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A Comprehensive Study of Pramana Shareera W.S.R. to Lalaata Pramana and its Relation with IQ

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Abstract

Background: Ayurvedic literatures pertaining to *Shareera Rachana* furnish detailed description onmeasurements of body and its elements. *Pramana* defines the concept of measurement ofvarious biological entities. It bears an ample importance in medical applied science. Work on *Pramana Shareera* has been already taken in recent years. But still the fixation of exact anatomical location has to be clarified and demarcated. Intelligence is a property of mind that encompasses many related abilities, such as the capacity to reason, to plan, to solve problems, to think abstractly, to comprehend ideas, to use language, and to learn. Intelligence quotient or IQ was a score derived from one of the several different standardized tests to assess intelligence. *Acharya Vagbhata* mentioned that *Kapha Prakruthi* person having *Mahalalaata* (broad forehead) and also they will have more intelligence, truthfullness, etc and same explanation will get in *Jyotishastra*. *Objective:* The main aim is to study about *LalaataPramana* mentioned in Ayurvedic classics and modern literature, its relation with IQ and fixation of exact anatomical location to measure *Lalaata Pramana*. *Methodology:* The total of 100 volunteers was selected for the study. Vital data like Age, Sex, etc were documented. The length of middle phalanx of right and left middle fingers and forehead length were measured. IQ of individuals assessed with WAIS method. *Result:* The Pearson's correlation coefficient equation and Instat Graphpad computer software was used for finding relation of forehead length and IQ of subjects. Statistically insignificant (P>0.05) Moderate Positive Correlation (R=0.23) was found among forehead length and IQ of individuals as per the study. *Conclusion:* Within limits of the present study, moderate relation was found in *LalaataPramana* and IQ.

Keywords: *Pramana; Lalaata*; Forehead; IQ.

Introduction

Pramana Shareera has been explained to play a major role in determination of life span of a person. It is told that the person having appropriate measurements will attain long and a healthy life [1,2].

The concept of *Pramana Shareera* has been meticulously explained in Ayurvedic classics. As early as 1000 B.C. *Pramana Shareera* was described by *Acharya Charaka* and *Sushruta* and later by *Acharya Vagbhata*. *Acharyas* have explained the *Pramana* of different *Anga- Pratyangas* of the body [3,4,5].

PramanaShareera has been explained to be utilized in the examinations of the patient [6]. The vaidya has to and must examine the patient's *AngaPratyanga Pramana* to assess the life span to decide whether the treatment that is to be given by him would be fruitful or not [7].

Anguli is the unit measurement of the different *Anga-Pratyangas* of the body [8,9,10].

In modern science *Pramana Shareera* is correlated with anthropometry which is useful only for physical measurement in order to assess height, age, sex etc [11,12]. It is an integral part of Forensic science as it helps identifying the individual [13]. Whereas the ayurvedic concept of *Pramana Shareera* not only gives measurements of different body parts but also gives valuable information regarding life span of the person, strength etc [14,15].

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In the classics *AngulaPramana* of different parts of the body is categorically mentioned but their relation amongst each other has not been widely dealt with, other though we get a reference in *Ashtanga Hrudaya* where *Achary*a has quoted the relation of the hasta and *Ayama*of the *Shareera [16]*. A few works have already been carried out in this regard but relation of the forehead measurements mentioned in our classics with the intelligence of a person has still not been carried out. Hence this topic has been selected.

Materials and Methods

The evaluation of *LalaataPramana* and its relation with IQ in healthy individual was carried out in 100 volunteers.

Inclusion Criteria

- Healthy individuals ranging from 25-45 years will be taken for the study.

Exclusion Criteria

- Congenital deformities, history of fractures in skull, pathologies pertaining to bones of the skull and metabolic disorders

Assessment Criteria

- Individuals were selected as per inclusion and exclusion criteria.
- Length of the forehead was measured.
- IQ was assessed with the help of questionnaire method.
- Data collected was analyzed for the estimation of *pramana of lalaata* and its relation with IQ.

Methodology

All subjects satisfying the inclusion and exclusion criteria were selected for the study. A consent form was prepared and obtained after explaining purpose and scheduled procedures of the study.A case proforma was prepared to record the details of the volunteers.

Prior to the study, examination of volunteers was carried out to ensure the normal stature and morphology of head especially of forehead. Length of forehead was measured and IQ was assessed by WAIS method.

Measurement of Forehead

Subjects were asked to relax the facial muscles.

Fontal Eminences were marked and both were joined by a transverse line. Nasal depression identified and marked at the root of spine.

Perpendicular line from the point of nasal depression to the transverse line. Thus the forehead length was measured

Measurement of Swaanguli

Subject's length of the middle phalanx middle finger was measured in centimeter.

IQ Measurment: (WAIS METHOD)

IQ questions would be found on IQ tests. These questions are intended to assess a variety of mental abilities and skills, and therefore cover a wide range of different types of intelligence. Below are some general examples of the types of questions that might be found on an IQ test:

- Analogies (mathematical and verbal)

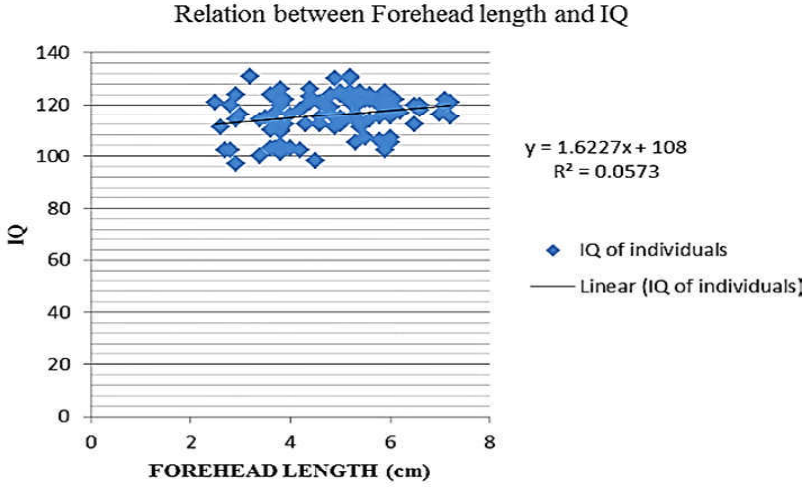

Fig. 1:

- Pattern driven (spatial and mathematical)
- Classification
- Visual
- Spatial
- Logical

While those are the general areas that an IQ test might examine, it is useful to see more specific questions. Here are a few test questions that could be encountered on an IQ test:

Relation between Right Forehead Length and IQ

In the present study, Pearson's correlation co-efficient (r) for the two variables i.e. forehead length and IQ of the volunteers, is found to be (+) 0.23, and two tailed P value is < 0.05. There is Moderate Positive Correlation between the Forehead lengthand IQ of the individuals and the Pearson's correlation co-efficient(r) is significant statistically as per the study. Slope or Regression co-efficient (B) of the line in the Scatter diagram is obtained as B =0.1524.Y intercept (A) is calculated as A = 13.284. Regression equation (Y = A + BX) is found to be Y (IQ of individual)= 13.284 + 0.1524* X (Forehead length).

Discussion

Age

In the present study of 100 volunteers, 74% belong to 25 – 30 years of age group; this may be due to the study conducted in colleges at Moodbidri and Trivandrum.

Gender

70% were males and 30% were females.

Religion

83% belong to Hindu religion, 8% belong to Muslim, 9% belong to Christian and 0% were from other religion, this may be due to the study conducted area was Hindu community dominant.

Habitat

The study conducted both in rural and urban areas, but majority (73%) was belonging to rural domicile.

Angula

The average *Angula* obtained from the study was 1.2cm.

Discussion on *Lalaata Pramana* and IQ

In the present study, Pearson's correlation co-efficient (r) for forehead length and IQ of the volunteers, is found to be (+) 0.23. The P value obtained was >0.05. Thus there is Moderate Positive Correlation between the Forehead length and IQ of the individuals and the Pearson's correlation co-efficient (r) is not significant statistically as per the study.

Acharya Sushrutha while explaining *Pramana Shaareera* it is mentioned that, the *Lalaata Pramana* is 4 *Angula*. In the present study it's almost same as explained.

In the current study it is found that there is a significant relation between *Lalaata Pramana* and IQ of an individual. While explaing about *Kapha Prakruthi Lakshanas*, it is told that they have more *Lalaata Pramana* as compared to other *Prakruthis*, and they are also having more intelligence.

The intelligence is more contributed by frontal lobe, which is situated in the anterior cranial fossa. The anterolateral boundary is by frontal bone. There may be a chance of increase in size of skull bones according to the brain volume.

Conclusion

Pramana was the criterion to measure the stature and dimensions of the body parts as they are the tools to assess the patient before and after treatment. Anthropometry of the contemporary system is defined as the study of the human body in terms of bone, muscle, adipose tissue and correlated with risks of systemic as well as life style disorders.

Individualistic approach of *Pramana Shareera* helps to plan the treatment and decide the prognosis depending on the results of *Dashavidha Pareeksha*. Applicability of *PramanaShareera* in the assessment of disease prognosis and mortality is true from centuries.

The descriptions of specific anatomical landmarks for *Lalaata* are not explained by *Ayurvedic* authors or commentators. With the available references in *Ayurvedic* and contemporary science from the frontal eminences to the dipression at the root of nose was considered as length of *Lataata* in the present study.

The study entitled "*A Comprehensive Study Of Pramana Shareera W.S.R. To Lalaata Pramana And Its Relation With IQ*" gave a positive result in proving the relation of *Pramana* of *Lalaata* & the height of the healthy being.

- By the study it's found that there is a significant relation between lalaatapramana and IQ of an individual.
- Alternate hypothesis H_1 accepted andnull hypothesis is rejected

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Conflict of Interest: None Declared

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