Affiliation among Infantile Age, Morbidity and Prakriti (Physical Constitution): A Longitudinal Preliminary Study

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Abstract

Background: Prakriti has important role in prevention, diagnosis, treatment of disease and forecast of future disorders. Infants are more prone to develop various health problems like infections, due to poor immune system. This study shows relation between infantile age morbidity and their Prakriti (physical constitution) in present scenario. Material and Methods: For this longitudinal study 100 infants were registered for Prakriti assessment and their relationship with incidence of diseases. Performa for Prakriti assessment in infants was developed by Department of Kaumarbhritiya/Balroga and Department of Kriya Sharira. This study was conducted in Kaumarbhritiya OPD, SS Hospital, Banaras Hindu University (BHU). Observation and Result: In the present study, rate of morbidity in infantile age was found maximum in Vata Prakriti (6.6 episodes/infant/year) and minimum in Kapha Prakriti (1.54 episodes/infant/year). Incidence of morbidity was 2.41 episodes/infant/year. The commonest morbidities were respiratory tract infections (40.66%) and diarrhea (30.29%). Respiratory tract infection is most common morbidity in Vata Prakriti (33.3%), Kapha Prakriti (73.5%), Vata-Pitta Prakriti (48.1%) and Vata Kapha Prakriti (53.3%) infants. Diarrhea was the most common morbidity in Pitta Prakriti (32.2%) and Pitta-Kapha Prakriti (50.0%) infants. Discussion and Conclusion: Rate of morbidity was found more in Vata Prakriti and less in Kapha Prakriti infants which justifies the concept of Ayurveda that feature of Vata Prakriti is Shighravikara and Kapha Prakriti have Ashighravikara. Vata and Kapha Prakriti infants mostly suffer from respiratory tract infection and Pitta Prakriti infants mostly suffer from diarrhea. In present study incidence of morbidity was 2.41 episodes/infant/year and most common morbidity was respiratory tract infection and diarrhea.

Keywords: Ayurveda, Diarrhea, Infants, Respiratory Tract Infection, Vata-Pitta-Kapha

1. Introduction

Prakriti is an important concept of Ayurveda that enlightens individuality and expresses unique trait of an individual that is defined by specific and permanent composition of Dosha at conception. These specific types of Doshika Prakriti can be identified in growing individuals1. The knowledge about the Prakriti helps in diagnosis of diseases2, management of disease3 and forecast of Dosha dependent disorders in future4.

Knowledge of Prakriti can guide the parents for prevention of expected disorders and deciding to choose carrier at a very early age5. Sama Prakriti has good resistance and not prone to develop diseases6 but existence of this Prakriti is very rare. Another category is single Dosha dominant and mixed of two Dosha in which one is less dominant. Amongst these Vata, Pitta and Kapha Prakriti individuals frequently fall sick i.e. most vulnerable to diseases and in decreasing order7. Those constitutions which formed by two Dosha together are

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also sick and they have to be treated with difficulty. When *Dosha* of body are not in equilibrium state, it can be termed as stage of *Vikriti* (disease state) or state of morbidity/pathological conditions. The morbidity rate is the frequency or proportion with which a disease appears in a population.

*Vata Prakriti* children are more prone to develop diseases of the neurological system especially related to motor functions. These diseases are more pronounced also in old age which is the period of *Vata*. *Pitta* is responsible for various metabolic activities taking place in the body. *Pitta Prakriti* children are more prone towards diseases of digestive and metabolic systems. *Pitta* disorders are pronounced in the middle age which is the period of *Pitta*. Children with *Kapha Prakriti* are prone to disorder of the respiratory system especially phlegmatic disorders and growth aspects. In *Kapha Prakriti* the disease affects mainly upper part of the body. These disorders are pronounced in early age which is period of *Kapha Kala*. The *Dwanda Prakriti* have combination of any two *Dosha* and susceptible to diseases of both types of the *Dosha*. It is mentioned in *Ayurveda* that these types are worst in terms of health due to combination of opposite qualities and thereby selection of drugs to combat the same is a difficult task especially for children of *Pitta-Kapha* predominance. Infants comprise 2.92% of the Indian population. Infants are more prone to develop various health problems like infections, due to poor immune system.

The present study was planned to find out the incidence of diseases and pattern of diseases in infants and relationship with their *Prakriti* (physical constitution). Outcome of this work regarding the trend of disease, impact on health for further planning and implementation is a need of the hour.

2. **Material and Methods**

2.1 Selection of Patients

This longitudinal study was carried out in Kaumambhriyta/ Balroga, O.P.D., Sir Sunderlal Hospital, Institute of medical sciences (I.M.S), Banaras Hindu University (B.H.U) after obtaining approval from the institutional ethics committee. The infants were selected after written informed consent and after offering sufficient explanation about the study and its aims. After proper screening *Prakriti* assessment was done on 10th day of life in healthy state as per predesigned performa of research work. Incidence of disease was followed up for one year. Follow up visits were done according to vaccination schedule and enquired about their morbidities, followed by a detailed clinical examination. Documents verification was also done in case the child had illness in between the follow ups.

2.2 Ethical Clearance

The ethical committee clearance number is dean/2011-12/392-A dated 12/12/2011. Cases were selected on the basis of following inclusion and exclusion criteria:

| Inclusion Criteria | Exclusion Criteria |
|-------------------|--------------------|
| 1. Parents have given written consent for participation in this research work. | 1. When parents have not given written consent. |
| 2. Full term and appropriate gestational age (FT (AGA)). | 2. Preterm and post term delivered baby. |
| 3. Who were delivered by uncomplicated SVD (Spontaneous vaginal delivery) | 3. Full term baby and Small Gestational Age (SGA) or Large Gestational Age (LGA). |
| 4. Elective LSCS (lower segment Cesarean section) without showing any sign of fetal distress. | 4. Any congenital anomalies. |
| 5. Birth asphyxia soon after delivery. | 5. Birth asphyxia soon after delivery. |
| 6. If infant was suffering with any life-threatening disorder on subsequent follow ups. | 6. If infant was suffering with any life-threatening disorder on subsequent follow ups. |

2.3 Assessment of *Prakriti*

For this study, a questionnaire was prepared on the basis of *Prakriti* characteristic mentioned in different textbooks of *Ayurveda*. In questionnaire, only those *Doshika* characteristics were taken, which were possible to assess in infantile age group; while the others characteristics related to the adults were excluded. Assessment was made by analyzing obtained data filled by questionnaire and physical examination of infants. All concerned characteristics were assessed by *Trividha pariksha* of *Ayurveda* as *Darshan* (inspection), *Sparshana* (palpation) and *Prashana* (questions). Scores of *Vata*, *Pitta* and *Kapha* (V/P/K) in an individual were scored by using a 0/1 against V/P/K for each of the questions depending on no or yes answer respectively and cumulative scores...
of V, P and K are calculated through the computer generated software\textsuperscript{24}. No infant, having Sama-prakriti or Tridosha Prakriti, was observed during this study.

2.4 Diagnosis of Diseases

In this study respiratory tract infection (RTI), diarrhoea, skin infection, abdominal colic and urinary tract infection (UTI) which are commonly seen during infantile age group were observed. Diagnosis of these diseases was done on the basis of clinical presentation in infants. Monthly follow up visits were done to enquire about their morbidities, followed by detail clinical examination. Infants who had illness in between the visits were also included in the study. Data analysis was done by using SPSS software version 22.0.

3. Observations and Results

Total 100 infants, irrespective to sex were registered on 10\textsuperscript{th} day of life and Prakriti of registered infants was assessed. In this study, rate of disease incidence, relation between Prakriti and disease incidence as well as relation between Prakriti and type of disease were observed.

Highest incidence density was seen in respiratory tract infection (RTI) at 0.98 per infant per year (Figure 1) (40.66 %), diarrhea at 0.73 (30.29%), skin infection at 0.34 (14.10%), abdominal colic at 0.18 (7.4%) and urinary tract infection at (UTI) 0.13 (5.39%) (Table 1).

Highest incidence of diseases was found in Vata Prakriti and Pitta Prakriti but lowest incidence of diseases was found in Kapha Prakriti and Pitta-Kapha Prakriti (Figure 2). Vata- Pitta Prakriti and Vata-Kapha Prakriti have near to equal frequency of diseases incidence (Table 2). Overall incidence rate of morbidity was 2.41 episodes per infant per year.

Highest morbidity in Vata Prakriti infants (33.3%) and Vata-Kapha Prakriti infants (53.3%) was respiratory tract infection and skin infection. Highest morbidity in Pitta Prakriti infants (32.2%) and Pitta-Kapha Prakriti infants (50.0%) was diarrhea and respiratory tract infection. Highest morbidity in Kapha Prakriti infants (73.5%) and Vata-Pitta Prakriti infants (48.1%) was respiratory tract infection and diarrhea. (Table 3).

### Table 1. Rate of disease incidence in a year among infants (n = 100)

| Type of morbidity               | Number of episodes | Number of episodes / Year |
|---------------------------------|--------------------|---------------------------|
| Respiratory tract infection     | 98                 | 0.98                      |
| Diarrhea                        | 73                 | 0.73                      |
| Skin infections                 | 34                 | 0.34                      |
| Abdominal Colic                 | 18                 | 0.18                      |
| Urinary tract infection         | 13                 | 0.13                      |
| Others                          | 05                 | 0.05                      |

![Figure 1](image1.png)

**Figure 1.** Showing the rate of episodes/year against different types of morbidity.

![Figure 2](image2.png)

**Figure 2.** Showing the rate of disease incidence in different Prakriti constitution.
Prakriti has decisive role in restoration of health, which is the prime objective of Ayurveda. Maximum morbidity was seen in Vata Prakriti infants (6.6 episodes/infants/year) and minimum in Kapha Prakriti (1.54 episodes/infants/year) which justifies the concept of Ayurveda that, feature of Vata Prakriti is Shighravikara and Kapha Prakriti have Ashighra vikara25.

All infants of Vata Prakriti were frequently suffering from respiratory tract infection and skin infection which justify the concept of Ayurveda that characteristic of Pratatsitataudvepak Stambha26 (Continuously infliction with cold, shivering and stiffness) and dry nature of skin in Vata Prakariti infants. Dryness of the skin is due to its increased pH value because raised pH value reflects cutaneous irritation and may provide media for growth of bacterial flora of the skin. So, Vata Prakriti individual’s skin are more prone for skin related diseases such as atopic dermatitis and candida infection because increased pH value reduces the antibacterial and antymycotic properties of the skin surface, which enables more frequent occurrence of skin infection27,28.

In present study incidence of morbidity was 2.41 episodes/infant/year and these data are similar with the study done in semi-urban area of Delhi, where incidence of morbidity was found 3.1 per infants per year29. Commonest morbidity in infancy was respiratory tract infection (40.66%) and after that diarrhea (30.29%). This data is very much similar to an earlier study30 where commonest morbidity in infantile age is RTI and diarrhea but conversely, other studies31,32 show that diarrhea is most common morbidity in infantile period than skin and eye infection, this variation may be due to local environmental factors.

5. Limitations
This study was done on limited number of infants due to time limitation for our research work. To make it more clear this study requires large number of infants.
to access the prakriti in relation to disease incidence and morbidity.

6. Acknowledgements
The authors wish to thanks all the parents of infants who give consent to participate in this study.

7. Source of Support: Nil

8. Conflict of Interest: None Declared

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