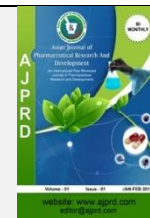


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Case Study

Survey Study of The Global Disorder Anemia

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ABSTRACT

Anemia is caused due to nutritional deficiency and has affected public health at a global level. It has affected both developing and developed countries with majority consequences to human health and social and economic development. According to WHO reports, one-third of the global population (over 2 billion) are anemic due to an imbalance in their nutritious food intake. The main objective behind conducting this survey study was to check the effect of RO versus Tap water drinking on anemia. Through this survey, we found out the side effects, causes of illness, medication effects, and the age groups acquainted with getting anemia. The study was conducted in a region of the Anand district. Total 40 anemic people we had selected randomly for the survey. Out of 40 selected people, 10 were male while 30 were females. We found out in our study that among the 10 male participants, 8 were consuming RO water while 2 of them were consuming tap/simple water, and out of a total of 30 females, 16 of them consuming RO water and 14 are consuming the tap/simple water. In our study, we observed that the age group between 19-25 was most affected by anemic conditions. Out of 10 anemic males, none of them had illnesses. Out of 30 anemic females, three females had another kind of illness. Further in our study, out of 8 males, there were only 2 of them who were found to be vegetarian and non-vegetarian respectively, looking towards female's ratio out of 27 and 3 females were found to be vegetarian and non-vegetarian respectively. Based on this survey study we can conclude that maximum cases of anemia have been reported between an age group of 19-25 out of the survey of 40 people, of which 10 are males and 30 females. There were 8 males out of 10 who were vegetarian and twenty-seven females out of which 30 were vegetarian and hence could be a possible cause for the prevalence of anemia, another possible cause could be the replacement of simple water with tap water which was found to be a preference of 8 out of total 24 RO consumers, 10 males and 14 females may be a cause of anemia.

Keywords: Anemia, Vegetarian, Non-vegetarian, RO water and Tap Water.

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Objectives of the study:

To understand causes of anemia in different locality
To study relationship between anemia and drinking water habits as possible cause.
To analyze prevalence of anemia in different gender and age group of people.
To predict whether occurrence of disease is due to any

medication's effects taken by the patients for their illness.
To predict present scenario of anemia among local population

Methods and Materials:

Study Design: Survey Study.
Sample Size:40 Patients.
Study Duration: Maximum 2 weeks.

Data Collection: Informed Consent form in the language they known (Gujarati or/and English)

Sites from where collected the data: Santram Pharmacy, Anand; Tarun Pharmacy, Anand; Ashwini Hospital, Anand; Arpan Hospital, Anand, ARCP, V V Nagar.

This study was performed between Jan 2019 to Dec 2019.

Rationale of Project:

India loses 0.9 percent of its gross domestic product (GDP) due to iron-deficiency anemia, according to a 2003 paper published in Food Policy. This could mean a loss of up to \$20.25 billion (Rs 1.35 lakh crore). According to the data revealed by the report, India is facing a serious threat of under-nutrition where more than half of the women of reproductive age suffer from anemia.^[1]

About 38 per cent of the children under five are affected by stunting and about 21 per cent of children under 5 have been reported as malnourished.^[2,3]

While 54.9% of Gujarat women in the age group of 14-49 years are anemic, 51.3% of pregnant women in the state have anemia.

Among the states with the highest incidence of anemia, Gujarat is in the top 15 with a higher percentage of anemic women than the national average (53%).^[4-6]

Inclusion Criteria:

Patients of age group 5-80 years of age
 Patients with undergoing treatment for Anemia
 Patients with any disease condition/under any medications
 Patients based on their source of diet and water
 Patients from rural as well as urban population and others drugs like antidepressants, opioids, cocaine.

Exclusion Criteria

Pregnancy
 Lactation
 Women during menstruation

Table 1: Data report of survey:

| Age Group | Male | Female |
|-----------|------|--------|
| 0-18 | 3 | 4 |
| 19-25 | 2 | 11 |
| 26-35 | 3 | 7 |
| 36-45 | 0 | 4 |
| 46-55 | 0 | 1 |
| Above 55 | 1 | 3 |
| Total: | 10 | 30 |

Total patients=40

- Total Vegetarian: 35, Total Non-vegetarian:5
- Vegetarian Male:8, Non Vegetarian Male:2
- Out of total vegetarian Anemic male: 8/35
- Out of total non-vegetarian anemic male: 2/35

- Vegetarian female: 27, Non Vegetarian female:3
- Out of total vegetarian Anemic female:27/35
- Out of total non-vegetarian anemic female: 3/35
- Total male consuming tap/simple water:2
- Total female consuming tap/simple water: 14
- Out of total patient consuming tap/simple water anemic male: 2/16
- Out of total patient consuming tap/simple water anemic female: 14/16
- Total male consuming tap/simple water: 2
- Total female consuming tap/simple water: 14
- Total female consuming RO water:16
- Out of total patient consuming RO water anemic male: 8/24
- Out of total patient consuming RO water anemic female: 16/24
- Total male consuming RO water: 8
- Total female consuming RO water: 16
- Total number of anemic male with other illness: 0
- Total number of anemic female with other illness: 3
- Total number of anemic male consuming medication for illness: 0
- Total number of anemic female consuming medication for illness:4

Note:

1. Male reference value for HB: 14 – 16.5 G%
2. Female reference value for HB: 12 – 14.5 G%
3. Infant reference value for HB: 14- 17 G%

Graphical Representation of Study:

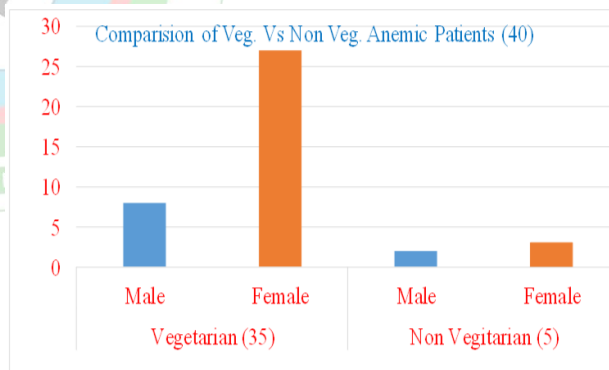


Figure 1: Comparison of vegetarian Vs non vegetarian anemic patients

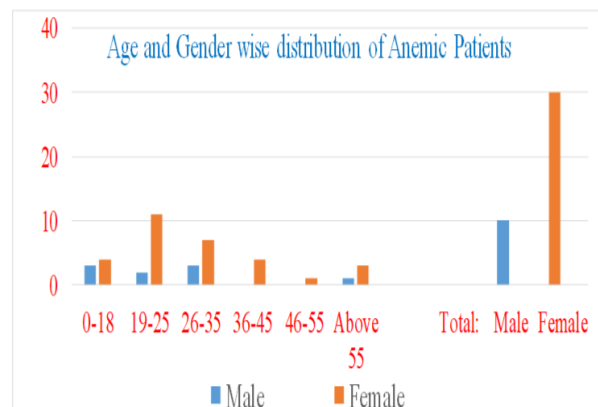


Figure 2: Age and gender wise distribution of anemic patient

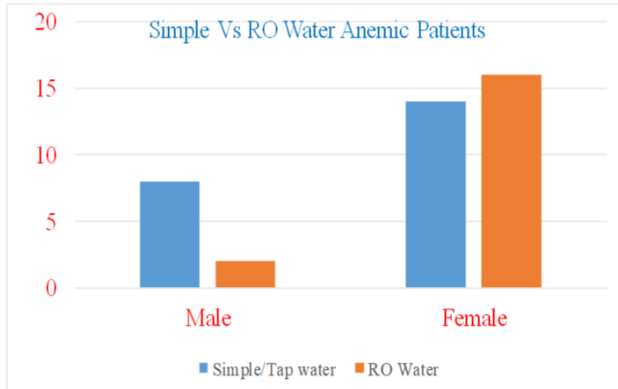


Figure 3: Simple Vs RO water anemic patient data

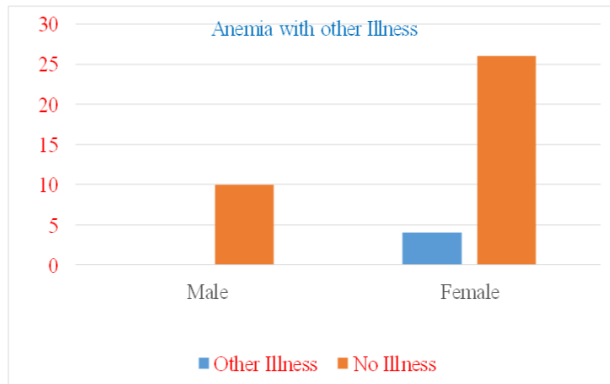


Figure 4: Anemia with other illness

DISCUSSION & CONCLUSION

From this survey report it is concluded that, female in the age group of 19-25 were more anemic than other age group and male in the age group of 26-35 were more anemic than the other age groups. Most of the vegetarian male and female were more anemic than the non-vegetarian male and female. The person who had taken the RO water were more affected than the person who had taken the TAP/Simple water in their routine. In our study we found that out of total anemic male no any male have other illness but out of total anemic female 4 have the other illness like ulcer, UTI infection etc.^[7]

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