

COMPARATIVE STUDY OF VIRECHAN KARMA & AN INDIGENOUS DRUG WITH BAKUCHI-TUVRAK OIL IN THE MANAGEMENT OF SHVITRA W.S.R. TO VITILIGO

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ABSTRACT

Shvitra is a relatively common dermatological finding and one that has been observed since ancient times. It is a miserable disease of the skin which not only brings physical impairment to the body, but causes mental impairment too. *Shvitra* is supposed to be the result of the *mithya aahara vihara, purva janamkrita karma* and *paap karma*. It is *twakagata raktaja vikara* described among the varieties of *kustha*. *Shvitra* can be correlated with vitiligo to certain extent in contemporary system of medicine. In modern science, vitiligo is an autoimmune disease directed against melanocytes characterized by

depigmented/hypo-pigmented patches. The cause of vitiligo is unknown. As per modern science its treatment includes topical corticosteroids, topical immunomodulators, phototherapy including PUVA& surgical options including autologous mini punch grafting, blister roof grafting and epidermal cell transplantation. These all modalities are not very cost effective and are having so many complications, toxicity & more side effects. Also, these therapies are not easily accessible by everyone. In ayurvedic classics, our *Acharyas* have mentioned so many formulations in one disorder as per the *roga & rogi bala* which can be given either as single formulations in one disorder or in the combined form keeping in mind the principles of Ayurveda, a review on the role of *virechan* & indigenous drug with the local application of *Backuchi-Tuvrak* oil has been undertaken for the management of *Shvitra*.

KEYWORDS: *Shivtra, Vitiligo, Twakagata, Virechan.*

INTRODUCTION

Ayurveda is an ancient *Vedic* science originated from *Vedas* especially *Atharvaveda* and *Rigveda*. It is well known that the *Ayurveda* is a science of life, “*Ayurvedo Amrutanam.*”

Ayurveda is an eternal science of healthy living, deals with physical, psychological and spiritual well being of the human being and covers all the aspects of human life. It is not a science but a philosophical and factfull truth, which is enhanced by our great ancient sages, through their experience, logic and power of wisdom. “As is the face, so is the conduct, as are the eyes, so is the psyche, as is the voice, so is the vigour, as are the features, so are the qualities.”

Skin is a mirror that reflects external and internal pathology, and thus helps in diagnosis of disease and is also the seat of complexion, which maintains beauty and personality. It provides individual identity in the society.

Skin is the largest organ in the human body. In a normal adult it weighs 4kgs and covers 2^m square area. Patients of skin disease always experience physical, emotional and socio-economic embarrassment in the society.

Ayurveda medicine is a system of medicine with historical roots in the Indian subcontinent. Globalized and modernized practices derived from *Ayurveda* tradition area type of complementary or alternative medicine. In the Western world, *Ayurveda* therapies and practices have been integrated in general wellness application as well in many cases in medical use. Now a days, people live in an era of science and technology. Scientists have discovered a lot and endeavoured alot, to get an easy life, but we don't look for causes, reasons, root or a source of ailment. We change and worsen our lives in such a bad way that now we require superspeciality for minor sufferings. The constant usage of inferior quality cosmetics, incompatible diet and certain synthetic medicine are important factors for skin manifestations. The skin reflects the normal health of a person and anyone can easily detect the changes in the melanin pigmentation. Skin diseases have been explained under *Kustha Roga*, *Kshudra Roga* and *Visarpa Roga* in *Ayurvedic* texts. Among them *Shvitra* (Vitiligo) is also an important skin disease characterized by *Shveta varna* i.e whitish discolouration of the skin. Here *Twaka*, *Rakta*, *Mamsa*, *Meda* are involved as *Dushyas*. The reference of *Shvitra* can even be found in *Vedas*. *Acharaya Charaka* has used the term *Kilasa* and explained *Daruna*, *Charuna* and *Shvitra* as its types to describe hypopigmented patches. Based upon

clinical features *Shvitra* can be compared to Vitiligo, in modern science. Vitiligo is an acquired depigmenting skin condition that results from destruction of melanocytes. It is a progressive, idiopathic pigmentation skin disorder, characterized by hypopigmented patches. According to *Ayurveda*, *Shvitra* is caused by improper diet and behavioural factors. Certain other factors like *Daivakrita Nidana*, *beejadusthi nidana* and *nidanaarthakar vyadhis* are known to induce *Shvitra*. Vitiligo disorder is characterized by hypopigmented macules which may be of variable shapes. This idiopathic depigmentary condition is estimated to affect 1-2% of the world's population and is common in India. Onset is most common in persons aged 10-30 yrs. Family history is present in 20-30% patients. The aetiopathogenesis of Vitiligo is still unknown to date even though the multifactorial character of its clinical expression is quite clear. There are three classical pathogenic theories.

1. Immunological theory

2. Neurologic theory

3. Self - destruction theory

Vitiligo can be cosmetically disfiguring and it is a stigmatizing condition, leading to serious psychological problems in daily life. Although the exact cause of vitiligo remains to be established, but might include autoimmune, neurological & toxic metabolites which further leads to self - destruction of cells, in which the body fails to identify between self and non – self cells and therefore leads to destruction of self i.e leads to lack of melanocyte growth factors, an autoimmune aetiology has been suggested to support this theory. In brief, the disease is frequently associated with other disorders which have an autoimmune origin such as autoimmune thyroiditis. Furthermore, circulating antibodies and T lymphocytes which react against melanocyte antigens are present in the sera of a significant proportion of Vitiligo patients compared with the healthy individuals. The Skin is one of the best indicators of general health. The remarkable structure absorbs U.V rays, prevents dehydration, preserves normal body temperature and tolerates abrasion etc. Skin is crucial for the body's homeostasis, to which it contributes through a number of particles, in receiving stimuli and forwarding them to central organs of nervous system. Along with these, there is special family of receptors, the melanocytes, whose task is to react to the light stimulus by synthesizing a special protein, melanin constituting the most important skin protective factor. Any minor changes in the melanin pigmentation can be observed easily, even by untrained person. As the colour of skin plays important role in the society, especially in India. Thus, besides cosmetic defect, any impairment in the skin can cause immense mental agony and

social embarrassment which may result in anxiety, depression, psychological problems, suicidal tendencies etc. One can easily realise the distress among the darker races like Indians in whom the pigmentary defect is markedly observed. The modern treatment of Vitiligo consists generally of topical glucocorticoids, PUVA therapy, surgical measures such as skin grafting, other techniques such as tattooing, camouflage etc, but there is no effective treatment for this disorder in modern science and even the medicines have considerable toxicity.

Keeping the above said things in mind it was decided to research comparatively on Virechan Karma & Indigenous drug for the present study entitled **“COMPARATIVE STUDY OF VIRECHAN KARMA & AN INDIGENOUS DRUG WITH BAKUCHI-TUVRAC OIL IN THE MANAGEMENT OF SHVITRA w.s.r to VITILIGO”**.

As *Bhrajaka Pitta* is responsible for the normal texture of the skin so the drugs capable of maintaining normalcy of *Bhrajaka Pitta* with properties such as *Dipana, Pachana, Rakta–Shodhana, Krimighna* should be used for the purpose. Thus *Bakuchi–Tuvrak* oil & many *Ayurvedic* medicines that are known to regenerate melanocytes have been taken such as *Khadir, Vijaysaar, Mulakbeej, Bakuchi, Nimb, Vidang and Tuvrak*.

MATERIAL AND METHODS

Clinical contrive is established today in potentialities of treatment which is thoroughly assessed paying special attention towards the possible action which is possible only after a keen evaluation based on statistically significant population. As the patient is the center of the medical universe around which all our work revolves and towards which all our study depends.

Shvitra is the burning problem of this present era, because it causes disfigurement of the body and till date its causes are unknown.

The ultimate object of drug research is to get solution which will be therapeutically effective and safe for all. In present study, “COMPARATIVE STUDY OF VIRECHAN KARMA & AN INDIGENOUS DRUG WITH BAKUCHI-TUVRAC OIL IN THE MANAGEMENT OF SHVITRA w.s.r to VITILIGO” has been designed with the following aims and objectives.

AIMS AND OBJECTIVES

1. To study the conceptual study of *Shvitra* rog with special reference to Vitiligo.

2. To evaluate the efficacy of *virechan karma*, indigenous drug (*khadiradi yog*) & *bakuchi-tuvrak* oil in pigment regeneration in Vitiligo.

MATERIALS AND METHODS

SOURCE OF DATA:-This is a randomized clinical trial of 30 patients attending OPD and IPD, diagnosed with Vitiligo that was conducted in experimental group at Deptt. Of *Kayachikitsa* of Jammu Institute of *Ayurveda* and *Research Hospital Jammu* and *Shri Sain Charitable Trust & Hospital, Urban Wing, Janipur, Jammu*. Various medical camps were also conducted for the study.

CRITERIA FOR SELECTION OF PATIENT

The diagnosed cases will be selected for the study based on inclusion criteria as mentioned.

1. Inclusion criteria

- (a) As per classical clinical features described in *Ayurvedic* texts and modern literature.
- (b) Patient of either sex of age more than 10 and less than 60 yrs. of age.
- (c) Chronicity should be less than one year.

2. Exclusion Criteria

- (a) Vitiligo associated with malignant melanoma, complicated eczema and burns, albinism and other skin diseases.
- (b) Pregnancy (*Chitraka* causes uterine contractions, hence avoided in patients with pregnancy).
- (c) PNC and lactating mothers (effects not fully studied in infants).
Patches arising on fingertips, near nail beds, on lips, over mucosal layer and in genital areas.

According to W.H.O Definition of drug is “a substance or product that is used or intended to be used to modify or explore physiological system or pathological status for the benefit of the recipient”.

According to *Ayurveda*, *Aushadha* comprise one third portion of the *Trisutra Ayurveda*. It is the only component in *Chikitsa* that goes inside the body of diseased person and performs the action. The *Karma* of *Vaidhya* is “*Dhatusamyā*”, which is mainly done by *Karana* – *Bheshaja* means Drug.^[49] *Bhishaka* (physician), *Dravya* (drug), *Upasthata* (attendant) and *Rogi* (patient) are four pillars of treatment. Best attempts and administration of them is

necessary for *Vikara Shanti*. Among these four basic factors of treatment, **DRAVYA** has been designated the second place, just next to *Vaidya*. Proper knowledge of medicine, to be used is very essential prior to the treatment.^[50]

As per *Acharya Vagbhata*, every substance or matter present in this universe can be used as drug with *Yukti Pramana*.

Acharya Charaka has mentioned that “a drug, which is not understood perfectly, is as dangerous as poison, weapons, fire and the thunderbolt; while, the perfectly understood drug is comparable to ambrosia.”

Shvitra, is one of the most common but miserable dermatologic disease affecting all the age groups, still stand as a challenge to different Medical systems. Many research works have been done on skin disorders but no drug has yet been claimed to cure skin disease completely.

Since, *Shvitra* is *Tridoshaja Vyadhi*. Here, we have tried to search a simple and sure medication for *Shvitra* from *Ayurvedic* texts. Present study, is a comparative group study in which patients were given *Shodhana* therapy (*Virechan Karma*) followed by *Shamana Chikitsa* with indigenous drug (*Khadiradi Yog*) and *Koshnajal* as *Anupana*.

Quality of the drugs

Abundance, applicability, usability in multifarious modes and richness of quality- these four are said to be the tetrad of desiderata in the drugs. That is the right medicine which is made for health. *Virechan Dravya* (*Khadiradi Yog*) and *Bakuchi-Tuvrak oil* are rich in these qualities, so are selected for the present disease.

VIRECHAN YOGA

S.NO.	DRUGS	BOTANICAL NAME	FAMILY	QUANTITY
1.	<i>Trivrat</i>	<i>Operculina turpethum</i>	<i>Convolvulaceae</i>	16.6gm
2.	<i>Triphala</i>			16.6gm
	<i>Amalaki</i>	<i>Embllica officinalis</i>	<i>Euphorbiaceae</i>	5.5gm
	<i>Bibhitaki</i>	<i>Terminalia Bellirica</i>	<i>Combretaceae</i>	5.5gm
	<i>Haritaki</i>	<i>Terminalia Chebula</i>	<i>Combretaceae</i>	5.5gm
3.	<i>Danti</i>	<i>Baliospermum Montanum</i>	<i>Euphorbiaceae</i>	16.6gm

Collection of the Drugs:- The raw drugs for the trial medicinal preparation were purchased from the authentic *Ayurvedic* dealer under the guidance of Deptt. of *Dravyaguna*.

Method for preparation of Drug

1. All the raw drugs were thoroughly washed and dried for any impurities in it.
2. Dried drugs were then separately made fine powder in the Deptt. of *Ras Shastra* and *Bhaishajya Kalpana* and mixed well in equal quantity.
3. Virechan Yog thus made was then packed and stored in air-tight bags and labelled properly.

INDIGENOUS DRUG (KHADIRADI YOG)

S.NO.	DRUGS	BOTANICAL NAME	FAMILY	QUANTITY
1.	<i>Khadir</i>	<i>Acacia Catechu</i>	<i>Leguminocea</i>	75mg
2.	<i>Vijay Saar</i>	<i>Pterocarpus Marsopeum</i>	<i>Fabacacea</i>	50mg
3.	<i>Bakuchi Beej</i>	<i>Psoralea Corylifolia</i>	<i>Fabacacea</i>	25mg
4.	<i>Amlaki</i>	<i>Emblica Officinalis</i>	<i>Euphorbiacea</i>	100mg
5.	<i>Bhringraj</i>	<i>Eclipta Alba</i>	<i>Compositae</i>	50mg
6.	<i>Krishn Til</i>	<i>Sesamum Indicum</i>	<i>Pedaliaceae</i>	25mg
7.	<i>Nimb</i>	<i>Azadirachta Indica</i>	<i>Meliaceae</i>	50mg
8.	<i>Kutaki</i>	<i>Picrorhiza Kurroa</i>	<i>Scrophulariaceae</i>	50mg
9.	<i>Vidang</i>	<i>Embelia Ribes</i>	<i>Myrsinaceae</i>	50mg
10.	<i>Tuvrak</i>	<i>Hydnocarpus Laurifolia</i>	<i>Flacourtiaceae</i>	25mg

OBSERVATIONS AND RESULTS

Various observations were made in two groups are summarised below.

Table No. 1:-Showing the incidence of Age in 30 patients of Shvitra (Vitiligo).

	AGE GROUPS (IN YRS.)	NO. OF PATIENTS	PERCENTAGE
1.	10-20	4	13.4%
2.	21-30	8	26.6%
3.	31-40	4	13.4%
4.	41-50	4	13.4%
5.	50-60	10	33.3%
	TOTAL	30	

Table No. 2:-Showing that maximum incidence of Sex in 30 patients.

S.NO	SEX	NO. OF PATIENTS	PERCENTAGE
1.	Male	13	43.33%
2.	Female	17	56.66%
	TOTAL	30	

Table No. 3:-Showing the incidence of Religion in 30 patients of Shvitra (Vitiligo).

S.NO	RELIGION	NO. OF PATIENTS	PERCENTAGE
1.	Hindu	29	96.67%
2.	Muslim	0	0 %
3.	Sikh	01	3.33%
TOTAL		30	

Table no.4:-Showing the incidence of Marital Status in 30 patients of Shvitra (Vitiligo)

S.NO	MARITAL STATUS	NO. OF PATIENTS	PERCENTAGE
1.	Married	15	50.0%
2.	Unmarried	15	50.0%
TOTAL		30	

Table No. 5:-Showing the incidence of Educational Status in 30 patients of Shvitra (Vitiligo).

S.NO	EDUCATIONAL STATUS	NO. OF PATIENTS	PERCENTAGE
1.	Illetrate	03	10%
2.	Primary School	02	6.67%
3.	Middle School	02	6.67%
4.	High School	03	10.0%
5.	Graduate onwards	20	66.67%
TOTAL		30	

Table No. 7:-Showing the incidence of Dietary habits in 30 patients of Shvitra (Vitiligo)

S.NO	DIETARY HABITS	NO. OF PATIENTS	PERCENTAGE
1.	Vegetarian	18	60.0%
2.	Non -Vegetarian	12	40.0%
TOTAL		30	

Table No. 8- Showing the incidence of Addictions in 30 patients of Shvitra (Vitiligo)

S.NO	TYPE OF ADDICTIONS	NO. OF PATIENTS	PERCENTAGE
1.	Tea	19	53.3%
2.	Alcohol	01	03.33%
3.	Smoking	09	30.0%
4.	No addiction	03	10.00%
TOTAL		30	

Table No. 09:- Showing the incidence of type of Family history in 30 patients of Shvitra (Vitiligo).

S.NO	FAMILY HISTORY	NO. OF PATIENTS	PERCENTAGE
1.	Present in family	12%	40.0%
2.	Absent in family	18%	60.0%
TOTAL		30	

Table No. 10:-Showing the incidence of Sharirika Prakriti in 30 patients of Shvitra (Vitiligo).

S.NO	SHARIRIRKA PRAKRITI	No. OF PATIENTS	PERCENTAGE
1.	Vatapittaja	08	26.6%
2.	Vatakaphaja	09	30.0%
3.	Pittakaphaja	13	43.33%
TOTAL		30	

EFFECTS OF THERAPY

Table No. 1: Comparative Analysis of Effect of Therapy Between Group A And Group B On Surface Area of Lesion.

Characteristics	Mean		M.D	Mean%	N	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	1.13	1.00	.13	11.50	15	.516	.000	8.500	<.0001	H.S
Group B(P+M+O)	1.73	1.60	.13	7.68	15	.961	.248	6.98	<.0001	H.S

Statistical analysis indicates, the mean score before treatment was in group A was 1.13 which reduced after treatment to 1.00 with the mean difference of .13 and the mean score of group B before treatment was 1.73 which reduced to 1.60 with the mean difference of .13. The improvement was noticed in both the groups with the t test value of 8.500 in group A, and 6.98 in group B. The results was highly significant ($p < 0.001$).

Comparative Analysis Of Effect Of Therapy Between Group A And Group B On Colour Of Lesion

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	0.090	0.278	.33	15	55	.488	.126	2.646	<0.05	S
Group B(P+M+O)	1.53	0.8	.73	15	47.71	0.458	0.118	6.205	<.0001	H.S

Statistical analysis shows indicates, in present study the mean score in group A before treatment was 0.090 which reduced to 0.278 after treatment, with the mean difference of .33, t value 2.646, p value 0.019 i.e. ($p < 0.05$). The result is significant. The mean score in group

B before treatment was 1.53 which reduced to .8 with the mean difference of .73, t test value 6.205, ($p < .001$). The result is highly significant in group B, therefore group B showed better results than group A in the parameter colour of lesion.

Comparative Analysis of Effect of Therapy Between Group A and Group B on Colour of Hair of Lesion

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	.13	.07	.06	15	46.15	.258	.867	2.646	>.10	N.S
Group B(P+M+O)	.27	.27	0	15	0	.704	.182	1.000	>.10	N.S

Statistical analysis indicates, in present study mean score in group A before treatment was .13 which reduced to .07 after treatment with the mean difference of .06, 't' test value 2.646 but statistically the result was non significant in both the groups.

Comparative Analysis of Effect of Therapy Between Group A and Group B On Size of Lesion.

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	1.00	1.00	0	15	0	.000	.000	1.000	>.10	N.S
Group B(P+M+O)	1.60	1.53	.07	15	4.37	.910	.235	1.000	<.0001	H.S

Statistical analysis indicates, in present study the mean score for group B before treatment was 1.60 which reduced to 1.53 after treatment with the mean difference of .07, 't' test value 1.000. The result was highly significant ($p < .001$) and non significant result in group A, therefore group B showed better results than group A on the parameter size of lesion.

Comparative Analysis of Effect of Therapy Between Group A And Group B On Burning Sensation.

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	0.07	0.00	0.07	15	100	.258	.067	1.000	<.001	H.S
Group B(P+M+O)	.00	.00	0	15	0	.000	.000	1.000	>.10	N.S

Statistical analysis indicates, in present study the mean score in group A before treatment was 0.07 which reduced to 0.00 and the mean difference of 0.07 after treatment with the 't' test value 1.000. The result was highly significant ($p < .001$), whereas group B showed non significant results on the parameter burning sensation.

Comparative Analysis of Effect of Therapy Between Group A and Group B On Itching

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	.13	.07	.06	15	46.13	.516	.133	1.000	> 0.10	N.S
Group B(P+M+O)	.40	.13	.27	15	67.5	.828	.214	2.256	< 0.05	S

Statistical analysis indicates, in present study mean score in group A was .13 which reduced to .07 with the mean difference of .06 but statistically the results were non significant whereas in group B the mean score .40 which reduced to .13 with the mean difference of .27 after the treatment. The 't' test value was 2.256. The results were significant ($p < 0.05$) therefore group B showed better results than group A on the parameter on itching.

Haematological Improvement Comparative Analysis of Effect of Therapy Between Group A and Group B On Hb Gm %.

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	1.40	2.00	.60	15	42.85	.507	.131	4.58	<.0001	H.S
Group B(P+M+O)	1.53	1.93	.4	15	26.14	.516	.133	2.449	< 0.05	S

Statistical analysis indicates, in present study the mean score for group A was 1.40 which increased to 2.0 with the 't' test value of 4.58. The result was highly significant whereas the mean score in group B was 1.53 which increased to 1.93 with the 't' test value 2.449 the result was significant.

Comparative Analysis of Effect of Therapy Between Group A and Group B On Tlc

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	1.07	1.00	0.07	15	6.54	.458	.118	.564	>.10	N.S
Group B(P+M+O)	1.07	1.07	0	15	0	.258	1.000	.334	>.10	N.S

Statistical analysis indicates non significant results on the parameter TLC.

Comparative Analysis of Effect of Therapy Between Group A and Group B On E.S.R

Characteristics	Mean		M.D	N	Mean%	S.D ±	S.E ±	t value	p value	Sig.
	BT	AT								
Group A(M+O)	.20	.40	.2	15	500	.414	.107	1.871	>.10	N.S
Group B(P+M+O)	1.33	.60	.73	15	54.8	.976	.525	3.214	<.0001	H.S

Statistical analysis indicates in present study group A showed non significant results whereas the mean score for group B was 1.33 before treatment which reduced to .60 with the mean difference of .73 after the treatment. The 't' test value was 3.214 and the results were highly

significant ($p < .001$) therefore group B showed better results than group A on the parameter E.S.R.

Comparative Analysis of Effect of Therapy Between Group A and Group B On D.L.C

Group A.

S. No.	P		L		M		E		B	
	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.
1	65	64	30	32	1	2	2	3	0	0
2	64	60	30	35	2	1	4	4	0	0
3	64	65	31	30	2	3	2	2	0	0
4	61	65	35	30	2	2	4	2	0	0
5	65	65	31	30	3	2	2	2	0	0
6	65	64	30	30	4	1	1	5	0	0
7	64	64	31	32	4	4	1	2	0	0
8	60	64	34	31	4	3	2	2	0	0
9	65	64	31	32	2	2	2	2	0	0
10	51	57	40	40	3	5	3	3	0	0
11	59	60	25	24	2	3	2	2	0	0
12	57	55	40	40	2	3	3	2	0	0
13	58	47	35	38	2	3	3	3	0	0
14	70	62	25	30	2	2	3	3	0	0
15	65	64	30	32	1	2	2	3	0	0
Mean	57.8	61.33	31.8	32.4	2.3	2.5	2.4	2.6	0	0
%	-6.10%		-1.88%		-8.69%		-8%		0	

Group B

S. No.	P		L		M		E		B	
	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.
1	65	64	30	32	1	2	2	3	0	0
2	64	60	30	35	2	1	4	4	0	0
3	64	65	31	30	2	3	2	2	0	0
4	61	65	35	30	2	2	4	2	0	0
5	65	65	31	30	3	2	2	2	0	0
6	64	64	31	32	4	4	1	2	0	0
7	60	64	34	31	4	3	2	2	0	0
8	60	60	34	34	2	1	4	5	0	0
9	65	64	31	32	2	2	2	2	0	0
10	65	64	30	32	1	2	2	3	0	0
11	64	60	30	35	2	1	4	4	0	0
12	64	65	31	30	2	3	2	2	0	0
13	61	65	35	30	2	2	4	2	0	0
14	65	64	30	30	4	1	1	5	0	0
15	64	65	31	30	2	3	2	2	0	0
Mean	63.4	63.6	31.6	31.5	2.3	2.1	2.5	2.8	0	0
%	-0.31%		.031%		8.6%		-12%		0	

Comparative Analysis of Effect of Therapy Between Group A and Group B On Urine Examination

Group A.

S. No.	Routine Examination(R/E)										Microscopic Examination(M/E)									
	Colour		Reaction		Sugar		Albumin		Specific Gravity		Pus Cells		RBC		Epithelial Cells		Crystal		Cast	
	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.
1	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
2	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
3	Dark Yellow	Dark Yellow	Acidic	Acidic	Trace	Trace	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	8-12	3-4	Nil	Nil	Nil	Nil
4	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
5	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
6	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
7	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
8	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
9	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
10	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
11	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
12	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
13	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
14	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
15	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil

Group B

S. No.	Routine Examination(R/E)										Microscopic Examination(M/E)									
	Colour		Reaction		Sugar		Albumin		Specific Gravity		Pus Cells		RBC		Epithelial Cells		Crystal		Cast	
	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.	B.T.	A.T.
1	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
2	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
3	Dark Yellow	Dark Yellow	Acidic	Acidic	Trace	Trace	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	8-12	3-4	Nil	Nil	Nil	Nil
4	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
5	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
6	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
7	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
8	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
9	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	1-2	2-3	Nil	Nil	Nil	Nil
10	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	1-4	0-1	Nil	Nil	Nil	Nil
11	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	3-4	1-3	Nil	Nil	Nil	Nil
12	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
13	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	1-3	3-4	Nil	Nil	Nil	Nil
14	Yellow	Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-3	1-3	Nil	Nil	3-4	3-4	Nil	Nil	Nil	Nil
15	Pale Yellow	Pale Yellow	Acidic	Acidic	Nil	Nil	Nil	Nil	Q.N.S	Q.N.S	1-2	1-2	Nil	Nil	1-3	1-4	Nil	Nil	Nil	Nil

RESULTS

1) Subjective improvement

All registered patients were enquired about the growing feeling of subjective important produced if any by the drug under trial after the therapy. Emphasis was given on the feeling of well being, physical and mental fitness. The incidence of improvement was highest in II group followed by moderate improvement in the patients of I group.

2) Clinical improvement

Comparative interpretation of clinical recovery in 30 patients of two group of Vitiligo are described below.

S. No.	Characteristics	Group A (M+O)			Group B (P+M+O)		
		't' value	'p' value	Result	't' value	'p' value	Result
1	Surface area of lesion	8.500	<.001	H.S	6.98	<.001	H.S
2	Colour of lesion	2.646	< 0.05	S	6.205	<.001	H.S
3	Colour of hair of lesion	2.646	>.10	N.S	1.000	>.10	N.S
4	Size of lesion	1.377	<.10	M.S	1.000	<.001	H.S
5	Burning sensation	1.00	<.001	H.S	1.00	>.10	N.S
6	Itching	1.000	>.10	N.S	2.256	<.05	S
7	Hb gm. %	4.583	<.001	H.S	2.449	<.05	S
8	TLC	.564	>.10	N.S	1.000	>.10	N.S
9	E.S.R	1.82	>.10	M.S	3.21	<.001	H.S

CRITERIA FOR EFFECT OF OVERALL TREATMENT

Overall Improvement	No. of Patient	%age
Complete Remission	00	0%
Marked Improvement	14	46.66%
Moderate Improvement	15	50.00%
Mild Improvement	01	3.33%
Unchanged	00	0%

CONCLUSION

The following conclusion can be drawn from current research project

1. Oral administration of Indigenous drug (Khadiradiyog) along with *Bakuchi-Tuvrak* Oil is an effective preparation in uncomplicated and new cases of *Shvitra*(Vitiligo), but it has a limited role in the management of chronic cases of *Shvitra*(Vitiligo).
2. *Virechan Karma* with *virechandrayas* (*Trivrat, Triphala, Danti*) (Ch.Chi.7/44) and *Snehapan* with *Mahatiktghrita* by following *Sansarjan Karma*, followed by Oral administration of indigenous drug(*Khadiradiyog*) along with the topical application of

Bakuchi-Tuvrak Oil followed by 15 mins of sunexposure after 1 hr of application of the Oil has proven highly significant results.

Shvitra though difficult to cure by other system of medicines, but can be managed successfully with the knowledge of ancient system of medicine by using *Shodhana* and *Shamana Chikitsa* after considering the *roga-bala*, *rogi-bala*, *dosha*, *dushya*, *prakriti* of the patient. Hence, the Ayurvedic treatment modalities like *Virechana*, Oral intake of *Bakuchi-Tuvrak* Oil can be prescribed as a worthwhile procedure considering the effective and safe regimen for *Shvitra* (Vitiligo).

Therefore, it can be concluded that *Virechan Karma*, followed by Oral administration of Indigenous drug (*KhadiradiYog*) along with the application of *Bakuchi-Tuvrak* Oil is a very potent and can be prescribed in the management of *Shvitra* viz Vitiligo.

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