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Research article

**TREATMENT EFFICACY OF GINGER V/S PYRIDOXIN IN THE FIRST TRIMESTER
NAUSEA & VOMITINGS OF PREGNANCY-A COMPARATIVE STUDY**Kaliki.Hymavathi¹, Vungarala.Satyanand², Pathapati.Ram mohan³, Dhanalakshmi narayanaswamy⁴ and
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ABSTRACT: Nausea and vomiting are the main symptoms in 1st trimester of pregnancy. Ginger is safe and highly effective in the treatment of pregnancy induced nausea and vomitings. The present study aimed to evaluate the effectiveness of Ginger and Pyridoxine in the treatment of pregnancy induced nausea and vomitings (First trimester).100 pregnant women attending the out patient department of Obstetrics and Gynecology of Narayana medical college hospital, Nellore with complaints of nausea and vomitings in 1st trimester of pregnancy are recruited into the study after obtaining informed consent. These 100 were divided into two groups. 50 were given Ginger administration and another 50 were given Pyridoxine for a period of 35 days. During the period of treatment the symptom relief in both the groups are assessed periodically by visual analog scales .The results have shown that nausea and vomiting scores reduction was found to be much better in Ginger group compared to Pyridoxine group. Ginger administration is proved to be a better treatment in treating 1st trimester pregnancy induced nausea and vomitings.

Key words: Ginger, Pyridoxine, 1st trimester of pregnancy, nausea and vomitings.

INTRODUCTION

Ginger (*Zingiber officinale*) is one of the commonly used flavoring food agents in Asian and Indian recipes (Shukla Y, Singh M, 2007). In Asia, from ancient times dried ginger is used to reduce the stomach ache, nausea and diarrhoea. Ginger is a herb which contains a chemical component named zingiberene. It has aromatic, spasmolytic & carminative properties which suggest it's direct effect on gastro intestinal tract (Ernst.E and Pittler MH, 2000). Ginger is most potent against nausea associated with motion sickness & pregnancy and also it's use is not found to be associated with any significant side effects (Arfeen Z, et al, 1995, Bone ME et al 1990, Grontved A, et al 1988, Mowrey DB, Clayson DE, 1982, Boone SA, Shields KM, 2005). In the first trimester of pregnancy, nausea with or without vomitings occur in 60 to 80 percent of women (Murphy PA, 1998). Ingestion of 1gm of Ginger syrup daily is found to be a useful remedy for the nausea and vomiting of pregnancy (NVP) (Angela keating MD,Ronald Achez, 2002). In a randomized double blind controlled study, comparing the effectiveness of both Ginger and vitamin B6 (Pyridoxine) it was proved that Ginger is more effective than vitamin B6 in treating NVP Chittumma P, et al, 2007). Anti-emetic effect of Ginger appears to reduce the frequency of nausea in early pregnancy (Jewell D, Young G, 2002, T.iran D, 2002, Arfeen Z, et al, 1995). It is considered to be effective in the treatment of Hyperemesis gravidarum also (Fischer-Rasmussen W, et al, 1990). As per the study of Ernst and Pittlar,Ginger is definitely superior to placebo but with no significant differences between the treatment groups with Ginger and Metaclopramide (Ernst E, Pittler MH, 2000). The British Herbal compendium lists Ginger as a remedy for vomiting during pregnancy (Bradley RR,ed.British, 1992). Pharmacopoeia of the people's republic of China stated that there is no contraindication to Ginger during pregnancy (Tu G,ed ' 2012). The purpose of this study is to assess the effectiveness of Ginger compared to Pyridoxine in the treatment of nausea and vomitings during the first trimester of pregnancy.

MATERIAL AND METHODS

This is an open labeled study done for 35 days with 100 pregnant women. After being approved by the Institutional Ethical Committee this study is conducted at Narayana Medical College and Hospital, Nellore. Informed consent was obtained from study participants attending the out patient department of Obstetrics and Gynecology in Narayana Medical College and Hospital. The inclusion criteria were pregnant women with complaints of nausea and vomiting in 1st trimester, aged between 20-35 yrs, without any associated pregnancy complications or other illnesses. These women were divided into two groups of 50 each – A and B. Group A is allotted for Ginger administration and group B for Pyridoxine. One gram of fresh Ginger piece was given before breakfast in early morning once daily to group A and tab Pyridoxine 25mg twice daily to group B for a period of 35 days. Women were graded according to the severity of their nausea and vomitings using visual analog scales before, during (every weekend) and one week after the completion of treatment.

RESULTS

Total number of subjects included in this study were 100. Ginger group consists of 50 subjects and Pyridoxine group consists of 50 subjects. There were no dropouts during the treatment period. Before, during (every weekend) and one week after completion of the treatment the observed average nausea and vomiting scores were found to be as follows:

Table -1

Weekends	Nausea & Vomiting scores in Ginger group (Group A) 50 nos	Nausea & Vomiting scores in Pyridoxine group (Group B) 50 nos
Before treatment	9.0	9.0
1st weekend	6.68	8.06
2nd weekend	4.86	6.58
3rd weekend	3.34	3.8
4th weekend	1.56	2.42
5th weekend	0	1.0
6th weekend (week after completion of treatment)	0	1.0

The results have shown that the disparity in the symptom relief between both the groups is considerable in the first two weeks with better scores in Ginger group compared to the other. On the whole the nausea and vomiting scores were consistently and significantly reduced in the Ginger group compared to Pyridoxine group. There were no notable side effects except for the slightly bitter taste experienced by the subjects initially in the Ginger group.

DISCUSSION

Ginger is the rhizome of *Zingiber officinale*. In many cultures, Ginger, fresh sliced, sugared and pickled is eaten as a part of a meal and is a good food flavoring agent. It has been used as a remedy for nausea and vomiting, motion sickness, and dyspepsia. Common dosages range from 1 to 5 gm in powdered form or dry extract or as fresh Ginger. It has been proven that Ginger is effective in the treatment of nausea and vomitings in 1st trimester of pregnancy. Ginger alleviates nausea by a combination of its anti-inflammatory and anti-spasmodic effects. Ginger can bind 5-HT₃ receptors to enhance anti emetic effect and can increase detoxification enzymes to counteract oxidative damage to tissues. This property of Ginger also helps in the treatment of chemotherapy induced nausea and vomitings. One gram of Ginger is more effective than two grams because one gram of Ginger may saturate the receptors rendering higher doses ineffective. So in this study, one gram of Ginger is taken to reduce the nausea and vomitings in pregnancy. In our comparative study of Ginger and Pyridoxine in this regard, Ginger is found to be more effective than Pyridoxine. Analysis of outcome basing on visual analog scales indicates the significant reduction of vomitings after intake of 1gm of fresh Ginger.

As per earlier studies it is suggested that fresh Ginger may be effective for mild to moderate nausea and vomitings of pregnancy when used at a recommended dose of 1gm. per day. As per this study, Ginger is found to be more effective than Pyridoxine in relieving the severity of nausea and is equally effective for decreasing the number of vomiting episodes in early pregnancy. As this study sample is relatively small to substantiate Ginger efficacy in nausea and vomiting of pregnancy further studies may be needed with larger sample size to arrive at meaningful conclusions

CONCLUSIONS

This open label study has shown that intake of 1gm of fresh Ginger is found to be significantly effective in reducing the frequency as well as the intensity of vomitings of 1st trimester pregnancy compared to Pyridoxine. Thus we feel that Ginger is a better non pharmacological intervention in the treatment of NVP without any notable side effects.

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