Practice in the Preparation, Handling and Storage of Street Food Vendors Women in Sinja City (Sudan)

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Abstract: ***Food contamination is one of the most important health problems affecting children in the basic stage most of this pollution health practices in the handling and preparation, food preservation. The objective of this research identified some practices of hygiene and handling, preparation and preservation of food vendors at street food are women inside and outside the base schools. Method adopted on women's street food vendors interviewed inside and outside the school, interviewed some personal hygiene practices and the types of foods that are sold and developed, preparation, storage and handling Through the questionnaire prepared for this purpose. The number of women appointed 54 women search results showed that The street foods sold consists of local snacks and fresh fruit and vegetables, personal hygiene is poor when sample search not washing hands before preparing food, 42, 59%, 61, 11% non-nail clippers and there are many aspects of contamination in food trading way 42% of foods sold by direct sales site hands 42, 59% of many garbage 59, 55% standing water 39, 18 food exposed 79, 62% food laid out on the ground and saved the remaining foods 38% open table 22, 22% kitchen cupboard 44, 44% have no knowledge of food contamination . causes the sale of unhealthy practices by women street food vendors lead to contamination of foods which can cause poisoning and diarrhea among Students schools and there is a lack of knowledge of the causes of contamination foods for women respondents and search out a number of recommendations, most notably raising cultural awareness with foods for women dealers food Street and Students schools Foundation for the prevention of Food poisoning.***

Keywords: Street foods, vendor women, Sinja city, hygienic, food safety

1. Introduction

In many developing countries, street food vendors are an important component of the food supply chain. Being reasonably priced and conveniently available, street food satisfies a vital need of the urban population. These ready-to-eat foods and beverages are prepared and/or sold by vendors or hawkers mainly in streets or other convenient public places such as around places of work, schools, hospitals, railway stations and bus terminals [15].Food safety is a major concern with street foods. These foods are generally prepared and sold under unhygienic conditions, with limited access to safe water, sanitary services, or garbage disposal facilities. Hence street foods pose a high risk of food poisoning due to microbial contamination, as well as improper use of food additives, adulteration and environmental contamination [14] equipments and other sources. On the other hand there are many types of foods all over Sudanese vessels beside other sources of contamination streets, which include different types of cooked foods and food products may transmit certain food such as meat, chicken, vegetables, bean (fib bean, poisoning by microorganisms that can lead to either food Madame's), lentils, 'Tamie', 'Dakwa' (peanut butter) and borne infection or intoxication. Infection is caused by some other traditional foods beside tea and ice cream. Salmonella, Bacillus cereus, pathogenic Escherichia coli, these cooked meals are usually consumed within 1-4 and other pathogenic microbes. Intoxication occurs when hours after being prepared. Cooked bean (medammes) and toxins are released in food by microorganisms like lentils are usually consumed in breakfast after 14hrs of Staphylococcus aurous and Clostridium botulinum [1] isolated bacteria from cooked meals, bottled drink and fresh juice were; Escherichia coli, Staphylococcus aurous and Bacillus sp. The viable bacterial counts were 4.6 CFU/ml, 3.7 CFU/ml and 4.1 CFU/ml for cooked meals, bottled drink and juice, respectively [11] the safety aspects of two Sudanese street foods, namely: Tamia (Falafel) and Dakwa (peanut butter) collected from different sources in Khartoum State. The total bacterial count (TBC) (cfu/g) in Tamia was 5.6x103, 3.9x104 and 4.9x105 in samples of Albeit Alssory, College and Omdurman market, respectively. Coli forms and moulds and yeasts in Tamia were not detected in Albait Alssory and College, while Omdurman market samples recorded 1.7x10 for coli forms and 5.8x 102 for moulds and yeast. Pathogenic bacteria (E. coli, Staph. aurous and Salmonella) were not detected in all samples except Staph. Aurous were detected in Omdurman market (3.9x102). TBC in Dakwa were 5.4x103, 5.6x104 and 6.4x104 in crusher machine, Sham bat market and Omdurman market, respectively. Coli forms were detected in all sources of Dakwa, while moulds and yeasts were detected only in Omdurman market. Albait Alssory was the only source of Dakwa free of pathogenic bacteria. Lead (Pb) in Tamia was 3.04 (ppb) in Albait Alssory and was not detected in the other two sources (College or Omdurman market). Aluminum (Al) and peroxide values were found in all sources of Tamia. Pb in Dakwa was 3.20 in Shambat market and was not detected in crusher machine and Omdurman market. Al in Dakwa was present in all sources while peroxide value was absent in the crusher machine[[1] [17].

A survey was carried out to determine food safety knowledge of street food vendors in Khartoum city between March and May, 2008. A few vendors (4%) acquired the knowledge of food preparation by formal training and only 52% of the respondents had the annual medical health certificate to indicate that they have carried out the. recommended physical and medical examination, extension education, quality control information and knowledge of regulation for approval, food sale and preparation practices. Volume (70%) and price (62%) were considered more than freshness when purchasing raw materials. Some of the food safety knowledge of the vendors could not be translated to practice due to the absence of basic facilities such as water

and toilets at their vending sites [10]. Their preparation however, street foods are frequently associated with. During the above mentioned different storage diarrhea diseases due to improper handling and serving periods, prepared meals become subjected to different practices. Located port Sinja of Sennar State and is the State's capital city has 18 schools and street food vendors are women inside and outside the school where they are selling breakfast and some snacks for the children at the school where the sale during a breakfast break, end of school children to frequent diarrhea as indicated in the report of the Federal Ministry of health of the State cases of diarrhea among the lonely class (6-10 years) with 65% and perhaps the reason for this is due to the contamination of foods eaten and this paper Seeking to learn the various aspects of health such as food preparation practices and environment surrounding the sites and food handling and personal hygiene to store leftovers**.**

2. Methodology

Descriptive study design was used to extract the answers to the questionnaires on the current situation A random sample of 54 woman sells street food in and out of school children at the basic stage. Identify the health practices of street foods in bay at inside and outside schools Foundation in Sinja (in Sudan) and also through the notes. Practices such as cooking skills, food handling, place Food preparation, personal hygiene, environmental conditions and places of show sales. Data were analyzed using the statistical package ". The social sciences (SPSS) to find the frequencies and percentages

3. Results

Table 1: Street foods sold in schools at the basic stage in Sinja city

Food	*Contamination*	*Handling after Cooking*	*Cooking Method*	*Description*
Salad tomoto	fresh vegetables, hands, dakoh	Served with spoon	No cooking	Mixture of fresh vegetables and dakoh
Tamiya	hands	Served with hands	Boiling	chickpeas or kidney beans and oil
Vigna Beans lentils (paleila)	Vigna beans lentils and equipment	Served with spoon	Boiling	Vigna beans lentils
Hibiscus with chili and peanut butter	Hands and equipment	Served with hands and Plastic bags	NO cooking	Mixture of Hibiscus with chili and peanut butter
Ardibma chili and peanut butter	Hands and equipment	Served with hands and Plastic bags	NO cooking	Mixture Ardibma chili and peanut butter
Ajjur, chilli and lemon	Hands , ajjour, chili and equipment	Served with hands	NO Kooking	Mixture fresh vegetables (ajjur)and chili with lemon
Sweet vermicelli	Hands, peanut butter and equipment	Served with hands and paper	Poiling	Sugar with peanut butter
Sweet semsmia	Hands, semsim and equipment	Served with hands	Poiling	Sugar with semsim
sweet potato	Hands and sweet potato and equipment	Served with hands	Poiling	potato
Cham	Hands and equipment	Served with hands	Poiling	Wheat flour with oil and sugar
pice	Hands and equipment	Served with hands	Poiling	Wheat flour with oil and sugar
guava	fresh vegetables, hands and equipment	Served with hands	NO cooking	Frut guava
dome	fresh vegetables, hands and equipment	Served with hands	NO cooking	Frut guava
Ice cream (dandorma)	hand,bag, weter	Bomb in bag & hands	NO cooking	Hibiscus iced sugar-drenched
The melon pulp	hand,bag, equipment	Bomb in bag & hands	Poiling	Legumes with salt

Table 1 type of street food sold inside and outside schools, as in terms of ingredients and cooking method and trading and Contamination.

Table 2: Age and educational level of the dealers sample foods (n=54)

Age groups	*Frequency*	*Percentage*
(less than 20 years)	8	14.81%
(21-30 years)	12	22.22%
(31-40 years)	15	27.77%
(41-50 years)	10	18.52%
50 years and above	9	16.66%
Education level average		
Literacy	28	51.85%
Primary	23	42.59%
Secondary	3	5.55%
Personal hygiene		
Wash your hands before preparing food	27	50%
washing hands before meal	22	40.74%
hand- no washing after toilet with soap	23	42.59%
Washing hands with SOAP is more than three times	10	18.52%
cleaner clothes	28	51.85%
Hair cover	34	64.81%
Finger nails cut	21	38.88%
Take off rings during the preparation	7	12.96%

Table 2 indicates that 27, 77% of women in the age group (31-40 years) and 51, 85% of women are uneducated and 50% washed their hands before preparing food, 40, 74% they wash her before eating 42, 59% after they wash her out of the toilet and 18, 52% washed their hands with SOAP, more than three times a day and 51, 85% clean clothes and 64, 81% of head covered and nail clippers to 38, 88% and 12, 96% of women once rings when preparing food.

Table 3: A description of the food sold in terms of cooking and preparation

Cooking and presentation:	*Frequency*	*percentage*
Food cooked well in advance of consumption	20	37.03%
food cooked on morning of sale	26	48.14%
food cooked during sale	8	14.81%
cooked sold from cooking pot	12	22.22%
cooked food scooped into Plastic bags	22	40.74%
food sold from tray with covering	2	3.70%
food sold from tary with no covering	11	20.37%
food reheated befor sale	7	12.96%
food hadeled ground level	33	61.11%
food exposed to flies	14	25.92%
serving of food		
food served paper leaves	17	31.48%
food served with bare hands	23	42.59%
food served with Plastic bags	25	46.29%
Save the remaining food		
Keeping food in the fridge	23	42.59%
Keeping food on the table in the kitchen	21	38.88%
Keeping food in the kitchen cupboard	12	22.22%

Table 3 shows the method of cooking, presentation, handling and conservation of street food: 73, 30% are cooking before consumption, 48, 14% are cooking in the morning and 14, 81% are cooking course of sale and 22% are selling foods cooked in the cooking pot, 40, 74 percent put cooked foods in plastic bags, 20, 37% of foods not covered, 12, 96% of the foods are heated before handling a flies about foods 25, 92%. the table shows the circulation of foods where he found 31, 48% of the foods sold in paper and 42, 59% with hands, 46, 29% food is put in plastic bags and save the remaining foods 42, 59% in the fridge and 38, 88% in altrbish (Worktable) in the kitchen and 22% in the kitchen cupboard.

Table 4: Characteristics of the sites selling and salesmen health

Type of vending sit	*Frequency*	*Percentage*
open air	31	57.40%
Schools	23	42.59%
vending site hygiene		
much litter	23	42.59%
some litter	21	38.88%
no litter	7	12.96%
litter bin available	11	20.37%
stagnant water on ground	32	59.25%
The food offered is covered		
Always	24	44.44%
Sometimes	22	40.74%
Convertible	19	35.18%
Put food before		
Placed on a table	11	20.37%
On the Earth	43	79.62%

Table 4 shows 57, 40% of dealers sitting in the street and 42, 59% stay in schools and clean site sale 42, 59% of the garbage, and 59% water stagnant on the ground and the food always covered 44, 44% and in some cases not covered 40, 74% and 96% covered put food before sale 20, 37% on the table and 79, 62% on Earth

Table 5: information about the health and safety knowledge (n=35)

Information knowledge pathogens transmitted through food	*Frequency*	*Percentage*
Excellent	7	12.76%
good	12	22.22%
average	11	20.37%
Poor	24	44.44%
Sources of information about health and food safety		
Radio	22	40.74%
television	11	20.37%
Experience	11	20.37%
Parents	8	14.81%
city health officer	2	3.70%

Table 5 shows the level of knowledge of the etiology of diseases transmitted through food, where 44, 44% poor level of knowledge and sources of information about health and food safety, radio top 40, 74% less than grade 3, 70% of the city's health officer.

4. Discussion

The results showed that street food sold inside and outside schools in Sinja town was confined to traditional local snacks and fresh fruit and vegetables: sandwich tomato with dakoh salad, Falafel, tabeldi, with dakoh, aradeb with chilli and dakoh, Vigna beans lentils(paleila) , sweet vermicelli, sweet semsmia, sweet cane, dates, lentil, salad altbash (Vegetable similar to cucumber) with robe, game controllers and aldandrma (household Ice cream) Pathogenic bacteria were isolated in domestic household ice cream Salmonella and Staph. Aurous [12] .and these foods are exposed to pollution in the stages of preparation and circulation (table 1) and note that aldakoh (peanut butter), many of which are considered central to the growth of microbes and fung peanuts butter prepared by the street sellers and distributed by the retail stores are evidently hazardous to human health [1], [2] , [17]Night runner beans are cooked before 14 hours of sale and therefore provides an opportunity for the growth of microbes Fruits like guava and always displayed to the flies, dust and touching the hands making it contaminated with microbes and is dangerous in that children eat without washing with water .

Referring to the 27, 77% of women in the age group (31-40 years) and 14, 18% less than 20 years considered as children and the elderly over 50 years numbered 16, 66% of them lack health knowledge. The results indicated that 51, 85% of women are illiterate (can't read or write) the higher the level of education of the individual consciousness to protect trade and catering [2] [7] refers to the lack of health awareness.

The results showed that 50% of the persons questioned are not washing their hands before preparing food, 42, 59% not washing their hands with SOAP after toilet, 81, 48% washing hands with SOAP is less than three times and noted women's clothing dealers 51, 85% clean clothes while 48, 15% dirty clothes and 64, 81% covering head, probably because the culture in the region and not in terms of health, 30% do not cover the head and this gives an opportunity to the descent of the hair in food and nail clippers 38, 88%, 61, 11% non-striped nails, giving an opportunity for the

accumulation of dirt and microbes and 96% off rings during Setup while 68.% does not take off rings when preparing foods and prefers to dress-rings in hand when preparing food to risk of contamination by germs in food prices these results indicate that respondents lack personal hygiene outcome consensus [7] ,[1].

The results showed that foods sold paper 31, 48% and 42, 59% are sold directly bare hands making them more susceptible to pollution and 46, 29% are sold in plastic bags in the gravity when the hot foods and save the rest of second day of food found that 42, 59% used fridge (save aldandrma) and 38, 88% put in a table in the kitchen and 22% put in a kitchen cupboard and a traditional kitchen lacks health and more likely to rodents and insects and flies and dust [16], [7].

The results indicated that 57, sale of 40% in the street around the school, and this result is considered serious because the street more dust and auto exhaust can contaminate foods by to sell cleaner site found that 42, 59% of garbage and 38, 88% of garbage and stagnant water in 59, 25 per cent of these manifestations and the proliferation of flies which transmit diseases, diarrhea due to food sold 40 and 74% sometimes covering 35, 18% not covered (uncovered) and put the food in the dish (Made from Palm leaf) fronds like 79, 62%, making them more susceptible to contamination by dust and flies [1],[13],[16].The results indicate that knowledge of contaminated foods and pathogen poor at 44, 44% of respondents due to the high illiteracy rate. And sources of knowledge were 40 radio, 74% and TV 20, 37% and 20, 37% and 81%, family and environmental health officer in town 3, 70% of all these sources show that there is a scarcity of information through the media and other sources experience poor and There was a failure to inform vendors of environmental health officer for the city.

Conclusion and Recommendation

5.1 Conclusion

There are a large number of street foods sold by women and children within and outside schools, is an unhealthy practices in the preparation, handling, conservation and sale of foods and lack of personal hygiene and knowledge of the causes of the pollution and the diseases caused by the expected impact of these foods on the health of children and pollution diseases .should take into consideration the venders education.

5.2 Recommendation

1. Guidance and training of street food vendors necessary health measures to prevent food poisoning**.**
2. Periodic follow-up of children by their families and teachers in schools to prevent food poisoning
3. Activate the role of the school broadcasting in educating students about the dangers of eating food base contaminated.
4. I propose to conduct further studies on the vendor's street food and behavior.

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