WHO'S FIVE KEYS TO SAFER FOOD:
The Experience in Guatemalan Elementary Schools

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Background

Diseases related to inadequate food safety measures, and environmental sanitation, constitute serious health problems in many countries in the region of the Americas. *Foodborne diseases* are caused by consuming food or beverages contaminated by microorganisms and/or toxic chemicals which can cause serious health problems, and even death.

Although it is difficult to measure the global incidence of foodborne diseases, according to the World Health Organization (WHO) in 2005 approximately 1.8 million people were reported to have died of diarrheal diseases, of which a large proportion can be attributed to contaminated food and drinking water.\(^1\) In Latin America, diarrhea related malnutrition, is a main cause of the high morbidity and mortality rates in infants, young children and other vulnerable groups.

Foodborne sicknesses are most frequently caused by the inadequate handling of food, specifically: a) Poor health or deficient hygiene habits of food handlers, b) Contamination of cooked food with raw food or contaminated surfaces; and c) Not cooking foods at a high enough temperature and therefore not fully killing germs.

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Introduction

Considering the importance of this topic, the WHO “Bring Food Safety Home: How to use the WHO 5 Keys to Safer Food” manual has been adapted for use in elementary schools as part of the Adaptation and Validation of the WHO Five Keys to Safer Food Manual for use in Elementary Schools in Guatemala and Honduras Pilot Project.

This project is coordinated by the Pan American Health Organization (PAHO / WHO) and executed by the Institute of Nutrition of Central America and Panama (INCAP).

The adaptation of the WHO manual falls within the Global Healthy Schools Initiative promoted by the WHO, PAHO and INCAP and responds to the need for educational tools about food safety to promote healthy habits and lifestyles in schools. The purpose of these manuals is to provide the educational community (teachers, students, and parents) with an educational guide and reference material so they can teach, learn and adopt the five basic rules to keep food safe and avoid its contamination.

The three manuals that are part of this initiative are:

1) A theoretical manual entitled “Five Keys to Safer Food”, which is the adaptation of the original WHO manual for use in elementary schools in Guatemala.

2) An Activity Book for Teachers, which includes dynamic and participatory activities that help teachers reinforce concepts learned.
3) A Guide for the Parent-Teacher Association, that outlines five steps for implementing a plan to improve the handling of food and water in the school.

These last two manuals were created as complementary materials to facilitate the teaching of the technical concepts found in the theoretical manual.

Through the implementation of these manuals in elementary schools, it is hoped that boys, girls and their families, acquire and implement the 5 keys to safer food, therefore reducing the prevalence of foodborne diseases and improving nutrition and health of their families.

**General Objective**

Implement the adapted manual and complementary materials in urban and rural schools to teach the educational community (teachers, students, parents and personnel in charge of food preparation) about food safety and motivate positive changes in attitudes and practices about the preparation of food and the prevention of foodborne illnesses.

**Specific Objectives**

1. Adapt the WHO manual “Bring Food Safety Home: How to use the WHO 5 keys to safer food” for use with the educational community in elementary schools, according to the reality of Guatemala and needs of the target audience.

2. Design methodological and didactic materials to complement the adapted manual, to be used at the national level as food safety guides.

3. Validate the adapted manual and complementary materials with an audience similar to that which will use the educational materials.

4. Evaluate the use of the adapted manual and complementary materials in improving the knowledge, attitude and practices of the educational community, through the application of a food safety Knowledge, Attitude and Practices (KAP) Study before and after the implementation of the manuals in the selected schools.

5. Train 100% of the teachers in the elementary schools selected for the pilot project on how to use and implement the adapted manual and complementary materials.

**Target Audience**

Elementary school students in urban and rural areas, teachers, parents and personnel in charge of preparing the school snack or lunch.
Methodology

In 2005, the adaptation of the WHO manual began. Figure 1 shows the methodology used during the process of the adaptation, validation and implementation of the original WHO 5 Keys manual and complementary materials.

PHASE I: ADAPTATION AND VALIDATION OF THE WHO MANUAL FOR USE IN URBAN AND RURAL ELEMENTARY SCHOOLS IN GUATEMALA

STEP 1: Presentation of project with interested parties. Presentation of pilot project and original WHO manual to government institutions and international agencies in order to establish alliances and support in the execution of the project.

STEP 2: Adaptation of the original WHO manual and creation of complementary materials. In order to ensure that the final manual is one which provokes feasible behavioral changes in the target audience, the original manual was adapted to reflect the reality of Guatemala. Information on low-cost appropriate technologies that have been developed or adapted and validated in Guatemala and other countries in Latin America were included in the manual.

The following materials were created to complement the adapted WHO manual:

- Activity Book for Teachers: Five Keys to Safer Food
- Guide for the Parent-Teacher Association: How do we make a water and food safety plan for our school?
- Promotional poster “The 5 Keys to Safer Food “

STEP 3: Technical Revision of theoretical manual and complementary materials. Before beginning the validation process, meetings were organized with representatives of the Ministry’s of Health and Agriculture, the Municipality of Guatemala and NGOs to revise the materials and obtain comments and suggestions on how to improve the materials. At the same time, the Ministry of Education was asked to revise the materials and appoint 10 rural and urban schools where the materials could be validated.

STEP 4: Validation of the materials in urban and rural elementary schools in Guatemala. The materials were validated in 5 urban and 5 rural elementary schools, in order to evaluate quality and quantity of contents, comprehension and to ensure that the contents and activities were directed towards the appropriate age groups.

STEP 5: Final adjustments to materials. Based on the results of the validation, changes were made to the materials, and then designed and printed to begin the promotion and implementation of the materials in a sample of elementary schools.
Phase II: Implementation of Materials in Selected Urban and Rural Elementary Schools in Guatemala

At the end of 2007, Phase II of the project began. This phase included implementing the materials in four urban and rural elementary schools. The steps associated with this phase are shown in figure 2 and described below.

**STEP 1: Knowledge, Attitude and Practices Study.** The purpose of this step was to compile information about the knowledge, attitude and practices of the educational community in regards to food safety before and after the implementation of the materials. To achieve this, KAP evaluation forms were developed and completed by students and teachers from the selected schools. In addition, microbiological tests were taken in food preparation areas and on utensils and food prepared as part of the school snack.

**STEP 2: Implementation of educational materials.** As part of this step, training workshops on the materials were held with teachers from the four selected schools. Teachers were then given 8 weeks to implement the materials in the classroom.
Achievements

- Educational materials adapted, created and validated. These materials are available in paper and electronic form for circulation in the Latin America Region.

- 5 Keys materials validated in 12 urban and rural schools in four departments of Guatemala. 127 teachers revised the materials and the activities were tested with 1,389 elementary students.

- 41 teachers from four schools trained on how to use the materials.


- Distribution of the pre-validated materials and poster (available in both PAHO and INCAP Websites).


- Materials translated into English and Portuguese.

- Experience replicated in other countries of the region, including Honduras and El Salvador.

Information

The English version of “The 5 Keys to Safer Food” materials can be downloaded at:

http://www.sica.int/busqueda/Noticias.aspx?IDItem=17064&IDCat=3&IdEnt=29&Idm=1&IdmStyle=1

For more information about the 5 Keys project in Guatemala and Honduras, please contact:

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