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Effects of raw materials on the quality of catering services at daycare centers: A case of Nyeri Town Constituency in Kenya

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ABSTRACT

This study examined the effect of raw materials on the quality of catering services in daycare centers in Nyeri Town Constituency, Kenya. The development and growth of a child depend to a great extent on what they consume as food. For a good development of a child, there is a need to consider the quality of food he or she takes. This is in relation to nutritional value, quantities per intake, quality in relation to cleanness, methods of cooking and its presentation to the child. This high level of participation in childcare centers is attributed to an increasing awareness that early childhood centers are considered critical support in the development of young human beings to become useful citizens. The study targeted all 16-day care centers in Nyeri Town Constituency which are licensed to operate. A total of 64 respondents were targeted which included the managers of the daycare centers and three staff members working in catering sections as follows: stores, production, and service formed the respondents. This study employed a purposive sampling technique in selecting the constituency in the county where the research was carried out. The R-value is 0.689 which indicates a strong correlation. The R² value indicates how much of the dependent variable (quality of catering services), can be explained by the independent variable (effects of raw materials). This study concludes that the management of the catering departments in daycare centers should ensure different types of food are stored in different rooms.

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Introduction

Day care services first appeared in France in 1840 and were recognized by the French Government. Originating in Europe in the late 18th and 19th Century, private charities established day cares centers in United States by in the 1850. At childcare/day care centers children are taken care of during the day by a person other than the child's legal guardian. It is reported that there is a general increase in the growth of childcare services all over the world. This increase is global with a substantial proportion of children in both United States and Canada receiving care in childcare centers (Du & Dong, 2013).

Many parents understand the critical need for appropriate childcare necessary for proper growth. Research has shown that among other things quality protection, stimulation and learning opportunities provided at home by parents and caregivers, or through childcare centers have a positive and long-lasting impact on a young child's ability to develop its full potential. These findings make it essential that parents/guardians consider the quality of care their children receive (Bempechat & Shernoff, 2012). Attests that a family provides a child with the most important environment in which to grow and flourish. This is by providing them with interactions from where they are socialized on their culture and values that help them to make sense of life. This upbringing lays a foundation for the child's later stages of development.

A paper done by Simiyu, (2013) showed that the most important trends in developing countries in the modern world are the increase in the number of women joining the workforce. This results from modernization and tough economic conditions requiring women to get involved in either formal or informal employment. For many of these women, increased involvement in informal and formal

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employment, while bringing the much-needed income to their families, creates conflicts in reconciling income-earning activities and traditional childcare responsibilities. This hence creates the need to come up with child day care services to assist working parents balance the two crucial roles of caring for the child while at the same time making a living without straining. For illustration, establishment of day care centers at workplace in Pakistan proved to be the best way for working mothers in facilitating them to balance work and family lives (Simiyu, 2013).

In any day care center, a setup of catering services is an important aspect. This entails purchasing, receiving, storing, preparation, cooking, holding, cooling, reheating, and serving food. This path that food takes from purchasing to serving is called the flow of food (Pizam, 2012). Previous research has shown that catering setups must provide foods that are gastronomically acceptable, covering the nutritional needs of the persons intended for and conforming to a given price. However, the catering set ups must be safe for the consumer and in no way should they serve as a route of risk to human health, which could lead to disease. This is particularly relevant when one considers the high quantity of prepared meals served daily by the catering industry to children in schools, hospital patients, and elderly people living in nursing homes (Garayoa & Vitas, 2014).

To obtain safe food, catering setups have to implement a food safety management system based on the principles of Hazard Analysis and Critical Control Points (HACCP). However, the difficulties in implementing this system in small and medium catering enterprises are well-known (Dzwolak, 2014). Therefore, a flexible application of HACCP has been proposed in form of promoting the good manufacturing practices establishing prerequisite programs such as cleaning and disinfection procedures for surfaces and equipment, and controlling truly decisive critical limits such as temperature/time during and after food dispensation. It has also been demonstrated that training of staff is an essential part of self-control systems in order to improve food handlers' knowledge regarding food safety (Shukla & Singh, 2014).

Babies need lots of care and affection in the early years Home away from home environment of a child has a strong influence on child's competences prior to schools' entry (Kerry et al., 2015). In retrospect, catering services offered in day care centers helps the development of a child. Therefore, all childcare services have a responsibility to promote good nutrition for children in their care. Childcare centers and all staff should be familiar with hygiene standards, nutrition principles for children, and food safety laws (Better Health, 2016). Intake of adequately nutrients is of more importance to retain normal growth and development of the body, thus meal time, type of food and quantities of food served to children is of great importance.

The catering services offered in day care centers are affected by various factors which include: implementation of hazard analysis critical control point (HACCP) system (FAO, 2016); training of the staffs or service providers on catering courses; government policies laid down as well as quality raw materials. However, from previous researches done, there is no evidence of a study addressing on knowledge application on food safety and catering requirements. This study seeks to fill in this gap by examining factors influencing quality of catering services in day care centers with a special focus in Nyeri Town Constituency based Nyeri County, Kenya.

It is reported that there is a general increase in the growth of childcare services all over the world. This increase is global with a substantial proportion of children in both United States and Canada receiving care in childcare centers (Du & Dong, 2013). Establishment of day care centers at workplace in Pakistan proved to be the best way for working mothers in facilitating them to balance work and family lives (Simiyu, 2013). This growing need for provision of day care centers in developing countries including Kenya is on the rise. Currently in Kenya, few employers like Safaricom have put up day care services for their employees. Most of the working parents have to seek services of private day care centers from where their children can be taken care of. Although day care services are on the rise in Kenya as it is the case worldwide, there was no evidence of research on guidelines for quality of catering services in day care centers. Furthermore, it was not known to what extent policy guidelines that Nyeri County government has put in place on day care centers in relation to catering services offered. This research therefore, intended to examine factors influencing quality of catering services in day care centers in an effort to address knowledge application on food safety and catering requirements with special focus on the extent of adherence quality of raw materials received in the various child day care centers.

The main objective was to examine the effects of raw materials on quality of catering services at day care centers: a case of Nyeri town constituency; Nyeri County, Kenya

The study was also guided by the specific objectives (i)to find out the effect of Freshness on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya; (ii) to evaluate the effect of Cleanliness on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya, (iii) to examine the effect of Handling process on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya.

Literature Review

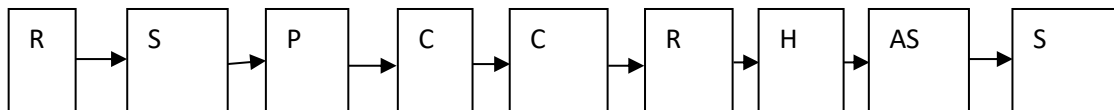
Quality of catering service in day care center is influenced by HACCP principle, level of staff training, Government policies and quality of raw materials. This chapter focuses on the theoretical literature, empirical literature and the conceptual framework. It identifies other studies carried out by different researchers on factors influencing quality of catering services in children day care centers. The study was guided by system theory.

System Theory

This theory was developed (1973) by Ludwig Von Bertalanffy. It states that accepting the essential reason or system that cause things to operate the way they do, is very important to any effort to change the system outcome. As observed by McShane and Von Glinow, (2003) and highlighted by Chikere and Nwoka, (2015) while studying the systems theory of management in modern day organizations, any organizational management systems consist of many internal subsystems that need to be continually aligned with each other. These systems become more complex as the organizations grow and hence call for continued coordination of the sub systems to ensure success in the process of transforming inputs to outputs. The organization receives inputs, transforms them and gets outputs as the final product whose level of quality can be determined. On a similar notch, Emejulu & Chukwuemeka, (2014). revealed that the systems theory has been likened by management experts to the three stages of production process of an organization activity.

Systems are usually made up of four major elements: Input (the energy or material that goes into the system). Processes (the actions that happen within the system that transforms the input). Output (what results from the processes). Feedback (the information that is produced that can be used to evaluate and monitor the system) In system theory, it is important to remember the whole is more than the sum or its parts. Dynamic interactions among the parts can often result in characteristics of the whole that are not the same as the characteristics of the separate parts. Change in one part of the system may affect the other parts or the whole: for example, of a HACCP system and food safety. In the current research, the factors under consideration illustrate the input and transformation process through to output. Input is represented by supply. Supply is where the food items originate (various sources of raw materials); this could be a farm where produce is grown, a sea from which fish are harvested, butchery, open air market, wholesalers or supermarkets Distribution includes everything from storage and warehousing, repacking, reprocessing, and transport to the next point in the continuum. Sometimes distribution involves multiple points. Dispensation/Production includes all the steps along the food chain that prepare a food item for distribution. In produce food items, this encompasses everything from, receiving from the store, preparation and cooking. Point of final service includes every service of the final product of food item to the children.

According to this study food flow is a system and if affected at any stage, the output shall also be affected



Key: r- Receiving of goods, S- Storing the goods, P-Preparation of goods-Cooking of the prepared food items, C –Cooling of the prepared food where necessary- Re heat of the cooled food items, H-Holding the reheated food for service, A-Assemble of the food item to the service equipment e.g. a plate, S- Serving of food to the patrons.

Fig. 1: Food flow chart

The flow of food service will enable evaluation of HACCP as a management system in day care centers. The system ensures food safety is practiced in all stages to control hazard, risk for the product.

Quality raw materials

Raw materials in this case refers to all ingredients required in order to produce a certain food item. Water should not be wasted, running and leaky taps should be switched off. Fuel should not be wasted gas cyders, charcoal firewood and other sources of fuel should be controlled on how they are being used to save on cost. In addition, food should not be wasted (Need Resource Management, 2016).

One of the fundamental principles of good cuisine is the use of high-quality ingredients. Even if you have a great recipe with the steps, ingredients, and cooking methods and conditions clearly stated, the dish will not turn out quite right, or even safely, if the ingredients used are not what they purport to be and if they are not fresh (that is, not expired) and clean (that is, not contaminated with chemicals or microbes). The span of ingredients can include the main ingredient (say, chicken) as well as all the spices. Sometimes just changing the brand (that is, changing the supplier) of an ingredient may be enough to affect the “quality,” or taste, of the food (MARS, 2012).

The use of the Best Environmental Practices Guide for hotels is intended to be simple and practical. The Guide provides the means to identify, in the different departments of a hotel, opportunities for optimizing its activities while reducing its operating costs and its environmental impacts. Software programs such as Cater ease are available to assist with catering planning, sales, booking and marketing. Many programs can generate letters, quotes and invoices as well. If you’ll offer off-site catering, you might consider partnerships with full-time caterers. These professionals can manage off-site catering’s more challenging aspects while acting as a joint partner in marketing efforts. With the right knowledge, planning and execution, you can grow in a way that caters to both your business and your customers (NRA, 2012).

Conceptual framework

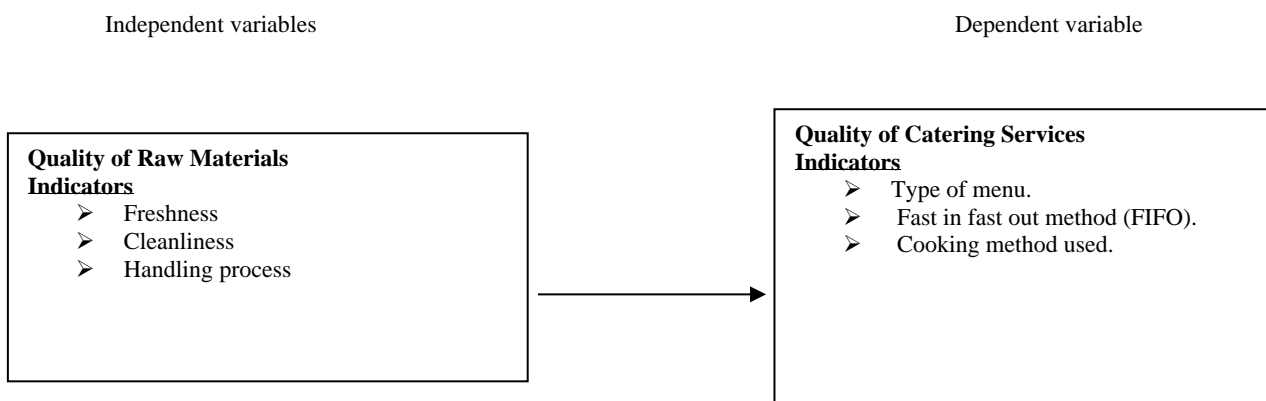


Fig. 2: Conceptual framework.

Research and Methodology

The current study adopted descriptive research design. Descriptive research design is a method of collecting information by interviewing or administering questionnaires to the sample of individuals (Creswell 2013). This study made use of self-administered questionnaires and interviews using interview checklist, as instruments for primary data collection. Secondary data was collected through desk study analysis of existing literature on existing government policies that relate to quality of catering services in child day care centers. This study was carried out in Nyeri Town Constituency, Nyeri County, Kenya. Nyeri Town Constituency was selected because the area is diverse and cosmopolitan in nature. In addition, the constituency hosts the headquarters for Nyeri County and hence houses most of the key offices of the devolved unit as compared to other constituencies in the county. The study targeted all 16 day care centers in Nyeri Town Constituency which are licensed to operate. A total of 64 respondents were targeted which included the managers of the day care centers and three staff members working in catering sections as follows: stores, production and service formed the respondents. This study employed purposive sampling technique in selecting the constituency in the county where research was carried out. A purposive sample is a non-probability sample that is selected based on characteristics of a population and the objective of the study. Probability sampling was used to identify respondents from the selected population of study. In carrying out this research, mixed methods of data collection were employed to collect quantitative (numeric data) and qualitative data (interview data). Mixed methods ideally include benefits of both qualitative and quantitative

The study employed questionnaires and interview schedule as the instrument to carry out the research. Raw data collected from the field was analyzed using statistical package for social sciences (SPSS). Data was coded and entered in the SPSS program. Data cleaning was done by cross checking each response per questionnaire and the entered data and the observed frequencies in one or more categories. An alpha level of 0.05 was used as the level of significance in this study.

Research findings analysis and discussion

This chapter interprets and analyzes data gathered by the study, in line with the objectives of the study. This chapter focuses on the presentation of data collected from the field and interpretation of the results thereof. Data analysis was done in accordance with the objectives of the study which were:- determining the level of implementation of HACCP principles on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya; finding out the effect of staff level of training on quality of catering services at day care centers, evaluating the effect of relevant government policies on quality of catering services at day care centers and examining the effect of raw materials' on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya. The chapter presents the data in the form of tables, charts and discussion.

Response rate

The study had a sample size of 64 respondents. All the questionnaires were given out but at the end of the research period, only 61 had responded which means the response rate was 95.31%. The researcher went ahead since according to (Creswell, 2013), a 50% response rate is considered adequate, while 60% good and above 70% very good. In view of this, the response rate was considered very good and exceeded the threshold postulated by Creswell therefore the researcher went ahead to analyze data as presented in the following tables.

Background information

The study obtained data on the background information on the respondents in the study and presented the findings in the section below. The study obtained data on the gender of the respondents. The results are presented in Figure 3. The findings in Figure 3 show

that majority (95.08%) of the respondents were female while 4.92% were male. This implies that majority of individuals in day care centers in Nyeri Town Constituency that serve in catering sections were females. This corroborates Rachel (2012) findings that showed in the department for education in UK only two per cent of the early year's work force is male, and which was attributed to the perception that working with children is predominantly a female occupation.

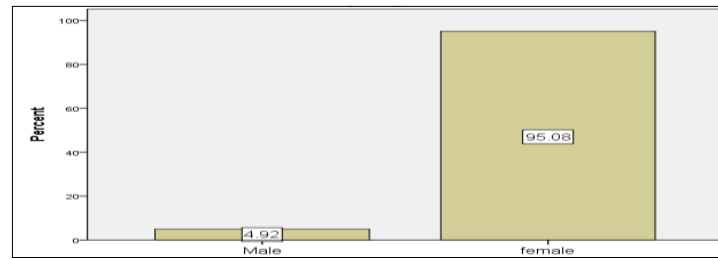


Fig 3: Gender of the respondent; *Source:* (Author, 2017)

Education level of the respondent

The study obtained data on education level of the respondent. The results are presented in Figure 4. The findings in Figure 4 below show that majority (81.97%) of the respondents had diploma/certificate as their highest education level of education while an equal percentage of 4.92% had K.C.P.E., K.C.S.E and bachelor's degree respectively. This implies that majority of the respondents were literate and sufficiently trained on catering and management knowledge in the day care center. This suggests that their responses were informed and could thus be relied on.

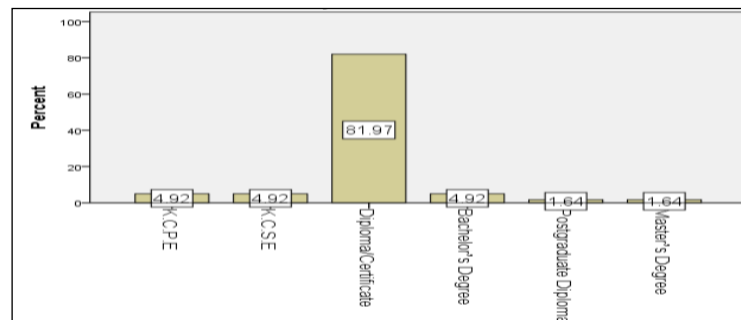


Fig. 4: Education level of the respondent; *Source:* (Author, 2017)

Age of respondents' day care center

The study sought data to determine how old the respondent's day care was. The results obtained were presented in **Figure 5**, shows that slightly more than half (52.46%) of the respondents were of the opinion that their day cares are less than four years old while a significant percentage of 39.34% were of the views that their day care centers had been in existence for years ranging between 4-8 years. This implies that majority of the respondents' day cares are relatively new in the area however they were experienced enough to provide responses that could support making of reliable conclusions.

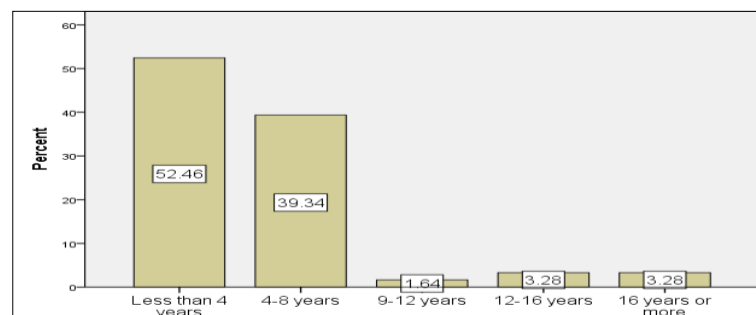


Fig 5: How old is your day care?; *Source:* (Author, 2017)

Number of years worked as a catering staff in the day care

The study sought to establish the number of years the respondents had worked as a catering staff in their day cares. The results from data analysis are presented in the 6. Findings in Figure 6 show that majority (60.66%) of the respondents had worked as catering staff in their day cares in a period of less than 4 years while a good number (31.15%) had worked between 4-8 years. This implies that majority of the respondents could relatively be new in the catering service, but having worked for more than 3 years, they have enough experience to give reliable data.

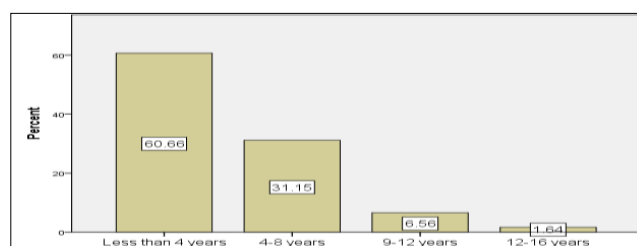


Fig 6: How many years have you worked as a catering staff in this day care; Source: (Author, 2017)

Number of children in the day care

The study sought data on the number of children the respondent had at their day cares. The results obtained are presented in Figure 7, shows that almost an equal percentage of the respondents (37.70% and 39.34%) were of the views that the number of children ranged from 10-20 kids and above 50 children respectively, while fewer (16.39%) had less than 10 children. This implies that majority of the respondents had a good number of children attending their day cares. According to Nicole (2013), choice made by working mothers to send their children to day care centers is due to the dilemma they face between job and the children; and therefore either have to use day care or hire a nanny or babysitter to watch the kids while other mothers take their kids to day cares for various reasons which are important to the growth of a child. The reasons include socialization, reducing boredom, good care of children and lower chance of child being depressed.

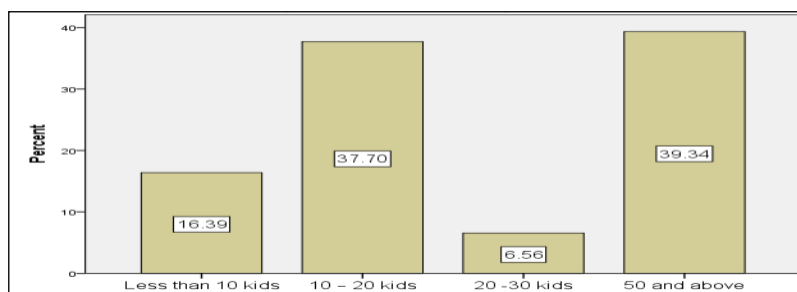


Fig. 7: Number of children in the day care; Source: (Author, 2017).

Descriptive Analysis

Effect of raw materials' on quality of catering services at day care centers

The study aimed at examining the effect of raw materials on quality of catering services at day care centers in Nyeri Town Constituency, Nyeri County, Kenya. The study presented the findings in the section below. The studies sought data on whether raw materials (ingredients) were readily available at day cares centers. The results of data analysis are presented in Table 1 In below, the findings show that majority (57.4%) of the respondents agreed that raw materials (ingredients) are readily available at the day cares (34.4% strongly agreed, 23.0% agreed), with a mean of 1.52, median of 1.00 and mode of 1. This implies that majority of respondents were of the opinion that raw materials (ingredients) are readily available at day cares. Qualitative responses from majority of the Key Informants agree that the day care owners purchased food from reliable sources such as know groceries and supermarkets within this made the ingredients to be readily available.

Table 1: Raw Materials (ingredients) are readily available

Response	Frequency	Percent	Mean	Median	Mode
Strongly agree	21	34.4	1.52	1.00	1
Agree	14	23.0			
Not sure	3	4.9			
Disagree	11	18.0			
Strongly disagree	12	19.7			
Total	61	100.0			

Source: (Author, 2017)

The raw materials are outsourced

The studies sought data on whether the raw materials were outsourced at day care centers. The results of data analysis are presented In Table 2, the findings show that majority (67.20%) of the respondents agreed that raw materials are outsourced at day cares (36.10%

strongly agreed, 31.1% agreed) while a reasonable percentage (16.4%) were not sure, with a mean of 2.16, median of 2.00 and mode of 1. This implies that majority of the respondents were of the opinion that raw materials are outsourced at day cares.

Table 2: The raw materials are outsourced

Response	Frequency	Percent	Mean	Median	Mode
Strongly agree	22	36.1	2.16	2.00	1
Agree	19	31.1			
Not sure	10	16.4			
Disagree	8	13.1			
Strongly disagree	2	3.3			
Total	61	100.0			

Source: (Author, 2017)

Raw materials are affordable

The studies obtained data on whether raw materials were affordable to day care centers. The results of data analysis are presented in Table 3. The findings in Table 3 above show that majority (55.7%) of the respondents disagreed that raw materials are affordable at day cares (34.4% disagreed, 21.3% strongly disagreed) while a significant percentage of 36.1% agreed, with a mean of 1.74, median of 2.00 and mode of 1.

Qualitative responses from majority of the Key Informants agree that the raw materials are not affordable at day cares due to changes in prices of basic commodities and production cost and also a few stated that inflation could be a contributing factor. This implies that majority of respondents were of the opinion that raw materials are not affordable to day care centers. Changes in food prices can affect the accessibility of food to day care centers. For example, in Kenya learning institutions have been forced to alter their meal plans and find alternatives due to the high food prices, especially maize flour, with some opting for rice and other cereals to cope with the challenge (Wanja, 2017). This implies that it is important for the staff in the catering department to always consider multiple sources of raw materials just in case drastic changes happen in the market.

Table 3: Raw materials are affordable

Response	Frequency	Percent	Mean	Median	Mode
Strongly agree	13	21.3	1.74	2.00	1
Agree	9	14.8			
Not sure	5	8.2			
Disagree	21	34.4			
Strongly disagree	13	21.3			
Total	61	100.0			

Source: (Author, 2017)

Raw materials purchased are of high quality

The studies obtained data on whether the raw materials purchased at day cares were of high quality. The results are presented in Table shows that majority (49.2%) of the respondents agreed that the raw materials purchased at day cares were of high quality (27.9% strongly agreed and 21.3% agreed) while 45.9% disagreed (24.6% strongly disagreed and 21.3% disagreed), with a mean of 1.62, median of 1.00 and mode of 1. These findings corroborate with those of majority Key Informants whose views show that food quality was a major concern during purchasing at their day cares. This implies that majority of respondents responded that the raw materials purchased at day care centers were of high quality. However, a significant number of the respondents were of the opinion that the raw materials purchased were of poor quality.

Murray, (2016) suggested that quality is an important part of the supply chain, whether it is quality inspections during the manufacturing process, quality checks before goods arrive at the customer, or checking the quality as raw materials and parts enter the factory this case also apply to all the day cares, quality of raw materials being purchased is crucial. Before any part or raw material is used in the daily or for the meant purpose at the day cares, it is the responsibility of the purchasing department to ensure that the materials that arrive are of the correct quality specification.

Table 4: Raw materials purchased are of high quality

Response	Frequency	Percent	Mean	Median	Mode
Strongly Agree	17	27.9	1.62	1.00	1
Agree	13	21.3			
Not sure	3	4.9			
Disagree	13	21.3			
Strongly Disagree	15	24.6			
Total	61	100.0			

Source: (Author 2017)

Raw materials are easily transported in the correct package

The studies obtained data on whether the raw materials at day care centers were easily transported in the correct package. The results are presented in Table 5, shows that majority (85.30%) of the respondents agreed that raw materials at day care centers are easily transported in the correct package (44.30% strongly agreed, 41.0% agreed), with a mean of 1.75, median of 2.00 and mode of 1. These findings corroborate with those of majority Key Informants whose views show that food was easily transported in closed and safe packages. This implies that raw materials at day cares were easily transported in the correct package. The product temperature during transport and distribution may be an essential quality provision in order to avoid a critical temperature abuse situation that may jeopardize food safety. The transport of quick frozen foods, for example, from a cold storage warehouse to cold storage warehouse, should be carried out in suitably insulated equipment that ideally maintains a product temperature of -18°C or colder. The product temperature should be at -18°C or colder at the beginning of the transport. Vehicle compartments or containers should be pre cooled prior to loading while care should be taken not to impair the efficiency of temperature control or reduce the refrigeration capacity According to FSANZ, (2015) any food handlers should have in mind that it is always important to protect food from contamination by keeping it covered at all times and this case also applies to food in transit. This can be achieved by using containers with lids or by applying plastic film over containers. Materials used to cover food should be suitable for food contact, to ensure that they do not contain any chemicals that could leach into the food. Aluminum foil, plastic film and clean paper may be used, and food should be completely covered.

Table 5: Raw materials are easily transported in the correct package

Response	Frequency	Percent	Mean	Median	Mode
Strongly Agree	27	44.3	1.75	2.00	1
Agree	25	41.0			
Not sure	7	11.5			
Disagree	1	1.6			
Strongly Disagree	1	1.6			
Total	61	100.0			

Source: (Author, 2017)

Inferential statistics on the effects of raw materials' on quality of catering services

The study did inferential statistics based on independent variable (Raw Materials) and the dependent variable (Quality of Catering Services). The results of data analysis are presented in the section below.

Correlation analysis of the effects of raw materials' on quality of catering services

The study sought to determine the strength of the relationship between the effects of raw materials on quality of catering services at day care centers on quality of catering services at day care centers. The results are presented in Table 6 provides the information needed to predict quality of catering services from effects of raw materials'. Both the constant and effects of raw materials contribute significantly to the model. The regression equation is presented as follows;

$$(Y) \text{ Quality of catering services} = 2.279 + .189 (\text{Effects of raw materials}')$$

Table 6: Coefficients^a determination of the effects of raw materials' and quality of catering services

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.279	.631		3.614	.001
Effects of raw materials'	.189	.117	.213	1.612	.000

Predictors: (Constant), Handling process, Cleanliness, Freshness Source: (Author, 2017)

Model summary

The study obtained the model summary of the effects of raw materials on quality of catering services in children day care centers and presented the results in the Table 7 The regression model in Table 7 shows the R and R² value representing the simple correlation. The R value is 0.830 which indicates a strong correlation. The R² value indicates how much of the dependent variable (quality of catering services), can be explained by the independent variable (effects of raw materials'). In this case, 68.9% can be explained. This therefore implies that there is an association between effects of raw materials' that can predict quality of catering services.

Table 7: Model summary

Model 1	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.830 ^a	.689	.673	.601

a. Predictors: (Constant), Handling process, Cleanliness, Freshness

Source: (Author, 2017)

ANOVA of level of effect of raw materials' on quality of catering services

The Study further sought to find out how raw materials affect quality of catering services in children day care centers. ANOVA analysis yielded the results in Table 8 ANOVA results in Table 8 indicate that the regression model predicts the outcome variable significantly. This indicates the statistical significance of the regression model that was applied. An F statistic of 2.077 indicated that the model was significant. This was supported by a probability value of 0.048 and indicates that on overall, the model applied can statistically significantly predict the outcome variable.

Table 8: ANOVA of level of effect of raw materials' on quality of catering services

Model 1	Sum of Squares	Df	Mean Square	F	Sig.
Regression	18.698	5	3.740	2.077	.048 ^b
Residual	99.040	55	1.801		
Total	117.738	60			

a. Dependent Variable: Quality of catering services

b. Predictors: (Constant), Handling process, Cleanliness, Freshness

Raw materials' on quality of catering services

The first regression equation shows the relationship between the dependent factor (Quality of Catering Services) and independent variables. The multiple regression analysis ($Y = \beta_0 (1) + a_1X_1 + a_2X_2 + a_3X_3 + a_4X_4 + \varepsilon$) was run with Quality of Catering Services as the dependent factor with Handling process, Cleanliness and Freshness tested predictor factors.

From regression results in Table 9 the 1.205 represented the constant which predicted value of productivity (quality of catering service in children day care centers in Nyeri Town Constituency, Nyeri County Kenya) when all effect of Raw Materials' remains constant at zero (0). This implied that quality of catering service would be at 1.205 holding effects of Handling process, Cleanliness and Freshness at (0).

The study findings indicate that Handling process and Cleanliness has the greatest influence on quality of catering service in children day care centers in Nyeri Town Constituency, Nyeri County Kenya ($\beta_1=0.694$, $p=0.001<0.05$) and $\beta_2=0.270$, $p=0.000<0.05$), followed by Freshness ($\beta_3=0.158$, $p=0.002<0.05$).

Table 9: Coefficients, raw materials' and quality of catering services

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.205	.336		3.589	.000
Handling process	.694	.218	.728	3.180	.001
Cleanliness	.270	.179	.307	1.509	.000
Freshness	.158	.207	.195	1.163	.002

a. Dependent Variable: Quality of Catering Services

b. Predictors: (Constant), Handling process, Cleanliness and Freshness

Quality of Catering Services = 1.205+ 0.694X₁+0.270X₂+0.158X₃ + ε

(Y = β₀ + a₁X₁ + a₂X₂ + a₃X₃ + ε)

and

Y= Quality of Catering Services

β₀=Constant

X₁= Handling process,

X₂= Cleanliness

X₃= Freshness

β₁ β₂ β₃ β= Regression co-efficient

ε=Error term

Conclusions

The study sought background information of the respondents and found the following. The majority (95.08%) of the respondents were female while 4.92% were male. This implies that majority of the respondents were females. The study found that majority (81.97%) of the respondents had diploma/certificate as their highest education level of education while an equal percentage of 4.92% had K.C.P.E., K.C.S.E and bachelor's degree respectively. This implies that majority of the respondents were literate and had basic education to manage the day cares. The study also found that slightly more than half (52.46%) of the respondents were of the opinion that their day cares are less than four years old while a significant percentage of 39.34% have been in existence for years ranging between 4 - 8 years. This implies that majority of the respondents' day cares are new in the service industry and therefore may not have had enough experience working there. The study revealed that majority (60.66%) of the respondents have worked as catering staff in their day cares in a period of less than 4 years while a good number 31.15% have worked for between 4-8 years. This implies that majority of the respondents are new in this service industry and may not have had enough experience to operate the day cares. The study also revealed that almost an equal percentage of the respondents, 37.70% and 39.34% had their number of children ranging from 10-20 kids and 50 and above kids respectively, while fewer (16.39%) had less than 10 kids. This implies that majority of the respondents had a good number of children attending their day cares.

The study revealed that in majority (57.4%) of day care centers raw materials (ingredients) are readily available while in more than half (67.20%) of day care centers raw materials are outsourced. In majority (55.7%) of the day care centers raw materials are not while in majority (49.2%) of day care centers the raw materials purchased were of high quality. The study further revealed that in majority (85.30%) of day care centers raw materials were easily transported in the correct package.

Day care centers managers should be training the catering staff on government, policies and requirements on quality of catering food in day care centers

A significant number of the respondents agreed that raw materials (ingredients) were readily available for day cares but were not affordable. The outsourced raw materials purchased at day cares were easily transported in the correct package and therefore were of high quality

Based on the findings of the study, the researcher suggested the following studies to be carried in order to complement this study: -
Similar studies could be conducted in other sub-counties, A study on the effects of daycares' catering services on child development
A research into the effect of changing market costs on balanced food provision for day care centers in the area.

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