



ISSN: 2350-0328

**International Journal of Advanced Research in Science,
Engineering and Technology**

Vol. 9, Issue 7, July 2022

A study of the effect of Desh viruddh ahar on acne in men and women in Mumbai and Surat

Mahek Chawla, Dr. Rekha Battalwar, Dr. Jagmeet Madan, Dr. Ajay T. Salunke

Masters in Specialised Dietetics, Department of Food, Nutrition and Dietetics, Sir Vithaldas Thackersey College of home science (Autonomous), S.N.D.T Women's University, Juhu Tara Road, Santacruz (W), Mumbai, Maharashtra 400049

Associate Professor, Department of Food, Nutrition and Dietetics, Sir Vithaldas Thackersey College of home science (Autonomous), S.N.D.T Women's University, Juhu Tara Road, Santacruz (W), Mumbai, Maharashtra 400049

Principal & Professor, Department of Food, Nutrition and Dietetics, Sir Vithaldas Thackersey College of home science (Autonomous), S.N.D.T Women's University, Juhu Tara Road, Santacruz (W), Mumbai, Maharashtra 400049

Principal & Professor, K. G. Mittal ayurvedic college, Netaji Subhash Road, Charni Road West, near Government Printing Press, Mumbai, Maharashtra 400002

I. ABSTRACT

- A. Background:** The integration of Ayurveda, nutrition and modern medicine has made the holistic approach of healing the most preferable mode of treatment for acne. Acne is one of the most common skin conditions caused due to multiple factors. The association between diet and acne is not well established but diet is proven to play a non-negotiable role in the development of acne via biochemical reactions. Incompatible foods or viruddh ahar in Ayurveda is a concept that has been documented to cause skin disorders. Desh viruddh ahar is one of the most unexplored types of viruddh ahar. It promotes eating local to avoid minor skin diseases like acne and suggests eating according to the region. Mumbai and Surat being marshy and humid, Ayurveda suggests to avoid foods which increase the unctuousness in the body like “snigdha” i.e. oily and “guru” i.e. heavy to digest foods in these regions or it may aggravate sebum production and acne.
- B. Aim:** To assess the effect of frequency of consumption of Desh Viruddh ahar on acne parameters like duration of acne, frequency of acne and severity of acne in 15-45year-old men and women in Mumbai and Surat.
- C. Methodology:** The study had a cross sectional observational research design. It included 63 acne patients 15-45 years of age from Mumbai and Surat as they were both Anup desh (Marshy, Humid and around the coast line). Participants were selected by the purposive convenience sampling method from different clinics in Mumbai and Surat. A hybrid mode was used to collect the data. A self-designed questionnaire was administered in person and over the call and data was recorded in google forms. Data was analysed using SPSS software version 25. P value less than 0.05 was considered significant.
- D. Results:** Females had a higher prevalence of acne than males. Significant difference between young adults (15-25) and adult (16-45) was observed with respect to frequency of consumption of certain foods and combinations ($p < 0.05$). 46% ($n = 29$) of the total sample size had an oily skin type and there was a positive significant correlation between oily skin type and severity of acne ($p < 0.05$). All individuals with severe acne ($n = 9$) had oily skin. Degree of severity of acne had a significant positive correlation with duration of acne and frequency of recurrence of acne ($p < 0.05$). The recurrence of acne was observed the most in vegetarian group ($n = 27$). A negative significant correlation of frequency of consumption of wheat (old), rice (old) and cow milk with duration of acne was found ($p < 0.05$). In pulses, there was a significant positive correlation between moth beans and severity of acne ($p < 0.05$). A significant positive correlation of frequency of recurrence of acne with the frequency of consumption of curd, fruit and milk together and bloating was found ($p < 0.05$). There was also a significant positive correlation between frequency of consumption of buffalo milk and duration of acne ($p < 0.05$).
- E. Conclusion:** Desh viruddh ahar does not show a strong correlation with acne but certain foods like curd, buffalo milk, moth beans and newly harvested white and rice and food combinations like sour fruits and milk and hot



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 9, Issue 7, July 2022

brownie and ice cream have shown a significant correlation. The most commonly consumed Viruddh Ahar combination observed was bakery products with milk. Hence, it is suggested to avoid eating oily and unctuous (snigdha in Ayurveda), processed, heavy to digest foods for acne especially in a humid and wet region. Foods light to digest (Laghu in Ayurveda), having a cooling effect on the body (sheet) and dry in nature (Rukshna) are rather suggested in wet and humid regions.

F. **Keywords:** Acne, Desh viruddh ahar, incompatible foods, region, Diet.

II. INTRODUCTION

Ayurveda is one of the oldest type of traditional medicine with plethora of theories and concepts. Among them Viruddh ahar is one of the most imperative and well-known. According to **Ayurveda**, the food which is **wrong in combination**, has undergone **wrong processing**, is consumed in **incorrect dose**, and/or consumed at **incorrect time** of the day, in **wrong season or in unsuitable region** can lead to incorrect metabolism, and release of certain toxins which can have damaging effect to the Dhatus (fundamental tissues) is called as **Viruddh Ahar** or incompatible diet (Sabnis Mukund, 2012). According to Charaka, intake of food having mutually contradictory properties produces miserable diseases (like obstinate skin diseases including leprosy and leucoderma). Intake of unwholesome food is responsible for the causation of sterility, blindness, visarpa (an obstinate skin disease characterized by an acute spread), ascites, eruptions, insanity, fistula, fainting, intoxication, tympanitis, spasmodic obstruction in throat, anemia, poisoning due to ama (Amavisha, toxin due to improper digestion as well as metabolism), kilasa (type of skin disease), obstinate skin disease including leprosy, sprue, oedema, acid dyspepsia, fever, rhinitis, fetal diseases and even death (Sharma R K, Bhagwan Das, 2016).

In Viruddh ahar, Samyoga Viruddh and Virya Viruddh are the most familiar and emphasized frequently (Vaidya Asmita Amrut, et al. 2014). Rest of the Viruddhs remain untouched. Man has natural tendency towards change in the life at every stage hence the food and food habits are also covered by this tendency. Although some foods are specific to region, people eat incompatible foods that are grown and harvested and suitable for other region. This adoption of eating foods not local to the region can cause mild health issues without much of our attention. This kind of food can be included in Desh-Viruddh. Ayurveda has classified the habitat into three main types: Jangala Desh, Anupa Desh and Sadharana Desh (Meena Dinesh K. & Singh Rani, 2015). Diet plays an important role in the pathogenesis of many diseases and Ayurveda gives special importance to Diet for the treatment of all disorders. People living in Marshy places having excess water and unctuousness have predominance of Kapha Dosha. So the kind of food predominant in unctuousness, oil, cold is incompatible for this Desh as regular consumption may lead to manifestation of Kaphaj Vyadhis like consumption of excess of Snigdha, Guru, Madhura, Sheet items like oily foods, excessive sweets, dairy items like yoghurt, Kheer, Mava items, Cheese, Paneer, Basundi, Shrikhand, refrigerated items etc (Nikita Sharma et al., 2019).

Acne is a multifactorial skin condition and can be inflammatory or non-inflammatory. In healthy skin, the sebaceous glands secrete sebum through the pore, which is an opening in the hair follicle. Keratinocytes, a type of skin cell, line the follicle and are normally shed off the skin. In acne, the hair, sebum, and keratinocytes stick together inside the pore and prevent the keratinocytes from shedding and keep the sebum from reaching the surface of the skin (H. R. Ferdowsian, et al. 2010). The plugging of follicles causes inflammation—swelling, redness, heat, and pain and ultimately creating lesions or pimples. According to Ayurveda, acne is primarily presented as a thorn like eruption resembling shalmali kanthak (a plant) and is caused due to the vitiation of Kapha and Vata dosha in young people. Acne (mukh dooshkia) is painful, hard, pus filled in character (shloka no.5 kshudrarogavijnaneeya, Utharasthana, AshtangaHrudaya by Vagbhata). Yuvanapidaka (Acne vulgaris) is one of the common skin disease which is affected by faulty dietary intake (Mandal Sisir Kumar, et al. 2015). The major manifestations of acne include; Blackheads (clogged pores), Whiteheads (open pores), small red bumps which are tender (Papules), Papules with pus at their tips, Large and solid painful lumps beneath the skin surface (Nodules), Painful and pus-filled lumps beneath the skin surface (Cystic lesions) and Raised red spots with a white centre (Pimples). Moreover, acne is caused by vitiated kapha, vata and rakta dosha (Pampaniya, et al., 2013). Foods that increase the kapha and vata dosha should also be avoided during manifestation of acne. Rakta dosha is blood intoxication and it will also be regulated once the body is detoxified and no toxins are produced due to incompatible or unwholesome diet. Hence, it is suggested to avoid “snigdha” oily and “guru” heavy to digest foods in humid and marshy regions like Mumbai and Surat and consume more of “laghu” light to digest and “rukshna” dry foods in these regions. So one should consume the diet or food which is opposite in quality of that region, by which the diet or food will manage accordingly and keep the body stable and free from diseases (Harilal Poya et al., 2017). As every state has different regional diversity and also the diversity of their food habits, hence it is very difficult to conclude Desh Viruddh being



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 9, Issue 7, July 2022

cause of a certain disorder but the current study has shown efforts to find a correlation between Desh Viruddh according to Anup desh (wet, humid and marshy regions) and acne.

III. AIM

To assess the effect of frequency of consumption of Desh Viruddh ahar on acne parameters like duration of acne, frequency of acne and severity of acne in 15-45year-old men and women in Mumbai and Surat.

IV. METHODOLOGY

A retrospective cross sectional observational study was conducted on 63 acne patients 15-45 years of age from Mumbai and Surat. Purposive Sampling technique was used to collect the primary data of Study participants from K G Mittal Hospital and Dr. Mansukh Gala's clinic in Mumbai and Dr. Suman Agarwal's clinic, Surat.

The inclusion criterion was: 15-45-year-old men and women diagnosed with acne by an Ayurveda doctor, dermatologist, general physician or homeopathic doctor in Mumbai and Surat.

The exclusion criteria were: Pregnant Women and Lactating Mothers, an individual who has undergone surgery in the past 3 months and Individuals with clinically diagnosed psychological disorders.

A self-designed research tool with different sections like; Demographics, Details about skin / acne condition, desh Viruddh ahar, perceived causative factors, Treatment / medication / supplement details, Dietary Pattern, Food frequency questionnaire (desh viruddh ahar), List of food combinations, Order of Eating and Lifestyle Habits was used to collect data.

The food frequency table of the questionnaire was based on the ayurvedic concept of Desh Viruddh ahar. It included certain foods which are Viruddh i.e. incompatible according to the region of the study (Mumbai and Surat) and certain foods which should be consumed in these regions. The frequency of consumption of these foods was observed and correlated with three acne parameters; duration of acne, frequency of recurrence and severity of acne. The questionnaire also included a list of food combinations which according to Ayurveda are incompatible and may specifically lead to skin issues. Hence, the frequency of their consumption was also studied in this study, to know if there's any correlation with acne parameters.

The secondary data was collected via google forms in a hybrid mode. Some participants were interviewed in person to fill the form and some participants were interviewed via phone calls. Nutrition counselling and dietary tips were given orally to patients regarding the importance of diet and supplementation for acne after collecting the data. The data was analysed by using the Statistical Set of Social Software programme for Windows (version 25, 2017, IBM Corporation, Armonk, New York, United States). Kendall Tau's Correlation was used to analyse the frequency intake of incompatible foods according to region and food combinations with duration of acne, frequency of recurrence and severity of acne. Data is also presented as Mean±SD or frequency (%). P<0.05 was considered to be statistically significant. The study duration was 5 months (February-June, 2022).

V. RESULTS

The study population in the current study was divided in different groups based on; age (15-25 as young adults and 26-45 as adults), degree of severity (mild, moderate and severe) and Duration of acne (6-8 months and more than 1 year). The division of participants into different groups was done to find a statistical significant difference between the variables of each group and to find any correlation between groups and variables of the questionnaire. Similarly, a statistical analysis was done between acne parameters (severity of acne, duration of acne and frequency of recurrence of acne) and frequency of consumption of desh viruddh ahar and viruddh ahar combinations in the entire study population without any division into groups.

Table 1. Demographic details of the participants

Demographic Details		
Total No. of Participants	N = 63	
Age (15-45 years)	Avg. = 25.36	
Minimum Age	15	
Maximum Age	43	
Std. Deviation	5.589	
Parameters	Frequency	Percentage
Gender		
Female	45	71.40%
Male	18	28.57%
City		
Mumbai	35	55.55%
Surat	28	44.44%
Occupation		
Home maker	4	6.34%
Student	24	38.09%
Business	12	19.04%
Employed (Service)	23	36.50%
Unemployed	0	0
Retired	0	0
Monthly Income of the family		
< 10k	2	3.17%
10k - 20k	2	3.17%
20k -30k	0	0
30k - 50k	1	1.58%
50k - 1L	21	33.33%
> 1L	37	58.73%

As per the table no. 1 the study sample had an average age of 25 for an age range of 15-45 years old. The minimum and maximum age of the participants is 15 and 43 respectively. Moreover, the data collected for the current study suggests that 80% of the sample size belongs to the adult age group and adult acne is becoming prevalent due to the changing dietary habits and lifestyle. It also shows that the prevalence of acne is 42% more in females than males. A total of 35 participants accounting for 55.55% were acne patients from Mumbai and 28 participants accounting for 44.44% were from Surat. the study sample included 24 students (38%), 23 employed individuals (36%), 12 business professionals (19%) and 4 homemakers (6%). This trend shows that the prevalence of acne is highest in students and employed individuals.

Table 2. Comparison of frequency of consumption of Dosh viruddh Ahar foods and combinations between young adults and adults

Age group	15-25 years (n = 34)	26-45 years (n = 29)	P value
Significant parameters	Mean ± SD		
Frequency of eating apple**	2.7±1.5	2.1±1.7	0.044*
Frequency of eating guava**	1.7±1.1	1.3±0.6	0.028*
Frequency of having milk and tulsi / mint together***	3.3±2.5	4.8±2.6	0.01*
Frequency of having dates / palm fruit with milk***	1.4±0.7	2.0±1.3	0.028*

*Denotes significant correlation i.e. $p < 0.05$ **Denotes foods suggested ***Denotes Viruddh ahar

For a significant comparison of the study population, the participants were also divided as per two age groups mentioned in Table no.2. It shows that there is a significant difference between the two groups classified as per the age. A significant difference was seen in the frequency of consumption of apple and guava as the mean consumption of apple and guava was seen higher in 15-25 years than 26-45 years old. Similarly, another significant difference between the two groups was observed in the mean consumption of milk with tulsi / mint and dates with milk. Both these combinations were seen to be consumed more in 26-45 years' age group. Hence, this shows that the fruits that are suggested to eat according to the study region are consumed at a higher frequency by 15-25 years, this supports the finding that adults are also seen with acne these days possibly due to changing dietary habits.

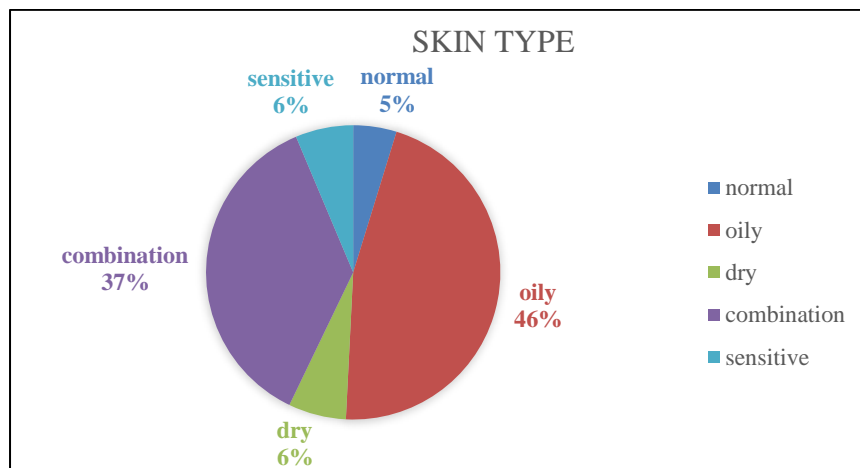


Figure 1: Distribution of participants as per skin type

Figure 1 shows that majority of the participants had an oily skin type accounting for 46% (n = 29) of the total sample size. 37% participants (n = 23) had a combination skin type, 6% had sensitive (n = 4), 6% had dry (n = 4) and 5% had normal (n = 3). On statistical analysis, it was found that there was a positive significant correlation between skin type and severity of acne as the **p value was equal to 0.008** ($p < 0.05$). All patients with severe acne (n=9) had oily skin whereas mild and moderate acne patients had different skins types.

Table 3. Comparison of severity of acne and frequency of consumption of desh viruddh ahar food and combination between two groups based on duration of acne

Duration of acne	Last 6-8 months (n = 32)	1 year or more (n = 31)	P value
Significant parameters	Mean ± SD		
Severity of acne	1.6±0.6	2.1±0.6	0.003*
Frequency of eating arhar (yellow lentil)**	4.8±1.2	3.8±1.5	0.006*
Frequency of eating gourd vegetables with milk***	1.0±0.0	1.4±1.1	0.037*

*Denotes significant correlation i.e. $p < 0.05$ **Denotes foods suggested ***Denotes Viruddh ahar

Table no. 3 depicts the significant difference between two groups of participants classified as per the duration of their acne. It was observed that severity of acne was higher in participants with longer duration of acne. Frequency of eating arhar (yellow lentil) is higher in smaller duration acne group and that of gourd vegetables with milk is higher in people with longer duration of acne. This means Desh Viruddh ahar combination of gourd vegetables with milk was consumed at a higher rate by people with longer duration of acne.

Table 4. Comparison of three groups as per the severity of acne

Severity of acne	Mild (n = 21)	Moderate (n = 33)	Severe (n = 9)	P value
Significant parameters	Mean ± SD			
Duration of acne	2.05±1.2	2.82±1.2	3.44±0.8	0.012*
Frequency of eating Green Leafy vegetables**	3.57±0.6	4.12±0.9	4.5±1.1	0.036*
Frequency of eating fish with milk / milk products***	1.5±0.8	1.1±0.5	1±0	0.001*
Frequency of eating hot brownie with ice cream***	1.8±0.4	1.8±0.6	1.33±0.5	0.038*

*Denotes significant correlation i.e. $p < 0.05$ **Denotes foods suggested ***Denotes Viruddh ahar

Table no. 4 shows that there is a significant difference between three groups of participants with respect to severity of acne. It was observed that the duration of acne is increased with increasing severity, as seen in mild 2.05±1.2 to severe 3.44±0.8. frequency of eating green leafy vegetables is also increased from mild to severe. This shows that people with severe acne tend to incorporate more green leafy vegetables due to the progression. Similarly, initially during mild acne it is observed that the frequency of consumption of fish with milk / milk products is higher whereas, in severe group it has decreased. This trend can be due to the suggested diet of avoiding incompatible foods which might aggravate acne. Moreover, a similar fashion of decrease in the frequency of consumption of hot brownie with ice cream is seen from mild to severe.

Moreover, it was also found that Degree of severity of acne had a significant positive correlation with duration of acne ($p = 0.002$) and frequency of recurrence of acne ($p = 0.007$). Hence, it was observed that participants with severe acne had higher duration of acne and higher frequency of recurrence.

Table 5. Correlation between Duration of acne, frequency of recurrence and severity of acne and Desh Viruddh Ahar food frequency table

Parameters	Duration of acne		Frequency of recurrence		Severity of acne	
	Kendall Tau Value	P value	Kendall Tau Value	P value	Kendall Tau Value	P value
Wheat (1 year old)**	-0.264#	0.037*	-0.082	0.525	-0.072	0.576
Wheat new***	0.2	0.116	0.051	0.694	0.072	0.576
Rice (1 year old)**	-0.265#	0.036*	-0.087	0.497	-0.062	0.628
Rice new***	0.122	0.343	-0.081	0.529	-0.051	0.689
Black gram***	-0.135	0.291	0.24	0.058	0.111	0.385
Moth***	-0.202	0.112	0.075	0.561	0.257#	0.042*
Arhar**	0.215	0.09	0.148	0.248	-0.05	0.695
Moong**	-0.086	0.501	0.148	0.247	-0.154	0.228
Curd***	0.032	0.802	0.319#	0.011*	0.226	0.075
Cow milk**	-0.336#	0.007*	0.029	0.819	0.004	0.978
Buttermilk**	0.172	0.178	0.024	0.853	0.031	0.81
Buffalo milk***	0.318#	0.011*	0.087	0.5	0.116	0.363
Paneer***	-0.074	0.562	0.241	0.057	-0.103	0.42
Cheese***	-0.004	0.562	0.241	0.057	-0.103	0.42
Fish marinated in milk / curd	0.233	0.066	0.074	0.566	0.033	0.8
Mint / Ginger / Tulsi + Milk (kadha / Tea)	-0.071	0.581	0.017	0.895	-0.048	0.709
fruit milk shakes (mango / strawberry / any berry / banana)	0.04	0.754	0.276#	0.029*	0.076	0.556
any pulse item (sprout salad / Mexican dishes) + Milk / milk items	-0.098	0.445	-0.09	0.485	-0.325#	0.009*
Honey followed by hot water	-0.202	0.113	-0.015	0.908	-0.015	0.905
Dudhi / Turi / Karela sabzi + Milk / Milk items	0.177	0.166	0.079	0.536	-0.045	0.728
cream of mushroom / tomato soup	0.005	0.971	0.139	0.278	0.015	0.909
steamed Daliya (broken wheat) / steamed rice + Pepper	-0.063	0.624	0.096	0.455	0.001	0.996
Dates / palm fruit + Milk / Curd / Buttermilk	-0.032	0.804	-0.072	0.576	0.064	0.617
Burger / French toast / wraps + milkshake / coffee	0.065	0.613	-0.188	0.14	-0.148	0.248
Bhakri / handva / mathri / bakery products + tea / milk	-0.05	0.698	0.048	0.711	0.034	0.789



Hot brownie + ice cream	-0.078	0.546	0.111	0.385	0.082	0.525
-------------------------	--------	-------	-------	-------	-------	-------

#Denotes coefficient of correlation. A negative correlation means as one variable increases, the other decreases. A positive correlation means as one variable increases, the other also increases. *Denotes significant correlation i.e. $p < 0.05$
 Denotes foods suggested *Denotes Viruddh ahar

Table 5 shows that there was a statistical significant negative correlation between the consumption of wheat (old) and duration of acne as the Kendall Tau value is -0.264 and p value is 0.037 i.e. $p < 0.05$. This means that a higher frequency of consumption of wheat (old) was seen in participants with lower duration of acne. Similarly, it was also found that there was a significant negative correlation between the frequency of consumption of rice (old) and the duration of acne as the p value is less than 0.05. This means that a higher frequency of consumption of rice (old) was seen in participants with lower duration of acne. It also shows that there was a significant positive correlation between the frequency of consumption of Moth beans and severity of acne ($p < 0.05$). This means that as the frequency of consumption of moth beans in hot, wet and humid region increases, the severity of acne is also seen to be increased.

The study data observed that the highest frequency of consumption of milk and milk products is for cow milk as 49.2% (n=31) never consume it and 41.3% (n=26) consume it on a daily basis. The consumption of paneer and cheese is also high as 44.4% (n = 28) of the total population consume it once / week. Similarly, 39.7% of total population (n= 25) consume curd and buffalo milk on a daily basis. The consumption of buttermilk is also high as 41.3% (n=26) people consume it 2-5 times / week. According to Ayurveda, it is said that cow milk is easier to digest than buffalo milk and the fat content in buffalo milk is higher than cow milk. Hence, for acne, Ayurveda also suggests to avoid dairy as it increases the kapha dosha but if at all an individual consumed any milk, it is suggested that cow milk show be consumed because of its' higher digestibility and low fat content. According to the findings of the current study, statistical analysis revealed that, there is a significant negative correlation between the frequency of consumption of cow milk and duration of acne ($p=0.007$). Hence, it supports the ayurvedic literature that cow milk should be consumed in anup desh. Similarly, the study also found a significant positive correlation between the frequency of consumption of buffalo milk and duration of acne ($p=0.011$). This means that as the frequency of consumption of buffalo milk increases the duration of acne decreases. Moreover, it was also found that there is a positive significant correlation between frequency of consumption of curd and the frequency of recurrence of acne ($p=0.011$).

Table no. 5 also shows that there was a significant positive correlation between the frequency of consumption of fruit milk shakes (sour or less ripped mango / strawberry / any berry / banana) and the frequency of recurrence of acne ($p < 0.05$). The highest no. of participants who consumed this combinations 2-5 times / week was 13 (20.6%). The reason why Ayurveda suggests to avoid this combination is because of the curdling nature of milk when mixed with any fruit with citrus taste or acidic ph. On contrary, the current study also found that there is a significant negative correlation between frequency of any pulse item (sprout salad / Mexican dishes) + Milk / milk items ($p < 0.05$). This combination is also considered to be incompatible according to ayurveda because any pulse preparation will contain salt and pulses by nature are light to digest after cooking, unlike milk.

VI. DISCUSSION

In today's ear of urbanisation, lifestyle habits have changes drastically. In the search of higher standards of living, migration and adoption of western diets has led to the emergence of many lifestyles diseases, with increasing pollution, work load, excess consumption of oily processed foods and foods not local to a region, skin issues have also been on the rising scale. The findings of the current study are unique in nature because no such evidence was found where Desh Viruddh Ahar was studied in relation to acne.

Despite the lack of scientific evidence, few similar survey studies support the findings of the current study. An epidemiological study conducted by (Leelavathy Budamakuntla, et al., 2019) supports the results of the current study with respect to the age wise distribution of acne. In this study of 6409 patients, the mean age of the patients was 24.64 years with a range of 10-55 years. The proportion of population of different age groups was; almost 72% of the patients were in the adolescent group followed by 27% in the adult group and Only 1% patients were reported in paediatric age group. Another study conducted by (Nevena Skroza, et al., 2018) is a retrospective study of 1,167 patients with acne who



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 9, Issue 7, July 2022

attended their outpatient clinic from January 2008 to March 2015. The objective of this study was to evaluate differences between adults and teenagers with regard to acne prevalence, patient sex, acne severity, and quality of life. Study results showed that acne in female patients was more prevalent than in male patients. Hence, it can be said that adult acne is more common in females than males.

Skin type is an important factor to understand the cause behind acne and many clinical studies and anecdotal studies have shown that oily skin is associated with the development of acne. The current study also found a significant association and the observations are supported by another study published by (Asmita Bella Putri Tamba, et al., 2020), reported that 73 (78,5%) out of their total sample size of 93 students suffered from acne vulgaris with predominance being female (39,8%) than male (38,7%), and those in 15-year age group (38,7%). The most commonly observed skin type on samples is oily skin (79,6%). The bivariate analysis with acquired p-value of 0,002 ($p < 0,05$) led to a conclusion that there is a significant association between skin types and acne vulgaris.

Several studies have also shown the correlation between dairy and acne and various theories have been considered behind it for causing acne. The primary reason dermatologists and the allied professionals suggest to avoid dairy for acne is the presence of growth hormones in milk from which all the dairy products are further processed. (Clement A Adebamowo, et al., 2005) These growth hormones are thought to increase the hormonal imbalance as the whey and casein stimulate the production of hormones similar to IGF-1 i.e. insulin like growth factors. This mechanism can cause low-grade inflammation leading to leaky gut or other gut issues and stimulating the production of sebum. This can ultimately lead to breakouts. Hence, dairy has been strictly prohibited by most of the dermatologists for inflamed acne.

As per ayurveda, consumption of cow milk is suggested in wet and humid regions because of its easy digestibility and (Muhammad salman, et al., 2014) Conducted a comparative study on nutritive quality of buffalo and cow milk A total of 40 milk samples of buffalo and cow ($n = 20$, each) were examined for macro nutrients such as total solids (TS), fat, protein, lactose and ash contents as well as the calorific values. A remarkable high concentration of total solids, fats, protein, lactose and calorific value was observed in buffalo milk as compared to that of cow milk. This finding justifies why buffalo milk is heavier to digest and takes time to digest when compared to cow milk which has 90% of water content and less fat. Due to high fat and high lactose content in buffalo milk it can also cause flatulence, inflammation, increased intestinal permeability, etc. all of these issues can contribute to the pathogenesis of acne, especially in adults when the digestive power is decreased.

Though there was no statistical significant correlation found between frequency of consumption of oily / processed foods and acne in the current study, there was a study conducted by (Ravi Verma, et al., 2017 to 2018) an observational cross sectional study titled "Impact of Junk food on Physical and Mental health of the Youngsters in Bhopal city". The aim was of this study was to find out the frequency of consumption of Junk food preparation and their effects on Physical & Mental health in the youngsters of Bhopal city with special reference to Viruddh Ahar. Study concluded that serious health consequences are developing in youngsters by consumption of Viruddh ahar (Junk Food) and that could be converted them in chronic disease patients in near future. Another study by (Sudhir Kandekar, et al., 2020) was Conducted to explore the consumption of Viruddh Ahar (Fast Food) and its effects on skin. The survey was conducted on 100 college students aged 18-28 years old of R. T. Ayurved College, Akola, Maharashtra. It was found that majority of the participants consume fast food once in a week, whereas the least percentage of participants eats once a fore night. Out of 100 fast food consumers 93 have occurrence of Twacha Rog (skin disease). More frequent consumers are more likely to have Twacha Rog (skin disease). Another study by (Meghana Kulkarni, et al., 2019) found that Scores for consumption of incompatible diet and dietary habits were found to be higher in acne and psoriasis patients compared to controls. Patients with fungal infections had higher scores for the presence of incompatible dietary habits but similar scores for the consumption of incompatible diet, whereas both scores in patients of vitiligo were similar to controls.

The link between skin diseases and viruddh ahar with modern perspective needs to elucidated further but few survey studies support the findings of the current study and this should be considered a breakthrough to widen the horizon of such integrational studies.



ISSN: 2350-0328

International Journal of Advanced Research in Science, Engineering and Technology

Vol. 9, Issue 7, July 2022

VII. CONCLUSION

Desh viruddh ahar as a whole cannot be considered a causative factor for acne as it does not show a strong correlation with acne but certain foods like buffalo milk, curd, moth beans and viruddh ahar combination of fruits and milk have shown a positive significant correlation with acne in the current study. Whereas, wheat(old), rice (old) and cow milk has shown a negative significant correlation with acne. The three parameters of acne; Degree of severity of acne, duration of acne and frequency of recurrence of acne have shown a significant positive correlation between each one of them. Hence, it is suggested to avoid eating oily, processed, heavy to digest foods for acne such as fried snacks, ready to eat chips, wafers, biscuits, beverages, etc. in a humid and wet region. Foods light to digest (laghu), having a cooling effect (sheet) on the body and foods drying in nature for the body (rukshna) are rather suggested in wet and humid regions. The correlation of Desh Viruddh with acne should be studied further with a bigger sample size and more accurate research tools to have deeper understanding and to discover any significant relation with acne.

REFERENCES

- Adebamowo CA, Spiegelman D, Danby FW (2005) High school dietary dairy intake and teenage acne. *J Am Acad Dermatol*, 52(2):207-14
- Asmita Amrut, Kewat Sheela Rajaram, Rekha Pandey, Mahesh Vyas. (2014) Desh Viruddh in Different Regions of India. *Int. J. Ayur. Pharma Research*, 2(3):17-21
- Budamakuntla L, Parasramani S, Dhoot D, Deshmukh G, Barkate H. (2020) Acne in Indian population: An epidemiological study evaluating multiple factors. *IP Indian J Clin Exp Dermatol*, 6(3):237-242
- Ferdowsian, H. R., & Levin, S. (2010) Does diet really affect acne?. *Skin therapy letter*, 15(3), 1–5
- Kandekar Sudhir, Deshpande Yogeshwar, Dole Vidya & Kohar Pooja (2020) Effects of Viruddh ahar (fast food) on twacha (skin) - a survey study. 10.46607/iamj0108092020
- Khaskheli, Muhammad & Talpur, Aisha & Khuhro, Aneela & Rauf, Mubasher & Hamid, Humera & Aziz, Atif. (2015) Comparative studies on nutritive quality of buffalo and cow milk. *International Journal of Research in Applied, Natural and Social Sciences (IMPACT: IJRANSS)*. 2. 69-78
- Manisha, T., Kumar Mandal S., Nareshrao, D. P., & Gaurav, V. (2015) Faulty Dietary Habits vis-À-vis Acne Vulgaris: An Epidemiological Study. *International Journal of Ayurvedic Medicine*, 6(3)
- Meena Dinesh K., Singh Rani (2015) Critical review of the concept of Desh with special reference to health and disease. *Int. J. Res. Ayurveda Pharm.*, 6(5):563-567
- Meghana Kulkarni, Dushyant Keny, Anirudha Vyankatesh Potey, Raakhi K. Tripathi (2016) A cross-sectional study to assess the incompatible dietary behavior of patients suffering from skin diseases: A pilot study. *Journal of Ayurveda and Integrative Medicine Volume 7, Issue 2, Pages 113-118, ISSN 0975-9476*
- Nikita Sharma, Mahesh Vyas, Pankaj Pathak, Meera K. Bhojani (2019) Viruddh ahar- a formidable instigator of metabolic disorders. *An international journal of pharmaceutical science*, 10(3), 131-140
- Pampaniya, P. V., & Pandya, D. H. (2013) Effect of Shalmalyadilepa and Guduchyadivati in the management of Yauvanapidika (Acne). *Ayu*, 34(2), 174–179
- Poya H, Jose FP, Shukla A. (2017) Hazardous effect of Viruddh ahar (incompatible food) on health: a critical review. *Int J Health Sci Res.*, 7(12):240-246
- Sabnis Mukund (2012) Viruddh Ahar: A critical view. *Ayu*, 33(3):332-6
- Sharma R K, Bhagwan Das, (ed). *Caraka Samhita*, Vol. 1, Reprint, Varanasi, Chaukhambha Sanskrit Series office; 2016
- Skroza, N., Tolino, E., Mambrin, A., Zuber, S., Balduzzi, V., Marchesiello, A., Bernardini, N., Proietti, I., & Potenza, C. (2018) Adult Acne Versus Adolescent Acne: A Retrospective Study of 1,167 Patients. *The Journal of clinical and aesthetic dermatology*, 11(1), 21–25
- Tamba ABP, Jusuf NK. (2020) The Association Between Skin Types and Acne Vulgaris. *Sumat. Med. J.*, 3(1):34 – 0
- Vaidya Asmita Amrut, Kewat Sheela Rajaram (2014) Literary Review on Aspects Assuaging the Perilous Effects of Viruddhhara (Incompatible Diet). *Int. J. Ayu. Alt. Med.*; 2(2):13-16
- Verma, R., Bansal, C., & Jain, T. (2020) Impact of Junk food on Physical and Mental health of the Youngsters in Bhopal city - A Cross Sectional Survey Study. *International Journal of Ayurvedic Medicine*, 11(2), 184–192
- 9th ed. Varanasi: Chaukhambha Orientalia (2007) *Sushruta, Sushruta Samhita, Nidana sthana 13/39*, Edited by Vaidya. Yadavji Trikamji Acharya.