

Impact of Covid19: Knowledge, Attitude and Practice (KAP) in Food Industry, India

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ABSTRACT

COVID-19 (coronavirus) is one of the highly infectious and transmittable disease caused by SARS-COV-2 that human era has ever faced. At the end of December 2019, novel virus named COVID-19 emerged in large seafood market at Wuhan china, causing respiratory infections thereby death cases is numerically increasing in lakh due to rapid transmission of virus. **Background:** Global covid-19 pandemic generate a pressing need to upgrade food establishments with standard Food safety protocols which are required to keep their premises safe for their guests and customers. **Objectives:** The objective of the study is to assess the knowledge, awareness and practice among food handlers. **Methodology:** A voluntary online survey was conducted among food handlers working in different food outlets and star hotels in TamilNadu, India. A questionnaire was structured and mailed to the participants. **Results:** A total of 53 responses have been recorded. In which ninety-seven percentage respondents are male and three percentage of respondents are female. Ninety-three percent of the respondents are aware that hand dryers are not effective in killing coronavirus. Eighty-five percent of respondents strongly agreed to the statement of educating patients, household members and caregivers about covid-19. **Conclusion:** The results of this study show that, majority of the food handlers has excellent knowledge, hygienic practice and awareness of covid-19.

KEYWORDS: Food Industry, COVID 19, Impact, KAP, Guidelines and Implementation

INTRODUCTION

As of June 3, 2020; 6,194,533 COVID-19 cases have been confirmed and 376,320 people have lost their lives globally. 198,706 cases have been confirmed and 5,598 people have died due to COVID-19 in India. (1) This is not the first time for human era facing COVID-19, before two decades, the SARS-COV was identified in 2003 at china and MERS-COV was identified in 2012. (2) The primary cluster of patients was found to be connected with Huanan south china seafood market in Wuhan. (3) Due to the rapid transmission of virus on international scale and severity of virus, WHO declared a “global health emergency” on January 31st, 2020. The numbers of person who have exposed to COVID-19 have been increasing day-by-day due to rapid viral transmission across the world.

A food handler plays a very important role right from procurement of raw material, processing, preparing and serving food to their consumers. According to WHO, there is no clinical evidence to date of virus causing respiratory infection through food or food packaging and also coronavirus cannot multiply in food, they need a human or animal host to multiply. (4)

Food Industries have fallen drastically due to Covid 19 pandemic declined than the times of SARS and EBOLA outbreak. Thirty percent of the food handlers anticipate that

food industries may need six months to recover from this covid-19 pandemic, other forty-two percent of the food handlers said 12 months post pandemic. (5) Hence this is a crucial time for food handlers facing various challenges and in need for upgrading food establishments with standard Food safety protocols due to covid-19.

METHODOLOGY:

A voluntary online survey was conducted to food handlers working in food premises and star hotels. A questionnaire was structured, focused on various aspects of hygienic practices, awareness and knowledge of experience with covid-19 outbreak. A total of 53 responses were received from food handlers working at Tamil Nadu, India. The collected data was coded and analyzed percentage in MS office.

STUDY PERIOD:

The study was conducted in the period of April 2020 to May 2020 at the time of pandemic.

AIM/OBJECTIVE OF THE STUDY:

The main objective of the study is to;

1. To assess the knowledge, awareness and practice level of food handlers towards COVID-19 outbreak.

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- To understand and analyze the awareness level of food handling staff about basic hygiene and sanitation practices

gloves, are found to be effective in reducing the spread of viruses and disease within the food industry. (4)

Results and discussion:

Table: 1 Percentage distribution of training the staff to disinfectant the products, furniture, and highly touchable objects will kill and avoid the spread of COVID-19:

Training The Staff	Number	Percentage
Yes	52	98
No	01	2

From the table 1, it has been inferred that, ninety-eight percent of the food handlers have the knowledge of disinfecting the highly touchable points can kill and avoid the spread of covid-19. A new research has found that the survival of covid-19 on different surfaces can remain stable for 72 hours on plastic and stainless steel; up to four hours on copper and up to 24 hours on cardboard, so it's essential to disinfectant the highly touchable points to avoid the transmission of virus. (6) According to FSSAI high touchpoints like elevator buttons, hand rails\handles and call buttons, escalator handrails, public counter, intercom systems, equipments like telephone, printers\scanners, and other office machines, tabletops, chair handles, pens, diary, files, keyboards, mouse, mousepad, tea/coffee dispenser, shall be cleaned twice daily by mopping with a linen/absorbable cloth soaked in one percent sodium hypochlorite, in case of metal surfaces like door handles, security locks, handles of baskets/carts where use of bleach is not suitable seventy percent shall be used to wipe the surfaces. (7)

Table: 2 Percentage Distribution of Washing hands and Wearing a mask

Washing Hands Regularly	Number	Percentage
Yes	53	100
No	0	0
Mask when Handling Food	Number	Percentage
Yes	52	98
No	01	2

Table:2 shows that, all the respondents are aware and they are in the practice of washing hands with soap, running water or alcohol-based rub (sanitizer) which is effective in killing the virus. Ninety-eight percent of the food handlers have the knowledge of wearing mask while handling with food.

The hands are probably the single most important route of transmission, because the virus may transfer via hands to the eyes, mouth, and conjunctiva of the eyes or through the ready-to-eat foods. (8) The center for disease control advises to wash hands regularly with soap or disinfection with hand sanitizer containing at least 60% alcohol. (9) The transmission of virus via hands to mouth may also causes respiratory infection and gastrointestinal infection. Washing hands with soap and water significantly reduces the burden of microorganisms present in the hands. (10) Mask creates a barrier between mouth and nose of the wearer and potential contaminants in the environment. The standard facial mask is very effective in blocking splashes and large-particle droplets. (11) According to WHO guidance for food business Personal protective equipment (PPE), such as masks and

Table:3 Percentage distribution of Practicing Social Distance

Social Distance	Number	Percentage
True	50	94
False	03	6

Table 3 shows that Majority (ninety-four percent) of the food handlers have agreed the statement of Practicing social distance in the kitchen by keeping a safe distance of 1 meter, and also staying at home if unwell. In the time of pandemic, majority of the hotels maintain a strict regime of social distancing by making the workflow in an orderly manner from pre preparation area to the serving area. For instance; in the foodservice area only two people are allowed, one is for serving and the other is for clearance since number of customers is reduced. In the food production area, minor changes in the kitchen layout has been implemented such as rearranging and dividing the working areas – Pre preparation area, mise en place, preparation area and food dispensing area. Numbers of staff's are also limited and are working in shifts to avoid transmission.

The FSSAI recommends, the covid-19 infected employee should not enter in to the premises and should stay in home-quarantine for specified period of time and should not come to work until free from the infection. (12) According to WHO statement for public, minimum of one-meter distance should be maintained between you and person who is coughing or sneezing in order to avoid virus transmission. (13)

Table: 4 Percentage Distribution of Transmission of Coronavirus

Transmission Of Coronavirus	Number	Percentage
Person To Person	48	91
Household Transmission	12	23
Contact With Infected Surfaces Or Objects	43	81

From table 4 it has been observed that, ninety-one percent of the food handlers are aware that, the covid-19 is transmitted through person-person and eighty-one percent of the food handlers also said the virus is transmitted through contacting infected surfaces and objects.

Previous experience with SARS and MERS suggests that main mode of transmission in COVID-19 can be human-to-human transmission occurs through direct contact, droplets, and fomites. (14) The virus may transmit from person-to-person, when a COVID-19 affected person coughs or sneezes, producing droplets which reach the other person's nose, eyes and mouth. In case of contaminated surfaces, the respiratory droplets are too heavy to air-borne, they land on objects or surfaces surrounding the infected person. A person may get infected by touching the contaminated surface or object and then touching their own mouth, nose and eyes. This may be possible when touching highly touchable surfaces or objects like doorknobs, handrails, lift buttons or by shaking hands and touching face. (4) House hold transmission may be caused by person-to-person incase

of food prepared by affected person and served to family members here, the transmission occurs via food by hands-to-mouth (or) By inhalation of air-borne particles (splashes from sneezing, vomiting and fluid diarrhea) from the virus infected person.

GENERAL GUIDELINES SUGGESTED FOR FOOD HANDLERS:

In spite of healthy practice, awareness and knowledge food handlers must also follow and implement the guidelines.

Major steps to be followed and implemented are:

1. Post Covid as food establishments re-opens a proper infection - prevention standard protocols and procedures should be followed.
2. Reopening procedures and risk assessment should be structured and analyzed well.
3. Having a team to meet and discuss the potential risk they may face and remodelling the establishment to suit the safety practice becomes mandatory – such as adding hand wash stations or making space to store infection prevention supplies and so on.
4. Food establishments should make sure that all its staffs and guests are being screened for Covid 19 symptoms before they enter the premises.
5. Food handlers should be encouraged to declare any symptoms of respiratory illness when they report to work
6. Training of the food handlers with updated food safety protocols and standards becomes mandatory.
7. Local health professionals should be invited to have a audit and also during any Covid suspected cases in the establishment.
8. Awareness must be created among food handlers to practice respiratory hygiene/cough etiquettes
9. Stock and supplies of personnel protective equipments should always be readily available to all food handling staff
10. Compliance monitoring and auditing should be carried out by team head of the establishment.
11. Placing of signboards or other communication materials to instruct food handlers and guests to perform certain activities like using alcohol hand rubs and its necessity to prevent infection spreading.
12. Cleaning and disinfecting high touch surfaces in the food establishment frequently must be implemented.
13. The nature and type of guest frequenting to the food establishment should also be studied to enhance the food safety practices implementation. (15)

IMPLEMENTATION OF SOCIAL DISTANCING:

1. The number of people in contact in kitchen should be limited.
2. Physical barriers should be set up with at least 1 meter distance between food handlers, care to be taken not to disturb workflow.
3. Sharing of lockers by employees should be prohibited and maintaining safe distance in lockers should be ensured.

4. While handling buffet food service dedicated food handlers only should be allowed to serve the guest instead of allowing multiple guest using the same serving spoons in the buffet counter.
5. Maintain minimum of 1 meter gap between the seating space and tables in the service area.
6. Areas such as countertops, tongs, ladles, handles should be cleaned and disinfected as frequently as possible. (16)

CONCLUSION:

During this COVID-19 outbreak, majority of the food handlers are aware of virus transmission, and have sound knowledge about viral transmission. The results shows that, majority of the food handlers are aware of preventive measures and social distancing to be followed during this pandemic situation. The functioning of a hospitality sector would be completely remodeled post COVID-19. Responsibility of an individual staff place a very important role in implementation of food safety protocol because it's a collective effort if there is weak link in the chain the entire exercise of creating a safe food outlet would go in vain. Good hygienic practices during COVID-19 pandemic are essential in preventing viral transmission via infected food handlers and also essential for preventing cross contamination of foods between raw and cooked foods. It is a challenging time for world, and no exception that food handlers also have the increased responsibility of protecting the consumers during and after the COVID-19 pandemic.

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