Strategies to improve medicinal drug availability at Health Care Institutions

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Abstract- Drugs are essential component for running the health care institutions. The management of drug supply includes five basic functions of the Medicines Management cycle namely, selection, quantification, procurement, distribution, and use. Management support system for medicine management cycle includes organization, financing and sustainability, information management, human resource and quality assurance management. The success of medicines management cycle will depend upon the ability to reliably consistently and continuously supply standard quality medicines at affordable rates to health facilities at all levels of the healthcare system. Good medicinal drugs Supply Chain Management (SCM) helps to medicine management cycle and thereby improves availability of medical drugs and devices at health care institutions. This qualitative study was conducted with the objective of strategies to improve drug availability at Health Care Institutions. The study showed that, selection and quantification is done by the annual estimation of drugs at the health care institution level and the MSD level. Procuring agent to the MSD is SPC and it delivers medicinal drugs with adequate quantity with right quality at a right time to MSD. Store facilities and distribution was satisfactory and it is in the process of improving the capacity and the drug usage was properly done at institutional level. Therefore, this study showed that the basic function of medicinal management cycle is achieved. According to this study it was recommended a country should have a sound drug supply chain management system to improve the medicinal drugs availability at institutional level and also further recommended to conduct a quantitative study on drugs availability and factors affecting.

Index Terms- Health Care Institution, Drug Availability and Supply Chain Management

I. Introduction

Drugs are essential component for running the health care institutes at National and Provincial level in a country. The management of drug supply includes five basic functions of the Medicines Management cycle namely, selection, quantification, procurement, distribution, and use. Management support system for medicine management cycle includes organization, financing and sustainability, information management, human resource and quality assurance management. The success of medicines management cycle will depend upon the ability to reliably and consistently supply the standard quality medicines at affordable rates to health facilities at all levels of the healthcare system [1]. A good Supply Chain Management (SCM) in medicinal drugs helps to improve availability of medical drugs and devices at health care institution. Supply Chain Management (SCM) is a process which creates a product or a service from raw materials to final product that is consumed by the consumer. In this process the product, information and the finance flow occurs both in forward and backward directions and also to satisfy end consumer requisites with goods and services from diverse, connected suppliers [2, 3]. To provide quality health care services Medical products and Drugs are essential, and should be available at right place, at right time, with right quality, and right quantity, at a right cost, in the health care institutions and this can be achieve by a good SCM.

In Sri Lanka the line ministry and provincial ministry health care institutions receive drugs through Medical Supply Division (MSD) and Regional Medical Supply Division (RMSD). The MSD of Ministry of Health and Indigenous Medical Services, is the main organization responsible for providing all Pharmaceuticals, Surgical items, Laboratory Items, Radioactive Items, Printed materials, etc. for Government sector healthcare institutions throughout the country [4]. It has a network of stores comprising of with a central Medical Stores in Colombo (MSD) and there are 26 Regional stores at district level (RMSD). In the chain of central medical stores there are 18 Bulk warehouses at main building, 3 Bulk warehouses at Angoda, 5 bulk warehouses at Wellawatta, one warehouse at Digana and one warehouse at Welisara [5]. There is a good supply chain to maintain the uninterrupted availability of the drugs at institutional level [6]. The annual budget of the MSD is 38 Billion Sri Lankan Rupees and the State Pharmaceutical Corporation (SPC) – a government owned corporation is the procurement entity on behalf of MSD [5].

II. Methodology

The objective of the study was strategies to improve drug availability at Health Care Institutions. This study was a qualitative study. Qualitative data was gathered on medical and medical devices supply chain management in the public health care sectors. The data was collected by Key Informant Interviews, Focus Group Discussion, observation and review of relevant websites and also by desk reviews.

III. RESULTS

The central procuring agent was the State Pharmaceutical Company. The flow of the product (medicinal drugs) is as follows. Once the medicinal drugs are procured by the SPC the procured items are handed over to the MSD. In Sri Lanka, health system is divided to line ministry institution and provincial ministry institutions as mention in the introduction. The items are distributed to the line ministry health care institution via MSD directly, whereas to provincial ministry institutions it through the Regional Medical Supply Division (RMSD) and RMSD receives the items directly from the MSD. Strategy used by the MSD was to maintain good SCM. Therefore the product flow (medicinal drugs) starts from the SPC and received by the MSD. By SPC the products are timely supplied without interruption and maintained the continuous supply. This continuous supply of items from the SPC resulted, improvement of drugs availability at the health care institutions.

Once the medicinal drugs are received next was storing the drugs. The central medical store of MSD had 18 Bulk warehouses at main building, 10 Bulk warehouses at separate locations. At regional level there were 26 RMSD with stores. All these warehouses and stores were able store buffer stock of medicinal drugs for adequate period. Further, these stores are upgrading to store buffer stocks for more duration than the current capacity. In addition, the health care institutions also comprise of drugs stores to store these medicinal drugs and these stores are also in the process of upgrading the capacity. All these stores and warehouses maintained at a recommended temperature and also had cold rooms. This insured the cold chain maintenance and the quality of the medicinal drugs. The quality was checked at various levels and this practice helped to maintain the standard and quality of the drugs. At the procurement stage the quality certificates, approvals from recognized organizations and good manufacturing practices were checked. Drugs are checked for quality once it is received at the MSD level. Every drug reaction and quality is checked regularly at the institutional level and takes necessary actions to prevent these incidences. The Medical Supply Management Information System helps in this process; further this system will alert and stop using the particular drug.

MSD had a good vehicle fleet to provide timely transportation all over the country. The vehicles were built with temperature control systems to maintain the cold chain and to maintain recommended temperature for the medicinal drugs. This ensures the maintenance of quality of the medicinal drugs. This transportation system helped to maintain the continuous supply and improve the medicinal drugs availability.

The main contributor to Supply Chain Management was the Medical Supply Management Information System (MSMIS). This software link all the RMSD, line ministry health care institutions and line ministry and provincial ministry secondary care health care institutions with the MSD. Establishing this MSMIS system with the remaining health care institutions (primary health care institutions) are in the process. This software helps in stock control activities. It also includes, ordering facility, medicinal drugs transfer to other health care institutions and also managing the quality failure drugs. This system helps for annual estimation of medicinal drugs. SCM is maintained with the help of this system and helps to improve the drugs availability at health care institutions.

In addition to the data from the MSMIS system, all healthcare institution performs annual estimation manually and submits to the MSD. MSD compile these estimates and order is given to the SPC. This ensures the adequate number of drugs to the health care institution for the particular year. Drugs and therapeutic committee meetings are conducted regularly at health care institutions and feedback is given to MSD to improve the supply.

At the institutional level pharmacists and dispensers are employed in indoor and outdoor pharmacy for proper distribution to patients and management of drugs. The rational usage of drugs is practiced by the doctors. This prevents unnecessary prescription.

On this study it was found that few items were delayed to supply to MSD due to supplier delay. But this was overcome by storing adequate buffer stocks.

IV. CONCLUSION

Basic functions of the medicines management cycle are selection, quantification, procurement, distribution, and use. MSD main responsibilities are to supply drugs and medical products at the right time, with right quality and right quantity to right place, by a good SCM which helps to increase the drug availability at institution level. The selection and quantification is done by the annual estimation of drugs at the health care institution level and the MSD level. Procuring agent to the MSD is SPC and it delivers medicinal drugs with adequate quantity with right quality at a right time. Store facilities and distribution was satisfactory and usage is properly done at institutional level. Therefore, this study shows that the basic function of medicinal management cycle is achieved.

V. RECOMMENDATION

1. A country should have a sound drug supply chain management system.
2. Since this is a qualitative study it is recommended to conduct a quantitative study on drugs availability and factors affecting

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