
Food Service Operators Licensure Status: Implication for Food Safety in Ghana

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Abstract: The regulation (governance) of the business of food service operators (FSOs) by the state is important to consumer food safety. However, not very much is understood of the level of acceptance of this task among FSOs. The aim of this study was to examine FSOs licensure status and its impact on consumer food safety. A descriptive cross-sectional survey design with a convenient sampling technique was used to select 285 FSOs from the 16 communities in the Cape Coast Metropolis. The data collected was analysed using descriptive and inferential statistics. The results revealed a high awareness of license acquisition, low level of acquired license, lack of knowledge on when to acquire license and from the appropriate agencies among FSOs. Further, FSOs awareness influenced their license acquisition. Number of years in business also influenced FSOs awareness of license acquisition but not their attitude towards license acquisition. Hence, a potential adverse implication for safe food delivery. The findings provide theoretical and practical implications for all stakeholders in the food service industry. Food safety regulators, academia and media houses should intensify their education of FSOs and the general public on the need for licensing and purchasing food from only licensed operators.

Keywords: Attitude, Awareness, Food Safety, FSOs, Licensure, Regulation

1. Introduction

Food service operation is one of the ways for nutrition and livelihood support in the world. In West Africa and many parts of the world, a lot of people especially women with a little initial capital and traditional food preparation skill enter the informal food service business as a means for employment and income generation [1-4]. The situation is not different in Ghana as most women have utilized the informal food service business opportunity to contribute to household income, education and health of their children [5]. The success and proliferation of the informal food service business (notwithstanding their disruptions and defiance to a modernist conception of orderly urban space) lies in the fact that millions of people, especially, the urban poor, depend on the informal FSOs for their daily meal supply [6-9]. Buying porridge on the street, lunch at small stands or picking up prepared food to take home are common observable activities during the various meal periods in urban centres across the world because of busy schedules, less time spent at home and excessive cost of preparing same at home [10].

Despite the nutritional, economic and social-cultural importance of the food service operation to consumers, the safety of the food sold have been questioned by researchers, regulators and the consuming public. About 70% of all bacteria food poisoning occurring in Ghana and other parts of the world is suggested to be caused by FSOs [11, 12]. Ignorance, inadequate knowledge of food handling practices, lack of formal education and poor regulation and enforcement has been noted to contribute to the upsurge of foodborne illnesses [13-16].

Additionally, most FSOs are identified as working with limited or no infrastructural facilities. Infrastructural facility challenges such as lack of potable water, proper sewage and refuse disposal system and inadequate storage facility contribute to the proliferation of pathogenic organisms in food service operation. Such example can be found in Food and Drugs Authority (FDA) of Ghana annual report on the closure of some restaurant in Accra [17].

Furthermore, studies conducted around the globe indicate that some FSOs themselves also act as host by harbouring and transmitting foodborne infectious diseases like cholera,

dysentery, diarrhea, typhoid and paratyphoid fever, viral hepatitis, salmonellosis, tuberculosis, ova of helminthes and many others through their hands and other body parts [11, 18-20]. For instance, the eruption of foodborne illness in the United State of America between 1998 and 2013, with an average of 620 annual cases, implicated 24% FSOs as a source for the outbreaks [11]. Similarly, 60 – 70% of SFOs were found to be working while ill [21, 22]. In Denmark, out of the 191 foodborne calcivirus outbreaks recorded over a 7-year period, affecting 1853 persons, a quarter of the outbreaks was known to have been caused by asymptomatic food handlers [23]. In Ghana, a study by Ayeh-Kumi et al. [14] found that 44 out of the 204 FSOs respondents were infected with gastrointestinal pathogens such as parasitic worms and protozoan infection, giving a prevalence rate of 21.6%. Empirical evidence suggests that even when FSOs seem to look and feel healthy, they may be carriers of foodborne pathogens without discernible symptoms [23-25]. Thus, there is the intuition that FSOs can be carriers of pathogens without any sign and can transmit the organisms to consumers if acceptable safe food handling practices are not adhered [26]. Hence, transmission of foodborne infection depends largely on the health status of FSOs [18].

Therefore, to ensure consumer food safety, most countries mandates that FSOs acquire the requisite food handling permit/license before the commencement of operation. Obtaining the certificate demonstrates to consumers that FSOs have undertaken a food handling training course approved by the State. In Ghana, FSOs are also mandated by the Public Health Act, 2012 (Act 851) and Local Governance Act 2016 (Act, 936) to acquire food hygiene permit and health certificate from the Food and Drugs Authority and Metropolitan, Municipal and District Assemblies (MMDAs) respectively before the commencement of operations. The permit and health certificate are subject to an annual renewal. Acquisition of food hygiene permit indicates FDA's approval of the catering facility's preparation, packaging, distribution, storage or sale of food for human consumption. The health certificate procurement is also the MMDAs attempt to prevent the spread of potentially life-threatening infectious diseases such as typhoid and cholera by food handlers through thorough medical screening before and during business operation. The health certificate is a prerequisite for the issuance of the food hygiene permit (FDA Licensing Requirement 3.1.2 C, 2016).

Although a prerequisite, studies show that very few FSOs are licensed. Dwumfour-Asare and Agyapong [27] found that about 72% of their respondents (food vendors) had no license to operate. The Ghana News Agency also reports that a food vendor was fined by a court for selling food without health certificate and hygiene permit [28]. The situation in Tanzania is similar. Mramba [29] observed that FSOs were often unlicensed putting them in constant confrontation with the local authorities. Nicolo and Bendeck [3] also found that 284 out of 400 FSOs interviewed in four African countries had no license to operate and attributed it to two main reasons; registration and licensing has very limited advantage to them,

and consumers hardly pay attention to whether food vendors are licensed or not since food purchase is based on price, convenience, cleanliness of the environment, vendor and workers in most cases. Cohen et al. [30] also note that FSOs fail to secure license because of perceived unfairness and inconsistencies in licensing and taxation; while mobile vendors are usually not taxed, permanently stationed operators are taxed on daily basis.

Consequently, this study aims at contributing to the discourse by investigating FSOs licensure status and its implication for consumers' safety and welfare. Specifically, the study examines FSOs awareness on license acquisition, their attitude towards license acquisition, the stage at which licenses were acquired and the behavioural changes that occur when they get to know their health status through the license acquisition period.

1.1. Foodservice Landscape of Cape Coast

Cape Coast is both a regional capital of Central Region and a Metropolis with 16 communities that is stratified into North and South constituencies located along the Atlantic Ocean. The Metropolis is the hub of educational excellence. It can boast of a Regional Hospital, University, Technical University and seven high ranked Senior High Schools in Ghana and the Cape Coast Castle, a UNESCO World Heritage site. This sees the influx of people from all levels of society into the metropolis. The food service landscape can be divided into formal and informal as pertaining in most developing countries. The formal food service businesses look professional and easy to regulate. They are those that are commonly referred to as restaurants. The informal ones comprised of street food vendors, tabletop and kiosk food sellers dominate the food service landscape. They are unregulated or difficult to regulate and operate mostly under poor hygienic conditions. However, these are the places where authentic Ghanaian cuisine can be found.

1.2. Theoretical Framework and Development of Hypothesis

Knowledge-Attitude-Practice model underpins this study. The KAP model, propounded by Schwartz [31], is one of the theoretical models commonly used by social scientists to assess health behaviour and practice. The model fundamentally assumes a linear association among knowledge, attitude, and practice where knowledge about a phenomenon is believed can change the attitude of an individual and then affect practice [32]. According to the model, knowledge refers to familiarity, awareness or understanding of an information which is conscious and non-symbolically gained from formal and informal education and/or experiences [33]. Attitudes is described as a range of opinions and feelings either positive or negative toward a phenomenon [34] whereas practice is conceptualized as regular activities that are influenced by widely shared social norms and beliefs [35]. Knowledge of issues and possession of skills are required for behavioral change [36]. Similarly, Ajzen [37] suggests that individuals

who possess positive attitudes have better motivative intention towards practice.

The model has been used in diverse fields of study. For instance, Grema et al. [38] used the model to assess the KAP of fish handlers in Kaduna State, Nigeria and found that respondents had good levels of knowledge and attitude but exhibited poor practice towards fish hygiene. Mahat et al., [39] identified Malaysians with high levels of knowledge and attitude but average level of practice towards e-waste disposal. Thus, it is hypothesized that:

H0 1: There is no significant relationship between FSOs awareness of license acquisition and the acquisition of licenses.

The model has been critiqued in literature in various ways. Some researchers have argued that the measure of knowledge is intangible, thus, difficult to associate with causal inference of an individual's behaviour [40-42]. Others suggest a flaw with the linear or progressive nature of the model. They argue that knowledge about a phenomenon does not always result in positive change in attitude and practice. They believe that attitude and practice can in turn affect knowledge. Hence, it was argued that the number of years a FSO has been in operation could have some effect on their awareness and attitude towards licensing by putting forward the following hypotheses:

H0 2: There is no significant relationship between FSOs number of years in business and awareness of license acquisition.

H0 3: There is no significant relationship between FSOs number of years in business and attitude towards license acquisition.

Although the model has its weaknesses as have been noted above, it has, nonetheless, been adapted for this study because it is believed that FSOs attitude and practice are a function of their knowledge. Consequently, a baseline study on knowledge, attitude and practice of FSOs license acquisition from the appropriate institution could help improve public health and well-being.

1.3. Conceptual Framework

This conceptual model was developed to guide the study.

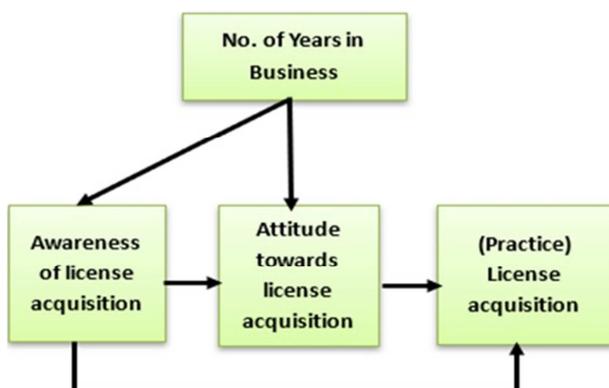


Figure 1. A conceptual model showing the relationship between number of years in business, awareness, and attitude and license acquisition of FSOs.

2. Methodology

2.1. Research Design and Respondents

The study used a cross sectional design. It is intended that just a cross section of the FSO will be targeted within a specific time frame during the study and all observations are within this time. As with a dispersed and diverse population without a sampling frame, the accidental sampling technique was deployed. The use of the accidental sampling technique was necessitated by the lack of documentation on FSOs in the Metropolis. The inclusion criteria were that the individual should be 18 years and above at the time of the study and should be an operator of food service business. Three hundred (300) FSOs who met the criteria above and voluntarily agreed to participate were sampled. Total anonymity and confidentiality of the respondents was assured, with no individual being identified with a particular information. Data was collected from the respondents throughout the month of May, 2022.

2.2. Measures

Empirical data was collected using a survey instrument (questionnaire). The questionnaire consisted of four sections. Section 1 looked FSOs awareness of license acquisition; section 2 explored FSOs attitude towards license acquisition; section 3 looked at the stage of the business before license acquisition and the last section looked at behavioural changes that occur when FSOs have acquired licenses, thus, know of their health status. For those who were unlicensed and did not know their health status, their thought on possible behavioral practices were explored. Data on the socio-demographic characteristics of FSOs such as age, sex, marital status, educational attainment, and number of years in business were collected.

2.3. Data Analysis

After initial sorting and coding, 285 out of the 300 questionnaires were deemed suitable for further analysis. Two main statistical tools were used for the analysis. Descriptive statistics (frequency, means, and standard deviation) were used to summarise the socio-demographic data as well as awareness, attitude, stage in business and license acquisition and behavioural changes. The Pearson correlation at 5% alpha level was used to test the three hypotheses. Differences were statistically significant when the p -values were < 0.05 .

3. Results

3.1. Background Information of Respondents

Table 1 summarizes the socio-demographic distribution of the respondents. The variables studied include gender, age, level of education, years in business, medical and hygiene permit status. As shown in Table 1, 55% of the total respondents were females. The mean age of the respondents was approximately 40 years. Eighty-five percent of the participant were educated while 15% of them were

non-educated. Approximately, 46% of participants have been selling for the past five years and the proportion of participants reduces with increasing number of years.

Out of the 285 FSOs who participated in the study, 235 (83%) of them indicated they had acquired medical health certificate from CCMA. Twenty-two percent of them shown

prove of their CCMA health certificate. Also, among the 285 food service operators, 54% of them specified they had attained hygiene permit from Food and Drugs Authority (FDA). However, most of them were not able to provide evidence of their license certificates i.e. health and hygiene certificates at the time of the study.

Table 1. Background Profile of FSOs.

Variable	Frequency	Percent	Mean (SD)
Gender			
Male	128	44.90	
Female	157	55.10	
Age group			
< 20yrs	4	1.40	
20-29yrs	54	18.90	
30-39yrs	84	29.50	39.6 (10.94)
40-49yrs	81	28.40	
50-59yrs	48	16.80	
60+yrs	14	4.90	
Level of education			
None	44	15.40	
Primary	100	35.10	
JHS	59	20.70	
SHS/Tech.	61	21.40	
Tertiary	21	7.40	
Years in business			
1-5yrs	129	45.60	
6-10yrs	66	23.20	
11-15yrs	39	13.70	9.4 (7.93)
16-20yrs	27	9.50	
Above 20yr	24	8.40	
Acquisition of Medical health certificate from CCMA			
Yes	235	82.50	
No	50	17.50	
Acquisition of hygiene permit from FDA			
Yes	154	54.00	
No	131	46.00	
Prove of CCMA health certificate			
Yes	63	22.10	
No	222	77.90	
Prove of FDA hygiene permit			
Yes	42	14.70	
No	243	85.30	

Source: Field data, 2022

3.2. FSOs Awareness of License Acquisition

As shown in Table 2, FSOs were aware of license acquisition (MM = 4.91; SD = 1.50). However, the value of the standard deviation indicates that their responses are widely spread from the mean score. Thus, the respondents had diverse responses about their awareness on license acquisition. For example, FSOs knew it was mandatory for them to acquire health certificate from CCMA before starting

their business (M = 5.40; SD = 1.22). They also had knowledge about some diseases such as typhoid and cholera that could spread through food handling (M = 5.30; SD = 1.28). The respondents (M = 5.20; SD = 1.30) reported that regulators demand that they are medically screened to ascertain their health status (M = 5.20; SD = 1.30). They also have a firm believe that acquiring the license will help them to know their health status in order to sell safe food to their customers.

Table 2. FSOs Awareness of License Acquisition.

Statement	Mean	SD
I know it is mandatory to acquire health certificate from CCMA before starting my business	5.40	1.22
I know it is mandatory to acquire my hygiene permit from FDA before starting my business	4.88	1.63
Regulators demand that I am medically screened to know my health status	5.20	1.30
Acquiring the health certificate indicates that I am medically fit to operate a food service business	5.11	1.32
Acquiring the hygiene permit indicates that my food preparation area meets the national acceptable standards	4.97	1.54
Acquiring the license will help me to know my health status in order not to pass on any contagious disease to my consumers	4.87	1.67

Statement	Mean	SD
I am aware some diseases such as typhoid and cholera can spread through food handling	5.30	1.28
Acquiring the license will help me to know my health status so as to sell safe food to my customers	4.99	1.52
I am sure of the safety of my food because I know my health status	3.34	1.96
Acquiring the license will be beneficial to me and my customers	4.79	1.63
Acquiring the license will help me to treat some of the diseases that I may have	5.16	1.37
Average Means/SD	4.91	1.50

Source: Field data, 2022

3.3. FSOs Attitude Towards License Acquisition

The results from Table 3 depicts FSOs positive attitude towards license acquisition (MM = 4.45; SD = 1.45). However, the value of the standard deviation indicates that their responses are widely spread from the mean score. For example, the respondents strongly agree (M = 5.16; SD = 1.37) that knowing their health status could help them treat some of the

diseases they did not know they had, they were also confident (M = 5.10; SD = 1.47) that the food they prepared are safe for consumption. Food service operators (M = 4.99; SD = 1.52) were confident to sell safe food to their customers because they knew their health status. On the contrary, FSOs do not believe (M = 3.33; SD = 1.04) that citizens benefit from their licensure status, thus, they do not acquire it.

Table 3. FSOs Awareness of License Acquisition.

Statement	Mean	SD
I can operate my business without acquiring any of the permits	3.63	1.82
I can acquire just one of the permits and begin my business	3.81	1.77
If I don't know my health status, I can unknowingly pass on any contagious disease I may have to my consumers	4.87	1.67
I am confident to sell safe food to my customers because I know my health status	4.99	1.52
I have to acquire the licenses because it will be of benefit to me and my customers	4.79	1.63
I will acquire the licenses because everyone/citizens benefit from it	3.33	1.04
Knowing my health status can help me treat some of the diseases I didn't know I had	5.16	1.37
The conscious effort I made to know my health status makes me confident that the food I prepare is safe for consumption	5.01	1.47
Average Means/SD	4.45	1.45

Source: Field data, 2022

3.4. Stage of Business Before License Acquisition

Data in Table 4, shows that 43% of the participants acquired CCMA health certificate during the time of their business operations whereas 29% did so before commencement of their business. However, 18% of them indicated that they had never

acquire CCMA health certificate. Twenty-eight percent of the participants indicated that they acquired FDA hygiene certificate while 15% of the FSOs acquired the certificate during the time of their business operations. Forty-six percent of the participants indicated that they had never acquire FDA hygiene certificate.

Table 4. Stage of Business before License Acquisition.

Certificate	Stages	F	%
CCMA health certificate	Before commencement of business	83	29.1
	During business operation	123	43.2
	When CCMA found out	29	10.2
	No license acquired	50	17.5
FDA hygiene certificate	Before commencement of business	44	15.4
	During business operation	79	27.7
	When CCMA found out	31	10.9
	No license acquired	131	46.0

Source: Field data, 2022

3.5. Behavioral Changes That Occur When FSOs Know Their Health Status

The results in Table 5 revealed that food service operators showed positive behavioural attitudes (MM = 4.46; SD = 1.44). However, the value of the standard deviation indicates that their responses are widely spread from the mean score. For example, FSOs do not handle food when they felt sick but sought medical attention (M = 5.24;

SD = 1.42). They are also careful not to contract any contagious disease (M = 4.71; SD = 1.82). Participants also demonstrated positive behavioural changes such as attending food safety training organized by the regulatory bodies (M = 4.34; SD = 1.99), always putting into practice food safety tips from regulatory authorities (M = 4.23; SD = 1.06) and renewing their health permit annually to make sure that they do not spread disease unknowingly (M = 4.29; SD = 1.12).

Table 5. FSOs Behavioural Changes.

Statement	Mean	SD
Renew health permit annually to curtail the spread of diseases unknowingly	4.29	1.12
Renew hygiene permit annually to ensure that food preparation area meet acceptable standards	3.95	1.21
Careful not to contract any contagious disease after knowing health status	4.71	1.81
I do not handle food when I feel unwell but seek medical attention	5.24	1.42
I always attend food safety training organized by the regulatory bodies	4.34	1.99
I always put to practice food safety tips taught by the regulatory authorities	4.23	1.06
Average Means/SD	4.46	1.44

Source: Field data, 2022

3.6. FSOs Awareness of License Acquisition and the Acquisition of Licenses

The hypothesis tested the relationship between food service operators’ awareness of license acquisition and the acquisition of licenses. The results are presented in Table 6.

Table 6 shows the results of the correlation analysis between FSOs awareness of license acquisition and their acquisition of licenses. The results showed that there was a

statistically significant negative moderate association ($r = -0.43, p < 0.001$) between FSOs awareness ($M = 4.91; SD = 1.50$) and acquisition of license ($M = 2.64; SD = 0.70$). The co-efficient of the determination ($R^2 = 0.18$) indicated that the respondents’ awareness of license acquisition explained about 18% of the variance in their license acquisition ($R^2 = 18\%$). It was concluded that there was statistically significant negative relationship between FSOs awareness of license acquisition and the acquisition of licenses.

Table 6. Relationship between FSO’s awareness of license acquisition and license acquisition.

Statement	M	SD	r	r ²	p-value
Awareness of license acquisition	4.91	1.50	-0.427*	0.182	0.000
License acquisition	2.64	0.70			

Source: Field data, 2022 * Significant at 0.05 (2-tailed).

3.7. FSOs Number of Years in Business and Awareness of License Acquisition

The hypothesis tested the relationship between food service operators’ number of years in business and awareness of license acquisition. The results are presented in Table 7.

Table 7. Relationship between Food Service Operators’ Number of Years in Business and Awareness of License Acquisition.

Statement	M	SD	r	r ²	p-value
Awareness of license acquisition	4.91	1.50	0.023	0.0005	0.698
Number of years in business	9.43	7.93			

Source: Field data, 2022 * Significant at 0.05 (2-tailed).

In Table 7, the correlation between FSOs awareness of license acquisition ($M = 4.91; SD = 1.50$) and the years of service ($M = 9.43; SD = 7.93$) was not statistically significant ($r = 0.023, p = 0.698$). The positive relationship between the variables indicates that as FSOs spend more years in business, their awareness of license acquisition also increases. The number of years in business explained about 0.05% of the variation in FSOs awareness of license acquisitions. There was therefore no statistically significant relationship between

FSOs awareness of license acquisition and the number of years in business.

3.8. FSOs Number of Years in Business and Attitude Towards License Acquisition

The hypothesis tested the relationship between FSOs number of years in business and their attitude towards license acquisition. The results are presented in Table 8.

Table 8. Relationship between FSO’s Years in Business and Attitude towards License Acquisition.

Statement	M	SD	r	r ²	p-value
Attitude towards license acquisition	4.45	1.54	0.025	0.0005	0.672
Number of years in business	9.43	7.93			

Source: Field data, 2022 * Significant at 0.05 (2-tailed).

As shown in Table 8, there was positive weak correlation ($r = 0.025; p = 0.672$) between FSOs attitude towards license acquisition ($M = 4.45; SD = 1.54$) and the years of service ($M =$

$9.43; SD = 7.93$). It was not statistically significant. The positive relationship between the variables indicates that as FSOs spend more years in their business, their attitude towards license

acquisition also increase. The number of years in business explained about .1% of the variation in FSOs awareness of license acquisitions. It was concluded that there was no statistically significant relationship between FSOs number of years in business and attitude towards license acquisition.

4. Discussion

This study sought to examine the licensure status of FSOs and its implication for consumer food safety and well-being in the Cape Coast Metropolis. Though FSOs established awareness ($MM = 4.91$; $SD = 1.50$) of license acquisition, most of them could not show proof of license from the respective agencies at the time of the study. License acquisition did not reflect license awareness. Only 36.8% (14.7 and 22.1%, FDA and CCMA respectively) of the operators were able to show valid evidence of permit to operate the food service business although they knew it was mandatory to always make permit document handy and ready for inspection (Local Governance Act, Act 936). The finding is consistent with Dwumfour-Asare [43] study at Mankranso and Ejura where a substantial number of food vendors had high license acquisition awareness but could not show proof of their license. Such FSOs contravene the Local Governance Act 2016 of Ghana (Act 936) section 181, sub-section 9C which states that “food handlers shall produce health certificate on demand by an authorized officer of the Assembly, it’s accredited or contracted service provider”. The law further indicates that “a food handler who is unable to provide a valid certificate shall be liable to a summary conviction or face a fine of not less than one thousand penalty units (GHC 25,000) or a term of imprisonment of not less than six months or both”.

The significant negative relationship between FSOs awareness of license acquisition and their inability to acquire license implies that their level of awareness is a relevant factor to be considered in their acquisition process. This suggest a weak link and exposes the gap between FSOs awareness/knowledge and attitude signifying some form of limitations towards practice. The gap could be attributed to no strict enforcement of license acquisition rules, ineffective field monitoring, ineffective implementation of sanctions, financial difficulties, bureaucratic process in acquiring the license and FSOs lack of perceived benefits associated with license acquisition. This finding lend support to the study of Nicolo and Bendeck [3] who established financial difficulty, lack of time and perceived benefit as reasons FSOs did not acquire license. Again, the negative expression of some FSOs that citizens do not benefit from their licensure status exposes the ineffectiveness of the food safety regulatory system in the country. Food service operators perhaps believe to be unsusceptible and less capable of transmitting infectious diseases to consumers through food handling and poor environmental conditions. This finding further buttresses the assumption of Etter and Perneger [44] that people are unlikely to engage in healthy practices if perceived risk is unknown. This suggests the need for FSOs education on the

relevance of acquiring license before and during operations.

The study established that there were positive relationships between food service operators’ number of years in business, their awareness and attitude towards license acquisition, however, it was not statistically significant. It, therefore, suggests that the number of years in business is not an important variable that could be considered in explaining FSOs awareness and attitude towards license acquisition. Other significant factors could explain these findings. Ineffective enforcement by regulators and perhaps, lack of consumers’ checks and insistence of FSOs licensure status before purchase contribute to FSOs lethargic attitude towards license acquisition. Similar findings of Nicolo and Bendeck [3] indicate that registration and licensing has very limited advantage to FSOs, and consumers hardly pay attention to whether food vendors are licensed or not. Consumers purchase food mainly base on price, cleanliness of the vending environment, vendor and workers in most cases [45]. Other findings also suggest that ignorance, ineffective regulation and enforcement contribute to FSOs poor attitude to license acquisition [13-16].

The belief that permits could be acquired at any stage of the business and from one agency and not the other thwarts government effort to eradicate or reduce foodborne disease in the Metropolis. Food service operators who have hygiene permit but do not have valid health permit may have a conducive and clean environment with uncertain health status. Operators with health permit but without hygiene permit may have appropriate health status but operating from unapproved environment. Additionally, FSOs who start and continue to operate their business without license from any of the regulatory agency put consumers at higher risk as both their environmental conditions and health status are unknown. Unlicensed FSOs could spread contagious diseases unknowingly [23-25]. Such food safety breaches can be curtailed through firm regulatory enforcement of license acquisition, an annual renewal and random inspection between acquisition and the renewal period.

Food service operators generally reported positive behavioural attitude. Operators were of the opinion that they do not handle food when they are ill but seek medical attention; they are careful not to contract contagious diseases; they also put to practice food safety tips. These are behavioural attitudes that can genuinely maximize public health and safety if actually practiced. Unfortunately, people are often biased when they report on their own experiences [46]. Food service operators may be either consciously or unconsciously be influenced by social desirability. That is, they were more likely to report attitudes that are considered to be socially acceptable or preferred.

5. Conclusion

Generally, findings from this study shows that FSOs operating without license in the Metropolis was substantially high. Additionally, there was no significant relationship between FSOs awareness of license acquisition and acquisition of license.

Operators' number of years in business was not an important variable that could be considered in explaining FSOs awareness and attitude towards license acquisition. These were associated with some factors such as ineffective enforcement of license acquisition rules, lack of consumer checks and insistence on FSOs licensure status before purchase, bureaucratic process in acquiring the license, financial difficulties and lack of perceived benefits associated with license acquisition. Food service operators firm believe that permit could be acquired at any stage of the business and from one regulatory agency and not the other contribute to FSOs sluggish attitude to license acquisition which defeat the purpose of food safety and further compromise consumer health and safety.

5.1. Implications for Health and Policy

Food service operators' poor attitude towards license acquisition should be a source of worry for consumer health and welfare. The low levels of acquired license, lack of knowledge on when to acquire license and from the appropriate agencies in consonance with FSOs association with about 70% of foodborne outbreaks in Ghana [11, 14, 21-23] suggest that a lot of consumers in the study area could be exposed to diverse foodborne infections. Some of these foodborne infections can delay and manifest itself days, months or even years after consumption making it impossible to associate it to foods consumed. Consumers may not even be aware of the source of their discomfort and may not report to the appropriate health facility for proper treatment. The long-term health effect of foodborne disease is more debilitating and life threatening; cancer, reactive arthritis, digestive disorder, hemolytic syndrome, cognitive and other neurological impairment could occur after a foodborne illness [47]. The economic implication such as healthcare cost, lost productivity and reduced quality of life can exacerbate the burden on the government and consumers. Cost to the government stems from increased medical expenses, outbreak investigations and increased demand on the over-burdened and poorly funded health care systems [48]. Cost to consumers may also include medical expenses as well as absenteeism at work or school.

This underscores the need for policy makers to ensure that regulatory agencies in the Metropolis intensify education on FSOs license acquisition before business commencement and encourage those who are operating with no or expired licenses to acquire or renew licenses respectively. Regulators should ensure that consistent random inspections are carried out within license acquisition and expiration to ensure FSOs commit to handling food safely. This will guarantee that FSOs are at least, in constant good health and operating from a hygienic environment. Regulators should insist on the display of licenses at vantage points at vending site to be observed by consumers. Regulators in collaboration with academia and media houses should educate the public on the need to purchase food from FSOs who are duly licensed and as well watch out for potential danger signs when choosing a FSO to buy from. Pressure from consumers is more likely to improve FSOs licensure status. Finally, regulators should effectively

implement stipulated sanctions to FSOs who fail to comply with the regulations. Such actions could serve as a deterrent to other FSOs who operate without valid licenses.

5.2. Limitation of the Study

The survey, with a sample size of 285 was conducted in the Cape Coast Metropolis, across the 16 communities. However, some limitations need to be acknowledged. Firstly, the study targeted informal FSOs who operated during day time, therefore not representative of all FSOs in the Metropolis. Secondly, the informal FSOs are not the only people within the food service business and therefore cannot be exclusively held responsible as the only source for the 60-70% foodborne outbreak as suggested in literature. Thirdly, FSOs self-report of some behaviours could be biased in a bid to provide culturally and socially desirable responses, despite the assurance of anonymity and confidentiality before the administration of the questionnaire.

Data Availability

The data used in this study are available from the corresponding author upon request.

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