

Effects of Inventory Control in Enhancing Service Delivery in Public Hospitals

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Abstract

Safety of storage facilities also plays an important role in enhancing service delivery in public hospitals. Safety measures ensure both the stock and personnel's working in the stores are secured from injuries, sabotage, theft and adverse weather conditions. However, at ESCRH, several problems have been experienced in the storehouse of the hospital. Some important items experiences shortages without the knowledge of the store's personnel. Sometimes items take a long time to be located causing user department to start complaining to the procurement department. A number of pilferages of drugs and theft of important items especially the anti-biotic drugs vindicate have been reported in the hospital, where some staff engaged in ferries and sell essential drugs to private facilities leaving the hospital to suffer an acute shortage of drugs and stand still of its chartered delivery services. In addition, some important store documents find themselves missing due to poor store recording keeping. All these problems affect service delivery in public hospitals in many ways. The study is guided by the following research question; What are the effects of inventory control in enhancing service delivery in public hospitals? The study adopted a descriptive research design where the research will be carried out among various employees in Elwak County Referral Hospital. The sample of the study will constitute 30 employees that is drawn from a population of 100 employees by use of stratified random sampling method. A self-administered questionnaire will be used to collect data from the employees. The study found that 70.80% of respondents agree that Elwak Sub County Referral Hospital experiences under stock situations, 20.80% strongly agreed while only 8.30% disagreed. 62.50% of the respondents agreed that under stock situations causes stoppage of services delivery at Elwak Sub County Referral Hospital while 37.80% strongly agreed. This shows that under stock situations causes stoppage of delivery of services in the hospital to a very great extent. The study found that good inventory control will ensure that the required level of inventory is maintained which ensure continuous supply of items to user departments with minimal instances of shortages which automatically affect service delivery in hospitals. The study recommends the following: adoption of modern inventory control techniques by ESCRH.

Key words: *Inventory Control, Public Hospitals, Service Delivery, Stores Management*

I. Introduction

Automation of stores and hospital records is key in providing quality service across all business organizations, which include both manufacturing and service organizations. Such documents that are used in incoming and outgoing freight operations to multiple departments are crucial assets that should be adequately protected from unauthorized access and use. Integrating these packages do not only the security of these records but also enable them to be successfully integrated in the procurement cycle as well as be part of the overall records management program of a Procuring Entity. Safety of storage facilities ensure there is maximum protection of goods stored from theft and pilferages and personnel working in the stores. Safety of stores means that user departments are going to receive the exact good they ordered without any subtractions. If user's department receive goods less of what they ordered they are likely to complain to procurement department seeking an explanation of the deviation hence safety of storage facilities contribute to enhancing service delivery in both manufacturing and service industry.

In Kenya, especially in the public hospitals, the efficient management of stores is as crucial to the organization just like it is paramount in other health organizations. Management of the stores directly affects get quality services to clients. In this specific

case, the Auditor-General's Performance Audit Report of Specialized Healthcare Delivery at Kenyatta National Hospital (KNH) cited the absence of key medication required by units like the Critical Care Unit, surgical theaters, and resuscitation and burns units as one of the problems to be solved. Medical experts note that stock-outs are a combination of poor practices within the procurement and selling units, which are suppliers' inefficiency to provide for the purchase orders, caused by the patients' delay in paying for their medical treatments.

Together with this, evidence from documents like The Kenya Health Sector Integrity Study Report 2011 shows that physicians and patients across the country are facing acute lack of medicine and medical supplies and this is making a lot of them suffer. This only goes on to show that automation of stores and health records can be the vital element in lowering down the barriers and, later on, improving the healthcare service delivery. The blame was on how store management was being carried out. The patients accused nurses and other medical personnel in collaboration with store personnel's of hoarding the drugs and secretly supplying them to private pharmacies.

Store management is a major function in an organization and proper stores management is key in enhancing service delivery in any service delivery organization. In fact, the performance of any store department is measured by how well it manages its inventory. This means that inventory must be made available when requested and in the right form. Before inventory is requested it must be planned and must be issued in the right quality.

However, in a hospital set up store management is complex more than anyone would think. For instance, a patient may require administration of a certain important drug which may take some time before being availed to the patient. This means that if the drug is not availed at the right time, the patient is at risk of dying. Therefore, inventory control in a hospital set up is crucial. Stock levels should be noted periodically and communicated to the procurement department for facilitating ordering. Items should be inspected before allowed in the store as there is a greater risk if hospital inventory are of substandard quality as they are not going to serve the required purpose, and this may be very dangerous to the patients. Hospital supplies must be made available when required and not later and this call for an effective stock control measure. Automating health and store records is also an important concern in store management and its contribution in enhancing service delivery in the hospital cannot be underestimated: it improved Quality and Consistency in health care services. Automation tools are not subject to human error or fatigue, so they can help to provide a consistent basis of a prudent health care services. A Texas hospital study found that greater automation in the areas of medical records, order entry, procuring of drugs, receipts and recipients of drugs records and decision support by keeping updated store database appeared to result in a reduction in theft of drugs, health workforce absentees, deaths, complications and cost in the hospital. Safety of storage facilities also plays an important role in enhancing service delivery in public hospitals. Safety measures ensure both the stock and personnel's working in the stores are secured from injuries, sabotage, theft and adverse weather conditions.

However, at ESCRH, several problems have been experienced in the storehouse of the hospital. Some important items experiences shortages without the knowledge of the store's personnel. Sometimes items take a long time to be located causing user department to start complaining to the procurement department. A number of pilferages of drugs and theft of important items especially the anti-biotic drugs vindicate have been reported in the hospital, where some staff engaged in ferries and sell essential drugs to private facilities leaving the hospital to suffer an acute shortage of drugs and stand still of its chartered delivery services. In addition, some important store documents find themselves missing due to poor store recording keeping. All these problems affect service delivery in public hospitals in many ways. The study is guided by the following research question; What are the effects of inventory control in enhancing service delivery in public hospitals?

II. Literature Review

The inventory management incorporates proper stock levels that can satisfy the demand while at the same time reduce the holding costs. Managers typically focus on three types of inventories: raw materials, works in process or semi-finished goods, and finished goods. Well-controlled stockpiles are capable of releasing bound capital, improving production supervision, and keeping things

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away from becoming obsolete, deteriorated or stolen. The main goals of inventory control consist of managing stock volumes at reasonable levels but not too high or too low in value, size, color, style or price line in accordance with sales or demand trends, locating high-performing items, maximizing the stock turnover, minimizing expenses and markdowns, and keeping up the image of a business offering fresh merchandise in the desired sizes and color options. Different strategies are possible in the management of inventory, depending on the type of and size of the operation, and the variety of items. The kind of system that is chosen will be influenced by the kind of business that is being operated and the amount of merchandise.

Daniel, J. (2011) asserts that stock control is a fundamental policy procedure utilized in material management. This encompasses internal checks such as continuous, periodical, spot checks, or any other management-established controls aimed at ensuring effective and efficient material management procedures. Moreover, Daniel, J. (2011) outlines two primary approaches underlying the various systems for controlling stock, whether manual or automatic. The recording method involves updating inventory levels either when materials reach a predetermined level or periodically at regular intervals. On the other hand, the action level method focuses on controlling stock by setting specific levels for each commodity in the stock system. With this method, commodities are ordered based on predetermined levels, allowing for orders to be placed for individual items as needed.

As much as the production levels are determined by a well-functioning business, material levels are also as important as the production levels. It is also easy to see that a careless choice about the material level can cause delay in production because of shortage of the necessary components. Tighter controls of supplies and also the keeping of perfect records can reduce the costs of the supply management while making sure uninterrupted constant work process.

Weele (2000), stated that physical stocktaking is done not only to correct the accuracy of records that support the balance sheet, but also to verify the items in the physical stock through physical verification. This process can also put the spotlight on shortcomings and be instrumental in highlighting discrepancies such as fraud, theft or loss that might be present in the stock custody and control system. Storekeeping methods along with material control regulations can be assessed through the identification of surpluses and deficiencies that may occur during stocktaking.

Inventory control plays a pivotal role in enhancing service delivery in Japan, renowned for its efficiency and precision-oriented culture. Through meticulous management of inventory levels, Japanese businesses ensure seamless operations and optimal customer satisfaction (Atnafu & Balda, 2018). At the heart of Japanese inventory control lies the principle of just-in-time (JIT) inventory management, pioneered by companies like Toyota. This methodology emphasizes minimizing inventory levels to reduce waste and improve responsiveness to customer demand. By closely monitoring stock levels and replenishing supplies only as needed, companies streamline their operations and minimize the risk of overstocking or stockouts.

One significant effect of inventory control in Japan is the enhancement of service delivery through increased agility. With lean inventory practices in place, businesses can swiftly adapt to fluctuations in demand, ensuring that products are readily available when customers need them (Randhawa & Ahuja, 2017). This agility enables companies to respond promptly to customer orders, reducing lead times and enhancing overall service delivery. Furthermore, efficient inventory control fosters cost savings by minimizing storage costs and obsolescence risks associated with excess inventory. Japanese businesses prioritize efficiency in their supply chains, leveraging advanced forecasting techniques and collaborative relationships with suppliers to maintain optimal inventory levels. By reducing inventory holding costs, companies can allocate resources more effectively, investing in initiatives that further improve service quality and customer satisfaction.

Moreover, effective inventory control in Japan is closely linked to quality management principles, ensuring that products meet rigorous standards before reaching customers. By maintaining tight control over inventory, businesses can uphold stringent quality control measures, mitigating the risk of defects or recalls that could compromise service delivery and damage reputation (Foster & Gardner, 2022).

In essence, the effects of inventory control in Japan extend beyond operational efficiency to encompass enhanced service delivery and customer satisfaction. Through JIT inventory management and a commitment to quality, Japanese businesses set a benchmark for excellence in service provision, embodying the nation's ethos of precision, reliability, and continuous improvement.

Inventory control plays a vital role in enhancing service delivery in South Africa, contributing to improved efficiency, customer satisfaction, and cost-effectiveness across various industries. By implementing effective inventory management practices, businesses in South Africa can address logistical challenges, reduce waste, and meet the diverse needs of their customers. One significant effect of inventory control in South Africa is the optimization of supply chain processes, leading to streamlined operations and enhanced service delivery (Modisakeng, Matlala, Godman & Meyer, 2020). Through efficient inventory management systems, businesses can accurately track stock levels, anticipate demand fluctuations, and ensure timely replenishment of goods. This proactive approach minimizes the risk of stockouts and delays, enabling companies to fulfill orders promptly and meet customer expectations. Additionally, effective inventory control fosters cost savings by reducing holding costs associated with excess inventory and minimizing the risk of inventory obsolescence. In a country where logistics costs can be significant, optimizing inventory levels helps businesses reduce storage expenses and improve cash flow management (Bganya, 2022). By freeing up capital tied up in excess inventory, companies can invest resources in other areas of their operations, such as improving service quality or expanding their product offerings.

Moreover, inventory control plays a crucial role in mitigating the impact of supply chain disruptions, which are common in South Africa due to factors such as transportation constraints and political instability. By maintaining lean inventory levels and establishing robust contingency plans, businesses can minimize the disruption caused by unforeseen events, ensuring continuity in service delivery even during challenging times (Ermes, Henderson, Staude & Niemann, 2022). Furthermore, effective inventory management supports customer satisfaction by ensuring product availability and minimizing lead times. In a competitive market landscape, businesses that can reliably meet customer demand gain a competitive edge and build loyalty among their clientele. By optimizing inventory levels and implementing efficient distribution channels, companies can provide a seamless and responsive service experience, fostering long-term relationships with their customers.

Inventory control in Kenya significantly enhances service delivery by streamlining supply chain processes, reducing costs, and meeting customer demands effectively. Through accurate monitoring and management of inventory levels, businesses can anticipate fluctuations in demand and ensure timely replenishment of goods, thus minimizing the risk of stockouts and delays (Shajema, 2018). This proactive approach not only improves operational efficiency but also boosts customer satisfaction by ensuring that products are readily available when needed. Additionally, effective inventory control helps businesses minimize holding costs associated with excess inventory, allowing them to allocate resources more efficiently and invest in initiatives that further enhance service quality and customer experience. By maintaining lean inventory levels and implementing robust contingency plans, companies can mitigate supply chain risks and disruptions, ensuring continuity in service delivery even in challenging circumstances (Muhalia, Ngugi & Moronge, 2021).

Furthermore, optimized inventory management supports customer satisfaction by ensuring product availability and minimizing lead times, thereby fostering loyalty and competitiveness in the market. Businesses that can reliably meet customer demand gain a distinct advantage and build strong relationships with their clientele (Rajab, Ngugi & Kiarie, 2021). Through the implementation of efficient distribution channels and continuous improvement in inventory management practices, companies in Kenya can provide a seamless and responsive service experience, ultimately driving long-term growth and success. Overall, the effects of inventory control extend beyond mere operational efficiency, encompassing cost savings, risk mitigation, and enhanced customer satisfaction, thereby contributing to the overall improvement of business performance in Kenya's dynamic marketplace.

III. Methods and Materials

The study adopted a descriptive research design where the research will be carried out among various employees in Elwak County Referral Hospital. The sample of the study will constitute 30 employees that is drawn from a population of 100 employees by use of stratified random sampling method. A self-administered questionnaire will be used to collect data from the employees. Data analysis will be done by use of descriptive statistics i.e., Frequency counts and percentages with the help of Microsoft Excel package and presented using tables to describe distributions and pie-charts and graphs to show differences in frequencies.

IV. Results and Discussions

Out of 30 questionnaires given to respondents, 24 were returned for analysis. This shows an 80.02% response rate which is a good response rate which one can depend on to make conclusion and recommendation.

Demographics

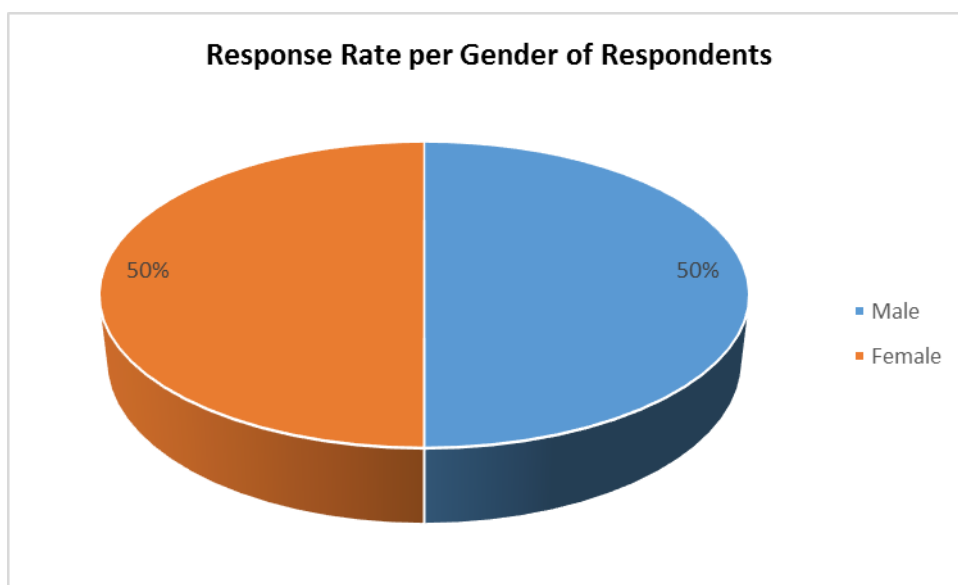


Figure 1 Gender of Respondents

Figure 1 shows that 50% of respondents were male, the other half were females. This indicates that there was no gender bias in the study.

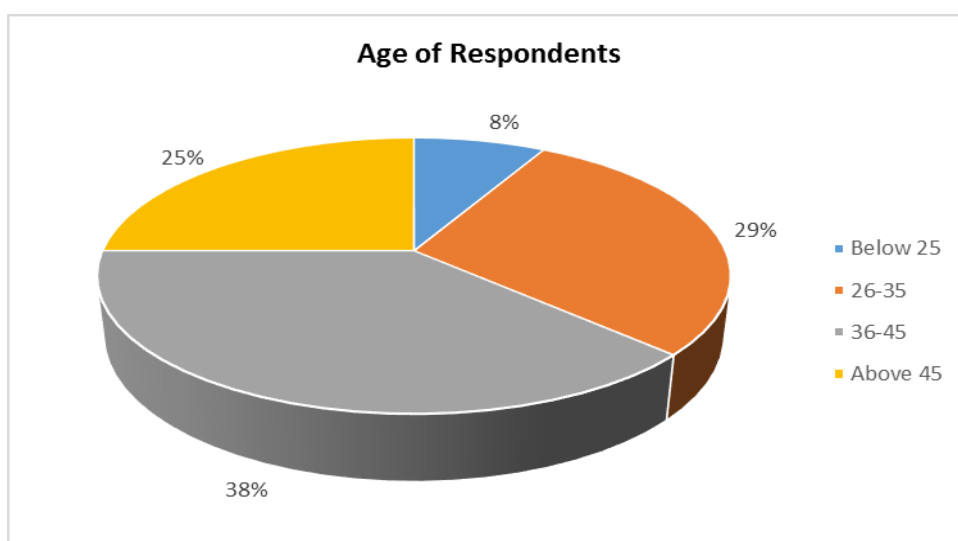


Figure 2 Age of Respondents

Figure 2 shows that 8% of respondents are below 25 years, 29% are between 26-35 years, 38% are 36-45 years while, respondents above 45 years old are 25%. This implies that most respondents were mature enough to answer questions in the questionnaire.

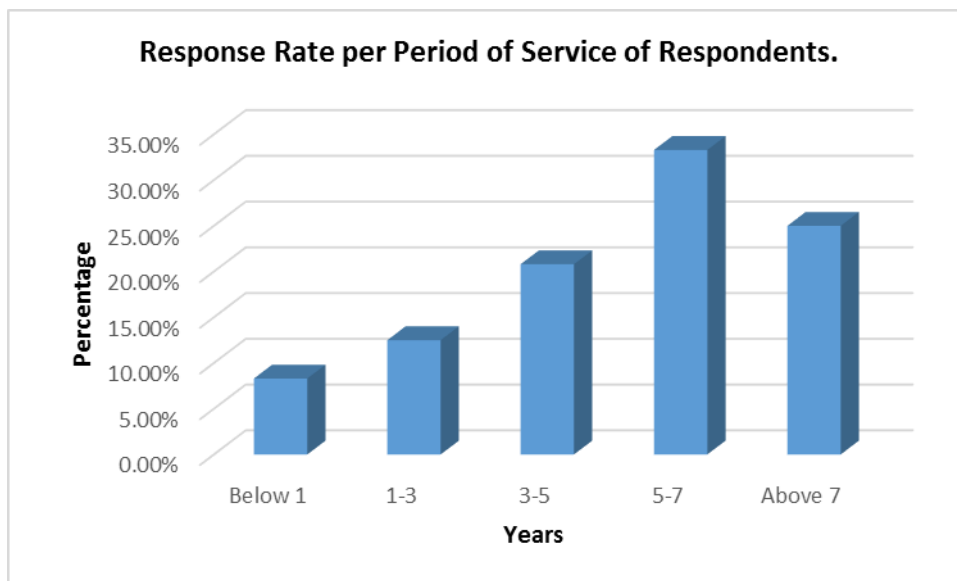


Figure 3 Period of Service of Respondents

Figure 3 shows that 8.3% of respondents have been in the organization for less than one year, 12.5% between 1-3 years, 20.8% between 3-5 years, and 33.3% between 5-7 years while 25% have been working in the hospital for a period of 7 years and above. This implies that respondents had experience with the study.

Table 1 Response Rate per Level of Education of Respondents

	Frequency	Percentage
Certificate	3	12.5%
Diploma	11	45.8%
Degree	7	29.2%
Post graduate	2	12.5%
Total	23	100%

Table 1 shows that 12.5% of respondents have certificates, 45.8% hold diplomas, and 29.2% hold degree, while 12.5% are post grandaunts. This shows that the respondents were educated enough to fill questionnaires.

Control of Inventory

From the pie chart, 70.80% of respondents agree that Elwak Sub County Referral Hospital experiences under stock situations, 20.80% strongly agreed while only 8.30% disagreed. This shows that the hospital experiences under stock situations to a great extent.

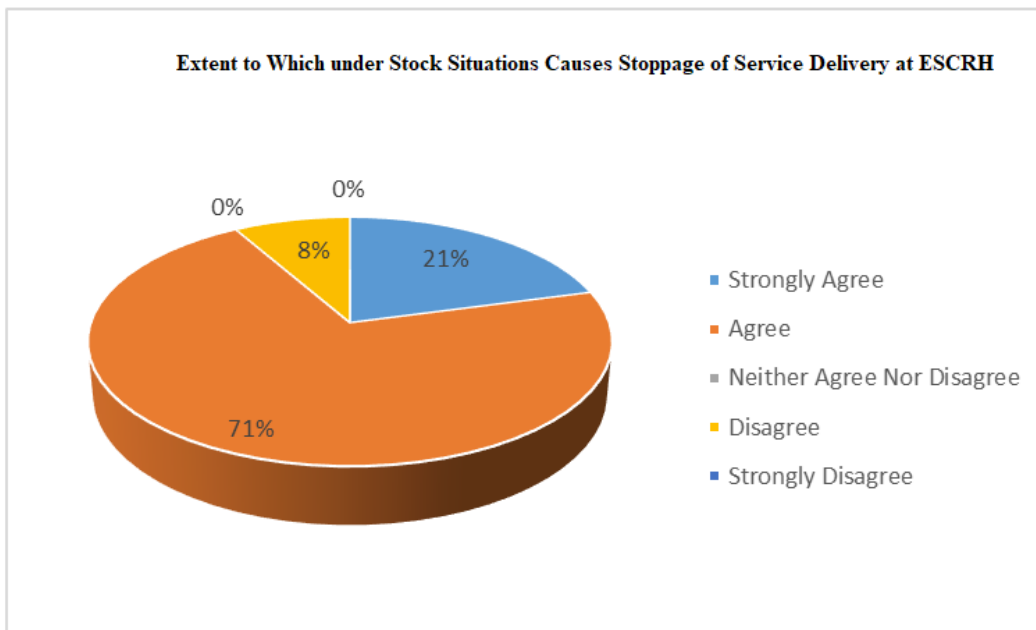


Figure 4 Extent to Which ESCRH Experiences under Stock Situations

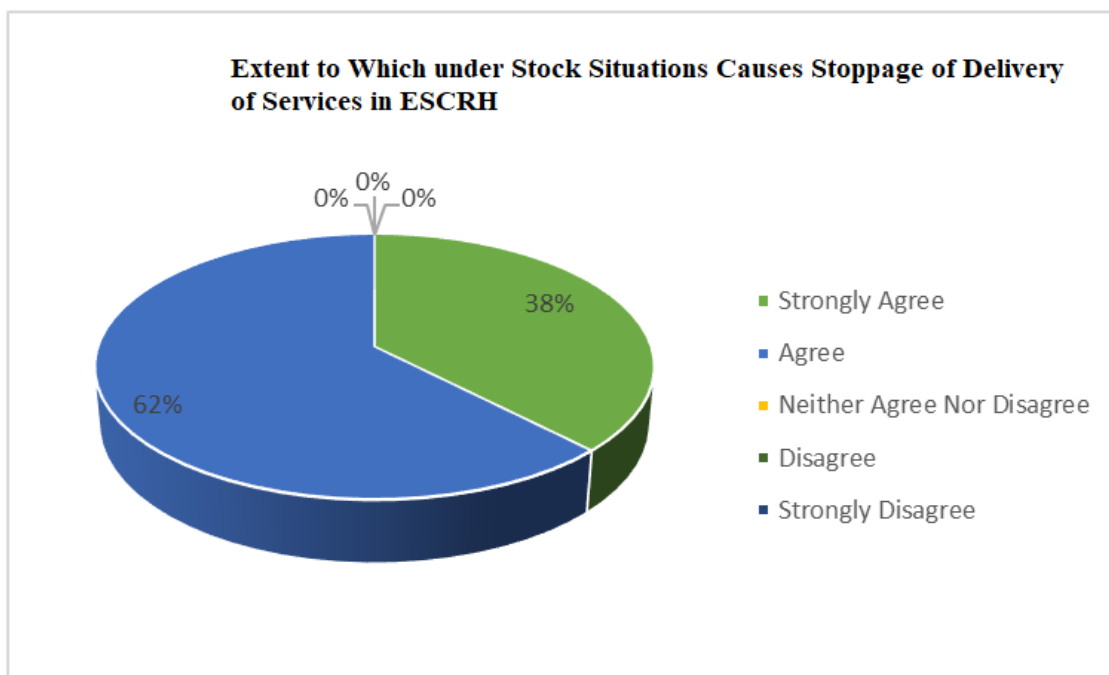


Figure 5 Extent to Which under Stock Situations Causes Stoppage of Delivery of Services in ESCRH

62.50% of the respondents agreed that under stock situations causes stoppage of services delivery at Elwak Sub County Referral Hospital while 37.80% strongly agreed. This shows that under stock situations causes stoppage of delivery of services in the hospital to a very great extent.

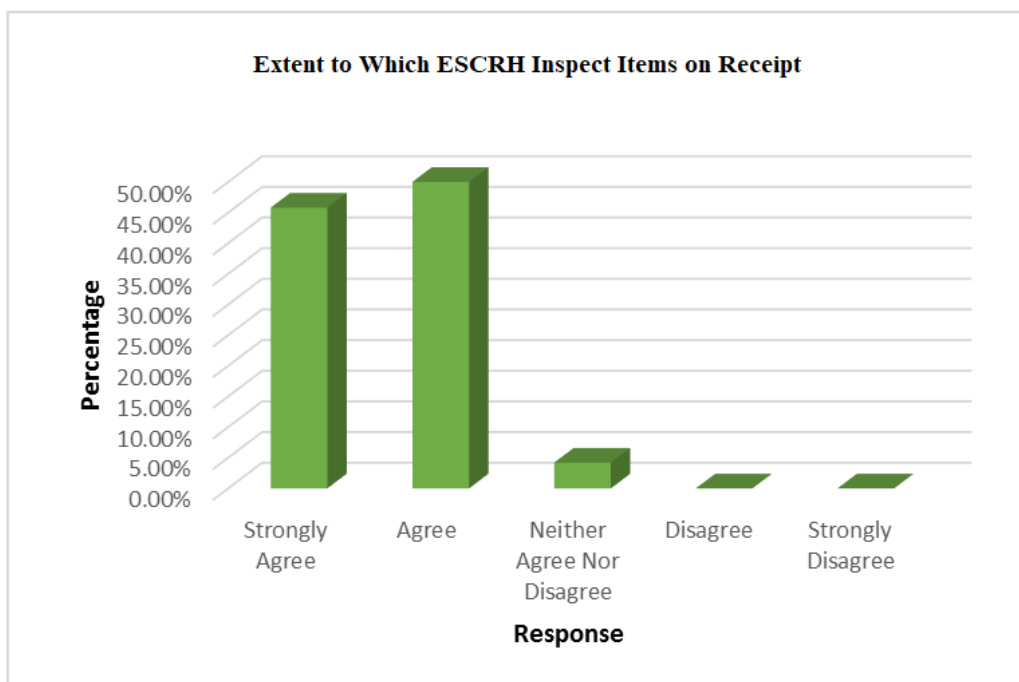


Figure 6 Extent to Which ESCRH Inspect Items on Receipt

Figure 6 shows that 50% of the respondents agreed that Elwak Sub County Referral Hospital store inspects items on receipt, while 45.8% strongly agreed, while 4.2% were neutral. This shows that the hospital pay much attention to the items in receipt to ensure they conform to user specifications.

Three questions in the questionnaire were used to determine the effects of inventory control in enhancing service delivery in public hospitals. The first question sought to find whether Elwak Sub County Referral hospital (ESCRH) experiences under stock situations where majority (70.80%) of respondents agreed, 20.80% strongly agreed while only 8.30% disagreed. This shows that instances of shortages of important items are not new to the hospital. The second question sought to find out whether under stock situations causes stoppage of service delivery in the hospital where majority (62.50%) of the respondents agreed that under stock situations causes stoppage of services delivery at Elwak Sub County Referral hospital while 37.80% strongly agreed. This shows that under stock situations causes stoppage of delivery of services in the hospital to a very great extent. The third question sought to establish whether the hospital store inspects items on receipt where majority of respondents (50%) agreed that the hospital store inspects items on receipt, 45.8% strongly agreed, while 4.2% were neutral. This shows that the hospital pays much attention to the items in receipt to ensure they conform to user specifications.

V. Conclusion and Recommendations

From findings, effective stores management is crucial for any organization especially in public hospitals. Store management affects service delivery to a great extent as depicted by the study.

The study found that good inventory control will ensure that the required level of inventory is maintained which ensure continuous supply of items to user departments with minimal instances of shortages which automatically affect service delivery in hospitals. In addition, inspection of items by store unit ensure that user departments are not issued with sub standards items which will affect the quality of services offered to patients.

Given the finding of the study and the conclusion made, the researcher recommends the following; adoption of modern inventory control techniques by ESCRH. Modern inventory control such as ABC analysis and FSN analysis are believed to maximize user departments’ satisfactions by eliminating instances of shortages which may affect service delivery to a very great extent.

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