

SUMMER INTERNSHIP PROGRAM

AT

INTERNAL HEART CARE CENTER - JAIPUR

From

6th May 2024

to

6th July 2024

A REPORT BY

Mr. Saurabh Bangale

Master of Business Administration

(Pharmaceutical management)

2023-25

Under the Mentorship of

Dr. Ratna Verma

Completion Certification

CERTIFICATE

This is to certify that Mr. Saurabh Anant Bangale in fulfillment of the requirements of the degree of MBA (Pharmaceutical management) from IIHMR University, Jaipur has successfully completed her Internship at (Eternal hospital, Jaipur) during May 05- July 05, 2024.

The overall performance shown by him/her during the period was excellent good/average. This certificate is being issued to meet the requirements of the IIHMR University.

Place: Jaipur

Date: 05/07/2024



Preceptor/Head of the organization

Name of the organization

Eternal hospital, Sanganer

IIHMR University Faculty Mentor Approval

This is to certify that **Mr. Saurabh Bangale** of academic year 2023-25 of **School of Pharmaceutical Management** has prepared a poster with respect to his summer internship held during May-June 2024.

He has carried out work as per the guidelines. His poster is approved for presentation.

Date: 23/07/2024

A handwritten signature in blue ink, appearing to be 'Dr. Ratna Verma', written over a horizontal line.

(Signature of Faculty Mentor)

Name: **Dr. Ratna Verma**

Designation: Associate Professor

BRAND PLAN OF "ClindoxyBenz"

ABOUT COMAPANY

Galcare Pharmaceuticals Pvt. Ltd. is a Non-govt company, incorporated on 12 Sep 2008. It's a private unlisted company and is classified as 'company limited by shares'. Company's authorized capital stands at Rs 10.0 lakhs and has 12.0% paid-up capital which is Rs 1.2 lakhs.

VISION

"Our vision is to be celebrated as a premier and beloved leader in the Dermatology sector in India, igniting positive transformation and groundbreaking innovation for a brighter tomorrow

MISSION

Galcare strives to enhance people's health by offering quality therapeutic solutions. They achieve this through continuous innovation and excellence in their product

STRENGTHS

- Dual-action formula combining two proven ingredient
- High efficacy with reduced antibiotic resistance risk

WEAKNESSES:

- Requires prescription limiting over the counter availability

SWOT

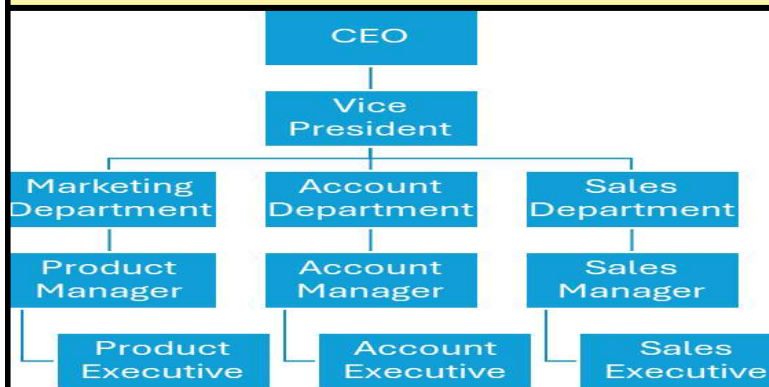
OPPORTUNITIES:

- Growing market for acne treatment
- Increasing awareness of acnes physiological impact

THREATS:

- Strong competition from established brands

ORGANIZATIONAL STRUCTURE



DIFFERENCE BETWEEN THEORETICAL AND PRACTICAL EXPOSURE

PRACTICAL EXPOSURE

Practical knowledge is gained doing fieldwork

THEORETICAL EXPOSURE

It is helpful to understand the fundamental concept.

USEFULNESS OF INTERNSHIP

Market insight: Acquired knowledge on brand positioning and sales trends by visiting chemists and conducting RCPA .

Design and marketing skills: Acquired proficiency in creating LBLs and understanding brand planning and execution.

SUGGESTION

Obtain feedback from prescribers and customers regarding the product.

Say Goodbye To Breakouts, Hello Glow.

ClindoxyBenz Gel
Clindamycin & Benzoyl Peroxide

Clindamycin: Antibiotic, reduces acne-causing bacteria, anti-inflammatory.

Benzoyl Peroxide: Unclogs pores, reduces oil, has antibacterial properties.

Combination Use: Treats multiple acne causes, typically in gel or lotion form.



Say Goodbye To Breakouts, Hello Glow.

ClindoxyBenz Gel
Clindamycin & Benzoyl Peroxide

REFERENCES

1. Ingram JR, Grindlay DJ, Williams HC. Management of acne vulgaris: an evidence-based update. Clin Exp Dermatol. 2010;35(4):351-354. [PubMed] [Google Scholar]
2. Del Rosso JQ. Combination topical therapy in the treatment of acne. Cutis. 2006;78(2 Suppl 1):5-12. [PubMed] [Google Scholar]
3. Webster GF, Jeyden JJ, McGinley KJ, McArthur WP. Suppression of polymorphonuclear leucocyte chemotactic factor production in Propionibacterium acnes by subminimal inhibitory concentrations of tetracycline, ampicillin, minocycline, and erythromycin.



LEARNING DURING INTERNSHIP

1. Making LBL (Label): Learning how to create labels, possibly for pharmaceutical products.
2. Brand Communication: Understanding how to effectively communicate the brand's message to stakeholders. .
3. Communication with Doctors and Pharmacists: Developing skills in communicating with healthcare professionals.
4. Making Brand Plans: Gaining experience in strategizing and planning for brand promotion.

CHALLENGES DURING INTERNSHIP

1. Data Sharing Issues: Difficulty in accessing or obtaining data from sources.
2. Data Collection Problems: Issues encountered while collecting data.
3. Time Constraints: Difficulty in getting time from pharmacists due to busy schedules.



Acknowledgments

There have been multiple involved in the successful completion of my internship and I would like to take this opportunity to thank all those people without whose constant support and guidance it would not have been possible to do so.

First and foremost, I am highly indebted to my college mentor, Professor Dr. Ratna Verma for her valuable expertise, endless patience, and continuous encouragement that helped provide me with a positive and smooth internship experience, by answering my numerous doubts and providing relevant feedback and guidance, where necessary

In addition, I would like to thank my Local mentor Dr. Priyanka Maan (General manager – medical administration at eternal group of hospital) Ravikant Hardaniya (head of IPD pharmacy) for his continuous supervision and expert knowledge on all things related to IPD pharmacy . Working with such an esteemed individual who demonstrates so much discipline and dedication toward his work as a hospital management and supply drug and instrument use in hospital professional was delightful. I gained very insightful practical exposure from shadowing him.

I would also like to express my deepest gratitude to the staff members of the EHCC hospital who were always willing to help me and readily accepted me into their fold. They were instrumental in my gaining technical and practical experience and taught me about teamwork.

Last but not least, I am immensely grateful to all those who have been there during this internship and helped me in its successful completion, directly and indirectly including my family and friends.

Sincerely,

Mr. Saurabh Bangale

MBA (Pharmaceutical management)

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1.Introduction to organization

Eternal Hospital (A unit of Eternal Heart Care Centre and Research Institute) is a state-of-the-art tertiary care hospital in Jaipur city. This landmark Healthcare Institute is the result of the vision of Dr. Samin K. Sharma, world-renowned Interventional Cardiologist based at Mount Sinai Hospital, New York, USA. Founded in 2013, today it is one of the most preferred hospitals not only in Jaipur but also nationally and internationally owing to the exclusive services and excellent medical outcomes delivered. Eternal Hospital brings the best in multispecialty treatment to the state of Rajasthan. Hospital with a capacity of 250 bedded hospital has state-of-the-art technology focusing on the specialities like Cardiology, Cardiac Surgery, Neurology, Neuro Surgery, Orthopaedic & Joint Replacement, Spine Surgery, Nephrology, Paediatrics, Gynaecology, Critical Care, Urology, Pulmonology, Gastroenterology, Diabetes and Endocrinology and many more.

Eternal Hospital has a knowledge sharing arrangement with Mount Sinai Hospital New York USA, which has been internationally recognized for its top-performing physicians and revolutionary research centres.

ETERNAL HOSPITAL has emerged as a destination of choice for many national & international patients owing to the exclusive services and excellent medical outcomes delivered at ETERNAL HOSPITAL.

Eternal hospital is the only hospital of the state with JCI (Joint Commission International)- USA Based organization accreditation. This accreditation is a testimony to Eternal Hospital's constant endeavour to provide world-class patient care and maintain the highest standards in healthcare delivery. Apart from this hospital is accredited by NABH, NABL and awarded for Nursing Excellence by NABH.

2. Introduction of Factors Affecting Inventory Control in Hospital Inpatient Departments (IPDs): Optimization Strategies

Effective inventory control is paramount for hospitals to ensure uninterrupted patient care, financial stability, and efficient resource allocation. IPDs, in particular, require meticulous inventory management due to the dynamic nature of patient needs and the criticality of medications and supplies. This paper reviews the internal and external factors influencing IPD inventory control and proposes strategies for optimization.

3. Background:

The Importance of IPD Inventory Control in Hospitals

Inpatient departments (IPDs) of hospitals are the backbone of acute patient care. They provide critical medical interventions and treatment to patients requiring hospitalization. Effective management of IPDs directly translates to improved patient outcomes, efficient resource allocation, and financial stability for the hospital.

One crucial aspect of IPD management is inventory control. An IPD requires a vast array of medications, medical supplies, and equipment to deliver proper care. These items can range from common medications like pain relievers to specialized equipment for complex procedures.

4. Objectives

- To analyze and identify trend of certain medications in regular supply .

Sub-objectives

- Investigate potential seasonal factors affecting drug demand.
- Identify patterns in supply and demand changes over the two-month period.
- Evaluate the relationship between patient occupancy and drug demand.
- Assess the accuracy of supply planning relative to actual demand.
- Propose optimal inventory levels based on observed demand patterns.
- Assess the ability of the current supply chain to handle demand fluctuations.

5.Scope of the Internship

Throughout the two-month internship, participants received thorough training, practical experience with screening methods, data collection and analysis, and interactions with medical professionals.

6. Literature Review

Existing inventory control in hospital Inpatient Departments (IPDs) is paramount for ensuring uninterrupted patient care, financial stability, and efficient resource allocation. This literature review explores research on the key factors affecting IPD inventory control and their impact.

Overview of the inventory in pharmacy store.

Use of content for analysis the data:

- Jain, H. (2018). Review Paper on Supply Chain Management Strategies in Hospitals. *International Journal for Research in Applied Science and Engineering Technology*, 6(1), 3059–3062. <https://doi.org/10.22214/ijraset.2018.1423>
- M.T., M., & Nickel, S. (n.d.). *Factors Affecting Inventory Control in Hospital Inpatient Departments (IPDs): Optimization Strategies*.

7.Internship Activities

➤ Week 1-4:

To identify the project and data collection method.

Visit the all department and communicate to all faculty.

To identifying the process of pharmacy inventory, general store information and management process.

Select the project and data collection and read the literature review.

➤ **Week 4-8:**

Last month of my internship I went for a IPD pharmacy collecting the data of drug supply and delivery process of all department. I asked about the healthcare facilities of patient and how to apply the billing and what is the process of Hospital Regarding my questionnaire and checklist. And Collect data and after that analyze that data and make a final report.

8. Methodology

- To analyze the inventory and identify trends in the medication supply methodology, we will focus on comparing the supply and demand quantities over the two months (May-24 and Jun-24).
- We will look for patterns or inconsistencies in supply management and assess if the supply is meeting the demand.

9. Findings

General Information

1. Medicine supply of ward and department

OT, laboratories, SICU, NICU, ward.

2. identify the medicine of SICU, NICU

Crash trolley and general trolley, and regularly use of medicine.

3. Daily/monthly usage data for medications and supplies:

This data provides insights into consumption patterns and helps predict future demand.

4. Lead times from suppliers: Knowing the average time it takes to receive an order is crucial for setting reorder points to avoid stockouts.

5. Inventory turnover rates: This metric indicates how efficiently inventory is being used and helps identify potential overstocking or understocking issues.

6. Records of expired medications:

Analyzing data on expired medications allows for identifying trends and implementing strategies to minimize waste.

7. Patient demographics and admission data:

This data can be used to forecast demand for specific medications and supplies based on the types of patients typically admitted to the IPD.

Infrastructure

Facility and equipment:

ICU - Bed capacity 12 beds.

SICU - Bed capacity 8 beds.

NICU - Bed capacity 3 beds.

Available medicine 1 crash trolley and 1 general trolley in all department (ward, OT, ICU, Lab).

Ward facility:

- Deluxe
- Semi deluxe
- super deluxe

Human Resources

1. IPD pharmacy staff :

6

Workforce Development

1. Training Programs:

Establishing continuous training programs for healthcare workers to improve skills and knowledge.

2. Incentive Structures:

Creating attractive incentive packages to retain healthcare employees in hospital.

Policy Recommendations

1. Enhanced Funding: Increasing budget allocations for rural healthcare infrastructure and services.

2. Collaborative Partnerships: Encouraging partnerships between government, private sector, and NGOs to leverage resources and expertise.

Data analysis

- Demand and supply quantity of most consumed drugs.
- patient Occupancy-IP days
- The data for this analysis was collected from internal hospital records covering the months of May 2024 and June 2024. The dataset includes information on five injectable drugs
- Find the P- value
- Supply vs Demand Comparison.
- Month-to-Month Changes.

Data collection

month	drug name	supply qty	demand qty	patient occupancy	par day/patient medicine
May-24	INJ Emset	1500	1487	985	1.50964467
May-24	INJ pantocid 40	1200	1491	985	1.513705584
May-24	INJ mucomix	160	101	985	0.102538071
May-24	INJ merotrol	300	336	985	0.341116751
May-24	INJ paracetamol	200	251	985	0.254822335
Jun-24	INJ Emset	1500	1542	932	1.654506438
Jun-24	INJ pantocid 40	1300	1349	932	1.447424893
Jun-24	INJ mucomix	100	228	932	0.244635193
Jun-24	INJ merotrol	380	304	932	0.326180258
Jun-24	INJ paracetamol	200	154	932	0.165236052

1.High demand medicine trend in hospital

Medicine	May	June
INJ Pantocid 40 MG	90%	88%
INJ Emeset	95%	85%
INJ Dytor	80%	82%
TAB paracetamol	90%	93%
NS% 500 ml	75%	80%
INJ Cefbact 1000mg	80%	75%
Gentamicine	83%	80%
INJ Tranemic 500mg	70%	75%
Mucomix 600mg	70%	65%
INJ Akusol 500mg	75%	73%

2. non moving medication

Medicine	Use in May	Use in June
INJ phenergan	0%	0%
INJ phenpress	0%	0%
Nitrocin	0%	0%
INJ thiosol	0%	0%
Adenoz	1%	0%

3.High risk medicine supply = 20%

4. drug stockout 0%

5. pie chart :

Data Analysis Techniques:

- **ABC Analysis:**
 - A (high cost/usage) = 55 patient /35%
 - B (medium) = 55 patient/40%
 - C (low) 20% categories to prioritize control efforts for high-value (A) items.
- **VED Analysis:** Categorize medications as Vital (critical for patient care), Essential (important but with substitutes), and Desirable (less critical) to prioritize maintaining stock of vital medications.
-

Definitions

1. Lead time :

In supply chain management, lead time exclusively refers to the time it takes for a supplier company to have goods ready for delivery.

2. minimum order quantity :

the minimum amount of product that a supplier is willing to sell in a single order. Typically set by suppliers or manufacturers, the purpose of the MOQ is to ensure the supplier can make a profit on the sale and justify the costs associated with producing or delivering the product.

3. minimum stock :

the amount of stock that must always be available to ensure a company's ability to meet customer demand, even during seasonal peaks and unexpected supply issues.

4. maximum stock :

the largest number of goods a company can store to provide its customers with service at the lowest possible cost. It's vital to keep inventory control in line with demand.

5.buffer stock :

that is bought and stored when extra is available, and sold when there is not enough, in order to control its price and quantity in the economy

Interpretation:

1. INJ Emset and INJ mucomix show a perfect correlation with patient occupancy. As occupancy decreased, demand for these drugs is same.
2. INJ pantocid 40, INJ merotrol, and INJ paracetamol show a perfect positive correlation with patient occupancy. As occupancy decreased, demand for these drugs also decreased.

Month-to-Month Changes

- INJ Emset: Demand increased by 3.7%, supply unchanged
- INJ pantocid 40: Supply increased by 8.3%, demand decreased by 9.5%
- INJ mucomix : Supply increased by 0.1%, demand increased by 0.1%
- INJ merotrol : Supply increased by 26.7%, demand decreased by 9.5%
- INJ paracetamol: Supply unchanged, demand decreased by 38.6%

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	684	724.3
Variance	366826.6667	415547.1222
Observations	10	10
Pearson Correlation	0.987085093	
Hypothesized Mean Difference	0	
df	9	
t Stat	1.183089535	
P(T<=t) one-tail	13%	
t Critical one-tail	1.833112933	
P(T<=t) two-tail	27%	
t Critical two-tail	2.262157163	

P value 0.2

Key Observations

- INJ Emset and INJ pantocid 40 consistently show demand exceeding supply in both months.
- Patient occupancy decreased by 53 patients (5.4%) from May to June, which may explain some of the demand reductions.
- INJ merotrol and INJ paracetamol shifted from undersupply to oversupply from May to June.

- Due to low supply and high demand, the risk of a drug stockout is high.

Identifying gap's

- Infrastructure Deficits :The analysis the inventory to management the drug delivery process.
- Cost-Effectiveness Analysis: To identify the buffer stock supply appropriated.
- Workforce Shortages: A shortage of trained staff affects service delivery

10. Discussion

Optimizing inventory control in hospital Inpatient Departments (IPDs) can significantly benefit patients and the healthcare system. It can reduce stockouts, improve medication adherence, enhance care delivery efficiency, reduce waste, improve inventory turnover, and enable better decision-making. However, challenges include initial investments, staff training, adaptability to change, and integration with existing systems. Future strategies will depend on hospital needs and resources, and pilot programs can test effectiveness. Continuous improvement is necessary, and technology integration, standardization, and data-driven decision-making can further enhance inventory control. The future of IPD inventory control may see automation, machine learning, standardization, and data-driven decision-making.

Recommendations

- Investigate reasons for decreased patient occupancy and its impact on drug demand.
- Increase supply of INJ Emset and INJ pantocid 40 to meet consistent high demand.
- Adjust supply of INJ merotrol and INJ paracetamol to align with decreased demand.

11. Conclusion

This analysis reveals significant fluctuations in drug supply and demand over the two-month period. Proper inventory management and demand forecasting are crucial to ensure adequate drug availability while minimizing oversupply. The decrease in patient occupancy should be monitored as it may impact future drug requirements.

12 .Questionnaire

Question for marketing **Strategic Considerations:**

- **Target Markets:**
 - Where are your main customer bases located?
 - Is there a need for multiple facilities to serve different regions effectively?
- **Suppliers:**
 - Where are your raw materials or components sourced from?
 - Is proximity to suppliers important for reducing transportation costs?
- **Labor Availability & Cost:**
 - What are the labor costs and skillsets available in different locations?
- **Government Regulations & Incentives:**
 - Are there any government regulations or tax incentives that favor specific locations?
- **Land & Building Costs:**
 - How do land and building costs vary across potential locations?
- **Infrastructure:**

- Does the location have good access to transportation networks (roads, airports, ports)?
- Is there reliable access to utilities (power, water)?

Tactical Considerations:

- **Facility Size & Layout:**
 - What is the required size and layout for your production or storage needs?
- **Environmental Impact:**
 - Are there any environmental regulations or concerns specific to the location?
- **Community Impact:**
 - How will the facility impact the local community (traffic, noise, pollution)?

Design & Planning:

- **Customer Demand Forecasting:**
 - How can you accurately forecast customer demand to optimize inventory levels?
- **Inventory Management:**
 - What inventory management techniques (ABC analysis, EOQ) will be used?
- **Transportation Modes:**
 - What are the most cost-effective and efficient transportation methods (truck, rail, air)?
- **Warehouse & Distribution Center Network Design:**
 - How many and where should warehouses or distribution centers be located?
- **Supplier Management:**
 - How can you build strong relationships with suppliers to ensure reliable delivery?
- **Technology Integration:**
 - What technologies (Inventory Management Systems, Transportation Management Systems) can be used to optimize the supply chain?

Performance Measurement & Improvement:

- **Cost Analysis:**
 - How can you identify and reduce costs throughout the supply chain?
- **Lead Time Management:**
 - How can you minimize the time it takes to get products from suppliers to customers?
- **Order Fulfillment Accuracy:**
 - How can you ensure accurate and timely order fulfillment?
- **Risk Management:**
 - How can you identify and mitigate risks in the supply chain (disruptions, natural disasters)?
- **Sustainability:**
 - How can you make your supply chain more sustainable (reduced emissions, waste minimization)?

Additionally, consider scenario-based questions that address potential challenges:

- How would you respond to a sudden increase in demand?
- How would you handle a disruption in your supply chain (e.g., natural disaster, supplier bankruptcy)?
- How would you adapt your strategy for a new product launch?

Checklist of medicine in IPD pharmacy:

RANTAC 100ML SYRUP (J. B. CHEMICALS)
 RANTAC MPS 170ML SYP (JB CHEMICAL)
 RAPITUS PLUS SYRUP
 REFRESH TEARS EYE DROP 10ML (CARBOXY METHYL CELLULOSE) (ALLERGAN)
 RENURIS DIALYSIS 10 X 16GM (STDF)
 RESOURCE DIABETIC 400GM (NESTLE)
 RESOURCE DIALYSIS POWDER 400GM (NESTLE)

RESOURCE HEPATIC POWDER 400GM (NESTLE)
RESOURCE HIGH PROTEIN POWDER 400GM (NESTLE)
RESOURCE OPTI VANILLA 400GM (NESTLE)
RESOURCE RENAL POWDER 400GM (NESTLE)
REVOLIZER (CIPLA)
RIFAGUT (RIFAXIMIN) SYRUP (SUN)
TULOPLAST 1 (TULOBUTROL) PATCH (ZUVENTUS)
TUSQ DX 100 ML SYP (BLUE CROSS)
UDISTRONG 6.5GM SACHET (ABBOTT)
VALPARIN 200 ML SYP (SANOFI)
VASLINE BODY LOTION
VENUSIA LOTION 100ML (MOISTURIZER) (DR REDDY)
VENUSIA MAX CREAM 150GM (MOISTURIZER) (DR REDDY)
VIGANEXT (VIGABATRIN) 500 MG POWDER (MSN)
VOLINI GEL 15GM (DICLOFENAC DIETHYLAMINE) (RANBAXY)
VOLINI GEL 30GM (DICLOFENAC DIETHYLAMINE) (RANBAXY)
VOLINI GEL 50GM OINT (DICLOFENAC DIETHYLAMINE) (SUN)
WASA MOUSSE 200ML (RUSHAIL)
Z&D DRY SYP (DR REDDY)
ZEDOTT BABY SACHET 1GM (RACECADOTRIL) (TORRENT)
ZENTEL 10 ML (ALBENDAZOLE) ORAL (GSK)
ZEROLAC 400GM (FOOD SUPPLIMENT) POWDER (RAPTAKROS) POW
ZIFI 100MG DRY SYP (FDC)
ZINCONIA SYP (ZUVENTUS)
ZYTEE 10 ML GEL (RAPTAKOS)
ZYTEEGEL RB 10GM TUBE (RAPTAKOS)
AIRZ (GLYCOPYROLATE) 50MCG ROTACAP (GLENMARK) ALEX SUGER FREE 100ML SYP (GLENMARK)
2BACONILTT \$20 21MG PATCH (NICOTINE TRANSDERMAL) (RUSAN) A TO Z 200ML SYP (ALKEM)
A TO Z DROP (MULTIVITAMIN) (ALKEM)
ACIVIR CREAM 10GM (ACYCLOVIR) (CIPLA)
ACTIVATED CHARCOAL POWDER 50GM (ACRON)
ADD TEARS EYE DROP 10ML (CARBOXY METHYL CELLULOSE) (CIPLA)
ADDPHOS POWDER 3.2GM (STEADFAST)
FORACORT ROTACAP (FORMOTEROL FUMARATE, BUDESONIDE)200MCG (CIPLA)
FUDIC CREAM 10GM (FUSIDIC ACID) (H&H)
FUROPED (FRUSEMIDE) 30ML SYP (SAMARTH)
GRANDEM (GRANISETRON) 10ML SYP (ARISTO) SYR
GUTCLEAR SYP (ZUVENTUS)
HEPAMERZ GRANULES 5GM (WIN MEDICARE)