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A Study to Assess the Effectiveness of Beetroot Juice on Hb Level Among Middleage Women in Sree Balaji Teacher Training Institute, Chromepet. chennai.(Tn)

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A experimental study to assess the effectiveness of Beetroot Juice on HB level among middleage women in Sree Balaji Teacher Training institute Chromepet, Chennai. The objective of the study were to (i) To assess the the level of HB among middle age women before the administration of beetroot juice. (ii) To assess the the level of HB among middle age women after the administration of beetroot juice. The conceptual framework of the present study is based on the Penders Health Promotion model, a quantitive research approach was used for the study. A structured interview schedule were prepared. The reliability of the tool was established using inter rates reliability which was found to be 30.0. The study was conducted at Balaji Teacher Training Institute at Chrompet, Chennai from 3rd Aug 2012 to 2nd sep 2012 The students who met the study inclusion criteria were selected using convenient sampling techniques. Data gathered were analyzed and interpreted using both descriptive and inferential statistics. The study showed that the students who were administered Beetroot juice early increase level of HB interms of there is no pale in the face ,conjunctiva and nails, regular menstruation period and there was no association between administration of beetroot juice and selected variable.

KEYWORDS

Beetroot juice, HB level, Middleage women

INTRODUCTION:

The world health organization (WHO) estimates that anemia affects over 2 billion people worldwide. Anemia is a general term reflecting to the condition characterized by abnormally low levels of healthy red blood cells or hemoglobin. However, deficiencies of folic acid, B12 and Vitamin C, low iron intake can also lead to levels of hemoglobin. These data reflect anemia as measured by hemoglobin status, of which estimates that 50% are caused by iron deficiency anemia. Women particularly pregnant women and children are most at risk of anemia.

Iron intake should be increased to meet normally expanding blood volume need and to replace iron lost through menstruation. Beetroots help in formation of blood cells. The juice of red beetroots strengthens the body's power resistance and has proved to be an excellent remedy has anemia.

The root of the beet contains a large amount of sugar, a small amount of fiber, and fat, large amount of cellulose, pectin, Organic, pantothenic, and folic acids. Microelements (iron, calcium, potassium, cobalt, magnesium, copper, fluorine, manganese and Zinc), Vitamins A, and Vitamin C, niacin, folicacid and biotin pigments and many other substances.

The middleage women are the time of rapid physical growth as muscle mass, Weigt and height increases. Their physical changes means increased requirements related to nutritional needs. In girls especially middleage women require more attention on their nutrition.

NEED OF THE STUDY:

A middle age woman is a crucial phase of growth in the cycle of an individual. Due to a rapid growth there is an increased iron requirement in both adolescent boys and girls. At least 65-70% adolescent girls in India are estimated to be anemic. Anemia not only affects the present health status, but also has deleterious effects in the future. The rates of low birth weight, prematurity, neonatal and infant mortality among children born to undernourished middle age women is high. 20 % of maternal deaths in India are attributed to anemia in pregnancy and in another 40% anemia is a contributory factor.

Iron deficiency anemia is an important public health problem in many developing countries including India. It has been estimated that in India 40-60% of preschool children, 25-30% of women of child bearing age, and almost 30% of pregnant women suffering from anemia. In one of the survey National Institute of Nutrition (1994) reported that 70 percent of the Indian young girls suffered from anemia.

Community health Nurse has a major role in identifying the prevalence of anemia mainly among the middle age women. Most important is to instigate the intake of flow cost iron rich diet among the people, by which anemia can be prevented in the community. During the community posting while doing the physical assessment for the middle age women, the researcher found most of the middle age women were having iron deficiency and unaware about iron rich diet . So the Investigator felt the need to improve the hemoglobin level of the middle age women, for that the researcher intended to intervene by nutrition supplementation of iron rich Beetroot juice with Vitamin C (lemon) to the middle age women.

STATEMENT OF PROBLEM

" A experimental study to assess the effectiveness of beetroot juice on HB level among middleage women in Sree Balaji teacher training institute at chrompet, Chennai.

OBJECTIVES

- To assess the level of HB among Middle age women before the administration of beetroot juice.
- To assess the level of HB among Middle age women after administration of beetroot juice.
- To assess the effectiveness of beetroot juice on level of HB among middle age women.
- To assess the association between HB level among middle age women and the selected demographic variables.
- RESEARCH METHODOLOGY:

The research approach used for this study is evaluative approach.

RESEARCH DESIGN:

The Research Design adopted was pre experimental study. A one group Pre test & Post test design.

SETTING OF THE STUDY:

Study was conducted in Sree Balaji Teacher training institute at Chrompet. Total population is 60 women. In this middle age

women were 60.They are studying in Sree Balaji Teacher training institute at Chrompet.

SAMPLING TECHNIQUE:

Non Randomised convenient sampling technique method

SAMPLE SIZE:

Sample size consists of 60 middle age women in Sree Balaji Teacher training institute.

Inclusion criteria:

- Middle age women with Hemoglobin less than 10gm/dl
- Middle age women who have attained menarche.
- Middle age women those willing to participate.

DESCRIPTION OF THE TOOL:

Part I: It consist of structured interview schedule to assess the demographic data such as age, type of the family, religion, monthly income, menstrual cycle.

Part II: It contains the observation check list which contains 15 items. It consists of 7 items in signs and 8 items in symptoms.

Part III: It includes assessing the HB level of middle age women by using Sahli's Haemometer method.

DATA COLLECTION PROCEDURE:

The main study was conducted in Sree Balaji Teacher Training Institute at Chrompet. Before the study the investigator has obtained the written permission from the Principal of the Sree Balaji Teacher Training Institute and oral consent was taken from the study participants after explaining the purpose of the study. The samples that had less than 10 gm of HB were selected as study participants. On the first two days demographic variables were collected and the level of anemia for 60 samples was assessed by checking the hemoglobin using Sahli's hemometer, and signs and symptoms was assessed by structured observational checklist. Samples were visited every day in their class and made to consume Beetroot juice. The intervention was done continuously for 20 days. After 2 weeks hemoglobin level was checked and the anemia signs and symptoms were assessed by using observational checklist to find out the level of iron deficiency anemia. The collected data were entered and analyzed statistically.

DATA ANALYSIS

Collected data were tabulated and analyzed using Descriptive and inferential statistics.

- (I) Frequency and percentage of demographic variables of middle age women with iron deficiency anemia.
- (II)Frequency and percentage level of anemia among middle age women before giving beetroot juice.
- (III)Frequency and percentage level of anemia among middle age women after giving beetroot juice.
- (IV)Comparison of frequency and percentage distribution level of anemia among middle age women with iron deficiency anemia before and after giving Beetroot juice.
- (V)Comparison of Mean, Mean percentage, Mean difference, standard deviation and 't' value score of level of anemia in pretest and post test.
- (VI)Association of the post level of iron deficiency anemia with their selected demographic variables.

MAJOR FINDINGS:

The Findings Related to the Demographic Variables of the sample

Showed that among 60 middle age women with iron deficiency anemia 18 (30%) belongs to 17-18 years, 19 (32%) belongs to 19-20 years, 23 (38%) belongs to >21 years of age.

Regarding type of family 47(78%) belongs to nuclear family, 13(22%) belongs to joint family

Regarding Religion 40(67%) belongs to Hindu, 18 (30%) belongs to Christian, 2(3%) belongs to Muslim.

Regarding income per month 5(8 %) belongs to <3000, 24 (4'0%) belongs to 3001-5000 income group, 31 (52%) belongs to > 5000 income group.

Regarding type of food consumption 5(8%) were belongs to vegetarian, 55(92%) were belongs to Non vegetarian.

Regarding Menstrual cycle 45(75%) were having regular,15 (25%) were having irregular menstruation.

Findings related to Before giving Beetroot juice for middle age women



Shows that the middle age level of anemia before giving Beetroot juice among 60 women with iron deficiency anemia 35 (58%) had moderate anemia,15 (25%) had mild anemia,10(17%) had no anemia, None of them coming under severe anemia.

Findings related to after giving Beetroot juice for middle age women



shows that the middle age level of anemia after giving Beetroot juice among 60 women with iron deficiency anemia 19 (32%) had moderate anemia, 21 (35%) had mild anemia, 20(33%) had no anemia.

Findings Related to Effectiveness of Beetroot Juice



Findings related to Comparison of Mean, Mean percentage, Mean difference, standard deviation and 't' value score of level of anemia in pretest and post test. shows that the mean scores of pretest and post test level of anemia among middle age women 9.7 (SD=0.6), 10.5 (SD=1.2) respectively. Thus the difference in pretest and posttest mean was 1.2. The over all pretest mean percentage was 16.166, where as the post test mean percentage was 17.5. Pre test level of anemia mean score is less than the post test score. Patient's value is 30.0 which were significant at 0.001 levels.

CONCLUSION DRAWN FROM THE STUDY

On the basis of the findings of the study, the following conclusions could be drawn:

Ø Middle age women who were administered Beetroot juice experiences early increase level of HB in terms of Paleness in the conjunctiva, tongue& Nails, return of appetite.

Ø There was a Highly significant was found between pretest and post test giving Beetroot juice at P<0.001.The study revealed that the giving Beetroot juice was effective in increase the level of HB among middleage women with iron deficiency anemia.

Ø There was association between HB level among middleage women and selected demographic variables age, Type of family, Religion, Monthly income, Dietary habits and Menstrual cycle among the Middleage women who were administered Beetroot Juice. This indicated that there was no association with the demographic variables between the post levels of iron deficiency anemia.+

DISCUSSION

Findings of the Present study indicated that after menarche, middle age women experiences Iron deficiency anemia. By administering Beetroot juice, there was an early increase level of HB in terms of paleness in the conjunctiva, tongue and nails and return of appetite.

Even thousands of years ago Anemia treated with medicinal iron in tablet form has been around for a very long time, but produces some side effects like constipation. The other alternative is a diet rich in iron. There needs to be an increase fortification in salt for reducing the prevalence of anemia. The study aimed to determine anemia in pregnant women may be more easily achieved if satisfactory iron status can be ensured during middle age women can improve their iron status in preparation for pregnancy and benefit their current health and wellbeing.

Hence, it was very easy to convince the patients on the health benefits of Beetroot juice especially in the field of increase level of HB.But the benefits of Beetroot juice were experienced by the experimental group gradually as they participated and cooperated in the study. One possible explanation is that Beetroot juice acts as sham feeding, stimulating the Increase level of HB.Thus, it seems that the mechanisms are multimodal.However, for an intervention that is so cheap, effective, Well tolerated, and free of side effects, it may be used clinically even before knowing the mechanism behind its success and important health and economic benefits.

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REFERENCES

- Abdellah, F.G. etal,(1979), Better Patient through nursing research, New York, Mac Milen Publishing Co.
- Basavanthappa B.T(1998), Nursing research, New Delhi, Jaypee Brothers Medical Publishers.
- Black.M.Joyce etal,(2005),Medical Surgical nursing clinical management for positive outcome, vol-2,New Delhi,Saundar's elsver.
- Bloom.A and Blooms.S(1996) Tooheys Medicine for nurses (14 th ed), Singapore, Longman Group Ltd.

- Buiton B.T(1980), Human nutrition Formerly the Heinz Hand Book of nutrition (3rd ed), New Delhi, Hill Publishing Company Ltd.
- Cai M.Q. and Yan M.G. (1990), Study on Nutritional status in Adolescence Biomedical Environment Science(3) 113-119.
- Chalkey A.M.(1987), A Textbook for the Health Worker Vol.I and 2 (ANM) New Dei, Wilsey Eastern limited.
- Demayer et.al(1989), Preventing and controlling Iron deficiency anemia through Primary Health care Geneva,WHO.
- Dutt p.r(1984), Primary health care, The Gandhigram Institute of Health and Family Welfare Trust Tamil Nadu.P.L. Printing.
- Gopalan.c. et al(1996), Nutrition value of Indian Foods Hydrabad, National Institute of Nutrition.
- 11. Haber Judith et .al (1994) , Nursing research methods critical approach and utilization, 3rd ed, Philadelphia, Mosby publication.
- 12. ICMR, (1990), Nutrient Requirements and Recommended Dietary Allowance for Indians, NIN, India.
- Jean carol West suitor & Merrily Forbes Crowley, (1994) Nutrition Principle and application in health promoter, 2 nd ed, Philadelphia, J.B. Lippincott company.
- 14. Mahajan B.k. and Gupta M.(1995) Preventive and social Medicine, New Delhi, Jaypee Brother's Medical Publishers Pvt Ltd.
- 15. Mantic Sharon Lewis etal, (1996) Medical Surgical Nursing, 4 th ed,New York, mosby publication.
- 16. National Institute of nutrition (1992) , Body Mass Index Hyderabad, Booklet published.
- 17. Park k(2009) Text book of Preventive and social medicine, 20 th ed, Jabalpur, h/s banaridas bhanot publishers.
- Polit Dewis & Hungers et alm(1995) , Nursing research principles , and method, 15 th ed, Philadelphia, Lippincott company.
- Rao. K.S.(1992) ,An Introduction to CHN with special reference to India (Revised ed) Madras, Rajan & company.
- Rao Sundar p.s.s.(1999) An introduction to biostatistics a manual for students in health science, 3 rd , New Delhi, Prentice hall of India private limited.
- 21. Rovle.J. and Walsh M,(1992) , Medical related physiology (4 th ed) London Biliere TRNDALL.
- 22. Shaffer's & Phipps, (1996), Medical surgical nursing, I s ted New Delhi, BI publications .
- Sore son & Mann luck, (1993), Medical surgical nursing, 3rd ed, London, Lippincott.
- 24. Swaminathan (1993) Advanced text book on food and nutrition , 2 nd ed, Bappco, Bangalore publication.
- 25. Wesley Ruth (1995) Nursing theories and model, 2 nded, Pennsyivania, spring house co- operation.
- Woods N F etal (1988) Nursing research theory and practices S.T.louis C.V.mosby co.
- 27. Who (2000) ,Women of south east- asia, A health profile New Delhi.
- Who (1997), control of nutritional anemia with special reference to iron deficiency, Geneva WHO.

JOURNAL REFERENCE

- Aggarwal KN and Nishra K.P. (1991) " The Indian journal of medical research", Factors contributing to maternal anemia, pp 277-280
- Alukorala T.M and silve, L.D.(1990). "Iron status of middleage women in three schools in an urban area of Srilanka" Journal for Tropical pediatric 216-221.
- Barr. F.etal (1998) "Reducing iron deficiency anemia due to heavy menstrual blood loss in Nigerian rural adolescents Alukorre cure for anemia, pp 8-10.
- 32. Devi thirumain.A.(2005 Apr), " Health action", Results of a study conducted in Coimbatore city, averting anemia, pp 23-25, 36.
- 33. Family welfare department, (2005 oct) "Nightingale nursing time", IDA PP-47.
- Dr. Gupta Radhna (2003 may), " Health action", Controlling Iron Deficiency Anemia, pp17-19.
- Fleming, etal. (1998), " American journal of clinical nutrition," Hematological diseases, pp 224-230.

NET REFERENCE

- 36. http://www.iin.sld.pe
- 37. http://www.indmedica.htm
- 38. http://www.gizi.net/cgi-bin/berita/fullnews.
- 39. http://www.goliath.ecnext.com
- 40. http://www.nature.com/ejcn
- 41. http://www.vitamin c study.htm
- 42. http;//file://D: intervention.htm
- 43. http://www.inter.htm
- 44. http://www.wikipedia.com.