# Social Factors and *Panduroga* w.s.r. to Iron Deficiency Anaemia

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## ABSTRACT

**Objective:** To investigate associations between different socio-demographic factors with *Panduroga w.s.r.* to iron deficiency anaemia.

**Methodology:** This is a cross-sectional study, with 29 diagnosed cases of iron deficiency anaemia. This study was conducted at the Govt. Ayu. College & Hospital, Patna, Bihar, India. Informed consent was taken from all patients for their blood tests, research study and its publication in a scientific journal. A questionnaire was administered to them regarding subjective parameters. The data was analyzed statistically.

**Results:** Iron deficiency anaemia was found more common among female patients (82.76 %) than male patients. People living in urban population (55.17 %), low socio-economical status (51.72 %), educated up to school level (41.38 %) followed by illiterate (24.14 %) were more affected. IDA was more common among tobacco consumers (13.79 %) compare to smokers (6.90 %) and alcoholics (3.45 %).

**Conclusion:** This study showed that lack of education, addiction and low socio-economic status are associated with the development of *Panduroga*. Females are more affected compare to male and urban population is more affected than rural population.

It is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development.

**Greentree Group**

**KEYWORDS**

*Panduroga, Iron deficiency anaemia, Social factors*

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# INTRODUCTION

Diet, habits, and life style are changing very rapidly in the society. People are showing negligence in taking care of their health. Poor people are not able to afford a good diet, and the rich are eating junk foods. Most of the people do not eat a balanced diet. Thus, malnutrition either due to inadequate dietary intake or lack of balanced diet has led to the development of various diseases and *Panduroga* is one such disease.

*Panduroga* is a *Pitta Pradhana Vyadhi. Pitta* is responsible for normal colour of the body, so, if it gets vitiated, alteration of colour and complexion of body *(Panduta)* occurs. *Rakta* gets vitiated by *Dosha*, mainly by *Pitta Dosha* as *Rakta* is *Pittavargiya* and disease like *Panduroga* appear. Due to *Hetu Sevana*, *Pitta Pradhana Tridosha* gets vitiated and circulated in the whole body causing *Shithilata* in all *Dhatu* which ultimately reduces *Rakta* and *Meda Dhatu*. Due to *Nidanas* like excessive intake of *Kshariya, Amla, Lavana, Ushna*, *Viruddhahara, Asatmya Bhojana, Divaswapna* and *Vegavrodha*, all the three *Doshas* especially *Pitta Dosha* gets aggravated which in turn vitiates *Kapha, Vayu, Rakta*, *Twaka, Mamsa* and *Ojas* and produces yellowish discolouration *(Panduta)* of the skin as a result of which

*Panduroga* occurs. In modern the nearest correlation of Anaemia can be done with *Pandu*. Anaemia is a condition that occurs when the hemoglobin concentration in blood is lower than the normal range for the age and sex of individuals[1-3].

The WHO report also shows that worldwide sex incidence is more in females (41.8% pregnant and 30.2% non-pregnant females). It reduces the work capacity of individuals and leads to serious economic consequences and obstacles to the national development. Majority of people living below poverty line, unhygienic food habits, nutrition deficiency and illiteracy[4].

# AIMS AND OBJECTIVES

To study the distribution of Panduroga w.s.r. to IDA in people with respect to different social factors like socioeconomic status, education status, habitat, sleeping pattern and addiction.

# MATERIALS AND METHODS

Selection of Patients: Patients having classical signs and symptoms of *Panduroga* have been selected from the O.P.D. and I.P.D. of Govt. Ayu. College & Hospital, Patna (Bihar).

**Inclusion Criteria:**

- Age group between 20 to 70 years.

**Exclusion Criteria:**

- Pregnant and lactating women.

- *Panduroga* with malignancy, diabetes mellitus, congenital anomalies and other serious complications.

**Subjective parameter:**

➢ *Panduta*.

➢ *Habitat*.

➢ *Educational status*.

➢ *Socioeconomic status*.

➢ *Addiction*.

**Objective parameters:**

➢ Hb% : Adult Male : Below 13.0 g/dl, Adult Female : Below 11.5 g/dl.

➢ MCV : Below 50 fl

➢ MCH : Below 15 pg

➢ MCHC : Below 20 g /dl

➢ Serum iron: Below 30 µg/Dl

➢ Total Iron Bounding Capacity: > 400 µg/dL.

➢ Peripheral blood film shows hypochromia, anisocytosis, poikilocytosis

**STATISTICAL ANALYSIS:**

Proper statistical analysis for obtained data was done on MS Excel software.

## OBSERVATION AND RESULTS

Total 34 patients were registered and subjected to various investigations already described above and out of which 5 patients left the study. Hence, the total number of patients is 29 for the present study. Out of 29 patients, 24 were female and 5 were male. The data collected and compiled from present study were statistically analyzed and presented with tabular form.

## DISCUSSION

In the present study, incidence of *Panduroga* was found more in female patients (82.76 %) than male (17.24 %). Thus we can say that this disease is more prevalent in females. Reason behind this may be firstly of dietetic, as ladies are mostly found inclined towards spicy, sour *(amla)* and bitter *(tikshana) ahara* rather than a balanced diet. Secondly regular loss of blood due to menstruation makes them more prone to develop *Pandu*.

Among 29 patients, 13 patients (44.83 %) were from rural areas and 16 patients (55.17 %) were from urban areas (Shown in Table 1 and Figure 1).

**Table 1** Habitat wise distribution

| Habitat | No. of pt. | % |
|---------|-----------|------|
| Rural | 13 | 44.83 |
| Urban | 16 | 55.17 |

*Panduroga* is more appear in urban population who are prone to mental stress, excessive physical work, irregularity in diet, and improper *Vihara* (*Atapa Sevana,*

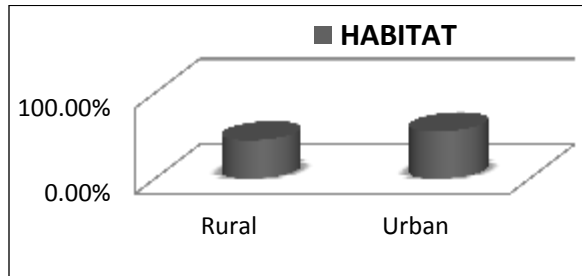*Ratrijagarana* etc.) due to their professional responsibilities.



**Figure 1** Graphical representation of habitat wise distribution

*Panduroga* is more appear in urban population who are prone to mental stress, excessive physical work, irregularity in diet, and improper *Vihara* (*Atapa Sevana, Ratrijagarana* etc.) due to their professional responsibilities. This may be also due to geographical location of the hospital in the urban area. 41.38 % patients were educated up to school level and 24.14 % patients were illiterate. 17.24 % patients were educated up to intermediate level and again same percentage was found in graduation level (17.24%) (Shown in Table 2 and Figure 2).

**Table 2** Educational status wise distribution

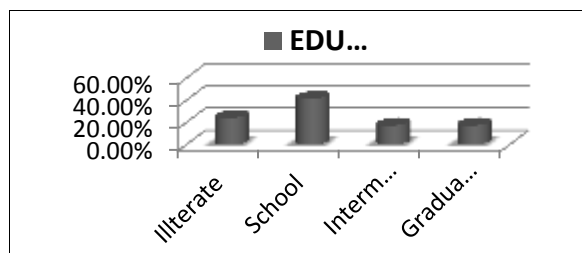| Education | No. of pt. | % |
|---|---|---|
| Illiterate | 7 | 24.14 |
| School | 12 | 41.38 |
| Intermediate | 5 | 17.24 |
| Graduate | 5 | 17.24 |



**Figure 2** Graphical representation of education wise distribution

Less educated people are less conscious about their nutritional requirements and also don't have proper knowledge about balanced diet and hence may develop anaemia. This can be due to wrong dietary habits, social negligence, and unawareness. Majority of patients i.e. 51.72 % were from low socio-economic status, 41.38 % of patients were from middle class of society and 6.90 % were from high socio-economic status (Shown in Table 3 and Figure 3).

**Table 3** Socio-economic status wise distribution

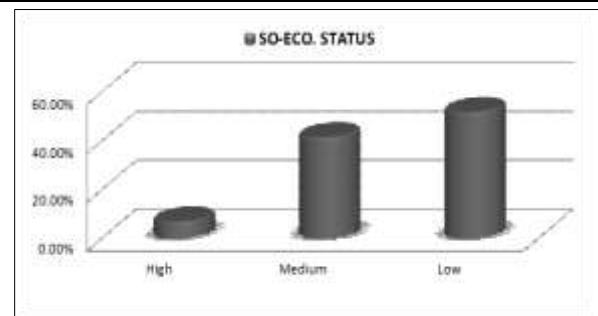| Socio-economic Status | No. of pt. | % |
|---|---|---|
| High | 2 | 6.90 |
| Medium | 12 | 41.38 |
| Low | 15 | 51.72 |



**Figure 3** Graphical representation of socioeconomic status wise distribution

The poor people are totally unable to afford the proper diet and hence they suffer from this disease. The patients from lower middle class can't afford expensive food, vegetables as well as medicines for this chronic disease. Housewives of middle class are careless towards their own care and always worrying for the family responsibilities which leads to

mental stress due to which they are more prone to the disease.

Maximum number of patients i.e. 75.86 % patients in the series were having no addiction, 13.79 % were having the addition of tobacco chewing, 6.90 % were having the addiction of smoking and 3.45 % were having habit of alcohol taking (Shown in Table 4 and Figure 4) .

**Table 4** Addiction wise distribution

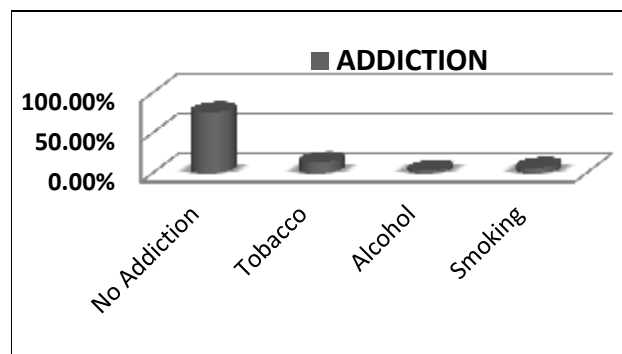| Addiction | No. of pt. | % |
|---|---|---|
| No Addiction | 22 | 75.86 |
| Tobacco | 4 | 13.79 |
| Alcohol | 1 | 3.45 |
| Smoking | 2 | 6.90 |



**Figure 4** Graphical representation of addiction wise distribution

Tobacco chewing is also harmful to digestive processes. This leads to loss of appetite, malabsorption and malnutrition ultimately causing *Pandu*.

## CONCLUSION

In this study, anaemia was more common among women due to the influence of some nutritional and socio-economic factors. The health services are available and accessible in general, but a major constraint is that the people could not afford to utilise it, because of unawareness of the health services. Anaemia was more common in poorly educated persons and people from low socio-economic status. Tobacco users are found more in number than smokers and alcoholics among IDA. Due to changed lifestyle, increased stress-strain, inappropriate food habits incidence of *Pandu* is more these days. In Indian females it is far more. It can be said that, *Pandu* is social problem of today's era. It is such disease, if not treated properly can cause major consequences to someone's health. Ayurveda in its vast literature gifted us many solutions for disease like *Pandu*.

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