



Review

A review on food safety and food hygiene studies in Ghana

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ABSTRACT

Food safety and hygiene in Ghana was studied using desk top literature review. Food research was highly concentrated in the capital city of the country and most research focus were on commercial food operations specifically street foods and microbiological safety with limited information from institutional catering and other forms of food hazards. The media currently serves as the main source for reporting of food borne diseases. Food establishments and other sources contributing to food borne diseases included restaurants, food joints, food vendors, schools and individual homes. Limited use of prerequisites measures and food safety management systems was identified. Recommendations on regulating the General Hygiene Principles, implementation of HACCP to strengthen the food sector, regular food safety and hygiene workshops and training for food handlers that commensurate with their roles were made. Government support for SMEs and food handler's health screening were made.

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1. Introduction

Ghana is a West African country with a land area of 238,527 km² and a population of 24,658,823 ([Ghana Statistical](#)

[Service, 2010](#) est.). The country is divided into 10 main regions with Accra as the capital city. The food sector includes primary producers, food manufacturers and processors which predominantly are of Small and Medium Size enterprises, retailers and food vendors. The Food Laws in Ghana include the Food and Drugs Act PNDCL 305B of 1992 which covers food safety and handling requirements and penalties for breaching the Law. The existing Hygiene Principles are not legally binding ([Ghana Standard Authority, 2013](#)) but are guidelines which the food industry can use to ensure

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Table 1
General food and water borne disease status in the country.

Author	Year	Case
Opare et al.	2010	9000 Cholera cases with 250 deaths recorded
MOFA/World Bank	2007	1 in every 40 Ghanaian experience serious Food Borne Disease annually
Food and Drugs Board – Ghana	2008	90,692 deaths related to food and personal hygiene with 297,104 cases reported at various outpatient departments of clinics and hospitals
Ghana Health Service,	2012	6000 cholera outbreaks with 69 deaths
Food and Drugs Authority – Ghana	2013	77% of all traceable food borne diseases result from improper handling in food establishments

food safety. The Food and Drugs Authority (FDA) is the national regulatory body under the Ministry of Health with the responsibility of implementing food policies and ensuring the safety and wholesomeness of food for consumers. FDA roles include food manufacturing and processing site inspections, licensing, product registration and monitoring. They also provide good hygiene practices training for food handlers. The Ghana Standard Authority develops and promotes international and locally acceptable standards for the industry. Other supporting agencies include the Ministry of Health, Ministry of Agriculture, Ghana Tourist Board and the Environmental agency. The government of Ghana has also given directives to the local authorities including metropolitan assemblies and their districts to actively control and monitor food safety practices of food vendors who are individuals or group of people who sell ready to eat foods at readily accessible areas including caterers, nightclubs, beer bars, chop bars, cold stores, hotels and restaurant operators and bagged water processors. The Water and Food Hygiene unit of the Environmental Health Department of the districts is responsible for the health monitoring and certification of food vendors which is subject to renewal on a yearly basis. Food preparation traditionally in this country is a woman's place and this has reflected in most demographic reports of workers in this field. Level of education (formal) which is considered to have direct positive effect on Good Hygiene Practices is low among food handlers in Ghana (Ababio, Adi, & Commey, 2012; Ackah et al., 2011; Tomlins, Johnson, Aseidu, Myhara, & Greenhalgh, 2002).

World Health Organisation reports of high levels of Diarrhoeal cases of which a higher percentage are due to food and water borne infections (Table 1).

According to the Ministry of Food and Agriculture and the World Bank (2007), 1 in every 40 Ghanaian suffer serious food borne illness per year, 420,000 cases are reported with an annual death rate of 65,000 which cost the government US \$ 69,000,000.00 annually. This report could be an under estimate as report rate is low and in the calculation of cost in developing countries only the cost borne by individuals through hospitalization and medication is considered whilst others in developed countries consider the cost to employers, institutional bodies like laboratories, surveillance, disability cost and cost from other family members who take care of the sick member and premature mortality (Abelson, Forbes, & Hall, 2006). According to FDA, the loss of productivity in Ghana in 2006 due to food borne diseases was approximately 594,279 days (19,809 months) this could be huge in terms of cost to the state. Studies from the commercial food sector have dominated research in the country with special focus on street foods although there are reported food poisoning cases on the media from institutional set ups specifically schools. Saba and Gonzalez-Zorn (2012) reported that studies on microbiological food safety is on the decline and

highly centered in the capital city of the country. Although all food hazards are detrimental to the health of consumers and require monitoring and control in the country, currently microbiological hazards in ready to eat foods and chemical hazards mostly pesticides from agricultural products including fresh vegetables and fruits have been highlighted (Amoah, Abaidoo, & Ntow, 2006; Bempah, Donkor, Agei, Buah-Kwofie, & Boateng, 2011; Feglo & Sakyi, 2012; Mensah, Yeboah-Manu, Owusu-Darko, & Ablordey, 2002). There is minimal information on physical contaminants/hazards, food allergy and injuries caused by these. This could be due to less awareness and or lack of public education of these hazards. The FAO/WHO, 2005 regional report on food safety for Africa recorded microbiological hazards as the most eminent risk from street foods but also reported the danger of high levels of heavy metals including lead, cadmium, arsenic, mercury and copper and also pesticide residues from utensils, raw materials or transport methods used. This work looks at food safety and hygiene reports in Ghana.

2. Approach

A desk top review of literature was carried out. Search was conducted using mainly Google search engine with phrases including 'food safety in Ghana', 'food hygiene in Ghana', 'food hygiene training Ghana', and 'list of food poisoning in Ghana'. Journals used included Food control, Internet Journal of Food Safety, Food and Nutrition Science, Food and Public Health, Food Science and Technology, Journal of Infection in developing countries, Journal of Urban Health and African Journal of Food Agriculture Nutrition and Development. Professional sites included World Health Organisation (WHO), Ghana Health Services and TEPHINET library. Media sources were used for individual cases of food poisoning in homes, commercial and institutional set ups. Data used ranged from 1999 to 2013.

3. Report from media and scholarly research articles

3.1. Food poisoning cases from homes, commercial and institutional catering

Food poisoning occurs in individual homes, commercial and institutional catering in the country (Table 2). Commercial catering including hotels, restaurants, finished products from retailers and food vendors. Institutional catering includes schools, hospitals, day care centers, prisons and industry staff kitchens. Restaurants and individual food vendors were identified sources of food borne diseases. Schools stand out from the data to be another suspected source of food hygiene problems among Institutional catering services. Thus schools constitute a percentage of the food establishments which are reported to be responsible for 77% of all traceable food borne diseases in the country (FDA, 2013). Consumers in their homes equally practice poor hygiene which brings about food borne diseases. On the whole institutional catering stands out as the unit with huge number of consumers at a time due to communal feeding and these include school children, sick and vulnerable people from hospitals who equally require great care in terms of food safety.

3.2. Research reports from food scientist in the country

3.2.1. Food hygiene practices

Hygiene practices among food handlers, mostly food vendors and catering services have been reported to be below standard (Addo, Mensah, Bonsu, & Akyeh, 2007; Afoakwa, 2005; Feglo & Sakyi, 2012; Tomlins et al., 2002). Research covering the

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