



Interventional study to strengthen the health promoting behaviours of pregnant women to prevent anaemia in southern India

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ABSTRACT

Objectives: to determine the effectiveness of a health information package in terms of empowering the pregnant women to modify their health-care behaviour and take appropriate action to combat anaemia in pregnancy.

Design: the study was conceptualized based on Rosenstock and Becker's health belief model. A quasi-experimental pretest–posttest control group design was used. The sample consists of 225 anaemic pregnant women randomly allocated in experimental ($n=75$), control group A ($n=75$) and control group B ($n=75$). The health seeking behaviour outcome measure included knowledge regarding anaemia, food selection ability, increase in haemoglobin level and compliance to iron supplementation. Intervention was a validated planned educational programme with visual aids and iron supplementation.

Findings: the results show the mean gain of knowledge scores of experimental group was comparatively higher and control groups A and B showed that F ratio was ($F(2,190)=11.910, p < 0.01$) indicating that the pregnant women learned more about anaemia prevention than others. With regard to food selection ability scores of experimental, control groups A and B the F ratio was also significant ($F(2,190)=20.92, p < 0.01$). Nearly 61.2% of the subjects in experimental group became non-anaemic after the intervention when compared to control group A. This indicated that in spite of iron supplementation received by the three groups health education contributed significantly in modifying their health seeking behaviour and their perception about significance of anaemia as a problem.

Conclusion: developing countries still face the critical problem of anaemia in pregnancy. These are the socio-cultural priority problems that demand immediate attention by the policy makers and health professionals. The national anaemia control programme focuses on iron supplementation, but nutritional education and supervision of iron supplementation has failed in different regions. The study implies that economic empowerment; strengthening health literacy through planned educational programs will definitely improve the health behaviour of individual and community at large.

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Introduction

Anaemia is one of the most widely prevalent problems affecting the pregnant women worldwide: 52% in developing countries compared with 23% in the developed countries (WHO, 2001). In India the prevalence is as high as 40–80%. The most common causes of anaemia are poor nutrition, deficiencies of iron and other micronutrients, malaria, hookworm disease, HIV and other additional factors (Van den Broek et al., 1998). According to Sifakes and Pharmakides (2000) anaemia in pregnancy is responsible for prematurity, low birth weight, impaired physical growth and spontaneous abortions. Park (2002) emphasizes that it is also associated with postpartum

haemorrhage, puerperal sepsis and thromboembolic phenomenon in the mother. This indicates that anaemia in pregnancy has significant impact on the health of the mother and fetus.

The four basic approaches currently in use for the prevention and control of anaemia are: supplementation with iron tablets; control of infections; use of anti-helminthic drugs to control worm infestations; and in some regions availability of staple food fortified with iron. Despite these measures there is still a high prevalence of anaemia among pregnant women. According to Galloway et al. (2002) the results of the study on women's perceptions of iron deficiency anaemia and its prevention and control in eight developing countries showed that 50 percent of women in all these countries consider symptoms of anaemia as a priority concern but the remaining half do not consider this as a priority. The findings also showed that women stopped taking iron tablets due to negative side effects. The additional barriers included inadequate counselling

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and distribution of iron tablets, difficult access and poor utilization of prenatal care services and beliefs against consuming medications during pregnancy and in most countries fears that medications during pregnancy is harmful or pregnancy is a normal process and hence health-care services is not essential.

Preventive care and health education during pregnancy is of great importance, both for the health of the mother and child (Pallikadavath et al., 2004). Empowering women with health education plays a very important role in strengthening the health promoting behaviours. One of the ways is by having regular health education programs to prevent illness and adverse outcomes. A study on intervention with iron supplementation, deworming and information, education and communication to improve haematological status found a significant decline in the prevalence. In the first trimester from 56.1% to 25.07%, 73.4%–49.2% in the second trimester, and 68.8%–56.8% among women in the third trimester respectively in the intervention area (Abel et al., 2000).

Literature reviewed showed many gaps despite iron supplementation the problem still persists. There is adequate literature on effect of iron supplementation and pregnancy outcomes. However the areas such as perception of pregnant women regarding anaemia as a problem, awareness regarding food sources rich in iron, protein and vitamin C which either helps in supplementation or enhances iron absorption is less explored. The investigators felt a need to explore these areas and develop an interventional programme that strengthens the health promoting behaviours minimizing the barriers and improving the haemoglobin level during pregnancy.

Research Methodology

The study aimed at determining the effectiveness of a health information package (HIP) for anaemic pregnant women. The study was conceptualized using a health belief model (Fig. 1). An evaluative approach using a quasi-experimental pretest–posttest control group design (Fig. 2). For ethical reasons a control group in true sense was

not possible as the pregnant women could not be given a placebo instead of iron and folic acid supplementation. Hence to act as a control situation a group of anaemic pregnant women were not given teaching as part of the health package programme. The experimental group subjects and control group subjects were selected from separate hospital in Udupi district, Karnataka. Udupi district belongs to a Karnataka state with a population of 1,177,908 (as per 2011 census) and literacy rate of 81.25%. The pregnant women both from rural and urban area who attended the antenatal clinic below 20 weeks of gestation were recruited for the study. The samples were homogenous in terms of their background characteristics (Table 1). A non-probability purposive sampling technique was used.

After the sample selection, pretest was administered to the experimental and control group A and B subjects. The pretest included assessing the knowledge, food selection ability and haemoglobin level. Then the intervention (HIP) which included information on anaemia, iron and folic acid supplementation was given to the experimental group subjects. In pregnant woman whose stool test if found positive was informed and deworming done (as per doctor’s prescription). Posttest on knowledge and food selection ability was administered after 60 days. Haemoglobin level was again checked on the 90th day.

The three groups were not selected randomly but were treated identically except for the intervention (HIP). No attempt was made to restrict the iron and folic acid supplementation to the control groups A and B. The investigator assumed that all the three group subjects were exposed to instructions or some teaching given by the hospital staff. No restrictions were imposed for ethical reasons. Since no true control group existed in the study, a quasi-experimental design was accepted as it lacked true randomization and true control.

Development of the study instruments

The data collection instruments used to generate the necessary data were: A demographic and health related information proforma,

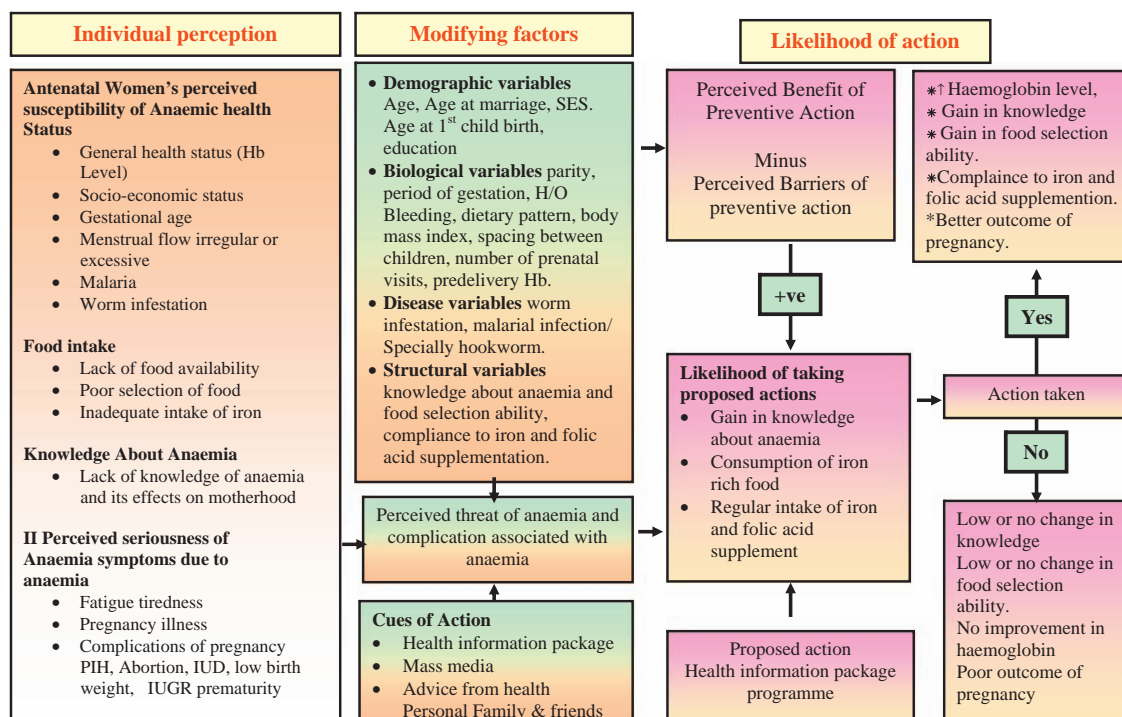


Fig. 1. Conceptual framework using the Rosenstock and Beckers's health belief model on anaemia in pregnancy and its prevention.

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