

**Summer Training at
PlasmaGen Bio-sciences
(May 26, 2013 June 15, 2013)**

**Study on Hyper-Immune Plasma Proteins in Indians Tier 1 and Tier 2
Cities**

**By
Sunil Dhal**

**Under the guidance of
Dr. N.K. Gurbani**

**Post Graduate Diploma in Pharmaceutical Management
2012-2014**



**Institute of Health Management Research,
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Certificate

This to certify that Sunil Dhal, student of Post Graduate Diploma in Pharmaceutical Management (PGDPM) from Institute of Health Management Research, Jaipur, Batch 4th has successfully undergone his summer training in Plasmagen Biosciences, Bangalore and has done projects on:

- “Study on Hyper-Immune plasma proteins in Indians Tier 1 and Tier 2 Cities”.

The candidate has successfully carried out the mentioned studies assigned during his summer training from 26 April 2013 – 15 June 2013 and his approach towards the study was sincere, scientific and analytical.

We wish him success in all his future endeavors.



Dr. Nirmal K Gurbani

Professor and Dean
IHMR, Jaipur



Dr. Ashok Kaushik

Dean Academics and Student Affairs,
IHMR, Jaipur

17-04-2013

Mr. Sunil Dhal
IIHMR

Sub: Offer for Management trainee position for Summer Internship Project.

Dear Mr. Dhal ,

Further to the interview you had with us and conditions mutually agreed, during the discussion, we are pleased to inform you that you have been selected as Management Trainee for our Summer Internship Project titled "**Hyper-Immune Plasma Proteins in Indian Tier 1 & Tier 2 cities**". You'll be reporting to our C.E.O Dr. Ranjeet Ajmani.

The main objectives of this project are:

- To imbibe understanding of hyperimmune globulins for better healthcare support
- Help in increasing awareness about various hyperimmune globulins
- Key Opinion Leader's (KOL) management
- Focused Qualitative and Quantitative research on the market potential of various hyperimmune globulins in India
- Understanding the pattern of availability and usage of hyperimmune product.

You will be covering Guwahati, Shillong, Bongaigaon, Tezpur, Itanagar, Dibrugarh and Tinsukia. The project duration will be 6-8 weeks (including market research and data compilation).

Training required for this project will be provided over video conferencing on 20th April, 2013 between 10:30 AM to 02:30 PM. Details for the training is communicated to your Placement Officer. You need to attend the training along with hard copies of all the training documents.

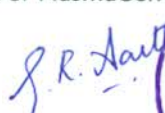
We require the following details from you:

1. Your contact address, number and email id
2. Contact number and details of a person, in case of emergency
3. Passport size photograph

All the above information will be treated in strict confidence by the management.

Kindly fill-in the attached project undertaking form and send us a signed scan copy of it.

For PlasmaGen Biosciences Pvt Ltd


AARTHI G R
(MANAGER – HR & ADMIN)



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ACKNOWLEDGEMENT

I wish to take this opportunity to convey my sincere gratitude to all those who has helped me in the successful completion of this project.

I am also extremely thankful to Dr. Dalbir Singh; the placement co-coordinator of our institute who being very generous and kind hearted man had never been miser in sharing valuable advises and experiences with me and had been very instrumental in choosing my course of action throughout the project.

My heartiest thanks to **PlasmaGen** team for mailing us from time to time and keeping us updated with all the latest updates and instruction on behalf of the company.

Finally my sincere acknowledgements to all the doctors who gave me time in the midst of their busy schedule and helped me pursue this otherwise impossible project.

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EXECUTIVE SUMMARY

The Project undertaken is a market research on availability, affordability, safety, consumption pattern and market potential of plasma product. As we all know plasma products such as IVIG, Human Albumin, Anti D, Hepatitis and Tetanus Immunoglobulin's are all very expensive in the market because their only source is Human Blood & blood donors charge hefty sums of any donations they make.

Despite the fact that all plasma products are life saving drugs & the last line of defence for many doctors, many patients refrain from buying it as their price are well beyond the reach of many poor people which form the large proportion of our population. Also because of the fact that plasma products are new in the market, there is not much of awareness among doctors & patients regarding its uses & implementation.

This project is the GAP analysis of demand and supply of hyper immune proteins in the Indian plasma product industry.

Throughout my market survey on doctors of reputed hospitals throughout the given areas I sought to determine the demand, the consumption patterns, personnel preferences, quality & availability of currently available blood & plasma brands in this region of the country.

I was assigned to do work in following cities in the North east region of India:

Guwahati, Shillong, Bongaigaon, Tezpur, Itanagar, Dibrugarh and Tinsukia.

INTRODUCTION

Human blood is a very vital and scarce human resource that is used as a life saving medicine. There is no substitute to blood in many of the medical conditions and neither is it allowed for import or export in most of the countries across the globe. Therefore, World Health Organization (WHO) puts very heavy emphasis on the concept of “Blood Security” and “self sufficiency” nation wise.

India has made very impressive growth in many areas of development including medical sciences. But timely availability of safe blood and blood products at an affordable price is still a very big challenge in India. Many patients loose battle of life because of non-availability of safe blood and blood products. In 21st century, when we are looking at “Incredible India”, we are living with very high level of vulnerability in terms of availability of safe blood/blood products which is integral part of critical health care system. This scene must change and we must be part of this change or facilitate this change. India is lagging far behind in terms of public health care spending and this is reflects in overall delivery of our healthcare system.

COUNTRIES	HEALTHCARE SPENDING % OF GDP (2010)
UNITED STATES OF AMERICA	17.9
UNITED KINGDOM	9.6
CHINA	5.1
INDIA	4.1

Within healthcare, the expenditure pattern is very erratic. Areas like public health get little attention. Since timely availability of safe blood/blood products is very important health priority, Plasmagen Biosciences’, has been incorporated to represent the modern face of “Transfusion Medicine”, a very important branch of medical science, which deals with blood and blood-plasma products.

As per WHO, India needs about 12 million units of blood for its own patient population. This consumption could be higher as India attracts many patients from various parts of world for cost effective medical treatment, termed as “Medical Tourism” Unfortunately, India currently, collects only about 9 million units of blood and this is further compounded by the fact that not all blood centers in India practice blood component therapy, under which one can help more than three patients from a single blood donation. The plasma which is generated from this component therapy can produce various life saving medicines like Albumin, Immunoglobulin’s, Coagulation factor, fibrin glue etc.Plasmagen Biosciences conducted a market survey in 2012 titled “plasma products Therapy and Blood Banking Scene in India : Facts and Fiction”.

TITLE:

“Hyper-immune Plasma Proteins in Indian Tier I and Tier II Cities- determine the public health perspective on the availability, affordability, safety, consumption pattern and market potential of each product.”

OBJECTIVE OF THE STUDY:

- To estimate the awareness about hyper immune products.
- To understand public health perspective of hyper immune products in the regions.
- To determine the number of diagnosed cases in the given region.
- To understand the disease management by doctors.
- To analyze whether the existing demand for the products are fulfilled.
- Perception of doctors in these regions regarding the hyper immunes.
- Factors affecting the growth of hyper immune plasma protein market in Tier I and Tier II cities.
- To determine the factors that would promote usage of these products in Tier I and Tier II cities.

PROBLEM STATEMENT:

Gap Analysis – demand and supply of hyper immune proteins in the Indian plasma product Industry.

MATERIALS AND METHODS**TARGET POPULATION:**

Target population are doctors of different speciality, those who used to prescribe the hyper immune plasma products, i.e. Gynaecologists, Paediatricians, Neonatologists, Medical Oncologist, Haematologists, Intensivists, Hepatologists, Gastroenterologist, Emergency ward doctors, BAMS/BHMS and are taken from Guwahati, Shillong, Bongaigaon, Tezpur, Itanagar, Dibrugarh and Tinsukia.

DATA COLLECTION:

- Semi structure questionnaire are used as a data collection tool for the market research, which are provided by PLASMAGEN BIOSCIENCES (ANNEXURE).

TYPE OF RESEARCH DESIGN:

- The research design put to use is descriptive study.

TYPE OF SAMPLING:

- Purposive sampling had been used in selecting samples for market research

STUDY TIME:

- Survey started from 26th April and completed on 16th may .Total 21 Days for field survey.

ANALYSIS TOOL:

- MS office EXCEL was used as analysis tool.

DATA ANALYSIS

A. SAMPLE AND SAMPLE DISTRIBUTION :

CITIES	SAMPLE DISTRIBUTION
Guwahati	15%
Shillong	17%
Bongaigaon	10%
Tezpur	8%
Itanagar	11%
Dibrugarh	16%
Tinsukia	23%

FIGURE NO: 01

Total sample size was taken is “88”. 13 are from Guwahati, 15 are from Shillong, 9 are from Bongaigaon, 7 are from Tezpur, 10 are from Itanagar, 14 are from Dibrugarh, and 20 are from Tinsukia.

B. GRAPH REPRESENTING USAGE OF PLASMA PRODUCT :

USAGE OF PLASMA PRODUCTS	DISTRIBUTION
YES	61%
NO	39%

FIGURE NO: 02

Out Of total sample size i.e. 88, 54 doctors prescribing plasma products and 34 are not prescribing plasma products.

C. INCIDENCE RATE OF PLASMA PRODUCTS :

CITIES	IR(Rabies)	IR(Hep)	IR(Tetanus)	IR(Anti D)
Guwahati	3	3	3	7
Shillong	3	3	1	5
Bongaigaon	3	3	4	1
Tezpur	3	2	2	1
Itanagar	5	2	2	5
Dibrugarh	3	1	3	5
Tinsukia	7	2	3	7

FIGURE NO: 03

No. Of patients :

- 0 to 5**
- 6 to 10**
- 11 to 15**
- >15**

Out of total no. Of doctors who are prescribing Hep-B IG, Anti Rabies, Anti tetanus, Anti-D IG. The maximum no. of cases they have find is between “0 to 5” .

D. % OF PATIENTS CAN ADMINISTERED IG :

CITIES	Hep B IG	Anti Rabies IG	Anti tetanus IG	Anti D IG
Guwahati	2	1	2	5
Shillong	3	0	0	0
Bongaigaon	5	2	1	1
Tezpur	3	1	1	1
Itanagar	6	3	2	5
Dibrugarh	8	2	3	4
Tinsukia	3	2	2	4

FIGURE NO: 04

Note:

No. Of patients :

- 0 to 5
- 6 to 10
- 11 to 15
- >15

Out of total no. Of doctors who are prescribing Hep-B IG, Anti rabies IG, Anti tetanus IG, Anti D IG, The maximum percentage of patient's can administered IG is between "0 to 10".

E. BRAND PREFERRED BY DOCTORS :

DISEASE	BRAND
Hep B IG	Hep B Vaccines, Hepatect
Anti Rabies IG	Rabglob, Rabipor, Equirab
Anti tetanus IG	<u>Tetglob</u>
Anti D IG	<u>Rhogam, Rhoclone, Kamrhob</u>

FIGURE NO: 05

F. FACTORS RESPONSIBLE FOR CHOICE OF BRAND :

Figures are specified in terms of %:-

FACTORS	Guwahati	Shillong	Bongaigaon	Tezpur	Itanagar	Dibrugarh	Tinsukia
Affordability	13	14	15	14	16	17	16
Availability	18	17	18	16	18	19	19
Brand Visibility	13	14	12	12	14	12	13
Company Image	13	13	12	12	12	11	12
Patient's choice	7	5	5	8	2	3	2
Quality	16	19	19	19	19	19	19
Safety	20	18	19	19	19	19	19

FIGURE NO: 06

Above data concluded that factors responsible for choice of specific brand in given cities are Safety and it is followed by Quality and Availability.

FINDINGS

During the market research survey, it is found that:

- Out of total sample 61% doctors are prescribing plasma products and the rest of the doctors are not prescribing plasma products.
- Out of 7 factor namely:- 3 factors are most important i.e. Quality, Safety and Availability for choice of a brand.
- The most important factors, which are responsible for not prescribing of plasma products, are High cost, Low patient pool and Availability.
- Demand of plasma product is fulfilled with supply but in Cuttack and Bhubaneswar they get somewhat difficult to get these products.

For specific products findings are as under:-

FOR HEP-B IG:

- Out of 61% of doctors prescribing plasma products 90% said it is easy for them to get these products and 10% said it is difficult for them.
- Maximum number of diagnosed cases i.e. 86% Found to be within **0 to 5** years age group and 79% percentage of patients can be administered IG is within **0 to 10 years** age group.
- **Hep-B IG** is the market leader and it covers 88% of total market share.
- 92% of doctors said they are satisfied with the product they use.
- Awareness level is found to be normal in five cities except two cities i.e. Cuttack and Jamshedpur, it is moderately high.

FOR ANTI-RABIES IG:

- Out of 61% of doctors prescribing plasma products, 74% said it is easy for them to get these products and 26% said it is difficult for them.

- Maximum number of diagnosed cases i.e. 87% found to be within **0 to 5** and 85% percentage of patients can be administered IG is within **0 to 10**.
- **Rabglob** is the market leader and it covers 50% of the total market share.
- 77% doctors said they are satisfied with the products they use.
- Awareness level is found to be normal in five cities except two cities i.e. Cuttack and Jamshedpur, it is moderately high.

FOR ANTI-TETANUS IG:

- Out of 61% of doctors 89% prescribing plasma products, said it is easy for them to get this products and 11% said it is difficult for them.
- Maximum number of diagnosed cases i.e. 55% found to be within **0 to 5** years age group and 73% percentage of patients can be administered IG is within **0 to 10** years age group.
- **Tetglob** is the market leader and it covers 100%.
- 81% doctors said they are satisfied with the products they use.
- Awareness level is found to be normal in four cities except two cities i.e. Cuttack, Dhanbad and Jamshedpur, it is moderately high.

FOR ANTI-D IG:

- Out of 61% of doctors prescribing plasma products, 90% said it is easy for them to get these products and 10% said it is difficult for them.
- Maximum number of diagnosed cases i.e. 77% found to be within **0 to 5** and 95% percentage of patients can be administered IG is within **0 to 10**.
- **Rhoclon** is the market leader and it covers 52% of the total market share.
- 80% doctors said they are satisfied with the products they use.
- Awareness level is found to be moderately high in six cities except Ranchi, it is normal.

LESSON LEARNT

- After completing the market survey, it is very clear to understand the market leader for plasma products, market position of the company, different competitors for this product in market.
- Bharat Serum is undoubtedly market leader in this segment whereas there are also some players giving competition.
- According to doctors recommendation CMEs should be conduct, to increase awareness.
- Also PlasmaGen will have to do extensive marketing so as to establish the brand and create awareness about the company and its products available.

ANNEXURE

Question 1: Are you using any of the plasma products (Albumin, Immunoglobulin's, **Anti D IG, Anti Rabies IG, Hep-B IG, Anti Tetanus IG,** Coagulation Factor, alpha-1 Antitrypsin) in course of your treatment?

Question 2: How easy/difficult it is to get this product?

Question 3:

A: - No of cases of Hepatitis B per month

B: - % of patients who can be administered Anti Hep B Ig

Question 4: Brand Preference

Question 5: Choice of your brand is due to

- a. Affordability, b. Availability, c. Brand visibility, d. Company image
- E .Patient's choice, f. Quality, g. Safety

Question 6: Any other indication for which Anti Hep-B Ig can be prescribed?

Question 7: Your opinion on the usage of currently available brands?

Question 8: Present awareness level about Anti Hep-B Ig in the medical fraternity:

Question 9: In spite of awareness about Anti Hep-B Ig, but it is not part of your therapy regimen due to:

Question 10: Do you think conducting awareness program would help the medical fraternity? If so, what kind of awareness program you would recommend.

Question 11: Any reference, if you would like to give