

FINAL REPORT

PD-ABS-560

Nutrition of Adolescent Girls Research Program Cooperative Agreement No. DAN-5117-A-00-0087-00

September 28, 1990 - September 30, 1994

1. Introduction

This final report presents the results of the International Center for Research on Women's Nutrition of Adolescent Girls Research Program, a collaborative research effort that investigated the nutritional status of adolescent girls in developing countries. The goal of the program was to provide policy- and program-relevant information on the multiple factors that affect, and are affected by, the nutritional status of adolescent girls, such as household or individual economic well-being, family structure, and intrahousehold food distribution. The program was supported by the Office of Nutrition, USAID, and included 11 research projects: 5 in Latin America and the Caribbean, 4 in Asia and 2 in Africa.

2. Accomplishments

The following accomplishments were achieved by the Nutrition of Adolescent Girls Program:

- Raised awareness in developed and developing countries of the nutrition and health needs of adolescent girls;
- Generated a comprehensive body of information on the nutritional and health status of adolescents that can be used to formulate policies and programs for improving the lives of adolescent girls;
- Improved the research capacity of organizations and professionals in developing countries to identify and address adolescent girls' nutrition and health needs;
- Effectively contributed to the development of innovative nutrition interventions for adolescent girls in developing countries;
- Promoted the development of innovative and cost-effective research protocols for studying adolescent girls' nutrition and health;
- Expanded the conceptual framework for understanding adolescent girls' nutrition in developing countries by incorporating factors that affect, and are affected by, nutritional

status of adolescents, including physical growth, morbidity, food intake, energy-expenditure and self-esteem.

3. Activities

The following program activities were undertaken:

Completed Innovative Research Programs

As a result of a detailed selection process from over 200 submitted research proposals, ICRW provided grants to 10 independent and 1 collaborative projects representing each of the major regions of the developing world.

The eleven studies that formed the core of the program's research activities are:

- *Nutritional and Health Determinants of School Failure and Dropout in Adolescent Girls in Kingston, Jamaica*

A research team at the Tropical Metabolism Research Unit at the University of the West Indies examined the linkages between nutritional status and school achievement for adolescent girls in urban Jamaica.

- *Response of Endogenous Growth Factors to Exercise and Food Supplementation in Stunted Pubertal Girls in Guatemala*

The intervention study conducted by the Instituto de Nutricion de Centro America y Panama (INCAP) and the Department of Nutrition at the University of California at Berkeley was a trial intervention to assess the potential for catch-up growth in stunted girls.

- *Nutrition, Health and Growth in Guatemalan Adolescents*

The Center for International Health at Emory University and INCAP looked at the patterns of growth of adolescent females and assessed the potential for catch-up growth in stunted girls. Longitudinal data were collected on growth, diet, morbidity and physical activity in adolescence.

- *Early Nutrition and Physical and Mental Development in Mexican Rural Adolescent Females*

The Instituto Nacional de la Nutricion examined the physical and mental development of adolescents from the Mexican Altiplano, and compiled data on the long-term effects of nutritional supplements.

- *A Multidimensional Study of the Nutritional Status of Adolescent Filipinos*

This project, based at the University of the Philippines, examined psychological and socio-demographic factors influencing the nutritional status of adolescent Filipinas.

- *A Study on the Factors Influencing Nutritional Status of Adolescent Girls in Nepal*

This study conducted by New ERA focused on the relationship between adolescent nutrition and social factors and time allocation. Researchers examined the socioeconomic, medical and clinical factors that affect the nutritional status of adolescent girls.

- *Understanding Gender-Differentiated Constraints to Philippine Farm Household Investments in Adolescents: Implications for their Nutritional Status*

The project conducted by the International Food Policy Research Institute and the School of Economics at the University of the Philippines examined why low-income adolescent girls in the low income households in Mindanao attend school for more years than low-income adolescent boys.

- *The Nutritional Status of Women and its Impact on the Nutritional Status of Adolescent Girls in Benin*

Researchers at the Centre Regional pour le Développement et la Santé in Benin collected data to determine whether adolescent girls are at greater risk of malnutrition than their male counterparts as a result of social, cultural, economic and/or fertility factors.

- *Role of Domestic Workload, Intra-family Situation and Attitudes on the Nutritional Status of Urban Slum Adolescent Girls and Boys in India*

The Streehitakarini Institute of Primary Health Care for Urban Slums looked at gender differences among adolescents in education, health and nutrition in an urban slum in Bombay.

- *Study of the Factors that may Influence the Nutrition of Adolescent Girls in Cameroon*

Investigators at the Centre de Nutrition explored how psychological variables, such as self-esteem, are associated with behaviors and strategies related to food intake, workload management, and the health-seeking behaviors of adolescents. The study was jointly undertaken with ICRW.

• *Improvement of Dietary Practices in Ecuadorean Adolescents*

The research team, based at the Centro de Estudios e Investigaciones en Salud y Nutrición, in Ecuador, conducted a nationally representative survey to look at gender differences in the nutritional status of adolescents, by region.

ICRW provided technical assistance to the research teams to assist them in study design, data collection, data analysis, and the write-up of findings.

Formed Technical Advisory Group

A Technical Advisory Group (TAG) was established to provide external expert advice to the program. It was comprised of researchers and practitioners working in the areas of international nutrition and health, women in development, social welfare, community development and education. TAG members also had experience with a wide range of health and development issues related to adolescence. TAG members reviewed and recommended the proposals for funding, technically monitored 1-2 projects each, reviewed drafts of all reports, and suggested follow-on activities to the program. During the program, the TAG met three times in Washington.

The following persons comprised the Technical Advisory Group:

Dr. Sreelakshmi Gururaja
Women's Department, UNICEF
INDIA

Dr. Jane Kusin
Dept. of Health Care and Disease
Control, Royal Tropical Institute,
NETHERLANDS

Dr. Carlos Serrano
Adolescent Health Program
Pan American Health Organization, USA

Dr. Mary Story
School of Public Health
University of Minnesota, USA

Dr. Ruby Takanishi
Carnegie Council on Adolescent
Development, USA

Dr. Joanne Leslie
Pacific Institute for Women's Health
USA

Dr. Homero Martinez
Instituto Nacional de Nutricion
Division de Nutricion y Comunidad,
MEXICO

Dr. Olivia Yambi
Community Nutrition Dept.
UNICEF

Ms. Bibi Essama
WINS Project Director
Education Development Center, Inc.,
USA

Provided In-Country Technical Assistance

ICRW undertook 10 technical assistance trips to work with the collaborating research teams during the program. These trips were used to assist teams in identifying specific research questions, developing research methods, and analyzing data. Technical assistance trips were made to: Jamaica, Mexico, Philippines, Benin, India, Cameroon and Ecuador.

Incorporated Findings on Adolescent Anthropometry

ICRW provided technical assistance to research teams in the use and interpretation of newly revised anthropometric standards for adolescents. The program provided support to the *Adolescent Subcommittee, WHO Expert Committee on the Use and Interpretation of Anthropometry*. The committee's findings were used to help teams interpret their anthropometric measures for adolescents, taking into consideration new reference data and gender differences in biological growth patterns during adolescence.

Published Research Findings

Country Reports

Each research team produced a comprehensive report of its findings. As a group, these reports constitute the program's Research Report Series. The reports present data on adolescent nutrition, activities, and morbidity, document the service and delivery mechanisms related to adolescent nutrition and health, and offer recommendations for how to meet the nutrition and health needs of adolescent girls in the different cultural and

economic settings. Reports were translated into both French and Spanish and have been widely disseminated regionally and internationally.

Information Bulletin: The Nutrition and Adolescent Girls Research Program

Two information bulletins describing the program and the process findings were prepared. Over 600 copies of the bulletins were disseminated to a broad audience, including USAID staff in missions and Washington, international and developing country health and development institutions, research institutions, bilateral and multilateral donor agencies, and individuals upon request.

A Survey of Programs for Adolescence

A booklet presentation of the findings and recommendations of a survey conducted by ICRW of more than 100 programs working with adolescents worldwide was prepared. The survey collected basic information on existing programs, obtained information from field staff assessment of issues and concerns of adolescents, and identified the strategies program staff have found to be most successful in working with adolescents. The document was translated into French and Spanish and distributed to over 200 individuals and organizations working on nutrition, health and development issues.

Investing in the Future: Six Principles for Promoting the Nutritional Status of Adolescent Girls in Developing Countries

This guide book draws on the findings of the 11 research projects and the ICRW *Survey of Programs for Adolescence*. The report identifies six guiding principles for addressing adolescent nutrition. These are: 1) improve adolescents' food intake; 2) keep girls in school to promote nutritional status; 3) postpone first births to enhance nutritional status; 4) reduce girls' workloads and improve work conditions; 5) improve adolescents' health for better nutritional status, and: 6) enhance girls' self-esteem to encourage nutritional status. The guide book also contains recommendations for implementing these strategies and suggests strategies for their implementation. The guide book was distributed to over 200 persons and organizations interested in adolescent nutrition and health from

both a program and policy perspective, including USAID (Washington and missions).

Final Conference - Adolescence: Risks and Opportunities - Promoting the Nutritional Status of Adolescent Girls

ICRW convened a conference for over 300 attendees on May 16-18, 1994 to present the findings of the Nutrition of Adolescent Girls Research Program. Over 300 people attended the conference, including two representatives from each research team, representatives from two long-standing adolescent programs in Mexico, Bangladesh and Argentina and a representative of the Jamaican Ministry of Health.

Adolescents' Lives: Synthesis of Findings from the Nutrition of Adolescent Girls Research Program

In this report, ICRW synthesizes the findings of the research projects and draws conclusions regarding nutritional status, reproductive health, education, activities and individual household characteristics. The report will be distributed to over 200 individuals and groups interested in program and policy perspectives of adolescent nutrition and health.

Other Papers and Presentations

The Project Manager, Kathleen Kurz, gave a poster session on the program at the NCIH conference on Women's Health in Crystal City in June 1991.

Kathleen Kurz presented a seminar at the Virginia Polytechnic Institute on January 21, 1992 entitled "Health and Nutrition Opportunities in Adolescence: Multidisciplinary Issues in Developing Countries." The audience drew from the women's studies programs, as well as the nutrition department and elsewhere.

Kathleen Kurz participated as a panelist in a discussion on women's health which was organized by the National Council for International Health (NCIH), March 29, 1993. The presentation was given to the Congressional Caucus on Women's Issues, and the Kathleen Kurz spoke on women's nutrition.

Kathleen Kurz provided testimony on women's nutrition in developing countries as part of a panel entitled, "Women's Health: Furthering the Agenda," Auxiliary meeting at the NCIH

Annual Conference in August 1993.

Kathleen Kurz and the Principal Investigators from the research teams in Jamaica and Cameroon each presented preliminary findings from their research at the annual conference of the Association for Women in Development (AWID) in October 1993. They were part of a panel on adolescent nutrition.

A book review of *The Health of Women: A Global Perspective* appeared in the SCN News (No. 9, 1993). Kathleen Kurz, is a contributing author to the chapter, *Women's Nutrition Through the Life Cycle: Social and Biological Vulnerabilities*.

Kathleen Kurz was sponsored by UNICEF to attend their Interregional Consultation on the Girl-Child, in Anand, Gujarat, India, February 10-16, 1994. The 50 participants were UNICEF employees from a variety of countries working on the girl child, and representatives from selected NGO's in a variety of countries with programs addressing the girl child. Dr. Kurz presented preliminary results from the Nutrition of Adolescent Girls Research Program.

4. Significance and Impact of Activities

The program's research demonstrated the importance of understanding the nutritional and health needs of adolescents in order to get an earlier start on addressing issues that arise for adult women in their productive and reproductive roles. Overall, the project has contributed to the research capacity of individuals and institutions worldwide to understand and address the nutritional needs of adolescents.

Impact on Institutions

For some of the 11 research organizations, their participation in the program marked the first time they conducted research. With assistance from ICRW and TAG members, the research teams improved their capacity to undertake research on issues related to adolescent nutrition. A number of the teams have integrated research on adolescent nutrition into their organization's future program development.

The program also produced results that have enabled some of the collaborating teams to initiate follow-up policy and intervention activities. Researchers at the University of the West Indies, started a skills training program for teachers in Jamaica to combat the prevalent problem of violence against adolescent girls. A seminar was held by researchers

at the University of the Philippines at which government institutions and organizations were informed of the study's results. Researchers at the Streehitakarini Institute of Primary Health Care for Urban Slums in Bombay, India and the research team at CEISAN in Ecuador, held conferences to discuss the policy implications of the findings. Health data collected by IFPRI, University of the Philippines, and RIMCU was used by the USAID mission in the Philippines to develop their health care financing project. And in Nepal, a policy conference and community-level meetings were held by New ERA to disseminate the findings to the communities.

The technical assistance and funding that were provided to the collaborating research teams also enabled them to assist other organizations to begin applied research on adolescents. With future support, these institutional interactions could be developed into an active network of organizations in developing countries working on adolescent nutrition issues.

Impact on the Nutrition Sector

When the program began in 1989, little information was available on the non-pregnant adolescent girl and her nutritional and health status in developing countries. This program has produced a significant body of knowledge on adolescent nutrition. A principal message of this information is that nutrition programs should incorporate a broad perspective on adolescent nutrition that includes linking nutrition to other biological and socio-economic realities of adolescent girls' lives.

More specifically, the program's findings show that adolescents are particularly vulnerable to anemia, suggesting that inadequate iron is a chronic problem; that underweight and stunting, a reflection of past nutritional status, is prevalent among both adolescent boys and girls; that the extent of stunting found suggests that nutritional status needs to be improved in early childhood; that some catch-up growth during adolescence might be possible; and finally, that where energy and iron losses are high, nutrition interventions are most effective if energy intake and expenditure are also addressed.

These findings provide evidence to develop appropriate policies and programs that address adolescents' needs.

5. Recommendations for Future Activities

This program successfully raised awareness of adolescent girls as a target population to consider in health and development planning. This is being increasingly recognized by governmental organizations and NGO's worldwide. Continued high-quality research will be needed to guide future adolescent health and nutrition interventions.

More intervention research should be undertaken in the future. This operations research should take a broader approach to understanding and improving nutritional status. Key areas for research and interventions should include: 1) a focus on boys nutritional status as well as girls; 2) promotion of education for girls; 3) development of nutrition programs at school; 4) improvement of iron status; 5) postponement of early pregnancy; and 6) improvements in adolescent self-esteem.

It is also recommended that continued support be provided to the program's collaborating researchers. Through their participation in the program, the researchers have acquired a wealth of knowledge and experience, which can serve as a strong foundation for future research and action.

6. Fiscal Report

Please see attached fiscal report describing in detail the use of the Cooperative Agreement funds.