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Exploring the Relationship Between *Anguli Pramana* and *Sharirik Prakriti*: A Comprehensive Review

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Abstract

Introduction: In *Ayurveda*, one of the most important concepts for personalised health care is *Sharirik Prakriti*, which defines a person's distinct constitution according to the dominance of the three basic biological entities, namely *Vata*, *Pitta*, and *Kapha Doshas*.^{1,2,3} The science of *Pramana Sharira* provides a set of standardised anthropometric measures used to assess a person's body proportions and physical constitution.¹⁵ *Anguli Pramana* is one of the most useful anthropometric measures used in the science of *Pramana Sharira* and includes the measurement of body parts according to the width of a person's own finger (*Swa-Anguli*).² Even though the classical *Ayurvedic* literature discusses extensively such concepts as *Sharirik Prakriti* and *Anguli Pramana*,^{1,2} the interrelation of these two concepts has been studied quite insufficiently.

Objective: To study the classical literature of *Ayurveda* and scientific literature about the relationship between *Anguli Pramana* and *Sharirik Prakriti*, and its potential application in assessing personal constitution.

Methodology: The narrative literature review was performed using the following classical works of *Ayurveda*: *Charaka Samhita* (1), *Sushruta Samhita* (2), *Ashtanga Hridaya* (3) and *Kashyapa Samhita* (5). Along with classical literature, relevant articles were searched in PubMed, Google Scholar and other scientific databases.

Result: Proportional body measurements have been emphasised in classical *Ayurvedic* texts¹ as essential factors in assessing normal constitution and well-being of an individual.^{1,2,3} Modern research has shown that anthropometric factors like body measures, limb measurements, body mass index, and skeletal measurements show considerable relationships with various *Prakriti* types.¹¹⁻¹⁶ *Anguli Pramana*, being a personalised approach, has tremendous scope for studying the differences in constitutions. However, there is not much information available on the correlation between *Anguli Pramana* and *Sharirik Prakriti*.

Conclusion: *Anguli Pramana* is a valuable anthropometric factor of *Ayurveda* which can be used for the evaluation of *Prakriti*.^{15,16} The combination of classical concepts with modern anthropometric techniques may improve constitutional assessment and practice of evidence-based *Ayurveda*. Further multicentric research is needed to correlate *Anguli Pramana* and various *Sharirik Prakriti* types.

Keywords: *Ayurveda*, *Anguli Pramana*, *Pramana Sharira*, *Sharirik Prakriti*, Anthropometry, Constitution, Personalised Medicine

Introduction

Ayurveda represents an elaborate system of medicine which focuses on personalised medicine, taking into account the distinctive physiological characteristics of every individual.^{8,10} While conventional medicine applies the "one size fits all" principle in practice, *Ayurveda* takes into consideration the fact that every person is characterised by a particular biological constitution known as *Sharirik Prakriti*, which determines predisposition to diseases, physiological functioning, metabolism, psychology, therapy, etc.^{1,2,3} The individuality of one's constitution represents the basis of diagnosis, preventive measures, diet and therapy in *Ayurveda*.

The notion of *Prakriti* is based on balance and dominance of three basic biological *doshas* – *Vata*, *Pitta*, and *Kapha* at the moment of fertilisation.⁸ The *doshas* determine the structural, functional, physiological and psychological peculiarities of the body throughout life.^{1,2,3} According to classical *Ayurveda*, there are seven principal types of constitution, including *Vataja*, *Pittaja*, *Kaphaja*, *Vata-Pittaja*, *Pitta-Kaphaja*, *Vata-Kaphaja* and *Sama Prakriti*.^{1,2} Different *Prakriti* have specific body structure, skin condition, digestive ability, temper, predisposition to diseases, physical endurance and longevity.^{1,2} Therefore, the correct diagnosis of *Sharirik Prakriti* is one of the most important parts of *Ayurvedic* clinical examination.^{2,3}

Alongside the idea of constitution analysis, *Ayurveda* offers extensive knowledge of *Pramana Sharira*, which is associated with the measurement of the human body in a systematic way.^{2,15} The term *Pramana* means measurement, proportion, or dimensional assessment, and the term *Sharira* means the body.¹⁵ Ancient *Ayurvedic* experts believed that proportional body dimensions were important signs of the normal development of a person, his/her good health, strength, and longevity.^{1,2} Proportional body dimensions show the proper tissue development (*Dhatus*), balance of *Doshas*, and perfect physiological functions.^{2,3}

Among other anthropometric ideas offered by *Ayurveda*, *Anguli Pramana* stands out.² *Anguli* is the breadth of an individual finger, and *Anguli Pramana* applies *Swa-Anguli*, which is the breadth of an individual finger, as the measurement unit.^{2,15} In contrast to fixed measurement units, *Anguli Pramana* takes into account the differences in the size of a person's body.^{2,15} Numerous measurements of various body parts (the height, limbs, trunk, face, inner organs) using *Anguli Pramana* were described in classical *Ayurvedic* texts. The individualised measurement technique shows striking similarity to the modern idea of proportional anthropometry, according to which body dimensions are assessed relatively to the size of the individual body.¹⁵

Anthropometry is becoming an increasingly vital field in modern biomedical science.¹⁷ Anthropometric indices are extensively employed for measuring nutritional status, growth patterns, ergonomics, sport performance, forensics, and prediction of risks of various diseases. Modern anthropometry includes measurement of parameters like height, limb length, body mass index, waist-to-hip ratio, skin fold thickness, skeleton proportions, and body composition.¹⁷ This information gives objective data about human variability and constitution.

Importantly, some recent studies have found significant correlations between various anthropometric indices and *Sharirik Prakriti*. People with *Vata Prakriti* typically have a thin physique, less body weight, narrower skeletal structure, and low muscle mass. People with *Pitta Prakriti* usually have average body build, well-developed muscles, balanced proportions, and good metabolic function^{1,2,8}. On the other hand, people with *Kapha Prakriti* tend to have a broad body, more muscle mass, high body weight, and relatively larger skeleton proportions.^{1,2,8} These facts indicate that constitutional types described in *Ayurveda* could be objectively represented by measurable anthropometric indices.^{15,16}

Despite increasing attention to the role of *Ayurvedic* assessment of constitutions by science, the particular relationship between *Anguli Pramana* and *Sharirik Prakriti* remains underexplored.¹⁶ The majority of research is devoted to body mass index, waist circumference, body composition, or generally speaking to anthropometric measurements, whereas a small number of papers consider the classical *Ayurvedic* measurements according to *Swa-Anguli Pramana*.^{15,16}

It should be mentioned that *Sama Pramana* is another notion which can be considered.¹ It is characterised as harmonious body proportions, which were thought by classical *Ayurvedic* researchers to be the indicators of a healthy, strong, and disease-resistant body.^{1,2,3} Thus, such body proportions may indicate equilibrium of the three *Doshas*. On the contrary, disproportional body measurements can be an indicator of a different constitution or susceptibility to certain diseases.⁸ Thus, investigating the relationship between *Anguli Pramana* and *Sharirik Prakriti* can increase the objectivity of the assessment of the constitution.

Personalised medicine has become an area of major importance in modern medical care in recent years.¹² Precision medicine is an attempt to personalise preventive measures and therapy according to genetic, phenotypic and environmental peculiarities of an individual.^{12,13} An individualised approach has been applied in the area of *Ayurveda* for many years due to the principle of *Prakriti*.^{8,10} Therefore, the scientific validation of ancient anthropometrical measures like *Anguli Pramana* can be seen as a connecting point between the classical *Ayurvedic* science and contemporary biomedicine.¹⁶

The combination of *Pramana Sharira* with modern anthropometrical measurements will allow developing standardised methods for assessment of constitution.^{15,16} Digital anthropometry, three-dimensional body scanning, morphometry using images and modelling may assist in the quantification of classical *Ayurvedic* measurements and make them more reliable.¹⁷ Such interdisciplinary research will add a scientific background to the *Ayurvedic* approach to constitutional diagnostics without violating its principles stated in the classical sources.

Thus, the current review tries to critically analyse the classical concepts of *Anguli Pramana* and *Sharirik Prakriti*, assess the scientific literature regarding the correlation between them, recognise the gaps in knowledge, and explore future avenues of research.¹ The review attempts to combine the classical concepts of *Ayurveda* with the modern anthropometric studies and thereby elucidate the possible significance of *Anguli Pramana* as a scientific parameter of constitution in *Ayurveda*.^{15,16}

Materials and Methods

Study Design

This review aims to analyse the current evidence base on the association between *Anguli Pramana* and *Sharirik Prakriti* in *Ayurvedic* science through a narrative review. It involves the analysis of data derived from classical sources of *Ayurveda*¹⁻⁵ and recent scientific studies¹¹⁻¹⁷ to examine the theoretical basis, anthropometric importance, variances in constitution, and clinical implications of *Anguli Pramana* in assessing *Sharirik Prakriti*.

Literature Sources

An extensive literature search was carried out using both classical *Ayurvedic* texts¹⁻¹⁰ and modern scientific databases.¹¹⁻¹⁷

RESULTS

A thorough literature search uncovered several articles relating to *Ayurvedic* body constitution, *Pramana Sharira*, anthropometric measurements, and body proportionality.¹ Following thorough screening and critical analysis of these classical references and scientific articles, the results are presented below.

Classical Understanding of *Anguli Pramana*

There is a consensus among classical *Ayurvedic* literature about the significance of the concept of *Pramana Sharira* in measuring physical constitution. Classical sages believed that proportional body measurements signify proper growth and development of tissues (*Dhatu Sara*).^{2,7} Among the different principles of anthropometry, the principle of *Anguli Pramana* holds special significance in relation to the fact that it makes use of *Swa-Anguli* (individual finger breadth) as the unit of measurement.^{2,15}

This method of measurement is unique in comparison with other methods due to its personalised nature, which takes into account the natural variability of body size, thus providing proportional measurements.^{2,15} *Sushruta* described several body measurements in terms of *Anguli Pramana* and stressed that people having proportional body measurements are generally strong and healthy and possess longevity.^{2,7}

Anthropometric Traits of *Sharirik Prakriti*

From the literature reviewed, it is evident that every individual from each of the *Sharirik Prakriti* has distinctive anthropometric features.

Those people having *Vata Prakriti* are normally found to have a slim body structure, long limbs, small joints, low body weight, less muscle mass, and smaller body circumference.^{1,2,8} These people have a body structure which is characterised by lightness and reduced tissue mass.⁸

On the other hand, people who belong to the *Pitta Prakriti* normally have a medium body structure with well-proportioned muscles, average body weight, well-balanced skeleton, and efficient metabolism process.^{1,2,8} The body structure of such people can be termed as an average body structure.

People who are under the *Kapha Prakriti* have a broad skeletal structure with well-developed muscles, high body mass, thick skin, large joints, and high body circumference.^{1,2,8}

Anguli Pramana and Individualised Anthropometry

Perhaps one of the most significant findings made on the basis of the reviewed literature is that *Anguli Pramana* is an example of an individualised anthropometric technique.^{2,15} This is because since the unit of measurement is based on the width of one's own fingers, the body measures are compared to one's own body ratios.²

This concept is very similar to the ideas of proportional anthropometry, segment ratio analysis, and constitutional morphometry, wherein body measures are analysed with regard to the body size of the person being measured.^{15,17}

This individualised method of anthropometry helps avoid the differences caused by race, sex, and height.¹⁵

Scientific Evidence to Correlate Anthropometry with *Prakriti*

The majority of the modern studies discussed in the literature clearly show that there is a correlation between anthropometric measurements and various kinds of *Prakritis*.¹¹⁻¹⁶ Commonly studied variables are height, body weight, body mass index, waist size, hip size, body fat content, limb lengths, and skeleton size.^{15,16,17}

Even though not many scientific works discuss *Anguli Pramana* in particular,¹⁶ it can be concluded that the difference between constitutions in terms of body dimensions that is mentioned in *Ayurvedic*

literature^{1,2,3} can be measured through such indicators.¹⁵ Thus, the use of *Anguli Pramana* as an indicator of constitution variability remains possible.^{15,16}

Clinical Application of *Anguli Pramana*

From the literature analysed, it can be observed that *Anguli Pramana* is useful for certain clinical applications.^{1,2,3,15}

Firstly, it could act as an objective parameter in addition to traditional ways of measuring *Prakriti*.^{15,16}

Secondly, there are reports in classical literature which state that *Sama Pramana*, or normal body proportions, are linked with increased physical strength, balance in *Doshas*, good tissue nutrition, and disease resistance.

Thirdly, any abnormality in body proportions is indicative of constitutional disharmony and increased susceptibility to diseases of metabolism, the musculoskeletal system, and those related to lifestyle factors.⁸

Hence, *Anguli Pramana* is highly promising in the field of preventive medicine, constitutional evaluation, and *Ayurveda* in general.^{15,16}

Existing Research Gaps

Although there has been increased scientific interest in the field of *Ayurvedic Anthropometry*,¹¹⁻¹⁶ certain limitations were observed in the present review.

Firstly, most of the existing scientific work in the field deals with the measurement of anthropometric indicators like body mass index, waist-hip ratio, height, and body composition, but not many studies have looked at *Anguli Pramana*.^{15,16}

Secondly, there is a lack of standard methods for the measurement of *Anguli Pramana*,^{15,16} leading to inconsistency in the results of various studies.

Future Perspectives

It is quite evident from the literature reviewed that there is an immense need for properly designed studies that incorporate the classical concept of *Ayurveda* with the help of modern methods of anthropometry.¹⁷

Future studies involving the use of digital anthropometry, three-dimensional body scanning, artificial intelligence, and machine learning can help achieve objectivity in assessing the constitution through *Anguli Pramana*.^{15,17}

Discussion

This review highlighted classical aspects of *Anguli Pramana* and *Sharirik Prakriti* and evaluated the available scientific data related to their correlation.^{15,16} It can be concluded that both these factors are very much interrelated in the context of the *Ayurvedic* individualised health care system.^{1,2,3,8} Although there is a scarcity of scientific literature evaluating the link between *Anguli Pramana* and *Sharirik Prakriti*, it seems reasonable to conclude that body proportions are likely to be objective parameters of constitutional differences.¹⁵

A basic tenet of *Ayurveda* is that everyone has their own unique *Prakriti* defined by predominance of *Vata*, *Pitta*, and *Kapha Doshas* at the time of conception. *Prakriti* remains stable over the entire lifetime and has an impact on body structure, physiological processes, metabolism, psychological characteristics, diseases, and drug reactions.^{8,11,12} Therefore, the assessment of *Prakriti* is essential for accurate individualised diagnostics and treatment.^{1,2,3} According to tradition, the determination of *Prakriti* is based

on physical, physiological and psychological features.^{1,2,3} However, many of them are rather subjective in nature. Thus, it would be beneficial to use more objective parameters for assessing the constitution.¹⁶

The scientific principles of *Pramana Sharira* are regarded as one of the first systems of anthropometry in the history of mankind.¹⁵ Many years before the invention of modern anthropometric methods, *Ayurveda* practitioners knew that proportionate body measurements are evidence of normal development, nutrition of body tissues, and health of the body as a whole. The application of the technique *Swa-Anguli Pramana*, where the unit of measurement is represented by the individual's own finger breadth, proves the high level of knowledge about proportional anatomy.^{2,15} In contrast to the static unit of measurement such as centimetres or inches, *Anguli Pramana* is dependent on the body size of the particular person, thus preventing mistakes due to the difference in height, ethnicity, age, and gender of the patient.¹⁵

The review equally emphasises the fascinating agreement that exists between the classical *Ayurvedic* classification of the *Prakriti*^{1,2,3,8} and the contemporary findings from anthropometric studies.^{15,16,17} Classical *Ayurveda* depicts people with *Vata Prakriti* as having a slender body frame, elongated limbs, slender joints, low muscularity and relatively lighter body weight.^{1,2,8} Contemporary anthropometric research equally finds low body mass index, low circumferences and small skeletal measurements in people with ectomorphic body characteristics that are similar to that of *Vata* dominance. Similarly, people with *Pitta Prakriti* have average body structure, a well-balanced muscular system and proportionate body measurements, equivalent to the mesomorphic body structure recognised in contemporary human biology. Conversely, people with *Kapha Prakriti* have large skeletal measurements, high body mass, increased muscular and developed tissues that are similar to the endomorphic body type in contemporary anthropometry.^{15,16,17}

Despite having significant scientific literature that links anthropometric factors to the constitution of *Prakriti*,¹¹⁻¹⁶ there is little scientific literature on the subject of *Anguli Pramana*.¹⁶ The available literature has mostly been on body parameters like BMI, waist-to-hip ratio, skinfold thickness, body composition, or height.^{15,16,17} It cannot be denied that all these measurements are useful in determining one's body constitution, but these are not measurements based on proportional body measurements like those mentioned in classic *Ayurveda*. *Anguli Pramana* gives an advantage in this respect since it determines body proportions based on individualised measurement.^{2,15}

Yet another critical point which can be made based on the above analysis is the importance of *Sama Pramana*, which, according to the *Ayurveda* texts, means harmonious body proportion.^{1,2,3} According to ancient medical practitioners, people having perfect body proportions were considered healthy and robust with an extended lifespan due to their proper tissue formation (*Dhatu Sara*), balance of *doshas*, and increased ability to resist diseases.^{12,3} Contemporary medical literature also confirms that people who have proper body proportion and body composition have efficient musculoskeletal functions and high physical performance.¹⁷ Therefore, it can be said that the *Ayurvedic* term of *Sama Pramana* is quite consistent with the modern definition of anthropometry and body composition.

Implications of the use of *Anguli Pramana* in conjunction with the *Prakriti* classification process are many.^{15,16} An anthropometric evaluation procedure could augment the use of the existing *Prakriti* assessment method to minimise subjectivity in diagnosis.¹⁶ The combination could be especially beneficial for preventive medicine, where the detection of predispositions of an individual's constitution will allow tailored diet and lifestyle recommendations and even disease prevention.^{8,10} In addition, *Anguli Pramana* could be used to evaluate the developmental state, nutrition, physical development, and rehabilitative effects in various groups of the population.¹⁵ Given that *Ayurveda* prescribes individualised treatment options, anthropometric measurements could improve the scientific basis of clinical practice.¹⁶

In summary, it can be seen from the current review that *Anguli Pramana* is not only an old unit of measurement but a complex anthropometric concept based on the principles of *Ayurvedic* individualised medicine.^{2,15} The existing classical evidence, along with the emerging anthropometric literature, indicates

a close association between body proportions and constitutional features. Though there are no direct correlations between *Anguli Pramana* and *Sharirik Prakriti* available at the moment,¹⁶ the reasoning behind such associations is reasonable and backed up by classical information^{1,2,3} and modern biological knowledge.¹⁷ The objective connections between these two concepts will increase the accuracy of the *Prakriti* diagnosis and help unite the science of Ayurveda with modern biomedicine.¹⁶

Conclusion

This paper shows that *Anguli Pramana* and *Sharirik Prakriti* are closely interrelated concepts and constitute two primary principles of *Ayurvedic* anatomy and constitutional assessment.^{1,2,3,15} The traditional Ayurvedic literature repeatedly emphasises the significance of *Pramana Sharira* as the essential factor of normal development, good health, and longevity of a person,^{1,2,3} while *Sharirik Prakriti* is the individual constitution of a human being.^{1,2,3,8} These concepts are in line with the idea of personalised medicine of *Ayurveda*, when body structure and functions are assessed regarding the individual constitution.^{8,10}

It can be seen from the review that *Anguli Pramana* is more than just a simple measurement unit but rather an advanced anthropometric system based on individual body proportions.^{2,15} Through using an individual's own finger breadth (*Swa-Anguli*) as the base for the measurement, *Anguli Pramana* allows for variations in body dimensions and helps to calculate personal proportions.^{2,15} This principle is very similar to the one used in modern proportional anthropometry, which emphasises measuring body proportions relative to the whole body size and not just the absolute ones.^{15,17}

An analysis of ancient literature shows that proper body proportions (*Sama Pramana*) correlate with tissue health (*Dhatu Sara*), *Doshas* balance, physical strength, resistance to diseases and longevity.^{1,2,3} This is confirmed by the findings of modern anthropometry, where proportional body dimensions are considered markers of normal development, proper musculoskeletal structure and low risk of some diseases.¹⁷

It has been discovered from the review that people who are of varying *Sharirik Prakriti* show specific anthropometric characteristics. *Vata Prakriti* is often characterised by a slim body structure and low tissue weight,^{1,2,8} *Pitta Prakriti* by well-proportioned body measures,^{1,2,8} and *Kapha Prakriti* by large bone structure and heavy body.^{1,2,8} While many recent studies focus on body mass index, waist-to-hip ratio, body composition, and body skeleton measurements,^{15,16,17} relatively few studies specifically focus on classical *Anguli Pramana* measurements.¹⁶ Therefore, there is insufficient scientific proof of the association between *Anguli Pramana* and *Sharirik Prakriti*.¹⁶

However, based on existing scientific literature, one can see that *Anguli Pramana* has good chances of becoming an objective anthropometric method of constitution determination.¹⁶ The use of body measurement data for assessing the *Prakriti* will increase the objectiveness of the process, reduce observer bias, and make the classification more accurate.^{15,16} Such an approach can help combine the field of Ayurveda with current biomedicine and personalise the practice of medicine.^{12,16}

To conclude, *Anguli Pramana* stands to be one of the significant principles of anthropometry that supports the evaluation of *Sharirik Prakriti* and reflects the idea of individualised treatment in *Ayurveda*.^{2,15,16} While there is a lack of scientific evidence available in regard to this principle, it is the classical knowledge and anthropometric information available today¹⁷ that provides a firm platform for further research in this field.

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