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RESEARCH ARTICLE

COMPARISON OF THE EFFECTIVENESS OF GINGER CAPSULES AND VITAMIN B_6 IN THE TREATMENT OF NAUSEA AND VOMITING IN EARLY PREGNANCY.

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Abstract

Pregnancy is a unique experience for every woman and is a delightful response when it is confirmed and the woman is adapted to it. Nausea and vomiting is one of the most common symptom experienced in first trimester of pregnancy. As per many studies that may be controlled with conservative measures and alternative therapies such as ginger and some medications like Pyridoxine & Doxylamine that is found to be safe & effective.

The study was conducted in Bharati hospital, Pune. The study included 36antenatal mothers with nausea and vomiting. The research approach used was quasi experimental. Tools used to collect data were Demographic Data, Self Reported Questionnaires and the Rating scale Rhode's Index. The reliability was determined by using Split Half Method. The reliability co-efficient was 0.79. Result of the post test score revealed that both Ginger capsules and Vitamin B_6 have effect in reducing nausea and vomiting in pregnancy and Ginger capsules are more effective than Vitamin B_6 in reducing nausea and vomiting during early pregnancy.

Introduction:-

Pregnancy is a delightful response when it is confirmed and there is a real pleasure in finding oneself functionally capable of becoming pregnant. There is a pleasure in becoming a parent who is capable of loving & caring for a totally dependent infant. These pleasurable experiences are compensated by certain minor discomforts associated with pregnancy such as nausea and vomiting, backache, headache, heartburn, cramping, fatigue, constipation etc. It is important for a nurse midwife to recognize the same appropriately and manage it perfectly with the help of complementary & alternative therapies **(Tiran 1986).**

Nausea and vomiting is the most common symptom experienced in first trimester of pregnancy and is usually common in primigravidae when the mothers complain of nausea and occasional sickness on rising in the morning. Symptoms are often episodic and can however, occur at any time of the day **(Gadsby etal 1993)**. They usually appear following the first or second missed period and subside by the end of 1^{st} trimester i.e., 12^{th} to 14^{th} week of pregnancy **(Dutta 1992).** Of all nausea and vomiting in pregnancy nausea affects between 70 to 80% of women and about half of all pregnant women experience vomiting **(Jewell D and Young G).**

Although several theories have been proposed, the exact cause remains unclear. It could be due to increase in chorionic gonadotrophin, but psychological background cannot be ruled out. Altered hormonal and immunological states are also considered responsible for initiation of manifestation, which is probably aggravated by the neurogenic factor **(Dutta1998).**

Quinla JD in his family practice residency program, reported nausea and vomiting in pregnancy is generally a mild, self limited condition that may be controlled with conservative measures. Initial treatment should be conservative and should involve dietary changes, emotional support and perhaps alternative therapies such as ginger or acupressure. Several medications, including Pyridoxine & Doxylamine, have been found to be safe & effective.

Objectives:-

- To assess the severity of nausea and vomiting before treatment.
- To assess the effect of Ginger capsules in the treatment of nausea and vomiting in pregnancy.
- To assess the effect of vitamin B_6 in the treatment of nausea and vomiting in pregnancy.
- To correlate the severity of nausea and vomiting with selected demographic variables.
- To compare the effect of both Ginger capsules & Vitamin B_6 and with the control group to treat nausea and vomiting in early pregnancy.

Materials and methods:-

A Quasi experimental study was conducted with the purpose to compare the effectiveness of two interventions through the administration of different treatments viz ginger capsules and vitamin B_6.The study was conducted in the Obstetrics and Gynaecology Out Patient Department of Bharati Hospital, Pune. The pregnant mothers in first trimester complaining of nausea and vomiting and those who were not diagnosed with hyperemesis gravidarum in the antenatal OPD of Bharati Hospital, Pune, were included in this study. The samples were selected by convenience sampling technique, for a period of 5 weeks. The samples that fulfilled the inclusion criteria were given one of the two selected drugs for the treatment of nausea and vomiting. The sample consisted of 36 antenatal mothers who fulfilled the inclusion criteria of this study. Out of 36 antenatal mothers, 12 were selected to be treated with ginger capsules, (Experimental group I) and 12 to be treated with vitamin B_6 (Experimental group II) and 12 were under control group with no treatment.

The tool consists of three parts:-

Section I: It consists demographic data of the antenatal mothers

Section II: It consists of a Self Reported Structured Questionnaire related to severity of nausea and vomiting that contribute to provide the information regarding the severity of nausea and vomiting among the study samples as they experience due to pregnancy.

Section III: It consists of Rhode's Index for nausea, vomiting & retching, published by Dr. Verna A. Rhode's for which a scoring key system was developed by the investigator.

The reliability co-efficient for the developed tool was calculated using split half technique. The reliability co-efficient was found to be 0.79, which shows that it is significantly reliable tool. The data were analyzed using descriptive and inferential statistics.

Results:-

The findings of phase I show 26(72.2%) samples were above 20 years age. Majority of them i.e., 25(69.4%) were below matriculation. 21(58.3%) belong to joint family. 22(61.1%) were with the duration of marriage below 2 years. Majority of them, I.e., 25(86.1%) were housewives. 24(66.6%) had a monthly family income below Rs.5000/- and 23(63.8%) had no history of nausea and vomiting in their families. All the samples had a nauseated feeling. Out of which 29(80.5%) had nausea in the morning and 16(44.5%) had in other times of the day, of them 8(50%) had in the afternoon period. Majority i.e., 32(88.8%) had vomiting. Of them 15(46.8%) had vomiting 2-3 times a day. 26(72.2%) had nausea & vomiting everyday. Majority of samples i.e., 23(63.8%0 had nausea and vomiting throughout the day. Other specific factors (like food, smell & traveling) did not aggravate nausea and vomiting in case of 22(61.1%) of samples. All of the samples visited the doctor to get relief from nausea and vomiting.

Severity of nausea and vomiting:-

In experimental group I,7(58.3%) samples & 5(41.6%) samples experienced nausea and vomiting at a moderate and severe level respectively in pretreatment. In post treatment all 12(100%) shifted to mild level of nausea and vomiting. In experimental group II, all 12(100%) experienced nausea and vomiting moderately in pretreatment but in post treatment, only 2(16.6%) shifted to mild level of nausea and vomiting. In control group 1(8.3%) experienced

nausea and vomiting mildly and rest experienced moderately in the pretreatment but in post treatment all shifted to moderate level of nausea and vomiting.

Effect of Ginger capsules and Vitamin B_6:-

Table 1: Mean, SD for pre and post treatment at each level of nausea and vomiting for each group.

S. No.	Groups	Severity	Pre treatment		Post treatment	
			Mean	SD	Mean	SD
1	Experimental group I	Mild Moderate Severe	--- 22.57 29.8	--- 4.16 0.74	11.75 --- ---	0.92 --- ---
2	Experimental group II	Mild Moderate Severe	--- 23.5 ---	--- 2.17 ---	15 19.8 ---	1 1.01 ---
3	Control group	Mild Moderate Severe	16 22.45 ---	--- 1.92 ---	--- 22.91 ---	--- 1.96 ---

Table 2: Description of effect of Ginger capsules and Vitamin B_6.

S. No.	Groups	Pre treatment		Post treatment		t- value
		Mean	SD	Mean	SD	
1	Experimental group I	25.58	4.48	11.75	0.92	10.47
2	Experimental group II	23.50	2.18	19	2.12	5.13
3	Control group	21.92	2.56	22.92	1.89	1.09

Table value at 0.01:- 3.11

In all three groups, mean & SD were calculated for pre and post treatment. This was tabulated and further calculated to get the't' values At 0.01 level of significance, the table value was compared and suggested that calculated value is greater than table value in case of both the experimental groups which says there is significant effect of both Ginger capsules and Vitamin B_6 on nausea and vomiting. In control group insignificant effect was calculated.

Relationship of demographic variables with severity of nausea and vomiting:-

Table 3: Association between demographic variable and nausea and vomiting .

	Age	Type of Family	Duration of marriage	Occupation	Family income	Family history
Severity of nausea and vomiting	1.3	3	3	5.3	3	8.3

df : 1, Chi-square table value : 3.84

Association with age, type of family, duration of marriage, family income showed that calculated chi-square value is less than table value i.e., 3.84, when df = 1 and level of significance is 0.05. In case of occupation and family history, the calculated value is greater than the table value, which shows that there is a significant association at 0.05 level of significance.

Comparison between the treatments:-

Table 4: Mean difference, SD in case of control and experimental groups.

S. No	Groups	Mean difference	Standard deviation
1	Experimental group I	13.83	4.26
2	Experimental group II	4.50	2.22
3	Control group	1.00	2.97

Table 5: Comparison between the groups.

	Experimental group I & Experimental group II	**Experimental group II & Control group**	**Experimental group I & Control group**
t-value	12.94	5.89	9.89

t(22-) : 2.82 at 0.01 level of significance.

The 't' values are calculated between the groups for all three groups. All of them are higher when compared to the table value at 0.01 level of significance. This showed Ginger capsules are more effective than the Vitamin B_6.

Discussion:-

The findings of the study have been discussed with reference to the objectives & hypothesis stated. Majority of the samples were above 20 years of age and majority studied below 10^{th}. Most of them belong to joint family with marital age below 2 years. Most of them except a few were housewives. Majority had the family income below Rs. 5000/- pm. Very few had a family history of nausea and vomiting. All of them experienced nausea in the morning, while some of them during the day, mostly in the afternoons. Majority had vomiting every 2 days & 2-3 times a day. Aggravating factors were considered and few of them affected with this and found that food was the main factor. All of them had visited the doctor to get relief of nausea and vomiting. Severity of nausea and vomiting was measured before and after treatment. All the samples who were in the moderate level in case of Experimental group I were shifted to mild level where as in the Experimental group II only 2 samples shifted to mild level and in case of control group 1 sample who had mild nausea and vomiting shifted to moderate level after 4 days. This shows Ginger capsules are more effective than vitamin B_6. The Chi-square test showed that, there is no relation of severity of nausea and vomiting with age, type of family, duration of marriage and family income. But occupation and family history of nausea and vomiting are associated with severity of nausea and vomiting. As the post treatment score of nausea & vomiting was less than that of pre treatment score, it is evident that the drugs are effective and efficient. And, while comparing between the drugs, it is already shown that Ginger capsules are more effective than the vitamin B_6.

Conclusion:-

Ginger helps to reduce severity of nausea and vomiting if appropriate dose is taken at the right time. The obstetric nurse comes across many pregnant mothers who in first trimester and are suffering with nausea and vomiting in the outpatient setting in her day to day life, where she can advise the use of ginger in the diet or in various forms of ginger preparation when required.

Recommendations:-

- A similar study can be replicated in different setting.
- A similar study can be conducted by using a large sample so that the findings can be generalized.
- More researches need to be undertaken to compare the incidence of nausea and vomiting with the effectiveness of either of the drug.
- A follow up study can be conducted to evaluate the adherence to treatment to the particular drug.
- A study can be done to find out the incidence of nausea and vomiting among primigravida mothers.
- A similar study can be conducted controlling all the extraneous variables.

References:-

1. Alexandria VR, 2001, Health & Wellness Handbook, volume 2, Published by Southwestern Company, Page-618-619, 868-871.
2. Bender DA (1999) Non Nutritional uses of Vitamin B_6 , British Journal of Nutrition, 585:321-330.
3. Betty R. Sweet, 1999, Maye's Midwifery, A Textbook for Midwives, 12^{th} edition, Published by Baillier Harcourt, Page-272.
4. Binnett Brown, 2001,Myle's Textbook for Midwives, 13^{th} edition, Published by Marylaw, Page-210.
5. Bobak & Jensen, 1995, Gynaecological Nursing, 4^{th} edition, Mosby Publication, Page-106.
6. de Aloysio D, Penacchioni P (1992) Morning sickness control in early pregnancy by Neiguan Point acupressure, Obstetric and Gynecology, 80: 852-854.
7. Dutta D. C., 1992, Textbook of Obstetrics, 3^{rd} edition, New Central Publisher, Page-108,165.
8. Erick M (1995) Vitamin B_6 and Ginger root in Morning Sickness, Journal of American Dietetic Association, 95:416.

9. Fetrow CW, et al, Professional's Handbook of complementary and alternative Medicines, Philadelphia: Springhourse: 1996.
10. Gupta & Gupta, 2001, Illustrated Nurses' Dictionary, 1st edition, Page-482.
11. Jewell D, and Young G (2001) Interventions for nausea and vomiting in early pregnancy, Cochrane Review, 4.
12. Keating A, Chez RA, (2002) Ginger syrup as an antiemetic in early pregnancy, Journal of Alternative Therapies, 8:89-91.
13. Lumb AB, Mechanism of antiemetic effect of ginger, Anaesthesia, 1993;48: 1118.
14. Murphy P. A. (1998) Alternative therapies for nausea and vomiting of pregnancy, Obstetrics & Gynecology, 91:149-155.
15. O'Brien B, Naber S (1992) Nausea and vomiting during pregnancy:effects on the quality of women's lives, Birth 19:138-148.
16. Polit & Hungler, 1999, nursing research, Principles and Methods, 5th edition, Philadelphia & Lipincott Publication.
17. Rhodes VA, Watson Pm, Johnson MH (1984) Development of reliable and valid measures of nausea and vomiting, Cancer Nursing 7:33-41.
18. Smith C, Crowther C, Wilson K, Hontham N, McMillian V (2004) A randomized controlled trial of ginger to treat nausea and vomiting in pregnancy, Obstetrics & Gynecolgy, 103(4):639-645.
19. Talbot A. L., 1999, Principles and practice of Nursing research, 3rd edition, Mosby Publication, Page-114.
20. Tiwari, 1986, Ayurvediya Prasutitantra Evam Shtree Roga, 1st edition, Volume 1, Published by Chaukhambha orientalia, Delhi, Page-252-257.
21. Vutyavanich T., Ruangsri R., and Kraisarin T. (2001) Ginger for nausea and vomiting in pregnancy: randomized, double-masked, placebo-controlled trial, Obstetrics & Gynecology, 97:577-582.