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HOSPITALITY

INFLUENCE OF FOOD HYGIENE TRAINING ON SAFE FOOD PROVISION BY UNCLASSIFIED RESTAURANTS IN NAIROBI CITY COUNTY

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ABSTRACT

Purpose of the Study: The study aimed to explore the influence of food hygiene training on the safe provision of food by unclassified restaurants in Nairobi City County. It focused on the impact of food handling practices, the role of food hygiene training, compliance with food legislation, the role of management in maintaining safety standards, and the moderating effect of food safety standards on the relationship between food management practices and safe food provision.

Statement of the Problem: Despite the critical role of food safety in public health, the practices in Nairobi's unclassified restaurants, especially in relation to food hygiene training and its impact on safe food provision, remain under-examined.

Methodology: A mixed method research design was employed, involving 124 unclassified restaurants in Nairobi's Central Business District. Data collection comprised questionnaires for supervisors, cooks, and waiters, and in-depth interviews with restaurant managers. Quantitative data analysis utilized means, standard deviation, and inferential models, presented in tables and figures. T-tests identified significant differences in food safety management practices, while chi-square tests assessed associations between food management practices and safe food provision. Qualitative data were analyzed thematically and integrated with quantitative findings.

Findings of the Study: The study found significant associations between food hygiene training (χ=5.094; p=.019<0.05) and safe food provision. It highlighted that training in food safety and legal issues enhances awareness and competence in managing food-related risks.

Conclusion: The study concludes that training restaurant employees in food safety is crucial for ensuring safe food provision in unclassified restaurants.

Recommendations: The study recommends periodic training for restaurant workers in proper food handling practices, emphasizing the importance of continuous education in food safety.

Keywords: *Food Hygiene Training, Safe Food Provision, Unclassified Restaurants.*

INTRODUCTION

The provision of safe food in unclassified restaurants poses a significant challenge. These establishments often lack clear guidelines for food safety management, leading to questionable safety standards in the food they serve. Food safety involves handling, producing, preparing, and storing food in ways that prevent contamination or disease, while also retaining enough nutrients for a healthy diet. Despite global concerns about food safety, highlighted by organizations such as the Food and Agriculture Organization (FAO) and the World Health Organization (WHO), practices in Nairobi City County remain inconsistent. Key factors in ensuring food safety include effective food management practices, compliance with legislation, and the implementation of hygiene training. Research by Riggio et al. (2019) and Seaman (2010) underscores the importance of food safety training in raising awareness and enhancing sanitation and safety procedures. As food contamination can occur at any stage in the production and storage chain, the role of food handlers becomes crucial. Practices such as hand washing, proper utensil cleaning, adequate waste management, and ensuring a clean water supply are vital components of food hygiene. These practices are advocated by experts like Odundo, Okemo, and Chege (2018), and Adetitan (2011). Kenya, like many developing countries, faces ongoing challenges in ensuring food safety. The World Health Organization (2019) underscores the importance of basic food handling procedures, such as keeping food clean, cooking to safe temperatures, and avoiding cross-contamination between raw and cooked foods. The Hazard Analysis and Critical Control Points (HACCP) framework further guides the safe handling, storage, and preparation of food. Despite the efforts of agencies like the Department of Public Health (DPH) in Kenya, safe food provision remains a

significant issue. Comparatively, countries like Canada, France, and Finland, as reported in the Global Food Safety Index Report (2018), demonstrate higher standards in food safety. In contrast, Nairobi City County's restaurants often fail to meet these standards, leading to frequent incidents of foodborne illnesses, as noted by Mwangi (2018). The situation is exacerbated by inadequate infrastructure, poor hygiene practices, and insufficient adherence to food safety regulations. However, with the Kenyan government's increasing focus on food safety and the implementation of new regulations, there is potential for improvement in the city's food safety standards, as seen in the rising scores in the Global Food Security Index.

STATEMENT OF THE PROBLEM

The influence of food hygiene training on safe food provision in unclassified restaurants is a pressing concern. As highlighted by the World Health Organization (WHO) in 2021, these establishments, often operating with less regulatory oversight compared to their classified counterparts, face significant food safety and hygiene challenges. This lack of rigorous standards can lead to serious health risks for consumers, including food poisoning, which remains a major issue in these restaurants. The Nairobi Health Department (2021) reported a concerning 30% increase in food poisoning cases linked to unclassified restaurants between 2018 and 2020. Achieving high standards of hygiene in these settings, which involves not only the food but also staff practices and the environment, is essential yet challenging, as noted by various food regulatory bodies including WHO, HACCP, and DPH Kenya.

The complexities of food safety in Nairobi's unclassified restaurants are further exacerbated by infrastructural limitations and inadequate training. As reported by WHO in 2015 and echoed in the Kenya Hotel Industry report (2019), these establishments often lack essential tools and protocols, such as color-coded chopping boards and specific food service trays. The hiring practices in these restaurants tend to prioritize lower-cost, semi-skilled labor over trained professionals, a point emphasized in the Kenya Hotel Industry report (2019). This approach not only impacts the quality of food service but also overlooks the critical aspect of the conditions under which food is prepared and served, leading to unsafe practices. The findings of Perez & Manzano (2017) also highlight this issue, with observations of utensil reuse without proper cleaning. This study aims to leverage

these insights to push for more stringent food safety measures and underscore the importance of food hygiene training in ensuring safe food provision in Nairobi's unclassified restaurants.

OBJECTIVE OF STUDY

To examine the Influence of Food Hygiene Training On Safe Food Provision by Unclassified Restaurants in Nairobi City County

LITERATURE REVIEW

This section comprised theoretical, empirical literature and conceptual framework.

Theoretical Review

The research was guided by HACCP Framework. Hazard Analysis and Critical Control Point (HACCP) is a tool of management utilized in many food service establishments to check food safety worldwide (McClusky, 2004). The HACCP system helps operators of food businesses examine how food is handled and introduces procedures to make food produced is safe to eat. HACCP-based food safety programs have been accepted and put in place as a successful ways of handling risks associated with food safety (Soman & Raman, 2016). In the context of analyzing food management practices and safe provision in unclassified restaurants in Nairobi City County, Kenya, the HACCP framework can serve as a valuable tool to guide the establishment and implementation of effective food safety systems. By focusing on critical control points throughout the food production process, unclassified restaurants can significantly minimize the risk of foodborne illnesses and ensure the safety of the food they serve. Implementation of the HACCP framework in unclassified restaurants involves a series of steps, including hazard identification, determination of critical control points, establishing critical limits, monitoring procedures, corrective actions, verification processes, and record-keeping (Akabanda, Hlortsi, & Owusu-Kwarteng, 2019). By adopting the HACCP system, unclassified restaurants in Nairobi City County can systematically address potential hazards, such as biological, chemical, and physical contaminants, ensuring that food handling practices are safe and compliant with regulatory standards. Moreover, the HACCP framework helps facilitate continuous improvement in food safety management, enabling restaurants to adapt and respond to new food safety challenges and emerging risks (Sperber & Stier, 2019).

Although the HACCP framework has proven effective in improving food safety in various food industry sectors, its successful implementation in unclassified restaurants in Nairobi City County, Kenya, may face challenges due to limited resources, inadequate training, and lack of awareness of food safety regulations. To overcome these barriers, local authorities and stakeholders should prioritize capacity-building initiatives, such as training programs, educational campaigns, and resource allocation, to support the adoption and effective implementation of the HACCP system in unclassified restaurants (Mensah & Julien, 2020). Ultimately, the integration of the HACCP framework into food management practices can significantly enhance safe food provision and protect public health in Nairobi City County.

Empirical Review

Food hygienic training entails creating food safety and handling awareness in form of training programmes, workshops among other platforms. Food handlers who have undergone safety of food training yield higher food safety knowledge scores (Ghezzi, 2017). However, the study only focused on food hygiene training with little focus on the outcome which is food safety provision.

Malavi, Abong, Muzhingi (2017) investigated the safety of food attitude, attitude and practices of orange fleshed sweet potato puree handlers in Kenya shows that training has a significant impact on a majority of handlers. In the study, a cross-sectional study design method was applied. However, the study focused on orange fleshed sweet potato puree handlers whose line of business operation is slightly different from restaurants hence the need to conduct this study.

The study by Wahdan, Gad, Habib and Elshazly (2019) determined the effect of an educational program on food safety practices in food preparation and handling procedures in governmental hospitals of an Egyptian governorate. Data were collected using an interviewing questionnaire and an observation checklist. Mutivariate logistic regression analysis shows that hospital type and scientific background were significant predictors for food hygiene practices score.

Further, Hossen, et al. (2020) conducted a study on food safety knowledge, attitudes and practices of street food vendors in Jashore region, Bangladesh. This was randomized cross-sectional study. It was established that food hygiene training for workers is an important issue in reducing risk of food contamination. Training programs on standard food safety and hygiene practice for street food vendors can improve the overall safety of street foods.

Seaman, (2015) studied food hygiene training employing food hygiene training model. This was an empirical literature review. Lack of training may increase the likelihood of food contamination leading to outbreaks. Effective food hygiene training and the enactment of safe food handling practices learnt during training are critical elements in the control of food-borne illnesses.

Teffo and Tabit (2020) conducted an assessment of the food safety knowledge and attitudes of food handlers in hospitals. Data collection was by means of an interview using a questionnaire design for this study. Only 29% of the hospital food handlers have attended a food safety-training course. Many food handlers were not knowledgeable on the correct temperature for handling foods, and on the correct minimum internal cooking temperature for poultry, seafood and egg. There was a weak positive but significant correlation between the food safety knowledge and food safety attitudes of hospital food handlers.

In Uganda, Ssebatta (2016) investigated knowledge and practices of food safety among food handlers in the selected primary schools in Makindye Division, Kampala. A descriptive cross-sectional study was carried out in Makindye division, 10 primary schools involving 103 food handlers. Food safety; formal training, level of knowledge and use of protective coverings were found to be significantly associated with food safety.

Empirical reviews on food hygiene training highlight its importance in promoting safe food provision by enhancing the knowledge, attitudes, and practices of food handlers (da Cunha et al., 2019). These training programs aim to equip food handlers with essential skills and understanding of good hygiene practices, such as handwashing, proper food storage, and temperature control. Research has shown that effective food hygiene training can significantly reduce the risk of foodborne illnesses and improve overall food safety (Todd et al., 2020).

A comprehensive review conducted by da Cunha et al. (2019) examined the impact of food safety training programs on the knowledge, attitudes, and practices of food handlers. The study revealed that these programs effectively enhanced food handlers' understanding of proper food handling measures and cultivated positive attitudes toward food safety. Additionally, the adoption of good hygiene practices, including handwashing and glove usage, was shown to significantly decrease the risk of food contamination (da Cunha et al., 2019). This empirical evidence underscores the

significance of food hygiene training in promoting the provision of safe food and reducing the incidence of foodborne illnesses.

METHODOLOGY

The study used a mixed research design consisting of both qualitative and quantitative approaches. This mixed methods study was conducted in Nairobi City County, Kenya among 124 unclassified restaurants located in the Central Business District. The target population consisted of 1 restaurant manager, 2 supervisors, 3 cooks, and 3 waiters from each restaurant, totaling 360 potential respondents. Using Yamane's formula, the sample size was determined to be 189 participants, selected through stratified random sampling with stratification by staff role. Data collection instruments included in-depth interviews as well as a structured questionnaire administered to the sample. The questionnaire was pre-tested among 10% of the target population and assessed for reliability using Cronbach's alpha. Data analysis consisted of thematic content analysis for qualitative data and descriptive and inferential statistics for quantitative data. Specifically, t-tests were used to compare restaurants on food safety practices and chi-square tests were used to analyze associations between food management practices and safe food provision. Both quantitative and qualitative results were triangulated.

RESULTS AND DISCUSSIONS

The participants provided their gender information, revealing that 62% of the workforce identified as female, while 38% identified as male. This indicates a higher representation of females in the hotel sector as opposed to men. The majority of responders (35%) were between the age range of 26-30 years, while 21% were aged 21-25 years. More than half (56%) of the participants were between the age range of 21-35 years. Regarding the level of education achieved, 45.2% had a diploma, 30.6% held an undergraduate degree, 14% had completed postgraduate study, and 10.2% possessed a certificate. The data indicates that the majority of the personnel have either a diploma or an undergraduate degree. In terms of job experience, 33.8% of individuals had 4-5 years of experience in the business, 26.1% had 2-3 years, 18.5% had 6-8 years, 12.1% had over 9 years, and 9.6% had less than 1 year. The duration of employment indicates the degree of proficiency that employees has about food safety protocols.

Food hygiene training

The objective of the study was to examine the role of food hygiene training on safe food provision by unclassified restaurants in Nairobi City County. The objective was analysed by employing descriptive statistics and inferential analysis using chi square tests. Hypothesis testing was also undertaken in this section.

The study examined the role of food hygiene training on safe food provision by unclassified restaurants. The participants of the study responded on statements related to food hygiene training. Result findings were presented in Table 1.

Table 1: Food hygiene training and safe food provision by unclassified restaurants

Food hygiene training	VLE	LE	NA	HE	VHE	Mean	Std Dev
Personal hygiene practices							
Hand washing every time after visiting the washrooms	29.9%	35%	1.3%	20.4%	13.4%	2.4	1.4
Hand washing before and after handling foods	28.7%	28%	3.8%	27.4%	11.5%	2.3	1.2
Using gloves while handling salads	25.5%	37%	1.9%	24.2%	11%	2.4	1.4
Cleaning the working areas after and before food preparation	28.0%	41%	1.9%	15.9%	13.4%	2.3	1.3
Adhering to policy of clean as you go after handling every item	24.2%	40%	2.5%	20.4%	13.4%	2.3	1.4
Food Hygiene practices							
Storage of red and white meats in separate fridge/freezers/cold rooms	24.8%	37.6%	2.5%	21.7%	13.4%	24	1.3
Thawing frozen foods using thawing freezers frozen meats	22.3%	40.1%	1.3%	21.7%	14.6%	2.4	1.4
Storage of raw and cooked foods	24.2%	39.5%	2.5%	16.6%	17.2%	2.3	1.3
Preheating cooked foods at 76.7o C to prevent food contamination	31.8%	33.1%	1.9%	24.2%	8.9%	2.2	1.4
Procedures of thawing foods using running cold water or microwave	22.3%	36.9%	1.3%	25.5%	14.0%	2.4	1.2

Focusing at personal hygiene practices**,** majority of respondents indicated that they were trained to low extent about hand washing every time after visiting the washrooms as indicated by mean response of 2.4 and standard deviation of 1.4. Most respondents also indicated that they were trained to low extent about hand washing before and after handling foods (mean response of 2.4 and Std Dev of 1.4). Also, most of the respondents indicated that they were trained to low extent

regarding using gloves while handling salads (mean response of 2.4, Std Dev of 1.4) and adhering to policy of clean as you go after handling every item as shown by mean response of 2.3 and standard deviation of 1.4. The results imply that the restaurant workers were not adequately trained on personal hygiene practices remain one of primary aspect of food safety.

Regarding food hygiene practices, most of respondents indicated that they were trained to low extent on storage of red and white meats in in separate fridge/freezers/cold rooms as shown by mean response of 2.4 and standard deviation of 1.3. Most of the respondents also indicated that they were not adequately trained about use of thawing freezers to thaw frozen meats as shown by mean of 2.4 and standard deviation of 1.4. Further, majority of respondents indicated training of raw and cooked foods are stores in fridge/freezers for the correct number of days was low (mean of 2.3 and standard deviation of 1.4), training on preheating of cooked foods at 76.7o C to prevent food contamination (mean of 2.2 and std dev of 1.4) and training on procedures of thawing foods using running cold water or microwave (mean of 2.4 and standard deviation of 1.5). The results indicate that employees of unclassified restaurants are not adequately trained on food hygiene practices. Table 2 shows more descriptive results regarding food hygiene training focusing on equipment hygiene practices and environmental hygiene practices.

Table 2: Food hygiene training and safe food provision by unclassified restaurants

Food hygiene training	VLE	LE	NA	HE	VHE	Mean	Std Dev
Equipment hygiene practices							
Importance of sourcing/purchasing food commodities from reputable suppliers	26.1%	41.4%	1.9%	15.9%	14.6%	2.2	1.4
Adhering to the policy on the use of chopping boards as per the colour codes	24.2%	36.9%	3.2%	21.0%	14.6%	2.1	1.4
Monitoring of fridge/freezers/cold rooms temperatures daily	24.2%	41.4%	3.2%	15.9%	15.3%	2.2	1.4
Importance of wearing clean staff uniforms	30.6%	35.7%	1.9%	21.0%	10.8%	2.3	1.4
Correct use of safety protective gears/tools/equipment	22.3%	35.7%	1.9%	24.2%	15.9%	2.4	1.4
Importance of checking temperatures of frozen before receiving in stores	29.3%	36.9%	2.5%	15.3%	15.9%	2.5	1.5
Importance of seeking sick off when one is sick of injured	19.1%	24.8%	0.6%	36.3%	19.1%	3.1	1.5
Proper cleaning and sanitization of utensils	21.7%	28.0%	1.3%	23.6%	25.5%	2.4	1.6
Proper cleaning of the food storage area before storing new products	24.8%	37.6%	2.5%	28.0%	7.0%	2.5	1.3
Importance of checking food expiry dates and first in, last out stores issues procedures	22.3%	38.2%	1.9%	22.3%	15.3%	2.3	1.4
Environmental hygiene practices						2.2	1.5
Importance of fumigation of premises is done after every 3 – 6 months	26.1%	29.3%	2.5%	24.8%	17.2%		
Prevention of entry of rodents, insects and birds in the premises	28.0%	31.8%	2.5%	19.7%	17.8%	2.1	1.5
Daily removal of waste and rubbish	28.0%	30.6%	1.9%	21.7%	17.8%	2.4	1.3

It was also established that most of the restaurant workers were not adequately trained on the importance of sourcing/purchasing food commodities from reputable suppliers as shown by mean of 2.2 and standard deviation of 1.4. It was also established that training on policy adherence on the use of chopping boards as per the colour codes was low (mean of 2.1 and standard deviation of 1.4). Also the respondents indicated that training regarding monitoring of ridge/freezers/cold rooms temperatures daily was low (mean of 2.2 and std dev of 1.4), importance of wearing clean staff uniforms (mean of 2.3 and std dev of 1.4), correct use of safety protective gears/tools/equipment (mean of 2.4 and std dev of 1.4), importance of checking temperatures of frozen before receiving in stores (mean of 2.5 and std dev of 1.5) and importance of seeking sick off when one is sick of injured (mean of 3.1 and std dev of 1.5) were trained to low extent. Further, restaurant workers were trained to low extent on proper cleaning and sanitization of utensils is done daily (mean of 2.4 and std dev of 1.4), proper cleaning of the food storage area before storing

new products (mean of 2.5 and std dev of 1.3) and importance of checking food expiry dates and first in, last out stores issues procedures (mean of 2.3 and std dev of 1.4). The results imply that training on the hygiene of equipment remains poor in unclassified hotel restaurants.

Further, it was established that training importance of fumigation of premises is done after every 3 – 6 months was to low extent as indicated by mean response of 2.2 and standard deviation of 1.5. Further, training on prevention of entry of rodents, insects and birds in the premises was low (mean response of 2.1 and Std Dev of 1.5) while training on daily removal of waste and rubbish was also low as indicated by mean response of 2.4 and standard deviation of 1.3. The results imply that training of workers in unclassified restaurants regarding environmental hygiene practices remains low in unclassified restaurants. Observation Checklist in Table 3 shows the observation checklist results regarding food hygiene training items.

Table 3: Observation Checklist: Food hygiene training

Food hygiene training items	Not available %	Available %
Training boards/white boards	58.9%	41.1%
Training rooms	66.1%	33.9%
Chart training programs/upcoming food safety training programs pinned on the wall	62.9%	37.1%
Training officers/staff	68.5%	31.5%
Food safety manuals/guidelines	62.9%	37.1%
Availability of note books in the training rooms	59.7%	40.3%
Training projectors	66.1%	33.9%

From the observation checklist in Table 3, it is evident that most of the training items were unavailable in most hotel restaurants. It was observed that training boards/white boards, training rooms, chart training programs/upcoming food safety training programs pinned on the wall, training officers/staff, food safety manuals/guidelines, availability of note books in the training rooms and training projectors were unavailable in most of the hotel restaurants. Only a couple of hotels less than half, had food hygiene training items were not available in most unclassified restaurants. Training of restaurant workers on matters related to food safety is important. In an interview with KII 5 indicated:

"...food safety training is rarely organized in this restaurant. If I remember, the only food safety training for hotel employees was organized in November 2019 and no other training has ever been organized since that date". [KII 5, 2021

KII 2 also noted:

"...Training of restaurant employees on issues related to food safety is important. However, this restaurant has not organized any sort of such programs since I joined in 2018. The only food safety induction training was that one during recruitment". [KII 2, 2021].

Relationship between food hygiene training and safe food provision by unclassified restaurants

Chi square test was employed to determine the association between food hygiene training and safe food provision by unclassified restaurants. The hypothesis was tested using p value calculated. The acceptance/rejection criterion is that, if the p value>0.05, we fail to reject the H_2<0.05, the Ho is rejected. The null hypothesis (H_2) was that there is no significant relationship between food hygiene training and safe food provision by unclassified restaurants in Nairobi City County. Table 4 shows the Chi square test regarding the association between food hygiene training and safe food provision by unclassified restaurants.

Table 4: Cross tabulation between food hygiene training and safe food provision by unclassified restaurants

		Safe food provision by unclassified restaurants		
		No	**Yes**	**Total**
Food hygiene training	Inadequate	25	36	61
	Adequate	23	73	96
Total		48	109	157
	(χ)	5.094		
Chi-square	P-value	.019		

Chi square test results shows that food hygiene training and safe food provision by unclassified restaurants have a significant association. The influence of food hygiene training on safe food

provision by unclassified restaurants was statistically significant as supported by a chi square of 5.094 and a reported p value of .019<0.05. The results imply that food hygiene training significantly influences safe food provision by unclassified restaurants. Effective food hygiene training and the enactment of safe food handling practices learnt during training are critical elements in the control of food-borne illnesses.

Hypothesis testing for Food Hygiene Training

The hypothesis was tested using the chi square results as shown in Table 5. The study sought to test the given null hypothesis:

H_{o2}: There is no significant relationship between food hygiene training and safe food provision by unclassified restaurants in Nairobi City County.

The p value calculated was .019<0.05. The results thus imply that food hygiene training significantly influences safe food provision by unclassified restaurants. The null hypothesis was rejected and alternative hypothesis accepted that there is significant relationship between food hygiene training and safe food provision by unclassified restaurants.

Safe Food Provision by Unclassified Restaurants

The study sought to assess the provision of safe food by unclassified restaurants in Nairobi County. The participants of the study responded on statements related to safe food provision by unclassified restaurants. Result findings were presented in table 5.

Table 5: Safe food provision by unclassified restaurants

Safe food provision by unclassified restaurants	No		Yes	
	f	%	f	%
Food is received from approved suppliers	47.8%	75	52.2%	82
Good food Hygiene Practices are followed at every step in the production process	49.0%	77	51.0%	80
Storage conditions followed of all food	45.2%	71	54.8%	86
Protection from contamination - away from chemicals and physical contaminants	45.2%	71	54.8%	86
Food is cooked, kept & maintained at the appropriate internal temperature	51.6%	81	48.4%	76
Reports of food poisoning have been reported in this restaurant	43.9%	69	56.1%	88

Most 52.2% of the respondents indicated that food is received from approved suppliers while 47.8% indicated that food is not received from approved suppliers. Slightly more than 50%, indicated that good food Hygiene Practices are followed at every step in the production process. Storage conditions followed of all food was observed by 54.8% of the restaurants while 45.2% did not. The study also found that 54.8% ensured the protection from contamination - away from chemicals and physical contaminants while 45.2% did not. 48.4% of restaurants indicated food is cooked, kept & maintained at the appropriate internal temperature while 51.6% did not. Regarding reports of food poisoning have been reported in this restaurant, the cases had been reported by 56.1% of the restaurants while 43.9% had not. Observation Checklist in Table 5 shows the observation checklist results regarding food legislation compliance.

Table 6: Observation Checklist: Safe food provision by unclassified restaurants

Safe food provision by unclassified restaurants	Not available %	Available %
Reports indicating food supply from accredited food suppliers	46.0%	54.0%
Neat food storage facilities	51.6%	48.4%
Up to date license from National Food Safety Authority	57.3%	42.7%
Food safety certifications	57.3%	42.7%
Risk-based inspections and audits	61.3%	38.7%
Clean water for drinking	46.0%	54.0%
Clean restaurant floors, walls and ceiling	52.4%	47.6%

The observation checklist above indicates that most of the items that define safe food provision by unclassified restaurants were unavailable in most hotel restaurants. It was observed that reports indicating food supply from accredited food suppliers, neat food storage facilities, up to date license from national food safety authority, food safety certifications, risk-based inspections and audits, clean water for drinking and clean restaurant floors, walls and ceiling were not available in most unclassified restaurants. The restaurant has the responsibilities of ensuring that safe food is served to customers. In an interview with KII 10:

"...To ensure that safe food is provided to customers, the restaurant ensures that food is supplied from certified suppliers only. In addition, the restaurant ensures that food storage facilities are always clean and food is stored in appropriate temperatures". [KII 10, 2021)

KII 11 also indicated:

"...restaurant cleaners are required to thoroughly wash utensils using clean water and are provided with sufficient cleaning detergents. In addition, the cleaning of the hotel floors is done by well-trained cleaners using detergents". [KII 11, 2021)

Paired T-Test

T-test was used to establish if there is a remarkable difference between unclassified restaurants that observe particular food safety management practices and those that do not. Table 7 shows the Paired T-Test results.

Table 7: Paired T-Test Results

		Paired Differences					t	df	Sig.
		Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Food handling practices – Safe food provision by unclassified restaurants	.134	.508	.041	.054	.214	3.302	156	.001
Pair 2	Food hygiene training - Safe food provision by unclassified restaurants	.121	.498	.040	.042	.200	3.044	156	.003
Pair 3	Food legislation compliance - Safe food provision by unclassified restaurants	.076	.446	.036	.006	.147	2.146	156	.033
Pair 4	Role of management – Food Safety Safe food provision by unclassified restaurants	.108	.605	.048	.013	.204	2.241	156	.026

Table 7 documents the paired t test findings comprising the mean, standard deviation, standard error mean, lower and upper confidence intervals of the difference, t-value and significance p value. Food handling practices had a positive and significant association with safe food provision by unclassified restaurants (.001<0.05). The results imply that there is statistically significant

variation in the provision of safe food by unclassified restaurants based on the way food is handled in the restaurant.

Food hygiene training had a positive and significant association with safe food provision by unclassified restaurants (.003<0.05). The results imply that there is statistically significant change in the provision safe of food by unclassified restaurants whenever food hygiene training is provided to restaurant workers among the unclassified restaurants. In addition, it was established that there is significant difference in the level of food safety provided by unclassified restaurants based on the level of food legislation compliance (.033<0.05).

The t-test results also indicated that role of management had a positive and significant association with safe food provision by unclassified restaurants (.026<0.05). The results imply that restaurant management play significant role in the provision of safe food by unclassified restaurants. Restaurants provide food to millions of people away from home. However, provision of safe food in most of unclassified restaurants particularly in Nairobi City County is a problem. Most unclassified restaurants lack clear guidelines on food safety management practices rendering safety of food served to customers questionable. Besides, these restaurants lack proper facilities to enhance food safety which include food storage facilities, appropriate food preparation and production equipment and service tools. In the ideal situation, food consumed in restaurants need to be impeccable observing high safety standards and handling procedures as prescribed by restaurant management and food safety regulations.

CONCLUSION

The study found that food hygiene training has significant impact on the safe food provision by unclassified restaurants. The study thus concludes that training restaurant employees on issues related to food safety provisions is important. Training related to food safety including food safety training and legal issues enhances awareness related to issues of food issues. Training programs are important for improving the knowledge of food handlers. Food handlers are expected to have substantial knowledge and skills for handling foods hygienically. Training creates awareness among the restaurant workers food safety. Knowledgeable trained and skilled restaurant employees need to follow proper procedures when handling food. In essence, if food handling personnel are trained on proper food handling practices, there is high likelihood of providing safe

food to customers. Appropriate food hygiene training and enactment of safe food handling practices learnt during training were critical elements in the provision of safe food in restaurants.

RECOMMENDATIONS

The study recommends for the need to periodically trained restaurant workers on proper food handling practices. There is need for restaurant management to provide workers with sufficient clean dress code. In addition, there is need for close monitoring on how food is prepared and stored in the restaurant. In addition, the restaurant managements need to organize periodic training programs in form of short workshops, seminars and conferences with key stakeholders in the hospitality sector and food safety authorities. These training programs will help emphasize more on safe food provisions among restaurant workers. Essential to implementing safe food handling is that food handlers receive training on personal hygiene and sanitation, cooking and storing food at appropriate temperatures, and other safe food handling practices. There is need for restaurants to strengthen, sustain, and organize regular training programs for hotel employees and existing food vendors as well as retraining of trainers to equip them adequately with knowledge and skills to enable them effectively facilitate training programs for food vendors. Food hygiene training is therefore crucial in food safety and is an essential part of the hazard analysis critical control point concept. In addition, training should be supported by daily supervision of food safety controls, management commitment and a work environment that supports the implementation of the correct behaviors.

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