



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 Kaumarbhritya/Balroga and Department of Kriya Sharira. This study was conducted in Kaumarbhritya 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 difficulty⁸. When *Dosha* of body are not in equilibrium state, it can be termed as stage of *Vikriti*⁹ (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 aspects¹⁰. 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 *Dwandaja 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* predominance¹¹. Infants comprise 2.92% of the Indian population¹². Infants are more prone to develop various health problems like infections, due to poor immune system¹³.

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 Kaumarbharitya/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.
	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*¹⁴⁻²¹. 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)^{22,23}. 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 software²⁴. No infant, having *Sama-prakriti* or *Tridoshaja 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 10th 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

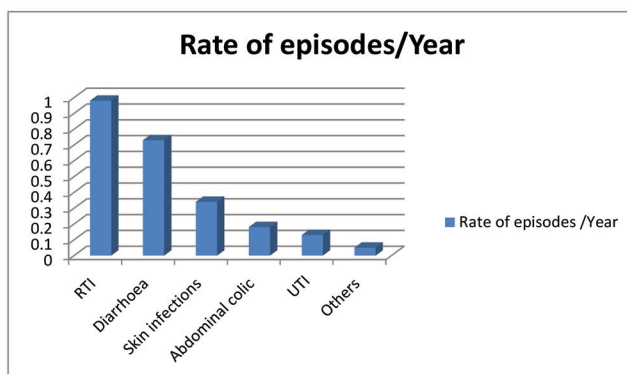


Figure 1. Showing the rate of episodes/year against different types of morbidity.

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

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 (RTI)	98	0.98
Diarrhea	73	0.73
Skin infections	34	0.34
Abdominal Colic	18	0.18
Urinary tract infection (UTI)	13	0.13
Others	05	0.05

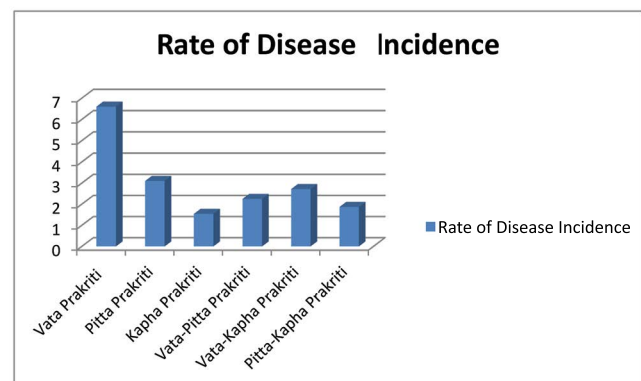


Figure 2. Showing the rate of disease incidence in different *Prakriti* constitution.

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 2. Relation between Prakriti and morbidity rate

Prakriti	No. of Infants	Frequency of diseases	Rate of morbidity (Diseases /year)
<i>Vata Prakriti</i>	05	33	6.6 times/year
<i>Pitta Prakriti</i>	19	59	3.10 times/year
<i>Kapha Prakriti</i>	22	34	1.54 times/year
<i>Vata-Pitta Prakriti</i>	12	27	2.25 times/year
<i>Vata-Kapha Prakriti</i>	11	30	2.72 times/year
<i>Pitta-Kapha Prakriti</i>	31	58	1.87 times/year

Table 3. Relation between Prakriti and type of morbidity

Prakriti of Infants	Incidence of disease type (times/year)						Total
	Respiratory tract infection (RTI) (Times/year)	Diarrhea	Skin infections	Abdominal Colic	Urinary tract infection (UTI)	Others	
<i>Vata</i> (n=5)	11 (33.3%)	7 (21.2%)	9(27.3%)	4(12.1%)	0(0%)	2(6.1%)	33
<i>Pitta</i> (n=19)	14 (23.7%)	19(32.2%)	7(11.8%)	9(15.2%)	7(11.8%)	3(5.1%)	59
<i>Kapha</i> (n=22)	25(73.5%)	4(11.7%)	0(0.0%)	2(5.8%)	3(8.8%)	0(0.0%)	34
<i>Vata-Pitta</i> (n=12)	13(48.1%)	9(33.3%)	3(11.1%)	1(3.7%)	1(3.7%)	0(0.0%)	27
<i>Vata-Kapha</i> (n=11)	16(53.3%)	5(16.6%)	7(23.3%)	2(6.6%)	0(0.0%)	0(0.0%)	30
<i>Pitta-Kapha</i> (n=31)	19(32.7%)	29(50.0%)	8(13.7%)	0(0.0%)	2(3.4%)	0(0.0%)	58

4. Discussion and Conclusion

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 vikara*²⁵.

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 Stambha*²⁶ (Continuously infliction with cold, shivering and stiffness) and dry nature of skin in *Vata Prakriti* 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

antimycotic properties of the skin surface, which enables more frequent occurrence of skin infection^{27,28}.

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 studies^{31,32} 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.

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8. Conflict of Interest: None Declared

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