



A SURVEY STUDY OF PANDU ROGA W.S.R TO IRON DEFICIENCY ANAEMIA OF ADOLESCENT GIRLS AND WOMEN OF REPRODUCTIVE AGE GROUP OF JAMNAGAR DISTRICT.

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Abstract: Introduction: Anaemia is a public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. Prevalence of anaemia in all the groups is higher in India as compared to other developing countries. In India, anaemia affects an estimated 50% of the population. The survey further revealed that among the states, Assam is the worst affected with 72% of married women being anaemic, followed by Haryana (69.7%), Jharkhand (68.4%) and Gujarat (55.3%). Objective of this study is the prevalence of anaemia with special focus on adolescent girls and women of reproductive age group of Jamnagar District. Materials and Methods: For data collection, Pandu project team conducted more than hundred camps in different places and 10,000 participants were included in the study. Anaemia is routinely diagnosed with a blood test. Hemoglobin is the outcome variable for this screening. Hemoglobinometer available in a standard calibrated form and do not need any manual adjustment were used for the screening. Result: In total screening, 83.22% were from below 20 years of age groups and 16.78% were from 20-50 years of age group. As per the haemoglobin level tested for all participants the results shows that 60.58% adolescence girls and women of reproductive age were non anemic while 39.42% of total participants were found anemic. Of these, 0.55% were severely anemic, 15.67% were moderately anemic, and the remaining 23.20% were mildly anemic. Discussion: The prevalence of anaemia for this screening is 39.42%, which is less than that which has been reported in recent research in India. As observed by earlier studies, the change in prevalence was likely caused by variations in the target population.

Keywords - Haemoglobin, Pandu Roga, Prevalence of Anaemia, Survey.

I. INTRODUCTION

Pandu roga is an illness related to Raktalpata and Panduta of the body in which the luster of the body is diminished and the color of the skin becomes pale, which is discussed in our ancient texts as Vaivarna, Ketaki Dhuli Sannibha, and so on. Pandura Varna is the key diagnostic sign of Pandu Roga, which is a change in colour that can be observed by assessing Twak, Netra, Nakha and Jihwa[1]. Hence, based on the clinical symptoms of Pandu Roga, it can be linked to the symptoms of Iron deficiency anaemia.

According to the data of NFHS-III undertaken in 2005-2006, India has among the highest number of cases of anaemia in the world[2]. Iron deficiency anaemia (IDA) is the most common cause of anaemia in India. Pandu Roga is more common among women particularly from rural areas of the country because of poor quality of life, lack of balanced diet, lack of awareness about the need of a balanced diet for health and stress.

Prevalence of anaemia in all the groups is higher in India as compared to other developing countries. In India, anaemia affects an estimated 50% of the population. The problem becomes more severe as more women are affected with it as compared to men. It is estimated that about 20%-40% of maternal deaths in India are due to anaemia and one in every two Indian women (56%) suffers from some form of anaemia. According to National consultation on control of nutritional anaemia in India and anaemia is defined as the hemoglobin of less than 11 g/dl in females. Mild anaemia is defined as hemoglobin level of 10-10.9 g/dl, moderate anaemia as hemoglobin level of 7.0-9.9 g/dl and severe anaemia was defined as hemoglobin level of less than 7g/dl (6.9 g/dl and below) among females. Data from National Nutrition Monitoring Bureau (NNMB), Indian Council of Medical Research (ICMR) and District Level Household Survey (DLHS) surveys have shown that prevalence of anaemia is very high (ranging between 80->90%) in preschool children, pregnant and lactating women and adolescent girls. Low birth weight infants, young children and women of childbearing age are particularly at risk of anaemia. That way anaemia begins in childhood, worsens during adolescence in girls and gets aggravated during pregnancy. In India, adolescent girls, who constitute a sizable segment of its population form a vulnerable group and are at a greater risk of morbidity and mortality. It is the shaping period of life when maximum amount of physical, psychological and behavioral changes take place. This is a vulnerable period in the human life cycle for the development of nutritional anaemia. Adolescent girls are particularly prone to iron deficiency anaemia because of increased demand of iron for hemoglobin, myoglobin and to make up the loss of iron due to menstruation and poor dietary habits. India has among the highest number of cases of anaemia in the world, according to the NFHS-III undertaken in 2005-2006. The reasons range from high cost of healthcare facilities, poor food quality and the low status of women. The survey further revealed that among the states, Assam is the worst affected with 72% of married women being anaemic, followed by Haryana (69.7%), Jharkhand (68.4%) and Gujarat (55.3%). Anaemia remains to be major cause of maternal mortality and low birth weight in India. Moderate and severe anaemia is seen even among educated families and the higher income group. ICMR data in the same districts also reported 90.1 per cent adolescent girls with anaemia (7.3% having severe anaemia). ICMR district nutrition survey (1999-2000) reported a prevalence of anaemia as 84.2 per cent and 13.1 per cent with severe anaemia in pregnancy. So, these findings suggest a continuation of anaemia throughout life in women.

II. OBJECTIVE:

- 1.To Study the prevalence of anaemia with a special focus on adolescent girls and women of reproductive age group of Jamnagar Taluka of Jamnagar District.
- 2.Null hypothesis: There is no change in the prevalence of anemia in a recent research project.
- 3.Alternate hypothesis: There is a change in the prevalence of anemia in a recent research project. **EASE OF USE**

III. MATERIALS AND METHODS:

3.1 Study Design:

Study type: Survey study
Masking: Open labelled, No masking
Study design: Randomized survey study
Timing: Prospective
Sample size: 10,000 of population

The studies include screening followed by a comparative clinical study. The screening was done by the Pandu Project team of Shri Gulabkunverba Ayurved Mahavidyalaya, Gujarat Ayurved University, Jamnagar presently known as Institute of Teaching and Research in Ayurveda, Institute of National Importance, Ministry of Ayush, Government of India, Jamnagar, Gujarat. The screening was conducted to estimate the number of anemic patients in Jamnagar District.

3.2 Medical equipments

Medical equipments such as weighing scales, measuring tape, height measuring scales, blood Pressure units and haemoglobinometer are available in a standard calibrated form and do not need any manual adjustment were used for the screening. All equipments used in this screening were sound. Medical equipments were checked by the primary investigator every month to ensure the accuracy (1st day of each month). Similarly, if there is any wear and tear of the measuring tape or height measuring scale, then the same

were replaced. To ensure accuracy, the pandu project team was trained to undertake readings for height, weight, and hemoglobin.

3.3 Data Sources

For data collection, Pandu project team conducted more than hundred camps in different places like Anganawadis, Schools, College, Girls hostels, working women hostels etc. during the tenure of the project. In each camp consultant/s, SRF, qualified Lab technicians, B.A.M.S. intern doctors and multipurpose staff were appointed for consultation, counseling, examinations, investigations, Data management, awareness lectures through PPTs, leaflets distribution, nutritional advice, Yogasana guidelines, Question-Answer sessions etc. All the participants will undergo check-up of height, weight, haemoglobin record and advice for further referral.

3.4 Bias

Since it was impossible to personally visit each participant, camps were held in a variety of institutions, including schools, colleges, hostels, etc. So, it can cause selection bias.

3.5 Outcome Variable

Haemoglobin is the outcome variable for this screening. Anaemia is routinely diagnosed with a blood test. The Pandu project team tested adolescent girls and women of reproductive age group (15-49 years) for anaemia through a finger prick method used along with Haemoglobinometer to measure haemoglobin. In this screening, ring finger of non-domain hand was used for haemoglobin tests. This investigation was performed at the screening level by a qualified laboratory technician of SGAC/ITRA hospital. Haemoglobin readings were noted on data collection forms. Haemoglobin report shared with participant at the same time.

The measurement of anaemia was done using grams per deciliter (g/dl) and was based on the level of hemoglobin concentration (Hb) in the blood [3]. Adolescence girls and women of Reproductive age group whose hemoglobin count was less than 11.0 grams per deciliter (g/dl) or above were considered as non-anemic. mild anaemia included adolescence girls and women of reproductive age, whose hemoglobin count was between 10.0 and 10.9 g/dl, moderate anaemia included whose hemoglobin count was between 7.0 and 9.9 g/dl, severe anaemia included whose hemoglobin count was less than 7.0 g/dl (6.9 g/dl and below).

3.6 Other Variables

For this Screening, Age, Sex, Socio-Economical status, Marital status, Occupation, Family History, Personal History, Menstrual History, Lifestyle, Blood lose History, Symptoms of Pandu, history of Heamatamic Drug/s, Height, Weight and Haemoglobin etc. Data were collected.

3.7 Statistical Analysis

The Data collected through screening was entered in server, and the data were analyzed using the software. Socio-demographic and other characteristics of participants were reported using a frequency table. The prevalence of anaemia was also presented using tables.

3.8 Registration and Ethical Consideration

The Clinical Trials Registry-India (CTRI) registration was done before starting this screening, a Specialized Screening Performa was prepared and ethical clearance for the same was taken from Ethical Committee of SGAM, Jamnagar.

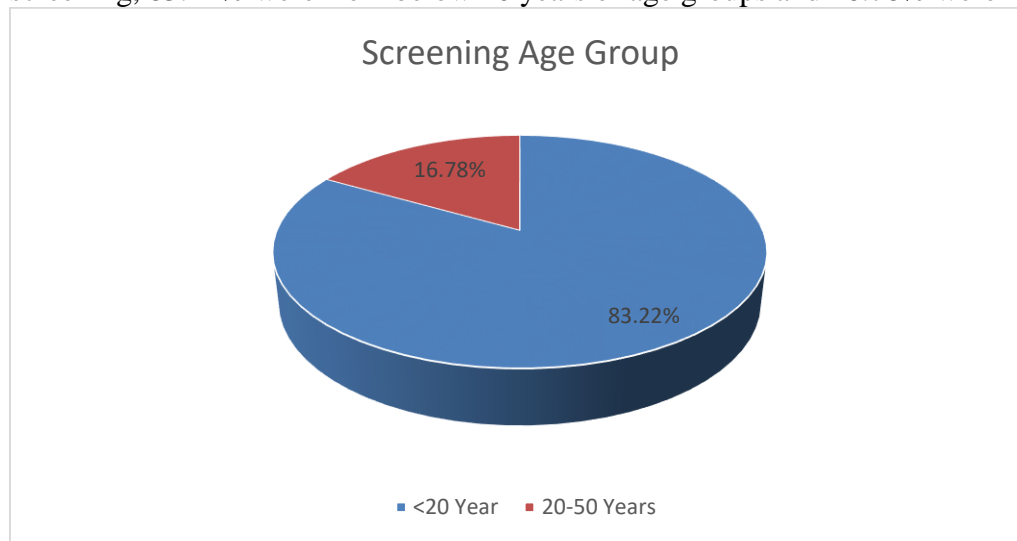
3.9 Inclusion criteria

Adolescent girls and women of reproductive age group and those who have given oral concerned for the screening.

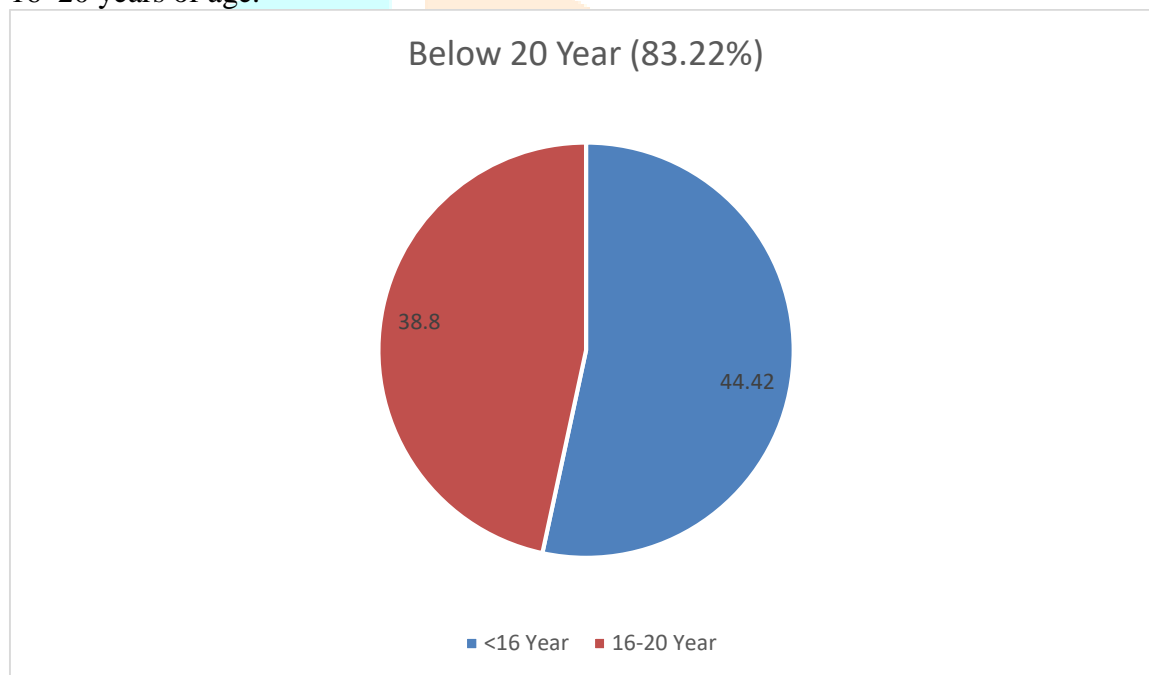
IV. RESULTS AND DISCUSSION

4.1 Result

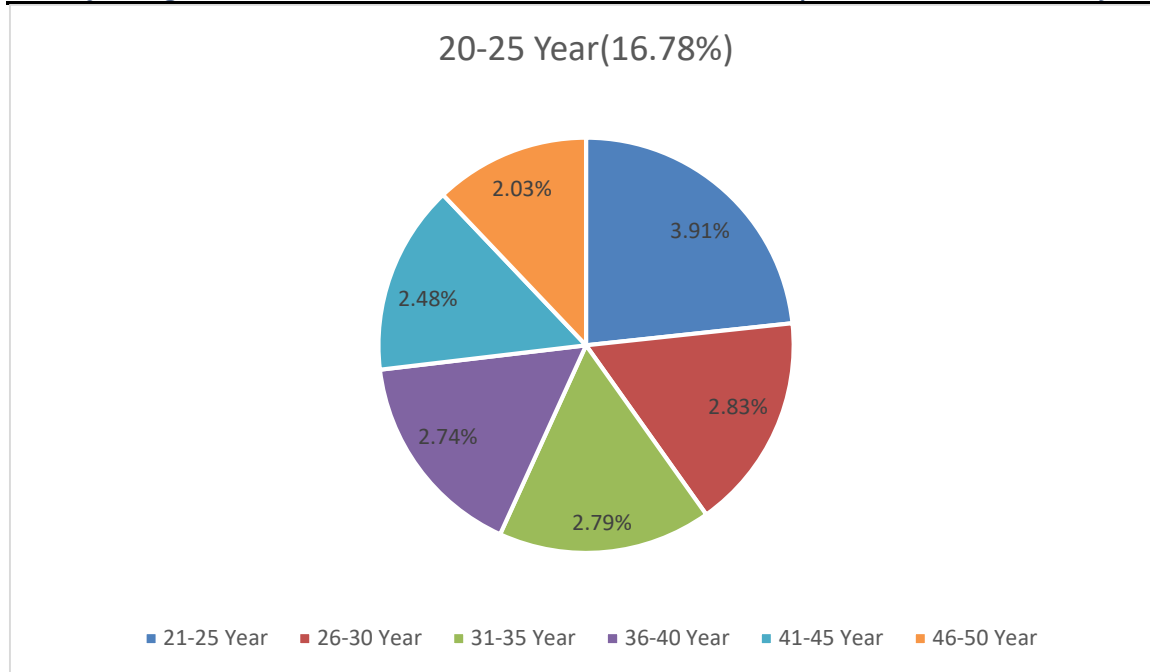
In total, 10,000 adolescence girls and women of reproductive age were included in the screening. In total screening, 83.22% were from below 20 years of age groups and 16.78% were from 20-50 years of age group.



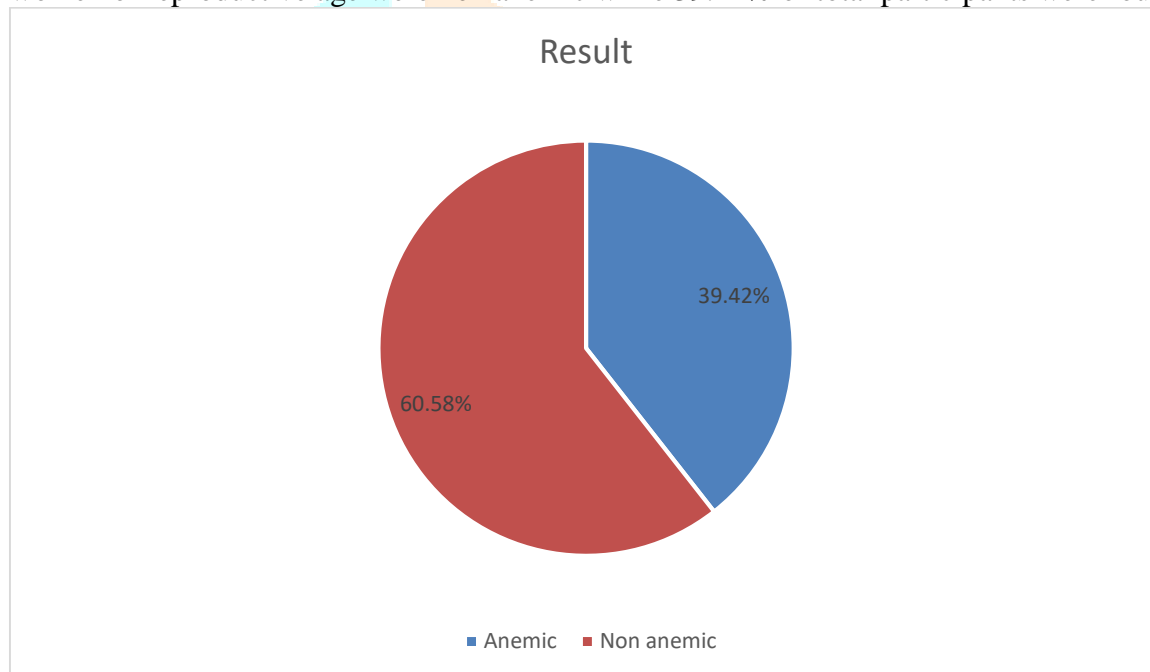
Nearly 44.42% of the total participants were adolescence girls aged below 16 years and 38.80% of between 16–20 years of age.



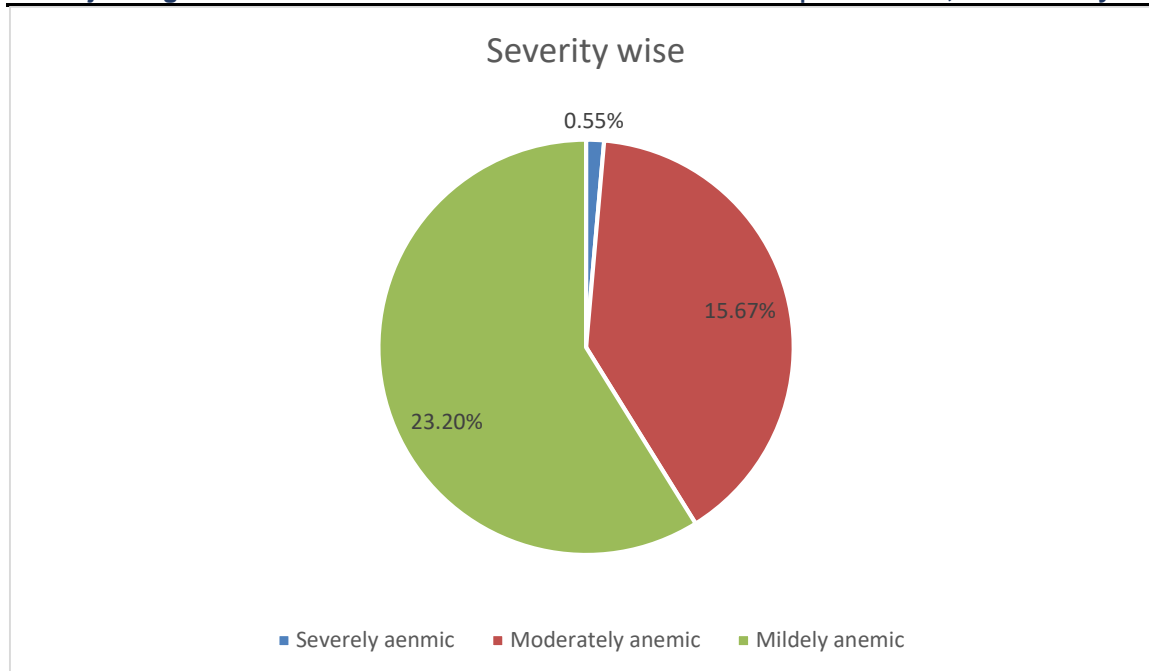
While women in reproductive age groups i.e., 21-25 years, 26-30 years, 31-35 years, 36-40 years, 41-45 years and 46-50 years of age were respectively 3.91%, 2.83%, 2.79%, 2.74%, 2.48% and 2.03%.



As per the hemoglobin level tested for all participants the results shows that 60.58% adolescence girls and women of reproductive age were non anemic while 39.42% of total participants were found anemic.



Of these, 0.55% were severely anemic, 15.67% were moderately anemic and the rest 23.20% were mildly anemic.



4.1 Discussion

This study aims to find the prevalence of anemia in adolescence girls and women of reproductive age groups of Jamnagar Taluka of Jamnagar District. The prevalence of anaemia for this screening is 39.42% which is lower as compare to those reported in recent studies in India. The difference in prevalence was probably due to differences in the target population as reported by prior studies.

As most of the camps were conducted in schools, colleges, hostels etc. hence, the results show that 83.22% were from adolescent girls (below 20 years) and only 16.78% of women were from the reproductive age group (21-50 years)

IV. CONCLUSION

The anaemia prevalence for this screening is 39.42%, which is lower than what has been noted in a recent Indian study.

V. SOURCE OF SUPPORT

The current study is part of a project entitled 'Management of Pandu in adolescent girls and women of reproductive age group with Ayurvedic medicines in Jamnagar Taluka of Jamnagar District (under PHI scheme, funded by Ministry of Ayush)'. We would like to extend our gratitude to the concerned authorities of Ministry of Ayush and all team members of Pandu Project for their valuable support and guidance.

VI. CONFLICTS OF INTEREST:

The authors declare no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

VII. Copyright and permission statement

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