

Assessment of food safety practices followed by street food vendors

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■ **ABSTRACT** : Now-a-days the changing life style has changed the way people eat, they are tending towards eating out which is more inclined towards street vendors as they provide quick and affordable meal. But this indirectly invited food borne illnesses which are caused by contaminated food. So, the present study was conducted with the aim to assess food safety practices of street food vendors in Udaipur city. For this purpose, 100 respondents were investigated using a structured questionnaire. The results stated that 70 per cent vendors were following poor food safety practices with mean 27.24 ± 3.17 while none of them followed good practices. Majority clean their work place only one in a day and even have habit of chewing tobacco. The use of protective clothing was also poor. This depicts that vendors do not provide safe food and there is an urgent need to educate them.

■ **KEY WORDS**: Street vendors, Food safety, Eating out, Protective clothing

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Food is an important basic necessity; it is a significant contributor to physical well-being. It channelize emotions and is also gives pleasure. Its procurement, preparation and consumption are vital for sustenance of life. People tend to achieve sense of security when they find familiar foods outside the home.

From the last decade eating out has gained momentum in Indian's lifestyle due to change in consumption pattern. This gain may also be due to urbanization, high working population, change in tastes and preferences, increased exposure to media, more number of working women in the population, increased standard of living, lack of time and increased disposable income which has made takeaways and dining out more

prominent as they are quick to pick and eat. The sociologists Cameron Lynne Macdonald and Carmen Sirianni noted that there is notable increase in the demand for the types of services performed traditionally by housewives that are child care, cleaning and cooking, by the entry of women in the workforce (Mitchell, 2012).

All the above factors which are responsible for the change in trend of consumption has led to increase in demand of approachable food services in the market. From last decade the share of expenditure on food has also increased, from which about half of the money used to buy food is spent on street foods.

With expansion of food facilities there is also an increment in foodborne illness. Foodborne illness lead to

infection or irritation in the gastrointestinal tract which is caused by due to the consumption of contaminated food which usually arises from inappropriate storage, handling or preparation food. Food is easily contaminated when produced in an unhealthy and unclean environment. As in the case of food services, food passes through many hands, it thereby increase the chances of food contamination triggered by improper handling.

So, food safety has become an important aspect to be taken care of by the catering industry. As in order to ensure this, Food Safety and Standard Authority of India (FSSAI) was established by the government under Food Safety and Standard Act, 2006. FSSAI (2011) functions to provide set standards and regulation for the articles of food from its procurement to distribution and also regulates the appropriate enforcement of these standards.

Now-a-days food consumption pattern and choices are more inclined towards the street food vendors, as they provide food at low price which is affordable by many lower and middle class consumers. This makes it important to analyze the practices of street food vendors and moreover, to examine their compliance with food safety legislation.

RESEARCH METHODS

The study was undertaken with the aim to assess the food safety practices of street food vendors. It was conducted within the municipal units of Udaipur city. To fulfill the purpose of investigation sample of total 100 respondents (street food vendors) were selected using stratified sampling technique. Strata were made by equally dividing 55 wards of Udaipur City into five zones namely East, West, North, South and Central and 20 vendors from each zone were selected.

For the purpose of collecting information researcher developed a structured questionnaire. This included general information particularly age, gender, educational level, years of work experience, annual income, annual turnover and FSSAI certification. Questionnaire was prepared keeping in mind the food safety guidelines given by FSSAI. This consisted twenty one questions with total maximum score of 45. It included nine dichotomous questions with 'yes' and 'no' response, nine multiple choice questions and three multiple response questions. For dichotomous questions positive response was given 1 mark and negative as 0; for multiple choice questions

responses were marked in descending order from 4 to 0 for most appropriate to inappropriate practice; and for multiple response questions each response was marked as 1.

RESEARCH FINDINGS AND DISCUSSION

Forty eight per cent street vendors were in the age group of 18 to 33 with educational qualification below senior secondary (68%). Forty nine per cent vendors had 6-20 years' work experience. Annual income of 72 per cent respondents was between one to two lacs while 49 per cent of them having turnover less than 5 lacs. Only 30 per cent street vendors were having FSSAI certification.

Table 1 : General information of the respondents

Sr. No.	Information	%	
1.	Age	Below 18	8
		18- 33	48
		34- 49	36
		50-65	8
2.	Qualification	Illiterate	12
		Below senior secondary	68
		Senior secondary	16
		Under graduated	4
3.	Work experience	Less than 5	29
		6-20	49
		21-35	18
		36-50	4
4.	Annual income	Less than 1 lac	16
		1 lac – 2 lac	72
		More than 2 lac	16
5.	Annual turnover	Less than 5 lac	49
		5 lac- 7 lac	31
		7 lac- 9 lac	14
		More than 9 lac	6
6.	FSSAI certification	30	

Table 2 indicates an alarming situation as majority (70%) street vendors were found following poor food safety practices. Rest 30 per cent had average practice while none of them reported good food safety practice.

Table 2 : Overall practice score of the respondents

Sr. No.	Category	f/per cent
1.	22-28 (Poor)	70
2.	29-36 (Average)	30
3.	37-45 (Good)	0
	Mean±SD	27.24±3.17

The mean score of vendors was 27.24 ± 3.17 from total 45.

Table 3 depicts hygienic practices followed by the food handlers at their work place. According to that, almost all the street food vendors (97%) used detergent to wash their utensils, and only 49 per cent use soap for washing hands. Above eight per cent of respondents reported that they daily wash the clothes used during work.

It is very important to keep the work area clean for reducing the risk of cross contamination. Forty nine per cent vendors cleaned their work area once, only at the time of starting or closing their stall. Al Suwaidi *et al.* (2015) found that only 1 per cent were cleaning work place both before and after work and 31.8 per cent cleaned it after finishing their work.

Nearly all the respondents had a practice of washing hands before handling food. This can be backed by the results of investigation on food handlers of Hyderabad by Kubde *et al.* (2015) in which 93.02 per cent of food handlers had practice of washing hands before and after handling food.

As per FSSAI (2011) guidelines, adequate storage arrangement of potable water should be made by the food handlers. Some handlers in the present study used to buy camper from the commercial water suppliers (37%) though large number of them kept small tank for water storage which was cleaned daily (57%).

FSSAI says that all the equipment should be cleaned and dried before closing the business to prevent the

growth of microorganism. Only forty four per cent vendors practiced wiping their utensils.

Dirty long nails of person handling food can be a reason for cross contamination. Above ninety per cent followed good personal hygiene by trimming their nails regularly. Further, as per the FSSAI (2011) guidelines consumption of tobacco, cigarette or alcohol is prohibited on the work premises still a large number of street food vendors (48%) consumed them which is an inappropriate practice as they can be a contaminant.

According to the data of Table 4 sixty per cent of street food vendors stated that they utilize precooked food within few hours with forty per cent using it till 12 hours. In general almost all the respondents check expiry date before buying (86%). Similar finding stated that 68 per cent vendors read expiry date of food items at the time of buying (Pokhrel and Sharma, 2016).

Majority practiced buying clean and fresh fruits and vegetable daily from the market and stored them in clean and covered utensils. Only 8 per cent street food vendors had fridge for the storage of the food items, they prepare less amount of food at a time that can be utilized in few hours.

The cooking utensil can be a source of metallic contamination, FSSAI (2011) has also restricted the use of any such equipment for cooking. The food handlers under study were using only steel (85%) and iron (43%) for this purpose.

Furthermore, the utensils used for serving food must not contaminate the food. Majority (58%) street vendors

Table 3 : Work place hygienic practice of the respondents

Sr. No.	Practice questions	%	
1.	What do you use to wash utensils?	Plan water	3
		Detergent	97
2.	What do you use to wash hands?	Plan water	51
		Soap	49
3.	Do you daily wash clothes used during work?		80
4.	How many time you clean your working area in a day?	Once in a day	49
		Twine a day	43
		More than twice	8
5.	Do you wash hands before handling food?		96
6.	Do you wipe utensils with dry cloth after washing?		44
7.	How often you wash the water storage tank?	Daily	57
		Once in a week	6
		Buy camper daily	37
8.	Do you regular trim your nails?		92
9.	Do you consume tobacco, cigarette or alcohol during work hours?		48

used disposable for serving. If hot food is served in disposable the toxic material can leach into the food and it also increases trash and attract insects if not dumped properly.

Use of protective clothing is very important to prevent the transmission of pathogens, FSSAI had also made their use mandatory. The respondents under study did not gave much importance to them. Overall 45 per cent street vendor reported use of at least one of these. This is contradictory with a survey on food vendors of Nigeria where most of the respondents (68.6%) wore apron and 62.3 per cent covered their hair while handling food (Aluh and Aluh, 2017).

Insects have potential to transmit food borne

pathogens, so they must be kept away from the work place. According to Table 5 majority (42%) of street food vendors under study do not had any practice for keeping insects away from the food, followed by 25 per cent using smoke, 18 per cent were using hand to fly them away and only 15 per cent were using pesticides.

It is important for any food service provider to keep garbage bin in order to dump the waste and its use is also made compulsory by FSSAI. Approximately, ninety per cent reported the use of dustbins. Hilario (2015) investigated the hygiene and sanitation practices of street food stalls which showed that the surrounding of the stall was unhygienic due to the presence of garage and dirty waste nearby. Sixty per cent of them threw waste around

Table 4 : Storage and cooking practice of the respondents

Sr. No.	Practice questions	%	
1.	In how much time duration you use the pre-cooked food?	In few hours	60
		In 12hrs	40
2.	Do you check the expiry date of the ingredients before buying?	86	
3.	Do you use clean and covered utensils for storage?	96	
4.	How many time you buy fruits and vegetables from the market?	Daily	60
		Twice a week	40
		Clean and fresh	86
5.	Which type of fruits and vegetables you prefer to buy?	One day old	14
			8
6.	Do you have fridge for the storage of food?	8	
7.	Which type of utensils you use for cooking?	Steel	85
		Iron	43
8.	Which type of utensils you use for serving?	Steel	42
		Disposable	58
		Cap	12
9.	Do you use protective clothes while handling food?	Gloves	27
		Apron	35
		Mask	0

Table 5 : Other hygienic practice of the respondents

Sr. No.	Practice questions	%	
1.	What precaution do you take to prevent food from insects or mites?	Use hand to fly away them	18
		Use pesticides	15
		By smoke	25
		Nothing	42
2.	Do you use dustbin?	90	
3.	What do you of the leftover food?	Consume it yourself	13
		Feed stray animals	19
		Give it to the needy person	18
		Dump it in dustbin	74
		Through it on road	3
		Use it next day	5

the stall as they do not had garbage bins, which attracted insects.

The proper arrangement for the leftover food should be done to prevent spoilage. 74 per cent street food vendors stated that they dump the leftover in the dustbin. However, many respondents said that there was no leftover. This is opposed by a study (Reang and Bhattacharjya, 2013) on the street food vendors of Agartala which stated that majority of vendors used to store the unsold food for next day while only 29.1 per cent discard that food. Hilario found out that the leftover food was consumed by vendors themselves and if stored, 74 per cent kept it at open place and 26 per cent in refrigerator for using it next day.

Conclusion:

It can be concluded that, the food safety approach of street vendors need to be modified. Street vendors prefer following practices as the customer demands cleanliness so they should also be made aware about it as, they indirectly influence the practices. This can be done by promotion of FSSAI guidelines and demonstration of good food handling practices.

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