

# AN AMPLE STUDY ON THE CIRCUMSTANCES OF STREET FOOD WITH REFERENCE TO VENDORS AND CUSTOMERS AT CHENNAI

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## ABSTRACT

**Objectives:** The main aim of this study was to explore the socio-economic aspect of street food in Chennai; to investigate the perception of the street food quality among vendors and consumers in Chennai; and to identify and suggest probable future hygiene promotion strategies in the street food sector.

**Study Design:** A descriptive cross-sectional study design

**Method:** Data was collected using two types of qualitative data collection methods such as case studies with 38 street food vendors and interviews with 108 consumers.

**Results:** A great variety of typical whole meals, snacks, beverages as well as fruits were found in the street foods. The clientele were of all ages, and included female as well as the male purchasers from the surrounding area. The food preparation and handling revealed inadequacies concerning the hygiene.

**Conclusion:** Beside there exist a numerous advantages like provide a variety of instant foods there also exist few issues like inadequate supervisions on food vending, hygienic and health facts with regard to the food served. An orderly approach is required for the development and move toward an orderly maintenance to resolve the problem.

**Key Words:** Street food, Vendor and Consumer, Street vended foods, Food safety and Hygiene

## 1. INTRODUCTION

The cuisine of a place speaks volumes about the weather, culture, lifestyle and habits of the people. Street food is ready-to-eat food or drink sold by a hawker, or vendor, in a street or other public place, such as at a market or fair. It is often sold from a portable food booth food cart, or food truck and meant for immediate consumption [1]. A street food vendor is broadly defined as “a person who offers goods or services for sale to the public without having a permanent built up structure but with a temporary static structure or mobile stall or head load”[2]

As per government’s own admission, the total number of street vendors in the country is estimated at around one crore. Some studies estimate that Street-vended foods included foods as diverse as meat, fish, fruits, vegetables, grains, cereals, frozen produce and beverages; Types of preparation included foods without any preparation, ready- to- eat food and food cooked on site. They also make a very large contribution to the national economy. Vending facilities vary from mobile carts to fixed stalls and food centers. Infrastructure developments were relatively limited with restricted access to potable water, toilets, refrigeration, and provision for washing and waste disposal facilities. Street vendors are exposed to physical harm from the improper accessibility of fire safety equipment and the improper regulation of traffic in commercial areas. They are also exposed to a high concentration of air pollutants. These physical risks take a toll on young children who must accompany their mothers to vend in the streets [3].

Urban population growth has stimulated a rise in the number of street food vendors. Migration from rural areas to urban centers has created a daily need among many working people to eat outside the home. Demand for relatively inexpensive, ready-to-eat food has increased as people, especially women, have less time to prepare meals. Street foods are adopted because they are inexpensive, the taste is acceptable and they are conveniently sold wherever people congregate [4].

The innumerable street food industries involve huge amounts of capital and millions of people yet they are often not given the official recognition they deserve. In many countries the street food industry is merely tolerated. Because the industry is spread over a myriad of locations and is not systematically coordinated in any way, it is common for clusters of vendors to be considered impediments to urban planning and hazards to public health[5].

The negative attitude of officials toward street food vendors frequently reflects concerns about poor hygiene and the spread of disease. Lacking staff to enforce rules and regulations, governments have difficulty monitoring street food enterprises. These businesses may be seen as a hindrance to the "modernization" of the traditional food distribution system because they compete with licensed eating establishments that have considerably higher operating costs. Furthermore, there is the weak assumption that, in food processing, bigger is better. Finally, vendors may obstruct traffic in the centers of increasingly congested cities[6].

This has led some governments to attempt to remove vendors from certain sections of a city, usually without success[7]. However, these street foods largely do not meet proper hygienic standards and can therefore lead to food-borne illnesses. The safety of street or vended foods is therefore one of the most pressing health and safety issues facing most developing countries since it leads to both public health and social consequences[8].

Mobile food vending is a component of the food environment that has received little attention in the public health literature beyond concerns about food sanitation and hygiene issues[9]. Recently a survey conducted by a national agency revealed that 90 per cent of the food supplied by roadside vendors was contaminated with food-borne pathogens[10]. Overall hygienic condition of vendors is not good. None of the vendors wear apron, gloves and hairnet, none of them washes their hands before cooking, all vendors handle food with bare hands and also wipe their utensils with unclean towels/hands[11].

Vending of street food in urban areas is a growing and worldwide phenomenon and today street foods are important sources of daily foods for massive urban populations – not least in Chennai. But food poisoning, food borne diseases and food safety have been declared a major public health concern by international health agencies and street foods have in many studies been associated with microbiological contamination and low hygienic standards (WHO 2006). Hence, street food vendors are of massive importance for public health since they alone have influence on the health of thousands of people every day[12]. Given the growing numbers of the street food vendors and the customers who patronize them, the issues and problems the vendors encounter need special attention of the authority concerned[13].

The Street Vendors Act, 2014, enforced on May 1, 2014, is an attempt to recognize and regularize all the street vendors in India. This makes the profession of street vending legal and brings relief from the continued threat of evictions by the Local Authority. The Act calls for registration of the street vendors instead of their licensing[14]. The current challenges that the governments in developing countries need to tackle to ensure that the full potential of street foods is realized includes; officially recognizing street foods, developing and implementing guidelines on their production and sale; ensuring safety of these foods by enlightening both the consumers and vendors through training on best food handling hygiene and processing practices to prevent food borne diseases caused by both microbiological and chemical hazards; and encouraging production of healthier options of street foods in order to curb surging lifestyle diseases often associated with several types of these foods often considered junk[15].

Therefore, in this research article, we realized that perceptions of street foods quality are a multi-dimensional factor in the seller-customer relation and interactions possibly influencing practices of food hygiene and food safety among both parties.

## 2. OBJECTIVES:

The aim of this study was:

- To explore the socio-economic aspect of street food in Chennai, India, regarding the support of people towards street food business
- To investigate the perception of the street food quality among vendors and Consumers in Chennai
- To identify and suggest probable future hygiene promotional strategies in the street food sector.

## 3. MATERIAL AND METHODS:

Qualitative data was collected during a 3 months between June 2018 to September 2018 in Chennai conducted by three researchers with hotel and catering management and nutrition background. Data was collected using two types of qualitative data collection methods such as case studies and interviews. Study checklists and semi-structured questionnaire used to conduct case study and interviews with 38 randomly selected street food vendors and with 108 consumers of street food.

The main issues investigated through exploratory and case study check list were compiled for each vendor with exact descriptions at major markets and junctions in Chennai to get an insight into the socioeconomic features, physical structures and types of street food at these locations. Check lists were continually indexed according to the main categories of the check list guide.

The informal interviews with all 38 vendors and staff were conducted throughout the period of field work. Interviews were focused on gaining knowledge on vendors' perceptions and practice of food safety, hygiene, health-related risks, and sources of knowledge on street food business. A semi-structured interview was carried out with 108 street food customers to obtain understanding level of consumers' perceptions and attitudes towards street food quality, food safety and hygiene in order to relate food safety awareness and practices, vendor-customer interactions and general conditions.

### Analysis of Data

Documents of all interviews and all case study information were translated from Tamil into English. Findings are presented in percentage distribution according to the frame work and information.

## 4. RESULTS:

### Characteristics of the Street Vendors

The project surveyed 38 vendors, representing the population of street vendors. Of the vendors surveyed a vast percentage of 88 % of the employees were male, and the only 12 % of them were female. 39% of the male vendor's age ranged from 20 to 50 years, while 11% of the female vendors fell in same age group. Above the age group of 50 years was reported with 44 % and 6 % of them was female vendors. Educational levels among street food vendors were low in general. 61 per cent of vendors were illiterate, 19 % of them were primary school educated, 12 % of them were higher school completed and very few of them (8%) only were graduated. This figure is higher than the average for urban people but lower than that for rural situations, because 40 per cent of the vendors were from the rural areas. A sizeable percentage of vendors were commuters. Many of the vendors had to carry their wares by train, travelling distances of 25 to 30 km.

**Table 1: General Profile of the Street Vendor.**

General Profile	Percentage (%) (N=38)
<b>Sex</b>	
Male	88
Female	12
<b>Age</b>	
Male (20 – 50 years)	39
Female (20-50 years)	11
Male (Above 50 years)	44
Female (Above 50 years)	6
<b>Educational Level</b>	
Illiterate	61
Primary school educated	19
higher school	12
Graduates	8

### Employment Scope of Street Food in Chennai

From the study, we found a distinct pattern of 52.70 % of the stalls had below three staff members and most of them were found to be family members only. 47.30 % of the establishments had never employed outside support. We could also identify few child laborers in some businesses.

### Positive and Negative Aspect of Street Food Business

It was surprising that the street food vendors had some positive and negative aspects of their business.

**Table 2: Aspect of Street Food Business**

Check list-Aspects of Street food Business	Percentage (%) (N= 38)
Low capital expenditures to start off the business	93.08
They could choose their suitable working hours	4.09
Feel happy since they were self-employed	87
Have to work long hours	64
Risks borne business	79
Feel low in their status	46.02
Income and earning risks are also common	72.09

We found that the higher percentage of 93.08 agreed that street food business involves relatively low capital expenditures to start off the business and attractive for certain types of sellers. Furthermore, regarding choosing their working hours 4 % of them only agreed; they had few constraints on their movements and many vendors (87 %) felt happy since they were self-employed. When we had conversation with vendors, in spite of the benefits of street food trade, they had to work long hours (64%) under adverse conditions and the risks were borne exclusively by the seller (79%). In addition, few of them with 46 % of the vendors were considered that their business is of low status. Income and earning risks are also common to many street vendors. Harassment on the part of local authorities—including expulsions, confiscation of merchandise, and demands for bribes—is a common source of income risk for street vendors and street food business can offer a viable livelihood, but income and earnings risks are high and this was accepted by 72 % of the vendors.

### Street Vended Foods

The food sold on the streets is quite cheap and readily available. It is sometimes brought to the door step of the customers. Street food, therefore, not only meets the food requirements particularly of those of the low income categories but also the busy customers who do not have much time either to prepare their own food or to go to other eating outlets where certainly the food is expensive and serving is time consuming.

A vast, 81 % of the vendors served fried rice and chicken, salads and sauces were provided by 71 % of them whereas meat and fish dishes were served by 54 % of the vendors. More than half of the vendors served dishes of traditional and ethnic variety and beverages (75 % and 58 % of the vendors respectively).

Almost, all the food was prepared only on the site and this was noted with 82 % of the vendors, and this was followed by 73 % who served raw items which include fruits and vegetable salads. Ready to eat items were served by 28 % of the vendors.

**Table 3: Street Vended Foods**

Check list- Street vended foods	Percentage (%) (N= 38)
<b>Type of food</b>	
Fried rice, chicken	81
Salads and sauces	71
Meat and Fish dishes	54
Traditional and ethnic foods	75
Beverages	58
<b>Type of Preparation</b>	
Ready to eat	28
Cooked on site	82
Raw	73

### Street Food Infrastructure

In street food, infrastructure developments were quite limited access to potable water, toilets, refrigeration and washing and waste disposal facilities. In general, street food is often sold from a portable tents (31%), container (28%), food cart/food truck (25%) and food booth (16%). Only 18% of them had provision for hand washing facilities whereas 14 % of the vendors noted that they had dishwashing facilities. 63 % of the vendors provided with water facilities and only 8 % of them had toilet facilities. None of them had refrigeration facility. Majority of 60% of them purchased canned water to operate their business outside only.

**Table 4: Street Food Infrastructure**

Check list-Street food infrastructure	Percentage (%) (N=38)
<b>Type of vending site</b>	
Tent	31
Container	28
Food booth	16
Food cart/food truck	25
<b>Type of Amenities</b>	
Hand washing facilities	18

Dish washing	14
Refrigeration facilities	-
Water facilities	63
Toilet facilities	8
<b>Water Supply</b>	
From Home	12
From nearby pumps	28
Purchase canned water	60

### Food Safety- Knowledge and Practices of Street Food Vendors

Knowledge and practices on food safety concepts was established with personal hygiene, food handling and preparation, serving food, food storage, and cleaning of utensils. Also the topic was involved with waste disposal and environmental safety. Conversely, vendors were shown to be not to be much knowledgeable in terms of food legislation and waste management. A significant gap between knowledge and practice on food safety was recognized and it was accepted by the street food vendors to compromise food safety for financial issues.

**Table 5: Food Safety- Knowledge and Practices of Street Food Vendors**

Check list- Food safety	Percentage (%) (N=38)
<b>Personal hygiene</b>	
Frequent hand washing	21
Use of apron	-
Use of gloves	29
Hair covering	-
Finger nails trimming	-
Wears jewellery	78
Wearing clean clothes	42
<b>Food handling knowledge</b>	
Self taught	48.1
Parents taught	37.62
Work experience	17.5
Formal training	3.22
<b>Preparation of food</b>	
Wash food items before cooking	86
Preparation surface clean and dry	31
Never reuse oil for next preparation	21
Use of low quality and unbranded oil	92
Always use clean water	9
<b>Serving food</b>	
Steel plates	69
Plastic plates	31
Disposable plates	17
Plastic bags	100
News papers	100
Food covers	100
Banana leaves	2
<b>Food storage</b>	
Refrigerator	-
Plastic containers	85
Coolers/hotboxes	52
<b>Cleaning of utensils</b>	
Soap with clean water	12
Only with clean water	10
Clean with dirty water	78
<b>Environment safety</b>	
Clean	-
Dirty	100
<b>Waste Disposal- Where? &amp; When?</b>	
Bush	58
Bins	15
On the road	27
When?- Daily	88
Twice weekly	12
Weekly	-

A standard of very low personal hygiene was observed in almost all the vendors. It was found that very few of 21 % of the vendors wash their hands more frequently whereas 29 % of them use gloves. Most of the vendors (78) were found wearing jewellery and watch. 30 % of the vendors only identified with clean clothes.

It was quite excited to know the vendor's knowledge on food handling and cooking skills. A highest, 48% of the vendors were acquired knowledge on cooking by self taught while some of them (37 %) gained knowledge from their parents. 17 % of them acquired food handling skills from work experience and observation. We were surprised that some of them completed a sort of certificate courses also.

A majority of 86 % of the vendors used to wash their food items before cooking and 31 % of them were kept the surface clean dry. A highest of 92 % of the vendors used low quality and unbranded oil and 21 % of them only found that they never used old oil (reuse oil) for next preparation. It was worried to notice that none of them used clean water for preparing food though few of them admitted that they purchase water from outside since the street food business run on open surface undergo air pollution.

Street food is too tempting to taste but it is the food is served by them is unclean and unsafe. From our study, we found that 69 %, 31 % and 17 % served the food in steel plates, plastic plates and disposable plates respectively. We were upset that all the vendors (100 %) used plastic bags, news papers and food covers (plastic). Perhaps, 2 % of the vendors only served in banana leaves.

It is obvious that they never had proper storage facilities since it is small scale business. 85 % and 52 % of the vendors used plastic containers and coolers and or hotboxes. None of them reported that they use refrigerator for storage.

Undoubtedly, street foods tickle the taste buds. But with respect to hygiene, it can cause serious health problem. When the information filled in the check list related to cleaning of utensils, all the vendors used unclean and dirty water, whereas soap with clean water used by 12 % and 10 % of the vendors used only clean water and they never used soap or any cleaning agents.

From this study, it is confirmed that all street foods make the environment dirty and polluted as they dump all the wastes on the road (27 %) or in the bushes (58 %). A smallest portion of the waste only carried by the vendors and disposed properly (15 %). A great percentage (88 %) of the vendors cleaned up their waste on a daily basis whereas 12 % of them cleared twice in a week and this is again adding health safety risks.

#### Consumers of Street Food

This article identified 108 consumers in Chennai preferred to make frequent small purchases at convenient locations. Those with little or no income depend almost exclusively on food supplied by street food vendors. Street foods are a bargain for customers when the demands of time and costs of food, fuel, cooking equipment and transportation are taken into account.

The results of this study showed that employees (46%), students (33 %) and business men (21%) form the major group of street food consumers. This can be justified by the fact that the rampant increase in the working population and student population of Chennai requires fast and simple food which can be obtained in close proximity. Most of the people who were customers were employed in the formal sector of the economy.

The purchase of street foods is not confined to poor households nor are there higher levels of consumption in low-income countries. For the low-income worker, street foods and snacks are essential. In many countries, workers as well as students have their first meal of the day from street food vendors. Due to the rapid economic growth in India people tend to spend more and more on eating out.

#### Consumer's Knowledge and Perception on Hygiene and Safety of Street Food

Consumers of street foods are attracted by convenience and low prices and may overlook aspects of hygiene or sanitation. In some cases, these customers lack an understanding of proper food-handling practices and the potential for food borne diseases.

**Table 6: Consumer's Knowledge and Perception on Hygiene and Safety of Street Food**

Consumer's knowledge and perception on Street food	Percentage (%) (N=108)
Consumers observes surrounding and appearance of the vending site	20
Consumers are aware of where the food is prepared	11
They are aware that whether it is freshly prepared or left over	18
They are concern about food safety and hygiene that includes hand washing, keeping preparation area clean and washing vegetables	29
They are aware that presence of dirt and poor hygiene surrounding at the vending sites create health risks and develop sickness	100
Consumers are aware that the risk of serious food poisoning outbreaks such as typhoid and cholera are linked to street foods	16

Although all the consumers (100 %) of street food are aware for the presence of dirt and poor hygiene surrounding at the vending sites create health risks and develop sickness, a lack of knowledge of consumers about the causes of food-borne disease is a major risk factor. This is evident when we interviewed them. A very few (29 %) of them only are concerned about food safety and hygiene that includes hand washing, keeping preparation area clean and washing vegetables. A very small proportion of 20 % of the consumers accepted that they observe in and around the vending site appeared clean, absence of flies, rats and cockroaches and 11 % of them only are concerned about where the food is prepared and whether it is freshly prepared or leftover (18%). A lack of knowledge among consumers about the causes of food-borne diseases such as typhoid and cholera is a major risk factor since a very least of 16 % of them only are aware of the risks of serious food poisoning outbreaks.

#### 5. DISCUSSION:

Street foods are very popular in Chennai since there is a large selection of food items with myriad of tastes and varieties. Through our investigation we sought to explore the socio-economic aspect of street food in Chennai, India, regarding the patronage of people towards street food operations, their perception of street food, and street food consumption. The results of our study indicate educational levels among street food vendors were low in general. The people from a low and mid-income segment dined out more frequently at street vended stalls. Especially students and those who stay in hostels eat at such outlets. Based on the questions asked, there were no significant differences in the reasons for visiting street food between the groups, such as convenience, busy routines and price, and people were more in flavor of home-cooked over street food meals. Street food businesses are usually operated by individuals or families with a very few number of workers. Street food requires small amounts of investment, and not much cooking and operating skills. Street food vending plays an essential socio-economic role in terms of employment potential, gaining income for women and provision of food at affordable price to

mainly the lower income groups in the city. Some classic examples of Indian street food include packed flavoured rice items like lime rice, tamarind rice, curd rice, fried rice, fried chicken, samosa is a small triangular pastry filled with spiced meat or vegetables and fried in oil. Channa batura, which is spicy chickpeas served with deep-fried, puffy dough; and pavbhaji, a spicy, sandwich. It is interesting to note that most street vendors also use their own recipes and make everything by hand, using a variety of low quality and unfamiliar brands of oils and ingredients, so the nutritional content of the same type of food may differ from vendor to vendor.

Given the rapid expansion of street food industry in Chennai, and in the light of the negative impact of street food on health, it is important to understand how consumers perceive street food and the reasons they support street food businesses. Even if the some of these preparations are served hot, it does not mean that the germs are destroyed. The bacteria can be transmitted by the unhygienic way vendors prepare and serve in dirty plates and when vendors don't wash their hands. Other concern is that the water used at these street stalls are not filtered and sourced from unhygienic places. The bigger issue is that there is no awareness among the general public regarding hygiene. Many people visit these street food vendors because they offer cheaper food compared to big restaurants.

Street food stalls in the city are required to register with FDA. With the enforcement of the new Central Food Safety Act, from August 5, 2011, the inspection and regulation of these street food vendors now comes under the jurisdiction of Food and Drug Administration (FDA). FSO officers go on routine visits to these places to check if these vendors are following the required hygiene rules. If doubtful, food samples are collected and sent to the public testing labs. If the reports come positive for contamination, they also register a criminal case for prosecution in the court. They also take action on complaints registered by aggrieved customers.

## 6. CONCLUSIONS

Street food vendors are self-employed and small entrepreneurs and they satisfy the nutritional needs of a significant portion of the low economic population, instead street food vending is barely tolerated by many officials who view the activity as disorderly, untidy and an obstacle to traffic. From our study it was identified that there are no clear lines of official responsibility for street food vending and supervision is inadequate. Selling prepared foods in the streets also raises concerns about food safety. The provision of continuous food safety education, some financial assistance through social services affiliations, and basic water and waste management utilities were recommended to diminish the gap between knowledge and practices of safe street food vending. Given that street-food consumption has been associated with waterborne and food-borne diseases, it is important to spread awareness among the general public to eat at hygienic places. The unhygienic food served by these street vendors is a complex issue; there must be a multi-pronged approach to resolve the problem.

**7. COMPETING INTEREST:** None declared

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