



Study of Bacteriological Quality of Street Vended Chinese Food

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ABSTRACT

The present study was carried out to assess the microbiological quality of street vended Chinese food samples which was obtained from two different local Chinese stalls. Totally eight food samples were collected (1 mantarian, 2 soup, 3 noodles, 4 fried rice) from the vendor in aseptic polythene bags and transported in a low temperature refrigerator for some time and then transferred into the laboratory for bacteriology analyses. The assessment parameters include viable microbial counts like standard plate count, isolation of pathogenic microorganisms on selective media, Gram staining, Biochemical test, enzyme test etc. The SPC shows uncountable bacteria and coli forms along with pathogenic microbes such as salmonella typhi, pseudomonas, S aureus. E.coli shows presence. This shows poor unhygienic state of street food.

I. INTRODUCTION

Ready-to-eat food that can be brought directly from the street vended or local market and eaten immediately i.e. without necessarily having to cook before consumption as they have been already prepared by the vendors. Foods are defined as ready to eat food and beverages prepared and sold by vendors especially in street and at other public places (FAO, 1987). These are popular worldwide and provide readily available delicious food at a cheaper rate (Mosupye at.2000). However, the unhygienic condition in which these foods are prepared, stored and served raise a question regarding their microbiological quality. These foods are an endanger to public health by causing various acute and chronic food borne diseases through pathogenic microbes or toxic substances present in them.

Most of the studies done on street foods in India and abroad indicate that these foods are not meeting the microbiological standards and are contaminated with various pathogens e.g. E coli, vibrio, salmonella, eisteria etc. (chiou et al 1996). The present study performed from chikhli town shows similar outcomes.

II. MATERIAL AND METHOD

Material :

[A] Sample collection

1. Food samples were collected from two different locations of local food market from buldhana district. These vending sites were chosen because the market or local place in major junction town for many vendors.
2. The eight samples of street vended Chinese food of different categories such as 1 mantarian, 2 soup, 3 noodles, 4 fried rice, were purchased from two different stalls. These samples when collected in aseptic polythene bags.

Media:

Nutrient Media, Biochemical test medium and reagents used are of HI Media, India such as manitol salt Agar, Bismuth sulfite Agar, MacConkey broth, Eosin methylene blue Agar etc.

Methods: (Collinsetal, 1989)

A. Total viable count bacteria by standard plate count.

From each sample by preparing serial dilution such as 1:10, 1:100, 1:1000, 1:10000 and plating with appropriate amount of natural agar, total viable count is taken.

B. Detection of Coliform from faecal contamination:
from 1:10 dilution of each sample inoculated in MacConkey broth and after incubation at 37c for 24 hours observed for acid and gas.

2. Bismuth sulfite agar- for salmonella
3. Cetrimide agar – for pseudomonas
4. Eosine methylene blue agar – for E.coli

C. Isolation of pathogenic bacteria.

From 1:10 dilution inoculated on selective mediums for isolation of pathogenic microorganism

From the growth appeared on selective medium, the specific bacteria conform by gram staining, biochemical test and enzyme test

1. Manitol salt agar- for s.aureus

III. OBSERVATIONS&RESULTS

Table 1. standard plate count

Sr.no	Sample	number of bacteria per gram of food
1	Manturian-1	Uncountable
2	Manturian-2	Uncountable
3	Noodles-1	Uncountable
4	Noodles-2	Uncountable
5	Soup-1	Uncountable
6	Soup-2	Uncountable
7	Fried rice-1	Uncountable
8	Fried rice-2	Uncountable

All the eight Chinese food sample show uncountable bacteria perform by standard plate count

Table 2. Isolation of pathogenic microorganism selective media.

Sr.no	Sample	Growth of selective media				
		BSA	MSA	EMB	Cetrimide Agar	MacConkey Broth
1	Manturian-1	S.typhi	S.aureus	E.coli	Pseudomonas	Coliform
2	Manturian-2	S.typhi	S.aureus	-ve	Pseudomonas	Coliform
3	Noodles-1	S.typhi	S.aureus	E.coli	Pseudomonas	Coliform
4	Noodles-2	-ve	S.aureus	E.coli	Pseudomonas	Coliform
5	Soup-1	S.typhi	-ve	-ve	Pseudomonas	Coliform
6	Soup-2	S.typhi	S.aureus	-ve	-ve	Coliform
7	Fried rice-1	-ve	-ve	E.coli	Pseudomonas	Coliform
8	Fried rice-2	S.typhi	S.aureus	E.coli	-ve	Coliform

Presence of Coliform(1):

In all four sample show presence of Coliform indicate poor unhygienic status of food.

Presence of pathogenic bacteria(2):

All eight food sample show presence of E.coli, S.aureus, Salmonella and Pseudomonas shows poor unhygienic practices for preparation and handling of such foods and danger for transmission of food born infection.

In this study the street food venders from the selected to areas shows more viable microbial counts Coliform, s.aureus, salmonella pseudomonas are present in food sample. Hence the study has clearly demonstrated that Chinese food vended on the street do not meet the required acceptable quality and safety levels. Measures need to be taken to ensure that street vended by should be prepare process, handled and stored by detergents and hot waters. Health education should be provided to venders.

V. REFERENCES

IV. CONCLUSION

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