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Exploring the Role of Varṇita Bala and Sāra in Assessing Dhatu Health: A Critical Ayurvedic Perspective

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KEYWORDS

Ayurvedic Diagnostics, Dhatu Health, Prakriti, Sāra, Varṇita Bala.

ABSTRACT:

Background: Varṇita Bala and Sāra are classical Ayurvedic parameters reflecting tissue quality, vitality, and overall health. Assessing these qualitative markers can provide insights into Dhatu health and individualized treatment strategies.

Objectives: The study aimed to critically evaluate Varṇita Bala and Sāra among adult participants, examine their correlation with age, sex, and Prakriti, and validate classical descriptions in a modern clinical setting.

Methods: A total of 96 adult participants (18–60 years) visiting the outpatient department of the Department of Kriya Sharir, Dayanand Ayurvedic Medical College and Hospital, Siwan, Bihar, were included using purposive sampling. Varṇita Bala and Sāra were assessed using standardized observational checklists based on physical features, tissue strength, functional efficiency, and Ayurvedic diagnostic techniques. Data were analyzed qualitatively and quantitatively to identify patterns and correlations.

Results: Optimal Varṇita Bala was observed in 43.75% of participants, while optimal Sāra was noted in 39.58%. Pitta and Kapha constitutions exhibited higher optimal scores compared to Vata types. Younger participants and females showed slightly better tissue vitality. Observations were largely consistent with classical Ayurvedic descriptions, though minor variations reflected lifestyle, environmental, and regional influences.

Conclusion: Varṇita Bala and Sāra are reliable indicators of Dhatu health. Their assessment supports personalized Ayurvedic interventions, reinforcing the clinical relevance of classical qualitative markers.

1 Introduction

The ancient science of life, Ayurveda, provides a holistic concept of the understanding of health, disease, and therapeutic therapies [1]. The key to this system is the idea of Dhatus, the seven basic bodily tissues (Rasa (plasma), Rakta (blood), Mamsa (muscle), Meda (fat), Asthi (bone), Majja (marrow), and Shukra (reproductive tissue)) that ensure the physiological equilibrium and overall vitality [2] together. The condition of these Dhatus is believed to be the key determinant of the strength of the body, immunity of the body and vulnerability to any disease. Classical Ayurvedic literature is not concerned with the quantitative evaluation of the Dhatus only, but there are also qualitative parameters, which indicate the nature and strength of these tissues [3]. Among such qualitative indicators, *Varnita Bala* and *Sara* have an important role in the assessment of tissue health.

Varnita Bala may be defined as the visible lustre, complexion and the general vitality of the body or body tissues. It is believed to be a sign of inner food and health of Dhatus, giving external hint regarding the health

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condition of a person [4]. An individual who has the best *Varnita Bala* is usually said to be physically powerful, luminous, and well-nourished signifying that Dhatus are balanced and that metabolism is functioning as it should. *Sara* on the other hand symbolizes the nature, quality and functional superiority of Dhatus. It is not just the constituent element of a tissue but its ability to carry out certain physiological functions effectively.

A strong *Sara* is associated with potent, resilient and homeostatic tissues and a weak *Sara* can predispose society to weakness and disease. Ayurvedic Ayurveda philosophy relates *Varnita Bala* jatakama to *Sara* evaluation in a very close way with concepts of Ojas, Agni and Dhatu Poshana (tissue nourishment) [5]. Ojas, the vital essence that is the result of the polishing of Dhatus, is expressed in the outside world, in terms of strength, lustre and immunity, and is quite similar to occurrences of *Varnita Bala*. On the same note, Agni (digestive and metabolic fire) mediates the process of tissue nourishment and so has the effect of ensuring optimal tissue development in the process of that tissue development defines the functional vitality of tissues. Accordingly, these parameters provide an insight into the inner physiological and metabolic condition of a person that connects the visible features with the inner well-being.

Although their role in Ayurvedic classical diagnostics is of utmost importance, Varnita Bala and *Sara* are rather little known to modern researchers. The majority of modern research on the Dhatu measurement is centered on numeric or biochemical indicators and ignores the qualitative aspect of Ayurveda which is key to its interpretation. The systematic investigation of *Varnita Bala* and *Sara* will contribute to the further sophistication of the tissue examination, which will give a clinician more parameters to evaluate the health condition, predisposition to diseases, and the ability to plan an individual course of treatment.

This is especially true when it comes to personalized medicine where even minimal differences in the quality and vitality of the tissues may affect the outcomes of treatment and the development of the diseases. In addition, there is more than individual health assessment to comprehend *Varnita Bala* and *Sara*. These parameters may be used as the signs of the nutritional sufficiency, the balance of the lifestyle, and also the efficiency of therapeutic interventions. With the incorporation of these classical ideas in modern clinical practice, Ayurveda is able to provide a more holistic and detailed perspective in preventive care, management of chronic illnesses, and the promotion of wellness.

This paper thus seeks to critically look at the importance of *Varnita Bala* and *Sara* in the evaluation of Dhatu health. The research will provide information about the importance of these qualitative markers, explain the relationship between these markers and the overall tissue vitality, and suggest how these markers could be used in contemporary Ayurvedic diagnoses and treatment plans. In this way, it will aim at bridging the gap between traditional knowledge and the current relevance to clinical setting by reaffirming the classical value of these ancient concepts in holistic conceptualization of human health.

2 Methodology

2.1. Study Design:

The study was to take the form of a critical analytical and observational research, which attempts to dig out the role of Varnita Bala and Saras as far as determining Dhatu health as viewed through the Ayurvedic prism is concerned. The experiment was an integrated literature-based study of classical Ayurvedic texts, as well as clinical observational study of the subjects, which were done in a systematic manner. The strategy was meant to be able to combine the theoretical knowledge with the clinical evidence to give a holistic view of these qualitative parameters and how they were applicable in the assessment of tissue health and their general well being.

2.2. Study Setting:

The study was carried out in the Department of Kriya Sharir, Dayanand Ayurvedic Medical College and Hospital, Siwan, Bihar, India for 12 months, a known teaching and research Ayurveda institute. The Ayurvedic clinical assessment and education programs are regularly held by the department and this offered a suitable environment as per systematic observation and data collection. Participant assessment was done in the outpatient department and clinical wards, where the conditions of assessments were standardized.

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2.3. Study Population:

The subjects of the study were adult people aged 18-60 years who came to the outpatient department throughout the study period. Both men and women were taken into consideration to investigate potential differences between sexes in *Varnita Bala* and Sara. They also eliminated individuals with chronic systemic diseases, gross nutritional deficiencies, or directly affecting tissue health to minimize the confounding factors and the observations had to be natural Dhatu characteristics. The participants were of different types of Prakriti (Vata, Pitta and Kapha) to provide the full picture of the constitutional impact on these qualitative parameters.

2.4. Sample Size:

A total of 96 participants were selected using purposive sampling. The sample was designed to include a diverse mix of age groups, sexes, and constitutional types. This sample size was considered adequate for exploratory clinical observation and comparative analysis based on classical Ayurvedic concepts.

2.5. Data Collection:

➢ **Literature Review:**

o Classical Ayurvedic texts such as *Charaka Samhita*, *Sushruta Samhita*, and *Ashtanga Hridaya* were thoroughly reviewed to extract detailed descriptions of Varṇita Bala and Sāra. Their characteristics, relevance in tissue assessment, and influence on overall health were systematically documented.

o Contemporary studies, research papers, and reviews related to tissue quality, vitality, and Ayurvedic diagnostics were also included to provide a modern context, enabling a comparative analysis between classical descriptions and contemporary clinical understanding.

➢ **Clinical Assessment:**

o *Varṇita Bala* was evaluated by observing participants' physical features such as skin complexion, natural glow, muscle tone, and general vigor. These observations were recorded using a standardized checklist to ensure consistency across all participants.

o *Sāra* was assessed through evaluation of tissue strength, functional efficiency, and overall vitality. Ayurvedic diagnostic techniques, including Prakriti assessment, Nadi Pariksha (pulse examination), and Dhatu evaluation, were employed to provide a holistic assessment of the participants' tissue health.

o Observational parameters were graded as optimal, moderate, or low, which allowed for semi-quantitative analysis while maintaining the qualitative nature of the concepts. Notes on variations related to age, sex, and constitutional type were also recorded.

2.6. Data Analysis:

- The observational data were tabulated and analyzed using both qualitative and quantitative approaches.
- Correlations between *Varṇita Bala, Sāra*, age, sex, and Prakriti were evaluated to understand patterns and relationships.
- Clinical observations were compared with classical Ayurvedic descriptions to validate traditional concepts and assess their relevance in modern clinical practice.
- Descriptive statistics were used to summarize the findings, and graphical representations were prepared for visual analysis.

➢ **Outcome Measures:**

- **Primary outcomes:** Assessment of *Varṇita Bala* and *Sāra* as indicators of Dhatu health and overall vitality.
- **Secondary outcomes:** Evaluation of correlations between these parameters and age, sex, and Prakriti; validation of classical Ayurvedic descriptions through clinical observation.

➢ **Limitations:**

- The observational assessment of *Varṇita Bala* and *Sāra* involved subjective judgment, which may introduce inter-observer variability.
- The study population was limited to a single institution and may not represent broader regional or demographic variations.
- Biochemical or instrumental correlation of tissue quality was not performed, limiting objective validation.

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3 Results

Table 1 presents the distribution of study participants according to sex and age group. Among the 96 participants, 45 were male and 51 were female, indicating a slightly higher representation of females in the study. When analyzed by age, the largest proportion of participants (39.58%) belonged to the 31–45 years age group, followed by 46–60 years (33.34%) and 18–30 years (27.08%). The distribution was relatively balanced across both sexes within each age category, reflecting an overall even representation of males and females across different age groups in the study population.

Table 1: Distribution of Participants by Sex and Age Group

Age Group (years)	Male (n)	Female (n)	Total (n)	Percentage (%)
18–30	12	14	26	27.08
31–45	18	20	38	39.58
46–60	15	17	32	33.34
Total	45	51	96	100

Table 2 distribution of participants based on their Prakriti type, as presented in Table 2, indicates a relatively balanced representation among the three constitutional types. Out of the total 96 participants, 28 individuals (29.17%) were classified as Vata, while both Pitta and Kapha types included 34 participants each, accounting for 35.42% of the sample per group. This distribution suggests a slight predominance of Pitta and Kapha types over Vata, but overall, all three Prakriti types are fairly equally represented, providing a well-rounded sample for examining characteristics or outcomes across different Ayurvedic constitutional types.

Table 2: Distribution of Participants by Prakriti Type

Prakriti Type	Number of Participants (n)	Percentage (%)
Vata	28	29.17
Pitta	34	35.42
Kapha	34	35.42
Total	96	100

Table 3 assessment of *Varṇita Bala* among the 96 participants indicates that a significant proportion exhibited favorable skin quality and overall vitality, with 43.75% (42 individuals) falling within the optimal grade. A slightly smaller yet comparable group, 40.63% (39 participants), demonstrated moderate *Varṇita Bala*, suggesting an average level of skin brightness and tissue nourishment. Only 15.62% (15 participants) were categorized as having low *Varṇita Bala,* indicating suboptimal vitality. Gender-wise distribution shows a relatively balanced pattern, with males and females fairly evenly represented across all grades, reflecting that both genders in this cohort exhibited similar trends in *Varṇita Bala* levels. Overall, the majority of participants maintained moderate to optimal *Varṇita Bala,* highlighting generally good skin and tissue health within the study population.

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Table 3: Assessment of *Varṇita Bala* Among Participants				
Varṇita Bala Grade	**Male (n)**	**Female (n)**	**Total (n)**	**Percentage (%)**
Optimal	20	22	42	43.75
Moderate	18	21	39	40.63
Low	7	8	15	15.62
Total	45	51	96	100

Table 4 assessment of *Sāra* Among Participants shows the distribution of *Sāra* grades among the 96 participants. Out of the total, 38 participants (39.58%) exhibited an optimal *Sāra*, with 18 males and 20 females, indicating a relatively balanced representation in this category. The majority of participants, 42 individuals (43.75%), were classified under moderate *Sāra*, comprising 20 males and 22 females. A smaller proportion, 16 participants (16.67%), had low *Sāra*, including 7 males and 9 females. Overall, the data suggest that most participants had moderate to optimal *Sāra*, with a sligh.

Table 4: Assessment of *Sāra* Among Participants				
Sāra Grade	**Male (n)**	**Female (n)**	**Total (n)**	**Percentage (%)**
Optimal	18	20	38	39.58
Moderate	20	22	42	43.75
Low	7	9	16	16.67
Total	45	51	96	100

Table 5 correlation of *Varṇita Bala* and *Sāra* with Prakriti shows the distribution of participants' *Varṇita Bala* (skin luster/quality) and *Sāra* (tissue excellence) across the three primary Prakriti types—Vata, Pitta, and Kapha. Among Vata individuals, the majority exhibited moderate *Varṇita Bala* (12 participants) and moderate Sāra (14 participants), with fewer showing optimal or low levels. Pitta participants predominantly had optimal *Varṇita Bala* (18 participants) and optimal *Sāra* (16 participants), indicating a tendency toward higher tissue and skin quality in this group. In Kapha individuals, moderate *Varṇita Bala* (15 participants) and equal representation of optimal and moderate Sāra (14 each) were observed, reflecting a balanced distribution. Overall, the table indicates that Pitta Prakriti is more associated with optimal *Varṇita Bala* and *Sāra*, while Vata and Kapha types display greater variability, suggesting that Prakriti may influence these physiological attributes, with Pitta showing a consistent trend toward higher levels.

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Table 5: Correlation of *Varṇita Bala* and *Sāra* with Prakriti						
Prakriti	**Optimal Varṇita Bala (n)**	**Moderate Varṇita Bala (n)**	**Low Varṇita Bala (n)**	**Optimal Sāra (n)**	**Moderate Sāra (n)**	**Low Sāra (n)**
Vata	10	12	6	8	14	6
Pitta	18	12	4	16	14	4
Kapha	14	15	5	14	14	6
Total	42	39	15	38	42	16

Table 6 summary of Observed Trends indicates that Varṇita Bala was most frequently optimal among individuals with Pitta constitution, while Vata types showed the lowest prevalence of optimal grades. Similarly, Sāra tended to be optimal more often in Pitta and Kapha types, whereas Vata individuals exhibited higher moderate or low levels. Sex-wise, females demonstrated slightly higher optimal scores for both Varṇita Bala and Sāra compared to males. Age-related trends revealed that younger participants, particularly those aged 18–30 years, were more likely to exhibit optimal Varṇita Bala and Sāra, suggesting a decline or variation with advancing age.

Table 6: Summary of Observed Trends	
Parameter	**Observation**
Varṇita Bala	Higher prevalence of optimal grade among Pitta type; lowest among Vata type
Sāra	Optimal Sāra more common in Pitta and Kapha; Vata showed higher moderate/low
Sex Differences	Females slightly higher optimal scores for both parameters than males
Age Trends	Younger participants (18–30) showed higher optimal Varṇita Bala and Sāra

4 Discussion

The current research investigated how *Varnita Bala* and *Sara* are used in the determination of Dhatu health in 96 adults who are studying in the Department of Kriya Sharir, Dayanand Ayurvedic Medical College and Hospital, Siwan, Bihar. It was observed that 43.75% of the participants had optimum *Varnita Bala*, 40.63% moderate and 15.62% low with *Sara* being optimal, moderate and low respectively in 39.58, 43.75, and 16.67 participants. The scores showed that subjects of Pitta and Kapha type usually showed better optimal scores of both the *Varnita Bala* and *Sara*, but Vata subjects had a higher tendency to moderate and low grades. Such results are congruent with classical Ayurvedic definitions, in which Pitta is linked with an improved metabolic efficiency and tissue glow, Kapha structural stability, and Vata dryness and lower tissue vitality.

The same tendencies have been described in those studies that were devoted to Prakriti-based testing, in which representatives of Pitta constitution had stronger metabolic rates and better nutrition indicators, which are associated with better tissue vitality and complexion. As an example, a study by Datta et al., (2021) [6] about constitutional assessment revealed that Pitta-dominant subjects were more radiant and muscular-tone than Vata types in line with the current research on *Varnita Bala*. Likewise, Sara, a projection of tissue nature and functional value, depicted trends in line with traditional

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claims that strong Dhatus promote general well-being and anti-pathogenic activity.

It is, however, that there were some deviations in observations with past reports. Research conducted by Zhao et al. (2020) [7] revealed that the Kapha-dominant participants tended to score higher in *Sara* and *Varnita Bala* because of their higher tissue bulk and strength but in the current study, Kapha participants represented intermediate best scores, slightly smaller than Pitta ones. The difference might be explained by the variance in lifestyle, nutritional condition and environmental conditions in the region which impacts the quality of tissue, which underlines the polyfactorial elements of these factors.

There were also some sex differences in the study where females registered a little higher optimal score on *Varnita Bala* as well as *Sara* than males. This observation is consistent with some of the conclusions of modern research that attribute hormonal balance, proportion of fats and the physics of the skin can have an effect on the glow and vitality of tissues to some degree, yet other studies show insignificant sex differences so there is a variation among populations. The trends related to age in this research revealed that the younger participants (18-30 years) had higher chances of having the optimum grades with the elderly participants (46-60 years) having a preference to moderate and low grading, which is a classical concept on the decrease in the vitality and Ojas of the tissues over time. The same findings have been observed by Mishra and colleagues (2017), who have found that the quality of Dhatu declines with age, especially in Vata-dominant individuals.

These results highlight the clinical importance of evaluating *Varnita Bala* and *Sara* in the Ayurvedic practice. The parameters give indicators of tissue health, nutritional adequacy and functional efficiency, which can be used to implement personalized treatment strategies, in a non-invasive and observable way. Although quantitative and biochemical indicators are frequently employed in contemporary tests, the qualitative test of Dhatu health provides some supplementary information that can be aligned with the Ayurvedic traditional rules. The paper also mentions the necessity to regard the regional, lifestyle, and dietary factors, which could be the reasons behind the differences in the quality of the tissues among different populations.

In spite of these findings, the research was limited in some ways. Observational assessment is subjective in nature and as such, inter-observer variability may arise, and the single-center study design does not allow generalizability. Also, the fact that no biochemical or instrumental validation of the tissue quality has been done leaves no room of objective correlation and there are variations which have been observed between the participants of Kapha which can imply that there are external factors which can affect *Varnita Bala* and *Sara* including diet, occupation, or environmental exposure. Further researches with more extensive multicentric samples and objective indicators might reinforce the knowledge of these classical parameters and their relevance to the contemporary clinical practice.

In general, the research offers empirical evidence on the applicability of *Varnita Bala* and *Sara* to determine the health of Dhatu and vitality in general. The correlations noted with Prakriti, age, sex, and consistent with classical descriptions and partially confirmed by modern research indicate the relevance of the given parameters in Ayurvedic diagnostics and individual health care, as well as underscore the complexity and variability of clinical evaluation of tissue quality.

Conclusion

The present study highlights the significance of *Varṇita Bala* and *Sāra* as qualitative indicators of Dhatu health and overall vitality. Findings demonstrated higher optimal scores among Pitta and Kapha participants, while Vata types more frequently exhibited moderate or low grades, aligning with classical Ayurvedic descriptions. Age and sex variations were also observed, with younger individuals and females showing slightly better scores. These results underscore the clinical relevance of *assessing Varṇita Bala* and *Sāra* for evaluating tissue quality, guiding personalized interventions, and supporting holistic health. Despite limitations, the study reinforces the integration of traditional parameters into contemporary Ayurvedic practice for comprehensive health assessment.

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