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A Study on Inventory Management Practices in Retail Medical Stores in Buldhana District

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Abstract: *This study focuses on inventory management practices in retail medical stores in Buldhana district. The study is based on primary data collected from 60 respondents using a structured questionnaire. It examines stock control methods, common problems such as stock-out, expiry, and overstocking, and the role of technology in inventory management. The findings reveal that most stores rely on semimanual systems, leading to inefficiencies. The study suggests the adoption of better inventory practices and digital tools to improve efficiency and ensure availability of medicines.*

Keywords: Inventory Management, Medical Stores, Stock Control, Medicine Availability, Buldhana District

I. INTRODUCTION

Introduction and Scope

Inventory management is an essential function in retail medical stores as it ensures the availability of medicines and reduces wastage. Efficient inventory control helps maintain stock levels, prevent stockouts, and improve customer satisfaction (Sharma et al., 2023). It also minimizes financial losses due to overstocking and expiry while ensuring timely availability of essential drugs (PharmacyPro Editorial Team, 2022).

In semi-urban regions like Buldhana district, medical stores face challenges such as demand fluctuations, supplier delays, and limited use of technology. Many stores still rely on manual or semi-computerized systems, leading to inefficiencies in stock management (Singh et al., 2023).

Research Problem

Many retail medical stores rely on manual or partially computerized systems, resulting in inefficiencies such as stock-outs, overstocking, and expiry of medicines. There is a lack of systematic inventory management practices in small medical stores.

Objectives of the Study

- To study existing inventory management practices in retail medical stores
- To analyze the use and effectiveness of inventory control techniques
- To identify problems such as stock-out, expiry, and overstocking
- To examine the role of technology in inventory management
- To study factors affecting effective inventory management
- To suggest improvements for better inventory control

II. REVIEW OF LITERATURE

Inventory management plays a critical role in ensuring the availability of medicines and maintaining operational efficiency in retail medical stores. Effective inventory practices help reduce costs, minimize wastage, and improve

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service quality. R. Schroeder (2019) emphasized that efficient inventory management systems enable organizations to maintain optimal stock levels while reducing operational costs. The study highlights that improper inventory control leads to stock-outs and excess inventory, both of which negatively impact performance.A. Gupta and P. Mehta (2020) examined the role of computerized inventory systems and found that technology significantly improves accuracy, reduces human errors, and enhances decision-making in stock management. S. Patil (2021) studied inventory practices in semi-urban retail stores and observed that most small businesses rely on manual systems. The study identified common problems such as stock-out, overstocking, and expiry due to lack of systematic planning. According to the World Health Organization (2022), efficient supply chain and inventory management systems are essential for ensuring the continuous availability of essential medicines. Poor inventory practices can lead to serious healthcare challenges, especially in rural and semi-urban areas. J. W. Creswell (2014) highlighted the importance of structured research design and data analysis in understanding management practices and improving organizational efficiency.

Research Gap

From the above studies, it is evident that significant research has been conducted on inventory management in hospitals and large organizations. However, limited attention has been given to small retail medical stores, particularly in semi-urban areas like Buldhana district. These stores face unique challenges such as limited technological adoption, lack of trained staff, and demand uncertainty. Therefore, this study aims to bridge this gap by analyzing inventory management practices, identifying key problems, and suggesting practical improvements for retail medical stores.

III. RESEARCH METHODOLOGY

3.1 Research Design

The present study adopts a descriptive research design to analyze the inventory management practices followed by retail medical stores. This design is suitable as it helps in understanding current practices, identifying problems, and analyzing patterns related to inventory management.

3.2 Sources of Data

The study is based on both primary and secondary data sources:

Primary Data: Primary data has been collected through a structured questionnaire administered to medical store owners and staff.

Secondary Data: Secondary data has been collected from journals, research articles, books, and reliable online sources related to inventory management.

3.3 Sampling Design

TABLE NO 1 SAMPLING DESIGN

Parameter	Details
Population	Retail medical stores in Buldhana District
Sample size	60 respondent
Sample technique	Stratified random sampling
Data collection method	Structure questionnaire
Tools for Analysis	Microsoft excel,percentage analysis

3.4 Scope of the Study

The study is limited to retail medical stores located in Buldhana district. It focuses on inventory management practices, problems faced by store owners, and possible improvement measures.

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IV. DATA ANALYSIS AND INTERPRETATION

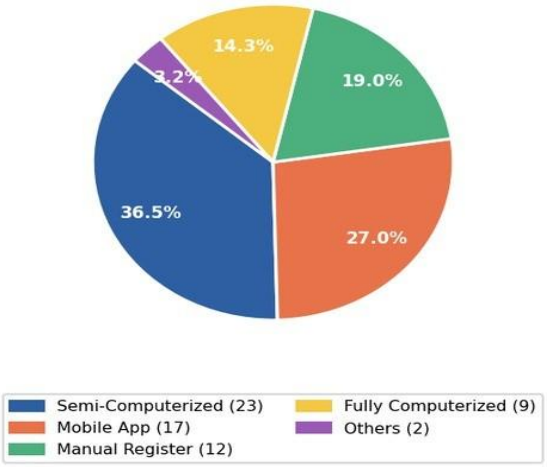
The data collected from 60 respondents was analyzed using percentage analysis and graphical representation. The following section presents findings chart-wise for each objective of the study.

4.1 Inventory Management Practices

The chart below shows how retail medical stores in Buldhana district maintain their inventory records.

The majority (36.5%) use a semi-computerized system combining manual and digital records. Around 27% use mobile applications, while 19% still rely on traditional manual registers. Only 14.3% have adopted fully computerized systems, indicating that technology adoption remains partial across the district.

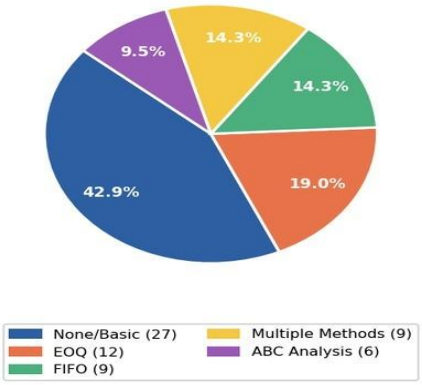
Chart 1: Inventory Record Maintenance



4.2 Use and Effectiveness of Inventory Control Techniques

The data reveals that 42.9% of stores do not use any formal inventory control method, depending on basic judgment for stock decisions. Among those using structured methods, EOQ is the most adopted (19%), followed by FIFO and multiple methods (14.3% each). ABC Analysis is the least used at 9.5%, suggesting limited awareness of advanced inventory planning tools among store owners.

Chart 2: Inventory Control Methods Used



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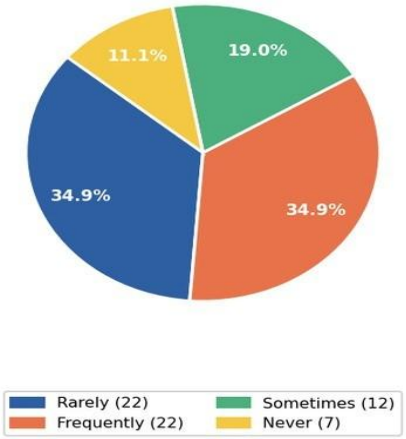
4.3 Problems Like Stock-Out, Expiry, and Overstocking

The findings show that stock-out is a significant and widespread problem. 34.9% of stores face stockouts frequently, and another 34.9% face them rarely. Only 11.1% report never experiencing stockouts. These numbers indicate that nearly 54% of stores face stock-outs on a regular basis, directly impacting medicine availability and customer satisfaction at the retail level.

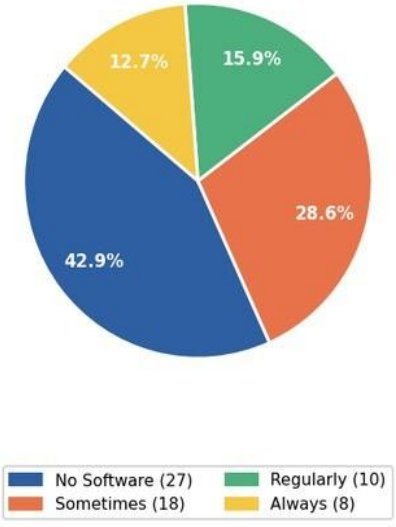
Chart 3: Frequency of Stock-Out Problems



4.4 Role of Technology in Inventory Management

The chart highlights critically low technology adoption among medical stores. A significant 42.9% use no inventory management software at all, managing all records manually. Another 28.6% use software only occasionally. Only 12.7% use it consistently. This heavy reliance on manual methods is a direct contributor to the stock-out and expiry problems identified in the previous objective.

Chart 4: Software Usage for Stock Management



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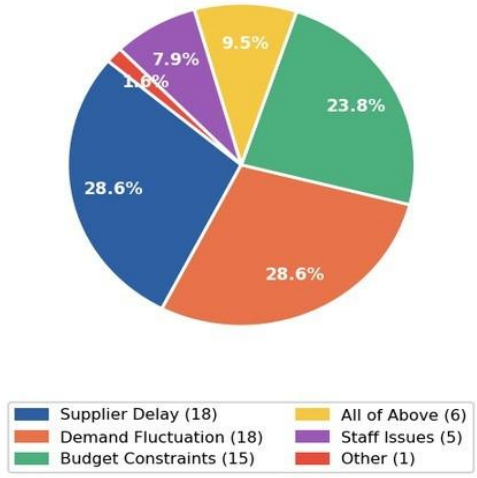
4.5 Factors Affecting Effective Inventory Management

Supplier delay and demand fluctuation are the most influential factors, each cited by 28.6% of respondents. Budget constraints follow at 23.8%, reflecting the financial limitations of small proprietorship stores. All-of-the-above responses (9.5%) indicate that many stores face a combination of these challenges simultaneously. Staff-related issues (7.9%) and other factors (1.6%) have comparatively lesser impact.

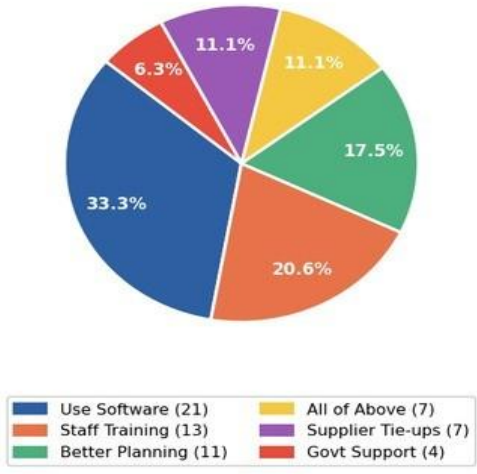
Chart 5: Factors Affecting Inventory Most



4.6 Suggestions for Improvement

When asked about the most needed improvement, 33.3% of respondents identified adoption of inventory software as the top priority. Staff training was second (20.6%), followed by better planning (17.5%). A combined approach was recommended by 11.1%, as was strengthening supplier tie-ups. Government support was the least cited (6.3%), indicating a preference for practical, operational solutions over policy-level interventions.

Chart 6: Improvements Needed in Inventory System



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4.7 Key Findings

The study reveals that inventory management practices in retail medical stores are still largely underdeveloped and rely heavily on traditional methods. A significant proportion of stores (36.5%) operate using semi-manual or partially computerized systems, indicating a transitional stage between manual and digital practices. However, only a small percentage (14.3%) have fully adopted computerized inventory management systems, highlighting the slow pace of technological advancement in this sector.

Furthermore, a considerable number of stores (42.9%) do not follow any formal inventory control techniques such as FIFO, ABC analysis, or EOQ, which are essential for efficient stock management. This lack of structured methods contributes to operational inefficiencies, as reflected in the high prevalence of stock-outs, with 34.9% of stores experiencing frequent shortages of essential items.

The findings also emphasize that technology adoption remains critically low, with 42.9% of stores not using any inventory management software at all. Major challenges faced by these stores include supplier delays and fluctuations in customer demand, both of which further complicate inventory planning and control.

In response to these issues, most respondents identified the adoption of inventory management software and proper staff training as the most important improvements needed. Overall, the study underscores the urgent need for modernization and skill development to enhance inventory efficiency and ensure better service delivery in retail medical stores

V. CONCLUSION

The study concludes that inventory management practices in retail medical stores in Buldhana district are not fully systematic. The majority of stores rely on semi-manual or entirely manual methods, leading to significant inefficiencies including frequent stock-outs, expiry of medicines, and poor resource utilization. Technology adoption remains critically low, with nearly 43% of stores operating without any inventory management software.

The study clearly establishes that supplier delays and demand fluctuations are the primary operational challenges, compounded by budget constraints and limited staff

expertise. Respondents widely recognize the need for digitalization and training. Adoption of structured inventory control methods such as FIFO, ABC Analysis, and EOQ, combined affordable pharmacy management software, can significantly enhance efficiency and ensure consistent availability of essential medicines across the district.

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