



The Effect Of Prakriti, Dietary And Lifestyle Habits On The Health Status Of Individuals Aged 18-60 Years - A Cross Sectional Comparative Study

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ABSTRACT

Background -

The Prakriti of a person is quite capable of providing a fair indication of physiological strengths and weaknesses, mental tendencies, and susceptibility to illnesses of various types. (Subhojit Dey and Parika Pahwa et al. 2014). Dietary habits are the habitual decisions an individual or culture makes when choosing what foods to eat. It's the food choices preferred by persons in their daily life. Lifestyle diseases characterize those diseases whose occurrence is primarily based on the daily habits of people and are a result of an inappropriate relationship of people with their environment. In the present study, Diabetes and Hypertension are the lifestyle diseases considered. Globally, T2DM is at present one of the most common diseases and its levels are progressively on the rise (Tahir Ansari et al. 2017). Consumption of high dietary salt, fat and sedentary lifestyle is among the significant risk factors for hypertension. Hypertension can be effectively managed through Dietary Approaches to Stop Hypertension (DASH) and reducing salt intake (Kumbla, D., Dharmalingam, M et al.2016)

Aim -

The aim of the study is to assess the effect of prakriti, dietary & lifestyle habits on the health status of individuals aged 18-60 years

Methods -

The study was carried out on 100 individuals between 18 to 60 years of age in Mumbai. The Prakriti of the participants was assessed and it was correlated with diabetes or hypertension along with their dietary habits and lifestyle choices. The participants were divided into two groups. The Healthy group consisted of healthy individuals without diabetes and hypertension (n=41). The Diabetes and Hypertension group consisted of individuals with diabetes and hypertension (n=59). Individuals were at first asked to fill an informed consent form and those who voluntarily agreed to participate were included and asked to complete the self reported questionnaire. Data collection included receiving responses for the questionnaire which consisted of general & socio demographic details, anthropometric measurements, medical history, quality of life, dietary habits, physical activity, sleep quality and dietary recall was obtained. Data was analyzed using spss version 20. Significance for all the statistical measures was determined at 0.05 level.

Results -

There was no correlation found between Kapha Prakriti and Diabetes or Hypertension. Vata and Pitta Prakriti participants from both the groups had more temptation for foods such as cakes, crisps, biscuits, cola, chocolate, etc. Kapha Prakriti participants had excellent quality of life in the Diabetes and Hypertension group. In the Healthy Group, participants had less number of days of physical or mental illness which was statistically significant (p value=0.000). In the Diabetes and Hypertension Group, the maximum number of days with depression was higher when compared to the Healthy Group. It was statistically significant (p value=0.002). In the Diabetes and Hypertension Group, the maximum number of days of anxiety was higher when compared to the Healthy Group. It was statistically significant (p value=0.011). Overall sleep quality was higher in the Vata Prakriti participants in the Healthy group. It was statistically significant (p value=0.010). Most Pitta and Vata Prakriti participants had pain for “Once or twice a week” in the Diabetes and Hypertension Group. It was statistically significant (p value=0.038). The mean average number of days of vigorous activities was highest for Vata Prakriti participants for both the groups.

Conclusion -

When correlating Prakriti with dietary habits it was found that Vata and Pitta participants with Diabetes or Hypertension had more temptation for highly processed foods. Overall sleep quality was higher in the Vata Prakriti participants and Pitta and Kapha Prakriti participants had problems with sleep. When associated with physical activity Vata Prakriti participants performed better. This shows that Prakriti assessment, good dietary habits along with physical activity and sleep quality play an important role to prevent and lower the risk of lifestyle diseases.

Keywords -

Type 2 Diabetes, Hypertension, Prakriti, Quality of life, Physical activity, Sleep.

Introduction –

Ayurveda is the ancient medical science prevalent for thousands of years in the Indian subcontinent. Ayurvedic medicines are derived from plant, animal, and mineral resources that make up the biodiversity of the earth. (P. Rammanohar et al. 2019). Ayurveda defines health as “the equilibrium of the three biological humors or the *doshas* (*Vata*, *pitta* and *kapha*), seven *dhatu*s, *agni* and a state of pleasure or happiness of the soul, senses and the mind”. (Amrutesh Puranik and Bhushan Patwardhan et al. 2012). Prakriti is a unique concept of Ayurveda, according to which every human being is different from others and should be considered as a different entity. The word “Prakriti” means “Swabhava” or the innate nature of an individual. It is formed in the mother's womb at the stage of a fertilized ovum with effect preponderance Dosh (humour i.e., Vata, Pitta, Kapha) and never changes throughout life. (R Chinthala, S Kamble et al. 2019). In Ayurveda, the human population is categorized into three subpopulations based on their Prakriti viz. 1) Vata 2) Pitta 3) Kapha. The analysis of Prakriti is like the key or a secret code that can unfold the mystery of diseases an individual is prone to. For example, if an individual of Vataja Prakriti indulged in Vata provoking diet and lifestyle, he will be prone to Vataja disease which will be troublesome to cure, based on the kind of Prakriti is the respective Doshika predominance. This means a Vataja Prakriti person is more prone to diseases caused by vitiated Vata. Dietary habits reflect individual food preferences and are often related to culture, education, socioeconomic background, and health status (D Krause, C Margetts et al. 2015). Food intake has been strongly linked with obesity, not only related to the volume of food but also in terms of the composition and quality of diet (Amin TT, Al-Sultan AI, et.al. 2008). High intake of red meat, sweets and fried foods, contribute to the increased risk of insulin resistance and T2DM (Waqas Sami, Tahir Ansari et al. 2017). Globally, T2DM is at present one of the most common diseases. It has been estimated that around 366 million people worldwide are suffering from diabetes and this figure is expected to rise to 552 million by 2030. There was a strong association of T2DM with high intake of carbohydrates and fats and development of T2DM. In contrast, an inverse correlation was observed between intake of vegetables and T2DM. Consumption of fruits and vegetables may protect the development of T2DM, as they are rich in nutrients, fiber and antioxidants which are considered as protective barriers against the diseases (Waqas Sami, Tahir Ansari et al. 2017). Physical activity is likely to be most beneficial in preventing the progression of T2DM during the initial stages, before insulin therapy is required. The overall prevalence of hypertension in India is escalating at around 29.6% with regional variations in rural (27.6%) and urban (33.8%) population. Only about 25.6% of treated patients had their BP under control, in a multicenter study from India on awareness, treatment, and adequacy of control of HTN (Anchala, R., Kannuri, N. K. et al.2014). Developed nations and urban populations with higher salt consumption in developing countries appear to have the highest percentage of hypertension. Factors contributing to increase in salt intake include ‘richer’ foods associated with higher income levels and eating out particularly the fast-food culture which invariably increases intake of salty and fatty foods. Reduction in salt intake at a population level to lower blood pressure would appear to be the most cost-effective method to reduce the burden of hypertension (Radhika G, Sathya, R et al 2007).

Aim -

The aim of the study is to assess the effect of prakriti, dietary & lifestyle habits on the health status of individuals aged 18-60 years.

Methodology -

A cross sectional study was conducted in Mumbai among 100 individuals between 18 to 60 years of age. It was a convenience sampling technique. Interested individuals were at first asked to fill an informed consent form and those who gave their consent and voluntarily agreed to participate in the study were included and were further asked to complete the self reported questionnaire. Participants of the study were divided into two groups. The Healthy group consisted of healthy individuals without diabetes and hypertension. The Diabetes and Hypertension group consisted of individuals with diabetes and hypertension. These both groups were correlated with their Prakriti, dietary habits and lifestyle choices. The inclusion and exclusion criteria for selection of sample population are as follows :

Inclusion criteria -

- 1) Age - 18 to 60 years
- 2) Lifestyle disorders i.e (only diabetes & hypertension)
- 3) Healthy individuals without any lifestyle disorders

Exclusion criteria -

- 1) Individuals with cardiovascular diseases
- 2) Any person who is hospitalized/bedridden
- 3) Pregnant or lactating women
- 4) Any person with chronic diseases other than diabetes & hypertension

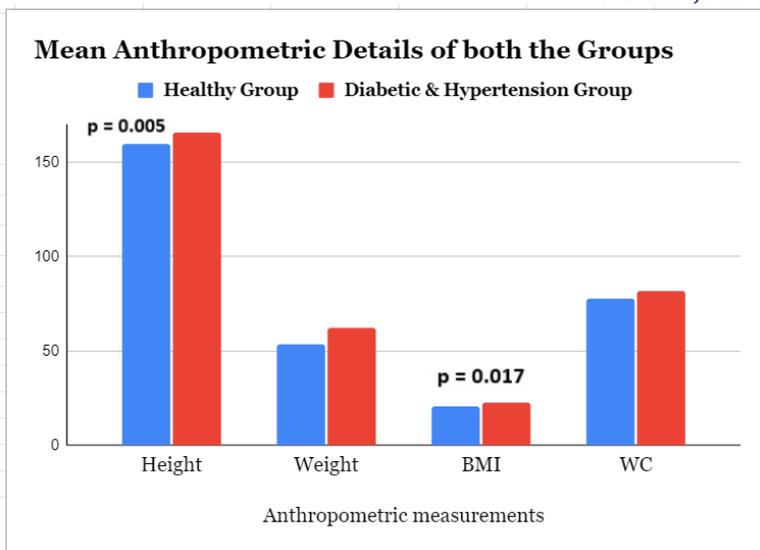
Data collection included receiving responses for the questionnaire which consisted segments ranging from general information, socio demographic details, anthropometric measurements, medical history to more detailed questions pertaining to quality of life, dietary habits, physical activity, sleep quality and stress through online platforms such as google form and dietary recall was obtained through phone calls.

Data was analyzed using spss version 20. Categorical variables were described using frequency and expressed as n. The association between categorical variables were assessed using the chi square test. Anova and student T tests were used to predict the association of prakriti with normal and diabetic individuals. Significance for all the statistical measures was determined at 0.05 level.

Results -**Table No. 1 : Socio Demographic characteristics and Anthropometric measurements of Healthy Group v/s Diabetic & Hypertension Group**

Characteristics	Healthy Group (%) N = 41	Diabetic & Hypertension Group (%) N = 59
Age		
18-30 years	28 (68.3)	8 (13.6)
31-40 years	9 (22.0)	16 (27.1)
41-50 years	3 (7.3)	20 (33.9)
51-60 years	1 (2.4)	15 (25.4)
Sex		
Male	9 (22.0)	29 (49.2)
Female	32 (78.0)	30 (50.8)
Socio economic status		
Lower class	2 (4.9)	4 (6.80)
Middle class	33 (80.5)	44 (74.6)
High class	6 (14.6)	11 (18.6)
Food Habits		
Vegetarian	13 (31.7)	20 (33.9)
Non-vegetarian	21 (51.2)	25 (42.4)
Eggetarian	4 (9.8)	8 (13.6)
Vegan	2 (4.9)	3 (5.1)
Jain	1 (2.4)	3 (5.1)

As per Table No.1 there were 41 participants in the Healthy Group and 59 participants in Diabetes and Hypertension Group respectively. Maximum number of participants in the Healthy Group were from the category 18 to 30 years, whereas the maximum number of participants in the Diabetes and Hypertension Group were from the category 41 to 50 years. The food habits of participants from the Healthy Group were mainly non vegetarian(51.2 %) while in the Diabetes and Hypertension Group about 42.5% were non vegetarians and 33.9% were vegetarians respectively.



BMI = Body Mass Index, WC = Waist Circumference

Figure No. 1 Mean Anthropometric details of Healthy Group v/s Diabetes and Hypertension Group

As per Figure No. 1 the mean height of participants in the Healthy group was slightly lower than the mean height of participants in the Diabetes and Hypertension group. The p-value for height was **0.005** which shows it was statistically significant. The BMI of the participants from the Diabetes and Hypertension group was slightly higher than the Healthy group participants. The p value was **0.017** which shows that it was statistically significant.

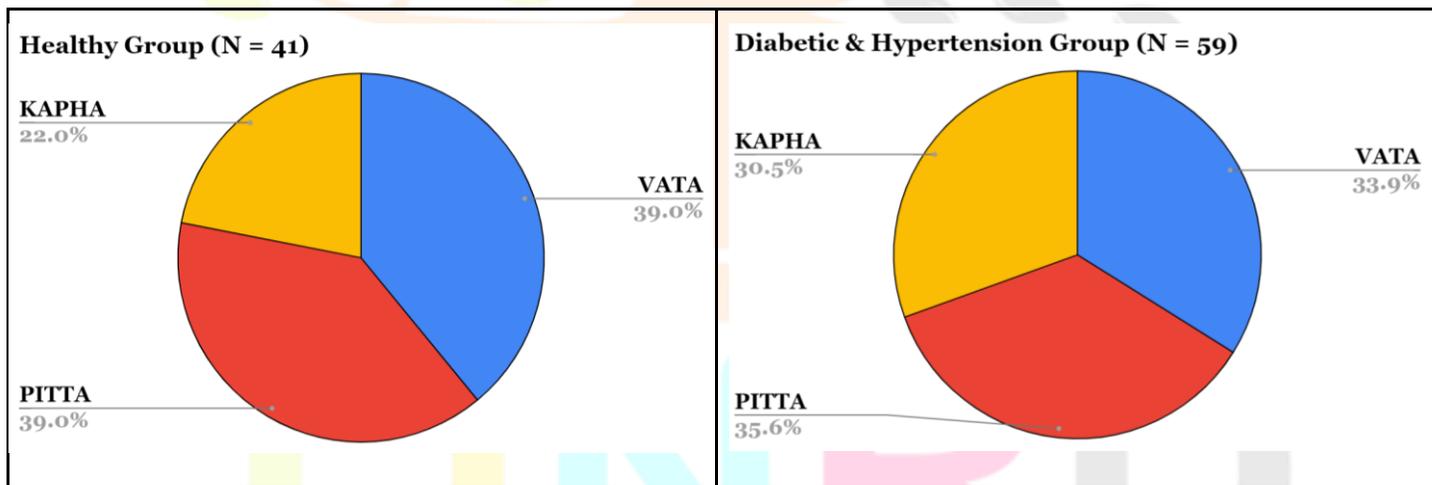


Figure No. 2 Prakriti assessment of participants in Healthy Group v/s Diabetes and Hypertension Group

As per Figure No. 2 In the Healthy Group, there were an equal number of Vata and Pitta Prakriti participants and only 22% of participants were of Kapha Prakriti. In the Diabetes and Hypertension Group, the highest number of participants were Pitta Prakriti followed by Vata (33.9%) and Kapha (30.5%) Prakriti.

Table No. 2 Correlation of Dietary habits with Vata, Pitta and Kapha in the Healthy Group

Healthy Group						
Tempting foods	Options	Vata (percentage)	Pitta (percentage)	Kapha (percentage)	T value	p value
A) Chocolate					0.305	0.858
	Yes	11 (52.4)	10 (58.8)	2 (66.7)		
	No	10 (47.6)	7 (41.2)	1 (33.3)		
B) Fizzy drinks					4.855	0.088
	Yes	14 (66.7)	9 (52.9)	0 (0.0)		
	No	7 (33.3)	8 (47.1)	3 (100.0)		
C) Pizza					0.416	0.812
	Yes	11 (52.4)	8 (47.1)	1 (33.3)		
	No	10 (47.6)	9 (52.9)	2 (66.7)		
D) Crisps					2.389	0.303
	Yes	6 (28.6)	9 (52.9)	1 (33.3)		
	No	15 (71.4)	8 (47.1)	2 (66.7)		
E) Biscuits					4.855	0.088
	Yes	14 (66.7)	9 (52.9)	0 (0.0)		
	No	7 (33.3)	8 (47.1)	3 (100.0)		
F) Fried foods					0.305	0.858
	Yes	11 (52.4)	10 (58.8)	2 (66.7)		
	No	10 (47.6)	7 (41.2)	1 (33.3)		
G) Cakes					2.389	0.303
	Yes	6 (28.6)	9 (52.9)	1 (33.3)		
	No	15 (71.4)	8 (47.1)	2 (66.7)		
H) Sweets					0.416	0.812
	Yes	11 (52.4)	8 (47.1)	1 (33.3)		
	No	10 (47.6)	9 (52.9)	2 (66.7)		

I) Ice cream					4.855	0.088
	Yes	14 (66.7)	9 (52.9)	0 (0.0)		
	No	7 (33.3)	8 (47.1)	3 (100.0)		
J) I don't find any food tempting					0.305	0.858
	Yes	11 (52.4)	10 (58.8)	2 (66.7)		
	No	10 (47.6)	7 (41.2)	1 (33.3)		

As per Table No. 2 Higher number of participants with Vata Prakriti reported more temptation for foods such as chocolate, fizzy drinks, pizza, biscuits, fried food, ice cream and sweets when compared to the Pitta and Kapha Prakriti participants. While comparing three Prakritis together, most of the Vata and Pitta Prakriti participants found these foods more tempting than Kapha Prakriti participants. The p value was higher than 0.05 and therefore it indicates that the temptation for these foods was not significantly higher within the three Prakriti participants in the Healthy Group.

Table No. 3 Correlation of Dietary habits with Vata, Pitta and Kapha in the Diabetes & Hypertension Group

Diabetes & Hypertension Group						
Tempting foods	Options	Vata (percentage)	Pitta (percentage)	Kapha (percentage)	T value	p value
A) Chocolate					0.942	0.624
	Yes	9 (47.4)	12 (48.0)	5 (33.3)		
	No	10 (52.6)	13 (52.0)	10 (66.7)		
B) Fizzy drinks					0.723	0.697
	Yes	10 (52.6)	16 (64.0)	8 (53.3)		
	No	9 (47.4)	9 (36.0)	7 (46.7)		
C) Pizza					0.007	0.997
	Yes	10 (52.6)	13 (52.0)	8 (53.3)		
	No	9 (47.4)	12 (48.0)	7 (46.7)		
D) Crisps					0.884	0.643
	Yes	8 (42.1)	14 (56.0)	7 (46.7)		
	No	11 (57.9)	11 (44.0)	8 (53.3)		

E) Biscuits					0.480	0.787
	Yes	11 (57.9)	14 (56.0)	7 (46.7)		
	No	8 (42.1)	11 (44.0)	8 (53.3)		
F) Fried foods					0.271	0.873
	Yes	10 (52.6)	13 (52.0)	9 (60.0)		
	No	9 (47.4)	12 (48.0)	6 (40.0)		
G) Cakes					0.723	0.697
	Yes	10 (52.6)	16 (64.0)	8 (53.3)		
	No	9(47.4)	9 (36.0)	7 (46.7)		
H) Sweets					0.271	0.873
	Yes	10 (52.6)	13 (52.0)	9 (60.0)		
	No	9 (47.4)	12 (48.0)	6 (40.0)		
I) Ice cream					0.286	0.867
	Yes	9 (47.4)	10 (40.0)	6 (40.0)		
	No	10 (52.6)	15 (60.0)	9 (60.0)		
J) I don't find any food tempting					0.480	0.787
	Yes	11 (57.9)	14 (56.0)	7 (46.7)		
	No	8 (42.1)	11 (44.0)	8 (53.3)		

As per Table No. 3 Higher number of participants with Pitta Prakriti reported more temptation for foods such as chocolate, fizzy drinks, pizza, biscuits, fried food, ice cream and sweets when compared to the Vata and Kapha Prakriti participants. While comparing three Prakritis together, most of the Vata and Pitta Prakriti participants found these foods more tempting than Kapha Prakriti participants. The P value was higher than 0.05 and therefore it indicates that the temptation for these foods was not significantly higher within the three Prakriti participants in the Diabetes & Hypertension Group.

Table No. 4 Health Parameters of Quality of life when classified between Healthy Group v/s Diabetes and Hypertension Group

Health Parameters	Healthy Group	Diabetic & Hypertension Group	T value	p value
Number of days of physical illness	7.51 ± 9.157	14.71± 8.045	-4.158	0.000
Number of days of mental stress / depression	10.05± 8.840	13.88± 8.167	-2.231	0.028
Number of days of poor physical or mental health	7.27 ± 7.490	13.80± 7.385	-4.322	0.000
Number of days pain made it hard to do usual activities	5.80 ± 7.938	15.03±15.068	-3.588	0.098
Number of days you felt sad, blue, or depressed	8.02 ± 8.251	13.34± 8.436	-3.126	0.002
Number of days you felt worried, tense, or anxious	9.41 ± 8.815	13.39± 8.406	-2.280	0.025
Number of days with not enough rest or sleep	9.80 ± 9.524	14.32± 7.892	-2.585	0.011
Number of days you felt very healthy and full of energy	18.22 ± 9.996	19.36± 6.421	-.692	0.490

As per the table no. 4 Maximum number of days of physical or mental illness was seen in the Diabetes and Hypertension Group. In the Healthy Group, participants had less number of days of physical or mental illness. The p value was **0.000**, thus it was statistically significant. In the Diabetes and Hypertension Group, the maximum number of days with depression was higher when compared to the Healthy Group. This was statistically significant since the p-value was **0.002**. In the Diabetes and Hypertension Group, the maximum number of days feeling sad or blue was higher when compared to the Healthy Group. This was statistically significant since the p-value was **0.025**. In the Diabetes and Hypertension Group, the maximum number of days of anxiety, not getting enough rest was higher when compared to the Healthy Group. This was statistically significant since the p-value was **0.011**.

Table No. 5 Sleeping Habits in relation to Prakriti in the Healthy Group

Healthy Group						
Sleeping habits	Not during the past month	< than once a week	Once or twice a week	3 or more times a week	T value	p value
Participants who could not get to sleep within 30 minutes					3.988	0.010
Vata (%)		8 (38.1)	6 (28.6)	3 (14.3)	4 (19.0)	
Pitta (%)		6 (35.3)	3 (17.6)	6 (35.3)	2 (11.8)	
Kapha (%)		1 (33.3)	1 (33.3)	0 (0.0)	1 (33.3)	
Participants that woke up in the middle of the night					11.920	0.064
Vata (%)		2 (9.5)	10 (47.6)	6 (28.6)	3 (14.3)	
Pitta (%)		7 (41.2)	5 (29.4)	3 (17.6)	2 (11.8)	
Kapha (%)		1 (33.3)	0 (0.0)	0 (0.0)	2 (66.7)	
Participants that had to get up to use the bathroom during sleep					10.255	0.114
Vata (%)		70 (33.3)	3 (14.3)	9 (42.9)	2 (9.5)	
Pitta (%)		5 (29.4)	4 (23.5)	2 (11.8)	6 (35.3)	
Kapha (%)		1(33.3)	0 (0.0)	0 (0.0)	2 (66.7)	
Participants that cannot breathe comfortably during sleep time					9.808	0.113
Vata (%)		7 (33.3)	3 (14.3)	9 (42.9)	2 (9.5)	
Pitta (%)		5 (29.4)	4 (23.5)	2 (11.8)	6 (35.3)	
Kapha (%)		1 (33.3)	0 (0.0)	0 (0.0)	2 (66.7)	
Participants that cough or snore loudly during sleep time					6.152	0.406
Vata (%)		9 (42.9)	5 (23.8)	4 (19.0)	3 (14.3)	
Pitta (%)		10 (58.8)	5 (29.4)	2 (11.8)	0 (0.0)	
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)	

Participants that felt too cold during sleep time						17.989	0.006
Vata (%)		3 (14.3)	10 (47.6)	7 (33.3)	1 (4.8)		
Pitta (%)		11 (64.7)	3(17.6)	3 (17.6)	0 (0.0)		
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)		
Participants that felt too hot during sleep time						3.881	0.693
Vata (%)		6 (28.6)	6 (28.6)	6 (28.6)	3 (14.3)		
Pitta (%)		7 (41.2)	4 (23.5)	3 (17.6)	3 (17.6)		
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)		
Participants that had bad dreams during sleep time						7.097	0.312
Vata (%)		8 (38.1)	8 (38.1)	4 (19.0)	1 (4.8)		
Pitta (%)		6 (35.3)	4 (23.5)	6 (35.3)	1 (5.9)		
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)		
Pain experienced by participants during sleep time						13.333	0.038
Vata (%)		4 (19.0)	7 (33.3)	8 (38.1)	2 (9.5)		
Pitta (%)		11 (64.7)	3 (17.6)	1 (5.9)	2 (11.8)		
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)		
Participants that had to take medicine for sleep						12.177	0.058
Vata (%)		9 (42.9)	4 (19.0)	7 (33.3)	1 (4.8)		
Pitta (%)		11 (64.7)	5 (29.4)	1 (5.9)	0 (0.0)		
Kapha (%)		2 (66.7)	0 (0.0)	0 (0.0)	1 (33.3)		
Participants that had to keep up enthusiasm to get things done						4.505	0.609
Vata (%)		7 (33.3)	5 (23.8)	7 (33.3)	2 (9.5)		
Pitta (%)		8 (47.1)	2 (11.8)	6 (35.3)	1 (5.9)		

Kapha (%)		1 (33.3)	1 (33.3)	0 (0.0)	1 (33.3)		
Participants Overall Sleep Quality						6.501	0.369
Vata (%)		3 (14.3)	12 (57.1)	5 (23.8)	1 (4.8)		
Pitta (%)		3 (17.6)	11 (64.7)	2 (11.8)	1 (5.9)		
Kapha (%)		1 (33.3)	0 (0.0)	1 (33.3)	1 (33.3)		

As per Table no. 5 overall sleep quality such as waking up in the middle of the night, coughing or snoring, feeling too hot or cold, taking medicine for sleep all of which were higher in the Vata Prakriti participants in the Healthy group. Major Pitta and Vata Prakriti participants had trouble with sleep for mostly once or twice a week while Kapha Prakriti participants had trouble with sleep for less than once a week in the Diabetes and Hypertension group. Kapha Prakriti participants in the Healthy group did not have any problem waking up in the middle of the night, however, Kapha Prakriti participants in the Diabetes and Hypertension group had to wake up in the middle of the night for at least once or twice a week, this maybe because daytime sleeping is associated with diabetes.

Table No. 6 Comparison of Physical activity parameters in Healthy Group v/s Diabetes and Hypertension Group

Healthy Group				Diabetes and Hypertension Group				
Parameters	Vata	Pitta	Kapha	Vata	Pitta	Kapha	F value	p value
Number of days of vigorous physical activities like heavy lifting, digging, aerobics, or fast bicycling								
	2.19 ± 2.182	1.53 ± 1.940	0.00 ± 0.000	2.32 ± 1.668	1.60 ± 2.000	1.87 ± 1.767	.819	0.446
Time spent doing vigorous physical activities on one of those days								
	1.53 ± 0.900	1.44 ± 0.882	0.00 ± 0.000	3.93 ± 7.539	4.64 ± 8.465	4.70 ± 8.920	.034	0.967
Number of days of moderate physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis								
	2.48 ± 1.990	2.24 ± 1.985	0.00 ± 0.000	2.74 ± 1.790	1.84 ± 1.908	1.87 ± 1.767	1.504	0.231
Time spent doing moderate physical activities on one of those days								
	2.07 ± 1.438	16.82 ± 28.347	0.00 ± 0.000	3.75 ± 7.057	2.00 ± 1.038	1.56 ± .527	.849	0.436

Number of days you walked for at least 10 minutes at a time								
	7.00 ± 9.947	10.59 ± 11.592	27.50 ± 17.678	3.47 ± 6.875	3.24 ± 6.933	1.55 ± .820	.379	0.687
Time spent walking on one of those days								
	8.48 ± 2.542	6.29 ± 3.368	8.67 ± 1.155	8.11 ± 2.132	7.20 ± 3.082	7.07 ± 2.314	.868	0.426
Time spent sitting on a weekday								
	3.81 ± 2.358	5.06 ± 1.600	3.33 ± 3.055	3.47 ± 1.982	3.44 ± 2.615	3.60 ± 2.640	.021	0.979

As per the Table No. 6 The mean average number of days of vigorous activities was highest for Vata Prakriti participants for both the groups. The time spent per day on these vigorous activities was also highest for Vata Prakriti participants for both the groups. There was no statistical significant difference within the two groups since the p value was (0.967). All Prakriti participants from the Healthy Group spent a higher number of mean days and time doing moderate physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis when compared to all Prakriti participants from the Diabetes and hypertension Group participants. There was no statistical significant difference within the two groups since the p value was (0.231). Participants from the Healthy Group spent more days and the time on each day doing walking as compared to the Diabetes and Hypertension Group. The mean time spent on walking for a day was 8 hours in the Healthy Group. The time spent sitting on a weekday was a little higher in the Pitta Prakriti participants of the Healthy Group as compared to Diabetes and Hypertension Group. There was no statistical significant difference within the two groups since the p value was (0.979).

Discussion -

In the present study, about 30.5% of the participants in the Diabetes and Hypertension Group were of Kapha Prakriti. There was no correlation found between Kapha Prakriti and Diabetes or Hypertension unlike, In a study conducted by Gupta, Ali et.al.(2018) confirmed that at the molecular level Kaphaja Prakriti individuals are highly prone for diabetes. In the present study, there was no correlation found between BMI and the type of Prakriti, but contrary to our study, Hankey A,et.al (2011) found that age and BMI correlates with the Prakriti of an individual. Most of the participants in this study had mean BMI >22 kg/m² in the Diabetes and Hypertension Group which were already higher than normal population according to WHO Guidelines.

In the present study, Vata and Pitta Prakriti participants from both the Healthy Group and Diabetes and Hypertension Group had more temptation for foods such as cakes, crisps, biscuits, cola, chocolate, etc. Higher prevalence of unhealthy dietary habits among Vata and Pitta Prakriti participants was shown in the present study. The findings are similar to other studies done. In a study by Amin, et.al. (2019) explains that, In patients of DM, Vata Prakriti, namely, Madhura and Amla Rasa, was found in the maximum number of patients. Amla Rasa is having Vata Guna dominancy which may vitiate Vata Dosha. In DM, more than half of the patients liked

Madhura, Amla, and Lavana Rasayukta Ahara, which is mentioned in the etiology of Madhumeha. Affliction to sweets in the form of jaggery products, milk products, and other sugar-enriched food is found. High sugar- or carbohydrate-rich products immediately burden the β -cells and lead to insulin resistance.

In the current study, the quality of life was very good and excellent for all three Prakriti participants in the Healthy Group. Kapha Prakriti participants had excellent quality of life in the Diabetes and Hypertension group. Physical and mental illness, pain, depression, feeling sad and anxious were all higher in the Diabetes and Hypertension Group same as seen in other researchers. Goodridge et al. (2005) has demonstrated in his research that diabetes has a strong negative impact on the HRQoL, especially in the presence of complications.

In the present study, overall sleep quality such as waking up in the middle of the night, coughing or snoring, feeling too hot or cold, taking medicine for sleep all of which were higher in the Vata Prakriti participants in the Healthy group. Major Pitta and Vata Prakriti participants had trouble with sleep for mostly once or twice a week while Kapha Prakriti participants had trouble with sleep for less than once a week in the Diabetes and Hypertension group. However, the results did not match earlier studies. Acharya, et.al. (2004) found that Adhika Nidra was the maximum may be because of Guru Guna of Kapha. Irregular timings of meals and sleep are common habits in the community which signify their disturbed biological clock. It is often the result of daily life-related stress, and often associated with fast eating, both are the major risk factors for type 2 diabetes. A majority of patients had sleeping habits of 8–9 h including day sleep. Day Sleeping is one of the causes of Diabetes.

In the present study, the mean average number of days of vigorous activities was highest for Vata Prakriti participants for both the groups. The time spent per day on these vigorous activities was also highest for Vata Prakriti participants for both the groups. In the study conducted by Tiwari, S. et.al. (2012) found that diastolic blood pressure was decreased in Vata Prakriti in diabetic exercise group after walking (isotonic exercise) which was statistically significant. Systolic blood pressure also falls due to decreased sympathetic discharge after 30 minutes walk for 3 months. In the present study, all Prakriti participants from the Healthy Group spent a higher number of mean days and time doing moderate physical activities when compared to all Prakriti participants from the Diabetes and Hypertension Group participants. These results are consistent with other studies which mention low physical activity in Diabetics and Hypertensive participants. CC Goodman, et.al. (2017) found in his study that with continued moderate exercising, muscles take up glucose at almost 20 times the normal rate. This lowers blood glucose levels. Blood glucose levels decreased during periods of exercise due to increased permeability of glucose in peripheral tissues. Exercise should primarily be aerobic. There was a remarkable decrease in FBS after walking and FBS is a more reliable marker for diabetic individuals. Hence, walking is mainly indicated in diabetes mellitus. It is also mentioned that those who are not doing exercise (physical activity) and taking a high calorie diet are mostly prone to diabetes mellitus.

Conclusion -

In the present study, when correlating Prakriti with dietary habits it was found that Vata and Pitta participants with Diabetes or Hypertension had more temptation for highly processed foods and when correlating Prakriti

with quality of life, Kapha Prakriti participants had excellent quality of life. Overall sleep quality was higher in the Vata Prakriti participants and Pitta and Kapha Prakriti participants had problems with sleep also when associated with physical activity Vata Prakriti participants performed better. This shows the importance of Prakriti assessment. Good dietary habits along with physical activity, sleep quality are significant to prevent and lower the risk of lifestyle diseases.

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