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A Study on Dietary Habits and Associated Lifestyle Disorders among Working Women based on their *Prakriti*

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Abstract

Background: In Ayurveda, *Prakriti* refers to an individual's inherent constitution, determined at conception by the predominance of one or more *Doshas—Vata, Pitta*, and *Kapha.* This constitutional type influences metabolism, physiological functions, and disease susceptibility. **Objective**: To examine the relationship between dietary habits, lifestyle disorders, and *Prakriti* among working women aged 35–65 years in Varanasi. **Methods**: A cross-sectional study was conducted among 395 working women from four universities in Varanasi. *Prakriti* was assessed using a validated questionnaire. Lifestyle disorders were evaluated through a newly developed assessment proforma. Dietary intake was recorded using the 24-hour diet recall method, and Body Mass Index (BMI) was calculated. **Results**: *Kapha Prakriti* was the most prevalent (69.9%), followed by *Vata* (17.2%) and *Pitta* (12.9%). Lifestyle disorders were reported across all *Prakriti* types, with a significant association observed between thyroid disorders and *Prakriti* ($p = 0.022$). Dietary analysis indicated suboptimal intake of calories and fats compared to the Estimated Average Requirement in most participants. Although BMI did not significantly correlate with *Prakriti*, overweight was more commonly observed in individuals with *Kapha* and *Pitta* dominance. **Conclusion**: The study highlights the influence of *Prakriti* and occupational factors on metabolic health and disease susceptibility. These findings support the integration of personalized, *Prakriti*-based dietary and lifestyle interventions to enhance health outcomes among working women.

Major Findings: Findings suggests that not only *Prakriti* (inherent traits), but the external behaviours related to daily lifestyle as sitting hours, dietary preferences, and physical activity can play crucial role in occurrence of lifestyle related diseases.

Keywords: Dietary Habits, Health, Lifestyle Disorders, *Prakriti*

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1. Introduction

Lifestyle diseases, also known as non-communicable diseases (NCDs), are increasingly prevalent conditions primarily driven by daily behavioral patterns and an imbalanced interaction with the environment. Key contributing factors include unhealthy dietary habits, physical inactivity, poor posture, inadequate sleep, and disrupted circadian rhythms[1].

According to the World Health Organization (WHO), the global burden of NCDs is steadily rising,

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prompting the extension of the Global Action Plan for the Prevention and Control of Non-communicable Diseases to 2030[2].

Working women are particularly vulnerable to lifestyle-related health conditions due to the compounded stress of managing professional responsibilities alongside personal and social obligations. This often results in neglect of personal health, leading to nutritional deficiencies, insufficient sleep, and poor health outcomes. A survey conducted by the Associated Chambers of Commerce and Industry of India reported that 68% of working women aged 21–51 years were affected by lifestyle-related disorders, highlighting the urgency of targeted preventive strategies for this population[3].

The predisposition to lifestyle diseases is influenced by multiple interacting variables, including occupational demands, environmental exposures, lifestyle behaviours, and genetic factors. In the context of Ayurveda, the concept of *Prakriti* (individual psychosomatic constitution) offers a framework for understanding such interindividual variability. *Prakriti* is established at the time of conception and remains constant throughout life. It reflects the innate physiological and psychological characteristics of an individual and influences susceptibility to various health conditions. Recent research supports the correlation between *Prakriti* types and differences in genetic expression, immune responses, biochemical markers, and disease susceptibility[4].

Given the increasing incidence of lifestyle disorders and the growing recognition of individualized approaches to health, this study was designed to explore the relationship between *Prakriti,* occupational lifestyle, and dietary habits in working women. The primary aim is to assess how *Prakriti* influences the predisposition to lifestyle diseases, with a specific focus on diet-related risk factors. Understanding these associations may aid in the development of personalized preventive strategies grounded in both traditional Ayurvedic wisdom and contemporary health science.

2. Materials and Methods

Study Design: Cross-sectional observational study

Study Area: The data was collected from the four universities of the Varanasi district.

Study Period: Data was collected from July 2022 to August 2023.

2.1 Tools of the Study

2.1.1 Assessment of Lifestyle Disorders

A newly developed Lifestyle disorders proforma was used to assess the prevalence of lifestyle disorders. This proforma has been constructed based on WHO STEPS questionnaire for non-communicable diseases in addition with more lifestyle influenced diseases.

2.1.2 Nutritional Assessment

For nutritional assessment BMI and dietary habits were assessed. BMI was calculated by dividing the absolute weight (in kg) by the absolute height (in metres squared).

$$BMI = \text{Weight (kg)} / \text{Height (m}^2\text{)}$$

24-hour dietary recall assessment approach was used for dietary habits assessment as the meals of past 24 hour were recorded and converted into raw foods and nutrients were calculated.

2.1.3 Assessment of Prakriti

Prakriti was assessed through the validated and reliable proforma developed by Tripathi PK et al. 2019 has been used[5]. It contains traits related to different Prakriti. *Ek Doshaja Prakriti* was assigned based on the maximum percentage of *Dosha*.

2.2 Sample Size

The sample size has been calculated to be 395 working women based on a previously published similar study[6,7].

2.3 Sampling Technique

The information unit for the current investigation was chosen using the Simple Random Sampling Technique. District Varanasi was purposefully selected in the initial stage from all the districts in Uttar Pradesh, as it was accessible to the researcher. The four major universities of Varanasi were selected, i.e., Banaras Hindu University, Central Institute of Higher Tibetan Studies, Mahatma Gandhi Kashi Vidyapth, and Sampurnananda Sanskrit University. Different teaching and non-teaching working women from these universities were then registered through stratified random sampling techniques[6,7].

3. Inclusion and Exclusion Criteria

3.1 Inclusion Criteria

- Women aged between 35 and 65 years who are currently employed and residing in Varanasi District.
- Participants who are literate, i.e., able to read and write, and capable of understanding and responding to the study questionnaire.
- Women who provided informed consent and expressed willingness to participate in the study.

3.2 Exclusion Criteria

- Pregnant women.
- Women diagnosed with severe illnesses such as advanced-stage cancer, major traumatic injuries, or other debilitating conditions that could significantly interfere with participation or affect the study outcomes.

3.3 Ethical Committee Approval

Data collection in the present research started after getting the approval of the research plan proposal from the ethical committee held on 31-08-2021 in IMS, BHU (Letter No Dean/2021/EC/2841)

3.4 Data Collection

The data was collected from each university after obtaining permission from the university administration through proportional allocation, followed by obtaining informed consent from each working woman[6,7].

4. Results

Among the 395 working women studied, 69.9% were classified as *Kapha Prakriti*, while 17.2% belonged to *Vata Prakriti* and 12.9% to *Pitta Prakriti* (Table 1). Profession-wise distribution indicates that 32.4% of *Vata*, 31.4% of *Pitta*, and 31.2% of *Kapha Prakriti* individuals were professors. Among office employees, 31.4% were from *Pitta Prakriti*, 24.3% from *Kapha*, and 23.5% from *Vata Prakriti*. Additionally, 29.4% of *Vata*, 25.4% of *Kapha*, and 19.6% of *Pitta Prakriti* working women were nurses (Table 2).

Regarding lifestyle disorders, 67.6% of *Vata*, 60.8% of *Pitta*, and 60.1% of *Kapha Prakriti* individuals reported such conditions (Table 3). The prevalence of back pain was highest among *Vata Prakriti* women (44.1%), followed by *Pitta* (39.2%) and *Kapha* (37.7%). Joint pain was reported by 32.4% of *Vata*, 27.5% of *Pitta*, and 22.1% of *Kapha Prakriti* women. Diabetes was found in 13.2% of *Vata Prakriti* individuals, compared to 7.8% in *Pitta* and 6.2% in *Kapha Prakriti* women. High blood pressure affected 13.7% of *Pitta* and 8.8% of *Vata Prakriti* individuals. Liver disease was present in 8.8% of *Vata* and 5.4% of *Kapha Prakriti* women. Gastric problems were reported by 35.4% of Vata, 31.4% of *Pitta*, and 25.4% of *Kapha Prakriti* individuals. Thyroid disease prevalence was highest among *Vata Prakriti* women (26.5%), followed by *Pitta* (13.7%) and *Kapha* (13%). Notably, thyroid disease showed a significant association with *Prakriti* (p=0.022) (Table 4).

In terms of body weight, 35.1% of *Kapha Prakriti* and 39.2% of *Pitta Prakriti* women were overweight, whereas 60.3% of *Vata Prakriti* individuals maintained a normal weight. However, no significant association was found between *Prakriti* and BMI (Table 5). Energy intake analysis showed that 54.4% of *Vata*, 70.6% of *Pitta*, and 64.5% of *Kapha Prakriti* individuals consumed calories below the Estimated Average Requirement (EAR), with a smaller proportion consuming calories within or above the normal range (Table 6). Similarly, fat intake was below EAR in 48.5% of *Vata*, 54.9% of *Pitta*, and 56.2% of *Kapha Prakriti* individuals, while others consumed fat within or above the recommended levels (Table 7). These findings suggest variations in dietary intake and health conditions among different *Prakriti types*, potentially influenced by metabolic tendencies and occupational factors.

5. Discussion

The present study aimed to explore the relationship between dietary habits, lifestyle disorders, and *Prakriti* among working women. Although the association between *Prakriti* and lifestyle disorders was not

Table 1. Frequency distribution of *Prakriti* of working women

Prakriti	Frequency (%)
Vata	68 (17.2%)
Pitta	51 (12.9%)
Kapha	276 (69.9%)
Total	395 (100%)

statistically significant, notable trends were observed, particularly among individuals with *Vata* dominant *Prakriti*.

A higher prevalence of diabetes and hypertension was observed in working women with *Vata Prakriti*, though this difference did not reach statistical significance (Table 4). This observation is partially supported by prior studies, where individuals with *Vata-Kaphaj Prakriti* have shown significant associations with diabetes mellitus and hypertension[8]. Another study shows Increased pre-diabetic risk indicators are linked to Kapha Prakriti[9].

Similarly, a considerable proportion of *Vata Prakriti* women reported musculoskeletal complaints, with 44.1% experiencing back pain and 32.4% reporting joint pain, though these findings were also statistically non-significant (Table 4). These results align with previous research indicating a significant association between *Vata* predominant *Deha Prakriti* and conditions such as rheumatoid arthritis[10,11].

In the present study, the highest number of participants belonged to the *Kapha Prakriti* group. This aligns with the classical Ayurvedic understanding of *Kapha* individuals,

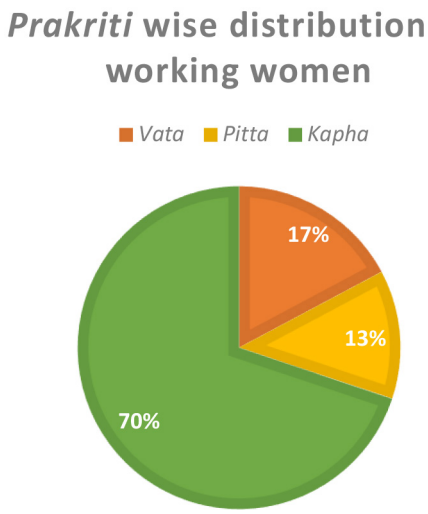


Figure 1. Graph showing Prakriti wise distribution of working women.

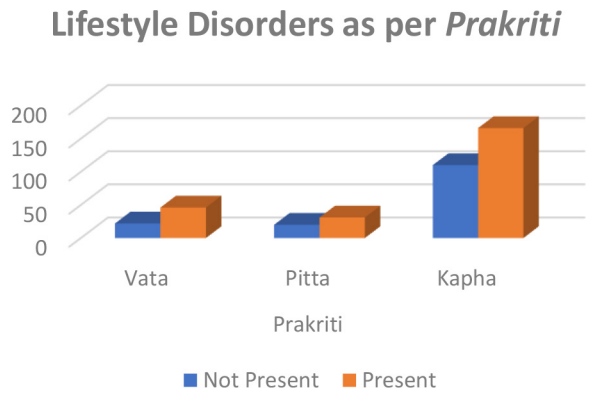


Figure 2. Graphical representation of prevalence of lifestyle disorders as per *Prakriti*

Table 2. Distribution of working women profession as per their *Prakriti*

Profession	*Prakriti*		
	Vata (N=68)	*Pitta (N=51)*	*Kapha(N=276)*
	N (%)	N (%)	N (%)
Attendant (n=12)	1 (1.5%)	0 (0%)	11 (4%)
Multi-Tasking Staff (n=19)	3 (4.4%)	6 (11.8%)	10 (3.6%)
Nurse (n=100)	20 (29.4%)	10 (19.6%)	70 (25.4%)
Office Employee(n=99)	16 (23.5%)	16 (31.4%)	67 (24.3%)
Professor (n=124)	22 (32.4%)	16 (31.4%)	86 (31.2%)
School Teacher (n=41)	6 (8.8%)	3 (5.9%)	32 (11.6%)

Table 3. Distribution of lifestyle disorders as per *Prakriti*

Lifestyle Disorders among working women	*Prakriti*		
	Vata (N=68)	*Pitta (N=51)*	*Kapha(N=276)*
	N (%)	N (%)	N (%)
Not Present (N=152)	22 (32.4%)	20 (39.2%)	110 (39.9%)
Present (N=243)	46 (67.6%)	31 (60.8%)	166 (60.1%)

Table 4. *Prakriti* wise distribution of respondents with different lifestyle disorders

Lifestyle Disorders	*Prakriti*			P-value
	***Vata* (N=68)**	***Pitta* (N=51)**	***Kapha* (N=276)**	
	N (%)	**N (%)**	**N (%)**	
Back Pain (N=154)	30(44.1)	20(39.2)	104 (37.7)	p= 0.621
Joint Pain (N=97)	22 (32.4)	14 (27.5)	61 (22.1)	p=0.186
Chest Pain (N=14)	5(7.4)	2 (3.9)	7 (2.5)	p=0.155
Heart Disease (N=8)	1 (1.5)	0 (0.0)	7 (2.5)	p=0.467
Diabetes (N=30)	9 (13.2)	4(7.8)	17 (6.2)	p=0.142
Cancer (N=3)	1 (1.5)	1 (2)	1 (0.4)	p=0.366
High B. P. (N=41)	6 (8.8)	7 (13.7)	28 (10.1)	p=0.668
Liver Disease (N=22)	6 (8.8)	1 (2)	15 (5.4)	p=0.267
Gastric Problem (N=110)	24 (35.3)	16 (31.4)	70 (25.4)	p=0.219
Thyroid Diseases(N=61)	18 (26.5)	7 (13.7)	36 (13)	p=0.022

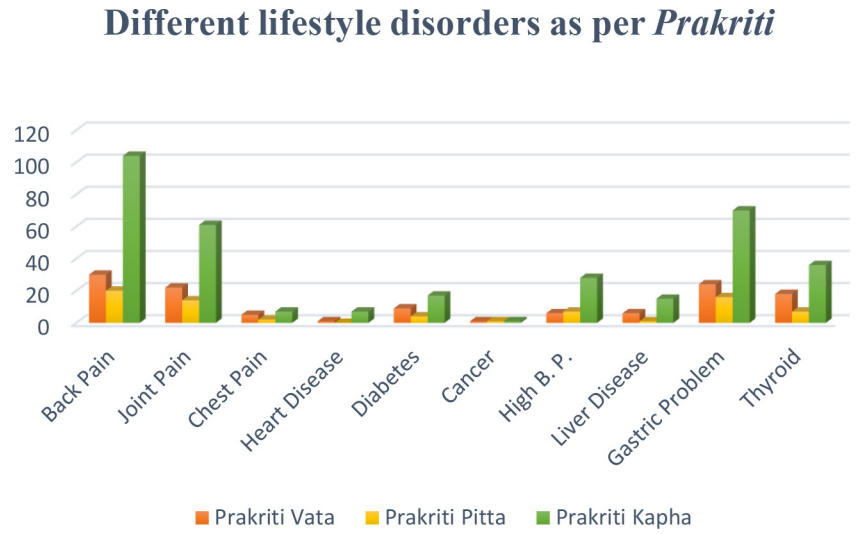


Figure 3. Graphical representation of different lifestyle disorders as per *Prakriti*.

Table 5. Distribution of BMI of working women as per *Prakriti*

BMI	*Prakriti*		
	***Vata* (N=68)**	***Pitta* (N=51)**	***Kapha* (N=276)**
	N (%)	**N (%)**	**N (%)**
Underweight (N=12)	2 (2.9%)	2 (3.9%)	8 (2.9%)
Normal Weight (N=215)	41 (60.3%)	25 (49%)	149 (54%)
Overweight (N=136)	19 (27.9%)	20 (39.2%)	97 (35.1%)
Obese (N=32)	6 (8.8%)	4 (7.8%)	22 (8%)

who are described as possessing characteristics such as *Abhiyogvana* (logical reasoning), *Vinita* (humility), *Smritivana* (good memory), and *Deerghadarshi* (long-term vision)[12] (Table 1).

Despite the lack of statistical significance in the manifestation of lifestyle disorders across *Prakriti* groups, a percentage-based analysis indicates a relatively higher burden among *Vata Prakriti* individuals. While

Table 6. Distribution of working women based on energy consumption as per *Prakriti*

Energy Intake	*Prakriti*		
	***Vata* (N=68)**	***Pitta* (N=51)**	***Kapha* (N=276)**
	N (%)	**N (%)**	**N (%)**
Less than1660 Kcal/day (N=251)	37 (54.4%)	36 (70.6%)	178(64.5%)
1660-2130 Kcal/day (N=115)	26 (38.2%)	12 (23.5%)	77 (27.9%)
More than 2130 Kcal/day (N=29)	5 (7.4%)	3 (5.9%)	21(7.6%)

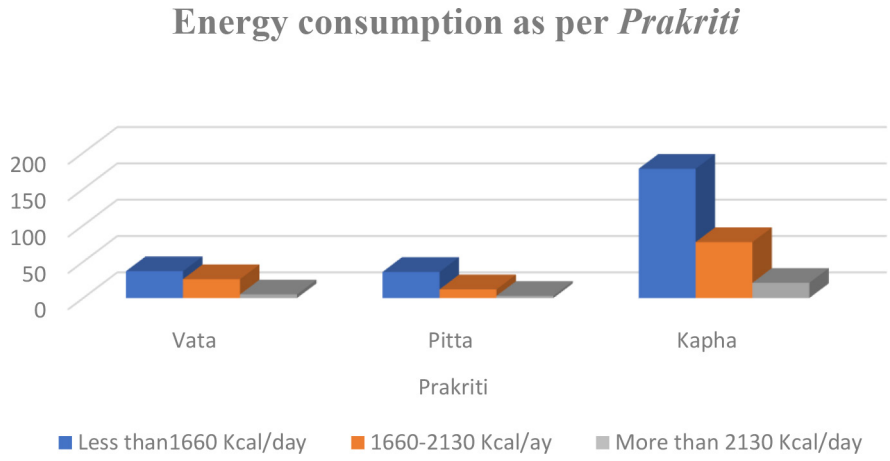


Figure 4. Graphical representation of working women based on energy consumption as per *Prakriti*

Table 7. Distribution of working women based on fat consumption as per *Prakriti*

Fat Intake	*Prakriti*		
	***Vata* (N=68)**	***Pitta* (N=51)**	***Kapha* (N=276)**
	N (%)	**N (%)**	**N (%)**
Less than 20 gram/day (N=216)	33 (48.5%)	28 (54.9%)	155 (56.2%)
20 to 25 gram/day (N=59)	13 (19.1%)	7 (13.7%)	39 (14.1%)
More than 25 gram/day (N=120)	22 (32.4%)	16 (31.4%)	82 (29.7%)

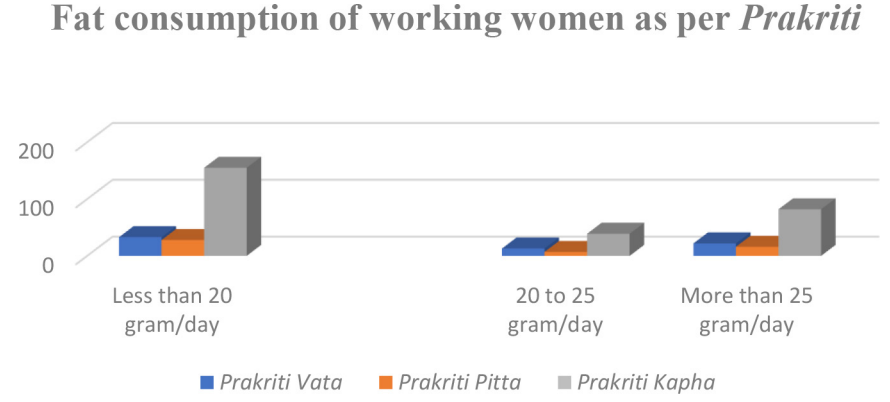


Figure 5. Graphical representation of fat consumption of working women as per *Prakriti.*

Kapha Prakriti individuals are typically considered more susceptible to metabolic disorders such as obesity due to their slower metabolic rate and propensity for weight gain, our findings indicate a greater prevalence of lifestyle-related disorders in *Vata Prakriti* participants. This may be attributed to multiple occupational and behavioral factors, including varied job demands (e.g., sedentary vs. physically intensive tasks), irregular dietary habits, and heightened susceptibility to psychological stress. The *Vata Prakriti* population is also characterized by anxious temperament and poorer social health[1,4] factors that may predispose them to a spectrum of *Vatika* disorders, including joint pain, chest discomfort, and gastrointestinal disturbances (Table 3).

Moreover, the frequency of conditions such as joint pain, back pain, chest pain, gastric problems, and thyroid disorders was higher among *Vata Prakriti* individuals compared to other *Prakriti* types. This trend is consistent with Ayurvedic principles, where *Vata* imbalance is commonly implicated in disorders affecting the musculoskeletal and nervous systems. The presence of *Vishamagni* (irregular digestive fire) in *Vata Prakriti* individuals contributes to inconsistent eating patterns—alternating between overeating and meal skipping—potentially increasing susceptibility to hepatic and gastrointestinal disorders[4]. On the other hand, hypertension, traditionally considered a *Raktaja* (*Pitta*-related) disorder, was more commonly observed in the *Vata Prakriti*, suggesting the need for further exploration of cross-*Prakriti* presentations (Table 4).

In terms of energy intake, although no statistically significant association with *Prakriti* was found, it was observed that the highest proportion of *Pitta Prakriti* individuals reported energy intake below 1660 kcal/day (Table 6). This finding is inconsistent with classical Ayurvedic texts that describe *Pitta* individuals as having a strong digestive fire (*Tikshnagni*), leading to frequent and voluminous food intake[4,13]. The deviation in observed energy consumption could be attributed to occupational constraints, as many *Pitta Prakriti* individuals in this study were employed in nursing and teaching professions, where demanding schedules may restrict meal frequency and size. Meanwhile, *Kapha Prakriti* individuals, characterized by slow metabolism and reduced appetite and thirst[4], reported expectedly low energy intake levels.

Although the statistical associations were limited, the observed trends provide valuable insights into the complex interaction between *Prakriti*, occupational demands, dietary patterns, and susceptibility to lifestyle disorders among working women. Studies suggests integrating the Ayurgenomics framework—causes, symptoms, and therapy and other comprehensive approach can help determine susceptible groups of people and facilitate the tailored discovery of effective therapeutic interventions and can help in improve health[14,15]. Further research with larger sample sizes and controlled confounding variables is warranted to substantiate these findings and contribute to integrative approaches in preventive healthcare based on *Prakriti*.

6. Conclusion

The study suggests that while the prevalence of diabetes, hypertension, and lifestyle disorders among different *Prakriti* types is not statistically significant, certain patterns are evident. *Vata Prakriti* individuals show a higher tendency for conditions such as joint pain, back pain, gastric issues, and hypertension, likely due to dietary inconsistencies, anxious behaviour, and occupational demands. Although *Kapha Prakriti* individuals are generally more prone to obesity and slow metabolism, the study found lifestyle disorders more common in *Vata Prakriti* individuals, possibly influenced by varying job profiles requiring different levels of physical and mental exertion.

Additionally, energy consumption patterns varied among *Prakriti* types, with *Pitta Prakriti* individuals exhibiting lower intake than expected, likely due to professional commitments limiting meal times. *Kapha Prakriti* individuals, with their slower metabolism, showed lower energy consumption, aligning with Ayurvedic principles. These findings highlight that while *Prakriti* provides a framework for understanding health predispositions, external factors such as occupation and lifestyle choices significantly impact health outcomes. Further research is needed to establish stronger statistical correlations and explore the relationship between *Prakriti*, lifestyle, and disease manifestation.

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Author Contribution

Conceptualization, S. M.; Writing, S. M., and S.A.; Methodology, S.M.; Study Design, S.M.; Data Collection, S.M.; Data Analysis and interpretation, S.M.; Revision, S. A; Review and editing, S.A. and S.M.; Visualisation and Supervision, S.G. All authors have read and agreed to the published version of the manuscript.

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