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RESEARCH ARTICLE

A STUDY OF KNOWLEDGE, ATTITUDE & PRACTICE ON FOOD SAFETY AMONG THE FOOD HANDLERS IN THE RESTAURANTS OF KALYANI, DISTRICT: NADIA

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Abstract

The incidence of wrong food handling is growing exponentially and to combat it proper knowledge, attitude and practices should be followed in different restaurants. Food Handlers have an important role in transmitting pathogens from raw materials to cooked ones.This study was conducted to determine the knowledge, attitude and practice (KAP) of 86 food handlers on a pretested, predesigned schedule where the information was collected regarding their Knowledge and Attitude and also a checklist was prepared to assess the practice by observation. The main focus of the analysis was put on the practices of all the subjected food handlers which was observed face to face by visiting different restaurants. The schedule included questions about baseline information identification, knowledge based questions, and Attitude based questions, also interviewing practices. The data were collected through face to face interview, using a schedule form. In conclusion, the result of the present study highlights the urgent need of the food safety education training system to include regular workshops and training sessions. All of the participants in this study were males, which is an indication that food handling in a restaurant is predominantly a job for men. Most of the interviewed food handlers attained primary education level while 5.8% of the respondents were seen completed their university studies. Many participants were unaware of the critical areas of food safety and sanitation and this is highly indicative of the tendency to be less cautious when handling food.

Introduction:-

When food is cooked on a large scale, it may be handled by many individuals and thus increasing the chances of contamination of the final food. Unintended contamination of food during large scale cooking, leading to food-borne disease outbreaks can pose danger to the health of consumers and economic consequences for nations [1-3].Food safety is a scientific discipline describing the handling, preparation and storage of food in ways that prevent food borne illness. It is also the utilization of various resources and strategies to ensure that all types of foods are properly stored, prepared and preserved so that they are safe for consumption. Food borne diseases pose a significant public health burden worldwide.The World Health Organization (WHO)estimates that food borne and water borne

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illnesses, combined, cause 2.2 million deaths, including deaths of 1.9 million children, annually [4]. The World Health Organization (WHO) states that about 1.8 million persons died from diarrheal diseases in 2005, mainly due to the ingestion of contaminated food and drinking water. Food poisoning occurs as a result of consuming food contaminated with microorganisms or their toxins, the contamination arising from inadequate preservation methods, unhygienic handling practices, cross-contamination from food contact surfaces, or from persons harbouring the microorganisms in their nails and on the skin [3,4] Unhygienic practices during food preparation, handling and storage creates the conditions that allows the proliferation and transmission of disease causing organisms such as bacteria, viruses and other food-borne pathogens.[5 ,6]In Europe, salmonellosis and campylobacteriosis are important causes of morbidity and mortality. Eating establishments are a major source of foodborne outbreaks in both developing and developed countries. For example, in the United States, 41% of the 1,097 outbreaks reported during 2007 to the Canters for Disease Control and Prevention were associated with restaurants or delicatessens [7]More than 200 food borne diseases could be transmitted through food microorganisms which are root cause of quality and safety problems .[15] Hazard Analysis & Critical Control Point (HACCP) is a science based systematic methodology and a management system which identifies specific hazards and measures for their control to ensure Food Safety. HACCP is a tool to assess hazards and establish control system that focuses on prevention. It is required commonly in case of recognizing the types of potentially hazardous foods to ensure Food Safety. [11-14] Infants & children are affected most by food borne illness.In India, about 400,000 Children (<5yrs) die annually due to multiple episodes diarrhoea & several millions suffer from hepatitis A & enteric fever caused by poor hygiene and unsafe food/drinking water. [Unicef,2004] WHO estimates that in US, 76 million illnesses occur, among them 300,000 cases require hospitalization & 5,000 people die every year.[28].

Objective:-

To assess the knowledge of the food handlers in the restaurants about food safety, personal hygiene practices, cleaning and sanitation procedures **2.** To find out the attitude of the Food handlers towards the food safety, personal hygiene practices, cleaning and sanitation procedures **3.** To observe the food safety/personal hygiene practices about food safety, personal hygiene practices, cleaning and sanitation procedures.

Materials and Methods:-

Research Design

Type of Study: A community based cross-sectional study.

Data Collection Technique

Relevant data for the study were collected by me on paying personal visit to the selected restaurants.

The relevant data on knowledge and attitude were collected by direct interview of the selected respondents of the selected restaurants with the help of the schedule.

Similarly the practices of the same respondents were assessed by observation with the help of an observational checklist. As this study was conducted in census method, no statistical test was applied.

Data collection was carried out by the following methods –

1. Schedule: Through a pretested, predesigned schedule the information were collected regarding their Knowledge and Attitude. 2. Checklist: A checklist was prepared to assess the practice by observation. 3. The data were presented by standard statistical charts and graphs.

Recruitment Procedures:

1. Inclusion Criteria – Food handlers, who were responding and willing, were included. The food handlers who had a minimum experience of 3 months in the respective restaurants. Those Restaurants were selected where food is made on a regular basis. Those restaurants which were compatible to provide food of minimum 20 customers within the restaurant were involved.

2. Exclusion Criteria - Food handlers who were not responding and willing were excluded. The food handlers who were having experience less than 3 months in the restaurants were excluded. The casual workers. Restaurants where food was not prepared on a regular basis Food Cafe / Dhaba were excluded.

Study Variables

1. Baseline information like Name ; Age ; Sex ; Marital Status ; Literacy Level ; Academic Qualification ; Responsibility

2.Knowledge, Attitude & Practices related to – Safe Food Handling, Preparation of Food & Storage, Possible ways to make food safe, Food Quality in term of Food Safety, Personal Hygiene Practices, Hand washing Practices.

Methods & Tools:-

A restaurant to restaurant one-time survey was conducted. While going to the restaurants, the concerned persons were first explained about the purpose of the study. After listening if they agreed to co-operate they were selected as subject, to ensure co-operation at least half an hour was spent, prior to getting the correct information a good rapport was built up with the concerned groups creating a friendly environment. Respondents were interviewed using the interview schedule regarding some baseline information such as Name;Age;Sex; Marital Status; Literacy Level; Academic Qualification; Responsibility. Then some knowledge and regular practice related questions were also asked and were said to answer freely and their response was noted down on the schedule. Their kitchen practices and other personal and general hygienic practices were observed through the observation checklist and noted down.

Data Analysis And Interpretation Of Results

Suitable statistical tools such as percentage were used. The final results were presented in the form of standard tables, graphs, bar diagram and pie diagram.

Results and Discussion:-

This study was conducted in 30 Restaurants of Kalyani, Dist. – Nadia, West Bengal. 86 Food Handlers participated in this study. The Food Handlers were interviewed by a predesigned, pretested schedule which was prepared to

know about their knowledge and Attitude & practices about food safety, personal hygiene practices, cleaning and sanitation procedures.

The Results From The Study Were Presented In 3 Parts Including:
1. Description of Demographic factors & independent variables
2. Description about the respondents on their knowledge, Attitude & practices on food safety
3. Description of Food Safety on individual variables.

Table 1:-

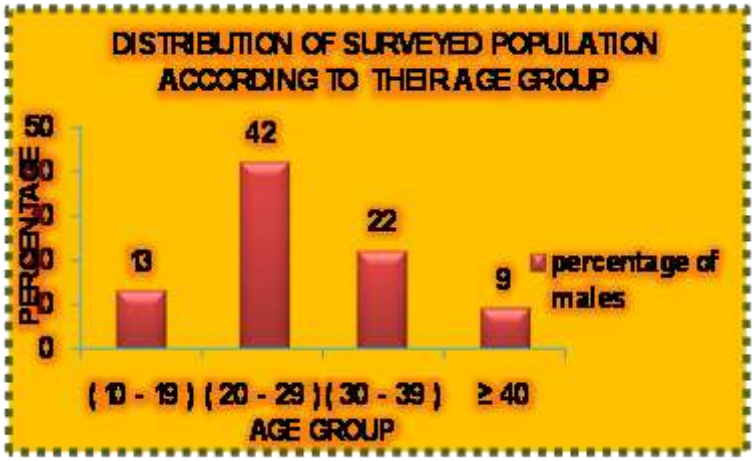
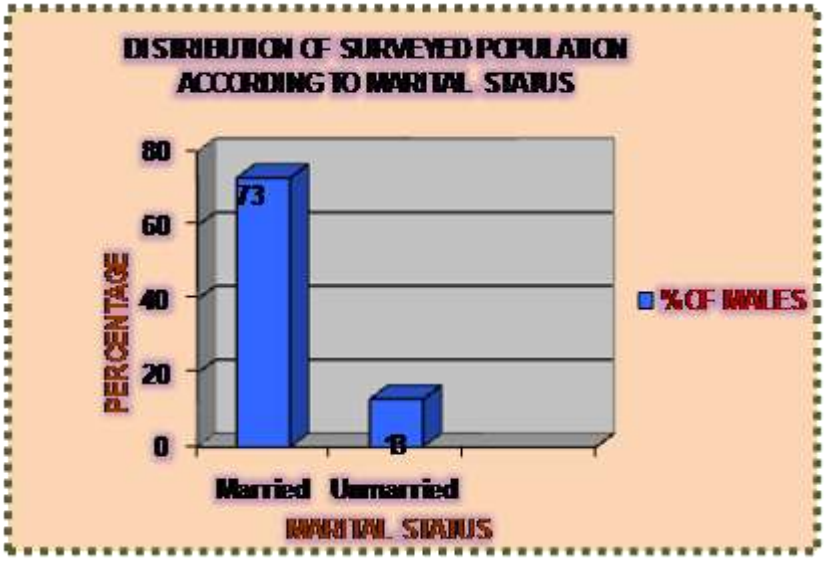


Table 2:-



The Above Table 1 & 2 Shows that, Majority of the respondents 42 respondents (48.83%) belonged to age group (20 – 29) years, & in terms of gender all subjects (100%) were males. Only 9 respondents (10.46%) belong to the age group of 40 and above 40. All of the respondents were male, there were no female respondents. Majority of the respondents 73 (84.88%) were found to be married; only 13 respondents (15.11%) were unmarried among the total number of the respondents.

Table 3:-

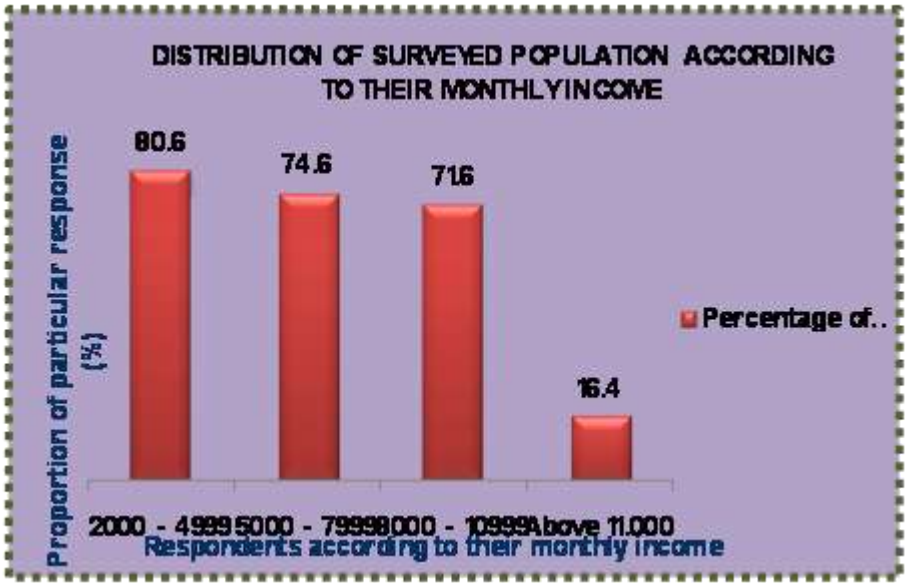
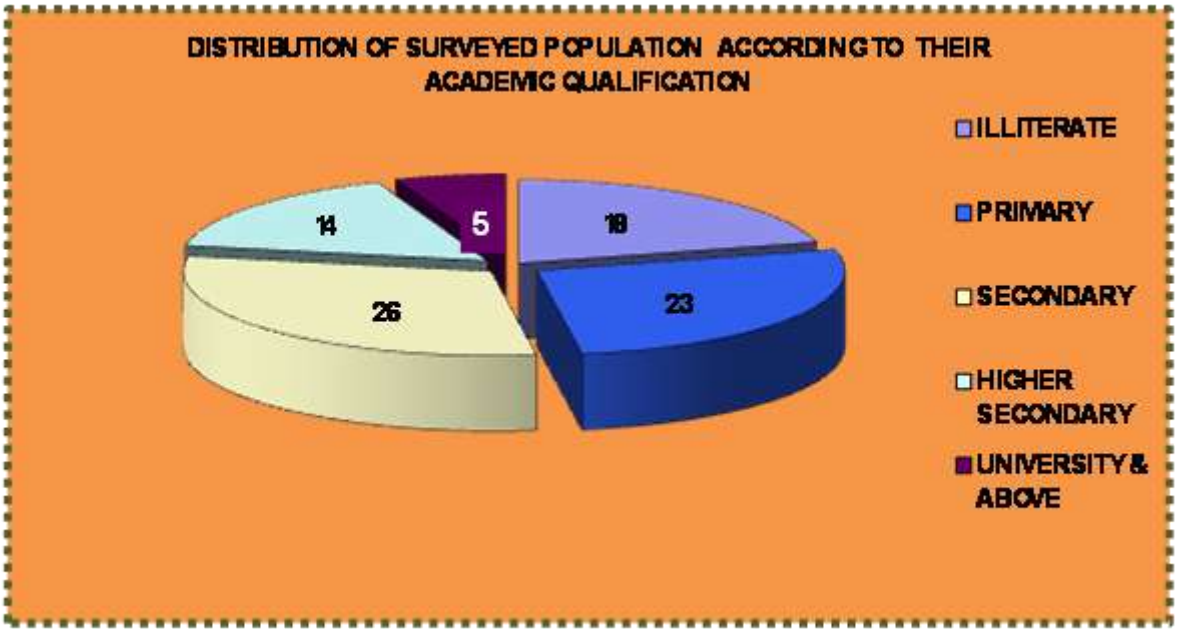


Table 4:-



The Above Table Shows that, Majority of the respondents 31(36.04%) were seen having monthly income of (2000–4999) but few respondents 15 (17.44%) were having above 11,000. Majority of the respondents 34 (39.5 %) were found to complete their primary examination,32 respondents (37.2%) secondary 15 respondents (17.4%) Higher secondary & 5 respondents (5.8%) were seen to complete their university examinations.

Table 5:-

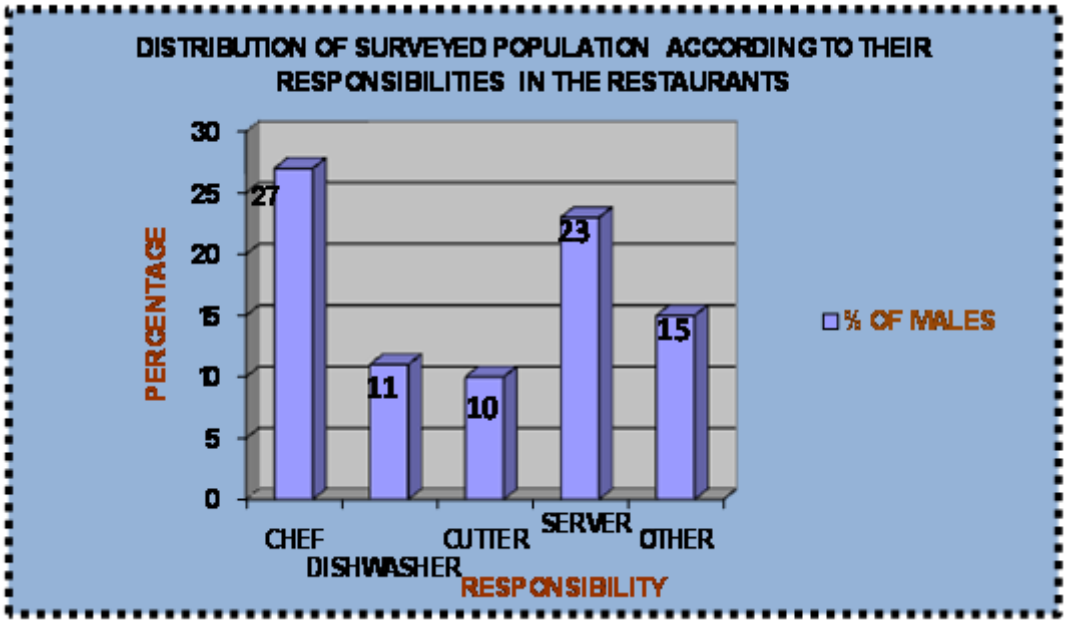
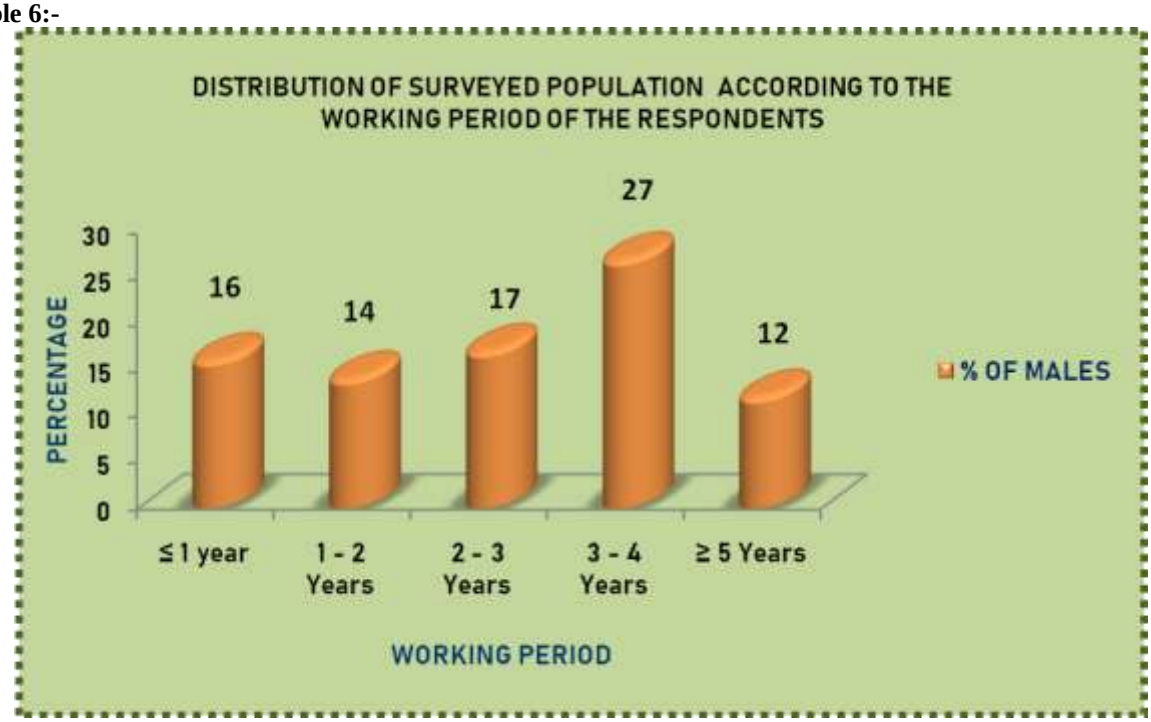


Table 6:-



The Above Table 5 & 6 Shows that, 15 respondents (17.4%) were seen pursuing other kinds of responsibilities like helper of a chef, assistant manager or in service. Many respondents were seen working in the restaurants for less than 3 months and thus was not subjected in this Majority of the respondents 29 (33.7%) were seen working for more than 6 years were as 23 respondents (26.7%) were working for (4-6) years. 16 respondents (18.6%) were having less than 1 year of experience and 18 (21%) from1 – 3 years.

Assessment of Knowledge
Table 7:-

QUESTION	CORRECT ANSWER	INCORRECT ANSWER	DO NOT KNOW
WHAT DO YOU UNDERSTAND BY THE TERM FOOD SAFETY	71 (82.5%)	8 (9.3%)	7 (8.2%)
WHY FOOD SAFETY IS SO IMPORTANT	76 (88.4%)	6 (7%)	4 (4.6%)
THE STEPS SHOULD DURING WHICH FOOD SAFETY IS TO BE TAKEN IN CONCERN	76 (88.37%)	2 (2.32%)	8 (9.30 %)
POSSIBLE WAYS BY WHICH YOU CAN MAKE YOUR FOOD SAFE	78 (90.69%)	3 (3.48%)	5 (5.81%)
THREE COMMON CONDITIONS THAT CAN MAKE FOOD UNSAFE OR UNHEALTHY FOR HUMAN CONSUMPTION	77 (89.53%)	3 (3.48%)	6 (6.97%)
WHERE SHOULD WE STORE THE PERISHABLE FOODS?	86 (100%)	-	-
IN WHICH PART/SHELF OF THE FRIDGE THE FLESH FOODS SHOULD BE KEPT	84 (97.67%)	2 (2.32%)	-
IN WHICH PART/SHELF OF THE FRIDGE THE VEGETABLES AND FRUITS SHOULD BE KEPT	83 (96.51%)	3 (3.48)	-
HOW CAN YOU CHECK THE QUALITY OF PACKED FOODS THAT YOU BUYED FROM THE MARKET	82 (95.4%)	-	4 (4.6%)
WHAT DO YOU THINK OF REHEATING COOKED FOODS , IS IT NECESSARY	72 (83.7%)	14 (16.3%)	-
FOR HOW LONG REHEATING COOKED FOODS IS NECESSARY	68 (94.44%)	4(5.56%)	-

The numbers in bold in this column (column entitled " correct answer ") represents the number of the respondents who had given correct answers of the questions they were asked which are entitled in the column (column entitled " questions ") and its percentages are shown in the bracket and the wrong answers and the questions they do not know are entitled in the column (column entitled " incorrect answer " & " DNK " respectively). Almost 91.5% of the respondents gave correct answer. 4.8% of the respondents gave incorrect answer where as 3.7% didn't know about the answer. All the respondents had the knowledge of where to store the perishable foods. Except 2 – 3 respondents most of them knows in which part/shelf of the fridge the fruits & vegetables as well as the flesh foods are kept. So, from this information it can be concluded that among the total respondents majority of them have good knowledge towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

Assessment Of Attitude
Table 5:-

Question	Agreed	Strongly Agreed	Undecided	Disagreed	Strongly Agreed
Foods Should Be Cooked Thoroughly To Make It Safe	76 (88.3%)	10 (11.7%)	-	-	-

Washing Of Hands Before Handling With Food Is Important To Reduce The Risk Of Contamination	**70 (81.3%)**	**11 (12.7%)**	**5 (6%)**	**-**	**-**
Food Handlers Who Have Abrasions Or Cuts On Their Hands Should Not Touch Foods Without Gloves	**80 (93.2%)**	**6 (6.8%)**	**-**	**-**	**-**
The Best Way To Thaw A Frozen Food Is To Put It In A Cold Water	**70 (81.4%)**	**-**	**10 (11.6%)**	**6 (7%)**	
Knives And Cutting Boards Should Be Properly Cleaned To Prevent Contamination	**70 (81.4%)**	**16 (18.6%)**	**-**	**-**	**-**
Cleaning And Sanitizing Work Surfaces After Each Task	**80 (93%)**	**6 (7%)**	**-**	**-**	**-**
Water To Be Used For Cooking Should Never Be Taken From A Unsafe Source	**50 (58.1%)**	**36 (41.9%)**	**-**	**-**	**-**

The numbers in bold in this column (column entitled "Agreed ") represents the number of the respondents (with their percentage in the bracket) who had agreed with the statements which are entitled in the column (column entitled "questions ") which were asked/given to them. The column entitled "strongly agreed "represents the respondents who strongly responded on the questions they were asked. Almost 82.38% of the respondents agreed to the statements/questions asked to them whereas 14.1% of the respondents strongly responded to the questions. 2.5% of them remained undecided that is they couldn't give any answer.1% of the respondents disagreed on a statement. No one choose the option " strongly disagreed " .From the above table it is observed that 96.48% (82.38% + 14.1%) of the respondents have the correct attitude on the statements which were asked to them to show their attitude towards the food safety, personal hygiene practices, cleaning and sanitation procedures Majority of the respondents showed their correct attitude on the statements of -

"**cleaning and sanitizing work surfaces after each task "& "food handlers who have abrasions or cuts on their hands should not touch foods without gloves " .**

So, from the above informations it can be concluded that the food handlers had shown their good attitude towards the food safety, personal hygiene practices, cleaning and sanitation procedure.

Assessment of Practice

Table 6:-

Practices	Correct Practice	Incorrect Practice
Uses clean Utensils While Working With Food	36(85.7%)	6 (14.3%)
Uses Clean Cutting Board & Knife When Working With Food	26 (54.1%)	22 (45.9%)
Keeps Raw Food & Cooked Food Separately	28 (75.6%)	9 (24.4%)
Washes Vegetables , Fish, Poultry, & Meat Etc. Thoroughly Before Cooking	26(61.9%)	16(38.1%)
Keeps The Cooked Foods Covered	6 (16.2%)	**31 (83.8%)**
Keeps The Raw Food In A Clean Place	36 (85.7%)	6 (14.3)
Keeps The Cooked Food In A Clean Place	36 (85.7%)	6 (14.3%)

Cleans The Food Storage Area Before Storing New Products	29 (72.5%)	11 (27.5%)
Cleans And Sanitizes Work Surfaces After Each Task	5 (13.5%)	**32 (86.5%)**
Wears Apron Or Proper Working Dresses While Working	6 (7%)	**80 (93%)**
Uses Gloves In The Time Of Working With Food	-	86(100%)
Uses Clean & Dry Clothes/Tissue After Cleaning Hands	13 (19.4%)	54 (80.6%)
Hair Is Completely Covered With Hairnets Or Other Coverings	-	**86 (100%)**
Eat/Drinks/Chews Tobacco / Other Things While Working With Food	64 (74.4%)	22 (25.6%)
Coughs/Sneezes Or Touch Mouth & Nose While Working With Food	74 (86%)	12 (14%)
Nails Are Properly Trimmed & Free From Skin Infection	63 (73.2%)	23 (26.8%)
Washes Hands Before Preparation Of Food	24 (28%)	**62 (72%)**
Washes Hands With Soap & Water	3 (12.5%)	**21 (87.5)**
Washes Hands After Engaging In Any Activity That Contaminates Hands	6 (23.1%)	**20 (76.9%)**
Washes Hands After Touching Ears/Nose/Mouth Or Other Parts Of The Body	27 (64.3%)	15 (35.7%)

The numbers in bold in this column (column entitled "correct practice") represents the number of the respondents who were observed doing the correct practices (percentages in the bracket) on the different practices of food safety in the checklist which are entitled in the column (column entitled "questions") and the wrong practices are in the column entitled "Incorrect practice". Almost 52% of the respondents were observed doing right practices whereas 48% of the food handlers were observed doing wrong practices. It was observed that the food workers only had good practices on "using clean cutting utensils while working with food", "keeping raw food in clean place", "keeping cooked food in clean place"&"coughing/sneezing/touching mouth or nose while working with food".

The food workers were observed to have very poor practices on "keeping the cooked food covered", "cleaning and sanitizing the work surfaces after each task","wearing apronor proper working dresses while working", "using clean and dry clothes/tissues after washing hands" and "washing hands with soap and water", "washing hands before preparation of food**", "**washes hands after engaging in any activity that contaminates hands". No respondents were observed to cover their hair with hairnets or other coverings.

None of the food handlers used gloves in the time of working with foods. No one was observed whose hair is completely covered with hairnets or other coverings.

So, from this information it can be concluded that among the total respondents who were involved in the respective practices had poor practices towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

Result and Discussion:-

The present study was carried out among the Food Handlers of the purposively selected restaurants of Kalyani, Nadia, west Bengal and 86 participants were included from 30 restaurants. The study was carried out with the help of a pretested, predesigned, schedule, used as a data collecting tool, by interviewing each adult respondent.

Majority of the respondents 42 respondents (48.83%) belonged to age group (20–29) years, & in terms of gender all subjects (100%) were males. Only 9 subjects (10.46%) belong to the age group of 40 and above 40.

All of the respondents are male, there were no female respondents. Majority of the respondents 73 (84.88%) were found to be married; only 13 respondents (15.11%) were unmarried among the total number of the respondents. Majority of the respondents 31 (36.04%) were seen having monthly income of (2000–4999) but few respondents 15 (17.44%) were having above 11,000**.**

All of the participants in this study were males, which is an indication that food handling in a restaurant is predominantly a job for men. This is contradicting to the results of other studies where majority of the food handlers were found females.

Majority of the respondents 34(39.5%) were found to complete their primary examination, 32 respondents (37.2%) secondary 15 respondents (17.4%) Higher secondary & 5 respondents (5.8%) were seen to complete their university examinations. Most of the interviewed food handlers attained primary education level while 5.8% of the respondents were seen completed their university studies. This may reflect that the participants may be potentially able to understand basic of food safety if they are trained.

The result is almost similar to the result reported from Malaysia among food handlers at residential colleges and canteen regarding food safety, where more than half of the respondents (66.2%) were high school educated [13, 14]. 76 respondents (88.37%) have correct knowledge about why food safety is so important, 6 respondents (6.97%) have given incorrect answer & 4 respondents (4.65%) of the total respondents do not know.

Around 80% of the respondents have answered correctly the meaning of food safety belong to primary, higher secondary, university & above and among them who attended secondary education have answered more correctly. This may indicate that persons who had high level of education show better personal hygienic practices [15, 16].

The result is tallying with the results of study conducted in Dubai fund which reported that hygiene practices elaborated significant differences observed by sex, education, occupation, monthly income and by training hygiene in terms of washing hand with water. This implies that educational level of food handlers could significantly improve personal practice of food handler [13, 15, 17].

Majority of the respondents 27(31.39%) were seen adopting the responsibility of a chef were as the responsibility of a cutter 10 (11.62%) and a dishwasher 11 (12.79%) seems to be less.15 respondents (17.44%) were seen pursuing other kinds of responsibilities like helper of a chef, assistant manager or in service. Many respondents were seen working in the restaurants for less than 3 months and thus was not subjected in this study. Majority of the respondents 29 (33.7%) were seen working for more than 6 years were as 23 respondents (26.7%) were working for (4–6) years. 16 respondents (18.6%) were having less than 1 year of experience and 18 (21%) from (1–3) years.

Majority of the respondents 71 (82.55%) have correct knowledge about what they understand by the term Food Safety. Majority of the respondents 76(88.4%) have correct knowledge about the importance of food safety.81.4% respondents agreed & 7% disagreed & 11.6% remained undecided that the best way to thaw a frozen food is to put it in a cold water**.**

According to the working experience and education qualification of the respondents it was found that majority of the respondents gave correct answer. Among the total respondents who read up to primary classes 79.4% as well as 87.5% of the total respondents who read up to secondary classes agreed that washing of hands before food handling is important to reduce the risk of contamination. Few of them strongly responded to this attitude but some remained uncertain.

Concerning cooking practices among food handlers, this study showed that overall there is a good cooking hygiene practices among food handlers while few of them had poor cooking hygiene practices. The lack of training in hygienic practices among food handlers are behind such poor and unhygienic practices concerning cooking food. This is different from study which conducted in Dubai reported that the overall hygienic practices was very good [13,18,15].

Despite the limitations, this study provided some evidence based data regarding Food safety knowledge attitude and their practices of the food handlers of the different restaurants selected. The data presented suggest that there is a need for urgent intervention in order to increase food safety knowledge among the food handlers in their different responsibilities.

Many participants were unaware of the critical areas of food safety and sanitation and this is highly indicative of the tendency to be less cautious when handling food. It is implied that there was an increased risk of contracting foodborne illness, since many are less informed about time and temperature controls, contaminants and cleaning and sanitization process. This observation was the same regardless of education level, working period in the respective restaurant and most surprisingly food safety training.

Some food handlers in this study reported unsafe food preparation practices. A few workers reported unsafe hand hygiene practices, such as not washing their hands when changing gloves and using sanitizers instead of washing their hands. Several workers said they sanitizes but did not wash and rinse their equipment after working with raw meat and did not check the temperature of all the meat they cooked because they believed they could determine food doneness through other methods (e.g., appearance and feel of the food). Most workers, however, reported safe food preparation practices. For example, workers described a variety of situations in which they washed their hands and

changed their gloves, and said they cleaned their work surfaces and equipment after preparing raw meat or poultry and checked the temperatures of held food.

These findings indicate that our participants were aware of and engaged in multiple food safety practices except few.

Previous research, however, suggests that food workers (and consumers) report engaging in food safety practices more frequently than they actually engage in those practices [19, 20, 21] Although it is not possible to determine the extent to which our participants over-reported their safe food preparation practices, it is likely that they do not engage in these practices as frequently as they have reported. Participants in this study identified a number of factors that impacted their ability to engage in safe food preparation practices. Participants were seen using clean utensils while working with food. 92.3% of the respondents among the total were seen using clean cutting board & knife when working with food.

36% of the respondents were not seen having the conception of cross contamination and 64% were observed keeping raw and cooked food separately. On the other hand it was observed that every respondent washed vegetables, fish, poultry, and meat thoroughly before cooking.

In spite of having clean and dry clothes to use it after cleaning hands they were not seen using those. 85% of the participants were following the wrong practice. No one was seen using gloves in the time of working with food. The findings reported here suggest that management plays a significant role in the extent to which food workers engage in safe food preparation practices.

Although the findings presented here suggest that a variety of factors impact safe food preparation practices, many of the current efforts in food safety are focused primarily on one factor—education. The findings from this study and others (20, 23) indicate that education is important for food safety. However, our results also suggest that providing food safety education to food workers is not enough to ensure that they will handle food safely, as a number of factors may impact their ability to implement that education. Other research supports this implication.

Several studies have found that even when food workers demonstrate knowledge of safe food preparation practices, they do not always engage in those practices (24, 25, 26, 27). In order to be successful, food safety intervention programs must do more than provide food safety training; they must also address the full range of factors that impact food preparation behaviours.

Almost 91.5% of the respondents gave correct answer. 4.8% of the respondents gave incorrect answer where as 3.7% didn't know about the answer. All the respondents had the knowledge of where to store the perishable foods. Except (2 – 3) respondents most of them knows in which part/shelf of the fridge the fruits & vegetables as well as the flesh foods are kept. So, from this information it can be concluded that among the total respondents majority of them have good knowledge towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

Almost 82.38% of the respondents agreed to the statements/questions asked to them whereas 14.1% of the respondents strongly responded to the questions. 2.5% of them remained undecided that is they couldn't give any answer. 1% of the respondents disagreed on an statement. No one choose the option "strongly disagreed". 96.48 % (82.38% + 14.1%) of the respondents have the correct attitude on the statements which were asked to them to show their attitude towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

Majority of the respondents showed their correct attitude on the statements of
"**cleaning and sanitizing work surfaces after each task" & "food handlers who have abrasions or cuts on their hands should not touch foods without gloves".** So, from the above information it can be concluded that the food handlers had shown their good attitude towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

Almost 52% of the respondents were observed doing right practices whereas 48% of the food handlers were observed doing wrong practices. It was observed that the food workers only had good practices on "using clean cutting utensils while working with food" , "keeping raw food in clean place" , "keeping cooked food in clean place" & "coughing/sneezing/touching mouth or nose while working with food".

The food workers were observed to have very poor practices on "keeping the cooked food covered" , "cleaning and sanitizing the work surfaces after each task" , "wearing apron or proper working dresses while working" , "using clean and dry clothes/tissues after washing hands" and "washing hands with soap and water".

None of the food handlers used gloves in the time of working with foods. No one was observed whose hair is completely covered with hairnets or other coverings. So, from this information it can be concluded that among the total respondents who were involved in the respective practices had poor practices towards the food safety, personal hygiene practices, cleaning and sanitation procedures.

In this study the observation of wrong practices of the food handlers in the different restaurants of the selected area indicated a great alert for their proper training regarding food safety practices.

Conclusion:-

Poor hygiene practices of food handlers of the restaurants were observed, lack of hand gloves warring for food handlers. It is necessary that Public Health inspectors or workers should ensure that food handlers of the various restaurants undergo health screening on periodical basis and certificates should be issued to them. Basic training in personal, cooking and food hygiene is needed for food handlers. This is to ensure that they follow the required rules for proper hygiene and sanitation. Health authority in the study area needs to implement strictly regulations and legislation dealing with the food handling hygienic practices.

The results of the present study highlight the urgent need of the food safety education training system to include regular workshops and training sessions. It was observed that almost 80% of the respondents know about what they meant by Food Safety and among them (82 – 83)% of them completed their primary and secondary education.

Public health professionals can work together with managers, owners or supervisors to maintain food safety awareness and practices at different service establishments.

Finally this study revealed that there is a good level of knowledge and attitude among the food handlers of the different restaurant but they are not concerned about their practices. This suggests the need for stronger regulations in relation to their training and sanitation practices. Moreover, there is an urgent need for awareness programs for the food handlers to improve their food safety knowledge, attitude and special concern should be given to the practices. Additionally, the findings can be used by public health officials and foodservice professionals to plan, evaluate, and modify food safety education programs in order to increase food safety knowledge and improve food handling practices.

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