2.0 ABSTRACT

Course	International Health Development (MPH)	**Name**	Atitto Prosper
Thesis Title	Process Evaluation of Nutrition Interventions Occurring in the National Tuberculosis Control Programme of Ghana		

Abstract of Master's Dissertation

Background: Tuberculosis (TB) still a major threat to public health and is estimated to have killed 1.7 million people in 2016 globally. Other studies indicated a log-linear association between poor nutrition (body mass index (BMI)) less than 18.5kg/m^2 and TB incidence in six high income countries with varying levels of TB case-loads resulting in poor treatment adherence, failure due to drug malabsorption or inadequate energy to take drugs and deaths. A study in Ghana noted 51% of TB patients had BMI less than 18.5kg/m^2 at diagnosis and were at increased risk of death. The Ghana National Tuberculosis Control programme (NTP) introduced the Fortified Blended Flour (FBF) and/or Ready to Use Therapeutic Foods (RUTF) intervention in 2013 as a public health measure to increase treatment adherence and improve nutritional status. Such "real world" interventions may face potential difficulties as large health systems with limited resources, staff capacity, policy strategies and logistical challenges.

Objectives: To assess the implementation of FBF/RUTF intervention policy for TB patients within the NTP of Ghana and further to determine the impact of the intervention on treatment completion and nutritional status of patients.

Methods: This is a process and impact evaluation that used both quantitative and qualitative methods. TB patients (n=284) above 18 years of age currently undergoing treatment not less than three months, TB directly observed therapy short-course (DOTS) centre staff (n=30), and district TB coordinators and nutrition officers (n=21) from 22 selected TB-DOTS centres within 17 districts in the Volta region were eligible and enrolled. Additionally, we recruited three TB programme/nutrition officers from national and regional offices.

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To evaluate the implementation levels of the intervention, data was collected through interviews using participant questionnaires, recorded key informant interviews, TB treatment cards and registers and nutrition assessment counselling and support (NACS) registers were reviewed. Routine records reviewed for 2,014 patients treated for TB from 2016 to 2017 and demographic and clinical data were extracted. Exposure was FBF receipt at least once throughout treatment period. Patients who completed treatment were compared with those who had adverse treatment outcomes.

Results: Scores were graded on scale of "high" (≥ 80%), "average" (51% - 79%), and "below average" (≤ 50%). The evaluation scored the intervention fairly low: reach (39.6%), dose delivered (40%), dose received (36.4%), fidelity (35.7%), and overall implementation (38%). Issues that negatively affected implementation included non-availability of funds for FBF procurement, having long periods of stock-outs, logistical challenges, operational challenges such as non-availability of detailed implementation guidelines at TB-DOTS centres, most implementation staff not trained, irregular supervision and evaluation of intervention activities. FBF support was associated with treatment completion (aOR 2.06, 95% CI 1.54-2.75). Significant difference in weight gain was not observed between those who received FBF and those who did not. However, frequency of FBF receipt was significantly associated with percent weight gain (p=0.01).

Conclusion: Overall implementation of the FBF intervention was scored 'below average' resulting from financial, operational and logistical challenges. FBF support was associated with treatment completion. This means nutritional support for TB patients could improve treatment completion.