Title of the project	**Preventing Low Birth Weight Through Multi-micronutrients Supplementation: Randomized but Unmasked Community Control Trial in Indramayu**
Conducted by	Center for Health Research, University of Indonesia
Supported/funded by	UNICEF
Date	2001-2003
Sample size	1698 pregmant women
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Many adverse effects are associated with LBW: young infant mortality and morbidity, early mal nutrition, poor development and later adult degenerative diseases. The high need nutrition during pregnancy are almost impossible to cover through dietary intake. WHO/UNU/UNICEF jointly has recommended the composition of the multiple micronutrients supplement to be used in pilot programs among pregnant women in developing countries. Those UN agencies also have recommended the replacement of Iron-Folate tablets with a multiple micronutrients supplements realizing the fact that the deficiency is not limited to Iron and Folate only. Many multiple micronutrients already exist and commonly used in industrialized countries however the suitability for use by pregnant women in developing countries has not been well tested.

A community experimental study with control group where cluster of dwelling server as unit for randomization. This study organized two different assessments: 1) efficacy of the supplementation and 2) effectiveness of the supplementation as a program in the field. In the efficacy study, the treatment group received the new Multi Micronutrient capsule (MMN) containing 15 micronutrient and the control group received regular supplement containing only 2 micronutrients: Iron-Folate. Both were closely supervised to dispense a daily mouth supplementation. The second study is an assessment of the program effectiveness for same new MMN and Iron-Folate supplements. Here the supplements were dispensed only every month I order to imitate the existing maternal supplementation program in Indonesia. Out of 1737 pregnant women contacted, 1698 of them became the final total samples, recruited at 12 – 20 weeks gestation. The study team observed and examined these indexed pregnant women longitudinally until the outcome of pregnancy and one month postnatal. The potential confounders such as general characteristic, social economics, anthropometry, bio-chemical concentration, dietary intake, morbidity and mortality were measured.

Out of 1698 total pregnant women enrolled, 27 were still birth, 41 spontaneously aborted, 67 migrated, 19 were ill and discontinued and 8 were twins, left out 1536 mothers with known and recorded birth size. There has been no significant difference in all means o birth size measurement for both the Efficacy Study as well as the Program Effectiveness Study. In the Efficacy Study, mother s consuming 100 and more MMN supplements have OR: 2.3 (95% CI: 1.1 – 4.9) for better survival of the fetus (lower risk of having abortion, still birth and neo-natal death) as compared with control mothers supplemented with iron-folate. The graphic presentation shows a dose-response effect of the MMN supplement on affecting the birth weight but not shown by the iron-folate tablets. Days with complaint on side effect of the new MMN are less obvious than iron-folate (30:50 days; p=0.005).

The Efficacy Study showed maternal supplementation with the new MMN supplement had no significant difference in the birth size (weight, length, head and chest circumference, calf) as compared with the control group supplemented with old iron-folate tablets. However, the new supplement has significantly reduced the abortion, still birth and neonatal as compared with the

control group. From the Program effectiveness Study, the new MMN supplementation also failed to show any significant improvement in the birth size as compared with the old ion-folate supplementation.