Original Research Paper

Obstetrics & Gynaecology

COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF DRUMSTICK LEAVES EXTRACT VS RAGI PORRIDGE IN INCREASING THE LEVEL OF HEMOGLOBIN AMONG WOMEN WITH IRON DEFICIENCY ANEMIA IN SELECTED COMMUNITY AREA AT KANCHIPURAM DISTRICT.

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ABSTRACT

Aims: The aim of present study was to identify the women with iron deficiency anemia at selected community area. To administer drumstick leaves extract to group I and ragi porridge for group II. To evaluate the hemoglobin level for both groups after intervention among women with iron deficiency anemia. **Methods:** non probability purposive sampling technique was used to select the sample. comparative research approach with Quasi-experimental Research design was used. The data collection period was about 6 weeks by using the prepared tools. The pre-test was done. Group I supplemented by drumstick leave extract, group II supplemented by Raggi porridge. Post-test was conducted and finally the reports were analyzed. **Result:** The mean pre-test score was 8.93, with the standard deviation of 1.43, whereas in post-test it was 15.11 with the standard deviation of 6.33. The mean difference in pre-test and post test scores was 10.40 with standard deviation with 1.42. The calculated 'value was 47.224 whereas the tabulated 'value was 2.20, it shows that the calculated 'value was much higher than the tabulated 'value.

Conclusions: The analysis of the study revealed that there was a significant different between the effectiveness of drumstick leaves extract Vs ragi porridge in increasing hemoglobin level among women with iron deficiency anemia.

INTRODUCTION

Women represent more than half the world's population, have a longer life expectancy than men and consume more health care resources. In that woman are likely than men to require health care throughout their lives including regular health visit to reproductive health care providers. They are more likely to have chronic condition that requires continuous health care treatment.[1] This is accomplished by using hemoglobin, a tetramer protein composed of heme and globin. Anemia impairs the body's ability for gas exchange by decreasing the number of red blood cells transporting oxygen and carbon dioxide.[2]

World Health Organization (2013) estimates the globally anemia affects 1.62 billion people which corresponds to 24.8% of population. The population group with the greatest number of individuals affected is non pregnant women i.e. about (468.4million). In India prevalence rate of non – pregnant women affected with anemia is 468 million (30%). The prevalence rate of Tamil Nadu is 62% of the female population suffers from iron deficiency anemia. [3] An ounce of prevention is worth a pound of cure''. Therefore, as a nurse researcher, has pivotal role in creating awareness among women about modification of lifestyle and prevention of further complications, which can help to improve the quality of life by providing education and support.[4]

BACKGROUND OF THE STUDY

Iron-deficiency anemia is a common anemia caused by insufficient dietary intake and absorption of iron or iron loss from bleeding which can originate from a range of sources such as the intestinal, uterine or urinary tract.[5] Several studies showed that most of the women suffer from iron deficiency anemia from long time, because of their life style changes and decreased intake of nutritional requirement and they believe that it's not a condition for which they should seek medical help. Hence it is the responsibility of the health care provider to create awareness regarding iron deficiency anemia, which helps in early identification of problem in the initial stage.[6]

NEED FOR THE STUDY

Iron deficiency anemia is a leading cause of maternal morbidity, mortality and poor birth outcomes in developing countries. Iron Deficiency Anemia is the most common nutrition deficiency worldwide. It causes reduced work capacity in adults and impacts motor and mental development in children and adolescents and women.[7]

According to World health organization, almost 20 % of all women of the child bearing age in the United States were suffering from iron deficiency anemia as compared to 2 % of adult males. According to World health organization, in the developing countries, about 50-60 % of young children and pregnant females and 20-30 % non-pregnant females were affected by iron deficiency anemia.[8]

In India prevalence of anemia among all women in the Indian sample is 52%. Fifteen percent of these women are classified as moderately anemic (Hb 7–9 gm/dl) and 2% as severely anemic (Hb<7 gm/dl). While there are regional differences, prevalence rates across the states are remarkably similar, reflecting underlying determinants that include diets low in heme-iron and high in phytates, high levels of malaria and other infectious diseases, and frequent reproductive cycling that decreases iron stores.[9]

HYPOTHESIS

H₀: There is no significant effectiveness between drumstick leaves extract and ragi porridge in increasing hemoglobin level among women with iron deficiency anemia.

H₁: There is significant effectiveness between drumstick leaves extract and ragi porridge in increasing hemoglobin level among women with iron deficiency anemia.

ETHICAL ASPECTS

• Permission from Institutional Ethics Committee.
• Permission from selected Community area from the district.
• Written informed consents from subjects will be obtained.
• Anonymity and Confidentiality will be maintained throughout the study by coding numbers.
• The non-prejudicial treatment of individual who decline to participate who Withdrawal from the study after agreeing to participate.

Sampling Criteria
Inclusion Criteria

• Reproductive age group women diagnosed with iron deficiency anemia
• The sample who understood and able to speak Tamil or English
• Women who were willing to participate

Exclusion Criteria

• Women who have normal hemoglobin level

- Women with other medical and surgical conditions
- Women with iron treatment and iron injection
- Menopausal Women.

Withdrawal Criteria
- Subject can withdraw from this study whenever to do so.

METHODOLOGY
Non probability purposive sampling technique for the study used to select the sample. Quantitative research approach with quasi-experimental research design. The data collection period was about 6 weeks by using the prepared tools. The pre-test was done. Group I supplemented by drumstick leave extract, group II supplemented by raggi porridge. Post-test was conducted and finally the reports were analyzed. Total 60 samples were selected by using sample calculation formula with the help of prevalence rate.

TOOLS
Section- I: Demographic variables such as age, educational status, religion, occupation, marital status, type of family, dietary status, menstrual history, habit of defecation, history of deworming in past, source of health information **Section-II:** Bio physiological measure is the tool used in this study. Estimation of hemoglobin through Shali's method with hemoglobinometer. **Statistical analysis:** The data had been organized, tabulated and analyzed by using Descriptive statistics. Mean, Standard deviation and paired 't' test were carried out to assess the effectiveness of drumstick leaves extract and ragi porridge. Independent sample test was used to compare effectiveness of group I and II among women with iron deficiency anemia.

RESULTS
Frequency and Percentage distribution of Demographic variables of group I and group II women with iron deficiency anemia. Section A Group I Regarding education status 14(46.7%) were illiterate, 3(10.0%) had be primary educated, 12(40.0%) are higher secondary, 1(3.3%) belongs graduate. With regard to religion 23(76.7%) hindu, 2(6.7%) muslim, 5(16.7%) Christians, none of them from the other religion. Among the women 3(10.0%) unemployed, 17(56.7%) labour, 3(10.0%) belonged to the group of business, and 7(23.3%) were home makers. Regarding marital status of the women in the group 17(56.7%) were married, 6(20.0%) unmarried, 1(3.3%) were divorced, 6 (20.0%) were to widow. regard to monthly income 3(10.0%) were earning >1000, 15(50.0%) earning the monthly income of Rs.1001 – 2000, 6(20.0%) were having the monthly income of Rs. 2001 – 3000, 6(20.0%) were having income above 3000. Regarding the dietary pattern of the women 5(16.7%) vegetarian, 25(83.3%) non vegetarian.

Regarding mode of defecation11 (36.7%) in open defecation in the fields, 3(10.0) were using public toilets, 16(53.3%) were using toilets in the home itself. Regarding sources of previous health information 7(23.3%) got from mass media, 12(40.0%) got health information from health personnel, 11(36.7%) persons were got from neighbours. Group – II Regarding educational status 5(16.7%) were illiterate, 8(26.7%) had primary education, 14(46.7%) hadnhigher secondary, 3(10.0%) graduates, Regarding marital status of the women 23(76.7%) were married, 4(13.3%) unmarried, none of them divorced, 3 (10.0%) belonged to widow. Regarding family pattern 5(16.7%) belonged to joint family, 25 (83.3%) from nuclear family. Regarding mode of defecation 9 (30.0%) in open defecation in the fields, 1(3.3) were using public toilets, 20(66.7%) were using toilets in the home itself. Regarding sources of previous health information 6(20%) getting from mass media, 19(63.3%) were getting health information from health personnel, 5(16.7%) from neighbours. SECTION-B Comparison of mean and standard deviation of pretest and post test for group I and group II women with iron deficiency anemia. shows that overall mean for group I among women diagnosed with iron deficiency anemia was 8.93, with standard deviation 1.43 in pretest and mean in post test was 10.40 with 1.42 of standard deviation. SECTION- C Improvement score of the hemoglobin level among women with iron deficiency anemia before and after the intervention. shows that overall mean for group II among women diagnosed with iron deficiency anemia was 8.70, with standard deviation 1.61 in pretest and mean in post test was 10.633 with 1.61 of standard deviation, reveals that the mean and standard deviation of improvement score for effectiveness of ragi porridge among 30 women diagnosed with iron deficiency anemia, mean 1.92667, standard deviation .17798, confidence interval upper 1.99313, lower 1.86021, 't' value 59.291, df 29 and P value is <0.0001. SECTION-D Compare the effectiveness of groups I Vs group II women with iron deficiency anemia depicts that, there is a significant difference between the effectiveness of drumstick leaves extract Vs ragi porridge in increasing hemoglobin level among women with iron deficiency anemia. Hence null hypothesis was rejected.

CONCLUSION
In the assessment of 60 samples, evaluation of hemoglobin level was done before and after the intervention among two groups. The hemoglobin level was improved in both two groups, P value < 0.05 Hence the null hypothesis was rejected. The result of the study is, there is a significant different between the effectiveness of drumstick leaves extract Vs ragi porridge in increasing hemoglobin level among women with iron deficiency anemia.

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