Summer Training at
Gujarat Medical Services Corporation Ltd, Gujarat
(April 3 to June 2, 2017)

Identifying the Scope of Drug Shortages in Deendayal Stores (Saurashtra Region) and its Effect on Patient Healthcare

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(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Mr.Abhishek Arora** has undergone summer training in **GMSCL, Gujarat** from 3rd April to 2nd June 2017.

The candidate himself completed the project assign to him during summer training. His approach to the project was sincere and proactive.This summer training is in partial fulfillment of the course requirement recommended for the award of MBA in Pharmaceutical Management.

I wish him success in all his future endeavors.

Col. (Dr.) Ashok Kaushik

Dean (Academic & Student Affair)

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The certificate is awarded to

Abhishek Arora

In recognition of having successfully completed his

Summer training in the department of

Logistics & Supply chain

And has successfully completed his Project on

Identifying the reasons behind the drugs shortage in Deendayal drug stores (Saurashtra region) & its effect on patient healthcare.

From 3rd April, 2017 – 2nd June, 2017

At

Gujarat Medical Services Corporation Limited

He comes across as a committed, sincere & diligent person who has a

strong drive and zeal for learning

We wish him all the best for future endeavors

GUJARAT MEDICAL SERVICES CORPORATION LTD. GMSC GANDHINAGAR

27/6/17

Managing Director , GMSCL

ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of Gujarat Medical Service Corporation Limited, Our institute, project guide and colleagues. I would like to extend our sincere thanks to all of them.

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Abhishek Arora

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About Organisation

The Central Medical Stores Organization (C.M.S.O) was established in 1978 under Health and Family Welfare Department. Govt. of Gujarat and was entrusted with the functions of procurement, storage, distribution of medicines surgical goods medical equipment / instrument and insecticides for the health care institutions under Govt. of Gujarat.

With the changes in the healthcare arena there was a felt need of developing new as well as upgrading the existing functioning and processes of CMSO, and consequently develop an institution supported with necessary infrastructure to make the system responsive to meet the objectives of the universal health coverage. With the view to match the changing demands and pace of development in the sector, CMSO was transformed into **"Gujarat Medical Services Corporation Limited" (GMSCL)** as an autonomous body and was incorporated under companies act, for systematic procurement, inventory management, Management information system and to infuse professional management with establishment, development and strengthening the use of information technology in medical store organization.

Functions & Services

The Main Functions of GMSCL are as following:

1. Procurement of essential, lifesaving quality medicines, surgical goods & Insecticides and their timely availability by creating highly decentralized storage capacity & distribution network.

2. Procurement of quality medical equipment/Instrument and its maintenance for entire product life cycle.

3. Establishment of Diagnostic Medical Service Center foe early diagnosis & ease of treatment for beneficiaries.

SCOPE OF THE PROJECT

From the past two months, I came to know that there is extreme shortages of drugs and complaints in regards to drug shortages in Deendayal Pradhan Mantri Jan Aushadhi Stores, which is directly affecting patients care in the whole Gujarat. As we all know that it is important for doctors and other medical providers to listen to the most important member of the health care team, **the patient**. After all , there is no bigger stakeholder. Involving patient in the decision making process is essential, to both better the patient outcome and improve patient experience.

However, this problem is known to higher authority but there is no any reliable reporting for the same. So as to get the clear picture and understanding of the reason behind the drug shortages, nor specific impact or scope of drug shortages on store in-charges, pharmacists & patients as well. I decided to conduct a survey in order to make a very clear understanding of the scope and reason for medicine shortages in all Deendayal Stores located in Saurashtra region of Gujarat.

The Govt. of Gujarat has already opened 52 generic stores named 'Deendayal Pradhan Mantri Jan Aushadhi Stores' and recently GMSCL has inaugurated 150 franchise stores in different regions in Gujarat. So, the research findings of the study can help in effective management of these stores & the implementation of this project will result in less chances of shortages along with smooth working of the logistics department.

DEENDAYAL PRIME MINISTER JAN AUSHADHI STORE GOVT. OF GUJARAT

Deendayal Prime Minister Jan Aushadhi Store (DPMJAS) is an ambitious program conceived and implemented by Govt. of Gujarat with the partnership and administration of HLL Lifecare Limited, a Government of India owned corporation based in Kerala that manufactures healthcare products to provide generic medicines at affordable prices. Deendayal Prime Minister Jan Aushadhi Stores (DPMJAS) reflect Govt. of Gujarat's powerful commitment to decrease the cost of treatment or out of pocket expenditure for the patients. Deendayal Prime Minister Jan Aushadhi Stores will be providing quality generic drugs, branded drugs and over the counter drugs at very affordable and low prices. Patients can purchase drugs at up to 80 % cheaper than the market price from Deendayal Prime Minister Jan Aushadhi Stores.

Deendayal Prime Minister Jan Aushadhi Store would sell medicines at effective discount on the market rates, based on the prescriptions from physicians not only to patients in Government / District / Civil hospitals but to the patients availing treatment at other hospitals as well. These Deendayal Prime Minister Jan Aushadhi Stores will be established in Government hospital premises or if any Government space is available in the first phase.

Drug stores operated under this scheme shall have the following products:

- Generic drugs
- Specialized drugs for tertiary care
- Over the counter drugs
- Surgical items
- Hospital consumables

The Jan Aushadhi Campaign for Ensuring Access to Quality Medicines and Health Care for all

We all know about the high prices for branded medicines available in the market. These medicines are sold by pharmaceutical manufacturers at extremely high prices in compare to generic or unbranded substitutes which are equivalent in safety and efficacy and give same results in its therapeutic value. Every patient will get benefited in case if pharmaceutical manufacturers provide the required medicines at low prices with greater availability in the market. Seizing this opportunity, the Pharmaceutical Advisory Forum in its meeting held on 23rd April, 2008 under the Chairmanship of Shri Ram Vilas Paswan, Hon'ble Union Minister of Chemicals & Fertilizers and Steel, decided to launch a Jan Aushadhi Campaign. This was an important initiative under the Jan Aushadhi Campaign that involves the planning to start Jan Aushadhi Stores, where generic quality drugs would be sold at very low prices but are same in potency to branded drugs.

JAN AUSHADHI CAMPAIGN: KEY OBJECTIVES

1. Ensure the quality of drugs and its availability in India, by making access to required drugs through the Central Procurement & Supplies Unit supplies and through Good Manufacturing Practices (GMP) compliant pharmaceutical manufacturers in the private sector.

2. In spite of all the constraints of annual budget in the Central and State governments that is extending coverage of generic drugs which would decrease and redesign the unit cost of treatment per patient.

3. Develop a concept which can be replicated in other developing as well as developed countries nearby with a goal to improve accessibility of generic drugs at low prices for all.

4. The Jan Aushadhi campaign is for all citizens in India. Since quality generic substitutes are available for almost all the expensive branded drugs, the Jan Aushadhi campaign would provide access to any OTC or prescription drug.

5. Create awareness through publicity and education among all so that the meaning of quality is not related to high prices. This result the availability of more drugs and obviously a great number of patients will be benefited.

6. Be a part of programs related to the Central and State Governments, Private Sector, Non-Governmental Organizations and Cooperative bodies and so on.

7. Create a demand for quality generic drugs with the concept ‘By All for All’ by enhancing access to greater healthcare services through low treatment costs and easy availability wherever required in all therapeutic categories.

Implementation of the Jan Aushadhi Campaign

The Jan Aushadhi initiative provide a gamut of quality generic drugs at very low prices through dedicated pharmacy stores selling generic quality medicines that are equivalent to branded drugs in safety and efficacy. Some comparative prices are:

Name of Salt	Dosage	Pack	Jan Aushadhi Price	Market Price
Tab. Ciprofloxacin	250mg	10	12.89	54.79
Tab. Ciprofloxacin	500mg	10	24.99	125.00
Tab. Cetrizine	10mg	10	2.75	20.00
Cough Syrup	110ml	Liquid	13.30	33.00
Tab. Diclofenac	100mg	10	4.20	60.40
Tab. Paracetamol	500mg	10	3.03	09.40
Tab Nimesulide	100mg	10	3.16	39.67

RATIONALE

Shortages of medicines are causing a serious concern in all over the world including India to a greater extent because of low management and less production, supply and ineffective distribution. However, the problem is far wider; affecting the health of patients and disruption of their continuity of medication. Medicines shortages have also been noted in Generic stores, opened in Gujarat named Deendayal Pradhan Mantri Jan Aushadhi Stores.

In the absence of any reliable reporting, there was no clear understanding of the reason behind the drug shortages in all the Jan Aushadhi Stores in Gujarat. In simple terms, there is a need to make all the essential drugs available to the patients anyhow and keeping in mind the following intentions to choose this topic for the research study:

1. Are we focused on the patients' healthcare?

2. Do we have an idea about the extent of satisfying the patients through providing the prescribed medicines?

3. Are we doing things right in the supply chain management?

4. Do we have the right talent aligned with our pharmacists, the right support resources and processes in place?

5. What has changed externally in our markets or with our stakeholders?

RESEARCH OBJECTIVES

- To identify the real causes behind drug shortages in Deendayal Pradhan Mantri Jan Aushadhi Stores.

- To study the scope of drug shortages on patient healthcare in Deendayal Pradhan Mantri Jan Aushadhi Stores.

- To look for the possible solutions to prevent the drug shortages in Deendayal Pradhan Mantri Jan Aushadhi Stores.

RESEARCH METHODOLOGY

Sample Design

The research conducted was descriptive research.

Sampling Method

The sampling method was Purposive Sampling (Total Population).

Sample Population

The number includes Junior Pharmacists, Senior Pharmacists and Store In-charges.

Sample Size

Sample size for the study was 16. In whole Gujarat, there are a total of 52 Deendayal Pradhan Mantri Jan Aushadhi Stores but because only 16 stores come under Saurashtra region of Gujarat, the study was concluded with all these 16 stores.

Sample Selection

Deendayal Pradhan Mantri Jan Aushadhi Stores in Saurashtra region in Gujarat.

Data Collection

Primary Data – The primary data for this project was gathered through survey using a structured questionnaire.

Research Instrument (Tools and Techniques)

Research instrument is a structured questionnaire consisting of closed-ended as well as open-ended questions, designed within the scope of the given objectives.

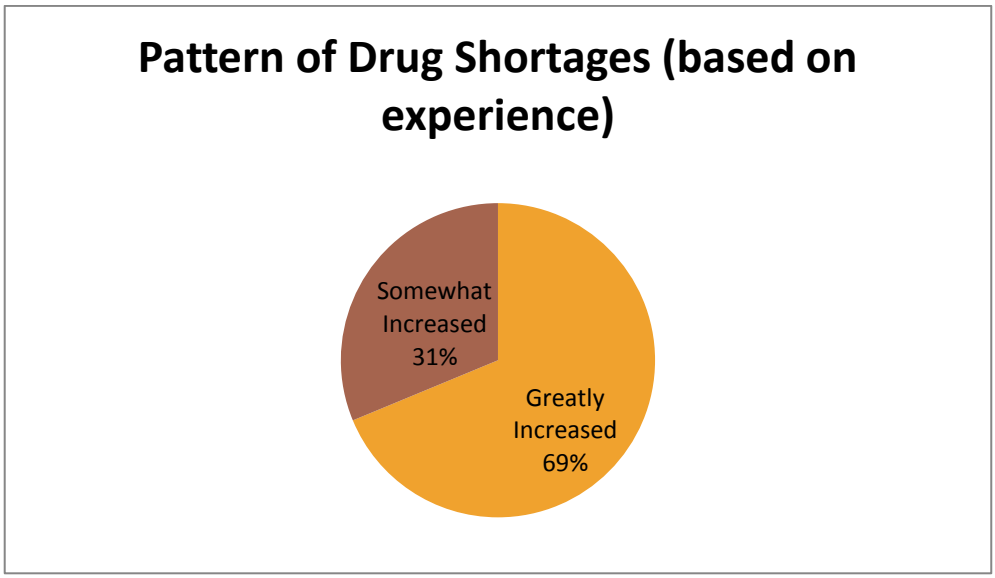
The information was collected through direct interviews and emails to all the pharmacists and store in-charges. Hence some data was collected with the help of informal talk with the chemists & in-charges.

Data Analysis

Microsoft Excel

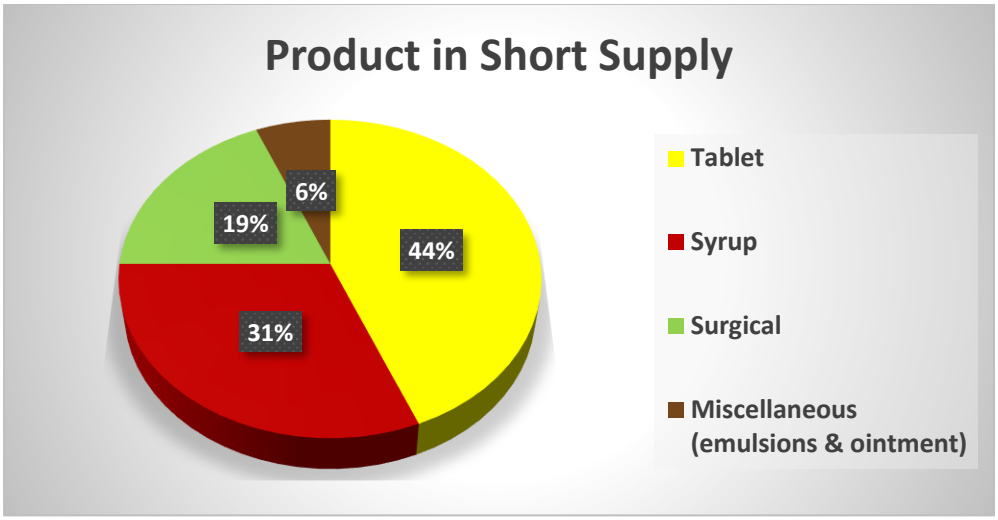
FINDINGS AND INTERPRETATIONS

1. Based on your experience, over the past 3 months, have drug shortages –



It was found that about 69% pharmacists believe that drug shortages in all the pharmacy stores have greatly increased over last 3 months.

2. What type of product is in short supply?

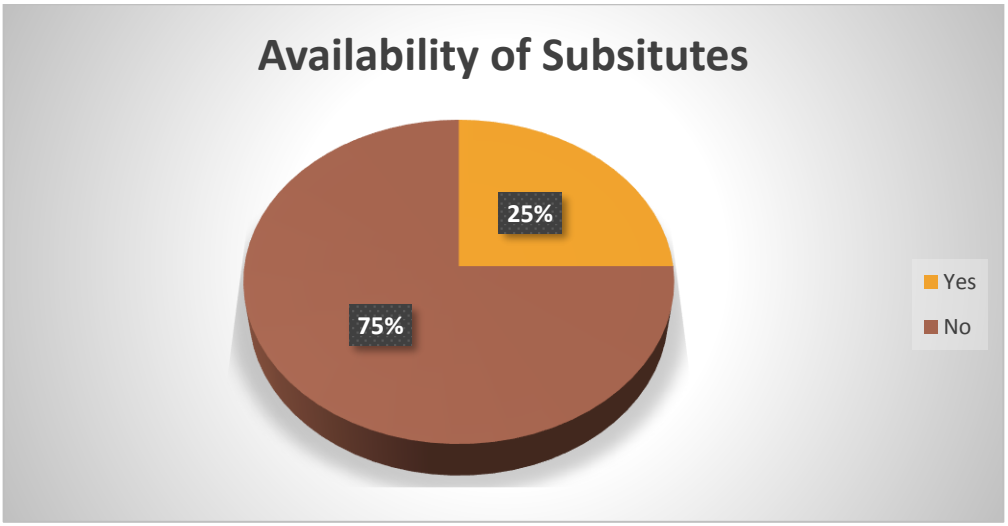


It was found that major short supply problem was with tablets (44%) and Syrups (31%).

3. Make a top 10 drug shortages list –

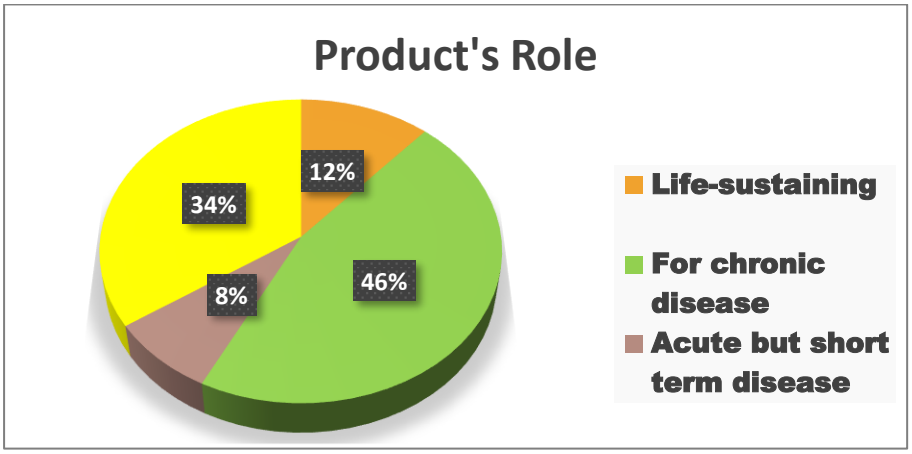
EDL	Non-EDL
Glimepiride Tab	Cadex Syrup
Telmisetron Tab	Rexcof Dx Syrup
Dextromethorphan Syrup	Ecosprin Tab
Metformin HCL Tab	Diclofenac + Paracetamol Tab
Fluconazole Tab	ORS Powder

4. Was there any substitute available for the above mentioned drugs?



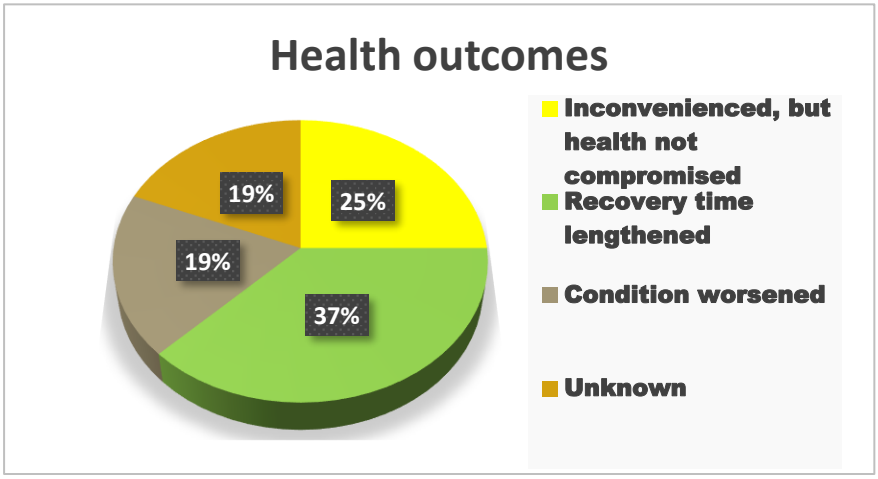
It was found that the availability of substitutes was not there in 75% of the pharmacy stores.

5. What role did the product play in the patient's health?



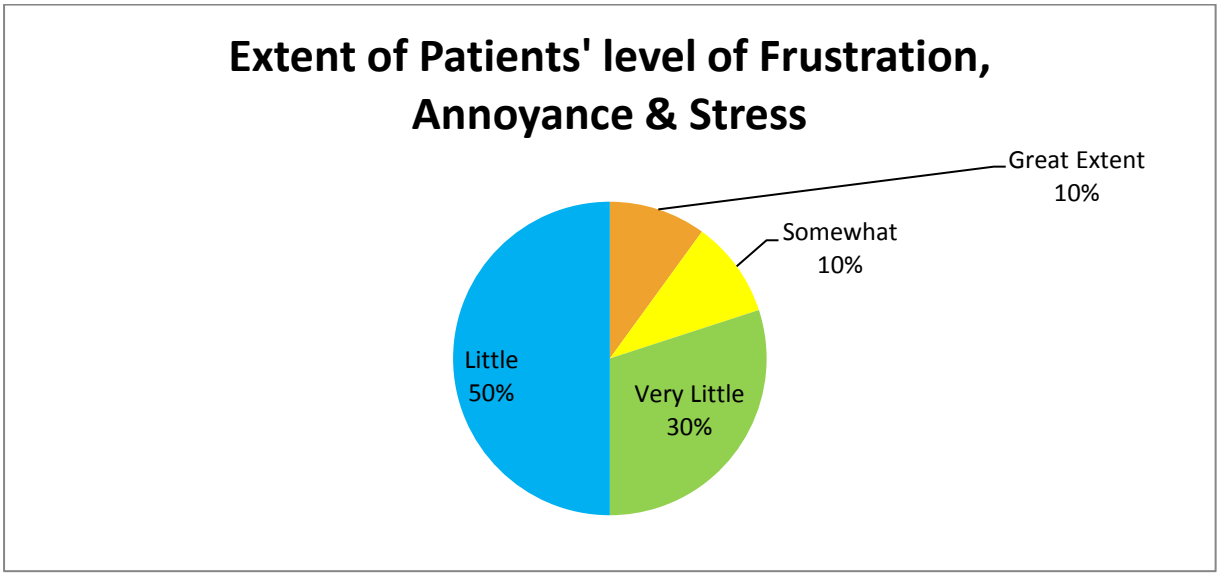
It was found that the drugs which were used for chronic disease (46%) and acute disease (34%) was in shortage.

6. What are the health outcomes for the patient?



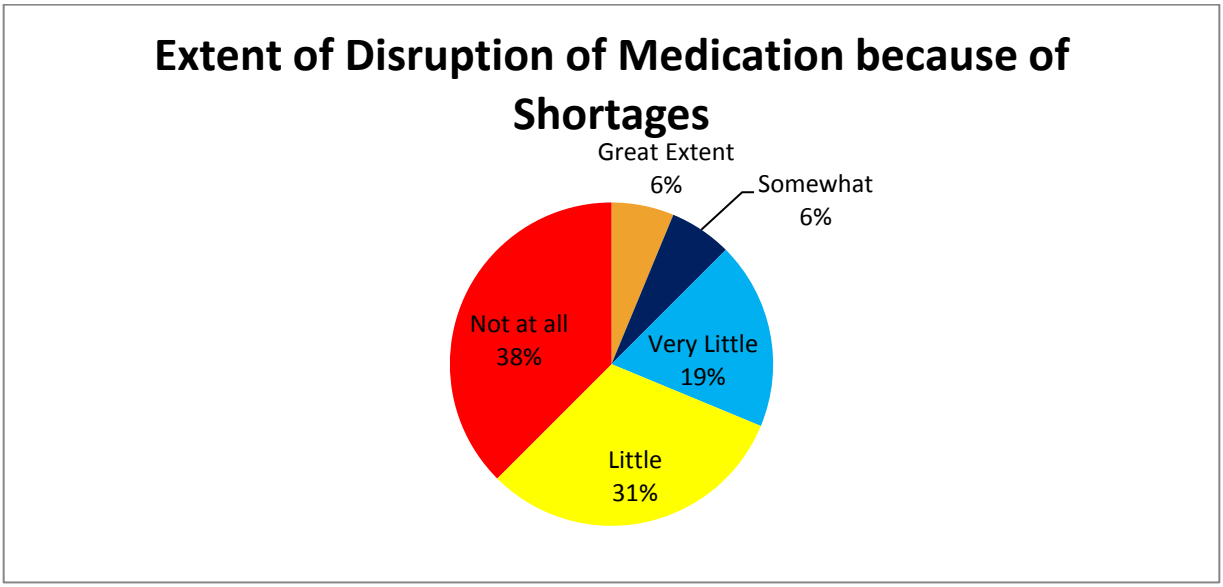
It was found that due to drugs shortage recovery time of patients (37%) got increased.

7. To what extent patients are frustrated, angry & stressed –



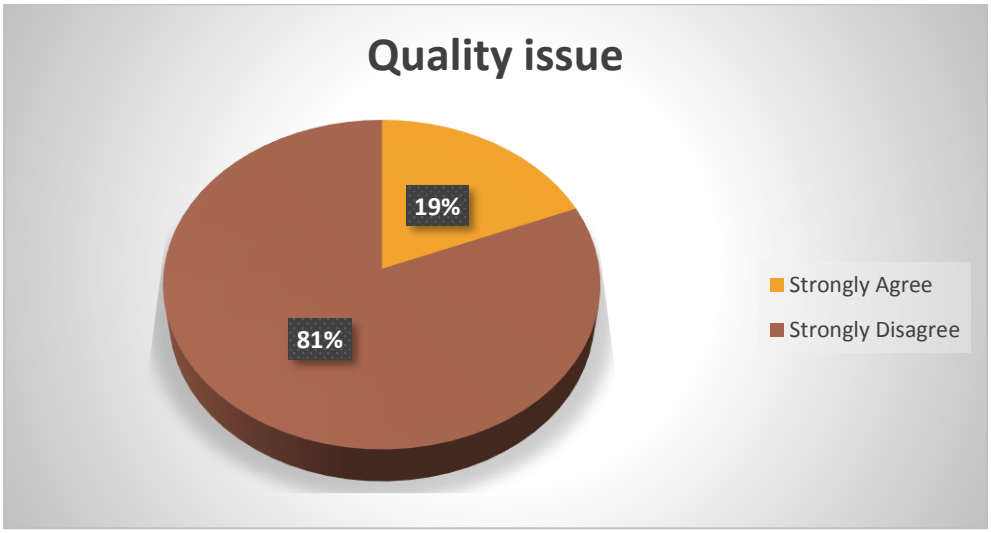
It was found that patients are frustrated, angry and stressed to an extent because of drug shortages in these pharmacy stores.

8. To what extent the shortage had disrupted their continuity of medication-



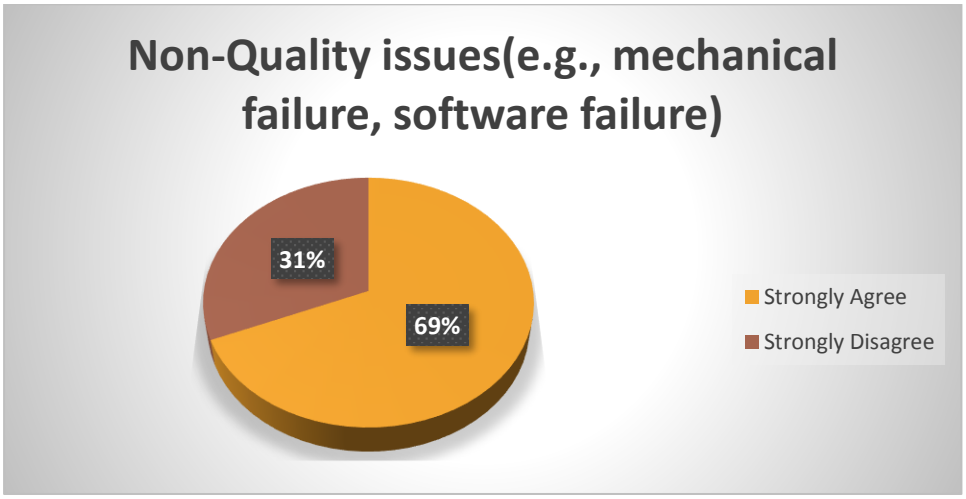
It was found that 62% pharmacists believe the shortages of medicines had disrupted patients' continuity of medication to an extent.

9. What you believe contributed most to drugs shortage - Quality issues?



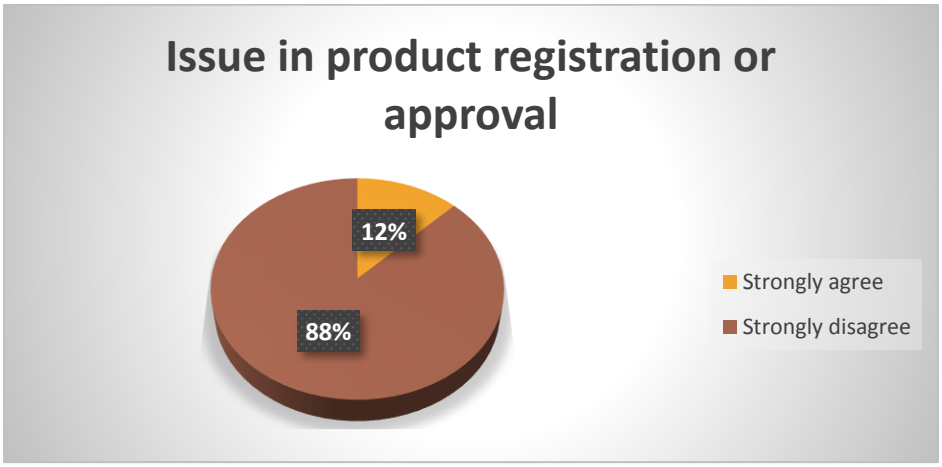
81% of pharmacist believed that drugs shortage was not due to quality issues.

10. What you believe contributed most to drugs shortage - Non-quality issue (e.g., mechanical failure, software failure)?



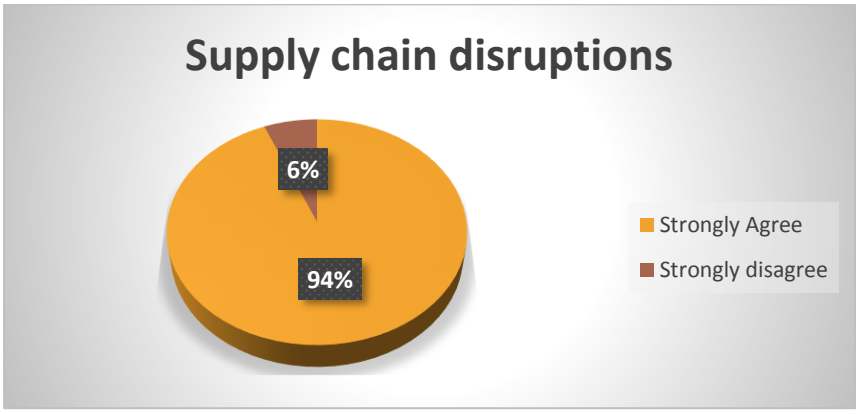
69% of pharmacist believed that drugs shortage was due to non-quality issues.

11. What you believe contributed most to drugs shortage – Issue in product registration or approval?



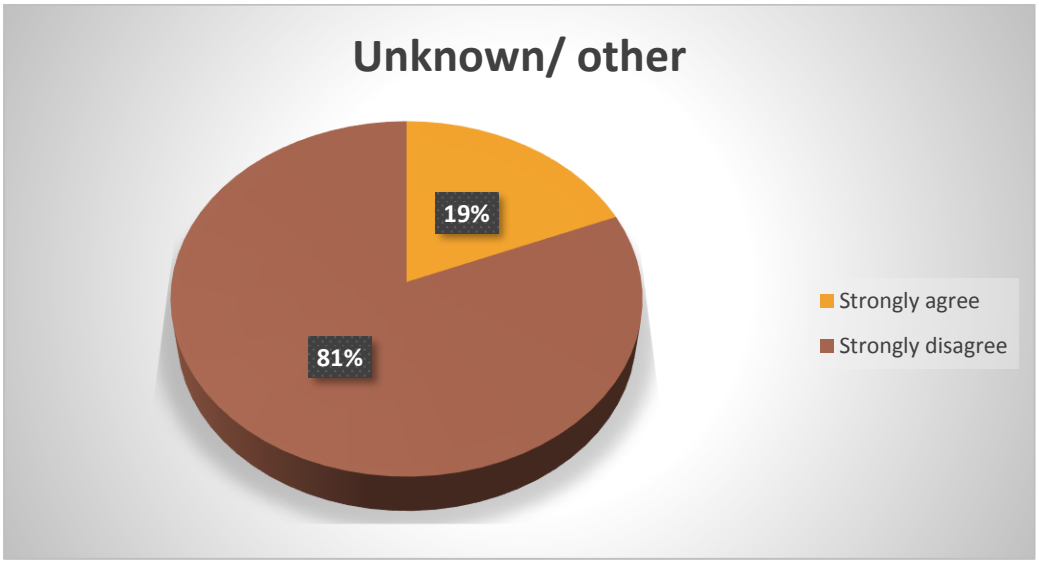
12% of pharmacist believed that drugs shortage was due to product registration or approval issues.

12. What you believe contributed most to drugs shortage – Supply chain disruptions as a root cause (e.g., carrier, transport, warehouse)



94% of pharmacist believed that drugs shortage was due to supply chain disruptions.

13. What you believe contributed most to drugs shortage - Other/Unknown (e.g., conflicting requirements for products for different markets)



19% of pharmacist believed that drugs shortage was due to some other issues.

Author's Suggestion

The cause of drug supply shortages survey has helped the organization to identify the extent of drug shortages and its reasons. It is a preliminary step in the formative planning of a well-addressed process that will address the needs and solutions in all the Deendayal Pradhan Mantri Jan Aushadhi Stores. Thus, the study suggests implementing a computerized alert system for low drug stocks so that the cost of inventory to the organization can be reduced to an extent. Also, this implementation helps in committing to the patients in regards to the availability of required drugs. There is a need to activate and coordinate the communications among pharmacy, pharmaceutical warehouse and related staff through multiple channels in order to control any problem related to drug supply shortages.

In addition, the study recommends adding alternative drugs for at least the critical drugs that can have an effect on patient health in case of shortages. I strongly recommend to extend the survey to all Deendayal Pradhan Mantri Jan Aushadhi Stores in Gujarat.

CONCLUSION

Overall, the results indicate that there was drugs shortage in every Deendayal drug store.

It was found that about 69% pharmacists believe that drug shortages in all the pharmacy stores have greatly increased over last 3 months. Also, it was found that tablets (44%) and syrups (31%) dosage forms were majorly in shortage.

It was found that the availability of alternative drugs or substitutes is not there to a required extent in the pharmacy stores. One precaution to control when drugs become low on stock is to provide an alternative or substitution for drugs having the same effect. Most participants (75%) say that the alternative medicines are not available to a greater extent at the store and this unavailability of drug alternatives is a cause of drug supply shortages in all the Deendayal Pradhan Mantri Jan Aushadhi Stores.

It was also found that drugs which was used for chronic and acute disease were in shortage which cause inconvenience to the patients and their recovery period was also increased due to drugs shortage.

Patients are frustrated, angry and stressed to an extent because of drug shortages in these pharmacy stores. The study says that 62% pharmacists believe the shortage of medicines had disrupted patients' continuity of medication to an extent.

It was found that 19% pharmacists believe that the drugs shortage was due to quality issues. More than half of the participants (69%) believe that drugs shortage was due to Non-quality issue (e.g., mechanical failure, software failure). So there is a need to implement a computerized system at the store

through which the pharmacists can be aware if there is any shortage of any medicine. It was found that about 12% pharmacists believe that drugs shortage was due to product registration or approval issue. It was found that 94% of pharmacist believed that drugs shortage were due to supply chain disruptions. It was found that about 19% pharmacists have no idea about the delay of supply or drug shortages at all the pharmacy stores. So there should be a proper follow-up with the warehouse to deliver the drugs on the promised date in order to avoid a shortage of drug supplies.

LIMITATIONS

- The research study is limited to only Saurashtra region in Gujarat.
- Out of 52 stores all over the Gujarat, the study includes the responses from only 16 stores that come under my region.

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