

Keywords: Social marketing intervention, healthy habits, food consumption.

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CAN CONDITIONAL CASH TRANSFER COMBINED WITH NUTRITIONAL SUPPLEMENTATION PLAY A ROLE IN REDUCING CHILD STUNTING IN RURAL MALI?

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Background and objectives: The World Food Program implemented a conditional cash transfer intervention (~€2.30 per month) coupled with a nutritional supplementation (Plumpy'doz®), targeting pregnant women and children under two during the 1,000-day window of opportunity, to prevent stunting in Kayes region, Mali. The objective of this study was to assess the impact of the intervention on child stunting.

Methods: We conducted a cluster randomized trial, with health community centers (CHCs) randomized in 4 intervention arms: Arm 1, control; Arm 2, cash to women attending prenatal follow up and postnatal visits (childhood immunization and growth monitoring); Arm 3, distributions of Plumpy'doz® (PPDoz) to children attending growth monitoring sessions and Arm 4, cash and PPDoz. In all 4 arms, the program provided health and nutrition education activities as a basis. We compared repeated cross-sectional samples of 12-42 months old children surveyed before the intervention (2013, n=5046) and at the end of the intervention (2016, n=5098), through a difference-in-differences approach using logistic or linear regression. A qualitative process evaluation (PE) study conducted one year before the end of the program provided insights on program implementation.

Results: In arms 2 and 3, the prevalence of stunting decreased from 36% to 32% and 34% to 29%, respectively, while it remained stable in the control arm as in arm 4. The interaction was not statistically significant (p-value=0.10). Significant impact of the program was measured on secondary outcomes: mothers' knowledge (p-value<0.001), growth monitoring: number of weighing (p-value<0.01), percentage of women having slept under insecticide-treated mosquito net during pregnancy (p-value=0.01) and proportion of women having experienced fever during pregnancy (p-value<0.001). The PE identified program complexity, implementation

delays at the start of the program, irregular distributions and a low amount of the cash as the main barriers for achieving impact.

Conclusions: Positive trends have been observed and some indicators have improved significantly through the program. However, a complex intervention, as well as a difficult implementation context may explain the modest impact on children's anthropometrics.

Keywords: Conditional cash transfers, nutritional supplementation, stunting, rural Mali

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MTHFR GENOTYPE AND ITS INTERACTION WITH RIBOFLAVIN AS DETERMINANTS OF BLOOD PRESSURE IN PREGNANT AND NON-PREGNANT WOMEN

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Background and objectives: Several meta-analyses have reported that the common 677C>T polymorphism in the MTHFR gene is associated with an increased risk of hypertension in pregnancy. Previous trials from this center in non-pregnant hypertensive adults have shown that riboflavin can lower blood pressure specifically in those with the MTHFR 677TT genotype. However, this relationship has not been examined in relation to pregnancy. The study aimed to investigate the MTHFR 677C>T polymorphism and its interaction with riboflavin in pregnant and non-pregnant women.

Methods: Data for this study were generated from two existing cohorts, namely the Irish National Adult Nutrition Survey (NANS) and participants from a trial of Folic Acid Supplementation in the Second and Third Trimester (FASSTT) in pregnancy.

Results: In non-pregnant women from NANS (n=347), those with the MTHFR 677TT genotype compared to the CC genotype had significantly higher mean±SD systolic (117.2±13.5 vs 110.5±11.6 mmHg; P=0.002) and diastolic (78.3±11.4 vs 73.3±9.6 mmHg; P=0.003) blood pressure; CT genotype had intermediate blood pressure values. This genotype effect was influenced by prevailing riboflavin status, such that blood pressure differences among the three genotypes were greatest in those with lower riboflavin status, and not significant among participants with higher riboflavin status. When pregnant women from the FASSTT trial (n=226) were examined at the 14th gestational week (GW), those with the TT genotype compared those with CC/CT genotypes were found to have significantly higher blood pressure. In addition, the TT genotype group showed a greater increase in mean ±SD blood pressure from the 14th to the 36th GW (increase in diastolic blood pressure of 11.0±7.9 vs 4.2±11.1 mmHg; P=0.013).

Conclusions: These results suggest that the MTHFR 677TT genotype adversely influences blood pressure in women of repro-



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