



Malawi- Maternal Anemia Program

Collaborating Agencies: Project HOPE - Malawi
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Project Period: 1995 - 1998

I. Background:

The MotherCare Project and its collaborators supported a program begun in mid-1995 to control maternal anemia in Thyolo District, Malawi. Although there are no national anemia prevalence data for Malawi, a 1994 Ministry of Health/UNICEF study of 715 pregnant women found that 66% were anemic.

The anemia program targeted two tea estates and surrounding villages in the Thyolo District. The total target population was approximately 100,000 with 20,000 of these residing on two tea estate compounds (Central Africa Company and Nchima Estate) and 80,000 residing in the villages surrounding these estates. Rudimentary health services were provided on the estates by the tea companies, while residents in the surrounding villages received services from the Ministry of Health.

The program took place in two phases. Phase I included the formative research necessary to define the anemia problem and the factors contributing to it (etiologic, behavioral and operational). Phase II consisted of a comprehensive intervention package based on the information from the formative research. Duration of the project was 33 months.

II. Project Goal and Objectives:

Phase I Objectives:

1. Determine the prevalence of mild, moderate, and severe anemia and the utilization of antenatal care in the impact area by conducting a baseline survey.
2. Determine the relative contribution of the various possible causes of anemia, such as iron deficiency, malaria, hookworm, nutritional intake or other factors by conducting an etiology study.
3. Determine constraints to utilization of iron folate tablets (IFA) by conducting qualitative research and a drug supply study.

materials developed by the Maternal Anemia Program. Among clients and community members, the vast majority of the interviewed group felt that the program was making an important contribution to the reduction of maternal anemia and that it should be sustained.

1. Key Findings: Final Survey

A final, community-based survey was carried out in June 1998, in which hemoglobin estimates were obtained to determine the impact of the intervention. From the baseline survey to the final survey, prevalence of anemia decreased and hemoglobin levels increased for pregnant and recently delivered women. These differences were only statistically significant for women who had delivered in the last 6 months and were mainly due to a reduction in moderate and severe anemia (see Tables 1 and 2). There was little difference in antenatal care (ANC) clinic attendance between the two surveys; however, the number of IFA tablets received significantly increased between the 2 surveys as reported by both pregnant and recently delivered women.

Table 1: Anemia prevalence: Pre/Post Intervention

	% Prevalence of anemia (95% confidence intervals)		Adjusted* odds ratio and p value
	Baseline	Final Survey	*adjusted for age, parity, trimester of pregnant women and radio ownership
Pregnant women (n=210)	66.7% (59%, 74%)	59.5% (51%, 68%)	0.73 p>0.1
Women delivered in last 6 months (n=210)	61% (53%, 69%)	51% (44%, 58%)	0.64 p=0.05

Table 2: Prevalence of anemia by severity of level

	Severe anemia Hb < 7g/dL	Moderate anemia 7g/dL ≤ Hb < 9g/dL	Mild anemia 9g/dL ≤ Hb < 11g/dL	Not anemic Hb ≥ 11g/dL
Pregnant women	Baseline: 3.3% (n=7) Final: 1.9% (n=4)	Baseline: 15.7% (n=33) Final: 14.8% (n=31)	Baseline: 47.6% (n=100) Final: 42.9% (n=90)	Baseline: 33.3% (n=70) Final: 40.5% (n=85)
	Severe anemia Hb < 8g/dL	Moderate anemia 8g/dL ≤ Hb < 10g/dL	Mild anemia 10g/dL ≤ Hb < 12g/dL	Not anemic Hb ≥ 12g/dL
Women delivered in last 6 months	Baseline: 4.3% (n=9) Final: 2.4% (n=5)	Baseline: 15.7% (n=33) Final: 8.6% (n=18)	Baseline: 40.1% (n=86) Final: 40.0% (n=84)	Baseline: 39.0% (n=82) Final: 49.0% (n=103)

advocating for anemia friendly policies, reviewing and disseminating information, and coordinating key stakeholders in anemia reduction.

1. *Information Dissemination*

A dissemination meeting was held in Blantyre, Malawi in September 1998. Participants in the meeting included representatives from the Ministry of Health, a tea estate, College of Medicine, College of Nursing, College of Health Sciences, Save the Children/USA, the Safe Motherhood Project, Thandizani Moyo (NGO), Wellcome Trust, as well as Project HOPE/Malawi and USA and JSI/MotherCare/USA. The workshop summarized the Maternal Anemia Program and highlighted the following points:

- The program underscored the problem of anemia during pregnancy and emphasized the socio-cultural determinants of iron deficiency. It demonstrated innovations in program delivery and the development of effective IEC materials and methods. The knowledge of and demand for anemia and iron prevention and control exist and compliance was shown not to be an issue.
- The program highlighted the difficulty of procurement of iron supplements as a chronic, persistent problem.
- Collaboration among the different participants (Ministry of Health, tea estates, communities, and health providers) takes time and effort to achieve. There is a continuing need to educate health providers, policymakers, pregnant women and mothers, and their communities about anemia.
- The dialogue during the dissemination meeting and the establishment of a National Task Force on Anemia indicates that there is support for working seriously to solve iron supplement supply and logistics problems.

2. *Next Steps*

Participants from the workshop were encouraged to take on the task for advocating for anemia control:

- at the national level, to urge that iron supplements are indeed part of the essential drugs package;
- to continue work on the supply system to address bottlenecks;
- to work with the central government to implement the iron fortification of flour or salt;
- not to forget diet-based education, including avoidance of iron absorption inhibitors and the increased consumption of foods which promote iron absorption;
- to take a life cycle approach to iron deficiency, anemia prevention and control; and
- to continue to frame research questions that will help to further substantiate the fact that iron supplementation is an extremely cost-effective intervention.

VI. *Publications:*

- Kachingwe S, Mbweza E. *An Evaluation of the Maternal Anemia Program*. Project HOPE, March 1998.
- Levene M, Williams L, Mills A, Kaonga M, Franco C. *The Impact of Mild Anemia on the Productivity and Economic Welfare of Women Pickers on a Coffee Estate in Thyolo District, Malawi*. Draft publishable article.



Woman with her child during an interview



*Woman's hemoglobin just measured
using HemoCue*