



“Workplace Safety and Health Conditions among Employees Working in Food Processing Industries in Kerala”

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Abstract:

The food processing industry is a vital sector that provides essential products to meet the dietary needs of populations worldwide. However, the demanding nature of this sector often leads to unique lifestyle challenges for employees, impacting their health, well-being, and overall workplace safety. In this study, we attempt to examine the "Workplace Safety and Health Condition among Employees Working in Food Processing Industries in Kerala". The field study was conducted to focus on their demographics, job-related information, health and wellness, food recall, personal habits, physical activity, health status, safety, and personal hygiene. The data was collected by qualitative and quantitative methods using a standard questionnaire with a convenience sampling method. Selected samples were collected from the fishery industry and a pickle manufacturing company located in Kerala. The findings of the study showed that female workers are in high numbers than male and most of them are in normal BMI range. Among the selected employees, 56% people have junk food eating habits, 98% of people using PPE kit and 46% of people are facing workplace injuries. While assessing their health condition the selected employees, 58% are having Diabetes, 28% employees having, hypertension, (and 14% of people are using tobacco). In their workplace, they 92% of people have undergone an orientation program to promote their health and safety.

Keywords: Workplace, Safety, Health, Food recall, Personal Hygiene

Introduction

The food processing industry is a vital sector that provides essential products to meet the dietary needs of populations worldwide. However, the demanding nature of this sector often leads to unique lifestyle challenges for employees, impacting their health, well-being, and overall job satisfaction. Despite the importance of employee well-being in the food processing industry, there is a lack of comprehensive studies that assess the lifestyle habits and behaviors of employees in this sector. This study aims to address this knowledge gap by investigating the lifestyle habits, workplace safety and health status among employees working in food processing industry, with a focus on demographics, job-related information, health and wellness, food recall, stress and mental health, safety and hygiene, and social and family life.

Kerala is blessed with abundant natural resources that provide many useful raw materials for food processing. It is one of the industries that can contribute to the high growth potential and rapid economic development of the state. With a significant shift in Kerala's demographic profile in favour of younger population, increasing surplus incomes, and a changing socio-economic environment, food consumption patterns are set to change in favour of processed foods, which are convenient, hygienic and of consistent quality. Given the size of the industry and its nascent development stage, the food processing sector is a key focus area of the State.

Kerala is a large and growing market for food products. Food products are the single largest component of private (household) expenditure. National Mission on Food Processing (NMFP) is a centrally sponsored scheme introduced by Ministry of Food Processing Industries (MoFPI), Government of India in the 12th Five-year plan. The funding pattern is 75 percent contribution from the state. The implementation of the scheme is entrusted to the states through the state Food Processing Missions. KINFRA is the Nodal Agency for State Food Processing Mission in Kerala. As on March 31, 2015 an amount of Rs. 9.67 crores have been received and an amount of Rs.9.66 crores had been utilized for implementation of schemes under NMFP. However, the Government has now de-linked National Mission on Food Processing (NMFP) in the states from Central Government support with effect from April 1, 2015. The food processing sector in Kerala has always made a significant contribution to food exports. Kerala has been a major exporter of spices, marine products, cashew, coffee, tea, and pickles. Out of the total exports from Kerala, two-thirds of its export income are from processed food. In Kerala, the number of food processing units registered during 2015-16 is 879. Thiruvananthapuram district, which has registered 366 units, is at the top position. The share of food processing units in the registered sector is only 19 percent (<https://spb.kerala.gov.in/economic-review/ER2016/>)¹.

The main aim of this study is to examine the workplace safety and health conditions among employees working in food processing industries. However, technical advances in today's world most of the work is performed manually. Therefore, both employers and employees in the food industry must contribute to maintaining their knowledge and skills to enhance workplace safety and address health concerns. The management should identify workplace risks, and safety guidelines should be made for employees during their work. The management also conducted an induction program for the growth and wellness of both the employees and the industry.

Review of literature

Research shows that Work Safety and Health conditions in Food Processing industries have gained much focus in the past few decades because of the stress that comes from work and the way jobs are structured. These studies that have been undertaken cover the lifestyle patterns of those working in the food processing industries, especially the challenges they go through and their well-being.

Studies have shown that there are systemic Barriers that hinder the implementation of work life balance Policies, such as leadership failure which has birthed Political, economic and social challenges that are the Primary sources of work life conflict, they include Corruption, weak institutions that cannot Monitor and enforce employment standards, high unemployment ratios, poverty, inflation and a plethora of Others (Tamunomiebi *et.al.*, 2020)¹.

Work-life balance is greatly influenced by age, gender, income, and marital status, all of which have an impact on employee results. The Varying life stages associated with age can shape an Individual's priorities and commitments. Health needs are understood here in a broad sense, covering not only the care needs of workers with chronic illnesses or conditions but all the needs that a worker considers necessary to adequately care for his or her health. From the definition, a measure of the WHB has been developed (<https://pmc.ncbi.nlm.nih.gov/articles/PMC7037206/>)².

Food preparation, processing, and dining services are a potentially Dangerous job that occasionally leads to serious injuries. Because of this outcome, a high percentage of occupational injuries are reported in the food industry. Hence, work-related risks in the food Industry require careful attention to OSH principles, and a key to avoiding these accidents is to be aware of the things that can hurt Employees. HLs article briefly discussed OSH practices in the food Industry from a view of ergonomic intervention. By understanding Safety issues and recognizing associated OSH problems in the food Industry (In-Ju Kim, 2015)³.

The discovery was made that due to the varying outputs provided at each production stage, employees at divers workstations met with different kinds of hazards. It was observed that each type of hazard is more prevalent in certain areas of the factory compared to others. The research discovered that poor occupational health safety (OHS) practices in food factories result in diminished worker performance and a subsequent drop in productivity. A Worker who is suffering from an occupational illness is slower and ^{weaker}, thereby missing set targets. The Morale of workers in the food industry is very low. The General attitude of management towards OHS is largely negative since little attention is paid to training on Occupational health safety (OHS) (Katsuro *et.al.*, 2010).

Safety Orientation Session should include the Company History, Safety Program/Policy & Work rules Responsibilities, and Safety Education/Training. In addition to this the worker should be educated about the potential workplace hazards such as hazardous materials, worker responsibilities and restrictions, how to report potential hazards and unsafe work conditions, how to get first aid and to

report injuries and other incidents, location of emergency exits, fire extinguishers, first aid kits as well as the procedure for rescue and evacuation (Sujata *et.al.*,2015)

METHODOLOGY

3.1. Research Methodology

Research methodology is a way to find out the lifestyle of the employees in the food processing industries located in Tirur Taluk, Malappuram district. Research is the arrangement of collection and data analysis from food industry in manner that aims to purpose of understand the workplace risk and safety health measures of employees in the food processing industries working in Malappuram district Tirur Taluk.

3.2. Selection of sample

The study sampling frame consisted of 50 samples in various food processing industries located in Kerala. It includes pickle, bakery, and fishery-based industries that are selected for survey. The sampling method was then exposed to a simple random sampling method. The simple random sampling technique was used because there was a need to select employees randomly who were able to provide answers to the question and ensure complete worker representation.

3.3. Source of data

3.3.1. Primary data

Primary data is directly collected from the respondent through various methods such as personnel interview based on a set of well-structured and predetermined questions and interaction with samples.

3.3.2. Secondary data

The secondary data is sources of information collected through books, journals, reports, and research articles. It is second-hand information.

3.4. Data collection

Data collection is an important aspect of the research design. The collection of data for the research study was in the form of primary data. The study being presence of industries seeking permission from management and direct interview method was conducted after their workshift time The interview schedule was used to collect the primary data. In some industries, Google form a web link containing the self-designed questionnaire, which was distributed to HR mail and then shared among employees working in their industries.

3.5. Statistical analysis

The collected data were evaluated for accuracy and completeness to address the research objectives. Subsequently, the data were exported into Statistical Packages for Social Sciences Version 26 tool for further analysis. Frequency distribution, contingency table, and various charts were employed to visually represent the analysis's findings, including descriptive and inferential statistics.

Result and discussion

5.1. DEMOGRAPHICS

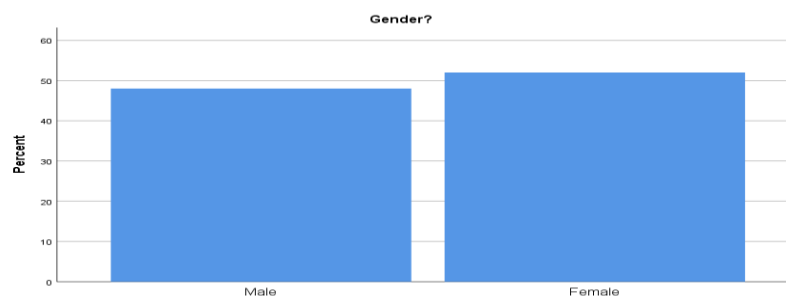


Figure-1-Gender of the Employees

Figure-1 shows that female workers are high in numbers than male because traditionally kitchen is the domain of women, so their numbers are high in the food processing section compared to males.

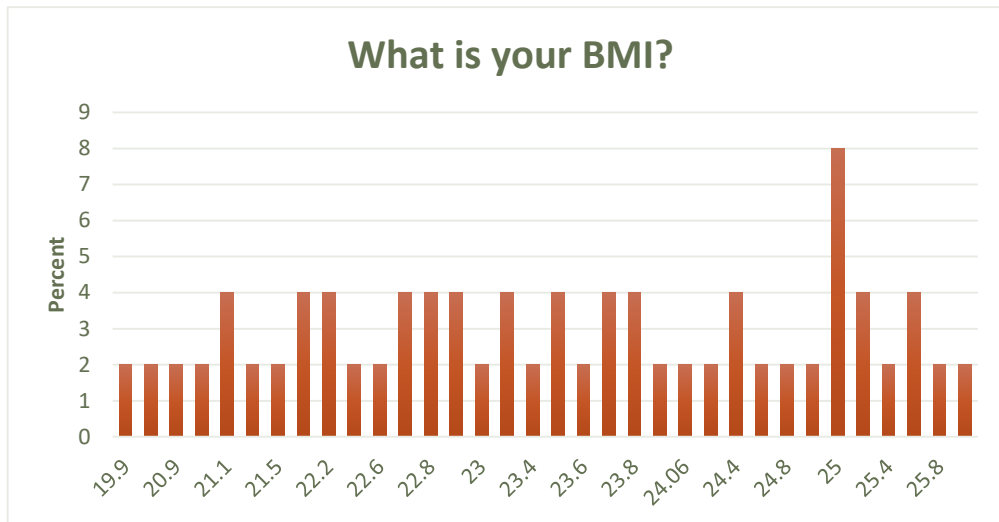


Figure -2-BMI range of workers

Body mass index is a value derived from the mass and height of a person. The BMI is defined as the body mass divided by the square of the body height, and is expressed in units of kg/m², resulting from mass in kilograms and height in metres. BMI was calculated using their height and weight. In Fig-2, most of them are in normal BMI range and maintain a good physical condition.

5.2. Food Recall



Figure -3-Junk Food habits of the Samples

Junk foods are foods that lack nutrients, vitamins, and minerals and are high in kilojoules (energy), salts, sugars, or fats. Junk food is so called because it doesn't play a role in healthy eating, especially if you eat too much of it. Junk food is also known as 'discretionary food' or 'optional food'. Figure 3 showed that 56% of people had junk food eating habits once per day, 5% of people ate junk foods twice per day, and 10% of people eating junk food three or more times per day after their work shift time. Mostly, they are eating fast foods and processed foods like pocket snacks.

5.3 Safety and Hygiene

Safety and Hygiene is the first and foremost things among employees. Because food safety is the first priority while manufacturing, a to-do list should be followed by every employee to attain safe food. Personal hygiene protocols should be learned by the employee before handling of the food. The orientation program also conducted in the industry to create awareness among employees.

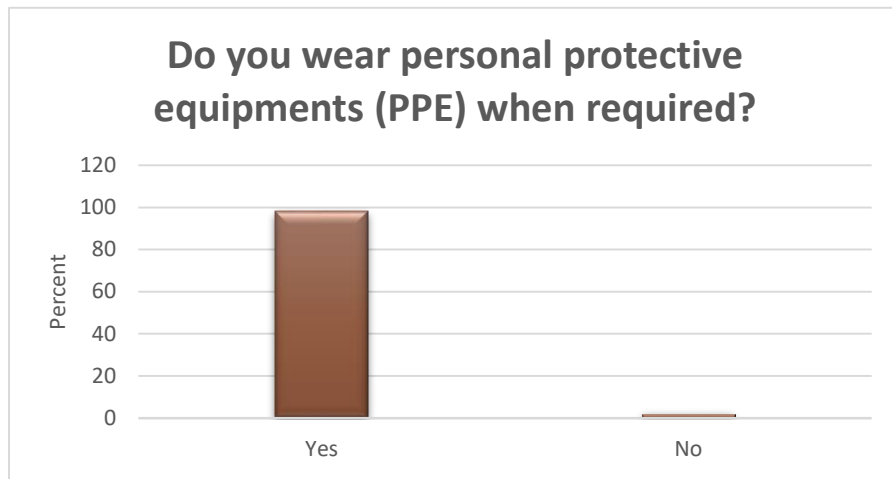


Figure -4-Usage of PPE kit among employees

In the food industry, a typical PPE kit includes gloves, aprons, hair nets, face masks, and eye protection, designed to prevent contamination and protect workers from hazards. Figure-4 shows that 98% of people using Personal Protective Equipment (PPE) kits like gloves, aprons, hair nets, face masks, and eye protection are provided to the employees.

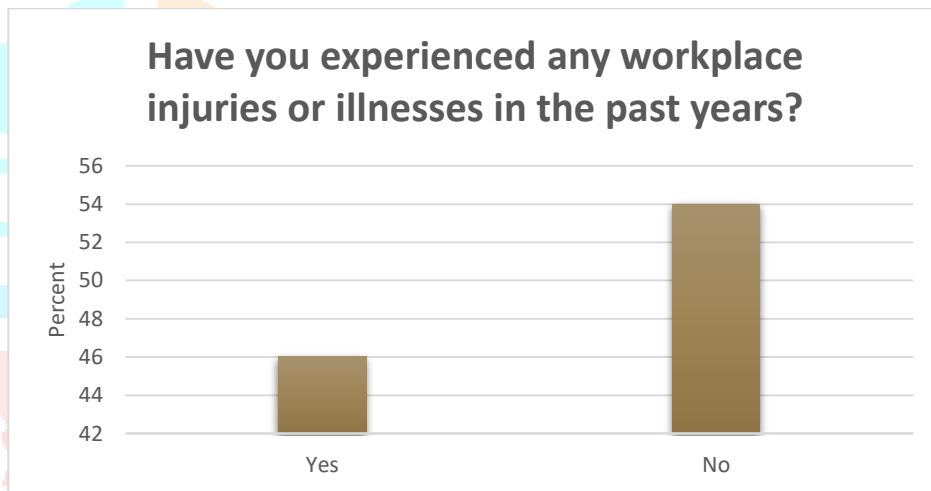


Figure -5-Workplace Injuries

Figure 5 shows 46% of people face workplace injuries like burns, cuts, laceration from sharp objects, slips and musculoskeletal injuries while heavy lifting.

5.4. Stress and Mental Health

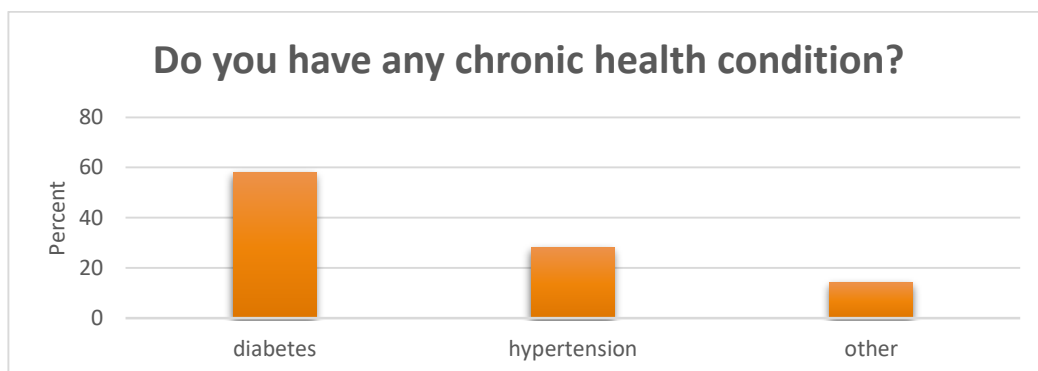


Figure -6-Chronic Health Conditions among Employees

Figure-6 shows the health condition of the selected employees; 58% had Diabetes, 28% had hypertension under medications.

5.5. Health and Wellness

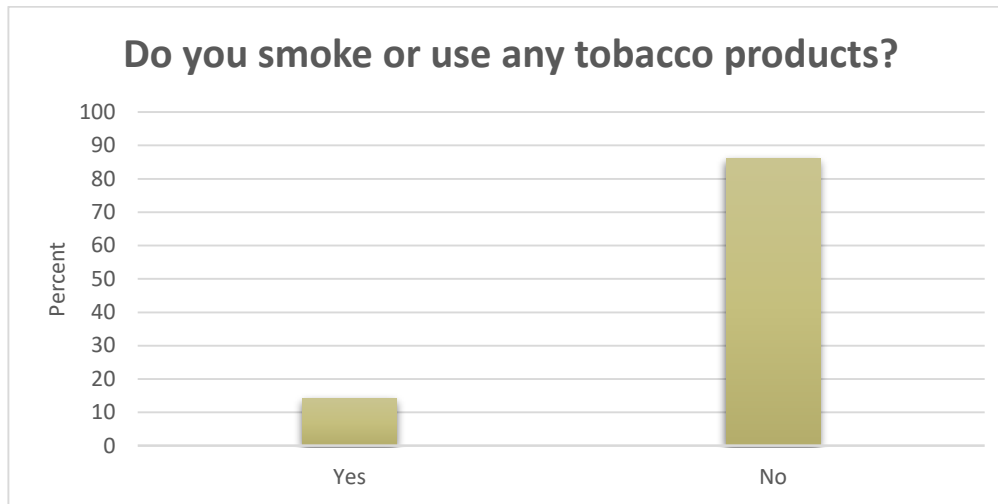


Figure -6-Smoking or Tobacco usage of Employees

Figure-6 shows 14% of people are using tobacco like cigarettes, bidi, khaini and gutkha after their work shift time because inside the industry, these things are strictly prohibited.

5.6. Social and Family Life

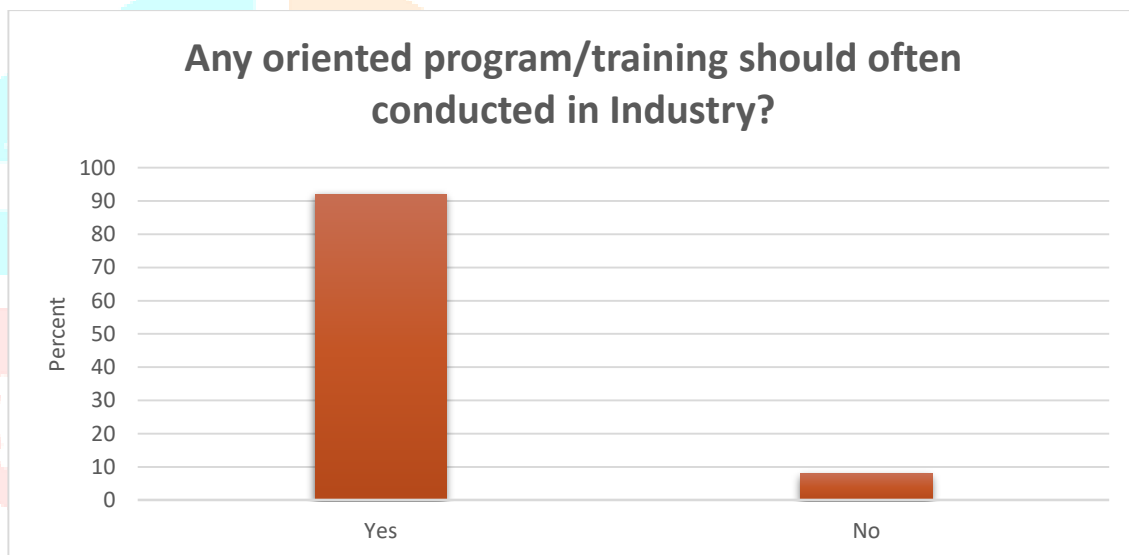
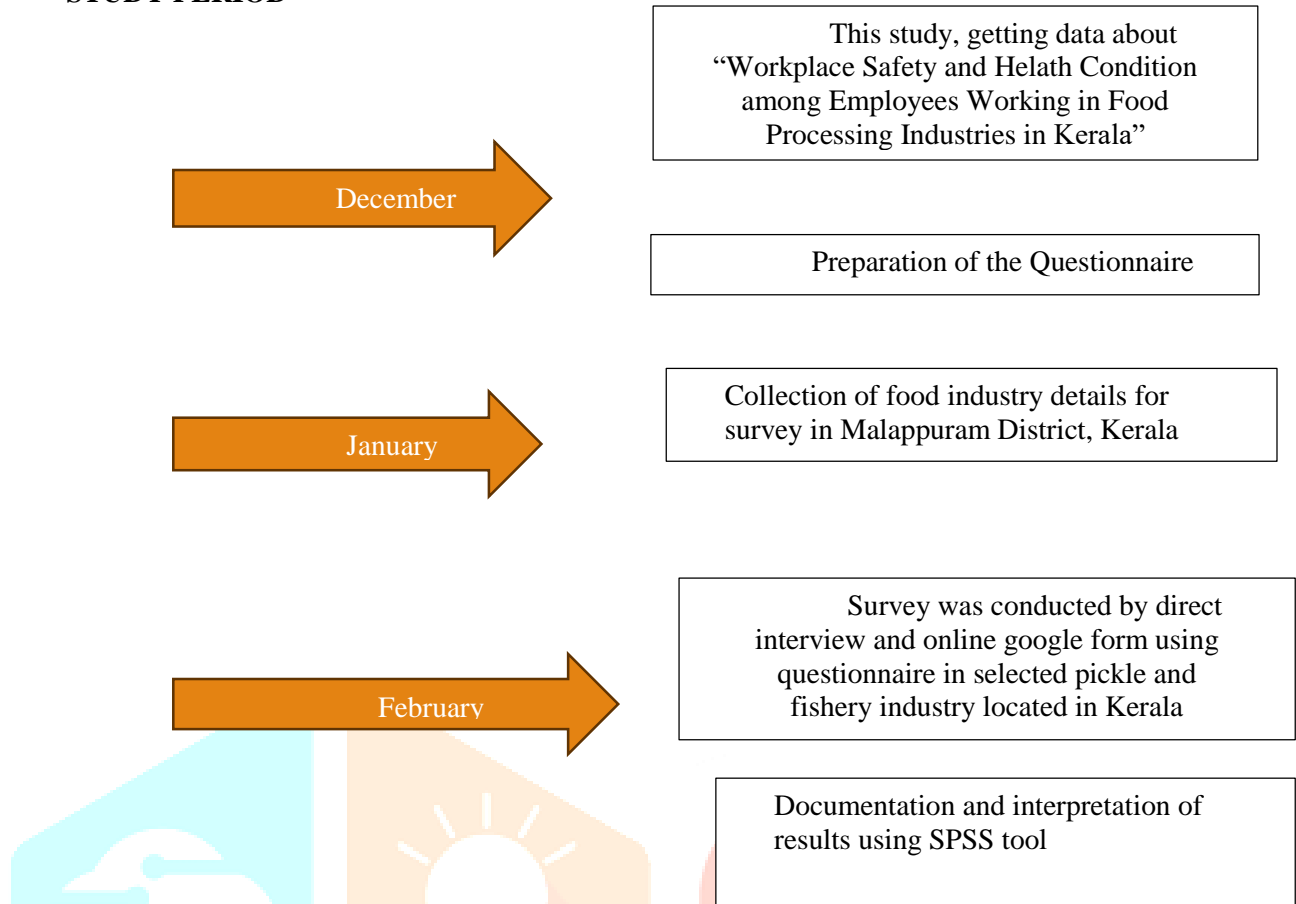


Figure-7-Workers have undergone an orientation program to promote their health and safety

Figure-7 shows 92% of people have undergone an orientation program to promote their health and safety. The orientation program /training program should be conducted in the industry to enrich the employee's workplace safety and health condition. Medical facilities insurance scheme also available for them to promote their health and safety.

Conclusion:

The study found that workplace safety is well among employees working in food industries by using PPE kit, medical facilities and orientation program from industry. The chronic health condition like diabetes and hypertension are faced by few people treating of their there is no support from industry side. From this, we conclude that training, best practices, ergonomic postures, proper use of personal protective equipment, and preventive maintenance are crucial strategies for achieving optimal food service work conditions, as prioritizing health and the preservation of physical integrity is essential among employees.

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