Development of the Five Keys to Safer Food message

The Five Keys to Safer Food message: 1. Keep clean, 2. Separate raw and cooked, 3. Cook thoroughly, 4. Keep food at safe temperature, 5. Use safe water and raw materials. The Five Keys to Safer Food were developed in 2000 by the Department of Food Safety and Zoonoses at WHO to educate all food handlers, including consumers, about safe food handling practices to prevent foodborne diseases. Most of the actions and decisions consumers can take will address risks linked to microbiological hazards and the 5 keys reflects this. However, the fifth key is addressing also the non-microbiological hazards where consumers have a role to play to mitigate some of the risks associated (i.e. by making informed choices). This document is intended to describe the process of the development of the message and provide the scientific evidence behind the recommendations.

1. Needs assessment

Every year, millions of people become ill and thousands die as a result of eating unsafe food. Even though the major responsibility lies with the producers, a large proportion of foodborne diseases is caused by foods that are improperly prepared or mishandled, be it at home or in food service establishments. There is an evident lack of awareness all over the world that food can make an individual sick if not properly handled, prepared and stored and such ignorance leads to a large proportion of foodborne diseases which could be prevented. As part of its strategy to decrease the burden of foodborne diseases, and in response to the WHA Resolution WHA 53.15 (2000) on food safety to assist Member States to implement food safety educational programs to prevent foodborne diseases, WHO identified the need to develop a global health message to educate all food handlers, including consumers.

2. Development of the concept

The need for a simple and clear global health message was identified as particularly important in order to effectively reach audiences all over the world and facilitate the adoption and adaptation of the message by countries. It was also seen essential to have a global message to avoid confusion now that communications goes global. In the early 1990s, WHO developed the Ten Golden Rules for Safe Food Preparation, which were widely translated and reproduced. But it became obvious that something simpler and more generally applicable was needed.

The Five Keys to Safer Food message incorporates all the messages of the Ten Golden rules for Safe Food preparation under simpler heading that are more easily remembered. It also provides more details in the reasoning behind the suggested measures to promote understanding and change in behaviors as risk communication literature confirms that messages found to be effective are those explaining the rationale behind the recommendations (the WHY). Development of the concept included review of the existing health educational materials in food safety all over the world.

3. Risk assessment and scientific evidence

Although the differences in socio-economic conditions and cultural settings can play a significant role, risk factors for foodborne diseases are basically the same all over the world. Poor temperature control during preparation, cooking and storage of food; cross-contamination of ready-to-eat foods by contaminated raw ingredients; Inadequate cleaning and hand washing have all been identified as the most common factors responsible for foodborne diseases in multiple literature reviews*. Therefore, simple messages addressing these key recurring factors were developed.
4. Review with food safety experts and risk communicators

Development of the messages was made in consultation with WHO experts from other groups (e.g. Water and sanitation) and national and international food safety experts. This was done through a process spanning approximately 1 year of consultations with experts recognized by WHO, including experts selected for the Joint FAO/WHO Expert Committee on Microbiological Risk Assessment (JEMRA).

The messages were reviewed by the WHO representatives in Regions in Countries to evaluate if they were acceptable in their context and reviewed by risk communicators and health educators.

5. Test with Focus consumers group

During the process, some testing was done with consumer groups to check the clarity of the messages and the perceptions of the consumers.

Examples of literature articles showing consistently the same main factors responsible for foodborne diseases


Todd EC, Greig JD, Bartleson CA, Michaels BS. Outbreaks where food workers have been implicated in the spread of foodborne disease. Part 3. Factors contributing to outbreaks and description of outbreak categories. J Food Prot. 2007 Sep;70(9):2199-217.


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