ROLE OF GOOD HYGENIC PRACTICES FOR MAINTAINING FOOD SAFETY MANAGEMENT SYSTEM

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Abstract:-

Growth in food processing industries increases day by day. With the increasing growth of food sectors, awareness of consumers also increases about the safety of food. Food processing industries gave a contribution of 13-14% in the manufacturing gross domestic product in country like India. Food safety plays a vital role in food chain and also for food processing industries. Food safety management system (FSMS) is concerned about safety of food. By implementing FSMS consumers thought changes and they feel less risk from food borne outbreaks. As FSMS principle follows the effective food safety principle including GHP, GMP, and HACCP. GHP plays and important role in managing the FSMS. This article highlights the importance of GHP concepts in the FSMS.

Keywords:-

Food processing industries, Food safety management system (FSMS), Good hygienic practices (GHP), Food safety.

Introduction:

From the last two or three decades, peoples are more conscious about health and thus more concerned about food safety? Consumption of unsafe or contaminated cause the food borne illness due to the presence of harmful/toxic micro-organisms or chemicals. Food borne illness causes the problems like abdominal pain, diarrhea, fever, vomiting etc. Main sources for contamination of food are soil, water, food handlers, insects and rodents, food contact surfaces etc. So to produce safe and wholesome food, good hygienic practices place an important role.

Food safety:

Food safety provides a promise that, food will not cause any detrimental effect to the consumer when it is prepared and / or consumed as per its intended use. Food safety is confirmed through the joint efforts of all the participants which participate in the food chain.

Food safety management system:

It is the accomplishment of GOOD HYGENIC PRACTICES (GHP), GOOD

MANUFACTURING PRACTICES (GMP) and HAZARD ANANLYSIS CRITICAL CONTROL POINT (HACCP) and many similar practices as per mentioned in the guidelines for the food business organization to produce the safe and wholesome food. The development of the FSMS was based on the expectations to design, operate and implement the most effective food safety system with continuous improvement. FSMS incudes some other management guidelines which are misplaced in HACCP.

In brief, the FSMS is the effective combination of following elements

Interactive communications

System management

Prerequisite programmes (PRP's)

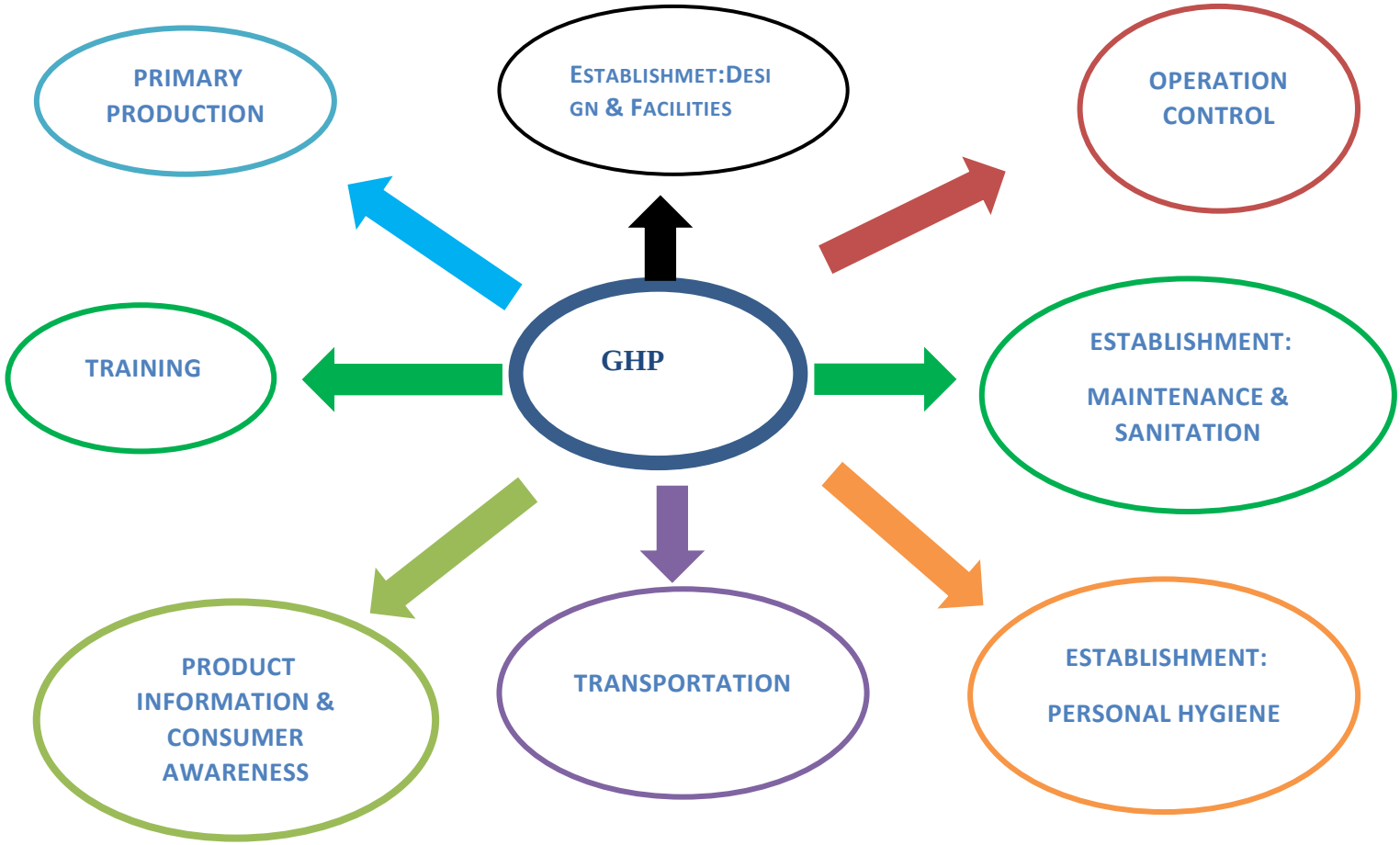
"HACCP" principles

In this article we focus on the role of GOOD HYGRINC PRACTICES (GHP) in food safety management system (FSMS).

GOOD HYGENIC PRACTICES (GHP):

GHP is the implementation of key principles of food hygiene which are applicable during the food chain (including primary production through to the final consumer), to attain the goal of production of safe food and to maintain the food safety. GHP is a HACCP based approach which acclaims to diminish the food safety risk.

Main categories on which GHP should be implemented are as below:-



The management of primary production should be in such a way that food is safe and appropriate for its intended use. It includes,

Evading the use of the area/place whose environment can arise the serious threat to food safety

Effective control of contamination, pest control and diseases control in animal, so that which enable to cause the risk to food safety

Adoption of better practices and control actions, to make sure that food is produced under hygienic environment.

It generally includes:-

Environmental Hygiene:-

Possible sources of contamination from the environment should be well-thought-out in process of primary production. So, it should be keep in mind that the area which can cause the threat to safety of food should be avoided for the production use.

Hygienic production of food sources:-

The possible effects of activities which are used during primary production should be considered on safety of food. Particularly to avoid the contamination from soil, air, water etc. , protection of food from fecal contamination and proper caring of anima l and plant from diseases.

Handling, storage and transportation of food and raw materials:-

Proper handling of raw materials should be required to produce safe food. Separate out the raw materials having poor quality and flabby for human consumption and then dispose properly these materials, so that contamination doesnot takes place. Care should also be taken so that contamination by pest, insects, and chemicals, microbiological and physical contaminants does not takes place.

Cleaning, maintenance and personal hygiene at primary production:-

Effective cleaning and maintenance of equipment's should be done to produce safe food. Personal hygiene should also be maintained during production.

ESTABLISHMENT: DESIGN AND FACILITIES:-

To minimize the risk of contamination, effective cleaning and sanitization of equipment's at food premises, appropriate control of temperature and humidity during storage effective design and facilities should be required.

Location:-

Establishments:

Location of food establishments decided by keeping things in mind that the location should be away from environmentally polluted area and dumping place, higher risk of contamination through pests, flooding affected area, area where the difficulties arises in disposal/removal of waste. All these factors can cause the food contamination and create a risk to consumer health.

Equipment's:

Location of equipment's in food premises should be such that, it permits the effective cleaning and maintenance of equipment's, effective monitoring of process, and proper functioning of equipment's as per SOP's.

Premises and rooms:-

Design and layout:-

Design and layout of food premises should be such that it maintains the better surrounding environment during food production and omit the problem of cross-contamination.

Internal structure and fittings:-

Materials of internal structure and fitting should be sound in condition and easily cleaned and maintained. Some conditions are mentioned below to permit the production of safe food

Materials used for the partition, walls and floors should be impervious and should not add any type of hazard to food.

Design of floors should be such that it permits the effective cleaning and drainage.

Easily cleanable windows and doors and should be impervious to dust, dirt, insects etc.

Direct contact working surfaces should be sound in condition and inert to chemicals. It should not add any type of hazard to food.

Equipment's:-

General equipment's that comes in direct contact with foods should be such that I they does not add any hazardous materials to food (e.g. aluminum cans are replaced by S.S. cans for milk handling because residue of aluminum also comes in milk due to porous nature). Construction of equipment's should be such that less sharp corners are present in equipment's so that effective cleaning takes place. Equipment's should be easily disassembled for cleaning.

In processing of foods such as heating, cooling, freezing and drying operations, effective controlling and monitoring of process should be done by the controlling and monitoring equipment's. Accuracy and preciseness of equipment should be high because it is important to inactivate the pathogens and toxins which are present in the food.

Containers that are used for handling of waste materials should be easily recognizable and made of impervious materials so that fear of contamination is negligible.

Facilities:-

Water supply:-

For the processing and production purpose, adequate supply of potable water should be present and appropriate facilities for storage and distribution should be there. Separate system for potable and non-potable water to reduce the risk of contamination. Non-potable water is generally used for utilities purpose.

Cleaning, drainage and waste disposal:-

For the cleaning of equipment's which are directly contact with food, potable water at suitable temperature should be used. Use of non-potable water can arise the risk of contamination and can enhance the food safety risk. After cleaning suitable facilities for drainage and waste disposal should be there. As accumulation of these can contaminate the food and which results in threat to food safety.

Personal hygiene facilities:-

To maintain the better personal hygiene in the food premises, adequate facilities for personal hygiene should be present like facilities for proper washing and drying of hands, changing facilities, lavatories of hygienic design etc.

Temperature control, ventilation and air quality, Lighting:-

Based upon the processing parameters of food, there are the facilities for heating, cooling, freezing etc. and have provision or facilities for monitoring and control of temperature because the deviation in temperature can cause the serious food safety risk.

To minimize or to control the air-borne contamination, temperature and humidity change adequate ventilation (natural or mechanical) facilities should be present. HEPA filter are generally used in processing section to improve the quality of air.

To improve the processing efficiency and food hygiene, adequate lighting facilities should be present. Intensity of light in processing section should be such that it does not mislead the color of final product.

Storage:-

Facilities for storage of food products and non-food ingredients should be separate as there may be the chances of contamination. Appropriate temperature control according to the nature of food and non-food ingredients. Design of storage room should be such that it does not promote the contamination like pest, insects, soil, dirt etc.

Operation Control:-

Main objective of operation control is to produce the safe food by designing, implementation, monitoring and reviewing effective control systems. It includes the operations like control of hazards by identifying, implementing, monitoring and reviewing of process throughout the food chain to produce the safe and wholesome food. Main aspects of hygiene control system are control of time and temperature combination, microbiological specifications, physical, chemical and microbiological contamination. To control the potential food safety risks effective monitoring and supervision should be present. Records and documentation of processing, storage of food products should be present as it helps in controlling the food safety system. If effective food safety control system was not followed there should be the provision for recall of food commodities so that it does not cause the potential risk to the consumers.

Establishment: Maintenance and Sanitation:-

The key objective of establishment is to ensure the effective maintenance, cleaning and sanitation, control of pest, waste management and monitoring and reviewing of cleaning and sanitation procedures. To improve the food safety management system throughout the food chain, proper cleaning and sanitation of equipment's and food premises by effective methods should be done to reduce the risk of contamination through hazards. Various cleaning and sanitation, pest control program, appropriate methods for drainage of food wastes, monitoring and reviewing of these procedures should be adopted to ensure the adequate food safety.

Establishment: Personal Hygiene:-

Person who comes directly or indirectly contact with food, can cause the contamination to food which results in the risk to food safety. So maintenance of personal hygiene is very important. Workers who felt sick or having illness can contaminate the food and cause the transmission of illness to the consumers. In maintaining the personal hygiene in food premises, the regular health checkup of workers is important and restrict the entry, if any worker have symptoms of illness because it can cause the food borne outbreaks to consumers. Personal cleanliness and personal behavior of workers is also important during processing, handling and storage of food. Good personal behavior and better personal cleanliness is important for the production of safe food.

Transportation:-

Transportation is an important step in food chain. Food may damage or contaminate during transportation due to poor handling and transportation practices. So it is important to use effective control measures to protect the food during transportation process. Keeping of appropriate environmental conditions during transportation may protect the food from toxins and growth of pathogens. There are the separate transportation facilities for

food and non-food ingredients to avoid the cross-contamination. Bulk packaging should be appropriately sanitized before packaging of food materials. Regular clean and sanitize the transportation containers so the fear of contamination is less. So the conclusion is that maintain the appropriate control measures during transportation to protect the food from contamination and maintaining the food safety.

Product information and consumer awareness:-

Product information is very important as it helps in processing, storage, transportation and consumption of food. Inadequate product information may leads to mishandling of food which results in spoilage or unsuitable for human consumption. It includes the lot identification which helps in recalling of product if some faults during processing may found and alternation of stock, product information and labelling which helps the next person for storage, handling of food and consumer education which tells about the importance of information and labelling of product and provides the guidance about the storage and use of product.

Training:-

The persons who involved in food chain directly or indirectly, adequate training should be given so that they know their importance in maintaining the food safety. Regular training to the food handlers should be given so that they became aware about the food safety and risk arises due to their unhygienic practices. Instruction should also be given about the chemicals handling. Periodically assessment program should be organized for the food handlers about food safety so that production of safe and wholesome food takes place.

Conclusion:-

From the above information we can say that GOOD HYGIENIC PRACTICES (GHP) has an important role in food safety management system (FSMS). Now-a-days safety of food is the prime importance. Consumers moves towards the quality and safety of foods instead of price of food. So adoption of food safety management system (FSMS) can increase the value of food business organization in the national and international market, which is helpful for both consumers and food business organization, as consumer get the safe and wholesome food and food business organization get the good value by selling the product.

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