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AN ETIOPATHOLOGICAL STUDY OF DADRU KUSHTHA W. S. R. TO *TINEA CORPORIS* AND ITS UPSHAYATMAKA PARIKSHANA WITH DADRUGHNA LEPA

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ABSTRACT

Due to inadequate immunity, filthy living circumstances, and poor diet, the incidence of skin diseases has significantly increased in developing nations like India and tropical regions in recent years. Skin is the area of the body that is most exposed. Because the skin serves as a mirror to reflect both internal and exterior pathology in such disorders, which aids in diagnosis, a patient who has any skin condition experiences physical, emotional, and socioeconomic humiliation in his or her society. There are many other skin infections, but tinea/ringworm is one that is affecting people of all ages and spreading quickly. In Ayurveda, skin infections are known as Twak Vikara or Kushtha roga. Dadru is referred to as a Dadru Kushtha among the Kushtha Roga. Due to the similarities in their signs and symptoms, Dadru Kushtha and Tinea/ringworm, a cutaneous fungal illness, are connected in modern medicine. In this study, 60 cases were taken and administered the suitable dosage of Dadrughna lepa according to the affected area. It was found that the age between maximum in 31-40 years and in 41-50 years were more prone to Dadru Kushtha. Present study was conducted on diagnosed patients of Dadru Kushtha in patients Dadrughna Lepa was applied. Drugs with the qualities of Kandughana, Kushtahara, Krimighna, vishaghna, and Tridoshahara are utilized in formulations. The outcomes showed that Dadrughna Lepa had a highly substantial impact on a variety of subjective parameter, including Raga, Kandu, size of pidika after therapy. The drug's effects over the 15th-day follow-up period indicated a long-lasting impact on the illness.

KEYWORDS: Dadru Kushtha, Dadrughna Lepa, Tinea/Ringworm.

INTRODUCTION

Ayurveda must be brought to light for this type of resistant behavior that is likely to affect people in the future in accordance with the needs of today's lifestyle and also because of the rise in human resistance. In Ayurveda skin diseases is termed as Kushtha roga.

कुष्णाति वपु इति कुष्ठम्।

Means disfigured appearance of skin is called Kushtha.

Skin conditions are categorized in Ayurvedic medicine under the general term Kushtha, which is further divided into Mahakushtha and Kshudrakushtha. Our Acharyas regard Kushtha as the ***Mahagada*** and Acharya Sushruta has included in ***Aupsargik rog*** and also termed as ***Twagamay***.

कुष्ठम् ज्वरश्च शोषश्च नेत्राभिष्यन्द एव च
औपसर्गिक रोगाश्च संक्रामन्ति नरान्नरं॥(सु.नि.5/32-34)

Dadru kushtha is one among the 18 types of Kushthas. Acharya Charaka included Dadru kushtha in Kshudrakushta whereas Acharya Sushruta and Vagbhata have explained under Mahakushtha. According to Acharya Dalhana Dadru kushtha is classified into two types: Sitha and Asitha. He interpreted that Dadru kushtha mentioned by Acharya Sushruta under Mahakushtha, is Asitha type of Dadru kushtha and Dadru kushtha by Acharaya Charaka which is enumerated under Kshudra kushtha is a Sitha type.

वातादयस्त्वयो दुष्टास्त्वग्रक्तं मांसमम्बु च।
दूषयन्ति स कुष्ठानां सप्तको द्रव्यसंग्रहः ॥(च. चि.7/9)

According to most of Ayurvedic text all types of Kushtha have been considered as tridoshaja vikara which involve

Twak, Rakt, Mamsa and ***Lasika***. Both dosha and dushya (pradushit dhatu) form a compound called Sapt kushtha dravya. In Dadru there is dominance of kaph piitta dosha and dusti of ***Ras*** and ***Raktvaha*** srotas as per Acharya Charaka and Acharya Vagbhata. On the other hand, Kaphaja as per Acharya Sushruta. In Ayurveda, according to Acharya Sushruta, the Bahiparimarajana type of treatment is indicated in Dadrukushta. Therefore, the Lepas are applied, local application works faster due to physiological effect of heat on the skin. Acharya Charaka has described 32 formulations of Lepa in 'Aragwadhiya Adhaya'which also shows importance of Lepa Kalpana. Therefore, it is recommended to consume the Ayurvedic formulations of Bahiparimarjana in the form of Lepas and Shaman Aushadhis, which can operate as Sthanika Chikitsa both internally and outwardly and heal sickness from the root.

These Ayurvedic formulations completely treat Dadru Kushtha, and as they contain many medications with different qualities, there is very little risk of it returning.

AIMS AND OBJECTIVE OF THE STUDY

- To evaluate the etiopathogenesis of the Dadru Kushtha.
- To assess the upshayatmaka parikshana and effect of the Dadrughna lepa inthe Dadru kushtha.
- To study the clinical evaluation of etiology, types, sign, symptoms in relationto *Tinea corporis*.

Plan of study

1. Conceptual study
2. Clinical study
3. Observation and result
4. Discussion
5. Summary
6. Conclusion

Conceptual study

Historical review

In this part, historical review about Dadru Kushtha had been collected from classical text of Ayurveda, previous research work done, scientific journal, periodic magazines, monographs and other available source.
Similarly modern review regarding the Tinea corporis (dermatophytosis) have been gathered from the Modern Texts and various other online media. After thorough analysis, the data has been gathered and compiled in an organized manner.

Disease review: This section includes the detailed description about Dadru kushthafrom both the Ayurvedic point as well as Modern point of view.

Drug review: Includes the brief description of the drugs involved in the formationof Dadrughna lepa.

CLINICAL STUDY - MATERIAL AND METHOD

Material

Total registered patients 60 in number out of them 52 completed the protocol. Patients having classical symptoms of Dadru Kushtha were selected from the OPD of various Departments of Government P. G. Ayurvedic College and Hospital, Varanasi.

Method of collection of data

Total 52 patients out of 60 were diagnosed with signs and symptoms of Dadru Kushtha and their Upshayatmaka Parikshana was done using the trial drug. In this trial, adult patients were taken which were falling in the age group between 16 – 70 years. The dosage of the trial drug is according to area of involvement of the disease (According to area of involvement ofthe disease).

Special proforma has been designed including the mandatory criteria like the cardinal signs and symptoms, investigations etc. required for the Upshayatmaka Parikshana.

Diagnostic criteria

For the purpose of diagnosis, a standard research proforma has been prepared on thebasis of Principles of Ayurveda and Modern science. Description of signs and symptoms, examination and investigations were included to reach to the final diagnosis of the disease.

Inclusion criteria

1. Patient between age group 16 to 70 year.
2. Patient with sign and symptom of Dadru Kushtha.
3. Sex -either sex.
4. After 7 days of upshayatmaka parikshana, if the patient complained response, then we went further with our parikshana.

Exclusion Criteria

1. Patient having age less than 16 years and more than 70 years
2. Immunocompromised patient (H I V, T B) other complicated disorder, Uncontrolled Diabetes, Skin cancer, Psoriasis, Malignant of skin disease, Severe cardiac disease, Renal hepatic disease, Generalized eczema, Hansen's disease, Cellulitis, Contact dermatitis.
3. After 7days of upshayatmaka parikshana, if the patient complained no response then further parikshana was not carried out.

Assessment criteria

The changes in cardinal signs and symptoms were assessed on the basis ofsubjective parameters.

Subjective criteria

- Assessment of all patients was done on the basis of relief in signs and symptoms of a Dadru kushtha.
- The chief complaints were allotted a score of 20=5x4 i.e., five chief complaints, each possessing a score of four.

ASSESSMENT OF SUBJECTIVE CRITERIA

S.N.	Feature	0	1	2	3
1	**Kandu (Itching)**	No itching	Mild itching	Moderateitching	Severeitching
2	**Raga (Erythema)**	Normal skin colour	Mild redcolour	Moderate redcolour	Browncolour
3	**No. of mandal**	1 mandal	1 to 3 mandal	4 to 6 mandal	More than6 mandal
4	**Size ofmandal**	Nil	Less than 5cm	5 to 10 cm	More than10 cm
5	**Pidika (Eruption)**	No pidika	Pidika disappears butdiscoloration persists	Pidika <3sqcms in whole affectedarea	Pidika 3- 8sqcms in whole affected area

Assessment of therapy

Trial drug was given to the patient and the changes in subjective parameters were recorded at one week interval. Total effect of therapy in each patient was evaluatedafter completion of treatment.

Sr. No.	Result	Criteria
1.	Cured	>75% relief in signs andsymptoms
2.	Moderately cured	51%-75% relief in signsand symptoms
3.	Mild improvement	25%-50% relief in signsand symptoms
4.	No improvement	<25% relief in signs andsymptoms

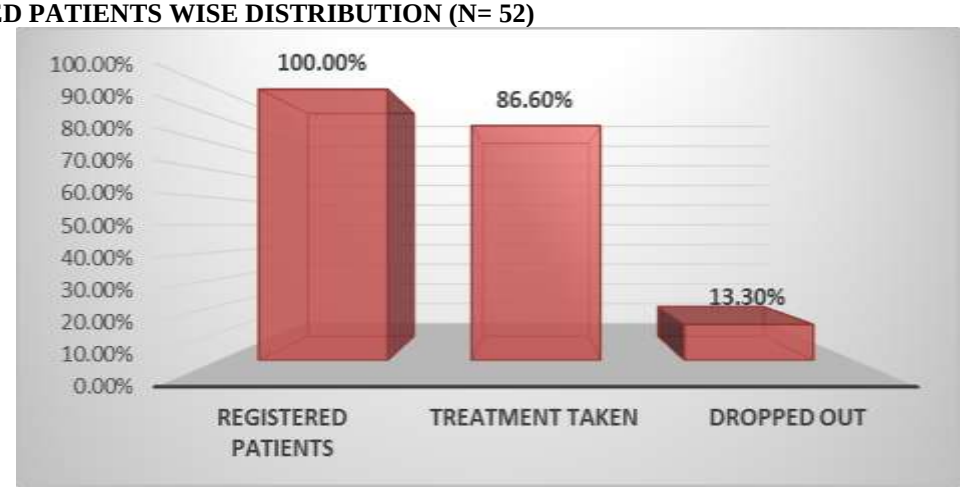
Laboratory investigations

For clinical trial

Sr. No.		
1.	Complete blood count	
	Total leucocyte count	4000 -11000 cells (10^3/ L)
	Differential leucocytecount	
	*Neutrophils *Lymphocytes *Monocytes *Eosinophils *Basophils	40-75% 20-42% 1-7% 2-6% 0-1%
2	Hemoglobin in gm/dl	
3	RBS gm/dl	
4	Blood group	

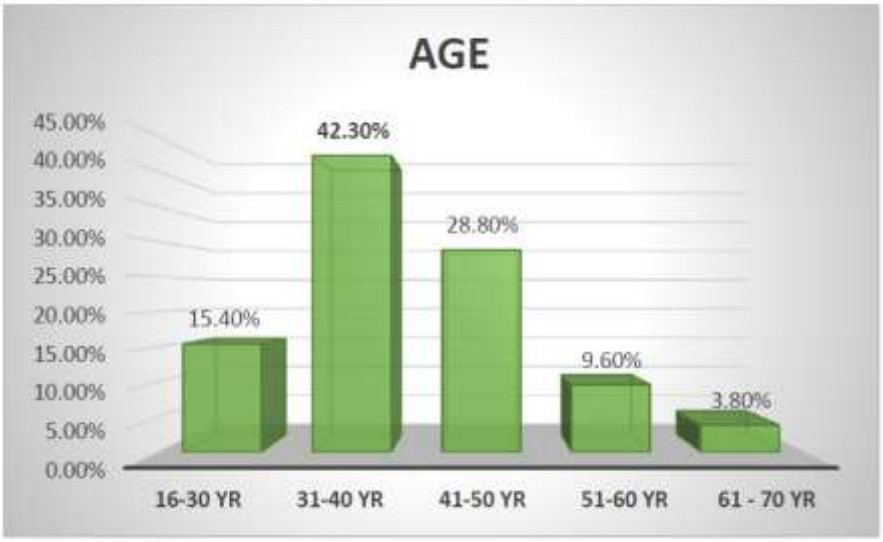
OBSERVATION AND RESULT

REGISTERED PATIENTS WISE DISTRIBUTION (N= 52)



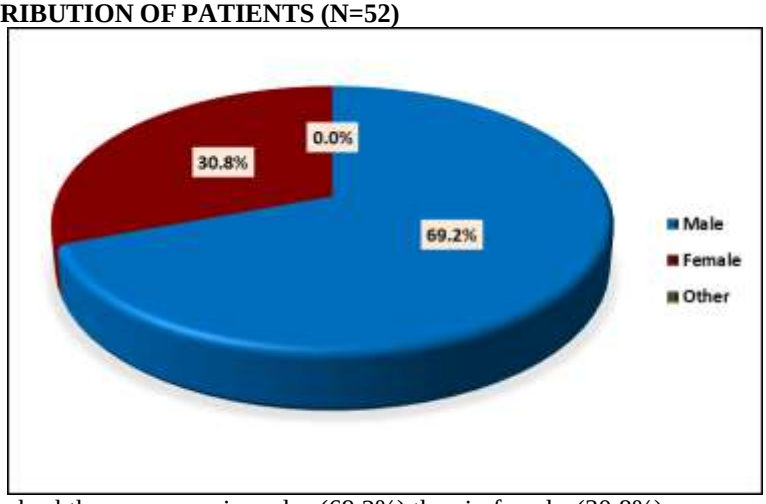
For the purpose of study, total 60 patients were registered showing the signs and symptoms of Dadru kushtha, out of which 52 patients completed their 4 followupsand 6 patients completed 1 follow.

AGE WISE DISTRIBUTION OF PATIENTS (N= 52)



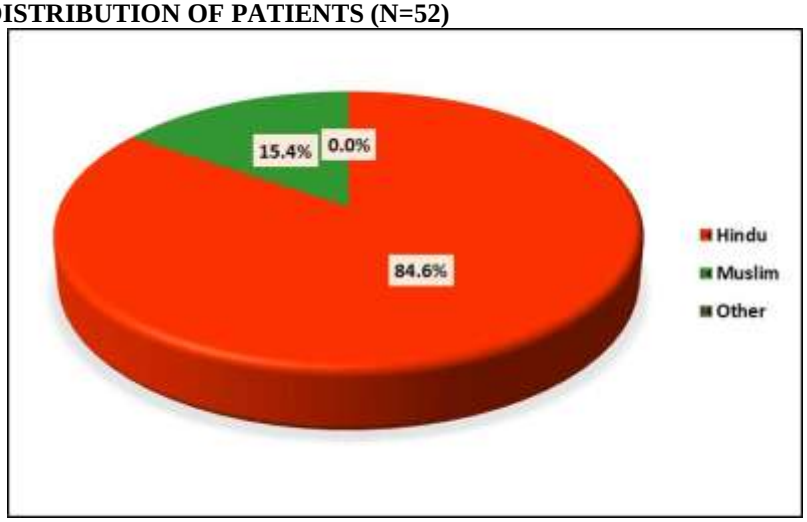
The above values show that out of 52 patients, maximum number of patients liesin age group 31-40 years (42.3%) and in age group 41- 50year (28.8%). So, Dadru is more common in younger age group.

GENDER WISE DISTRIBUTION OF PATIENTS (N=52)



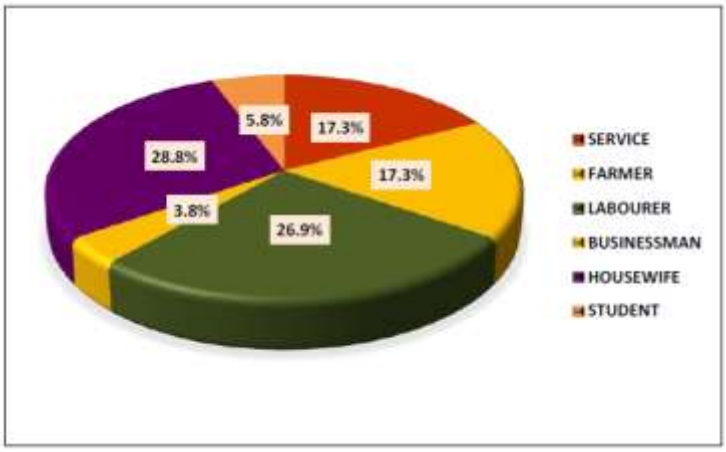
The occurrence of Dadru kushtha seen more in males (69.2%) than in females(30.8%).

RELIGION WISE DISTRIBUTION OF PATIENTS (N=52)



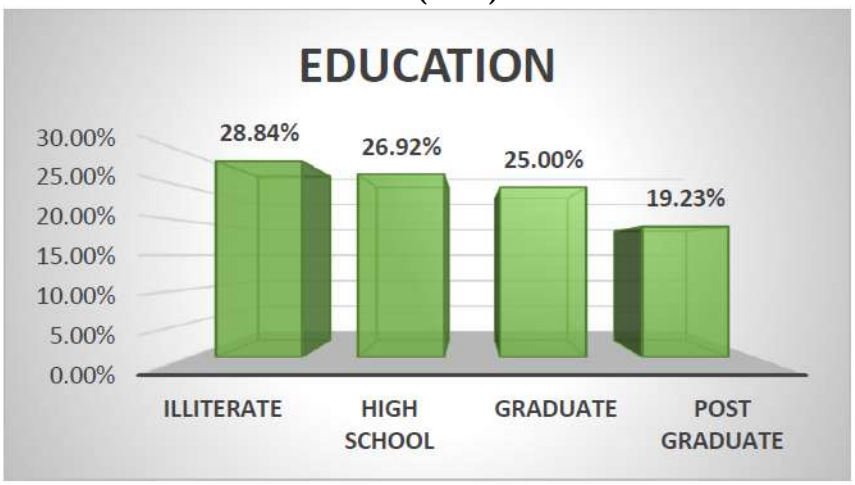
From the above table, we draw the conclusion that maximum patient belongs to Hindu religion i.e., 84.6% whereas 15.4% belongs to Muslim religion.

OCCUPATION WISE DISTRIBUTION (N= 52)



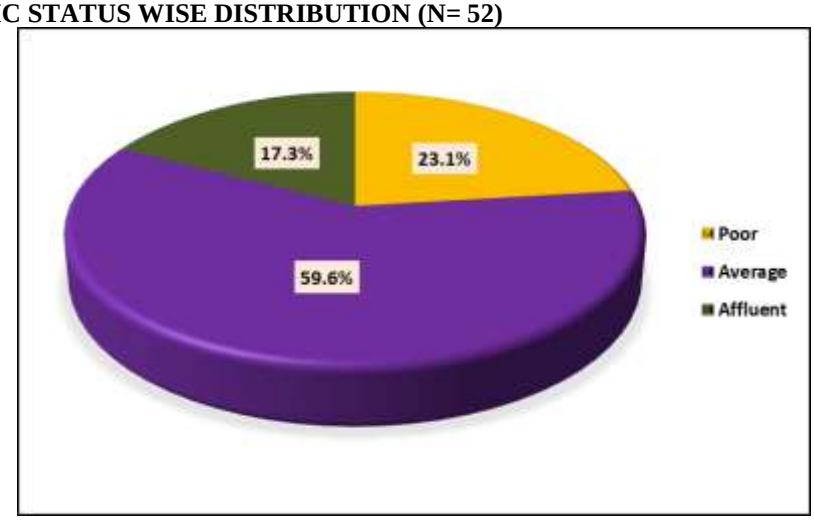
The above data shows that maximum number of cases are that of Housewife (28.8%), next number is that of labourer which is 26.9%.

EDUCATION WISE DISTRIBUTION OF PATIENTS (N=52)



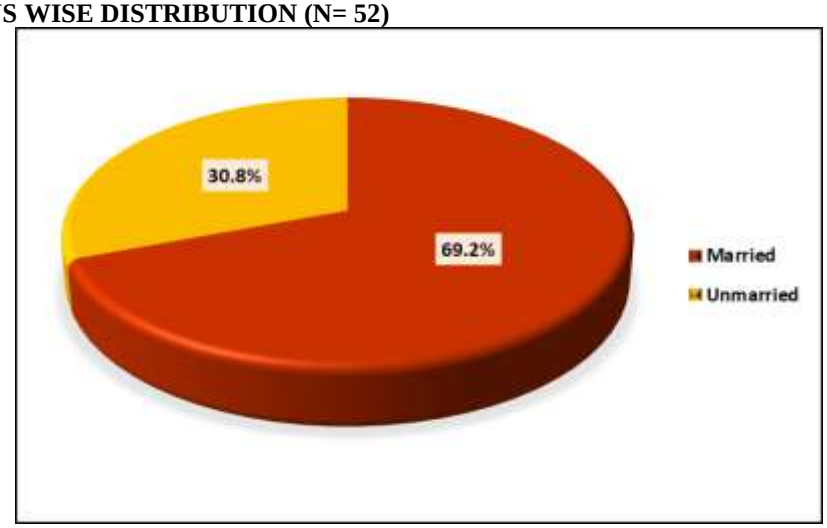
The above data shows that 28.84% were categorized as illiterate, indicating no formal education. A notable portion, 26.92%, had completed their high schooleducation, while 25.0% were graduates from higher education institutions.

SOCIO-ECONOMIC STATUS WISE DISTRIBUTION (N= 52)



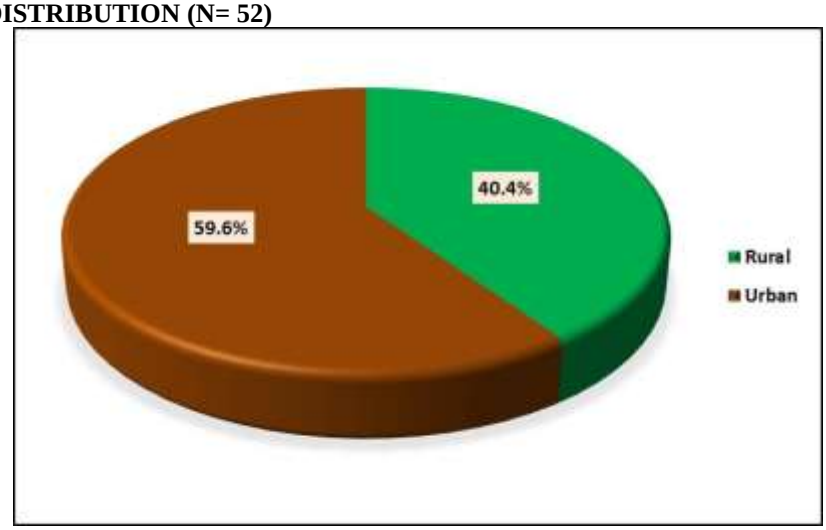
The majority, constituting 59.6% of the participants, fell under the "Average" socio-economic status category, reflecting a middle-ground economic condition.23.1% were classified as "Poor."

MARITAL STATUS WISE DISTRIBUTION (N= 52)



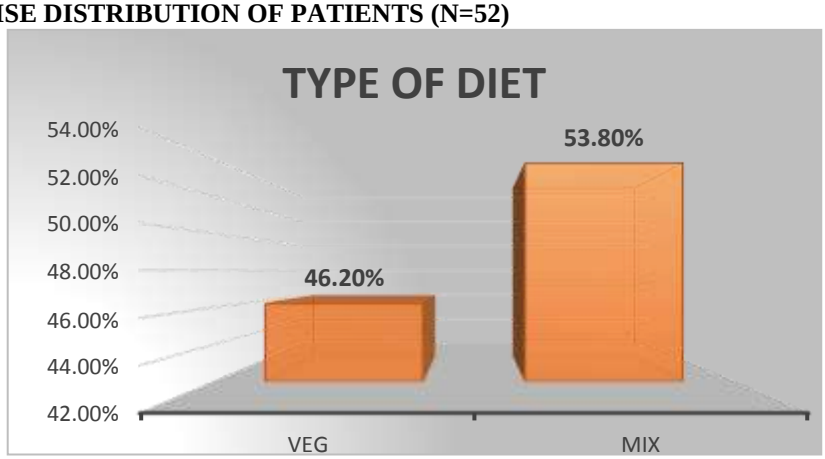
The above data shows that maximum number of cases are married (69.2%), while30.8% were unmarried.

HABITAT WISE DISTRIBUTION (N= 52)



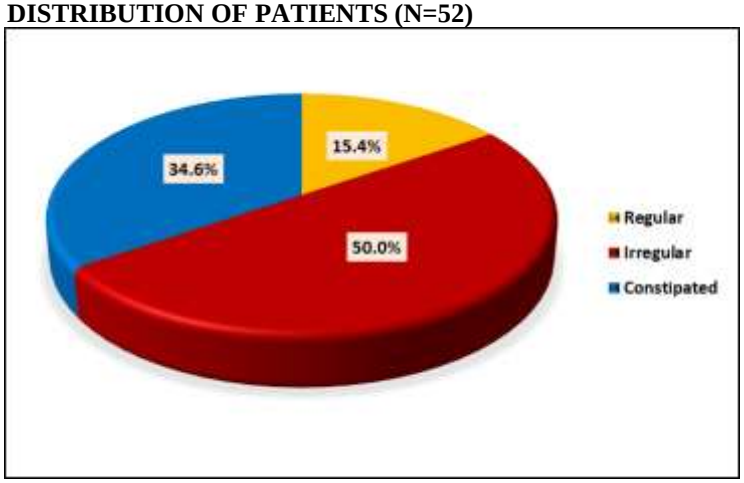
From the above table, we draw the conclusion that maximum patient belongs to Urban area i.e., 59.6% whereas 40.4% belongs to Rural area.

TYPE OF DIET WISE DISTRIBUTION OF PATIENTS (N=52)



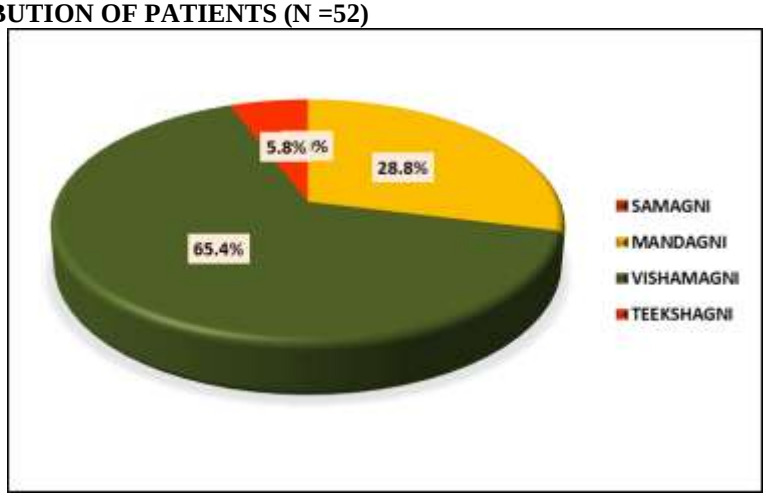
The above table indicates that the cases intaking mixed diet (53.80%) are more prone to Dadru Kushtha than those taking vegetarian diet (46.20%).

BOWEL HABIT WISE DISTRIBUTION OF PATIENTS (N=52)



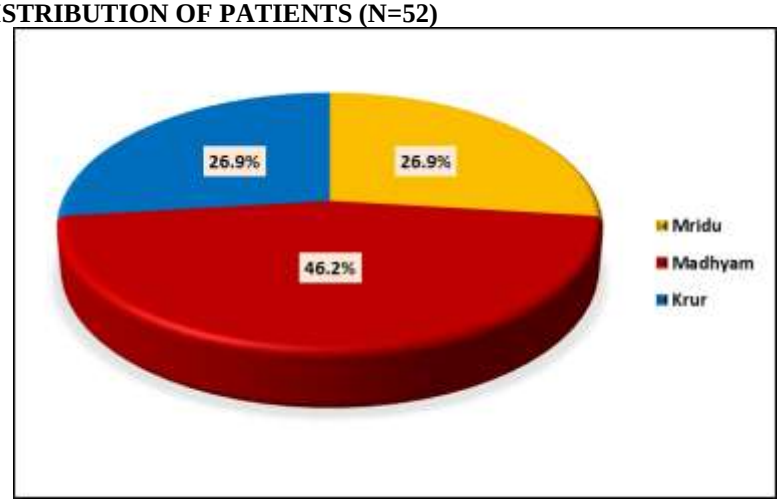
Regarding bowel habits, the data indicated that 15.4% of participants reported regular bowel movements, while 50.0% experienced irregularity in their bowelhabits. Additionally, 34.6% of participants reported being constipated.

AGNI WISE DISTRIBUTION OF PATIENTS (N =52)



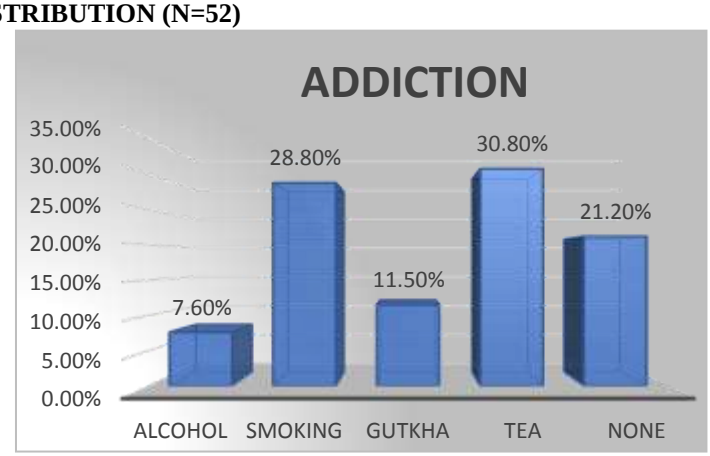
Above data shows that 65.4%, Vishamagni, indicating irregular or variable digestion. A smaller fraction, 5.8%, demonstrated Teekshagni, implying sharp and efficient digestion. A significant portion, 28.8%, had Mandagni, representingsluggish digestion.

KOSHTHA WISE DISTRIBUTION OF PATIENTS (N=52)



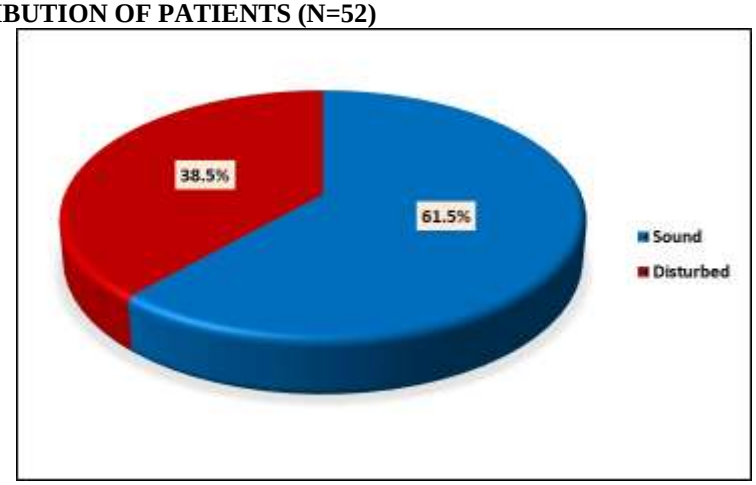
From the above graph, we conclude that, 46.2% (higher portion) fell into the "Madhyam" (moderate) category, suggesting a balanced and moderate digestivecapacity. Additionally, 26.9% were classified as having a "Krur" koshtha.

ADDICTION WISE DISTRIBUTION (N=52)



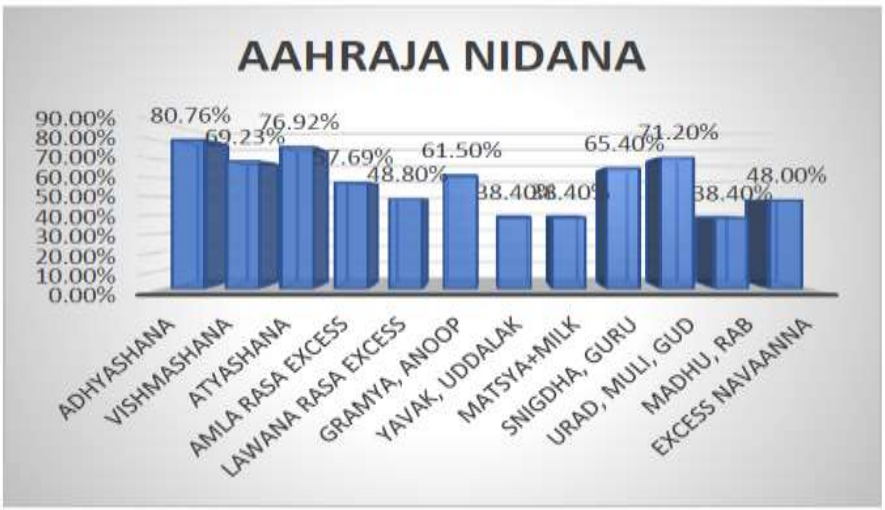
In terms of addictive habits, 30.8% reported Tea consumption, 28.8% were smokers, 11.5% used gutkha (chewing tobacco), 7.6% took alcohol. Notably, 21.2% of participants claimed to have no addictive habits.

SLEEP WISE DISTRIBUTION OF PATIENTS (N=52)



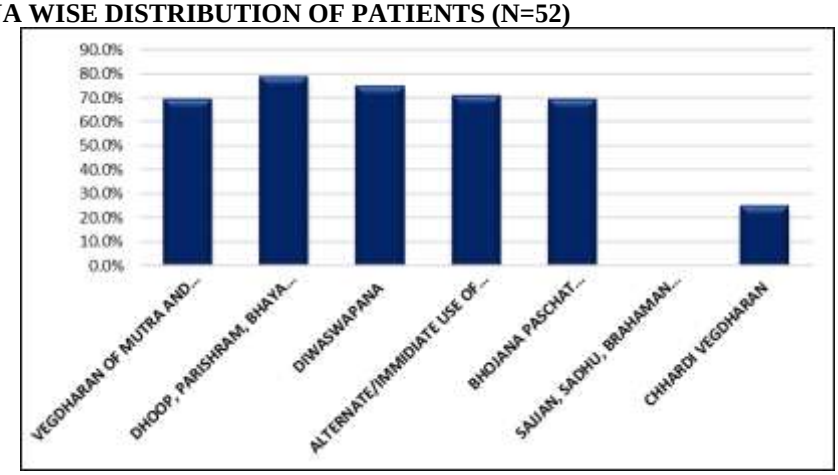
In terms of sleep patterns, the study found that 61.5% of participants reportedexperiencing sound sleep, while 38.5% indicated that their sleep was often disturbed.

AAHRAJA NIDANA WISE DITRIBUTION OF PATIENTS (N=52)



The data shows that various factors were reported by the participants. Excessive consumption of "ADHYASHANA" was observed in 80.8% (maximum) of cases, while "VISHMASHANA" was reported in 69.2% of cases. "ATYASHANA" (excessive eating) was seen in 76.9% of cases. These findings highlight the dietary factors that might play a role in the development of the condition.

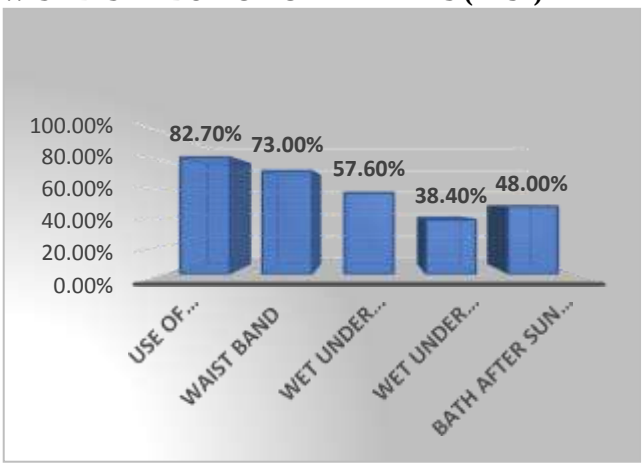
VIHARAJ NIDANA WISE DISTRIBUTION OF PATIENTS (N=52)



The data reveals that "dhoop, parishram, bhaya paschat jala sevan" were observed in 78.8% of participants. "diwaswapana" was reported by 75.0% of cases, while "alternate/immediate use of hot and cold" practices were observed in 71.2% of cases. vegdharan of mutra and purisha was reported by 69.2% and Bhojana paschat vyayaam, dhoop sevan were reported by 69.2% of participants."chhardi vegdharan" was reported by 25.0% of cases.

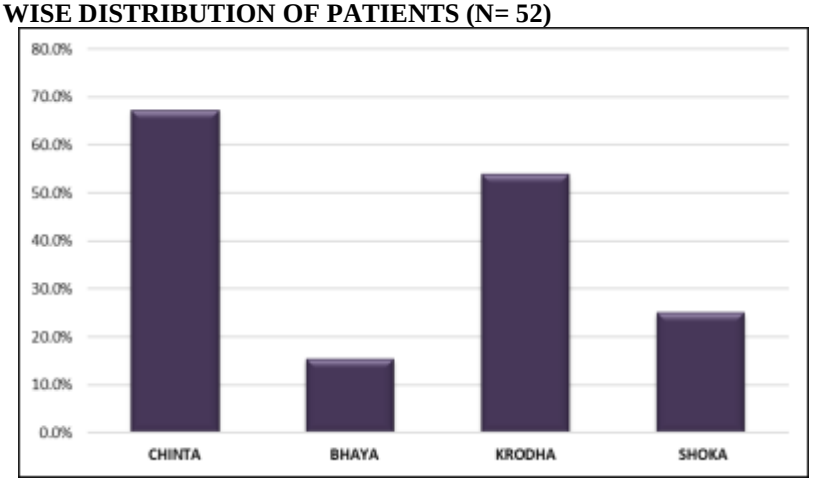
According to modern

ETIOLOGICAL FACTOR WISE DISTRIBUTION OF PATIENTS (N=52)



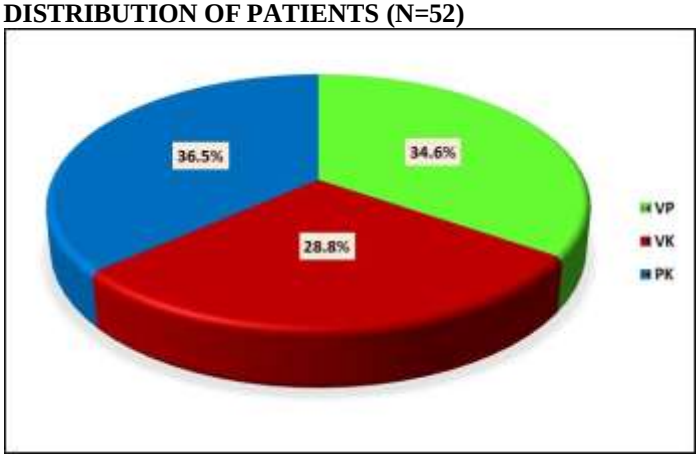
The data highlights that "use of synthetic garments/leggins/jeans" was reported by 82.7% of cases as a potential factor. "waist band" usage was reported by 73.0% of participants, and "wet under garment" was observed in 57.6% of cases. Additionally, wearing "wet under shoe socks" was reported by 38.4% of cases, and "bath after sun exposure" practices were observed in 48.0% of participants.

MANSIK NIDANA WISE DISTRIBUTION OF PATIENTS (N= 52)



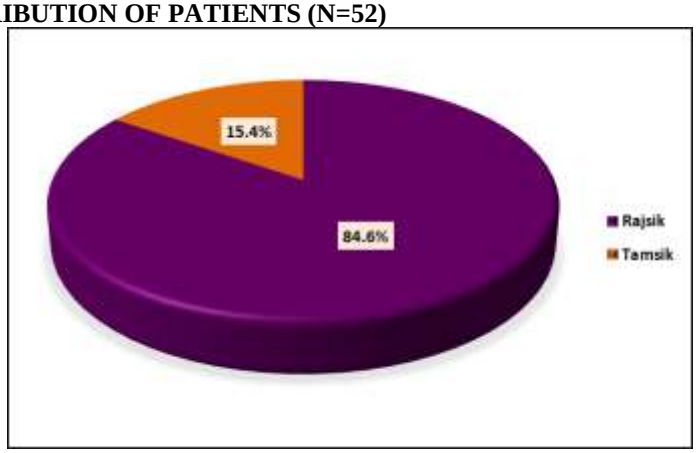
The data indicates that "CHINTA" was reported by 67.3% of cases as a potential factor. "BHAYA" was observed in 15.4% of participants, and "KRODHA" was reported by 53.8% of cases. Additionally, "SHOKA" was observed in 25.0% of participants.

DEHA PRAKRITI WISE DISTRIBUTION OF PATIENTS (N=52)



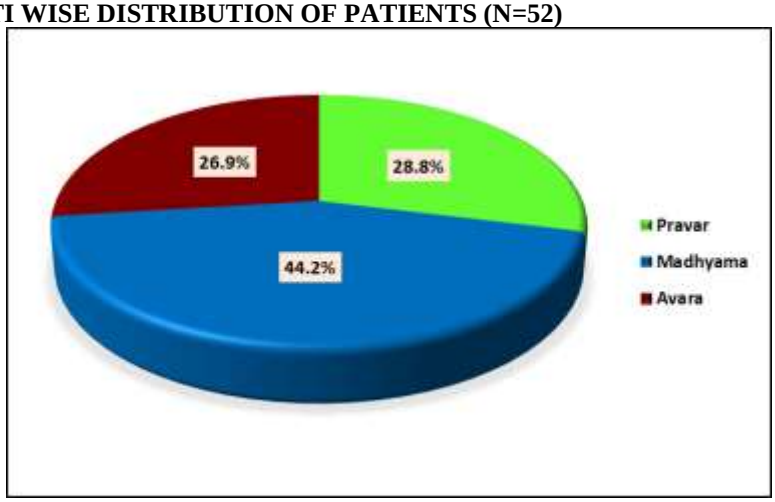
Above data shows that, 34.6% were classified as having a Vata-Pitta (VP) constitution, 28.8% had a Vata-Kapha (VK) constitution, and 36.5% exhibited aPitta-Kapha (PK) constitution.

MANSIKA WISE DISTRIBUTION OF PATIENTS (N=52)



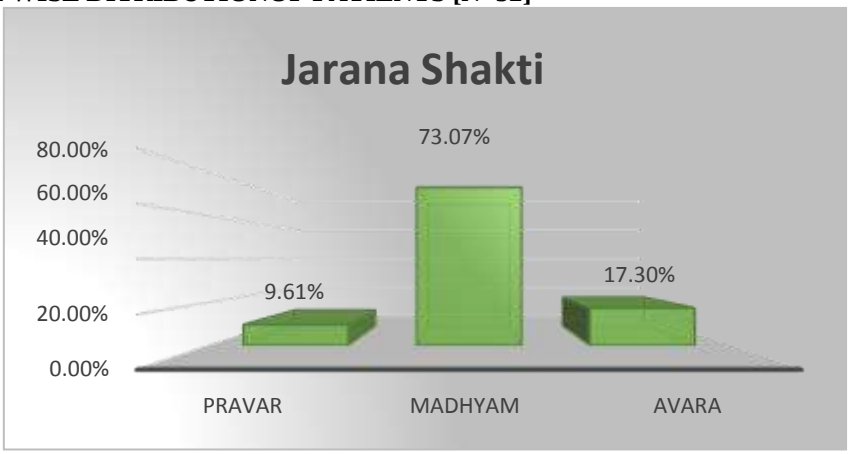
The above data shows that 84.6% exhibited a Rajsik mental disposition, while 15.4% displayed a Tamsik mental disposition.

Abhyavarana SHAKTI WISE DISTRIBUTION OF PATIENTS (N=52)



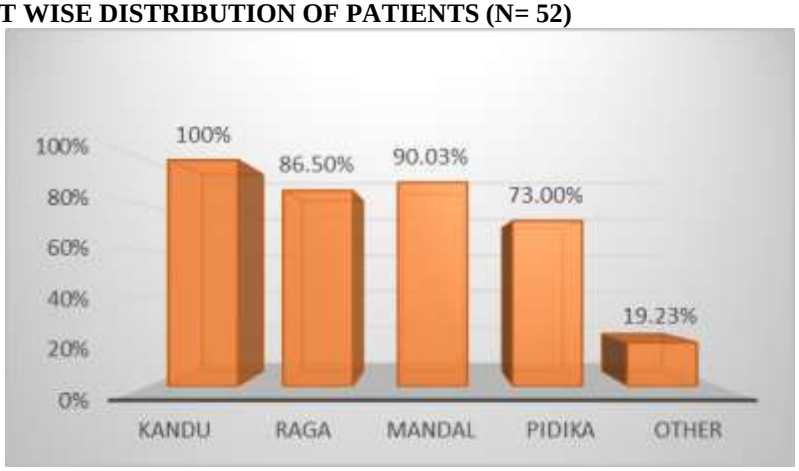
It was noted that maximum patients i.e., 44.2% were those with Madhayam Abhyavarana shakti, next were those with avar abhyavarana shakti (26.9%) and thenext is with Pravara abhyavarana shakti (28.8%).

JARANA SHAKTI WISE DITRIBUTIONOF PATIENTS [N=52]



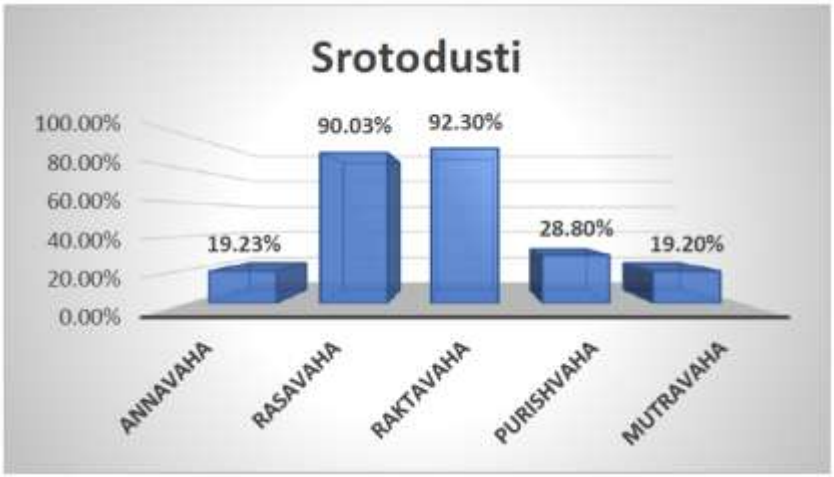
Above data shows that maximum patients i.e., 73.07% were those with Madhayam Jarana Shakti, next were those with avar jarana shakti (17.3%) and thenext is with Pravara ahara Shakti 9.6%.

CHIEF COMPLAINT WISE DISTRIBUTION OF PATIENTS (N= 52)



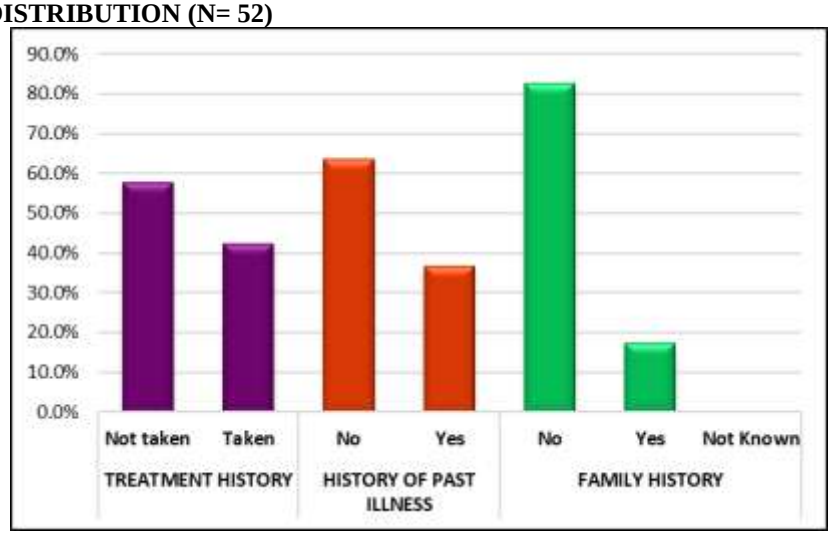
Above data shows that chief complaint was found KANDU 100% while RAGA 86.5%, MANDAL 90.03%, PIDIKA 73.0% and other complaint 19.23%.

SROTAS PARIKSHA WISE DISTRIBUTION (N=52)



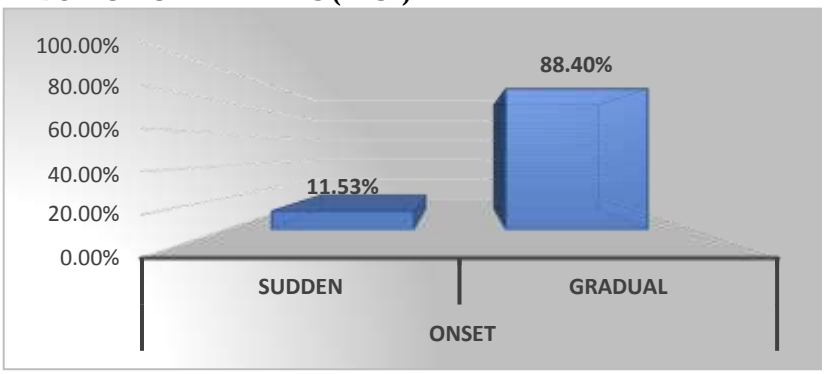
Above data shows that maximum number of patients with Raktavaha srotodusti (92.30%) followed by Rasavaha srotodushti (90.03%), Pureeshavah Srotodushti (28.80%), Annavaha Srotodushti which is 12.96% and then last one is mutravahasrotodushti (19.20%).

HISTORY WISE DISTRIBUTION (N= 52)



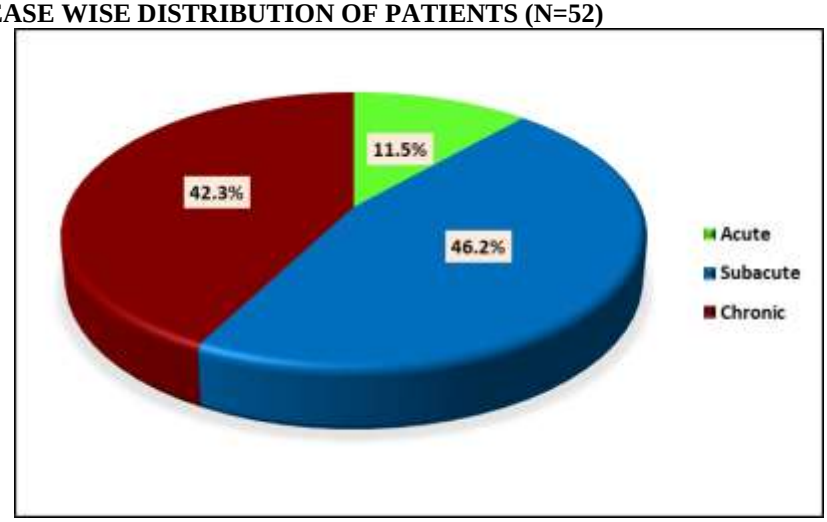
Above data shows that 57.7% of them had not taken any previous treatments, while 42.3% had undergone treatments for their conditions. 63.5% of the participants reported no history of previous health issues, whereas 36.5% had experienced past illnesses. Additionally, family history was absent in 82.7% of the participants, while 17.3% had a family history of health problems.

ONSET WISE DISTRIBUTION OF PATIENTS (N=52)



46 participants (88.40%) experienced a GRADUAL onset of their symptoms,with 11.53% reporting a sudden onset.

NATURE OF DISEASE WISE DISTRIBUTION OF PATIENTS (N=52)

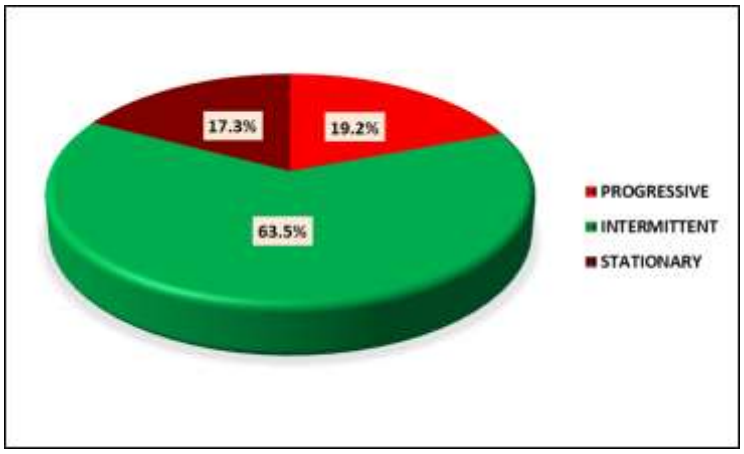


The above data shows that 11.5% of participants reported an Acute nature of thedisease, 46.2% experienced a Subacute nature, and 42.3% had a Chronic nature of the disease.

CHRONICITY WISE DISTRIBUTION OF PATIENTS (N=52)

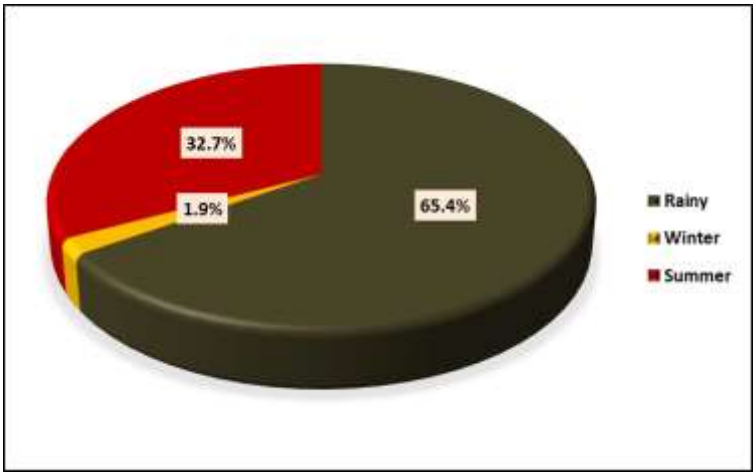
The data indicates that 36.5% of individuals experienced the condition for 1 to 2years, while 25.0% had the condition for 2 months to 1 year. Moreover, 15.4% reported a chronicity of both 2 to 3 years and more than 3 years each. Additionally, 7.7% experienced the condition for less than 2 months.

DISTRIBUTION ACCORDING TO CHARACTERISTICS OF LESION



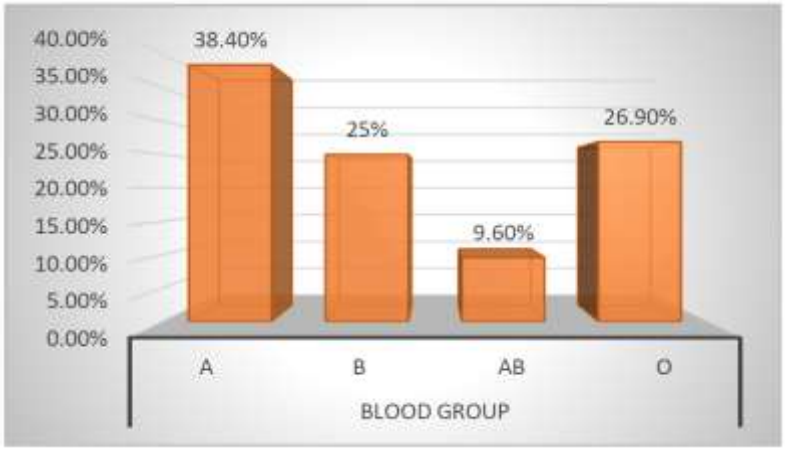
Above data shows that 19.2% had lesions with a Progressive pattern, 63.5%exhibited Intermittent characteristics, and 17.3% had lesions that remained Stationary.

DISTRIBUTION ACCORDING TO SEASON



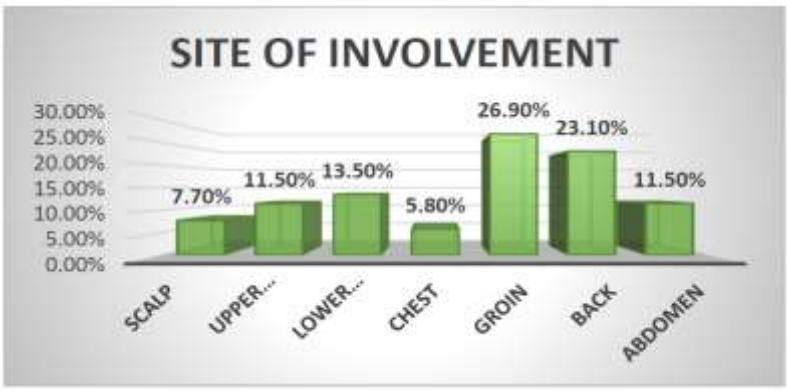
In present study 65.4% of participants reported experiencing their condition during the Rainy season, while 32.7% reported experiencing it during the summer season. Only a minor proportion of 1.9% reported their condition duringthe winter season.

Distribution of Blood Group (N=52)



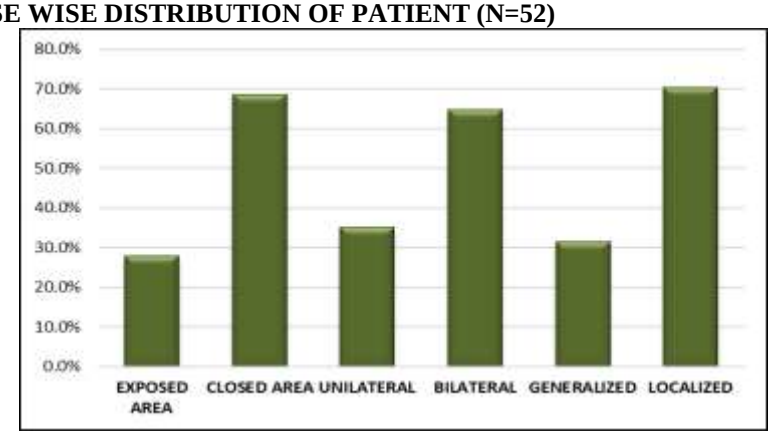
Among the participants, 20 individuals (38.4%) had blood group A, 13individuals (25%) had blood group B, 5 individuals (9.6%) had blood group AB, and 14 individuals (26.9%) had blood group O.

DISTRIBUTION ACCORDING TO SITE OF INVOLVEMENT



Among the participants, 26.9% reported involvement in the Groin area, while 23.1% reported Back involvement. Lower Extremities and Chest were each reported by 13.5% and 5.8% of participants respectively. Scalp, Upper Extremities, and Abdomen involvement were reported by smaller proportions of7.7%, 11.5%, and 11.5% respectively. This indicates that the Groin and Back areas were the most commonly affected sites in the study population.

STATUS OF DISEASE WISE DISTRIBUTION OF PATIENT (N=52)



The data reveals that the disease was found in 27.8% of individuals in exposed areas and 68.5% in closed areas. In terms of distribution, 35.2% had unilateral involvement while 64.8% had bilateral involvement. Additionally, the conditionwas generalized in 31.5% of cases and localized in 70.4% of cases.

Percentage of Improvement in Chief Complaints or Subjective Criteria-

Subjective Parameter	BT	AT	Percentage change(%)	Improvement
Kandu	2.13	0.21	90.09	Marked Improvement
Raga (Erythema)	1.75	0.35	80.22	Marked Improvement
No. of Mandal	1.53	1.03	34.64	Mild Improvement
Size of Mandal	2.21	1.38	37.50	Mild Improvement
Pidika	2.38	0.65	72.58	Moderate Improvement

In Subjective parameter 90.09% relief was seen in kandu, 80.22% relief was seen inraga, 72.58% relief in Pidika, and Mild improvement in two complain i.e. no. of mandal and size of mandal, percentage change in respectively 34.64% and 37.50%.

Effect of Therapy in Subjective parameter-

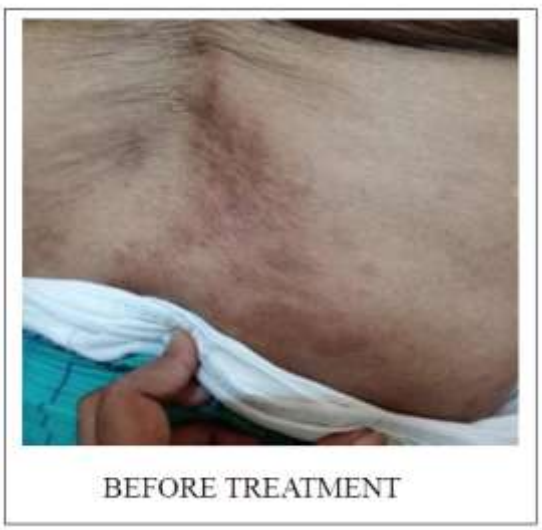
Subjective Parameter	Before trial		After trial		% change	Wilcoxon test		RESULT
	Mean	SD	Mean	SD		z-value	p-value	
Kandu (Itching)	2.13	0.74	0.21	0.41	90.09	-6.35	**<0.001**	**HS**
Raga (Erythema)	1.75	0.65	0.35	0.48	80.22	-5.99	**<0.001**	**HS**
No.of Mandal	1.53	0.64	1.03	0.76	34.64	-2.36	**0.019**	**S**
Size of Mandal	2.21	0.72	1.38	0.69	37.50	-3.27	**0.002**	**S**
Pidika	2.38	0.49	0.65	0.48	72.58	-6.52	**<0.001**	**HS**

Effect of Therapy in Laboratory investigation [N=52]

Parameter	Before trial		After trial		Mean change	paired t test		
	Mean	SD	Mean	SD		t-value	p-value	Result
TLC/CUMM	6771.35	1817.36	6913.46	1957.99	142.12	- 1.44	0.157	NS
NEUTROPHIL %	56.23	10.55	57.67	10.79	1.44	- 1.59	0.119	NS
EOSINOPHIL %	4.15	2.58	4.92	2.90	0.77	- 1.89	0.064	NS
BASOPHIL%	0.07	0.26	0.04	0.19	0.04	1.00	0.322	NS
MONOCYTE %	3.07	1.76	3.36	2.32	0.29	- 1.25	0.217	NS
LYMPHOCYTE%	34.13	8.31	35.18	9.12	1.05	- 1.60	0.116	NS
HB%	11.99	2.12	12.27	1.94	0.27	- 1.57	0.121	NS
RBS	30.96	61.76	28.92	57.04	2.04	1.71	0.094	NS

RESULT- It was found that in Kandu (Itching), Raga (Erythema) and Pidika(Eruption), shown significant effect.

Effect of Dadrughna lepa



BEFORE TREATMENT

AFTER TREATMENT

DISCUSSION

The Discussion section of the study deals with meaning, importance, relevance and analyses of the therapeutically effect on the selected problem through observations and results to focus on the research question, aim, and objectives.

Study Status -Total 60 patients were registered in this study, out of which 52 patients have completed their course of treatment & 8 patients left against medical advice. The clinical study of this study deals with all aspects of the diseases & treatment.

Demographic data Age –In this study all the patients were categorized into 5 age groups. The observations made in this aspect lead to the conclusions that maximum no. of patients (42.3%) were from the age group of 31 - 40 years. While 28.8% patients were from the age group of 41-50 years. Dadru can occur at any age but due to more stressful life and life style and dietary disturbances in middle age incidence is found more in age group of 31- 40 years. This age group has a majority chance for Kushtha due to their occupation, contact activities and other exposures.

Gender: In this study maximum patients were male i.e., 69.2% followed by female (30.8%). Actually there is no relationship of sex with the diseases. However, the research suggests that male patients are more susceptible to Kushtha. One possible explanation is because men are more affected by Viruddha Ahara due to unavoidable condition i.e., hostel, business, service schedule etc.

Religion: In this study maximum i.e., 84.6% patients were from Hindu religion due to majority of Hindu religion in Varanasi due to holy place.

Marital Status: Maximum 69.2% the patients were married in this study due to inclusion criteria of age group between 16-70 years. Till this age mostly individuals got married in India. Due to small sample size of the study, it is difficult to relate as arisk factor for Dadru Kushtha.

Occupation: In this study, maximum patients i.e., 28.8% were house wives & 26.9%were labour. The prevalence indicates the communicable nature of Dadru among house wives & the susceptibility of labour class to the infections is due to carelessness about hygienic norms, food habits & other Nidanas.

Education: Maximum no. of patients i.e. 28.84% were illiterate, 26.92% had passed highschool & 25% patients were graduates. That means only the unhygienic living condition is not the main cause, but the contagious nature of the diseases, also contribute up to some extent because the H.Sc. qualified and graduate are not that much careless about hygiene.

Habitat: Maximum no. of patients i.e. 59.6% were from urban area while 40.4% were from rural area. This may be due to the location of the hospital where the studywas undertaken. However, the urban distributions of Dadru can be attributed to much polluted environment of urban area than the rural one.

Socio-Economic Status: Maximum no. of patients (59.6%) were from average class 23.1% were from poor class. Superficial fungal infections of the skin do not have any relationship with socio-economic status because in this study 17.3% rich patients were also encountered so this could not lead to any concrete decision in thisregard.

Onset: Most of the patients i.e. 88.40% had gradual onset. Dadru started with slight itching or mild irritation & the negligence led to further aggravation of the diseases.

Chronicity: Most of the patients 36.5% for 1 to 2 years, while 25.0% had the condition for 2 months to 1 year of had the disease since long & 6 patients studied, had the disease with acute duration. The chronicity was due to pure negligence of the patients, as the diseases are not that much harmful, troublesome.

Season: Maximum no of patients (65.4%) patients reported monsoon while 32.7% patients reported summer as an aggravating factor. Modern science also support the seasonal variation of superficial fungal infections of the skin with respect to monsoon & summer season. Only a minor proportion of 1.9% reported their condition during the Winter season. This suggests that the Rainy season had a higher association with the occurrence of the condition compared to the other seasons.

History: [Treatment, Past, Family]

42.3% gave the treatment history of Dadru, the same disease which was recurred again whereas 36.5% had experienced past illnesses while 17.3% had a family history of health problems. From these finding, it is evident that the skin health of thepatients was poor since long.

Koshtha: Maximum numbers of patients (46.2%) were having madhyama koshtha, followed by 26.9% krura koshtha and 26.9% having mridu koshtha.

Addiction: Most of the patients i.e. 30.8% were addicted to Tea and 28.8% smokers. whereas 11.5% patients were addicted to gutka and 7.6% took alcohol. The majority of patients were tea addicts which produces *Agnimandya*, which leadsto ama- Utpatti, which the cause of Kushtha Roga.

Sleeping Habit: Maximum no. of patients i.e. 61.5% had sound sleep. 38.5% (i.e. 20 patients) were having disturbed sleep due to the intense itching and mostly ladies, were worried about their skin problem.

Bowel Habit: 50.0% patients had irregular bowel evacuation. Constipation was reported in 34.6% of the patients. Constipation might be one of causative factors of Kushtha as it vitiates Agni & creates Amavisha.

Aharaja Nidana: Any normal Nidana has mainly the following actions.

1) Agni Dushti
2) Dosha Prakopaka
3) Dhatu Dushti
4) Srotodushti
5) Decreasement in Vyadhi Kshamatva

The synchronization of all above actions, due to the Nidana Sevan of Kushtha creates Dhatu Shaithilya which forms the most important part in Kushthotpatti. The same 3 Doshas & 4 Dushyas when vitiated by Nidana other than that of Kushtha will not end up in Kushtha but will result in the manifestation of Visarpa as told by Chakrapani. (Ch. Ni. 5/3 Chakrapani). For the Doshas to settle, they need Shithila Dhatus which is produced only by the Nidanas of Kushtha. In the present study as aharaj nidana maximum patients (80.8%) had Adhyashana ahara followed by atyashana (76.9%), Urad,muli, gud (71.2%), Vishmashana (69.2%), Snigdha, guru (65.4%), Gramya Anoop (61.5%) and madhu rab(38.4%) and Matsya + milk (38.4%).

VIHARAJ NIDANA: Majority of patients (78.8%) were found dhoop, parishram, bhaya paschat jala sevan followed by diwaswapana" (75%) alternate/immediate use of hot and cold" (71.2%), "vegdharan of mutra and purisha" (69.2%), "bhojana paschat vyayaam, dhoop sevan" were reported by (69.2%) and"chhardi vegdharan" 25.0%.

According to modern Etiological factor:– "use of synthetic garments/leggins/jeans" (82.7%) "waist BAND" (73.0%) "wet under garment"(57.6%)" and "bath after sun exposure" (48.0%) and wet under shoe socks" (38.4%).

Mansika Nidana: According to mansikanidana, majority of patients (53.57%) chinta, followed by had krodha (53.8%), soka (25%) and bhaya (15.4%).

All these Nidanas play a key role to start off the pathogenesis of Kushtha.

Prakriti: Analyzing the prakriti, it was reported that 36.5% patients had vata- pitta prakriti, 34.6% patients had vata-pitta prakriti and 28.8% patients had vata-kaphaja. All the patients included in the study found to have dwandwaja prakriti, Analyzing the manasa prakriti, majority of the patients had rajasa prakriti (84.6%) followed by tamasa prakriti (15.4%).

Ahara Shakti: Maximum patients i.e., 44.2% in the study were having Madhyama Ahara Abhyavarana Shakti and 73.07% patients were having Madhyama Jarana Shakti. Generally in skin diseases the Agni is always hampered i.e. most of the time, leading to the formation of Amavisha which forms one of the prominent factors in Samprapti. But in case of Dadru the derangement of Agni was not found. Still the disease was progressive which shows the independency of the disease pathology with respect to Agni.

DISTRIBUTION OF LESIONS

The lesions of Dadru were found mostly on the covered area (68.5%) while only 27.8% lesions were spread over exposed area. The lesions were distributed bilaterally (64.8%) & localized (70.4%) in nature.

AFFECTED BODY PARTS

In the patients of Dadru, Groin area were involved by 26.9% while 23.1 % were back involvement. Lower Extremities and Chest were each reported by 13.5% and 5.8% of participants respectively. Scalp, Upper Extremities, and Abdomen involvement were reported by smaller proportions of 7.7%, 11.5%, and 11.5% respectively. This indicates that the Groin and Back areas were the most commonly affected sites in the study population.

EFFECT OF THERAPY

The effect of therapy on the individual signs & symptoms in Dadru Kushtha is being discussed here as follows.

Kandu

In Kandu, treatment gave 90.09% relief, which was highly significant at ($p<0.001$), Due to Kapha Dosha and Rasa, Rakta Dhatus Dushti, Kandu is present. Kushthghna, Kandughna and Dadrughna are all popular in Chakramard. Chakramarda's Ushnata, Laghuta and Rukshata are antagonists to Kapha's Sitata, Guruta, Picchilata and reduce kandu. Chakramard is also owned by Kaphavatahara. Raktshodhaka and Kaphavatahara are additional properties owned by Dadrughna lepa.

Raga

In Raga, treatment provided 80.22% relief, which was highly significant at ($p<0.001$), Raga is present due to Pitta Dosha and Rakta Dhatu Dushti. The drug's varnya and Rakta sodhaka effects have greatly diminished Raga.

Pidika

In Pidika 72.58% relief, which was highly significant at ($p<0.001$), Pitta dosha and Rakta, Mams Dhatu Dushti, are the cause of Pidika. Based on the aforementioned finding, it's possible that Chakramarda decreased Pidika as a result of Laghu Guna and Sheeta Virya. Sarshapa tail has the properties of Snehna. Dadrughna lepa's Raktashodhaka property reduces the number of Pidika.

No. of Mandal

Relief was 34.64% in no. of mandal, which was a statistically significant outcome ($p= 0.019$).

Size of Mandal
Treatment produced 37.50% relief in size of mandal, which was a statisticallysignificant outcome (p = 0.002).

Probable mode of action of dadrughna lepa -
Ayurveda describes many lepa which have kushthghna effect. Amongst them, Dadrughna lepa from Sharangdhara Samhita was selected. The contents of Lepa are the seeds of Chakramarda, Sarshapa, Haridra, Til and Kushtha. This Lepa is also having Sukshma property as it is macerated with Sarshapa tail. Upon topical application, the active principles of the Lepa reach to the deeper tissues through siramukha & swedavahi srotas & stains it with its Sukshma & Tikshna property. Dueto its Ushna, Tikshna, Vishad & Sukshma properties it deblocks the obstruction in swedavahi srotas & allows the local toxins to flow out through the Sweda, thus clearing out the micro channels. The Sheeta Virya, ruksha guna, katu vipaka of Dadrughna Lepa & Snigdha Guna of its vehicle i.e. Sarshapa tail causes pacification of Pitta & Kapha which forms the samprapti thus alleviating the symptoms. In most of the patients Kandu was relieved significantly was due to the Kandughna property of Chakramarda & Haridra.

Overall effect of therapy suggests moderate and marked improvement in maximum subjects. Satisfactory results are obtained in patients of Dadru Kushtha vis-à-vis Tinea corporis, therefore it can be concluded that the given treatment proves to be an effective remedy for Dadru Kushtha. However, it is suggested that the study should be continued with larger sample and longer follow up.

CONCLUSION

At the verge of completion of present study entitled "**An Etiopathological study of Dadru Kushtha w.s.r. to *Tinea corporis* and its upshayatmaka parikshana with Dadrughna lepa."**

The final conclusion can be draw as follows:

- The symptomatology of Dadru closely resembles with Tinea corporis (Dermatophytoses).
- The Observations showed that the youth are the main victim of the diseases.
- All the Kushthas are Tridoshaja. Dadru is Kapha-Pitta dominant disease.
- Dadru is chronic in nature & Rasa & Raktadhatu are involved as Dushya. Rasavaha, Raktavaha srotas is involved in these diseases.
- If Ahara is not consumed according to the Ahara Vidhi Vishesayatanani dose not benefit the body. It harms the body by vitiating Dosha and Dhatu.
- Relationship between mind and body is well established by Ayurveda. The relationship between mind and Agni affects the process of digestion. Hence positive emotions lead to better digestion and mental disturbances are fundamentals to disturb digestion.
- In Viharaja Nidana out of 52 Kushtha patient Alternate and immediate use of hot and cold was found in 71.2% patients. Diwaswapna 75% and 69.2% cases were accepted to do physical exercise just after taking meal, Retain urges like Mutra/Purisha were found in 69.2% patient respectively. Intake of food before excreting bowel and urination.
- Etiological factor out of 52 Kushtha patient Use of synthetic garments/leggings/jeans was found 82.7% followed by use of waist band 73%.
- In Aaharaj nidan out of 52 kushtha patient Adhyasana was found 80.76%, Atyasana was found 76.92%.
- 26.92% patients were educated up to H.Sc, 25% were graduates, 59.6% were hailing from urban area, 28.8% patients were housewives & 59.6% were belonging to middle Class. This data suggests that only the unhygienic living conditions are not responsible but the communicable nature of the diseases is also responsible for dissemination to great extent.
- 17.3% patients of Dadru had a positive family history of Dadru. This data indicates the contagious nature of these diseases.
- Because Dadru is stubborn by nature, a treatment regimen that lasts for at least three month and includes a balance diet is essential to avoid relapse.
- Based on the results of the clinical trial, dadrughna lepa is moderately effect (73.1%) in the Dadru kushtha. It is due to chronic in nature of disease and study duration is only one month, so if study duration is more than 6 months the better change in subjective parameters may be found.
- Kushtha management requires the use of local applications.
- There were no reported medication side effects. As a result upshyatamaka effect of medication is safe.

Recommendations for future study
The study should be carried out with large sample size for better evidence of results.
The treatment protocol is not effective in reducing the complete sign and symptoms thus, it is proposed that the medicines should be administered for longer duration to provide better result to patient.

The overall study may be concluded as
Advances in Ayurvedic research have produced significant opportunities to improve Dadru prevention, detection and treatment. Insights about the genomic and molecular mechanism of disease have enabled basic scientists toidentify new therapeutic targets and develops new agents that are changing the paradigm of Dadru research from nonspecific, broadly high antibiotics to highly targeted combinations of therapies. However the ability to translate medical discoveries into advances in care for patients with Dadru remains dependent on the clinical trials system. Clinical trial provide an essential link between scientific discovery and clinical practice. These trial are crucial to thetranslation of new knowledge into tangible benefits for patients, and the knowledge

gained in a clinical trial can also inform and guide further researchinto the biology of disease. Hence the trial drugs may give the path for new researches.

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