

SUMMER INTERNSHIP PROGRAMME

AT

LUPIN



From May 13,2024 to July 12,2024

A REPORT BY

Annavi Gupta

Master of Business Administration

Pharmaceutical Management

2023-25

Under the mentorship of

Rahul Sharma



30 July 2024

CERTIFICATE OF INTERNSHIP

This is to certify that **Ms. Annavi Gupta** has successfully completed her internship with us from 13th May 2024 - 12th July 2024.

During the Internship Annavi was found to be punctual, focused and performance oriented.

Annavi has completed his internship project with Pinnacle CV team, in the process she has helped us in identifying and validating some key insights and has given considerable recommendations which will help us in taking our brand forward.

We wish her success in her career.

For LUPIN LIMITED



Nandan Kumar Singh
Dy. General Manager – Human Resources

IIHMR University Faculty Mentor Approval

This is to certify that **Ms. Annavi Gupta** of the academic year 2023-25 of the **School of Pharmaceutical Management**, has prepared a poster with respect to her summer internship held during May - July 2024

She has carried out work as per the guidelines. her poster is approved for presentation

Date: 22 July 2024



Mr. Rahul Sharma
(Assistant Professor)

Acknowledgement

I would like to extend my heartfelt gratitude to everyone who made my internship experience at Lupin enriching and memorable.

First and foremost, I would like to thank Lupin for making my internship a great learning experience. I would like to extend my gratitude to MY University mentor Mr. Govind Tandel Sir and Ms. Pooja Bhonsle Ma'am for their continuous support and guidance throughout my working experience and in developing both my technical and personal skills.

I would like to thank the amazing team at Lupin for their continuous support and help by them to empower my technical and personal growth.

I would also like to thank IIHMR University for granting me this opportunity to develop myself and gain invaluable experience. I would like to extend my thanks to the placement cell, IIHMR University for bringing in this opportunity for a great practical experience and exposure to develop skills and vision.

I would like to thank my mentor Rahul Sharma sir for constant support and advice to make the most of the opportunity and guidance.

Finally, I am grateful to my friends, family and all the ones who supported me throughout this internship and helped in my development.

Annavi Gupta

SUMMER INTERNSHIP WEEKLY REPORT

ORGANIZATION	LUPIN LTD
PROJECT/DEPARTMENT	PRODUCT MANAGEMENT
STUDENT NAME	ANNAVI GUPTA
ENROLLMENT NO	0481
STREAM	PHARMACEUTICAL MANAGEMENT
WEEK NO	1
DURATION	13 TH MAY 2024 TO 17 th May

Activities Done

1. Got briefed about the marketing campaign of Lupisit
2. Analyzed the sales of Lupisit and its different SKUs on various platforms of modern trade, like e-pharmacies and large chain pharmacies.
3. Suggested various assets that can be used to increase the online sales of Lupisit, like home page banner ads, category ads, push notifications, E-mails and SMS marketing, etc.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Connected theoretical knowledge about how a marketing campaign is planned.

The theories of Digital marketing to suggest ways to increase the online sales of Lupisit.

Gap Identified in the working area

No proper orientation for the interns.

Plan For Next Week

- To fill the details of all the SKUs of Lupisit and their requirements from modern trade and marketing programme for the same.

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Approved by the IIHMR University's Mentor

WEEK NO

2

DURATION

20TH MAY 2024 TO 24TH May

Activities Done:

1. Filled the details of all the SKUs of Lupisit and their requirements from modern trade and marketing programme for the same in an excel format.
2. Studied the literature related to Sitagliptin and various related molecules prescribed in TYPE 2 DM
3. Explored the landmark studies of Sitagliptin and its Fixed Dose Combinations

Linking Theory (Classroom Learning) with Practice at Your Organization:

The study connected theoretical knowledge of drug mechanisms of action to explore Sitagliptin and related molecules in treating Type 2 Diabetes Mellitus.

Gap Identified in the working area

Details of SKU were not maintained by the field executives.

Plan For Next Week

Patient profiling from prescription data to be collected from prescriptions from doctors

Signature of the Student: Annavi Gupta

Approved by the IIHMR University's Mentor

WEEK NO**3****DURATION****27TH MAY 2024 TO 31ST May****Activities Done:**

1. Collected data from prescriptions of doctors prescribing Lupisit to analyze what SKU of Lupisit is being prescribed for different comorbid conditions.
2. Made an excel file for all the collected prescription data of around 150-200 prescriptions.
3. Made inferences and conclusions from the analyses of prescription data regarding which SKU to prescribe with what kind of co-morbid conditions with Diabetes Mellitus.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Theories from data analytics to analyze the raw data of prescriptions.

Gap Identified in the working area

Proper details in the prescriptions were not visible as shared by the medical representatives.

Plan For Next Week

To do market research of different competitors' brands of different SKUs of Lupisit

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Approved by the IIHMR University's Mentor: [Signature]

WEEK NO

4

DURATION

3RD JUNE 2024 TO 7TH JUNE

Activities Done:

1. Analyzed different competitors' brands of different SKUs of Lupisit to compare prices, packaging, compositions, manufacturers, etc. of different brands.
2. Made inferences or conclusions from the analyses about the market of Sitagliptin and its Fixed Dose Combinations.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Connected theoretical knowledge about market research acquired in the classroom.

Gap Identified in the working area

Details of SKU were not maintained by the field executives.

Plan For Next Week

- To work on research on the new combination of Macitentan and Tadalafil for the condition of PAH

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Approved by the IIHMR University's Mentor: [Signature]

WEEK NO**5****DURATION****10TH JUNE 2024 TO 14TH JUNE****Activities Done:**

1. Examined the indications, rationale, and other details of the recently developed Fix Combination of Macitentan and Tadalafil for the treatment of Pulmonary Arterial Hypertension.
2. Did market research of the combination available in the market and also the price analyses of the combination.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Connected theoretical knowledge about new product launch and the necessary market research regarding the launch.

Gap Identified in the working area

Structure of research was not mentioned by the team.

Plan For Next Week

- To submit daily the Lupisit marketing campaign progress data.
- To plan the pre-diabetes awareness week.

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Approved by the IIHMR University's Mentor: [Signature]

WEEK NO

6

DURATION

17TH JUNE 2024 TO 21ST JUNE

Activities Done:

Did daily tagging of the marketing campaign and submitted the daily updates on the progress of the campaign.

Planned the pre-diabetes awareness week for 12th August to 16th August, which includes screening camp for pre-diabetes, inclinics and outclinics celebrations.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Theories of Marketing management about how to plan a campaign

Gap Identified in the working area

Nil

Plan For Next Week

- To work on research on the new Fixed dose combination of Imeglimin and Sitagliptin for the treatment of Type 2 Diabetes.

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Approved by the IIHMR University's Mentor: [Signature]

WEEK NO**7****DURATION****24TH JUNE 2024 TO 28TH JUNE****Activities Done:**

1. Analyzed the new Fixed Dose Combination of Imeglimin and Sitagliptin for the treatment of Type 2 Diabetes Mellitus, its indications, rationale of combination, etc.
2. Did market research of the combination available in the market and pricing of the new combination.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Connected theoretical knowledge about new product launch and the necessary market research regarding the launch.

Gap Identified in the working area

Structure of research was not mentioned by the team.

Plan For Next Week

To wrap up all the projects and make a ppt of the projects for presentation.

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Approved by the IIHMR University's Mentor

WEEK NO

8

DURATION

1ST JULY 2024 TO 5TH JULY

Activities Done:

1. Wrapped up all the projects done and made a final ppt of projects
2. Presented the ppt to the team lead, and the general manger and to the university mentor.

Linking Theory (Classroom Learning) with Practice at Your Organization:

Nil

Gap Identified in the working area

No proper schedule of presentation was given.

Plan For Next Week

To wrap up all the projects and make a ppt of the projects for presentation.

Signature of the Student: Annavi Gupta

Approved by the IIHMR University's Mentor: [Signature]



COMPILED REPORT

Name of the Organization: LUPIN LTD

Area/ Department/ Project of Summer Internship Program: Product Management/Cardio-Diabetology/ Leveraging modern trade to increase the business of Lupisit.

Name of the Student: Annavi Gupta

Roll no: 0481

Stream: Pharmaceutical Management (15)

ACTIVITIES DONE

1. Introduced to marketing campaign for brand Lupisit

- Got briefed about the Cardio-diabetic brand “Lupisit”, which is a generic brand of Sitagliptin and one of the most profitable brands of the Cardio-diabetology portfolio of Lupin.
- Also got introduced about the marketing campaign of Lupisit for the financial year 2024-25 and its various levers.

2. Introduction to the first project

- Got introduced to the first project, i.e. Modern Trade Analysis of Lupisit.
- Introduction to:
 - i. What is Modern Trade?
 - ii. What is our aim and requirements from the Modern Trade for our Brand Lupisit?

3. Lupisit Modern Trade Sales Data Analysis

- Analyzed the sales data of different SKUs of Lupisit across different Modern Trade channels, like Wellness forever, Medplus, Frank Ross, and various e-pharmacies, like Tata 1mg, Pharmeasy, Flipkart, etc, in order to make inferences about HOW CAN WE LEVERAGE ONLINE BUSINESS TO INCREASE THE SALES OF LUPISIT.
- This was done because one of the most important objectives of Lupisit Marketing Campaign is to increase the modern trade of Lupisit from 10-15% to MORE.

After the analysis, various inferences were made by me, such as:

- What were the most profitable Modern Trade Channel for Lupisit?
- Which SKU of Lupisit sold the most across all the Modern Trade Channels?
- Out of e-pharmacy, and large retail chain pharmacies, which is the most selling for Lupisit?
- What SKUs of Lupisit should be made available in what platforms?

4. Suggested various assets to increase the online sales of Lupisit

Made a ppt about various assets that can be used to increase the online sales of Lupisit and its SKUs across the e-pharmacies.

These assets include:

- Home page banner ads**
A home page banner ad is a large image or video advertisement that is typically placed at the top of a website's homepage.
These ads are often used to promote a company's products or services and can be dynamic, changing based on the user's interests or location.
- Category ads**
Category ads refer to a type of advertisement that is directed towards a specific group or category of consumers.
For example: Promoting Lupisit in the diabetes section of the E-pharmacies app.
- Push notifications**
A push notification is a reminder message sent to the home screen or lock screen of your cellphones, personal computers, etc. as a pop up.
It acts as alerts that increases adherence of existing customers.

- iv. **E-mails and SMS Marketing**
SMS and email marketing are effective channels for online pharmacies to reach potential customers and establish trust and loyalty.
Utilizing these methods, pharmacies can send reminders for medication refills, promote discounts and special offers, and provide valuable information about their products and services.
- v. **Patient Education Program**
Patient Education programmes are campaigns aims to influence patient's behaviour through change in knowledge, habits, or attitudes for the improvement of health.

5. Explored the landmark studies of Sitagliptin and its Fixed Dose Combinations

Read and made an excel file of different landmark studies conducted to check the efficacy and safety of Sitagliptin and its Fixed Dose Combinations like Sitagliptin-Metformin, Sitagliptin-Dapagliflozin, Sitagliptin-Glimepiride, etc., for the treatment of Type 2 Diabetes Mellitus.

Also, the effects for different Combinations of Sitagliptin on many comorbid conditions like Hypertension, Hyperlipidemia, Obesity, etc.

This was done because all this data from these studies is required to validate the efficacy of different SKUs of Lupisit for different comorbid conditions with T2DM and to prepare LBL.

6. Prescription analyses of Lupisit – Patient Profiling

Collected data from prescriptions of doctors prescribing Lupisit to analyze what SKU of Lupisit is being prescribed for different comorbid conditions.

This was done to determine the different indications for which a particular SKU of Lupisit can be prescribed and to prepare a visual aid or indication list for the brand campaign.

The inferences or conclusions made from the analyses were:

1. Lupisit DM is most commonly prescribed in when patients have Hypertension and Hyperlipidemia together and also angina as comorbid conditions with T2DM. And in a few cases when patients have hypertension only with T2DM.
2. Lupisit M or M XR is most commonly prescribed when patients have Hypertension or related cardiovascular diseases.

3. Lupisit GM was prescribed when patients have hypertension or hyperlipidaemia as comorbid conditions with T2DM.
4. There were no instances where Sitagliptin was prescribed alone, it was always prescribed in combinations for T2DM.

7. Competitors and Price Analyses

Analyzed different competitors' brands of different SKUs of Lupisit to compare prices, packaging, compositions, manufacturers, etc. of different brands. This is done to see if we can make any changes in our brand regarding price, composition, etc. in order to increase sales and profit.

The inferences or conclusions made from the analyses were:

1. Januvia (MSD), being the innovator brand of Sitagliptin, is the most expensive among its competitors.
2. Lupisit 100 was the cheapest (rupees 13.2/tab) among its top competitors including Istavel, Sitara, Januvia, Sitacip, and many others.
3. Lupisit M XR 100/1000 is the cheapest among its top competitors including Istamet XR, Janumet CR, Sitara M ER, Sitaxa M XR, etc.
4. For Lupisit DM, Udapa Trio (USV) is the cheapest among top competitors, whereas Lupisit DM ranges somewhere in the middle.
5. Lupin is the manufacturer for Cipla anti-diabetic drug brand Sitacip.

8. Analyzed the new Fixed Dose Combination of Tadalafil and Macitentan for the treatment of Pulmonary Arterial Hypertension

Lupin was planning on launching a fixed dose combination of Tadalafil and Macitentan, I was given the responsibility to conduct research for the launch

1. Searched about the molecule Macitentan.
An orphan drug belonging to the class of sulphonamides
Endothelial receptor antagonist
Approved by the FDA IN 2013
2. Searched about the MOA
The tissue-targeting endothelin receptor agonist macitentan inhibits ET-1's ability to bind to both ETA and ETB receptors.
3. About the pharmacokinetics of the molecule

Macitentan has a median T_{max} of 8 hours although some studies have found up to 30 hours at higher doses.

Bioavailability -74%

Half Life-16 Hours

About the pharmacodynamics of the molecule

Macitentan acts primarily by reducing vasoconstriction and cell proliferation due to endothelin overexpression

4. Searched about Tadalafil

Tadalafil is in a class of medications called phosphodiesterase (PDE) inhibitors. It treats PAH by relaxing the blood vessels in the lungs to allow blood to flow more easily.

Tadalafil is used to treat erectile dysfunction and the symptoms of benign prostatic hyperplasia which include difficulty urinating, painful urination, and urinary frequency and urgency in adult men.

It is also used to improve the ability to exercise in people with pulmonary arterial hypertension.

5. About the Mechanism of Action of Tadalafil

Tadalafil is in a class of medications called phosphodiesterase (PDE) inhibitors.

A PDE5 inhibitor is a vasodilating drug that works by blocking the degradative action of cGMP-specific PDE5 on cyclic GMP in the smooth muscle cells lining the blood vessels supplying various tissues.

6. About the pharmacokinetics of molecule

Tadalafil has a t_{max} of 0.5-6 hours in healthy adults.

Tadalafil is majorly excreted via hepatic metabolism. These metabolites are mainly eliminated in the feces (61%) and to a minor extent in the urine (36%).

7. About the pharmacodynamics of molecule

The pulmonary vasculature's smooth muscle relaxation contributes to PAH's vasodilation, which lowers blood pressure in the pulmonary arteries.

8. Indication of the Combination of Macitentan and Tadalafil

The combination of macitentan and tadalafil is indicated for the chronic treatment of adults with pulmonary arterial hypertension.

9. Rationale of combination

The combination of macitentan and tadalafil helps the patient which require combination therapy can switch to fixed dose combination from individual drug administration.

This would decrease the number of oral pills administered which could help in the convenience of patients.

10.Planning of Pre-Diabetes Awareness Week for Marketing of LUPISIT

- i. Got the opportunity plan a campaign for Pre-Diabetes Week
 - Pre-Diabetes Week awareness campaign was under the Sahi Celebration
 - Objectives were:
 - Screening at early stage for person with pre diabetes
 - Raising awareness regarding its management
- ii. Deduced the celebration into three levels
 - Inclinics
 - Outclinics (Doctor)
 - Outclinics (Patients)
- iii. For Inclinics
 - I suggested:
 - Gimmick table top for the doctors that could be a desk plant pot with
 - A simple communication message to participate in awareness week
 - A tagline
 - Logo of Lupin
 - Q R Scanning Poster with the message.
 - Tearoff for inclinc patients.
- iv. Outclinic (doctors)
 - Radio shows by doctors for pre-diabetes awareness.
 - Pre-diabetes education video for patients to be displayed in the clinics,
 - Posters regarding awareness of pre-diabetes
- v. Outclinic (patients)
 - A WALKATHON by patients in metrocities, i.e. :
 1. Mumbai
 2. Delhi
 3. Chennai
 4. Bangalore
 5. Kolkata
 - Screening camps for the patients
 - If found pre- diabetic:

- Testing of Random blood glucose (RBG), Fasting blood glucose (FBG) or Post Prandial blood glucose (PPBG).
- Testing of HBA1C
- Session on Dietary instructions regarding management of pre-diabetes by diet.

vi. Post- week activities

Thank You Card for the doctors

A Thank you card will be distributed to the participating doctors mentioning:

- Appreciation certificate for participating in a pre-diabetes
- awareness week.
- The success of the week (the number of people detected
- with pre-diabetes

11. Analysed the new Fixed Dose Combination of Imeglimin and Sitagliptin for the treatment of Pulmonary Arterial Hypertension

i. Searched about the molecule Imeglimin

- Class- Aminotriazines
- Group- Investigational (not yet approved by US-FDA).
- Therapy- Anti-diabetes
- Innovator- Poxel and, in several Asian countries, Sumitomo DainipponPharma.
- Brand Name- TWYMEEG®
- Availability- Japan, India

ii. About the mechanism of action of Imeglimin.

Its MOA has dual effects:

1. Increase of glucose-stimulated insulin secretion (GSIS) and protection of B- cell mass from degradation.
2. Increased insulin action:
 - Repair of mitochondrial dysfunction, a major pathogenic factor for type 2 diabetes.
 - Decrease formation of reactive oxygen species and enhance mitochondrial DNA synthesis

iii. About pharmacokinetics of Imeglimin

1. Shows a moderate intestinal absorption (50–80%) by use of the active paracellular absorption process.

2. The distribution of the drug through the bloodstream is fast, and plasma protein binding is low.
- iv. About pharmacodynamics of Imeglimin
 1. Imeglimin inhibit hepatic gluconeogenesis, increase muscle glucose uptake, and restore normal insulin secretion.
 - v. Searched about Sitagliptin
 - Class- Dipeptidyl peptidase- 4 Inhibitors (DPP-4 inhibitors)
 - Group- Approved, Investigational.
 - Therapy- Anti-diabetes
 - Innovator- Merck and Co.
 - Brand Name- Brand Name
 - vi. About MOA of Sitagliptin
 - A DPP-4 inhibitor, that acts on incretin hormones specially GLP-1 (Glucose like peptide) and GIP (Gastric inhibitory peptide), raises insulin production and lowers glucagon activity to preserve glucose homeostasis.
 - vii. About the pharmacokinetics of Sitagliptin
 - Absorption: 87% orally bioavailable and its pharmacokinetics are unaffected by whether food is consumed with or without it.
 - T_{max} = 2 hours.
 - Route of Elimination: Approx 79% is eliminated by urine unchanged and 13% by the feces.
 - Half Life: Approx 12.4 hours.
 - viii. About the pharmacodynamics of Sitagliptin.
 - Sitagliptin inhibits DPP-4 which leads to increase levels of glucagon-like peptide-1 (GLP-1) and glucose-dependent insulinotropic polypeptide (GIP), decreased levels of glucagon, and a stronger insulin response to glucose.
 - ix. Indication of combination.
 - The fixed-dose combination of Imeglimin and Sitagliptin is recommended to help patients with T2DM achieve better glycemic control, especially when monotherapy is insufficient.
 - It can be used as primary therapy, add-on therapy, or to simplify existing treatment regimens, with a focus on enhancing patient adherence and addressing multiple pathophysiological aspects of T2DM.

x. Rationale of Combination

1. Complementary Mechanisms: While Imeglimin enhances insulin sensitivity and decreases hepatic glucose production, Sitagliptin boosts insulin secretion and reduces glucagon levels. Together, they address multiple pathophysiological defects in T2DM.

2. Improved Glycemic Control: The combination can lead to more effective lowering of blood glucose levels by targeting different mechanisms simultaneously.

3. Convenience and Adherence: Fixed-dose combinations can improve patient adherence to therapy by simplifying the medication regimen.

xi. Suggested the pricing strategies

- Price of Lupisit 100mg(Sitagliptin) : ₹ 131.95
- Price of Lupimeg 500 mg (Imeglimin): ₹ 100s
- So the average price of both: ₹ 116
- So the proposed pricing of the FDC of Sitagliptin and Imeglimin can be: ₹ 124
- The price can be higher because of this being the first FDC of Sitagliptin and Imeglimin.

Linking Theory (Classroom Learning) with Practice at Your Organization

- **SWOT analysis-** Helped in analysis of various aspect of the brand and in making the decision.
- **PESTEL analysis-** Helped in analysis various factor that can affect a brand and an organization.
- **Business Development-** Helped in designing different campaigns and strategy for a brand development.

Gaps Identified in the working area

- There was no orientation programme for the interns about various department of the organization.
- There was no floating desk for the interns for the work,
- There was a huge gap in coordination among different departments.

Suggestion for improvement

- An orientation programme for the interns about various department.
- There should be a proper floating working desks for the interns.
- There should be proper coordination among various department

Conclusion

The primary goal of my internship at Lupin was to gain a hands-on experience in the dynamic field of marketing, product management and understanding the process and efforts behind a brand creation and to develop the necessary skills. During my internship I worked on various projects and hence developed an innovative approach for the same.

I got an opportunity to learn various skills and implement them and engage with the target audience, create social media Engagement and as well as work on my technical skills.

This internship contributed a lot to my professional and personal development. It enriched my problem-solving skills, decision making ability, and creative thinking. It gave me the confidence to handle real- life problems and solve them.

I am deeply grateful to my organization mentor, Govind Tandel Sir and Pooja Bhonsle Ma'am for their immense support and guidance throughout. I would like to thank the Lupin team for having a wonderful time at work and for their support.

Overall, this internship has been a remarkable memory and a great start to the professional world. I would surely keep the learnings in mind and keep working on my skills. I am grateful of being given this opportunity and eager to use the knowledge I have gained in my upcoming pursuits.

Thankyou.