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GAUTENG'S MANAGERS' IMPLEMENTATION OF FOOD SAFETY PROTOCOLS AND PRACTICES IN THEIR QSR ENVIRONMENTS

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ABSTRACT

Introduction

Food safety assurance is motivated by the Food and Agriculture Organisation stating: "food safety encompasses ensuring safe food handling, and preparation when consumed according to its intended use" (FAO 1997). The importance of food safety management arises when consumers demonstrate concern and distrust that restaurants can produce safe food when compared to other industry stakeholders. Foodservice managers must promote food hygiene training aligned with safe food handling activities for the staff. The Foodstuffs, Cosmetics, and Disinfectants Act of 1972 directs the following for persons responsible on food premises: They are suitably qualified or otherwise adequately trained in the principles and practices of food safety and hygiene. Any other persons working on the food premises are suitably qualified or adequately trained in the principles and practices of food safety and hygiene. It's a priority for foodservice managers to prevent the risk of reputation for their operations, to prevent legal action and closure due to employees' poor food handling practices. Therefore, what roles do managers play in assuring that their employees follow safe food handling practices, and what would make managers effective in implementing safe food handling plans?

Problem

Training alone is an insufficient strategy to improve safe food handling among foodservice employees. Managers reported experiences that hindered the effectiveness of their roles. Managers must, however, cultivate environments where they may observe deviations in food safety and be able to efficiently address them.

Aim

The study aimed to consult with managers at quick-service restaurants (QSR) to decipher the scope of implementation efforts for safe food handling in averting the risk of foodborne illnesses.

Methods

A cross-sectional, qualitative research design employed purposive sampling to engage with the managers in the QSRs. The measuring instrument was guided by the review of literature for inquiry, and aligned with general food safety concepts. A semi-formal interview schedule with open-ended questions was used. Field workers approached QSRs for data collection and made relevant general observations where possible.

Analysis

Foodservice managers' (n = 35) responses were transcribed. Thematic analysis was used, and data was reduced into key themes and reviewed to verify themes arising from participant responses.

Findings and discussion

Personal hygiene and staff behaviour

QSR managers used diverse but complementary approaches to enforce and maintain the staff's behaviour related to their

hygiene practices and hygiene-related behaviour.

Policy included instructions not to come to work in the event of experiencing illness. Other measures included the correct wearing of PPE. QSRs were dedicated to daily deep cleaning of production and storage areas, and cleaning while working. Managers reported that employees were prompted to wash their hands in five-minute intervals.

Temperature control of food

The QSR managers were asked to describe inventory policies to gauge temperature monitoring procedures. Management indicated awareness, however they did not provide evidence of this. Only two of the thirty -five managers kept records of their storage facilities.

Cross-contamination/pathogen presence

Managers reported enforcing the requirement of the separation of workspaces and colour-coded equipment when handling food. The staff were not allowed to use the store's facilities to warm up their own food as a measure to avoid cross-contamination.

Raw materials/ingredients

Uniquely, visual cues were an easy go-to for evaluating ingredients. Any incoming raw materials would be examined upon delivery and returned if they were deemed to be of inferior quality (e.g. dented cans or mould on bread). Staff discarded spoilt raw materials or items that were past the expiry dates.

Conclusions, recommendations, and contributions

Food safety practices and protocols were largely executed by staff, and guided by the QSR managers. The acceptance and comprehension of the importance of food safety throughout QSR requires structured cultural adoption in training, monitoring, and support from management. Knowledge and skills transferring between staff members become essential in the absence of managerial presence. Managerial absence, lacking supporting structures, and cultural adoption towards food safety compromises the required scope for implementation of safe food handling and safety protocols to avert the risks of foodborne illnesses. Instilling a safety culture through continued education, awareness campaigns, development of training programs and support mechanisms can aid managers' implementation of consistent food handling practices.

KEYWORDS

food safety management; food safety protocols, quick-service restaurants, food safety cues

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INTRODUCTION

An increase in food consumed away from home is experienced in South Africa and has been influenced by factors such as increased disposable incomes, access to more food service options, the lack of time experienced by individuals to prepare their food at home, as well as the general lack of knowledge of preparation and cooking of food (Ronquest-Ross, Vink & Sigge 2015; Kotni 2016).

Niselow (2018) comments that a family's trip to a restaurant after payday has now become a habit for most households. A study regarding the fast-food intake of young adults in South Africa specifically, found that as much as 60% of the sample consume takeaways between 1 - 4 times a week (Van Zyl, Steyn & Marais, 2010; FASA 2012). According to Oni (2014), South Africa has one of the fastest-growing fast-food industries in the world. This is attributed to most international fast-food markets viewing South Africa as their gateway to the rest of the African continent (Sharebox 2019; WhichFranchise 2014). The growth was noted in the change of the South African dining out culture, as well as the expansion of quick service restaurants into townships and rural areas. Industry players have gone beyond serving quick food-like snacks to venturing into African delicacies (Olise, Okoli & Ekeke 2015). The highest levels of consumption have been experienced in the Johannesburg, Cape Town, Tshwane, and eThekwini metro households (BizCommunity 2018).

Along with the increase in the number of people who eat out is the demand for safer products from large restaurant chains. It is expected that restaurant establishments are ultimately held responsible for the food that has been handled (Knight, Worosz & Todd 2007; Dundes & Swann 2008; Bain 2016). Compliance legislation exists but planning, organising implementation, monitoring, and accountability have not been firmly directed or are still mostly voluntary, i.e., private food safety control programmes (Henson and Caswell 1999; Badrie Dookeran & Duncan 2006). Mashuba (2016) supports this by commenting that, although relevant local health authorities are responsible for food safety control, there have been significant deficiencies in this regard. This is reinforced by Van Zyl, Steyn, and Marais (2010) stating that South Africa does not have the capacity to track and manage cases of foodborne illnesses.

Through the assurance of safe food handling and preparation using structured protocols, QSR managers are thus assumed to have the ability to play a role in preventing any incidence of foodborne illness and potential harm to the consumer.

The investigation of QSR managers concerning their planning, organising, and monitoring of food safety handling protocols and practices aims to provide insight into their role and their effectiveness in their efforts of implementation.

LITERATURE

The context of food safety

Food safety efforts refer to conditions and measures required to ensure the safety of food from being contaminated at any point during harvesting, processing, storage, distribution, transportation and preparation (WHO 2018). According to Lawley, Curtis and Davis (2012), the term "food safety" has no universally accepted definition but states that it can usefully be defined as the practice of ensuring that foods cause no harm to the consumer. Payne-Palacio and Theis (2016) regard the term to encompass efforts that aim to contain and prevent the harmful consumption of contaminated food.

Five main pillars of food safety have been noted to contribute to the foundation of safe food (Hygiene Food Safety Organisation 2019). These pillars were identified as personal hygiene, temperature, control cleaning and sanitising food storage, and food handling. Other food safety guidelines refer to raw materials, hygiene conditions, adequate food safety practices, operations, utensils and equipment, and water supply as areas of critical concern for the assurance of food safety (Hooker & Murano 2001). For the sake of the study, the pillars are narrowed down to four main aspects; personal hygiene and staff behaviour, temperature control of food, cross-contamination/pathogen presence, and raw materials/ingredients.

Personal hygiene and staff behaviour

Personal hygiene and staff behaviour refer to a food handler (staff member) who is any person involved in a business and specifically handles or is involved in the preparation of food accordingly (Knowles 2012). Within the regulations governing general hygiene requirements for food premises, the transport of food, and related matters, the Department of Health (2018) states that this is "a person who in the course of his or her normal routine work on food premises, directly handles or comes into contact with packaged or unpackaged food, food equipment and utensils, or food contact surfaces and is therefore expected to comply with food hygiene requirements."

In analysis of the settings for outbreaks, 46.1% are said to have come from foodservice facilities, followed by catered events (15.4%), the household (10.2%), schools and child-care centres (6.0%) and lastly, healthcare facilities (5.3%). Outbreaks are attributed to large groups of people's frequent and continuous exposure to a pathogen, mainly through contaminated foods. Issues such as where bare hands were in contact with food, failure to wash hands properly, the inadequate cleaning of processing or preparation equipment or utensils, and food workers' abuse of temperature could further be the cause (Motarjemi & Lelieveld 2014). It is thus suggested to provide workers with adequate infrastructure and training to become knowledgeable about their behaviour and that any mistakes in the foodservice environment may have consequences resulting in contamination. Practices for prevention, including re-inforcing proper handwashing, must be supported, enforced and monitored by management.

Temperature control of food

The temperature danger zone refers to temperatures between 6 to 63 degrees Celsius, which are ideal for growth, as even a small number of bacteria will grow between these temperatures. Temperature handling of food considers the temperature of the food when received during delivery to its storage (i.e., chilled, frozen, dry), the preparation of the food (cooking to the correct internal temperature for specific foods like meats) and

its serving/holding temperatures over time. Food storage and temperature controls are imperative, according to Lawley *et al*. (2012), as some cases of food illness are caused by careless monitoring and the lack of control of temperature. Knowles (2012) states that temperature monitoring systems should include the requirement for manual readings that can be recorded. In compliance with temperature guidelines, the most secure manner is to prevent and eliminate pathogen growth in foods.

Cross-contamination/pathogen presence

Cross-contamination refers to the accidental transfer of bacteria or other contaminants, from one surface or substance to another, especially due to unsanitary handling procedures (Merriam-Webster 2020). The Hygiene Regulation R.683 refers to cross-contamination as the process by which contaminants, allergens, or bacteria are unintentionally transferred from food, substances, objects, or facilities to other food, substances, objects, or facility with a potentially harmful effect (Department of Health 2018). This alerts an important consideration in the assurance of food safety, which is the physical setting of the foodservice establishment. The integrity of the building and the surrounding environment influence the access of pests, micro-organisms, dust, and polluted air to the products being produced on the premises for consumption. As part of the establishment, there must be a means for cleaning and disinfecting premises, equipment and contact surfaces, and employees' hands (Knowles 2012). Knowles further lists contact surfaces to include knives, utensils, food containers, and the hands of staff (2012). The cleaning procedures should also not create risks to health and safety either.

Raw material/ingredients

Products passed down the food supply chain must be safe and free of toxins, bacteria, and other hazards for food to be safely consumed. Motarjemi *et al*. (2014) state that there are certain mandatory specifications that the law requires throughout the food chain. Clarke (2010) supports this statement that food safety standards may be of various types, including numerical standards that define the required characteristics of products. This extends to contaminant limits or maximum residue limits. Another consideration that foodservice should take note of is high-risk foods. These foods have been identified as the source of food illness outbreaks and, therefore, require strict handling. These foods include meat and poultry, milk and eggs, seafood and shellfish and cooked grains, i.e., rice. Meat and poultry, for one, are considered high risk due to the bacteria's ability to live in the intestines of animals, which are carriers and, when the animal is alive, it will show no symptoms (Lawley *et al*. 2012). High-risk foods and the handling of ingredients require access to information and knowledge of their quality and their origin, known as "traceability". All safety efforts, from farm to fork, aim to monitor any hazards as they move from one supplier to the next to contain potential hazards.

STAKEHOLDERS BEHIND FOOD SAFETY ASSURANCE

Globally, legislation and other quality and safety standards have been developed by various organisations, such as the Food and Agricultural Organisation, the World Health Organisation (WHO) the International Organisation of Standardisation and the British Retail Consortium, to name a few. In 2010, the WHO estimated 600 million foodborne illnesses and 420,000 deaths. According to the WHO, however, less than

10% of foodborne illness cases are reported, whereas less than 1% of cases are reported in developing nations (WHO | Listeriosis – South Africa 2018). Statistics in Africa show that there are roughly 91 million cases of FBI, which further results in 137,000 fatalities (Mwambi, Bijman, Mshenga & Oosting 2020). According to Lee et al. (2012) the public's concerns about food safety have led to the development and tightening of food safety regulations across the world. It is not merely about addressing contamination at the source but also maintaining a level of accountability when interacting with food. The Food and Agricultural Organisation (FAO) has responded by aiming to improve food safety and quality management systems, contributing to food security, amongst other global objectives (FAO, 2017).

The South African government supports the efforts for food safety assurance by stating that people have the right to expect the foods they eat to be safe and suitable for consumption (Department of Agriculture, Forestry and Fisheries 2017). According to Chanda, Fincham, and Control (2010), South Africa has the fundamentals of a food control system in which legislation and functions are not confined to a single government department. The responsibilities of the control system are shared amongst three main national departments, as illustrated in Figure 1.

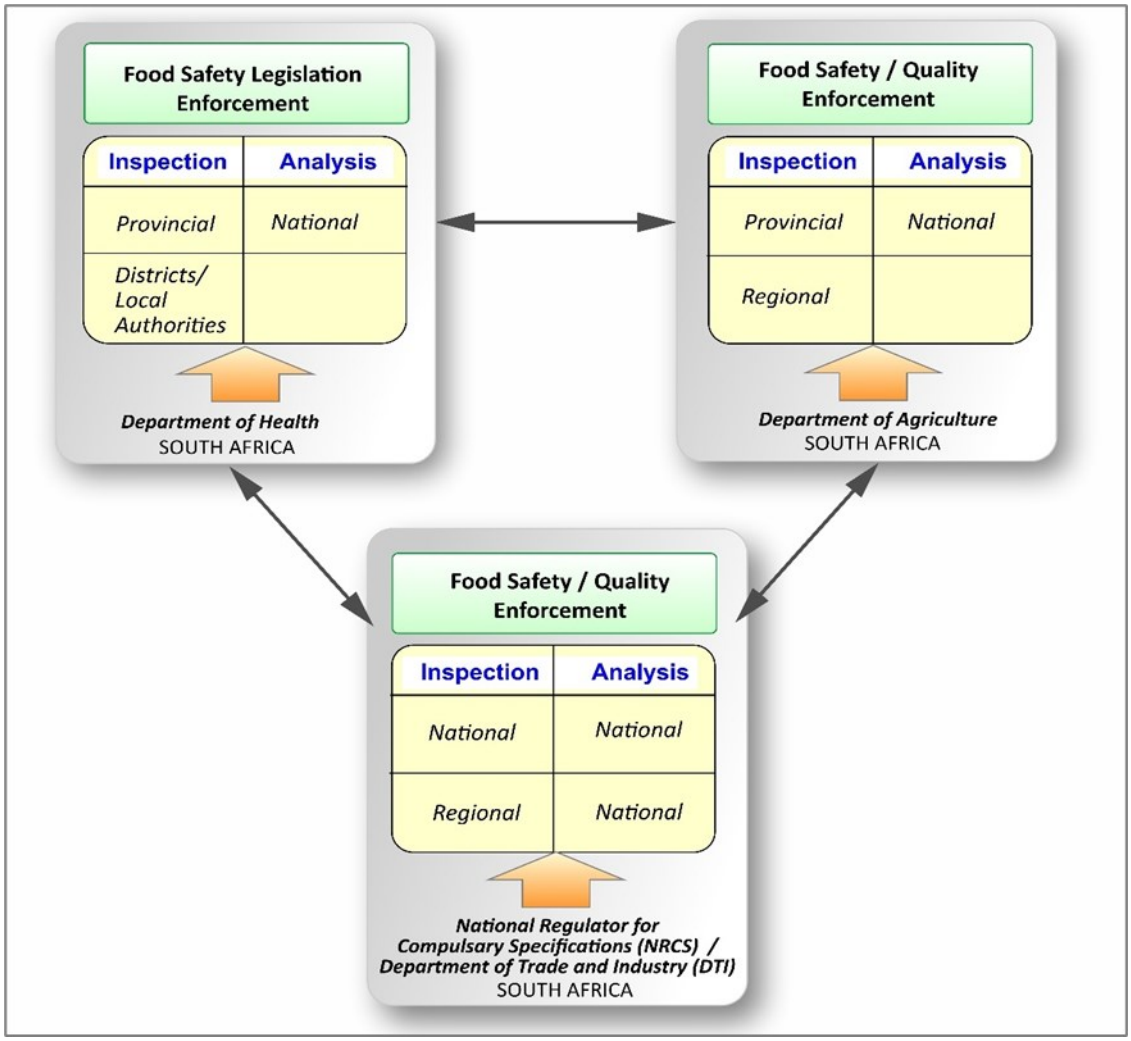

FIGURE 1: REPRESENTATION OF THE SOUTH AFRICAN FOOD CONTROL SYSTEM (MASHUBA 2016)

The Foodstuffs, Disinfectants, and Cosmetics Act 54 of 1972 in South Africa was developed to control the sale, manufacture, and importation of foodstuffs, cosmetics, and disinfectants. Within this Act are 50 sets of regulations, with the newly adapted Regulation 638 relating specifically to the "general hygiene requirements for food premises and the transport of food" (Department of Health 2018).

This regulation explicitly elaborates on food handling and preparation for the prevention of foodborne illness, health approval, and certification, and ensures responsibility through the requirements for all industries. It further relates to the handling of food and the need for a certificate of compliance before establishments can operate. The regulation specifically elaborates on the following issues:

- Prohibition on the handling and transport of food
- Standards and requirements for food premises
- Standards and requirements for facilities on food premises
- Standards and requirements for food containers
- Standards and requirements for the display, storage and temperatures of food
- Standards and requirements for protective clothing
- Duties of a person in charge of a food premises
- Duties of a food handler
- Standards and requirements for the handling of meat
- Standards and requirements for the transport of food, and
- Provisions concerning unprocessed products (Department of Health 2018).

Barriers experienced with food safety implementation in foodservice

Dundes and Swann (2008) emphasise that it is vital that the foodservice industry understand how nonconformity to the health codes can cause illness and that these rules are not simply for appearances. Having stated the above, it is concerning that foodservice establishments are playing an increasing role in the risk setting for foodborne illness (Henson *et al*. 2006; Knowles 2012). This is backed by Motarjemi *et al*. (2014) and Kaskela, Sund and Lundén (2021) in that foodservices are frequently cited as the location for foodborne illness outbreaks.

In South Africa, outbreaks of foodborne illness are rarely reported. This poses a problem, as it becomes difficult to trace establishments that may not adhere to food safety practices and regulations that are set by the government.

Food safety, quality, and thorough comprehension of managers' planning, organising, and implementation of food safety protocols at food establishments are essential, and operators within the industry have an emphasised responsibility to understand and enforce standards to protect the customer.

METHODOLOGY

The research design followed an exploratory and descriptive nature. This was to explore any food safety and hygiene-related practices that were implemented and monitored by management within their respective QSR environments and describe them as they exist.

A cross-sectional qualitative research design employed non-probability purposive sampling to engage with the managers in the QSRs in the Gauteng region. With a total of 3047 QSRs in Gauteng, the top three cities with the most restaurants include Johannesburg, Pretoria, and Carltonville (SmartScrapers 2024). The researcher was provided with

specific locations where data was permitted to be collected. These locations were filtered with the intention of representing South Africa's diverse demographics.

Prior to the collection of data, ethics was obtained through the University of Pretoria's Ethics Committee (EC170912-150). Upon approaching the QSR managers, the field workers sought and obtained consent. Although stores were agreed upon and allocated for the research by the franchise owners, the managers were allowed to decline or withdraw from the interview at any time. None of the managers' names were to be shared in the analysis of the data and discussion of the findings. The data was solely used for the purposes of the study.

Data collection: Interview

The design of the measuring instrument was guided by existing literature for inquiry, and aligned with general food safety concepts. A semi-formal interview schedule with open-ended questions allowed field workers to approach QSR managers for data collection. The semi-structured interviews were used to gauge the state of food safety assurance protocols and practices of safe handling and any other food safety-related efforts. The managers we probed to provide insight by talking about their staff, about any onsite or offsite training programmes, and about practices that were in place for the assurance of food safety.

Twenty field workers were trained for data collection. Field workers were instructed to collect the data through transcriptions on the interview schedules.

Data collection: Observations

As a qualitative technique, observation in this study enabled an understanding of what people do and how they respond to challenges, specifically arising from the implementation, or lack thereof, of food safety protocols and practices in the QRS (Walshe, Ewing & Griffiths 2012).

The observations were conducted alongside the semi-structured interview schedule and included items relating to food safety protocols and practices in QSRs, such as:

- Type of activity observed
- Why the activity was done
- How the activity was done

While waiting for the managers, or after the management interviews, the field workers spent time at the various locations for the observations. Through observing food safety handling practices and activities, the study aimed to share new insights and multiple perspectives on the behavioural aspects of food safety as manifested in the conduct of managers, and employees during interactions with customers. The observations further played a role in confirming the validity of the data, as this was done concurrently within the specific QSR environment.

Data analysis

Thematic analysis was used to analyse the qualitative data. Figure 2 illustrates how using the thematic analysis guidelines, as

FIGURE 2: THEMATIC ANALYSIS

TABLE 1: GENDER DISTRIBUTION OF QSR MANAGERS

Gender	%	Count (N=35)
Male	60	21
Female	40	14
Total	**100**	**35**

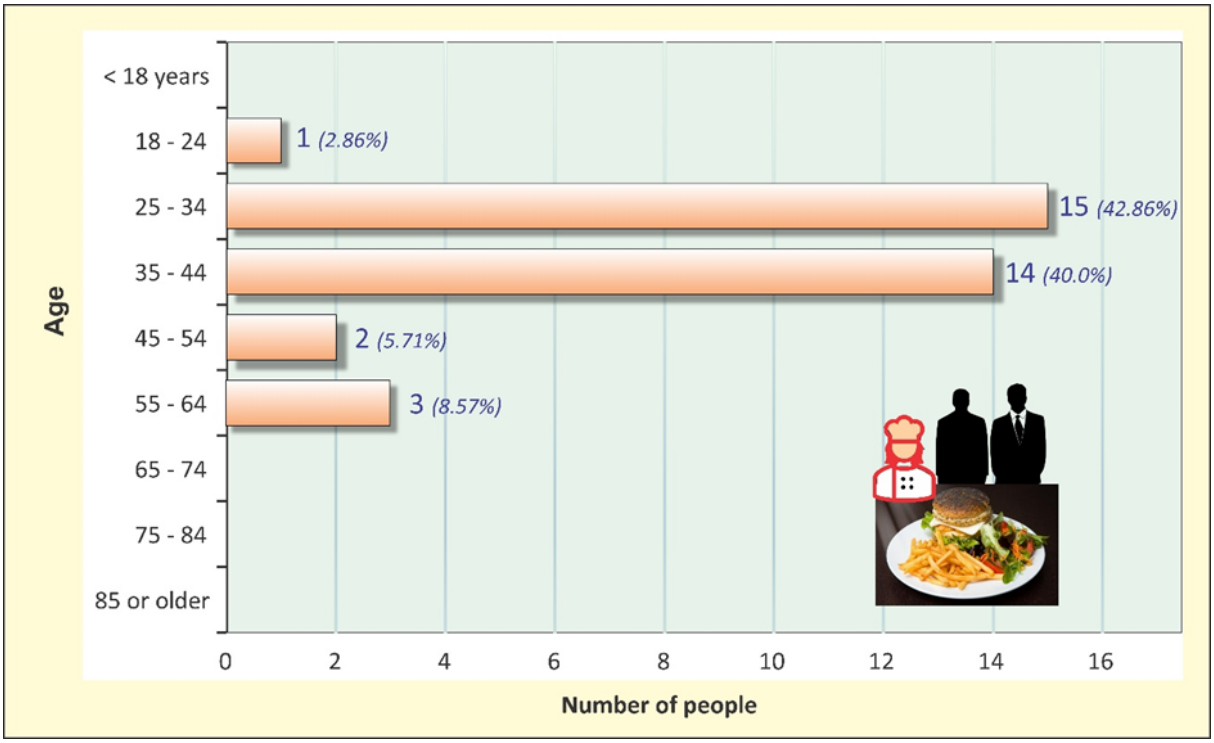

FIGURE 3: AGE DISTRIBUTION OF THE QRS MANAGER SAMPLE

suggested by Braun and Clarke (2006), involves specific tasks.

Food safety legislation and protocols exist and are expected to be enforced, thus the identification of themes in the research was based on the theoretical constructs. The research aimed to investigate, and describe the scope of managerial planning, organising, implementation, and monitoring efforts of food safety protocols and practices within their QSR environments.

RESULTS

Demographics of the sample

Working within the QSRs in the Gauteng province, the demographic profile of the managers covers minimal information, namely gender and age.

As indicated in the table, more male managers participated in this phase. When analysing the age distribution of the sample, most participants (82,86%) were in the 25-34 years and 35-44 years age groups

The data collection was cognisant that management is responsible for implementing legislation, planning, organising, and

TABLE 2: PARTICIPANT RESPONSES REGARDING CLEANING AND HYGIENE PRACTICES OF QSRS

EXPECTATIONS OF STAFF MEMBERS DURING THE HANDLING OF FOOD
• *Each worker is responsible for cleaning and sanitising their own station throughout the day.* • *There is a sanitiser station available, and different colour utensils.* • *Wearing of gloves and hairnets. Regular cleaning.* • *Cleaning takes place daily in the kitchen itself, but staff are also reminded to clean and be hygienic regularly.* • *Staff must wash hands every 20 minutes. Clean regularly when there are no customers.*
STAFF BEHAVIOUR IN THE COMPLETION OF WORK TASKS:
• *Separate cleaning chemicals and detergents from food areas. Regular handwashing. Chemicals and cleaners are kept separate from food. The whole store (room) is cleaned before it opens and just before the late shift leaves. Cleaning practices are very strict, as there are cleaners on-site in the kitchen and dining area.* • *The storage room will be cleaned weekly, and stock repacked on shelves. The QSR will also be cleaned during and after hours. All staff are responsible for keeping the store clean. We clean every hour or when we see something dirty and deep clean once a week. The establishment is washed daily and, deep cleaned weekly by all staff.* • *The whole kitchen will be cleaned twice daily. Workers are encouraged to wash their hands regularly.*

TABLE 3: STAFF TRAINING ON FOOD MENU PREPARATION

OFF-SITE STAFF TRAINING
• *Before hiring staff, people go through the QSR training process at the head training centre for a few weeks. They go for updates on training regularly.* • *They attend a training camp at Head Office every month to learn to make introductory products.* • *Head office trains the staff.* • *All staff have the same knowledge.* • *Head Office trains them.*
ON-SITE STAFF TRAINING
• *Staff train each other. There is no training procedure.* • *They make use of in-house training for at least one month's training period.*
A COMBINATION OF ON AND OFF-SITE TRAINING
• *When staff go for training, they will gain practical experience before being employed.* • *Training programmes in-house and training at the Head Office are also compulsory.* • *Before staff is hired, they go through a training process at the training centre for a few weeks. They go for updates on training regularly, and some staff has worked here longer than I have.* • *Yes, three months of in-store training and then sent to HQ for more training.* • *The staff first undergo a training period and then further train in-store.* • *The head office train the staff to work a certain amount of time, after which they would have to train or gain experience for another amount of time before they get employed in the franchise.*

monitoring safety strategies, and company policies to ensure food safety. Participants were asked what position they were currently occupying and the duration of their employment at that particular QSR. Thirty-seven percent (37%) of the participants said they had managed quick service restaurants, ranging from 0 to 18 months; 20% had experience ranging from 2 to 5 years; and 43% had six or more years of working experience.

Interview and observation findings

Personal hygiene and staff behaviour

Food handlers are noted to represent the final stage of food production before consumption. Given this statement, QSR managers were queried on how their staff complied with professional hygiene standards and if they monitored the behaviour of staff related to the relevant food safety regulations.

Table 2 reveals the interviewees' responses

regarding their experiences on this issue verbatim.

The next question focused on employee training. It was determined that there was a need for staff to be adequately trained on how to safely prepare menu items, given the increased consumer awareness about food

TABLE 4: TEMPERATURE CONTROL IN QSRS

TEMPERATURE CONTROL OF FOOD IN RECEIVING
• *We make use of FIFO and take the received goods to storage immediately.* • *All are kept separated; a receiving date is contentiously monitored.*
TEMPERATURE CONTROL OF INGREDIENTS IN STORE
• *We have the FIFO system and defrost cycles.* • *Patties are defrosted in containers in the fridge.* • *A walk-in fridge is used to refrigerate goods.* • *Refrigerated goods keep for 5 days, and frozen goods for 3 months.* • *Check the refrigerator temperature every day.* • *Make use of temperature control sheets.* • *The storeroom has to be recorded on the record sheet.* • *We keep dry ingredients separate from cold ingredients.* • *We have only one storeroom, and we have to store both stores' stock in the storeroom. However, I try to keep it separate from each other, and the stock is marked accordingly. We use the FIFO method to ensure that stock does not exceed its shelf life. An air conditioner has been installed to regulate the temperature in the storeroom to prevent spoilage of any sauces or bread rolls. The walk-in fridge is marked and the shelves are specifically for specific items. Patties are defrosted in containers in the fridge, employees are regulated and stock taken from the storeroom has to be recorded on the record sheet.*

TABLE 5: MEASURES TO PREVENT FOOD CONTAMINATION

PREVENTION FROM CONTAMINATED SURFACES
• *Cross-contamination colour-coded units. Franchise HACCP procedures are employed.* • *Different preparation areas are used for the different produce. Different utensils are used for the various produce, and equipment is regularly cleaned.* • *Strict storage rules for temperature and separate storage, etc.* • *Separate storage, separate areas for ingredient preparation, and sterilise work surfaces and equipment before and after production. Different coloured cutting boards are used for various produce and products, and meat products are prepared separately from fresh produce and sauces.* • *They make use of different stations for each activity they have to do. They clean the surfaces regularly.* • *Keep stuff separated and keep them at the correct temperatures.* • *They make use of different colour cutting boards to prevent food cross-contamination. They also make use of colour coding for the preparation areas.* • *Preventative measures taken to eliminate cross-contamination, e.g., different prep areas*
PREVENTION FROM CONTAMINATED EQUIPMENT
• *Equipment is cleaned regularly. All perishables are stored in the cold room, and meat is kept separately.* • *HACCP, and it is very important to use different utensils for different products.* • *The use of separate cutting boards and separate food containers are crucial.* • *They check the products. They also check the equipment to see that it is in a suitable condition and that they are cleaned properly.*
PREVENTION FROM STAFF AND POOR HANDLING PRACTICES
• *Also very importantly is to clean as they go.* • *Hygiene practices are administered, like regular washing of hands.* • *HACCP, regular cleaning, wearing of gloves and hairnets.*
COMBINED EFFORTS
• *Use colour-coded cutting boards, wash hands, wear hairnets and store food at the correct temperatures.* • *Use different cutting boards, wash hands regularly and keep food at a safe temperature. Hygiene practices implemented like regular washing of hands.* • *Use gloves. Adhere to kitchen safety rules. Correct storage temperatures (keep food out of "danger zones" at all times).*

TABLE 6: RAW MATERIALS AND INGREDIENT PROBLEMS

INGREDIENTS LACK OF CONFORMITY DUE TO SENSES
• *Head office will be notified, and with the next delivery the damaged stock will be recorded, and we will receive a credit note. Damaged stock will be taken back.* • *It does occur, but not that often that damaged goods are returned.* • *Bread is checked to see if it looks fresh and the sell by dates are confirmed. The use-by-dates of sauces, and if they are properly sealed, and the temperature is checked too. The meat products' temperatures are taken.* • *We test the temperature, and also look at the physical appearance of the products.* • *For bread and fresh products, we visually inspect them, and for most of the other products, like sauces and meat products, we rely on the sell by date.* • *If it is crumbly, squashed or mouldy it is expired.* • *Bread: Feel if it is soft and look at the date. Sauce: Expiry date and presence of any bubbles.* • *Swollen bottles are considered unsafe and bottles which seals are broken.* • *Check the physical appearance and the current quality.* • *Firstly, ensure all boxes are sealed or unbroken. Then, a visual inspection of bread—store products at correct temperatures.* • *Driver brings in one packed item to be accessed on smell and best-before-date (freshness).*
OTHER INDICATORS THAT PROVIDED REASON FOR THE LACK OF CONFORMITY
• *I check the products when they deliver and return them immediately if necessary.* • *Return if products are damaged.* • *Firstly, check the expiry date. They will proceed to count how much stock they have. If they have enough, it will be sent back, if not, they will keep it.* • *I have to check all the expiry dates and take temperatures of meat and sauces when they are delivered.* • *It rarely happens because we have clear date and labelled packaging. Temperature control is done daily. If goods are delivered spoilt or damaged, it is sent back.* • *Check shelf life , manufacturing dates and use-by-dates. Use a FIFO system.* • *Dates/best-before-dates and times are all on the inventory.* • *Date control and taking of temperature are checked daily.* • *With bread products we go by expiry date and the shelf life chart provided by Head Office. Those products that will expire over the weekend are given to staff before the weekend. With sauces we also go by expiry date and the shelf-life chart provided by Head Office..*

safety. From managers' responses, it was clear that QSRs used a combination of formal and informal training to empower their staff with knowledge and skills toward food safety preparation.

Keeping the food fresh or safe by setting and maintaining the correct temperatures is central to food safety assurance. The QSR managers were asked to describe their storage/inventory policy for all ingredients to gauge how the temperature was monitored in the storage areas. This provided insight that there was a need to store some items in cold storage and other items separately. Responses are tabulated below in Table 4.

QSR managers were probed as to what specific measures and protocols they used to prevent contamination of food in their establishments. Nearly all the participants confirmed utilising specific measures to prevent cross-contamination, as summarised in Table 5.

Lastly, in consideration of the state of raw materials and ingredients when handled, respondents were asked about procuring the required items and how irregularities were resolved as part of their food safety management systems. It is known that the evaluation of products often involves the appearance and how the product performs in terms of taste, flavour, texture, preparation, and stability.

Discussion

The participants' responses reported the importance of ensuring food safety protocols and handling practices were maintained in the respective QSR establishments. More than 50% of the managers' responses related to cleaning and hygiene practices of staff, which highlighted QSRs' common staff hygiene and behavioural practices.

Table 2 suggests that QSR managers used diverse but complementary approaches to promoting and maintaining hygiene, of which staff was responsible for implementation. Participants noted using a schedule to clean the kitchen and equipment. In other establishments, employees reported the use of Hazard Analysis and Critical Control Points (HACCP) procedures.

With regards to staff practices, another establishment reported that there is a specific time in the store that signals the employees to wash their hands:

> *"In the kitchen, a buzzer will go off every 5 minutes to remind the staff to wash their hands".*

Personal hygiene and staff behaviour are essential to monitor because non-compliance to food safety protocols may lead to contamination, where bare hands come in contact with food. Failure to wash hands properly, the inadequate cleaning of processing or preparation equipment or utensils, and food worker's lack of adherence to food temperature controls may contribute to the failures in food safety assurance (Motarjemi & Lelieveld 2014). Managers reported that employees make use of hair nets and gloves, and a worker does not come to work if a person is ill. Protective clothing such as gloves, hats/hair nets, and approved footwear are, therefore, worn to protect and prevent hazards from occurring.

Table 3 summarises the managers' interview responses regarding the training of the staff. In line with the participant's responses, the literature has highlighted the importance of training in-house and improving staff knowledge of food safety practices. Jeinie, Nor & Sharif (2015) noted that "without well-trained personnel who realise the importance of hygiene rules in the food processing chain, implementing functional food safety and maintaining a system, are goals that are very difficult to achieve."

Table 4 provides findings that show that, although most managers were aware of temperature guidelines, they did not demonstrate enough evidence of how they implement or monitor their operations in this regard. Responses from some of the managers failed to verify how temperature control processes are regularly controlled. It is confirmed that only two of the managers reported keeping temperature records. i.e., checking temperatures daily.

Table 5 reports the measures taken relating to cross-contamination. The prevention of cross-contamination overall is imperative for the protection from pathogens that staff, equipment, pests, or other sources could potentially transmit. A study conducted by Green & Selman (2005) indicated that several factors constrained the staff's ability to practice food safety in their food establishments, including "time pressures, structural environments, equipment, and resources." The managers in this study did not demonstrate experiences of any of these constraints from their responses. Managers provided evidence that it is through the regular cleaning of equipment, the cleaning of the dining areas, cleaning of contact surfaces and equipment, as well as different storage areas for specific ingredients as some of the ways in which they aimed to control cross-contamination of food within their QSR environments.

Lastly, as noted in Table 6, part of food storage procedures aid in maintaining the quality of ingredients and the majority of the managers reported the use of the separation principle and expiry date information. Once foods had been separated, they were labelled accordingly to enable easy access, and the ingredients were used before the expiration dates. This practice revealed that food separation and labelling should be implemented, as one of the key requirements under the HACCP principles (Codex Alimentarius Commission 2011). A unique finding was that visual cues are an easy go-to in evaluating the use of some ingredients. Although less than half the managers reported using any visual cues, there was a manager who did seem to be confident in referring to visual cues as a means to evaluate the safety of the ingredients and their conformity for safe consumption. Another unique finding was the consistent use of the expiry/sell-by dates, as reportedly used by almost 60% of the managers.

CONCLUSIONS

Gautengs' QSRs and the managers' effective planning, organising, implementation, and monitoring of safe food handling protocols and practices have been assessed as being important in the promotion of food safety in restaurants. Arendt, Paez and Strohbehn (2013) pointed out that management supervision is vital in ensuring that foodservice staff adhere to safe food handling behaviours. Managers must set the tone and ensure that efforts are effectively and consistently maintained at all levels of the food production system.

The results provided evidence that management was on board to institute adequate practices related to food safety assurance. This was particularly noticeable concerning the management of cross-contamination and the close monitoring of raw materials and ingredients.

In consideration of the Gauteng Province as the study area, its large and diverse population poses the potential exposure to a large number of consumers. The insight gained from this study allows for preliminary inference on what may be occurring in other provinces. This may also be since the training of staff for the franchises that participated in this study takes place at the head office which is located in the Gauteng region.

As discovered through analysing the interview responses, the off-site training (head office/ formal training), and on-site training (peer training or induction programmes), provided an opportunity to focus on food safety protocols as well as the QSR offering. Beyond training, however, it is evident that without compliance and monitoring, food safety assurance will not be achieved or maintained. It is not sufficient to be knowledgeable as a foodservice manager, and hope that food handlers/staff will comply with regulations. This was evident in the responses when the managers communicated what they knew to be correct, yet the opposite was observed.

Verdú *et al*. (2021) state that the importance of food safety and quality will generate more trust and increasingly more knowledgeable consumers who are concerned about their health and well-being. To add to this, a business will only be able to survive if it can cater to, satisfy, and protect its customers.

RECOMMENDATIONS

Various food safety studies have been conducted worldwide, but South Africa has shown a gap in investigating this topic. This is evident in the general under-reporting of incidences relating to food safety and illness

(Ramalwa *et al*. 2020).

The cultural and diverse landscape of South Africa presents difficulty in taking other international studies and applying them in the South African context. It is vital to have the ability to understand how South Africa compares to other African countries, as well as any global contexts. Future research may also contribute to truly understanding the South African consumers' motivations to purchase food-away-from-home and their experiences of safe food consumption.

The findings of the research in light of the COVID-19 pandemic may provide insight into how food safety experiences and concerns were managed by stakeholders. This additionally holds in the light of recent incidents of food illness that have resulted in the loss of lives. This includes recent events related to 'spaza shops' responsible for poor food safety protection measures, within the informal food sector in South Africa. Prevention and protection measures should have been implemented and monitored by business owners and government agencies who have painfully fallen short of their responsibilities.

Further investigation is recommended on the misalignment in what staff in foodservice are trained to do versus what they are indeed doing. Compliance and monitoring must be consistent in order to inform effective and well -directed awareness campaigns. This is intended to be communicated to the consumer, to protect the consumer, and to ensure that foodservice management is aware of how to adequately plan, organise, implement and monitor their protocols, thus improving communication to the consumer (directly and indirectly).

Managers must play an effective role within their food environment as, ultimately, the consumer trusts and renounces responsibility when they consume from this ever-growing, dynamic, and thriving industry. Therefore, it is imperative that the industry operates with precision to safeguard customers' well-being.

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