

## TO EVALUATE THE ROLE OF CHARAKOKTA AHARAJA NIDANA OF PANDU (NUTRITIONAL ANAEMIA) IN ADOLESCENT FEMALES STAYING IN HOSTEL

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### ABSTRACT

Adolescence is a time of change and development. During this period with inadequate and improper dietary habits one is susceptible to all kinds of nutritional morbidities. In India 60-70% adolescent females are anemic, a condition that can result in adverse pregnancy outcomes or even maternal death, as well as reduced work productivity and impaired physical capabilities. *Nidana* has been given a lot of importance in *Ayurveda*. The general etiological factors of *Pandu* have been described by all the *Acharyas*. *Acharya Charaka* has been additionally described the *Aharaja Nidana* of *Pandu* in general. **Aim and Objective:** This study aimed to explore the prevalence of anemia and also to evaluate the significance of *Charakokta Aharaja Nidana* of *Pandu* in adolescent females residing in hostels. **Material and Methods:** A cross sectional observational study was conducted. A set of questionnaire related to food habits was administered to the patients of nutritional anemia. Their opinion was collected and assessed and compared with *Charakokta Nidana*. **Results:** This study showed that Iron Deficiency anemia and Vitamin- B12 deficiency anemia are common in adolescent females. **Conclusion:** The *Aharaja Nidana* of *Pandu* described in *Charaka Samhita* is found very significant in nutritional anemia of adolescent females residing in hostel.

**Keywords:** Adolescent females, *Pandu Roga*, *Aharaja Nidana*, Food Habits, hostel stay

### INTRODUCTION

In India, adolescent girls who constitute a sizable segment of its population form a vulnerable group and are at greater risk of morbidity and mortality. Adolescence is the formative period of life when maximum amount of physical, psychological and behavioral changes takes place. This is a vulnerable period in human life cycle for the development of nutritional anemia. Anemia is widely prevalent in India, a developing country and affects both the sex-

es and all age groups. Low dietary consumption and additional burden of menstrual blood loss (normal and abnormal) precipitate the crisis too often.<sup>[1]</sup> Nutritional or vitamin deficiency anemia denotes to a reduced red blood cell count due to a poor diet which is deficient in iron, folate and vitamin-B12. In India 60-70% adolescent females are anemic, a condition that can result in adverse pregnancy outcomes

or even maternal death, as well as reduced work productivity and impaired physical capabilities.<sup>[2]</sup>

*Nidana* (Causative factor) has given lots of importance in *Ayurveda*. It is one among the *Nidana Panchaka*. The word *Nidana* carries a broad sense and refers in the particular to the etiological factors of the diseases. Two kind of the etiological factors have been described for a disease in *Ayurveda* i.e. the *Samanya Nidana* or general etiological factor and the *Vishishta Nidana* or specific etiological factors. The general etiological factor if it is taken will lead to the development of the disease. The general etiological factors of *Pandu Roga* have been described by all the *Acharyas*.<sup>[3]</sup> They are *Ati Vyayama* (excessive physical activity), *Ati Vyavaya* (excessive indulgence in sexual activity), *Ati Amla* (excessive use of salt), *Ati Madya* (consumption of alcohol in large quantity daily), *Diva Swapna* (sleeping during day time), *Ati Teekshna* (consumption of very spicy items in large amounts).<sup>[4]</sup> *Acharya Charaka* has additionally described the following factors in the general etiological factors- *Kshara Ati Sevana* (excessive use of alkaline substances), *Ushna Ati Sevana* (excessive use of very hot substances or hot atmosphere), *Viruddha Bhojana* (use of mutually contradictory food), *Asatmya Bhojana* (use of food to which one is not used to), *Vidagdha Bhojana* (use of food which is excessively cooked).<sup>[5]</sup> This research work aimed to study for the presence of above mentioned *Aharaja Nidana* of *Pandu Roga* in adolescent females with Nutritional anemia and observe for their scientific basis.

#### **AIM AND OBJECTIVE:**

To evaluate the role of *Charakokta Aharaja Nidana* of *Pandu* (Nutritional Anemia) in adolescent females staying in hostel.

#### **HYPOTHESIS:**

H0- There is no significant role of *Aharaja Nidana* of *Pandu* (Nutritional Anemia) in adolescent female staying in hostel.

H1- There is significant role of *Aharaja Nidana* of *Pandu* (Nutritional Anemia) in adolescent females staying in hostel.

#### **MATERIAL AND METHODS:**

Source of data:

Sample source: 20 patients who fulfill inclusion criteria of *Pandu* (Nutritional Anemia) from OPD and IPD of Alva's Ayurveda Medical College Hospital, Moodbidre.

#### **METHOD OF COLLECTION OF DATA:**

Sample size: 20 patients of *Pandu* (Nutritional Anemia)

Study Design: A Cross sectional observational study.

Method of sampling: Purposive sampling.

#### **DIAGNOSTIC CRITERIA:**

Diagnosis is done on the basis of Hemoglobin and Peripheral smear

#### **INCLUSION CRITERIA:**

1. Research participants between the age group of 15 to 19years, female gender staying in hostel.
2. Hemoglobin less than 10gms- moderate to severe anemia.
3. Nutritional anemia – dimorphic anemia, microcytic hypochromic anemia, hypochromic anemia, macrocytic/megaloblastic anemia

#### **EXCLUSION CRITERIA:**

1. Any systemic illness- bleeding disorders, renal failure, hepatic failure, CCF
2. Male research participants
3. Adolescent females staying outside the hostel.
4. Other types of Anaemia- Aplastic, Hemolytic, Thalassemia, and Sickle cell anemia.

#### **PLAN OF THE STUDY:**

A cross sectional observational study was conducted in OPD and IPD of Alva's Ayurveda Medical College Hospital. Patients with moderate to severe ane-

mia and Nutritional anemia was selected for the study.

Their opinion was collected and assessed and compared with *Charakokta Aharaja Nidana*.

**ASSESSMENT CRITERIA:**

A set of questionnaire related to food habits was administered to the patient after taking the consent.

**INVESTIGATIONS:**

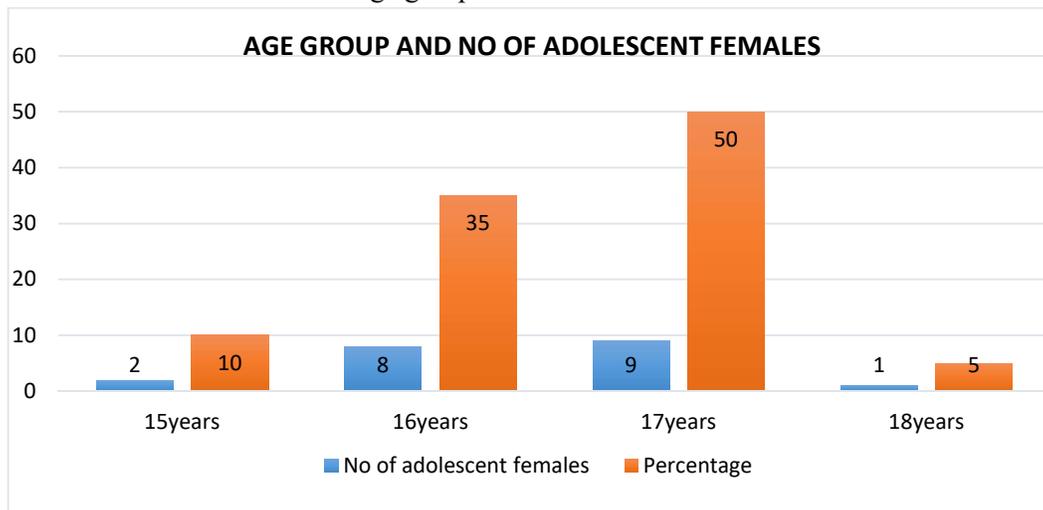
Hemoglobin  
Peripheral smear

**OBSERVATIONS:**

**Table 1:** Distribution of age group and percentage

Age	No of adolescent females	Percentage
15 years	2	10%
16 years	8	40%
17 years	9	45%
18 years	1	05%
Total	20	100%

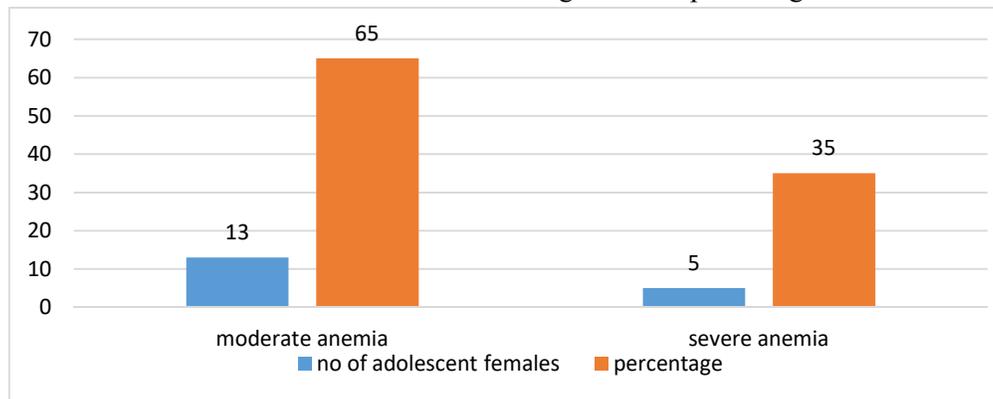
**Chart 1:** Age group and no of adolescent females:



**Table 2:** Distribution of Hemoglobin and percentage

Type of anemia	No of adolescents females	Percentage
Moderate anemia	13	65%
Severe anemia	07	35%
Total	20	100%

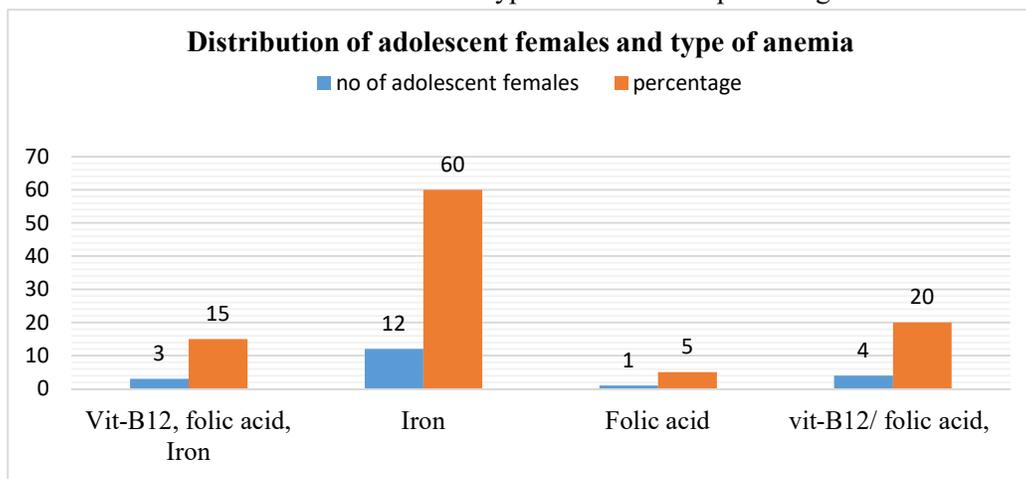
**Chart 2: Distribution of Hemoglobin and percentage**



**Table 3: Distribution of types of anemia and percentage**

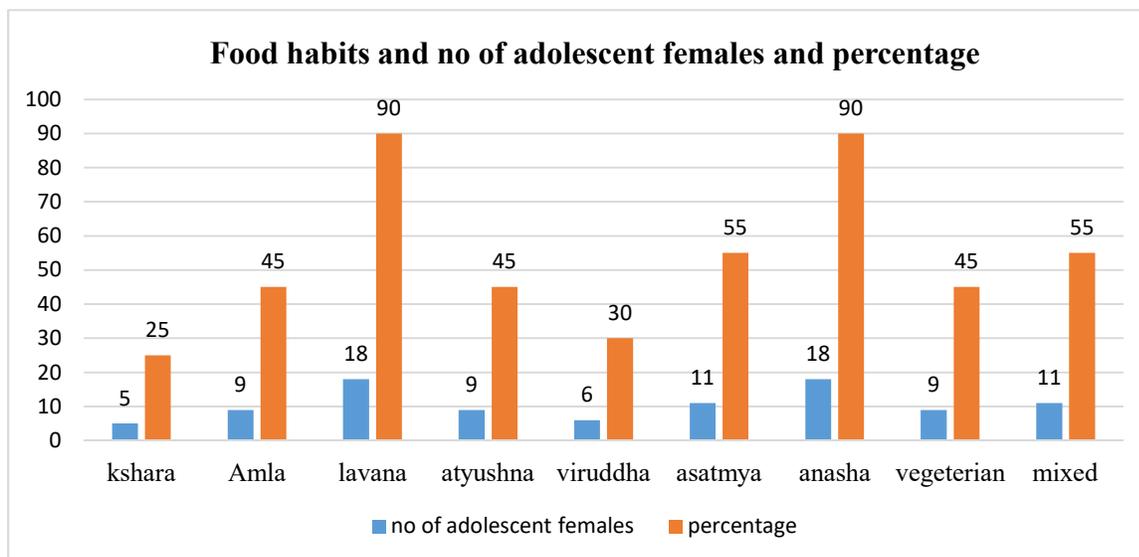
Type of Anemia	No of Adolescents females	Percentage
Dimorphic Anemia	03	15%
Microcytic Hypochromic Anemia	12	60%
Hypochromic Anemia	01	05%
Macrocytic Anemia	04	20%
Total	20	100%

**Chart 3: Distribution of type of anemia and percentage:**



**Table 4: Distribution of adolescent females and frequency of diet and percentage**

Type of food	No of adolescent females	Percentage
<i>Kshara</i> ( alkaline foods)	5	25%
<i>Amla</i> ( sour food)	9	45%
<i>Lavana</i> (salty food)	18	90%
<i>Atyushna</i> (hot food and environment)	09	45%
<i>Viruddha</i> (incompatible)	06	30%
<i>Anashana</i> ( Not taking food)	18	90%
Vegetarian diet	09	45%
Mixed diet	11	55%



### RESULTS:

Out of 20 patients 13 (65%) patients had moderate anemia (Hb- 7-9.9gm %), 7 (35%) patients had severe anemia (Hb- less than 7gm %). Out of 20 patients 2 (10%) belongs to 15 years, 8 (35%) belongs to 16 years, 9 (50%) belongs to 17 years, 1 (5%) belongs to 18 years. Out of 20 patients 3 (15%) had Dimorphic anemia (vit-B12, Folic acid, Iron deficiency anemia), 12 (60%) patients had Microcytic Hypochromic anemia (Iron deficiency anemia), 1(5%) patient had normocytic hypochromic anemia (folic acid), 4 (20%) patients had macrocytic anemia (vit-B12 or Folic acid deficiency anemia). Among 20 patients 5 (25%) patients had the habit of taking *Kshara* (Alkaline), 9(45%) had the habit of taking *Amla* (sour), 18(90%) *Lavana* (salty), 9(45%) patients *Atyushna* (hot), 6(30%) *Viruddha* (incompatible), 11(55%) patients *Asatmya* (use of food to which one is not used to) 18(90%) *Anashana* (Not taking food), 9(45%) vegetarian diet, 11(55%) mixed diet habit.

### DISCUSSION

This study exposed that Iron Deficiency anemia and Vitamin- B12 deficiency anemia are common in adolescent females. The purpose of taking moderate and severe anemia for study is mild type of anemia is commonly seen in most of the adolescent females

due the change in their food habits as they are staying in hostel. Lack of dietary supplement of micro-nutrients like Iron, Folic acid, Vitamin B-12 in the food are the main cause for nutritional anemia. Usage of excessive *Lavana* (salty) food and *Anashana* or *Alpamatra Ashana* (Not taking food) was identified in 90% of the females, *Asatmaya Bhojana* (incompatible) in 55% of the females, *Amla* (sour) and *Viruddha Ahara* (mutually contradictory food) in 45% of the females and *Kshara* (alkaline) in 25% of the females. This finding was due to the fact that now a days such kind of food have become prevalent and adolescent groups like to consume these type of sour, spicy, salty, beverages, sauce, baked and over cooked, incompatible and foods with preservatives kept for years together. This vitiates the *Pitta* and *Rakta* as the mechanism behind this etiology in the causation of *Pandu*. Skipping of breakfast, lunch or dinner was identified due to food prepared in the hostel were unlike from their natural food habits. 55% of adolescent females were consuming mixed diet previously, as they are staying in hostel their food habits changed to vegetarian diet is also a cause for nutritional anemia.

## CONCLUSION

The *Aharaja Nidana of Pandu* described in *Charaka Samhita* is found very significant in nutritional anemia of adolescent females residing in hostel. The prevalence of nutritional anemia in adolescent females residing in hostel was found to be significant. Thus the *Aharaja Nidana of Pandu Roga* should be considered in the treatment process of nutritional anemia because *Nidana Parivarjana* is a major constituent of treatment. This helps in resolving the pathogenesis of the disease and prevents recurrence in future. Educational institution should consider this problem and priority should be given to improve the diet of adolescent females staying in hostel. Awareness about complications, treatments and prevention of the disease should be given through counseling and educational programs.

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**Conflict Of Interest: None Declared**

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