice a day orally) and <i>Nimbkaranja Malhara</i> (externally)			Gp A and 12.5% In Gp B. Markedly improved: 62.5% in Gp B.
Joorawan PR ^[19]	Gp A: <i>Virechana Karma, Lelitaka Yoga</i> 1 gm per day and <i>Vishwamitra Kapala Taila</i> (externally) Gp B: <i>Lelitaka Yoga</i> 1 gm per day and <i>Vishwamitra Kapala Taila</i> (externally) Gp C: <i>Vishwamitra Kapala Taila</i> (externally)	36	1 month	Complete remission: 69.23% in Gp A, 44% in Gp B and 20% in Gp C. Marked improvement: 23.08% in Gp A, 55.56% in Gp B and 30% in Gp C. Mild improvement: 7.69% Gp A, 10% in Gp B and 40% in Gp C.
Kanani V ^[20]	Gp A: <i>Bhallataka Vati</i> orally with <i>Jeevantyadi Lepa</i> (externally) Gp B: <i>Mandukaparni</i> Orally in addition to the above mentioned <i>Shamana</i> drugs Note: In both the Gps <i>Abhyantara Snehana</i> (internal oleation) was done by <i>Panchatikta Ghrita</i> and <i>Virechana Karma</i> was conducted by <i>Itchchhabhedi Rasa</i> and <i>Triphala Kwatha</i> with <i>Prakshepa</i> (additive) of <i>Eranda Taila</i> .	24	60 days	Highly significant relief was reported in both groups.
Galani K ^[21]	Gp A: <i>Darvayadi Yamaka Malahara</i> (externally) Gp B: <i>Darvayadi Yamaka Malahara</i> (externally) with <i>Saptasamo Yoga</i> (orally 3 gm daily) Gp C: Placebo group (glucose powder 500 mg twice daily)	25	60 days	Complete remission: 44.4% in Gp B, 33% in Gp A. Marked improvement: 33.3% in all Gps. Moderate improvement: 22.2% in Gp B and C, 22 % in Gp A.
Mehta C ^[22]	Gp A: <i>Pathayadi Vataka</i> (2 g thrice daily) and <i>Vidangadi Lepa</i> externally after <i>Koshtha Shuddhi</i> Gp B: <i>Vidangadi Lepa</i> (externally) after <i>Koshtha Shuddhi</i> Gp C: placebo (<i>Rawa</i> powder 500 mg twice)	44	60 days	Complete remission: 26.31 % in Gp A and 20% in Gp B. Marked improvement: 52.63% in Gp A and 33.33% in Gp B. Mild improvement: 21.05% in Gp A, 40 % in Gp B and 30% in Gp C. Unchanged: 6.66% in Gp B and 70% in Gp C.
Barvaliya R ^[23]	Gp A: <i>Panchatikta Ghrita</i> prepared with <i>Ghrita Murcchana</i> and <i>Triphala Kalka</i> Gp B: <i>Panchatikta Ghrita</i> prepared with <i>Ghrita Murcchana</i> Gp C: <i>Panchatikta Ghrita</i> prepared without <i>Ghrita Murcchana</i> and <i>Triphala Kalka</i> Note: 5 ml twice a daily in all Gps.	37	30 days	Comparative relief of treatment regimens on clinical parameters was 55.5% in Gp A, 35.93% in Gp B and 29.31% in Gp C.
Zala U ^[24]	Gp A: <i>Panchatikta Ghrita</i> prepared with <i>Ghrita Murcchana</i>	21	30 days	Comparative effect of trial showed 55.5% improvement in

	and <i>Triphala Kalka</i> Gp B: <i>Panchatikta Ghrita</i> prepared with <i>Ghrita Murcchana</i> Gp C: <i>Panchatikta Ghrita</i> prepared without <i>Ghrita Murcchana</i> and <i>Triphala Kalka</i> Note: 10 gm per day.			Gp A, 35.93% in Gp B and 29.31% in Gp C.
Vaghmashi R ^[25]	Gp A: <i>Guduchi Taila</i> orally (5 gm twice daily) and externally Gp B: <i>Guduchi Ghrita</i> orally (5 gm twice daily) and externally	27	28 days	Both the Gps were found effective, but group A shows better result with complete remission 20%, moderate improvement 44%, marked improvement 36%, mild improvement 10.53%.
Shrimannarayan K ^[26]	Gp A: <i>Rasa Manikya</i> 125 mg once per day Gp B: <i>Rasa Manikya</i> 125 mg twice per day Gp C: Placebo (starch) 250 mg twice per day	37	28 days	All the primordial symptoms of <i>Eka Kushtha</i> were relieved by <i>Rasa Manikya</i> in both the Gps in comparison with control Gp.
Umrethiya B ^[27]	Gp A: <i>Guduchi Ghana</i> prepared by <i>Kwatha</i> methods (250 mg twice daily) Gp B: <i>Guduchi Ghana</i> prepared by <i>soxhlet</i> method (250 mg twice daily)	33	28 days	Moderate improvement: 47.05% in Gp A and 25.00% in Gp B. Mild Improvement: 52.94% in Gp A and 62.50% in Gp B. Unchanged: 12.50% in Gp B.
Ruparel S ^[28]	Gp A: <i>Panchatikta Ghrita</i> (10 gm) and <i>Triphaladi Rasayanavati</i> (6 gm) as <i>Shamana Chikitsa</i> per day after <i>Virechana Karma</i> Gp B: <i>Panchatikta Ghrita</i> (10 gm) and <i>Triphaladi Rasayanavati</i> (6 gm) as <i>Shamana Chikitsa</i> per day without <i>Virechana Karma</i>	16	60 days	Complete improvement: 16.67% in Gp A. Moderate Improvement: 66.67% in Gp A and 57.14% in Gp B. Marked Improvement: 42.86% in Gp B. Mild improvement: 16.67% in Gp A.
Parida A ^[29]	Gp A: <i>Vamana Karma</i> with <i>Jivantyadi Yamaka</i> (externally) Gp B: <i>Virechana Karma</i> with <i>Jivantyadi Yamaka</i> (externally)	30	28 days	Complete remission: 53.33 % in Gp A and 80% in Gp B. Marked improvement: 46.67 % in Gp A and 33.33% in Gp B.
Padhsala S ^[30]	Gp A: <i>Vamana Karma</i> after <i>Shuddha Ghrita</i> (plain Ghee) as a <i>Snehapana</i> Gp B: <i>Vamana Karma</i> after <i>Amrita Ghrita</i> (<i>Samskarita Ghrita</i> -medicated oil) as a <i>Snehapana</i> <i>Pancha Nimbadi Vati</i> 500 mg thrice daily after <i>Vamana</i> in both Gps.	24	30 days	Complete remission: 8.33 % in Gp A and 25% in Gp B. Marked improvement: 58.33 % each Gp. Improvement: 16.67% in each Gp. Unchanged: 16.67% in Gp A.
Patel JR ^[31]	Gp A: <i>Vamana Karma</i> with <i>Madanaphala Pippali</i> Gp B: <i>Vamana Karma</i> with <i>Krutvedhana</i> For <i>Shamana Yoga Panchatikta Ghrita</i> 20 ml twice daily in both Gps.	27	15 days (after <i>Sansarjana</i>)	Complete remission: 15.38 % in Gp A. Marked improvement: 7.69% in Gp A and 28.58% in Gp B. Moderate improvement: 46.15% in Gp A and 21.42% in Gp B.

				Improvement: 23.07% in Gp A and 35.71% in Gp B. Unchanged: 7.69% in Gp A and 14.29% in Gp B.
Gulhane C ^[32]	Gp A: <i>Virechana Karma</i> followed by <i>Shamana Yoga</i> Gp B: <i>Takra Dhara</i> (as <i>Shirodhara</i> for 14 days) followed by <i>Shamana Yoga</i> <i>Shamana Yoga Makandi Ghanavati</i> 1 gm thrice daily	28	15 days after <i>Virechana</i> or <i>Takra Dhara</i>	Marked improvement: 20% in Gp A and 23.08% in Gp B. Moderate improvement: 53.33% in Gp A and 14.39% in Gp B. Mild improvement: 26.67% in Gp A and 14.29% in Gp B.
PhD Thesis				
Dave AR ^[33]	Gp A: <i>Amrita Bhallataka Avaleha</i> (5 gm twice a day) and <i>Karanjadi Lepa</i> (externally) Gp B: Placebo Gp (glucose powder 2 capsule twice a day)	64	90 days	Complete remission: 50% in Gp A. Marked improvement: 28.13% in Gp A. Improvement: 15.63% in Gp A and 18.75% in Gp B. Unchanged: 6.25% in Gp A and 81.25% in Gp B.
Mehta C ^[34]	Gp A: <i>Navayasa Rasayana Leha</i> (2 gm twice daily) with <i>Dhatryadyho Lepa</i> (externally) Gp B: <i>Medhya Rasanaya</i> tablet (1 gm daily) with <i>Dhatryadyho Lepa</i> (externally)	94	90 days	Complete remission: 16.32% in Gp A and 6.66% in Gp B. Marked improvement: 62.22% in Gp A and 40.81% in Gp B. Moderate improvement: 26.66% in Gp A and 40.81% in Gp B. Mild improvement: 4.44% in Gp A and 2.04% in Gp B.
Mitra S ^[35]	Gp A: <i>Gandhaka Rasayana Bhavana</i> given with <i>Kwatha Dravya's Arka</i> (distillate) Gp B: <i>Gandhaka Rasayana Bhavana</i> given with <i>Kwatha</i> Gp C: Placebo control Gp (roasted <i>Suzi</i>) <i>Tila Taila</i> (externally) for all Gps.	34	30 days	Complete improvement: 11.70% in Gp A and 14.70% in Gp B. Marked improvement: 38.23% in Gp A and 5.88% in Gp B. Moderate improvement: 29.10% in Gp A and 26.47% in Gp B. Mild improvement: 11.70% in Gp A, 20.58% in Gp B and 2.94% in Gp C. Unchanged: 8.82 % in Gp A, 32.35 % in Gp B and 97.05% in Gp C.

Note:- Gp: Group; Gps: Groups

Table 2: Researches on Psoriasis conducted in Ahmedabad institute

Scholar	Regimen	Patients	Duration	Observations
Kale PA ^[36]	Gp A: <i>Virechana Karma</i> Gp B: <i>Panchatikta Ghrita Guggulu</i> (12gm per day) as <i>Shamana</i> Gp C: placebo capsule with <i>Chandamarutam</i> (externally with butter)			<i>Virechana</i> is highly effective in Psoriasis as compare to other two Gps. <i>Shamana</i> Gp also showed better result as compared to placebo Gp.

Belani JM ^[37]	Gp A: <i>Virechana Purvaka Shamana Chikitsa</i> Gp B: <i>Shamana Chikitsa</i> For <i>Shamana</i> purpose <i>Navakashaya Ghanavati</i> (3 gm per day) and <i>Navakashaya ShiddhaTaila</i> (externally)		90 days	Complete remission: 10% in Gp A and 5% in Gp B. Marked improvement: 25% in Gp A and 35% in Gp B. Moderate improvement: 32.5% in Gp A. Mild improvement: 32.5% in Gp A. Unchanged: 60% in Gp B.
Shah PN ^[38]	Gp A: <i>Ichhabhedi Rasa</i> (125mg to 1 gm) as <i>Virechaka Dravya</i> Gp B: <i>Trivrittadi Churna</i> (1 to 10gm) as <i>Virechaka Dravya</i>	20		Marked improvement: 80% in Gp A and 60% in Gp B. Moderate improvement: 10% in Gp A and 40% in Gp B. Mild improvement: 10% in Gp A.
Jagtap R ^[39]	Gp A: <i>Vamana Karma</i> after <i>Go-Ghrita</i> (cow Ghee) as a <i>Snehapana</i> Gp B: <i>Vamana Karma</i> after <i>Vajraka Ghrita</i> (<i>Samskarita Ghrita</i> -medicated oil) as a <i>Snehapana</i>	20		<i>Vamana</i> was effective in both Gps but with <i>Vajraka Ghrita</i> it showed better results.
Yadav A ^[40]	Gp A: <i>Vamana Karma</i> after <i>Pippalyadi Ghrita</i> (<i>Samskarita Ghrita</i> -medicated oil) as a <i>Snehapana</i> and <i>Pippalyadi Vati</i> (6 gm daily) for <i>Shamana</i> . Gp B: <i>Vamana Karma</i> after <i>Go-Ghrita</i> (cow Ghee) as a <i>Snehapana</i> and placebo (<i>Yava Churna Vati</i> 6 gm daily) for <i>Shamana</i> .	24	42 days	Marked improvement: 25% in Gp A. Moderate improvement: 75% in Gp A and 83.33% in Gp B. Mild improvement: 16.67% in Gp B.
Agrawal R ^[41]	Gp A: <i>Virechana Purvaka</i> (with <i>Krutavedhana</i>) <i>Shamana Karma</i> (<i>Aaragvadhadi Vati</i> 1 gm thrice daily) Gp B: <i>Shamana Karma</i> (<i>Aaragvadhadi Vati</i> 1 gm thrice daily)		28 days	Complete remission: 5.88% in Gp A and 13.33% in Gp B. Marked improvement: 52.94% in Gp A, and 28.12% in Gp B. Moderate improvement: 35.29% in Gp A and 46.67% in Gp B. Mild improvement: 5.88% in Gp A and 40% in Gp B.

DISCUSSION

Charaka has narrated '*Rogam Aado Parikshyet*' principle, which means it is essential to first diagnose the disease, then the drug plan should be decided.^[42]

He has also given utmost importance to personalized therapy under '*Purusham Purusham Vikshya*' principle;^[43] which means the mode of treatment vary from patient to patient, hence, it is equally important to diagnose the patient along with diagnosis of disease.^[44] Ayurveda has also given importance to quality of drug, maturity of plant, season and time of collection, standard preparation

methods, and its mode of usage in logical manner.^[45-48]

These principles are well described by Charaka in *Kalpasthanas*, where he stressed judicious selection and use of drugs for purification procedures (*Vamana* or *Virechana*).^[49]

In Ayurved all skin diseases are described under the common disease *Kushtha*. It is named as a *Rakta Pradoshaja Vyadhi* because *Rakta* vitiation is found as a common pathology in this disorder.^[50] *Kushtha* is divided in 2 types as *Maha* and *Kshudra Kushtha*.^[51] *Eka Kushtha* is

one amongst eleven *Kshudra Kushtha* with *Kapha-Vata* dominancy.^[51, 52]

In Ayurvedic classics, *Kushtha* is indicated to be treated with various purification procedures such as *Vamana*, *Virechana* and *Rakta Mokshana*.^[53, 54] Also in the treatment plan for *Kushtha* the following regimen is mentioned: *Vamana*, *Virechana* and *Rakta Mokshana* at 15 days, 1 month, and 6 months interval respectively.^[55]

There is a need to revalidate these classical principles of treatment of Psoriasis and develop harmless, commercial and superlative treatment profiles to generate evidences. Based on the aforesaid Ayurvedic treatment plans various clinical trials were under taken in different research institutes. In this course, a screening has been done through the works carried out in various departments of two institutes under Gujarat Ayurved University, Jamnagar. Modes of treatments along with number of works at different department and study levels are enlisted in figures 1.

After analyzing all research works, it was found that maximum works were done on *Shamana Karma*, while better results were found where *Shodhana Karma* was associated with *Shamana Karma*. One work on each *Rakta Mokshana*, *Pathya Ahara*, and effect of psychological factors in Psoriasis was found conducted. All researchers opined *Eka Kushtha* as Psoriasis, but Dr Sabu *et al* named Psoriasis as *Kitibha*.

Overall, *Virechana* showed better results than *Vamana*; this may be due to specificity of *Virechana Karma* for major pathology of disease i.e. *Raktaja Vyadhi* (disease due to vitiation of *Rakta*) as *Pitta* is *Mala* of *Rakta*.^{[50], [56]} Hence, *Virechana* is specific treatment for vitiation of *Pitta*.^[57] *Virechana* suppresses *Pitta* anomalies thus ultimately it decreases alleviates *Kushtha* (*Eka Kushtha*). For *Snehana*, *Snehapana* should be given with medicated *Sneha*.

No any adverse effects of Ayurvedic treatment were reported in any of these studies. Hence all studies validate the potential of Ayurvedic treatment principles for Psoriasis treatment. Though certain limitations were observed in these researches, the results can be considered as lead for further well stratified studies covering larger population. Reviewing previous work will definitely allow one to know regarding several factors associated with the

drug discovery, like rectification of errors in earlier studies and developing better study design.

CONCLUSION

In nutshell, all Ayurvedic therapies were found to be significantly effective and clinically safe as no events of adverse drug reaction were reported during treatment period. It is concluded that *Shodhana Karma* followed by *Shamana* along with *Pathya Ahara* is found as a suitable treatment plan to manage Psoriasis. In *Shodhana* therapy, maximum times *Virechana* procedure was carried out and it was found comparatively better than other *Shodhana* procedures. In *Shamana Chikitsa*, some *Medhya Aushadha* (brain tonics) should be prescribed along with other drugs to alleviate the disease triggering factors such as emotional stress. Along with drug interventions, emphasis must be given to promote a healthier diet and lifestyle plans among affected individuals.

ACKNOWLEDGMENTS

Authors duly acknowledge all the Researchers and involved technical authorities, whose works have been screened in the current attempt. Authors are also thankful to Dr MS Baghel, Director, IPGT & RA, for permitting to comply and publish the work in the form of review article.

REFERENCES

1. Sharma R, Gokarn G, Amin H, Galib, Prajapati PK. Prevalence of Diabetes Mellitus in Suarashtra region of Gujarat: A survey. *Inter J Res Ayu Pharm* 2012;3:169-174.
2. <http://psoriasis.about.com/lw/Health-Medicine/Conditions-and-diseases/Psoriasis-As-An-Autoimmune-Disorder>, accessed on 16/7/2014 at 17.30.
3. Menter *et al*. Guidelines of care for the management of psoriasis and psoriatic arthritis: Section 1. Overview of psoriasis and guidelines of care for the treatment of psoriasis with biologics. *J Am Acad Dermatol* 2008;58(5): 826-50.
4. Acharya YT. Charaka Samhita of Agnivesha; Sutra Sthana; Atreyabhadrakapiyo Adhyay. Reprint ed. Ch. 26. Ver. 103. Varanasi; Chaukhamba Surbharati Prakashan; 2009. p 151.
5. <http://www.ayursages.com/psoriasis>, accessed on 23/07/2014 at 17.19.

6. http://www.skincarephysicians.com/psoriasisnet/lifestyle_choices, accessed on 22/07/2014 at 17.27.
7. <https://www.psoriasis.org/about-psoriasis/causes>, accessed on 16/7/2014 on 17.37.
8. http://www.psoriasis-id.com/psoriasis/statistics_of_psoriasis, accessed on date 26/02/2013 at 21.54.
9. Dogra S, Yadav S. Psoriasis in India: Prevalence and pattern. *Ind J Derm Verne leprology* 2010;76:6:595-601.
10. <http://www.webmd.com/skin-problems-and-treatments/psoriasis-treatment-13/dmards>, accessed on 16/7/2014 at 22.42.
11. Acharya YT. Charaka Samhita of Agnivesha; Indriya Sthana; Yasyashyavanimitiya Indriyam. Reprint ed. Ch. 9. Ver. 8. Varanasi; Chaukhamba Surbharati Prakashan; 2009. p. 368.
12. Acharya YT. Charaka Samhita of Agnivesha; Chikitsa Sthana; Kushtha Chikitshitam. Reprint ed. Ch. 7. Ver. 21. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 451.
13. Khanna N. Illustrated synopsis of dermatology and sexually transmitted diseases; Papulosquamous disorders. Reprint ed. Ch. 4. New Delhi; Elsevier a division of Reed Elsevier India Pvt. Ltd. 2011. p. 40.
14. Mitchell JC, Forstner J. Eccrine Function in Psoriasis Inversus. *Canad Med Ass J* 1962; 87(21): 1093-95.
15. Makwana MM *et al.* A study of Psoriasis according to Ayurveda, PG Dissertation, Department of Basic Principle, IPGT & RA, Gujarat Ayurved University, Jamnagar, 1979.
16. Sabu NR *et al.* The etiopathological study of *Kitibha Kushtha* and its principle of management by *Shamana* and *Shodhana* measures, PG Dissertation, Department of Basic Principle, IPGT & RA, Gujarat Ayurved University, Jamnagar, 1988.
17. Parvani IV *et al.* A conceptual and applied study of *Viruddha Ahara* with particular reference to *Eka Kushtha*, PG Dissertation, Department of Basic Principle, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2003.
18. Dhuri KD *et al.* Management of *Kshudra Kushtha* w.s.r. Psoriasis (*Eka Kushtha*), PG Dissertation, IPGT & RA, Department of Kaya Chikitsa, Gujarat Ayurved University, Jamnagar, 1995.
19. Joorawon PR *et al.* Study of *Eka Kushtha* (Psoriasis) and its management with *Shodhana* and *Shamana Yoga*, PG Dissertation, Department of Kaya Chikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2000.
20. Kanani V *et al.* A clinical study on the role of *Manshika Bhavas* in the aetio pathogenesis and management of *Eka Kushtha* (Psoriasis), PG Dissertation, Department of Kaya Chikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2002.
21. Galani K *et al.* Management of *Eka Kushtha* with *Darvyadi Yamaka Malhar*, PG Dissertation, Department of Kaya Chikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2005.
22. Mehta C *et al.* A clinical study on the role of *Pathyadya Vatak* and *Vidangadi Lepa* in the management of *Eka Kushtha* (Psoriasis), PG Dissertation, Department of Kaya Chikitsa, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2007.
23. Baravaliya R *et al.* A comparative pharmacological clinical study of *Panchatikta Ghrita* prepared by different methods in *Eka Kushtha* (Psoriasis), PG Dissertation, Department of Rasashastra and Bhaishajya Kalpana, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2000.
24. Zala U *et al.* A comparative pharmacoclinical study of different samples of *Pancha Tikta Ghrita* with its effect on *Eka Kushtha*, PG Dissertation, Department of Rasashastra and Bhaishajya Kalpana, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2004.
25. Vaghamsi R *et al.* A Comparative pharmacoclinical studies of *Guduchi Taila* and *Guduchi Ghrita* and its effect on *Eka Kushtha*, PG Dissertation, Department of Rasashastra and Bhaishajya Kalpana, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2006.
26. Srimannarayan *et al.* A Pharmacoclinical study of *Rasamanikya* w.s.r. to *Eka Kushtha* (Psoriasis), PG Dissertation, Department of Rasashastra and Bhaishajya Kalpana, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2006.
27. Umrethiya B *et al.* Comparative study of *Guduchi Ghana* prepared by *Kwatha* and Aqueous Extract In the management of *Eka Kushtha*, PG Dissertation, Department of

- Rasashastra and Bhaishajya Kalpana, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2008.
28. Ruparel SJ *et al.* Role of *Virechana* with and without *Shamana* in the management of Psoriasis (*Eka Kushtha*), PG Dissertation, Department Pancha Karma, IPGT & RA, Gujarat Ayurved University, Jamnagar, 1999.
 29. Parida A *et al.* A comparative study of *Vamana* and *Virechana Karma* in *Eka kushtha* w.s.r to Psoriasis, PG Dissertation, Department Pancha Karma, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2008.
 30. Padhsala SV *et al.* A comparative study on *Vamana Karma* by using *Shuddha Ghrita* and *Samskarita Ghrita* as *Abhyantara Snehpana* in *Eka Kushtha* w.s.r. to Psoriasis, PG Dissertation, Department Pancha Karma, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2009.
 31. Patel JR *et al.* A comparative study on *Vamana Karma* with *Madanaphala* and *Krutavedhana* W.S.R. to *Eka Kushtha* (Psoriasis), PG Dissertation, Department Pancha Karma, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2010.
 32. Gulane CM *et al.* A clinical study of *Virechana Karma*, *Takradhara* and *Makandi* [*Coleus forskohlii* (Wild) Briq.] *Ghanavati* in the management of *Eka Kushtha* (w.s.r. to Psoriasis), PG Dissertation, Department Pancha Karma, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2011.
 33. Dave AR *et al.* Role of *Amrutbhallatak Avaleha* & *Karanjadi Lepa* in the management of *Eka Kushtha* (Psoriasis), PhD Thesis, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2004.
 34. Mehta C *et al.* A comparative clinical study on the role of *Navayasa Rasayana Leha* and *Medhya Rasayana* tablet along with *Dhatryadhyo Lepa* in the management of *Eka Kushtha* (Psoriasis), PhD Thesis, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2004.
 35. Mitra S *et al.* Physico chemical effect of *Bhavana* on *Gandhaka Rasayana* processed with two different media and it's therapeutic effect on *Eka Kushtha* (Psoriasis), PhD Thesis, IPGT & RA, Gujarat Ayurved University, Jamnagar, 2007.
 36. Kale PA *et al.* Role of *Shodhana* in Psoriasis, PG Dissertation, Department of Kaya Chikitsa, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 1993.
 37. Belani JM *et al.* A clinic comparative study on *Shodhana (Virechana) Purvaka Shamana* and *Shamana Chikitsa* in the management of *Eka Kushtha*, PG Dissertation, Department of Kaya Chikitsa, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 2000.
 38. Shah PN *et al.* A comparative study of two *Virechana Yoga* in the management of *Eka Kushtha* (Psoriasis), PG Dissertation, Department of Pancha Karma, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 2008.
 39. Jagtap R *et al.* The comparative study of efficacy of *Go Ghrita* and *Vajraka Ghrita* for *Abhyantara Snehapana* before *Vamana* in the management of *Eka Kushtha* wsr to Psoriasis, PG Dissertation, Department of Pancha Karma, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 2009.
 40. Yadav A *et al.* Efficacy of *Vamana Karma* in *Eka Kushtha* wsr to Psoriasis, PG Dissertation, Department of Pancha Karma, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 2011.
 41. Agrawal R *et al.* Comparative study of *Shodhana (Vamana) Purvaka Shamana* and *Shamana (Aaraghadhadi vati)* in the management of *Eka Kushtha*, PG Dissertation, Department of Pancha Karma, Govt. Akhandananad Ayurved College, Gujarat Ayurved University, Jamnagar, 2013.
 42. Acharya YT. Charaka Samhita of Agnivesha; Sutra Sthana; Maharoga Adhyay. Reprint ed. Ch. 20. Ver. 20. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 115.
 43. Acharya YT. Charaka Samhita of Agnivesha; Sutra Sthana; Dhirghjivitiya Adhyay. Reprint ed. Ch. 1. Ver. 123. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 22.
 44. Sharma R, Amin H, Galib, Prajapati PK. *Astasthana Pariksha*- A diagnostic method of Yogaratnakara and its clinical importance. Global J Res Med Plant Indigen Med 2012;1(5):186-201.
 45. Sharma R, Amin H, Shukla VJ, Kartar D, Galib R, Prajapati PK. Quality control evaluation of *Guduchi Satva* (solid aqueous extract of *Tinospora cordifolia* (Willd.) Miers): An herbal formulation. Int J Green Pharm 2013;7:258-63.
 46. Sharma R, Amin H, Galib R, Prajapati PK. Seasonal variations in physicochemical profiles of *Guduchi Satva* (starchy substance

- from *Tinospora cordifolia* [Willd.] Miers). J Ayurveda Integr Med 2013;4:193-7.
47. Sharma R, Amin H, Galib R, Prajapati PK. Validation of standard manufacturing procedure of *Gudūci sattva* (aqueous extract of *Tinospora cordifolia* (Willd.) Miers) and its tablets. Ancient Sci Life 2013;33:27-34.
48. Sharma R, Harisha CR, Galib R, Patgiri BJ, Prajapati PK. Quantitative estimation of *Satva* extracted from different stem sizes of *Guduchi* (*Tinospora cordifolia* (Willd.) Miers). J Pharm Sci Innov 2012;1:1:38-40.
49. Acharya YT. Charaka Samhita of Agnivesha; Kalpasthana; Madankalpa. Reprint ed. Ch. 1. Ver. 5. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 651.
50. Acharya YT. Charaka Samhita of Agnivesha; Sutra Sthana; Vividhashitpitiyo Adhyay. Reprint ed. Ch. 28. Ver. 11. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 179.
51. Acharya YT. Sushruta Samhita of Sushruta; Nidana Sthana. Reprint ed. Ch. 5. Ver. 5. Varansi; Chaukhamba Orientalia; 2007. p. 283.
52. Acharya YT. Charaka Samhita of Agnivesha; Chikitsa Sthana; Kushtha Chikitshitam. Reprint ed. Ch. 7. Ver. 29. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 451.
53. Acharya YT. Charaka Samhita of Agnivesha; Shidhi Sthana; Panchakarmiya Shidhi. Reprint ed. Ch. 2. Ver. 10-13. Varanasi; Chaukhamba Surbharati Prakashan; 2009. p. 686.
54. Acharya YT. Sushruta Samhita of Sushruta; Sutra Sthana. Reprint ed. Ch. 25. Ver. 13. Varansi; Chaukhamba Orientalia; 2007. p. 118.
55. Acharya YT. Sushruta Samhita of Sushruta; Chikitsa Sthana; Reprint ed. Ch. 9. Ver. 43. Varansi; Chaukhamba Orientalia; 2007. p.446.
56. Acharya YT. Charaka Samhita of Agnivesha; Chikitsa Sthana; Grahani Chikitshitam. Reprint ed. Ch. 15. Ver. 18. Varanasi; Chaukhamba Surbharati Prakashan; 2011. p. 515.
57. Acharya YT. Charaka Samhita of Agnivesha; Shidhi Sthana; Panchakarmiya Shidhi. Reprint ed. Ch. 2. Ver. 13. Varanasi; Chaukhamba Surbharati Prakashan; 2009. p. 686.

Cite this article as:

Sandeep Agrawal, Rohit Sharma, Prashant Bedarkar, PK Prajapati. Efficacy of Ayurvedic Therapies on Psoriasis: A Review on Researches Conducted at Gujarat Ayurved University, Jamnagar. Int. J. Ayur. Pharma Research. 2014;2(4):15-24.

Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**

Dr. Sandeep Agrawal

M.D. Scholar

Dept. of Rasashastra & Bhaishajya Kalpana

I.P.G.T. & R.A., Gujarat Ayurved University

Jamnagar 361008, Gujarat, India.

Mob: +919998823095

Email: drsandeep.ayu88@gmail.com