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Influence of Procurement Training Strategies on Delivery of Pharmaceutical Products in Public Health Facilities in Subukia Sub County, Nakuru

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Abstract: Pharmaceutical services are one of the key activities that sustain health care systems. If they are not properly managed, it can lead to massive challenges in the health care including deaths and disabilities. Training in the procurement of the pharmaceutical products forms one of the basic requirements for a sound procurement process. If the staffs are all trained in the pharmaceutical procurement process, there are likelihood of stock outs, overstocking, poor quality products, highly priced commodities and delays in the delivery of the pharmaceutical products. Nakuru County being one of the forty seven counties in Kenya has a large population that mainly seeks medical attention in government health facilities within the county. This study therefore focused on how training strategies was to improve on pharmaceutical products delivery in Subukia Sub County. The researcher was guided by three theories in his work, namely cognitive theory, Innovation theory and the Devolution theory. The target population for the study was 198 staffs working in the 11 health institutions. The sample size was 132 staff members. The sampling was both simple random and stratified sampling involving Pharmacy department, Facility in charges, Procurement department, Human Resource department, Training department (capacity building) and Store department. Both qualitative and quantitative data was collected by use of structured questionnaires, through which primary and secondary data was obtained. The collected data was then analysed using SPSS and presented. The research findings were discussed and analysed in form of tables. It was found that there was a specific procurement area taught and the training materials were adequate. Moreover, the competence of trainers influenced the outcome of training. It was also found that there was monitoring of the allocated procurement training resources and that there was a fair availability of the training equipment. The R – is the multiple correlation coefficients which was at 58% considered as one of the measure of the quality of prediction of the dependent variable (pharmaceutical product delivery) in the study. It was concluded that there was a significant relationship between the qualification of the procurement trainers and the pharmaceutical products delivery in Subukia Sub County Public Health Facilities. The researcher recommended for a specific selection of procurement training content depending on the need of participants.

Keywords: Procurement Training Strategies, Pharmaceutical Products, Public Health Facilities

1. Introduction

The majority of public sector health care procurement occurs mainly at two operational levels; national and county levels through the use of different procurement models. At international level, procurement occurs through complex funding mechanism and through complex multilateral agencies and bilateral donors (Lyson, 2000). There has been general increase in pharmaceutical expenditures across all countries.

Per capita pharmaceutical expenditures in high income countries were 1.94 times greater in 2000 than in 1996, 1.64 times greater in upper middle income, 1.66 times greater in lower middle income and 1.28 in low income countries (Allan,

2002). Efforts to effectively manage this resulting increase in procurement responsibility are challenging for many developing countries. This is because their procurement systems often lack capacity in areas ranging from creating proper bidding documents, evaluating bids, awarding contracts and managing contracts (Allan, 2002).

These problems are often compounded by limited financial resources, lack of process transparency and a lack of understanding of the complexity and time requirements of the public sector procurement process. The increase in the national procurement also imposes increased responsibility in public sector procurement system and national regulatory authorities to ensure that procured medicines comply with regulatory requirements (Baily, 1998). In order to manage medicines properly, there need to be proper training on the team that mainly deals with pharmaceutical procurement. According to Lucie, (2004), learning happens when people demonstrate that they know something that they did not know before, and that they can do something they could not do before.

In order for the training and development of an organisation to be successful, employees must be motivated to learn and develop new skills and competencies. When employees have a high level of motivation, they will be more likely to take in new knowledge and seek opportunities to apply it (Paddock, 1997). Training and development activities for staff in organizations are expensive exercises. United states spend $60 to $70 billion a year in work place education and training (Lynch, 1998) while Australian companies spend $5 billion annually on employee training (Allan, 2002).

The effectiveness of trainers who deliver the resource is known to be significant in the final return on investment (Galbraith, 1998). Despite the critical role of the trainer in the delivery of this expensive resource, the research evidence to substantiate what qualifications and competencies an effective trainer should hold is lacking and it is still difficult to predict (Ye,2005). The distinction between skills acquired and used is consistent with the classification of skills introduced by Stasz, (2001). The author points out four broad skill areas; cognitive skills related to school back ground, generic skills, technical skills and academic skills which can be acquired or firm-specific skills.

1.1. Statement of the Problem

Though procurement has been recognized by the Kenyan Government, there is no subdivision which has been devolved up to the Sub County level to deal with specific procurements. If available at lower levels, procurement is more general and focuses on all items and services that affect other departments (MOH assessment, 2013). There is no such sub division at the sub county level to oversee the procurement such as for drugs and other related goods or services. The only government organisation that does the procurement at national and regional level is KEMSA. It supplies drugs and other medical items (MEDS, 2013). This agency seems to be overstretched and in most cases it has a lead-time of three months for it to supply the commodities (sub county KEMSA order and delivery reports, 2013). This delay has lead to inefficiency in the delivery of quality health care services and hence need for well-trained pharmaceutical products procurement officer that can have alternatives in such delayed circumstances (sub county consumption report, 2013). Subukia as a sub county was established in the year 2012 through a Kenya gazette notice (DHIS, 2012). It is managed by sub county health management team comprising mainly one medical officer, one nursing officer, one public health officer, one records officer. Other members who are subsidiary include sub county pharmacist, reproductive health officer and nutritionist. This represents only 6.5% of all health staff working within the sub county. Before the introduction of the county government, health was fully managed at the national government and the sub county was referred as district. Before devolution of the health services, the health related activities in the district was managed by DHMT and the three departments referred as subsidiary were core in their function (MOH DHMT structure, 2008). It is apparent that there is no direct involvement of pharmacy as a department in the running of sub county affairs nor is there any procurement department involvement in the sub county structure. Lack of a well-structured procurement department in the sub county might lead to inadequate or poor procurement of essential medicine or when it is done, it is inaccurate. The researcher therefore embarked on this study to find the influence of procurement training programs and pharmaceutical products delivery in Subukia Sub County public health facilities.

1.2. Study Objectives

i. To determine the role of procurement training content strategy on pharmaceutical products delivery in Subukia Sub County.
ii. To analyse the level of qualification of procurement trainers strategy on delivery of pharmaceutical products in Subukia Sub County.
iii. To evaluate the influence of resources allocated for procurement training strategy on delivery pharmaceutical products in Subukia Sub County.
iv. To assess the effect of procurement training equipment and design strategy on delivery of pharmaceutical products in Subukia Sub County.

1.3. Research Hypotheses

$H0_1$- There is no significant relationship between procurement training content and pharmaceutical products delivery in Subukia Sub County.

$H0_2$- There is no significant relationship between the qualification of procurement trainers and pharmaceutical products delivery in Subukia Sub County

$H0_3$- There is no significant relationship between the resources allocated and pharmaceutical products delivery in Subukia Sub County.

$H0_4$- There is no significant relationship between procurement training equipment and design and pharmaceutical products delivery in Subukia Sub County.

2. Literature Review

2.1. Theoretical Review

2.1.1. Cognition Learning Theory

This theory was proposed by Jean Piaget and it's also referred as Jean Piaget's theory of development. Jean Piaget was a Swiss biologist, philosopher and behavioral scientist who developed one of the significant theories in cognitive psychology. His work focused on developing a general knowledge of theory, how a child develops knowledge of his or her world and the role that biology plays in that development (Paret *et al,* 2000). According to Piaget, intelligence is represented by how an organism interacts with its environment through mental adaptation (Flavel *et al,* 1998).

Piaget theory is grouped into two subsections; the theory of adaptation and the process of using cognitive schemes and theory of cognitive developmental stages (Huitt &Hummel, 1998). The theory states that, individuals are born with reflexes that allow them to interact with the environment and these reflexes are quickly replaced by constructed mental schemes or structures that allow them to interact with, and adapt to the environment. This adaptation process occurs in two different ways; assimilation and accommodation and this form the modern constructivism. The perspective of modern constructivism implies that knowledge and skills can be improved in different ways without necessarily any one ideal solution (Palmer, 2010). It stresses on the comprehensible real functions in organisation environment that enables people and groups to pinpoint gaps and deficiencies in performance in a specific area.

Adaptation is predicated on the belief that the building of knowledge is a continuous activity of self –construction; as person interacts with the environment; knowledge is invented and manipulated into cognitive structures. The result of interplay between mind and the environment brings about maturation to achieve equilibrium that advances an individual into a higher developmental stage. Experimental is part of constructivism that involves psychology, philosophy, sociology and anthropology and cognitive sciences to gain insight into learning process (Bassi, 2011).

Piaget differentiated three types of knowledge that must be present at all stages of cognitive development; physical, logical-mathematical and social (Driscol, 2001). Physical knowledge is gained through hands on interaction with the environment. It deals directly with experience and perception of objectives and is very concrete in nature and this knowledge is only gained from personal, direct contact with the environmental elements. Logical mathematical know is an abstract reasoning that is applicable beyond physical interaction with a concrete stimulus while physical is discovered, logical-mathematical is created through actions and it can only be gained by repeated exposure and interaction with multiple objects in multiple settings in order for mental structures to be modified and created (Driscol, 2001). It is the manipulation of objects in different patterns and contexts that allows for generalizations and abstractions to be created. Likewise, social knowledge can only be gained through interaction with others and hence this type of knowledge is culture specific and its acquisition is based on actions rather than the physical perception of objectives (Driscol, 2001).

The theory states that the three levels of knowledge occur in different levels as one develops whereas they occur simultaneously for one to be mentally and physically stable. The theory has been criticized by various scholars who argue that human beings cannot be compared with animal since they have common sense. The environment that animals are subjected to cannot be the same with that of human beings and adaptation of human beings to environment is equally different.

In the recent times, children are gaining knowledge and skills faster compared to their age. This is due to changes in the environment including advancement in the use of information technology whereby children are getting exposed to computer games at a very tender age compared to the past. Therefore, the researcher disputes this theory that certain features develop at a particular age in children under study. Moreover when subjected to the same environment, people tend to adapt to it differently due to biological differences and genetic composition. Basing on the three different levels of knowledge put forward in this theory, the researcher analysed their influence both to the trainers and the trainees in order to assess and determine the level of competence and adaptability respectively in the process of procurement training. The researcher also evaluated on the effect of learning (training) environment to the trainees and the effect the source of information has on the learning since the theory states that when subjected to the same environment, adaptability to the surrounding is uniform to the participants.

2.1.2. Innovation Theory

This theory was proposed by Mark Rolfstam and Leif Hommen. The theme of the theory was to demonstrate how innovation theory can contribute to a complementary understanding of public procurement and innovation. In this theory, innovation is considered as search for, and the discovery, experimentation, development, imitation and adaptation of new products, new production processes and new organizational setups (Dorsi, 2006).

Furthermore, it is recognized that innovation is a ubiquitous process going almost everywhere and almost all the time and in a modern society, it is characterized by a highly developed, vertical division of labour (Lundval, 1996). This means that innovation is by no means considered being a necessarily linear process but rather as being characterized by interactive learning and user-producer interaction (Von Hipel, 2009). Systems of innovation approaches, unlike the traditional mainstream economics stress innovation and learning. Thus, the central activity within the system is learning and learning is a social activity, which involves interacting between people (Lundval, 1996).

The role of institution involves political influence and the level of intervention. Institutions both formal and informal shape the innovation process and lessons learnt from these

interactions phenomena can be used by policy makers to reshape the institutions effecting innovation (Edquist *et al,* 2000). The theme with innovation theory is that with innovative public procurement, occurs when a public agency acts to purchase, or place an order for a product-service, good a system that does not exist. The theory innovates how goods can be developed from within a reasonable period of time, based on additional or new innovative work by the organisation undertaking to produce, supply and sell the product being purchased (Edquist *et al*, 2000). This is the case with Campis project whereby when personal computers were not available, the project was aimed at creating dedicated school computer with technical specifications that the market was at the time was unable to meet (Kaisefield, 2000).

In contrast to the mainstream economics, innovation theory treats public innovative procurement as a special case of user-producer interaction. This means that the process is not regarded as the result of anonymous market process as a mainstream economic perspective would suggest, but as a result of user-producer cooperation and information sharing (Von Hipel, 2009). Thus firms never innovate in isolation and therefore learning should take place involving interaction between people.

The theory does not consider that most public firms and institutions are guided by certain laws and guidelines and therefore, every procurement should conform to them. For instance in Kenya all public procurements are guided by the *Public Procurement* and *Disposal Act, 2015* and everyone should comply with the law. It is therefore practical that this theory will only apply if there are amendments in the act to allow innovative procurement.

Moreover, theory does not put into consideration that innovation is a resource consuming process and most public institutions may not have adequate resources to undergo firm restructuring and research to come up with an innovation. The process of innovation is also tedious and may not be practical in case of emergency situations that call for prompt direct procurement.

Since the research is on the influence of training strategies on pharmaceutical product delivery, the theory was relevant to the research since it highlights on the impact of innovation to public procurement process. Training is part of enhancing innovation and therefore the theory can be included in the training program so that the policies makers in the procurement can allow for procurement innovation in some instances say emergencies.

2.2. Empirical Review

2.2.1. Training Content

According to Bassi (2011), the characteristics of training content that yield the highest return on investment (ROI) vary with the size, maturity of industry and other business needs. Employers thinking about incorporating occupational training especially formal occupational training in the context of apprenticeship must determine several considerations. They include content standard, a curriculum, and the role of courses versus work based learning, the effectiveness of mentors and the methods for the determining whether the trainee is achieving sufficient mastery in an occupation to graduate. According to Blatter *et al* (2015), the incentives to train stem from hiring costs that are high and the adequacy of materials available. Using the data from Switzerland, they found that a one standard deviation increase in average hiring costs is associated with more than ½ of standard deviation increase in internal training in the form of added apprenticeship positions. Evidence from Britain links the incidence and content of training to stronger membership, longer job tenure and a compressed wage structure (Almeida, Santos & Mumford, 2005).

Training at work place works best with supervisory support which offers monitoring, interactive training, coaching, and opportunities to perform what was learned in training and keeping training relevant to the jobs (Pellegrino, 1997). Several studies are consistent with theoretical insights about the impacts of organizational attributes and strategies on worker training. Knote and kalleberg (1994) find that, organisation that are large, promote from within and have formalised job structures provide more worker trainings.

According to Osterman (1995), organizations make tradeoff between training existing workers on the specific area and hiring workers with previously developed skills. The productivity effect of proper formulation of training is twice as large as the wage effect implying that existing studies have under estimated the benefits of training content by focusing on wages. Moreover, the government generally gains by using the relevant training contents to its employees who eventually improve on their service delivery at work place (Becker, 2006).

Organizations train more when they use flat hierarchies, when guided by given policy, worker involvement and team work and devolve decision making to the line level (Hilton, 2012). Several studies find training usually benefits firms and yields external benefits including gains for subsequent employees and for the public in avoidance of disasters as well as network externalities. In Britain for example, a panel study found that a 1% point increase in training is associated with about 0.6% increase in industry productivity and a 0.3% increase in hourly wages.

2.2.2. Qualification of Trainers

The qualification of trainers which relates to the competence, is the ability to pass the knowledge and skills one has to the audience in a manner that is easier to comprehend and retain (Stasz, 2001). Trainers not only need the required qualification, but also must be able to pass the knowledge in the right manner by use of relevant demonstrations and examples. They should be skilled enough so that they are able to determine which training method or approach to use by considering factors at hand (Palmer, 2010).

Mastery refers to the sum of experiences and knowledge, skills, traits aspects of self image or social role, values and attitudes a person has acquired during his or her lifetime (Parry, 1996; Mc Lagan, 1998). Mastery has been categorized in terms of broad and general skill competency domains like

intrapersonal skills, interpersonal skills, leadership skills and business skills (Hogan and Warrenfeltz, 2003). Action theory is a general theory of work behavours which defines competencies as the ability to act self-responsible in complex situations of the job (Becker, 2006).

The trainers should be specialized such a manner that, the trainers should have prior knowledge of specific subject. According to Dolmans *et al* (1999), individuals offering training in any field should be adequately equipped with the necessary training aids so that the content is passed easily to the participants. The use of current version of the training content calls for the trainers to undergo remedial courses that align them to the current content. The use of old outdated training content not only limits the training program, but also misleads the participants (Parry, 1996). The trainers should pilot test the equipment before starting the training in order to ensure that the equipment are valid and reliable before they are used (Kothari, 2008).

The trainers should conform to all the training attributes including remedial courses for a given topic. As a general assumption, the higher the knowledge one has in particular field, the competent the trainer, considering other factors remaining constant (Kennedy, 2003). However, due to that notion, most qualified trainers do not research on the topic to be covered but instead, use old version because no one is ready to criticize them. This aspect has resulted to poor training courtesy of the qualified trainers who need to maintain their status quo (Lucie, 2004).

In Europe, for instance, before one is allowed to offer on job training, he should produce the relevant current updates on the topic to be covered. This not only maintains trainee development but also offers a medium for interactive training since participants are eager to learn more from such a trainer (Becker, 2006).

2.2.3. Concept of Resource Allocation

Resources are always limited and should be selectively allocated to those functions that add productivity to an organisation. If resources are not properly assigned, the organization end up making loses and ultimately fails to achieve its objectives. The success of a firm is a function of the amount and quality of the resources dedicated to the task (Hauster *et al*, 2006). Before starting on the training, the trainers must first identify and assess the frequency of allocation of needed resources in order to understand which resources are available for disposal and which one might be lacking (Prieme & Buttler, 2001).

The resources mostly employed during training include the human resource, financial, physical and organizational resources (Barney, 2005).Resources available for use at any given time can either be natural or acquired resources. According to Fischer (1998), resource allocation should follow a given criteria which can either be formal or informal. In the work of Fischer (1998), resource allocation in public sector as a whole follows the decision of the public administrators that develop beliefs sets out values that are applied to guide in the resource allocation. Fischer groups the values used by administrator in resource allocation into six categories.

They include deservingness, individual need, fairness, utility, ecology and personal gain and competence. He suggests that, although such informal methods are certainly flawed, if balanced with concepts of collaboration, control and competence, they can move allocation decisions in the direction of the common goal (Fischer, 1998).Informal approaches to allocation decision may be used, in part because of the enormous variation both in the way health facilities are funded, governed and the pharmaceutical needs in the communities. Additionally, often there is no uniform broad agreement among counties on monitoring of resource allocated to health sector compared to national level that sets policy framework (Omide & Omiti, 2010). According to Murey and Freck (2000), they explicitly list priority setting as one of the main factors of resource allocation along with the regulation, advocacy, consumer protection, performance assessment and overall system design. Certainly, economists and others have developed less subjective, more explicit or technically optimal approaches to setting priorities by applying techniques such as cost effectiveness analysis.

It is not clear if health facilities practitioners use economic analyses, decision frameworks or other formal tools in allocation decisions (Neumann *et al*, 2008). Despite the adhoc or informal approaches in resource allocation, public health facilities strive to make the best decision for their communities. In an interview study of ethical issues faced by public health practitioners in Michigan, resource allocation decisions constituted a prominent theme (Neumann *et al,* 2008). Practitioners struggled to set priorities for the allocation of funds and personnel among the public health programs, oversaw vaccine allocation during shortages and anticipated scarcity during disaster preparedness planning.

Stewardship is identified by W.H.O and numerous scholars as one of the core function of managers in any health system. Theories of public stewardship emphasize collectivism and country trust in official to both efficiency and ethically serve the public interest. When public officials act as good stewards, citizens see their actions as legitimate, and they trust that officials will act in a way that are beneficial to communities that they govern and will allocate resources effectively (Travesi *et al*, 2002).

2.2.4. Procurement Training Equipment and Design

The equipments used in training form a basic requirement for any training to be effective; otherwise, resources might be wasted. Equipments including learning materials range from the electronic gadgets to traditional hand written flipcharts. Not every organisation is keen to avail all the necessary equipments to be used during training and this hampers the quality of training. The equipment need to be of current technology, easy to use, cost effective, readily available and well maintained in order to have an effective training (Mitchell *et al,* 1998).

Each training scope influences the choice of the equipment to be used depending on it's technology and the teaching aids

to apply for the participants and trainers. The venue of the training and the space available and the design also dictates the equipment to use. Other considerations include the knowledge of the use of equipments and the associated factors like the connectivity to the power source (Davis & Dent, 1994). In the modern training, the use of computer programs like the power point has taken centre stage in trainings with large participants.

PowerPoint has become easy to use and adapt in the recent years. It is part of the Microsoft suite of programs. Essentially, it enables users to create a series of slides on a computer which is then projected in the training venue using a data projector. The features of power point are; it allows the use of different colours in the presentation, use of animation, video clips, hyperlinks, reversing or forwarding slides and the application of transition system allows for ease of changing from one slide to another. To enhance training, the use of sans serif font such as Arial prevents blurring of the text when it is projected (Ragbar, 2001).

Titles used in PowerPoint should have a minimum font of 32 and text should be in font 28 at normal training hall. Each slide should have a maximum of 6-7 lines and should have key words. If the training is in dark room, use a dark blue or green background with pale text. PowerPoint also includes a number of print options. Particularly useful ones are those that print either three or six slides to a single A4 page with or without lines. This makes it ideal if the trainer wish to make handouts for the trainee (Ragbar, 2001).

Video tapes recorders can be used in a number of different ways to enhance training in both large and small groups. The advent of digital versatile discs (DVDs) makes video images easier to use in the training since individual clips can be immediately assessed without search through a length of tape. Video images can also be made available via a website for trainers to view in their respective locations (Ragbar, 2001).

Training equipment in small groups requires different skills compared to those used in large groups. Before training consider the kind of group being trained and the cost of equipment to use. Many seminar rooms are set out with participants in a row; face the facilitator who stands in front of the room. Flipcharts and white boards are also used as training equipments. Flip charts are best suited to small groups training. In some ways, they can be used as substitutes for white board (chalkboard) (Davis & Dent, 1994).He further explained that, flipcharts are well suited to make short notes that are key to the training content and may include norms in the training, expectations from the participants and the introduction section. A newer version in relation to the whiteboard is the interactive white board. This is attached to a computer a data projector. What is written on the board with an electronic stylus maybe stored in a computer file, printed and copied to members of the group (Laidlaw & Hesketh, 2001).The use of equipments should be in such a way that the trainers should have a prior knowledge of their application. According to Dolmans *et al* (1999), individuals offering training in any field should be adequately equipped with the necessary training equipment so that the content is passed easily to the participants. The use of current version of the training content calls for the trainers to undergo remedial courses that align them to the current content.

The use of old outdated ill maintained training approaches and equipment or lack of current information on a particular topic not only limits the program but also misleads the participants (Parry, 1996). The trainers should pilot test the equipment before starting the training in order to ensure that the equipments are reliable and are valid in their use (Kothari, 2008).

3. Research Methodology

This was a descriptive research. Kothari, (2008), states that a descriptive method in data collection in qualitative research is central to open, unstructured qualitative research investigations. The population included all the workers in the eleven Public Health facilities in Pharmaceutical personnel, Health facility in charges, staffs in the Procurement, Human Resource, Training Committee, and Store departments.

The sample size was obtained by using the formula put forward by Yamane (1967) which is; n=N/(1+N(e)2. Where, n=sample size, N= population size, e=level of precision (0.05). In this research, the target population was 198 staffs in the health facilities. Therefore by applying this formula, the sample size was arrived at 132 respondents. Simple random sampling followed thereafter to form the sample size that was used in the research.

Research questionnaires were simplified for the respondents to comprehend them by use of simple language and precise statements. A five point Likert's scale was used and they included strongly agree, agree, fair, disagree and strongly disagree. Reliability of the questionnaire was then tested by determining a Cronbach (α) which had a mean of 0.74 which is above 0.7 and hence the questionnaire was considered reliable. The collected data was analysed through quantitative means. Richter scale was relied mainly in interpretation of structured closed ended questionnaire. The questionnaires were coded and edited for completeness using the Statistical Package for Social Services (SPSS). Inferential statistics in particular correlation and Pearson regression analysis were used to ascertain the acceptance or rejection of the research hypotheses

4. Findings and Recommendations

4.1. Regression Analysis

The R is the multiple correlation coefficients which was at 58% considered as one of the measure of the quality of prediction of the dependent variable (pharmaceutical product delivery) in the study. This was a fairly good indicator of prediction for such study. R2 being the coefficient of determination at 34% which gives the proportion of variance in the dependent variable that is explained by the independent variables. For this study the value was at 34% which can be interpreted as a fairly reasonable predictor of the dependent variable.

Table 1. *Model summary.*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change
1	.583	.540	.34	2.04433	.540	9.541

The ANOVA test statistic was used for hypotheses testing of the study. The composite (dependent) variable was negated from the study as being the delivery of pharmaceutical products. The individual metrics of each independent variable were regressed against the dependent variable. The p value was then compared to the significance level (α) and deciding on whether to reject or not to reject the null hypothesis. If the p-value is less than the significance level, the null hypothesis is rejected (if p-value ≤ α, reject the null). If p-value is greater than the null hypothesis is not rejected. The summary of the regression of the regression analysis is given below:

Table 2. *Coefficients Table.*

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	1.810	.958		
Training content	.271	.088	.179	.937
Trainers qualification	.011	.030	0.001	.000
Resources	.176	.066	1.165	.248
Equipment and Design	.210	.064	0.274	.994

The unstandardized coefficients of B gave the values of 1.810, 0.271, 0.011, 0.176 and 0.210 for the constant, training content, trainer's qualification, resources and design respectively. These values indicated the extent of how the dependent variable varied with an independent variable when all independent variables are held constant. The constant 1.810 represent the fixed value that remains irrespective of the movement of any of the variable or even if the variables are at zero or no activity. The significance values of 0.937,.000, 0.248 and 0.994 are for the independent variables training content, trainers qualification, resources and design for the training respectively. This tests the significance of each independent variable. It tests whether the unstandardized coefficients are equal to zero in the population. If the $p<0.05$, it is concluded that the coefficients are statistically different to zero and the null hypothesis will be accepted.

Table 3. *ANOVA Table.*

Model	Sum off Squares	Df	Mean Square	F	Sig.
Regression	159.493	4	39.873	19.541	.000[b]
Residual	309.267	74	4.179		
Total	468.759	78			

The ANOVA table tests whether the overall regression model is a good fit to the data. The table above shows that the independent variables statistically significantly predicts the dependent variable since the value of F (4,74) in the table is 19.541 which is higher than the P (0.05) i.e. the regression model is a good fit of the data.

4.2. Hypotheses Testing

For this study, the hypotheses were as follows:

$H0_1$- There is no significant relationship between procurement training program and pharmaceutical products delivery in Subukia Sub County.

For hypothesis 1: the significance value in the table is 0.937 which is greater than the value p(0.05) hence there is no significant relationship between the procurement training program and pharmaceutical products delivery and thus accept the null hypothesis.

$H0_2$- There is no significant relationship between the qualification of procurement trainers and pharmaceutical services delivery in Subukia Sub County. For hypothesis 2: the significance value in the table is.000 which is lesser than the value p (0.05) hence there is a significant relationship between the trainer's qualifications and pharmaceutical products delivery and thus reject the null hypothesis.

$H0_3$- There is no significant relationship between the resources allocated and pharmaceutical products delivery in Subukia Sub County. For hypothesis 3: the significance value in the table is 0.248 which is greater than the value p (0.05) hence there is no significant relationship between the resource allocation and pharmaceutical products delivery and thus accept the null hypothesis.

$H0_4$- There is no significant relationship between procurement training equipment and design and pharmaceuticals products delivery in Subukia Sub County. For hypothesis 4: the significance value in the table is 0.994 which is greater than the value p (0.05) hence there is no significant relationship between the procurement training equipment and design and pharmaceutical products delivery and thus accept the null hypothesis.

The regression model will be fitted as follows:

Delivery of pharmaceutical products = $1.810 + 0.271(\chi_{i1}) + 0.011(\chi_{i2}) + 0.176(\chi_{i3}) + 0.210(\chi_{i4}) + e$

X_1=Procurement training content

X_2=Qualification of trainers

X_3=Resource allocation

X_4=Design used

e=Error term

4.3. Conclusions and Recommendations

There was no significant relationship between the procurement training programs and pharmaceutical products delivery. However most of the health facilities still held training but focused more on the commodity management. There was a significant relationship between the trainers' qualification and the pharmaceutical products delivery. Despite this relationship, the sub county had no specialized personnel to train on procurement and relied more on stakeholders more specifically the county headquarters for the training experts. There was no significant relationship between the resource allocated on procurement training and the pharmaceutical products delivery. Though there is no such

relationship there are resources allocated in form of ordering tools used during the requisition of the products from the KEMSA and other reliable sources as guided by the policies. Lastly, there was no significant relationship between the equipment and design and delivery of pharmaceutical products. The findings showed that there was only one computer system and one projector which were hired during training to serve a total of eleven health facilities. The training design was mainly lecturing and tutorials

From findings obtained in this study, the study recommends the following; the training content should be selected basing on the current need of the participants in order to pass new knowledge and skills. Each participant should be trained basing on the established deficit. There should be qualified trainers offering the training at all times. Specialized trainers should be sought whenever there is training in order to have expertise in procurement practices by instilling the correct information to the trainees. The government and other stakeholders should allocate adequate resources at all times and monitoring should be thorough to ensure the allocated resource are not diverted to other departments irrationally or misused. Lastly, the equipment should be available whenever needed and that they should be of current technology. The teaching design used should be easy to understand and remember by use of relevant demonstrations during the training. There should be a well laid down guideline on the design to use in each of specific training

Further studies are suggested to investigate the role of National Government in Enhancing Pharmaceutical Procurement in the Devolved Health Sector and the Effects of lack of Specialized Procurement Units in Health Facilities below the level of Sub County Hospitals.

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