

A HYGIENIC STUDY OF FOOD AND HEALTH IN RURAL AND URBAN COMMUNITIES

Rashmi Sharma

Institute of Home Science

Dr. Bhimrao Ambedkar University, Khandari Campus, Agra

rashmi22sharma@gmail.com

The individual advantage of decent hygiene is having good health because keeping our bodies hygienic benefits avoid illnesses and infections from bacteria and viruses. These issues are entirely different in rural and urban areas; therefore, it is important to work on the hygienic study of food and health in rural and urban communities. I have discussed these issues with some women from other districts but the present study was limited to rural and urban women who belong to the Agra district so the finding of the study cannot be generalized to other districts of UP. A study may also be conducted on the subjects of the various socio-economic groups.

INTRODUCTION

In terms of community cleanliness, health education is critical. It is vital to have a thorough understanding of health in order to avoid disease and have a positive health attitude. Cleanliness is one of the main defences against disease, whether it is contagious or self-generated. According to WHO (1948) good health means “A state of complete physical, mental and social well-being and not merely, the absence of disease or infirmity” and “hygiene refers to conditions and practices that help to maintain health and prevent the spread of disease”.

Food hygiene and health and safety issues are inextricably linked to human and community medical conditions. Foodborne disease can be avoided by following healthy food hygiene measures. Food laws and regulations are designed to provide a high level of protection against food contamination.

Food hygiene refers to the circumstances and practices that must be in place to assure food safety from manufacturing through consumption. During slaughtering or harvesting, processing, storage, distribution, transportation, and preparation, food might become contaminated at any time. Foodborne sickness and mortality can result from a lack of and insufficient food hygiene. WHO works with member states to promote safe food handling through a comprehensive disease prevention and health education program aimed at food handlers, including consumers.

According to Hobbs and Robert (1993) "A sanitary science which aimed at producing food that had good keeping quality, was safe to the consumer, and free from microorganism". The provision of food for consumption with a low risk of developing food poisoning was referred to as food hygiene. This was to be accomplished by the use of proper sanitary techniques in the manufacture, preparation, storage, and service

of the food. It also covered hygienic practices such as dishwashing and cleaning work surfaces, as well as correct waste disposal procedures for ensuring a pest-free workplace. All circumstances and measures essential for the safety of food and the avoidance of probable causes of food poisoning were included in the definition of food safety.

Flies, cockroaches, and other insects, as well as animals such as dogs, cats, and humans, are most likely to contaminate food through cross-contamination, especially if environmental cleanliness has been impaired. Contamination was also reported as a result of improper transportation of fruits and vegetables in adequate containers that were not maintained clean. Food hygiene had a significant part in reducing contamination and, as a result, illness.

It is critical to incorporate proper sanitation into a catering environment from the initial inspection of the site for foodservice, through the design stage of the kitchen, service, storage, and disposal areas, to the establishment of procedures for ensuring good food handling practices throughout the meal production and service process.

It is necessary to consider all elements of a catering establishment's hygiene and sanitation needs when assessing its hygiene and sanitation requirements in the food service environment. Hygiene and sanitation may be classified into the following broad categories:

- Environmental hygiene
- Food handling hygiene
- Personal hygiene

Further, there are several factors which are affecting the health issue such as wholesome food, physical activities, good body carriage, proper care, preventing dental and medical services, wholesome mental attitude towards life etc.

DISEASE OF FOOD HYGIENE

Food Poisoning: It is an acute gastrointestinal disorder caused by bacteria or their toxic products or by a chemical reaction in food.

1. Chemicals such as metals from tins or injurious preservatives. The use of commercial acid-containing arsenic has resulted in an epidemic of arsenical poisoning in beer drinkers.
2. Parasites or their cysts such as tape-worms and muscle-worms.
3. Bacteria or their toxins.
4. Poisonous fungi such as toadstools may be mistaken for mushrooms.

Food poisoning is divided into two parts which are as follows:

1. Bacterial Poisoning
2. Chemical poisoning

(1) Bacterial poisoning

It may exhibit every grade of severity from slight indisposition to a fatal issue. It gives rise to acute gastrointestinal, due to bacterial infection of articles of food and drink of toxic substance produced in the food by the bacteria having an irritant effect on the gastrointestinal mucosa. The term "food poisoning" refers to the disease caused by eating food contaminated with harmful germs.

The germs that cause food poisoning can come from a variety of sources, including:

- Polluted raw ingredients
- Infected food handlers.
- Pests contaminate raw or processed food.
- The equipment, surfaces and utensils in the food preparation area.

These bacteria's growth can be enhanced by:

- Preparing food too far in advance
- Inadequate cooking and/ or reheating
- Improper thawing and/or holding of cooked foods.

(2) Chemical Poisoning

As a result of agricultural pesticides or industrial pollution, harmful substances may wind up in the food supply. Pesticides and herbicides are commonly employed to manage noxious plants and insects. Spray residues may be seen on the surface of fruits and vegetables. It's a good idea to wash fruits and vegetables before eating them. Cleaning chemicals, such as sodium hypochlorite, can contaminate food if they are not properly rinsed from drink containers. Always keep chemicals away from food and make sure they're labeled appropriately.

OBJECTIVE

Good food hygienic practices are very important for the community. The objective of food hygiene is to allow individuals to live in a healthy connection with their surroundings. Hygiene is the art of protecting and promoting health. It is concerned with both an individual and a community. The importance of good food hygiene and sanitation in our lives cannot be overstated.

This study enhances the knowledge of food hygiene and practices. It will improve the health of the people and reduce the risk factor for illnesses. When we want to prevent health then we used the practices of hygiene in our daily routine. Keeping in mind the importance of the study, the following objectives were decided to conduct the present work:

- To study the hygienic habit of the rural and urban areas.
- To study the socio-economic status.
- To compare the effect on the health of rural and urban areas.
- To compare the cleaning factors of rural and urban areas.

Now, as far as the work related to the topic is concerned, Seaman (2010) focused on effective food hygiene training and the enactment of safe food handling practices learnt during training were critical elements in the control of foodborne illness. Future food hygiene training strategies have to be effective and should consider the adoption of food hygiene. Further Langiano et al. (2011) found in a study and stated that the lack of correct adherence to food hygiene is mainly due to errors during both food preparation and storage.

Khairuzzaman et al. (2014) express the importance of street foods because street foods play an important socio-economic role in meeting the food and nutrition requirements of consumers at affordable prices for the lower and middle-income people. Food safety behavior and practice may be influenced by consumer knowledge and attitudes. Understanding the epidemiology of foodborne diseases is crucial for public health because it aids in preventive and control impacts, correctly allocating resources to reduce foodborne illnesses and monitoring and evaluation of food safety programs.

Kauser and Lakshmi (2015) focused on their research on the prime role of food handlers in the food business, hygienic consumption and guaranteeing the meal served. Food contamination is frequently caused by the unsanitary working methods and attitudes of food handlers. The author assessed food handlers' knowledge, attitude, and food hygiene procedures in commercial foodservice.

Khurana et al. (2016) talked about the main sources for reporting foodborne illness. Food establishments and other sources contributing to food born illness include restaurants, food joints, food benders schools and individual homes. Prerequisites majors and food safety management were used to a limit. Furthermore, according to Nizame et al. (2016), food preparation was halted by duties that might contaminate the preparations and hands, after which they continued food preparation without washing their hands. Dried meals that had been hand-mixed were usually consumed in a hut. They also watched and documented handwashing while the foods were being prepared.

Methodology: The research procedure has been categorized with the following steps.

Selection of the study area: The present study was conducted in the rural and urban areas in Agra city.

Sampling procedure: Sampling is a straightforward method of learning about a population by taking a sample from it. A tiny group of the universe is chosen as the representation of the entire mass in this manner, and the outcome is drawn.

Sample Selection

A multistage stratified sampling technique was utilised to select the unit of information for the present study. Out of the total districts in U.P. one district namely Agra was selected purposively in the first stage as it was convenient to me. Agra was divided into rural and urban areas and out of these areas rural and urban area was again selected purposely in the second stage as it was the need of the study. Agra urban contained some areas such as Azad Nagar, Rambagh, Shastripuram, Khandari etc, and the rural area contained some areas such as Bichpuri, Saiyan selected randomly in the third stage. 50 women were selected randomly from all over-population in the fourth stage. 50 women (25 rural, 25 urban) were selected, and all women were present for the interview, thus 50 women (25 urban, 25 rural) were the unit of information for the present study.

Selection of Study variables: Following were the variables involved in the study -

- Independent variables: The independent variables selected in the present study were age, education, occupation, family members and family type.
- Dependent variables: The dependent variables under investigation were the health and nutritional status of the selected subjects.

SELECTION OF TOOLS

The primary tool in this study was the interview schedule which was developed with the help of the supervisor and an expert on the subject. The interview schedule consisted of two sections as given below:

- a. General Information: This section consisted of questions regarding the socio-economic, demographic and other characteristics of the sample *i.e.* name, age, education, occupation, family members, family type and address.
- b. Framing the questions related to our study topic: I prepared questions in three groups first hygiene habits, second cleaning factors, and the third effect on health, and every group of questions have different types of questions made by me.

STATISTICAL ANALYSIS

Various statistical approaches were used to code, tabulate, and evaluate the acquired data. Statistical tests were employed to determine the association between dependent and independent variables among the different research groups. Specific purposes for which tests were used are, Percentage and Arithmetic mean. The percentage is to investigate the distribution of both the variables while the arithmetic means is to study the central value.

RESULTS AND DISCUSSION

In this work, data is collected from the questionnaire. The process of preparing and gathering data is referred to as data collection. The goal of data collecting is to gather information in order to generate outcomes and pass it on to others. To make selection administration and scoring worthwhile, interpretation and analysis are required. The cornerstone of research is the process of analyzing and synthesizing the gathered data.

The result of the data analysis must be critically examined during interpretation. To discover the facts, the study's findings are tallied. It entails breaking down current complicated elements into basic forms and reassembling them in a new configuration for tabulation.

In the present study, the finding has been presented corresponding to the objectives under the following heads to study the socio-economic status:

Table: 1.1: Distribution of the respondent according to their age.

Age	Rural (25)	Urban (25)
	No. of respondents	No. of respondents
15-25	10 (40%)	18 (73%)
26-35	9 (36%)	5 (20%)
36-45	6 (24%)	2 (8%)

The above table shows the distribution of the respondent according to their age. Out of the 25 rural respondents, the majority of 40% belonged to 15-25 years, followed by 36% belonging to 26-35 years and a minimum 24% belonging to 36-45 years. While among the urban out of the 25 urban respondents a majority of the 73% belonged to 15-25 years, followed by 20% belonging to 26-35 years and a minimum 8% belonging to 36-45 years.

Table 1.2: Distribution of the respondent according to their education.

Education	Rural	Urban
	No. of respondents	No. of respondents
8 - 12	8 (32%)	0 (0%)
U.G.	15 (60%)	3 (12%)
P.G.	2 (8%)	22 (88%)

The above table shows the distribution of the respondent according to their age. Out of the 25 rural respondents, a majority of 32% belonged to undergraduates and a minimum 2% belonged to postgraduates while among the urban out of the 25 respondents, the majority of the 0% belonged to 8-12 followed by 12% belonging to undergraduate and maximum 88% belonging to postgraduate.

Table 1.3: Distribution of the respondent according to their occupation

Occupation	Rural	Urban
	No. of respondents	No. of respondents
Working	3 (12%)	6 (24%)
Non-working	22 (88%)	19 (76%)

The above table shows the distribution of the respondent according to their occupation out of the 25 rural respondents the majority of 12% were belonging to working. Followed by 22% belonging to non-working.

While among the urban out of the 25 respondents the majority of the 24% belonged to working followed by 76% belonged to non-working.

Table 1.4: Distribution of the respondent according to their family members

Family members	Rural		Urban
	No. of Respondents	Percentage	No. of Respondents
1-5	8 (32%)	32	13 (52%)
6-10	15 (60%)	60	9 (36%)
11-15	2 (8%)	8	3 (12%)

The above table shows the distribution of the respondent according to their family members. Out of the 25 rural respondents, the majority of 8% were belonging to 1-5, followed by 15% belonging to 6-10, and a minimum 2% belonged to 11-15 group of family members. While among the urban out of the 25 respondents the majority of the 52% belonged to 1-5 followed by 36% belonging to 6-10 and 12% belonging to 11-15 group of family members.

Table 1.5: Distribution of the respondent according to their family types

Family Type	Rural	Urban
	No. of respondents	No. of respondents
Nuclear	8 (32%)	17 (68%)
Joint	17 (68%)	8 (32%)

The above table shows the distribution of the respondent according to their family type. Out of the 25 rural respondents, the majority of the 32% were belonging to a nuclear family followed by 68% maximum belonging to a joint family. While among the urban out of the 25 urban respondents the majority of the 68% belonged to a nuclear family and a minimum 32% belonged to a joint family.

Table 2: Distribution of answers given by the surveyed respondent to questions relating to knowledge of hygienic habits and practices.

Hygienic Habit	No. (Yes)	No. (YES)
Do you use the utensils used to make the food without it many times?	10 (40%)	4 (16%)
Do you use refrigerators to keep food safe?	18 (72%)	24 (96%)

Do you use polyethylene bag while buying food?	6 (24%)	10 (40%)
Do you clean the kitchen sink with germicidal substances?	15 (60%)	21 (84%)

Table 2 shows the hygienic habit of rural and urban areas: Information regarding the use of utensils without washing. Out of 25 rural women, the majority of the 40% of women were use the without washed utensils. While among the 25 urban women, the majority of the 16% of women were use the without washed utensils. Information regarding the use of refrigerators to keep food safe out of 25 rural women, a majority of the 72% of women have used the refrigerator. While among the 25 urban women, the majority of the 96% women were used to refrigerators. Information regarding the use of polybags for buying food out of 25 rural women, majority of the 24% of women were using the polybag. While among the 25 urban women, the majority of the 40% of women were using polybags. Information on the use of germicidal substances for cleaning the kitchen sink. Out of 25 rural women, the majority of them (60%) women have used germicidal substances. While among the 25 urban women, the majority of the 84% women were use the germicidal substance.

Table 3. Distribution of answers given by the surveyed respondent to questions relating to knowledge of cleaning factors

Cleaning factors	Rural	Urban
Do you wash vegetables after cutting?	21 (84%)	13 (52%)
Do you wash vegetables before cutting?	16 (64%)	21 (84%)
Do you wash the footmate, duster etc. used in kitchen with hot water?	15 (60%)	22 (88%)
Do you clean the slab immediately after making the meal?	17 (68%)	25 (100%)

Above table 3 shows the cleaning factors of the rural and urban areas. Information regarding the use of the vegetables after cutting. Out of 25 rural women, the majority of 84% of women washed the vegetables after cutting. While among the 25 urban women, the majority of their 52% women washed the vegetables after cutting. Information regarding the use of the vegetables before cutting 25 rural women, majority of 64% of women washed the vegetables before cutting. While among the 25 urban women, the majority of the 84% women washed the vegetables before cutting. Information regarding the use of the duster and footmate washed with hot water out of 25 rural women, were washed the footmate and the majority of 60% of women duster with hot water. While among the 25 urban women, the majority of the 88% women washed the footmate and duster with hot water. Information regarding the use of kitchen slab clean immediately after making a meal

out of 25 rural women, majority of 68% women were clean slab immediately after making a meal. While among the 25 urban women, the majority of the 100% women were clean slabs immediately after making the meal.

Table 4 Distribution of answers given by the surveyed respondent to questions relating to knowledge of the effect on health.

Effects on health	Urban	
	No. (Yes)	No. (YES)
Do you heat the cooked meals several times in the experiment?	7 (28%)	2 (8%)
Do you know reheated food is harmful for the health?	14 (56%)	21 (84%)
Do you re-use the stale food?	9 (36%)	2 (8%)

Table 4 shows the effect on the health of rural and urban areas. Information regarding the use of cooked meal for several times out of 25 rural women majority of 28% women works reheat the cooked meal for several time. While among the 25 urban women majority of the 8% of women were reheat the cooked meal several times. Information regarding the reheated food is harmful to health out of 25 rural women majority of 56% women were know that if the food is reheated after being cooled down, it is harmful to the health. While among 25 urban women majority of the 84% women knew that if the food is reheated after being cooled down it is harmful to their health. Information regarding the reuse the stale food. Out of 25 rural women, a majority of 36% of women reused the remaining stale food. While among the 25 urban women majority 8% of women reused the remaining stale food.

Table 5: Distribution of respondents regarding the awareness of food hygiene

Category of food hygiene	Class Internal	Urban	Rural
		No. of participant	No. of participant
Low	1-10	-	1 (4%)
Moderate	11-10	-	5 (20%)
High	21-30	25 (100%)	19 (76%)
Total		25 (100%)	25 (100%)
Mean		26.36	22.88

The above table reveals the distribution of respondents regarding the awareness of food hygiene. Out of 25 urban women, the majority of the 100%, of women were aware of food hygiene belonging to the highest category of awareness. While among the rural women, the majority of the 76% of women were aware of food

hygiene belonging to the high category, followed by 20% of women who were aware of food hygiene belonging to the moderate category and a minimum 4% of women were aware of food hygiene belonging to the low category. Further, the analysis of data also shows that the mean was more among the rural women (22.88) as compared to urban women (26.36).

SUMMARY AND CONCLUSION

This work deals with the results obtained from the present study "A hygienic study of food and health in the rural and urban community". The study was conducted to find a comparative hygienic study of food and health with 25 rural and 25 urban women. The present work was a comparative hygienic study of food and health in rural and urban communities with already defined objectives. A comparative study may also be conducted on the subjects of various socio-economic groups. If the women of any region are not taking safe and hygienic food and probability of more cases of food bond hygiene. Thus, we can conclude that urban women were more aware of the knowledge practices of food hygiene. This study along with the following limitations:

- The present study was limited to rural and urban women who belong to the Agra district so the finding of the study cannot be generalized to other districts and states of UP.
- The present study is limited to knowing the food hygiene status of rural and urban women.
- A large sample should be selected for drawing more valid results.
- Further study may be conducted on the Agra of different districts of Uttar Pradesh and states of India on a large sample.

Reference:

1. Craun, G.F. (1988) Health Aspect of Ground Water Pollution. In: Ground Water Pollution Microbiology, Bilton, F.G. and C.P. Gerba (Eds.), 6th Edn., John Willy, Boston.
2. Hobbs, B.C. and D. Robert, 1993. Food Poisoning and Food Hygiene. 6th Edn., Arnold, Hodder Headline Group, London.
3. Food and Agriculture Organization (2006) The State of Food Insecurity in the World," <http://www.fao.org/docrep/009/a0750e/a0750e00.htm>.
4. Seaman, P. (2010) Food hygiene training: Introducing the food hygiene training model. *Food Control*, 21, 4.
5. Langiano, E., Ferrara, M., Lnni, L, Viscardi, V. Abbatecola, A.M. and De, E. (2011). Food safety at home: knowledge and practices of consumers. *Journal of Public Health*, 20.
6. Khairuzzaman, M., Chowdhury, F.M., Zaman, S., Mamun, A.A. and Bari, M.L. (2014), Food safety challenges towards safe, healthy and nutritious street foods in Bangladesh. *Int. J. Food Science*, 2014
7. C. Muyanja, L. Nayiga, N. Brenda, and G. Nasinyama, (2014) Practices, knowledge and risk factors of street food vendors in Uganda, *Food Control*, vol. 22, no. 10,
8. Kausar N. and Santoshi Lakshmi, N. (2015) Evaluation of food hygiene in commercial foodservice establishments in Hyderabad. *Int. J. Biomedical and Adv. Research.*, 6,7.
9. Khurana, C. G. (2016) A study of food safety and hygiene in India, *IJARIE*, 2, 2.
10. Nizame, A. F. (2016) Hygiene practices during food preparation in rural Bangladesh: Opportunity to improve the impact of handwashing interventions. *Am. J. Trop. Med. Hyg.* Aug 3; 95(2)