



Reduction of Maternal Anemia and Low Birth Weight in Rural Remote Population through a Community Approach in Pakistan

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ABSTRACT

The study of Anemia and Low Birth Weight among child bearing age women in districts Tharparker and Umerkot (located in eastern-south part of Pakistan), is one of the first unique research conducted for the region with reference to social circumstance, women's health, health services use, their obstetric history, dietary intake and physical activity during and prior to pregnancy. The activity that is supported under the NPPI initiative and with the technical oversight of UNICEF is indeed a commendable project in one of the most neglected areas of Sindh province. This is first prospective community based study in Pakistan that has researched the effect of Multiple Micro-nutrient (MMN) along with a set of composite community based interventions on the prevalence of anemia among pregnant women and incidence of low weight births in one of the remotest and highly food insecure regions of the country. The total study participants were 1,204 pregnant women (600 in intervention group and 604 in control group). The interventions were training of Community based workers on Nutrition guidelines for pregnant and lactating women and antenatal care, regular nutrition/ health education counseling of pregnant women and their families about diet, intake of multiple Micro-nutrients and health seeking behavior, provision of multiple micro-nutrient and de-worming tablets, measurement of weight and hemoglobin in each trimester of each enrolled pregnant women, and regular follow up. The major objective was to research and assess interventions for reducing low birth weight and maternal anemia with community based interventions including intake of Multiple Micro-nutrient, improving diet during pregnancy, inbuilt components of an integrated approach and prospects of scalability in rural communities.

INTRODUCTION

Anemia (defined by the World Health Organization as hemoglobin levels of ≤ 11 g/dl) is one of the world's leading causes of disability, and thus considered to be one of the most serious global public health problems. Anemia and its related morbidities and mortalities, are also known to implicate majority of disease burden among marginalized segments of the population such as women of child-bearing age [1]. The prevalence of anemia during pregnancy varies considerably because of differences in socioeconomic conditions, lifestyles and health-seeking behaviors across different cultures. In pregnancy, anemia (i.e. low blood Hemoglobin levels), also known as maternal anemia, has a significant impact on the health of the pregnant woman and her fetus. Anemia during pregnancy is empirically attributed to a 12% to 28% chance of fetal loss, a 7 to 10% likelihood of neonatal deaths, and may predispose to a nearly 50% chance of low birth weight (LBW) baby [2].

Many studies have examined the role of micronutrient supplementation on the health of women and her fetus during pregnancy [3]. Prenatal multi-micronutrient supplementation is associated with reduced risk of low weight birth outcomes and with improved birth weight [4]. In Pakistan, 32% of all babies born have low birth weight which is a major contributor to new born and infant mortality and stunting of 44% of children <5 years of age [5].

MATERIALS AND METHODS

It is quasi-experimental study as operational research design i.e. each intervention and its information and data are captured for analysis from intervention and non-intervention areas. Additionally, cross-sectional surveys were conducted before and

Figure 1: Birth weight of new born comparison of baseline and end line survey**DISCUSSION**

The results reflected that there was a marked improvement in the knowledge and practices of the women related to given importance to personal health, health seeking behavior during pregnancies, adopting hygienic practices and modifications of diet for ensuring dietary diversity (even during food insecurity situation), intake of multiple micronutrient and understanding of significance and benefits of good maternal health for the healthy outcome of pregnancy and on new born health. The major contributor in enhancing these behaviors are the regular and repeated counseling and health education by the community based health workers. Most of the information and its treatment have been usually sought by the doctors across both the baseline and end-line surveys; however, the contribution of LHWs as a source of information and services has shown a marked increase across the surveys.

CONCLUSION

Significant reduction in prevalence of iron deficiency anemia among the pregnant women, after almost all women ensured regular intake of multiple micro-nutrient and improvement in diet. These findings provided epidemiologically robust evidence about the success of project interventions in reducing anemia. These when observed in conjunction with the intervention phase results augur well for the interventions package, which has been successful in rural, extremely impoverished and non-agrarian population segments of Pakistan. Resulted in relatively higher birth weight reported among the intervention group of women. It is concluded that in rural remote areas where the food insecurity already prevailed, community based provision and improving intake of Multiple Micro-Nutrient to pregnant women, deworming, dietary counseling, significantly reduce the prevalence of anemia and resultantly reduce the incidence of low birth weight.

DECLARATIONS**Acknowledgement**

None

Conflicts of Interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article

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