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A SOCIOLOGICAL STUDY ON SUPPLY CHAIN MANAGEMENT OF TB DRUGS IN COMMUNITY HEALTH CENTER

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ABSTRACT

India is the highest TB burden country accounting for more than one-fifth of the global incidence. India is 17th among 22 High Burden Countries. Being the country with the increasing risk with better management of the supply chain one can stretch limited resources to serve more people Strong procurement and logistics management with respect to drugs is essential to strengthen every link in the drug supply chain from the manufacturer to the patient. This study is done to understand continues supply and availability of TB drugs and the challenges faced by health workers or health staff in the process of treatment, study also includes elements of stock outs periods and inventory management systems followed in the public health care centers. The study is conducted in Tumkur city community health centers; the data for the study were collected through qualitative method of data collection by conducting focus group discussion and personal interviews with health staff as a primary source, articles and journals were used for secondary source.

INTRODUCTION

Supply chain management is the management of the flow of goods. It includes the movement and storage of raw materials, work -in-process inventory, and finished goods from point of origin to point of consumption. An uninterrupted supply of good quality anti-TB drugs is one of the five components of the DOTS strategy being followed for the implementation of the RNTCP. The design and implementation of a Drug Logistics Management Information System (LMIS) is an important technical intervention in supply chain management. A well-implemented LMIS reduces the likelihood of stock-outs, which is crucial to the success of any programme. It also minimises overstocking that can waste scarce resources and lead to drug expiry.

Strong procurement and logistics management with respect to drugs is essential to strengthen every link in the drug supply chain, from the manufacturer to the patient. With better management of the supply chain, one can stretch limited resources to serve more people with essential services and exceed programme objectives. India has developed a unique system of providing drugs in Patient-Wise Boxes (PWBs) which contain the drugs for the entire duration of treatment for a single patient. Once a patient is started on anti-TB treatment, a box is assigned to that individual patient, thus ensuring that when the patient starts on treatment, the entire course is available uninterrupted to him/her. This uninterrupted availability of drugs throughout the six- to eight-month treatment course is a key component of the DOTS programme. The effort in this direction was made possible by analysing and improving existing systems. As a result of work done over the past few years, significant improvements in the manufacturing, inspection, supply, storage and quality control practices and procedures have been achieved.

OBJECTIVES AND METHODOLOGY OF THE STUDY

- A continuous and uninterrupted supply of quality anti-TB drugs;
- Principles of FEFO (First Expired First Out) are followed whilst issuing drugs;
- Expiry of drugs is avoided.
- To analyse the effectiveness of LHV/ ASHA workers in identifying diseased persons and increasing awareness in the community.

To meet the objectives of the study the researcher used secondary data. The required secondary data have been collected from various articles, magazines, websites, reports etc.

GLOBAL SCENARIO

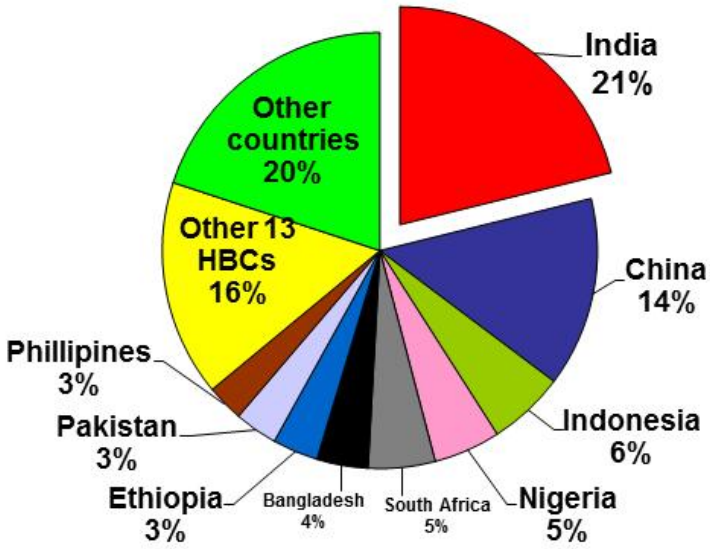
- Since 1995,over 21 million patients have been diagnosed and treated in DOTS programmes
- In 2007, 5.5 million new and relapse TB cases were initiated on treatment under DOTS strategy
- Of 2.5 million new smear positive patients registered in 2006, 85% were successfully treated under DOTS

INDIAN SCENARIO

India is 17th among 22 High Burden Countries (in terms of TB incidence rate)

- Estimated incidence
  - 1.96 million new cases annually
  - 0.8 million new smear positive cases annually
  - 75 new smear positive PTB cases/1lakh population per year
- Estimated prevalence of TB disease
  - 3.8 million bacillary cases in 2000
  - 1.7 million new smear positive cases in 2000
- Estimated mortality
  - 330,000 deaths due to TB each year
  - Over 1000 deaths a day
  - 2 deaths every 3 minutes

India is the highest TB burden country accounting for more than one-fifth of the global incidence.
Global annual incidence = 9.4 million
India annual incidence = 1.96 million



MOLECULES

The essential drugs used in the Revised National Tuberculosis Control Programme (RNTCP) are: Rifampicin , Isoniazid, Ethambutol, Pyrazinamide, Streptomycin, Pyridoxine

PROCUREMENT OF DRUGS

Anti-TB drugs are procured under the RNTCP for both category-wise PWBs (Patient Wise Boxes), as well as for loose drugs. Loose drugs are required for the small number of patients who are put onto the RNTCP non-DOTS regimen, i.e. non-Rifampicin-containing regimens. Loose drugs are also required for paediatric patients and adult patients with low and high body weights. Data for decision-making are crucial to the operation of any logistics system. Commodity procurement and financing, shipment, scheduling and routine ordering cannot be accomplished without accurate logistics data. The right amount of data needs to be captured from all levels of the system in a timely manner in order to ensure an uninterrupted supply of anti-TB drugs, despite unpredictable and rapid changes in consumption. Changes in drug consumption have also been noticed due to an expansion of coverage, seasonal factors, increase in case-detection rates, etc., and such factors need to be taken into account when calculating procurement quantities.

Procurements acquired with World Bank/GFATM support have resulted in significant improvements because of improved management information systems. The quantities of drugs ordered now closely reflect the best possible estimate of utilisation. A longer available shelf-life of drugs (three years) has now been specified, which, along with supply in different tranches, has resulted in a much more stable drug supply system with less risk of stock-out (since larger quantities are procured as a physical buffer stock) and expiry (because of longer expiry periods). Improved blister pack designs in Patient-Wise Boxes have been introduced and have proven to be very effective. The concept of PWBs has resulted in the development of enhanced confidence of the patients in the public health system.

Procurement of anti-TB drugs for RNTCP is made through an independent procurement agency appointed by the Ministry of Health and Family Welfare (MoHFW). The procurement process passes through many stages that take approximately 12-16 months, ensuring that the best quality drugs are procured in a cost-effective manner. However, the long procurement process puts an additional burden on programme planning in terms of realistic stock projections required to last until the next supply begins. The various steps that need to be followed in the procurement process can be summarized as follows:

Monitoring of drug supplies with regard to requirement and consumption is done through a two-tier monitoring system:

Central system at the Central TB Division (CTD); and
_ Decentralised system at the state and district levels.

The CTD continuously monitors drug stock information to ensure the adequacy of drugs stocks at the state and district levels, whereas the State and District TB Officers do the same up to the level of the DOT Centres. The CTD ensures drug stocks at the districts by way of data included in the RNTCP Quarterly Programme Management Reports (QPMR), received by the CTD from the districts which enable the CTD to continuously monitor the drug stock position at the lower levels. The RNTCP Quarterly Reports provide details on:

_ Patients put on treatment during the quarter;
_ Quantities consumed;
_ Stocks received during the quarter;
_ Closing stock; and
_ Requirements of the district.

A buffer stock level of three months is to be maintained at each district throughout the country, which is to be achieved by a system of projections of future utilisation and supply needs of the districts. Moreover, drug stock supplies at each GMSD and SDS are also monitored through a system of receipt of monthly statements giving details of :

_ Quantities received and issued during the month;
_ Stock in hand; and
_ Expiry details of the stocks.

The drug management cycle depicts the policy and framework for management support starting with selection of drugs, their procurement, distribution and finally their use.

USE

Specific RNTCP drugs given to the individual TB patient depend on the type and severity of the disease and are given by way of category-wise PWBs. Three treatment regimens (Categories I, II and III) are used in the RNTCP, according to the type and severity of the individual patient's disease. In addition to the patients put on category-wise PWBs, some patients may need to be put on loose drugs which is decided by the doctor in-charge. Drugs are issued to the district on the basis of the Quarterly Programme Management Reports, which are duly tallied with the Quarterly Case-Finding Report of the district. In case of default, failure or death of a patient, the treatment boxes are re-constituted at the district level so that drugs assigned for such patients are not wasted and are used within their expiry period.

RECOMMENDATIONS

- By establishing a Web-based Drug Logistics Management Information System to increase efficacy, efficiency and reliability of the system, and to strengthen the capacity of the Drug Logistics System at the state level.
- Motivate LHV people work effectively to bring TB patients for continuous treatment.
- Educating people about objective of RNTCP.
- Initiating patients to take complete and continuous treatment without break.
- Patients hesitate to disclose about TB disease and to take medicine in their community. Convincing and educate them about effects of taking treatment.

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