

Food Safety

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Safety of street foods

Street vendors supply large amounts of food at affordable prices, particularly in developing countries. It is clearly right to regulate this trade in the interest of safety and quality, but care should be taken that in so doing the availability and accessibility of produce is not diminished.

Foods and beverages sold in streets are an affordable source of nourishment for low-income workers, students and others. Studies conducted in India, Indonesia, Nigeria, and Peru have shown that street foods contain substantial amounts of valuable nutrients; many people on low incomes would be worse off if such foods were not available. This industry employs 6–25% of the work force in many developing countries, most of the people involved being women, and provides outlets for agricultural and other produce.

The street food industry has undergone remarkable expansion in the Third World. However, the authorities in many countries remain hesitant about recognizing it as a

formal sector of the food supply system; they may ignore it in their food control programmes or even try to suppress it. Other countries have begun to recognize it but have not devised regulatory structures. Considerable research is required before the general principles of food safety can be applied to street foods in different sociocultural conditions. It would be impossible to draw up a code or legislation applicable in all countries. Attention should be focused on the essential requirements to be borne in mind when individual countries or municipalities are formulating their own regulations and their provisions for education and training in this field.

Health hazards

Instances have been reported of the contamination of street foods with pathogenic microorganisms (1–4). In Egypt, for instance, *Shigella* was isolated from greens, and other foods were found to

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contain *Staphylococcus aureus* (1). In the same locality, *Salmonella* was isolated from oriental rice prepared in a five-star hotel, and *Shigella* was found in boiled rice prepared in a four-star hotel; *Staphylococcus aureus* and *Bacillus cereus* were frequently found in samples from both categories of hotel (2). Clearly, the

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findings for street foods did not compare unfavourably with those for hotel foods; similar results have been reported elsewhere. The extent of the risk posed by potentially hazardous foods requires further study.

A number of cases of foodborne bacterial infection and intoxication have been traced to street foods. Cholera, hepatitis A, typhoid and other diseases can be transmitted through such foods or the ready-to-eat items consumed in food establishments or in people's homes. No convincing evidence appears to exist that street foods are more implicated in the transmission of infection and intoxication than are foods obtained elsewhere. Comparative information is needed, and epidemiologists in developing countries should pay attention to this problem.

In some cases, hazardous chemicals and additives, notably unauthorized colorants and preservatives, have been found in street foods. This may happen in connection with the practices of adulteration and falsification, which are widespread in some developing countries.

Food exposed for sale on roadsides may become contaminated by lead from vehicle exhausts. The amounts of lead in the air in most countries may not be sufficient to affect foods seriously, but the matter does need investigation.

The following factors may give rise to health hazards if not properly managed or controlled.

- In order to keep their prices competitive, vendors may purchase raw materials of dubious quality, perhaps containing banned additives, from unauthorized dealers.
- Storage, processing and cooking facilities may be inadequate, especially if preparation is done at the point of sale.
- The supply of water for washing, cleaning and cooking is commonly insufficient; many vendors reuse water for washing utensils.
- Piped drinking-water may only be available intermittently.
- Refrigeration is available only to comparatively few vendors; places of storage may be accessible to rodents, birds, insects and other pests.
- Facilities for the disposal of solid and liquid waste may be unsatisfactory.
- Vendors may be inexperienced in street trading, insufficiently trained, and unaware of the importance of personal cleanliness.

Most vendors are poor, badly organized, vulnerable, and ill-prepared to defend themselves against corruption and exploitation. They need protection from harassment and exploitation by stronger rivals and government officials.

However, many vendors, especially women, are quite experienced in purchasing raw materials and cooking and presenting food in a safe attractive form, even though facilities may be quite modest.

Regulation

The basic objective of regulation should be to ensure a supply of safe, wholesome, reasonably priced food at convenient locations, without diminishing the economic, employment and other benefits of the trade.

To ensure safety, the general principles laid down by the Codex Committee on Food Hygiene (5) should be adopted in accordance with the sociocultural background of each country or area. Essential requirements have been suggested and may help countries to make policies, regulations and training programmes in this field (6). The essential requirements come under the following headings:

- raw materials and ingredients;
- place of preparation and sale;
- water;
- waste disposal;
- food handlers and their training;
- transportation and storage of prepared foods;
- marketing;
- street food vending centres;
- street foods at large public gathering.

The authorities have to ensure that vendors use neither grossly contaminated foods nor hazardous materials and additives. Places of preparation should be clean and exclusively dedicated to this purpose. Containers used for cooking, storage and display should be easy to clean and their surfaces should not

release toxic substances into food. The point of sale, whether stationary or mobile, should be located where there are minimal risks of contamination from sewage, animal and human faecal matter, and other hazardous materials; it should not interfere with vehicular or pedestrian traffic, nor place customers, particularly children, in danger from traffic or other hazards. Particular care is required to see that drinking-water is safe and that water for washing utensils is clean and not reused.

By bringing vendors together in designated marketing areas it is comparatively easy to provide disposal facilities, parking spaces and other services. Large fairs and other gatherings pose special problems, for which preparations have to be made in advance.

Adaptation

The adaptation of regulations to local conditions is essential, based on careful study of the characteristics of the trade.

Street foods have differing potentials for transmitting agents of disease. Thus dry bakery products, dried grains, and

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sufficiently sugared and acidulated foods are less likely to transmit disease than gravies, cooked rice and low-acid dairy, egg, and meat products, all of which can support bacterial growth. Foods that are thoroughly cooked and consumed on the spot are safe whereas precooked foods stored at ambient

temperatures of 15–40°C for more than about four hours present a considerable risk. Highly coloured foods and beverages are more likely to have unauthorized additives than others. Fruits in undamaged skins and many foods that are generally safe. Clearly,

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the varying potentials of foods for causing disease have to be considered when control measures are being applied.

Street vending should be officially recognized as part of the food supply system and, where possible, covered by urban development programmes. Formal recognition may enable some vendors to obtain loans for improving their businesses, and to secure other benefits.

Care should be taken not to stifle this important source of food supplies by excessive regulation. Stress should be laid on the education rather than the punishment of vendors. Vendors should be categorized according to the type of food they sell and their mobility so that the appropriate requirements can be laid down for regulating their operations. Mobile units selling only bottled beverages or food items of low hazard require much less control than those selling full meals, snacks or beverages prepared by the vendors in bulk.

The licensing of vendors helps towards the regulation of the trade in street foods. Licensing should be free or, if a charge has

to be made, inexpensive. A medical examination prior to licensing, or at intervals subsequently, does little towards ensuring food safety and should not be mandatory (7).

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Attempts to regulate the street food trade should aim at ensuring safety and satisfactory quality without eliminating the benefits provided, especially to the urban poor in developing countries. Insufficient experience has been gained in the regulation of the trade, and food scientists in developing countries should study further the characteristics of street foods and devise regulatory approaches favouring safety and wholesomeness. □

References

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