

Summer Training at

Plasma Gen Biosciences, Bangalore
(April-June 2013)

**STUDY ON HYPER-IMMUNE PLASMA PROTEINS IN
INDIANS TIER 1 AND TIER 2 CITIES**

By
Smita Singh

Under the guidance of
Mr. Rahul Sharma

Post Graduate Diploma in Pharmaceutical Management
2012-2014



Institute of Health Management Research,
Jaipur
2013

**INSTITUTE OF HEALTH
MANAGEMENT RESEARCH**

1, Prabhu Dayal Marg
Sanganer Airport, JAIPUR - 302 011, INDIA
Tel. : 3924700, 2791431-32
Fax : 91-141-3924738
E-mail : iihmr@iihmr.org
URL : <http://www.iihmr.org>
Gram : HEALTHINST

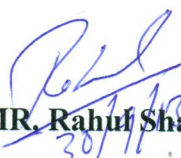
Certificate

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

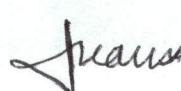
- “Study on Hyper-Immune plasma proteins in Indians Tier 1 and Tier 2 Cities”.

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

We wish her success in all her future endeavors.


MR. Rahul Sharma

Assistant Professor
IHMR, Jaipur



Dr. Ashok Kaushik

Dean Academics and Student Affairs,
IHMR, Jaipur

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 Mr. 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 & 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.

TABLE OF CONTENTS

Serial No.	Topics
1	Executive Summary
2	Introduction
3	Title
4	Objectives
5	Research Methodology
6	Data Analysis
7	Findings
8	Recommendations
9	Annexure

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 western region of India:

Cuttack, Bhubaneswar, Howrah, Durgapur, Dhanbad, Ranchi and Jamshedpur.

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. There for 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. 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 product 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 you 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.These products are used to treat various bleeding disorders, shock/trauma/burn patients, neurological and haematological conditions, autoimmune disorders etc.In an effort to better understand the scenario of these

plasma products in India, 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 Howrah, Durgapur, Dhanbad, Ranchi, Bhubaneswar and Cuttack.

DATA COLLECTION:

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

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 29th April and completed on 17th may .Total 19days for field survey.

ANALYSIS TOOL:

- MS office EXCEL was used as analysis tool.

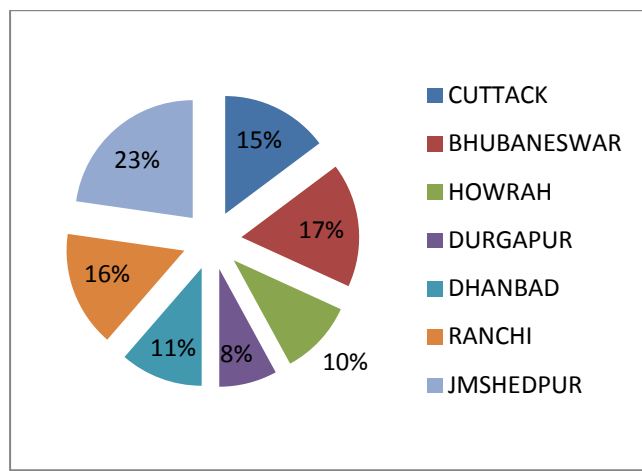
DATA ANALYSIS**A. GRAPH REPRESENTING TOTAL NUMBER OF SAMPLE :**

FIGURE NO: 1

Total sample size was taken is 88. 13 are from Cuttack, 15 are from Bhubaneswar, 9 are from Howrah, 7 are from Durgapur, 10 are from Dhanbad, 14 are from Ranchi, and 20 are from Jamshedpur.

B. GRAPH REPRESENTING USAGE OF PLASMA PRODUCT :

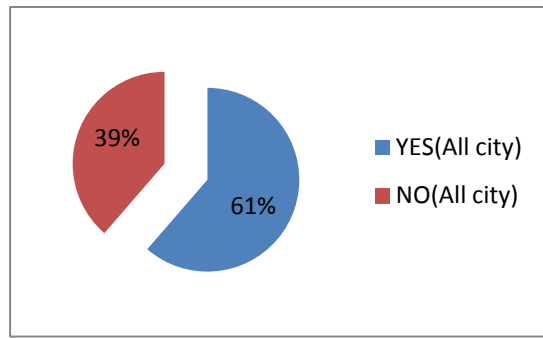


FIGURE NO: 2

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

C. GRAPH REPRESENTING ACCESIBILITY OF PRODUCT :

a. FOR Hep-B IG:

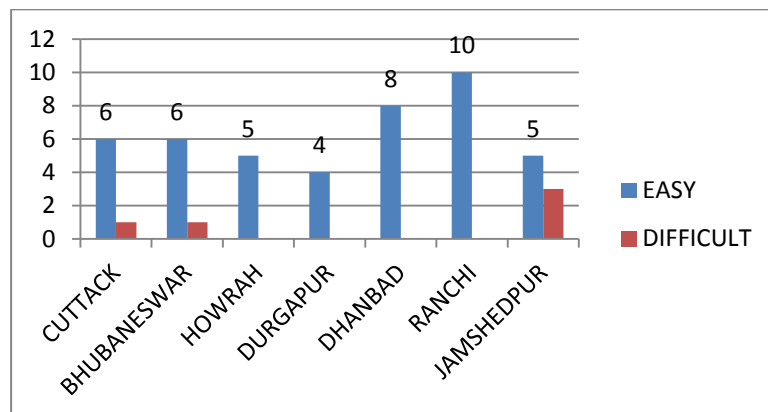


FIGURE NO: 3

Out of total no. Of doctors who are prescribing Hep-B IG, 6 from Cuttack, 6 from Bhubaneswar, 5 from Howrah, 4 from Durgapur, 8 from dhanbad, 10 from Ranchi and 5 from Jamshedpur said, they find easy to get these products.

b. FOR Anti – Rabies IG

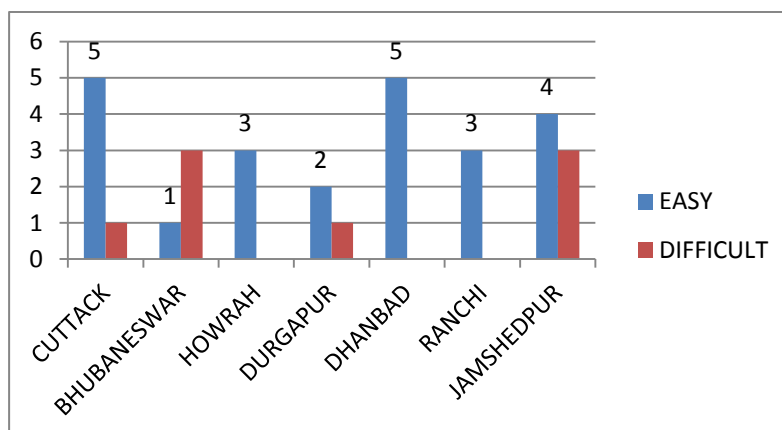


FIGURE NO: 4

Out of total no. Of doctors who are prescribing Anti-Rabies IG, 5 from Cuttack, 1 from Bhubaneswar, 3 from Howrah, 2 from Durgapur, 5 from Dhanbad, 3 from Ranchi and 4 from Jamshedpur said, they find easy to get these products.

c. FOR Anti-Tetanus IG

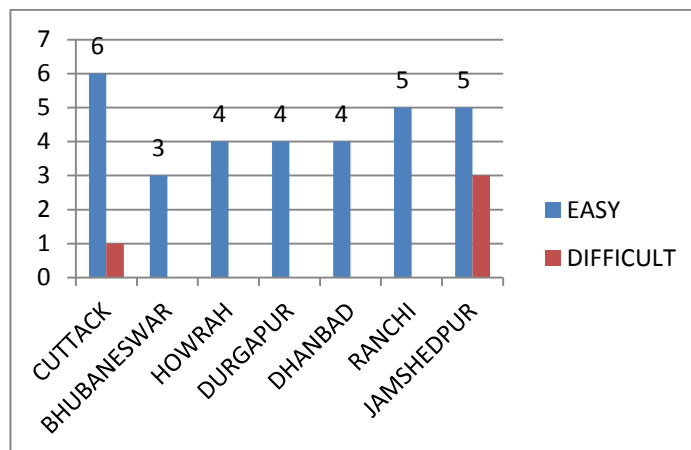


FIGURE NO: 5

Out of total no. Of doctors who are prescribing Anti-Tetanus IG, 6 from Cuttack, 3 from Bhubaneswar, 4 from Howrah, 4 from Durgapur, 4 from Dhanbad, 5 from Ranchi and 5 from Jamshedpur said, they find easy to get these products.

d. FOR Anti-D

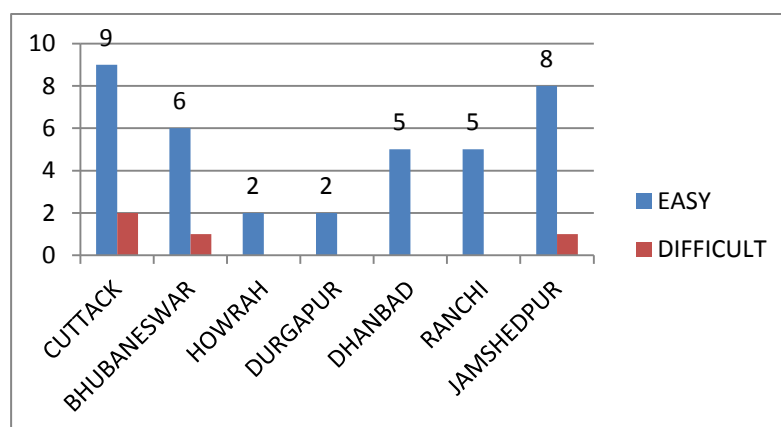


FIGURE NO: 6

Out of total no. Of doctors who are prescribing Anti-D IG, 9 from Cuttack, 6 from Bhubaneswar, 2 from Howrah, 2 from Durgapur, 5 from Dhanbad, 5 from Ranchi and 8 from Jamshedpur said, they find easy to get these products.

D. NO. OF CASES :

a. FOR Hep-B IG:

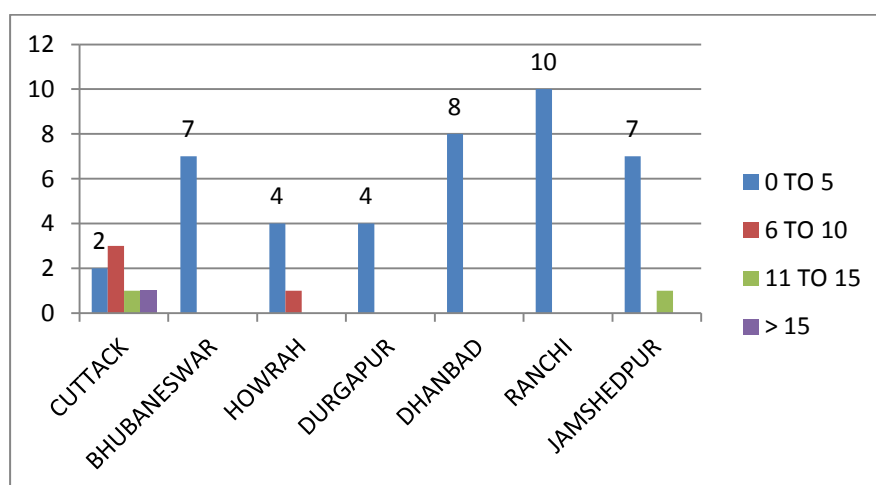


FIGURE NO: 7

Out of total no. Of doctors who are prescribing Hep-B IG, 2 from cuttack, 7 from Bhubaneswar, 4 from howrah, 4 from Durgapur, 8 from dhanbad, 10 from Ranchi and 7 from Jamshedpur said that, the maximum no. Of cases they have find is between 0 to 5.

b. FOR Anti – Rabies IG

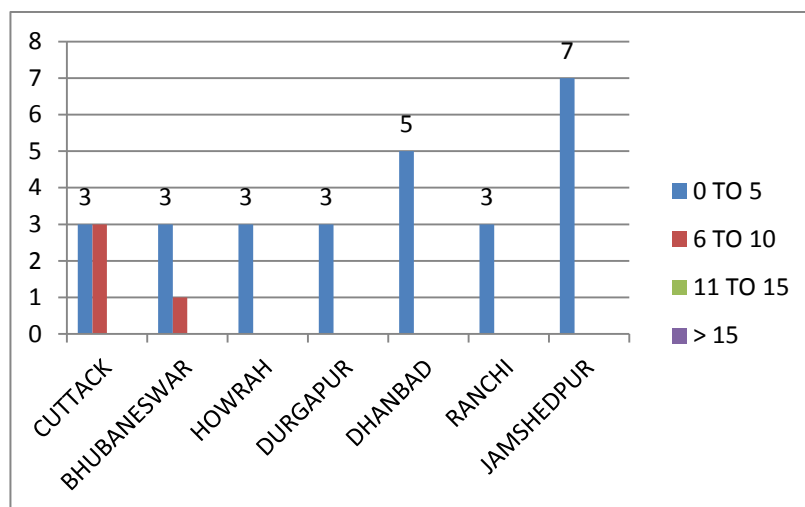


FIGURE NO: 8

Out of total no. Of doctors who are prescribing Anti-Rabies IG, 3 from Cuttack, 3 from Bhubaneswar, 3 from Howrah, 3 from Durgapur, 5 from dhanbad, 3 from Ranchi and 7 from Jamshedpur said that, the maximum no. Of cases they have find is between o to 5.

c. FOR Anti-Tetanus IG :

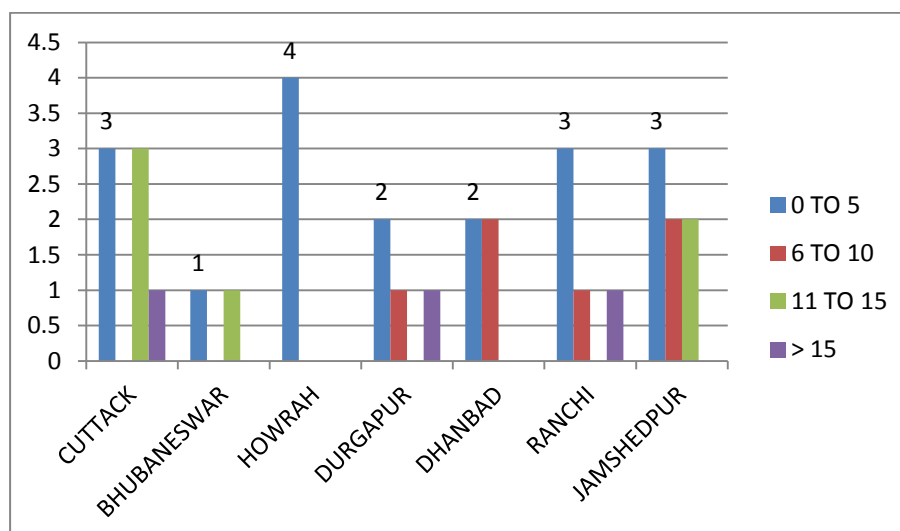


FIGURE NO: 9

Out of total no. Of doctors who are prescribing Anti-Tetanus IG, 3 from Cuttack, 1 from Bhubaneswar, 4 from Howrah, 2 from Durgapur, 2 from dhanbad, 3 from

Ranchi and 3 from Jamshedpur said that, the maximum no. Of cases they have find is between o to 5.

d. FOR Anti-D :

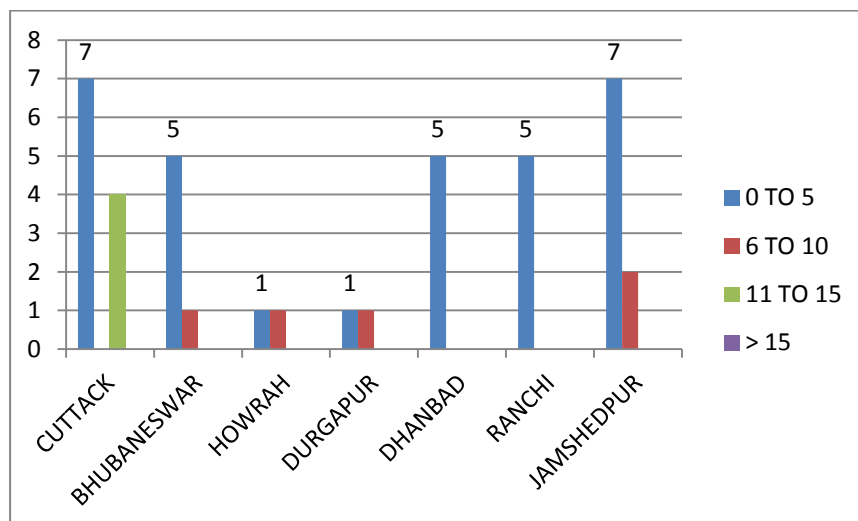


FIGURE NO: 10

Out of total no. Of doctors who are prescribing Anti-D IG, 7 from Cuttack, 5from Bhubaneswar, 1 from Howrah, 1 from Durgapur, 5 from dhanbad, 5 from Ranchi and 7 from Jamshedpur said that, the maximum no. Of cases they have find is between o to 5.

E. % OF PATIENTS CAN ADMINISTERED IG :

a. FOR Hep-B IG:

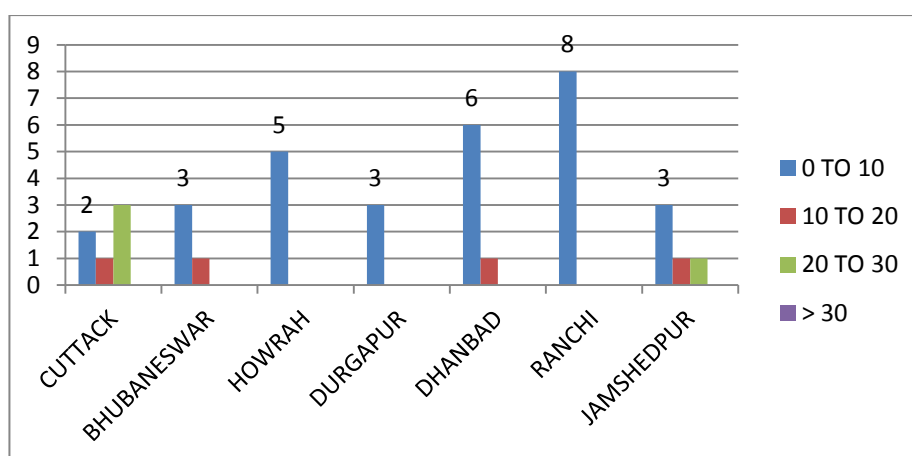


FIGURE NO: 11

Out of total no. Of doctors who are prescribing Hep-B IG, 2 from Cuttack, 3 from Bhubaneswar, 5 from Howrah, 3 from Durgapur, 6 from dhanbad, 8 from Ranchi and 3 from Jamshedpur said that, the maximum percentage of patient's can administered IG is between 0 to 10.

b. FOR Anti – Rabies IG:

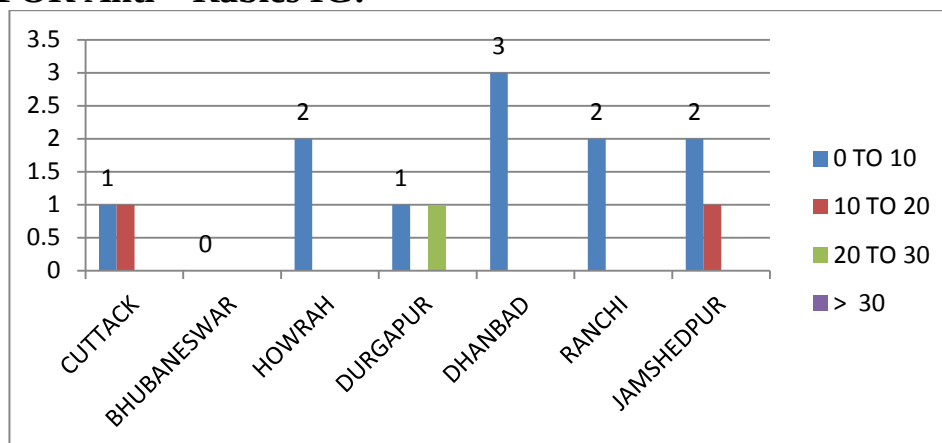


FIGURE NO: 12

Out of total no. Of doctors who are prescribing Anti-Rabies IG, 1 from Cuttack, no response from Bhubaneswar, 2 from Howrah, 1 from Durgapur, 3 from dhanbad, 2 from Ranchi and 2 from Jamshedpur said that, the maximum percentage of patient's can administered IG is between 0 to 10.

c. FOR Anti-Tetanus IG :

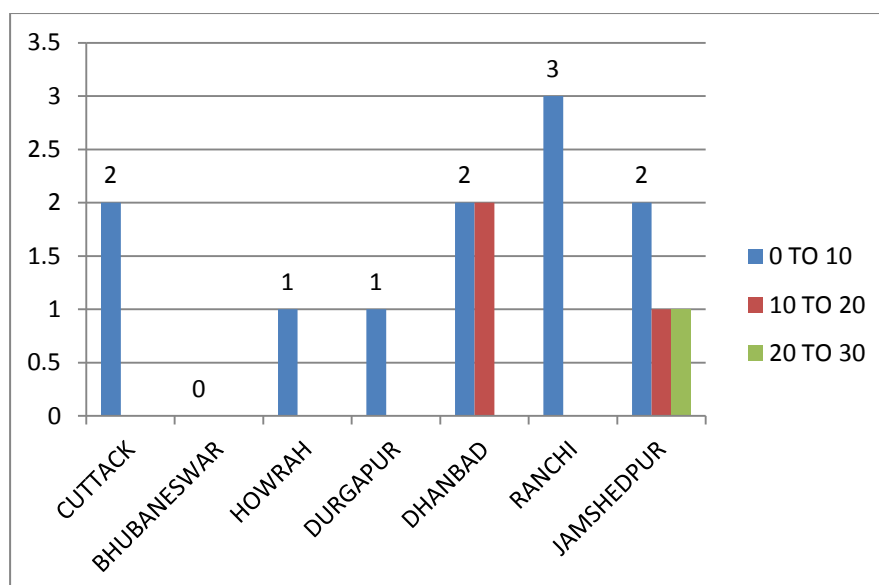


FIGURE NO: 13

Out of total no. Of doctors who are prescribing Anti-Tetanus IG, 2 from Cuttack, no response from Bhubaneswar, 1 from Howrah, 1 from Durgapur, 2 from

Dhanbad, 3 from Ranchi and 2 from Jamshedpur said that, the maximum percentage of patient's can administered IG is between 0 to 10.

d. FOR Anti-D:

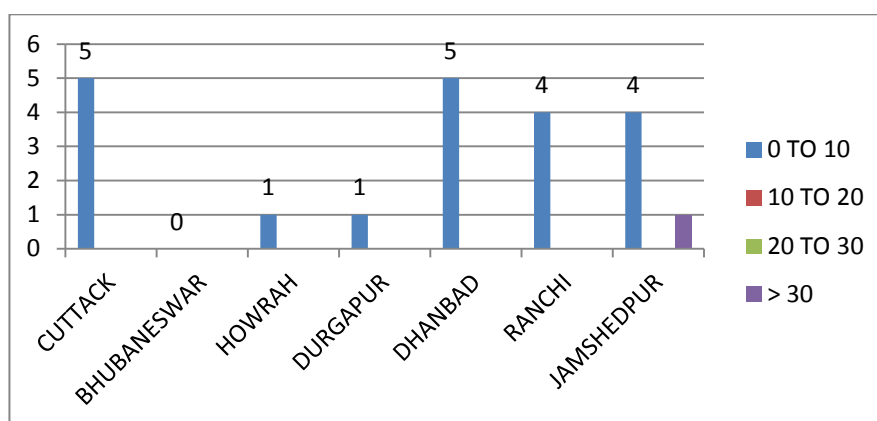


FIGURE NO: 14

Out of total no. Of doctors who are prescribing Anti-D IG, 5 from Cuttack, no response from Bhubaneswar, 1 from Howrah, 1 from Durgapur, 5 from Dhanbad, 4 from Ranchi and 4 from Jamshedpur said that, the maximum percentage of patient's can administered IG is between 0 to 10.

F. GRAPH REPRESENTING BRAND PREFERRED BY DOCTORS :

a. FOR HEP-B IG :

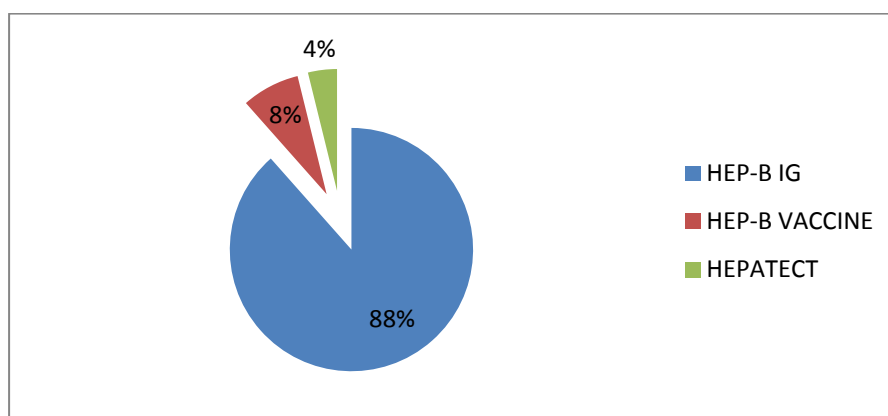


FIGURE NO: 15

The above figure indicates that maximum numbers of doctors i.e. 88% are using HEP-B IG for treatment of disease.

b. FOR ANTI-RABIES IG :

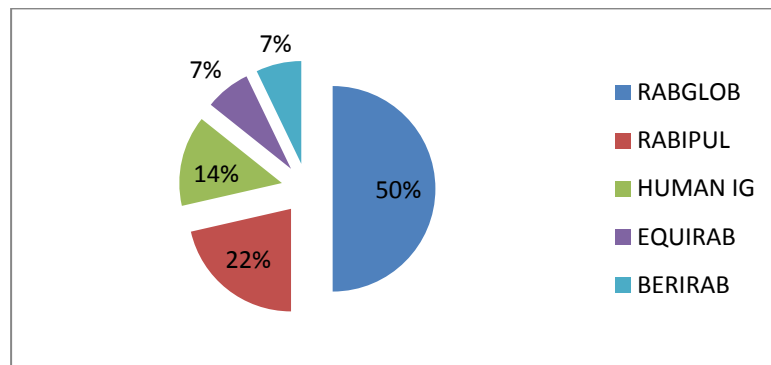


FIGURE NO: 16

The above figure indicates that maximum number of doctors i.e. 50% is using ANTI-RABIES IG for treatment of disease.

c. FOR ANTI-TETANUS IG :

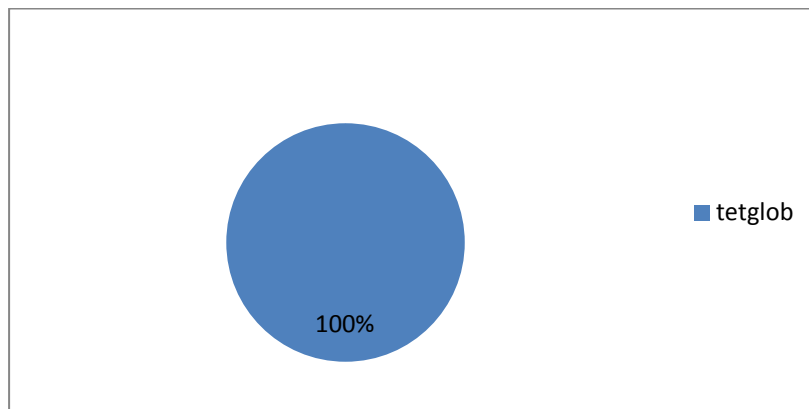


FIGURE NO: 17

The above figure indicates that maximum numbers of doctors i.e. 100% are using ANTI-TETANUS IG for treatment of disease.

d. FOR ANTI-D IG :

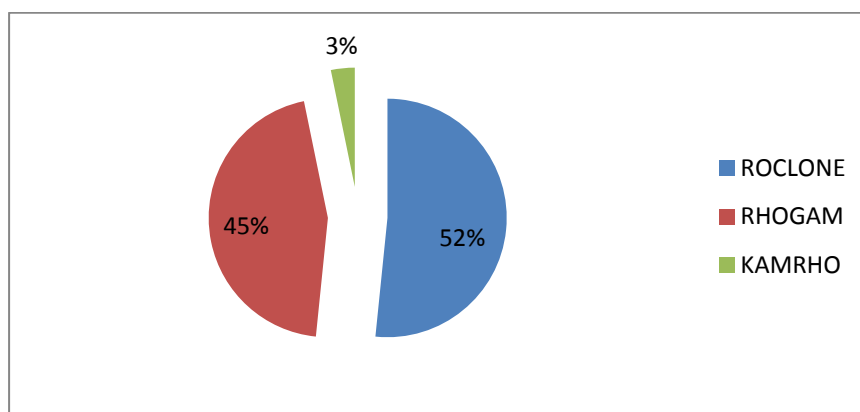


FIGURE NO: 18

The above figure indicates that maximum numbers of doctors i.e. 52% are using ANTI-D IG for treatment of disease.

G. GRAPH REPRESENTING FACTORS RESPONSIBLE FOR CHOICE OF BRAND :

a. IN CUTTACK CITY:

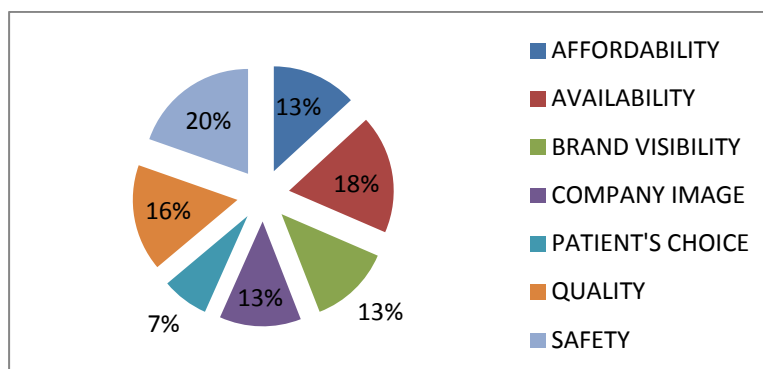


FIGURE NO: 18

The above graph represent that, out of 100%, 20% score given to safety, 18% is for availability, 16% is for Quality, 13% is for affordability, company image and brand visibility and the least score is given to patient's choice i.e. 7%.

b. IN BHUBANESWAR CITY :

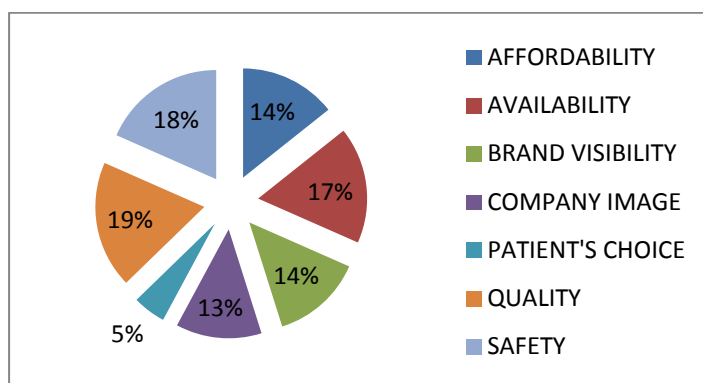


FIGURE NO: 19

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality, 18% is for safety, 17% is for availability, 14% is for Brand visibility and affordability, 13% is for company image and the least score is given to patient's choice i.e. 5%.

c. IN HOWRAH CITY :

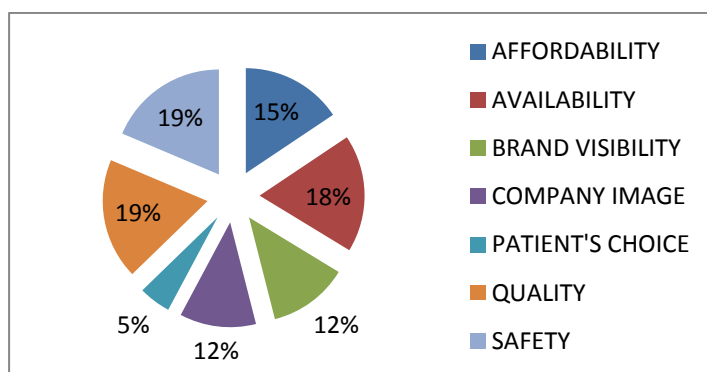


FIGURE NO: 20

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality and safety, 18% is for Availability, 15% is for affordability, 12% is for Brand visibility and company image, and the least score is given to patient's choice i.e. 5%.

d. IN DURGAPUR CITY :

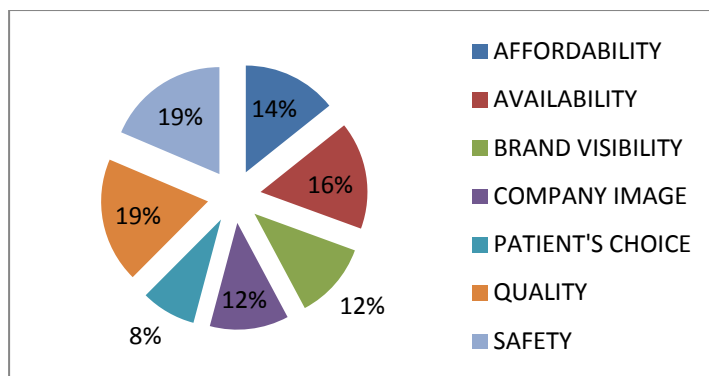


FIGURE NO: 21

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality and safety, 16% is for Availability, 14% is for affordability, 12% is for Brand visibility and company image, and the least score is given to patient's choice i.e. 8%.

e. IN DHANBAD CITY :

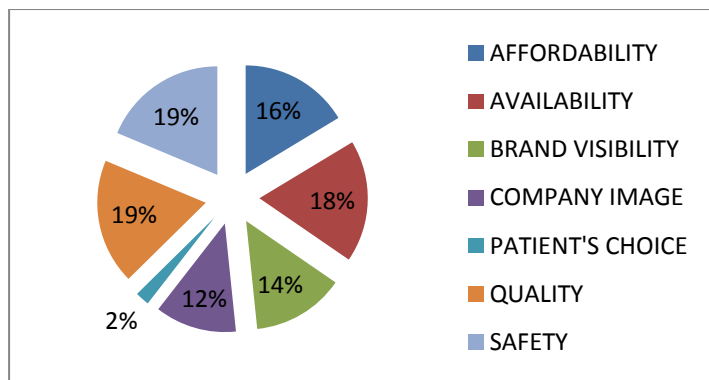


FIGURE NO: 22

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality and safety, 18% is for Availability, 16% is for affordability, 14% is for Brand visibility, 12% is for company image, and the least score is given to patient's choice i.e. 2%.

f. IN RANCHI CITY :

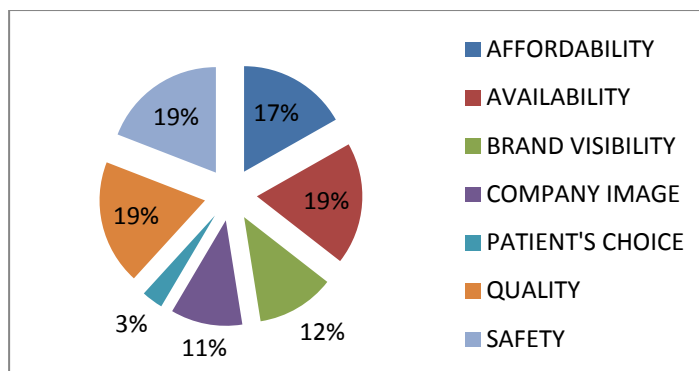


FIGURE NO: 23

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality, safety and Availability, 17% is for affordability, 12% is for Brand visibility, 11% is for company image, and the least score is given to patient's choice i.e. 3%.

g. IN JAMSHEDPUR CITY :

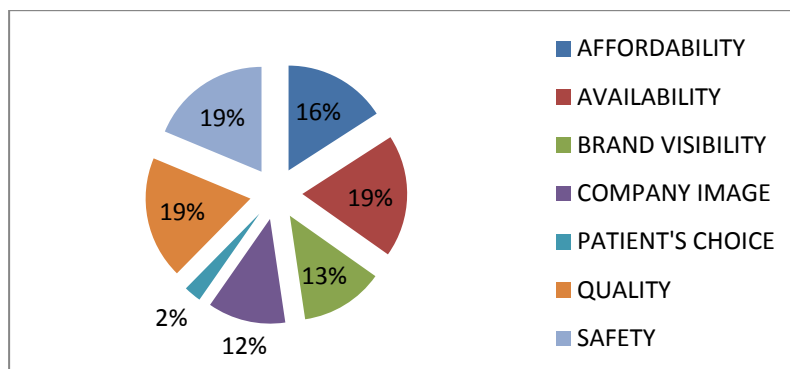


FIGURE NO: 24

The above graph represent that, out of 100%, the highest score i.e. 19% given to Quality, safety and Availability, 16% is for affordability, 13% is for Brand visibility, 12% is for company image, and the least score is given to patient's choice i.e. 2%.

H. GRAPH REPRESENTING SATISFACTION LEVEL OF DOCTORS :

a. FOR HEP-B IG :

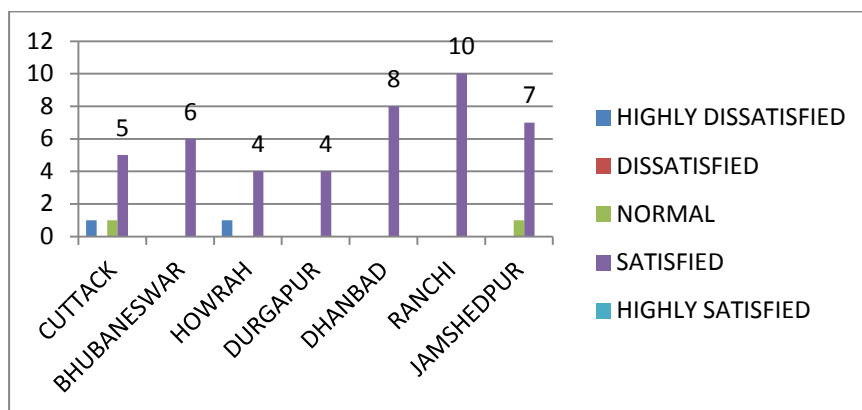


FIGURE NO: 25

The above figure indicates that maximum numbers of doctors are satisfied with the plasma product they are using.

b. FOR ANTI-RABIES IG :

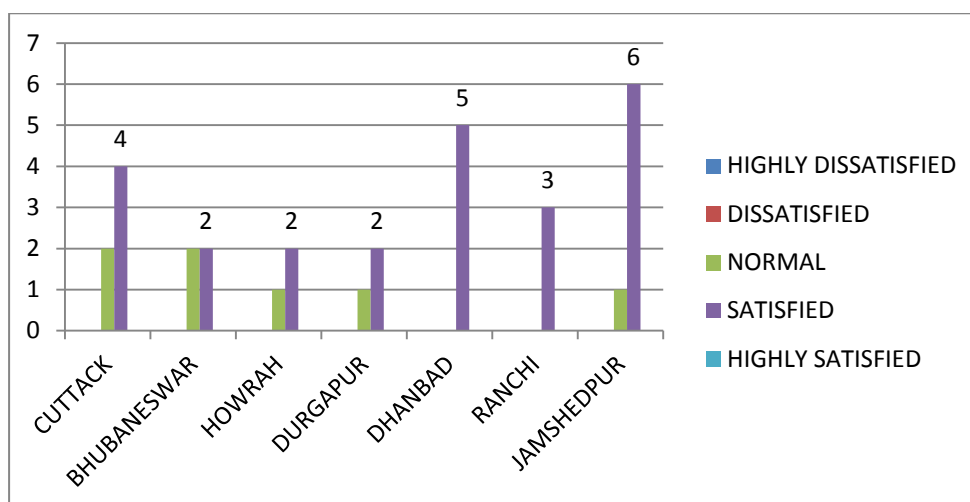


FIGURE NO: 26

The above figure indicates that maximum numbers of doctors are satisfied with the plasma product they are using.

c. FOR ANTI-TETANUS IG :

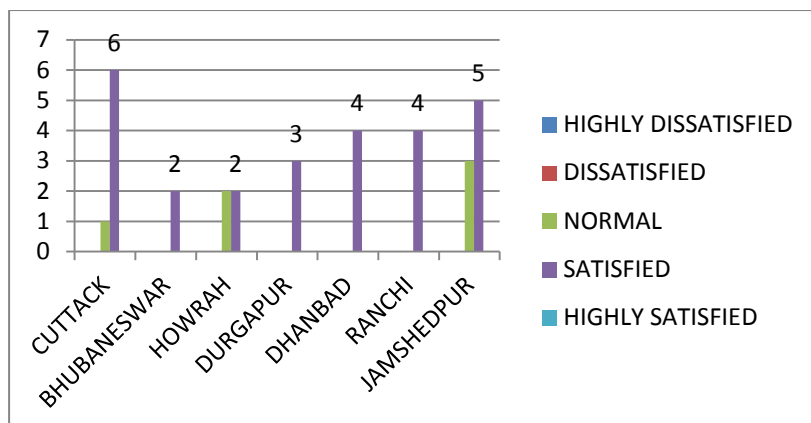


FIGURE NO: 27

The above figure indicates that maximum numbers of doctors are satisfied with the plasma product they are using.

d. FOR ANTI-D IG :

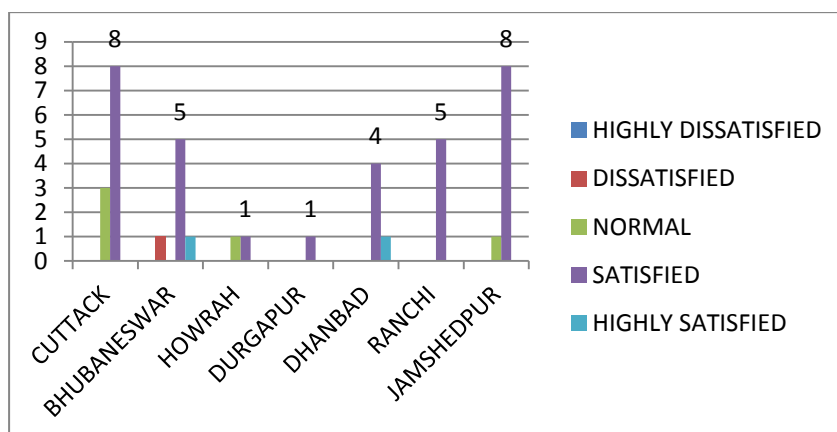


FIGURE NO: 28

The above figure indicates that maximum numbers of doctors are satisfied with the plasma product they are using..

I. GRAPH REPRESENTING AWARENESS LEVEL OF DOCTORS :

a. FOR HEP-B IG :

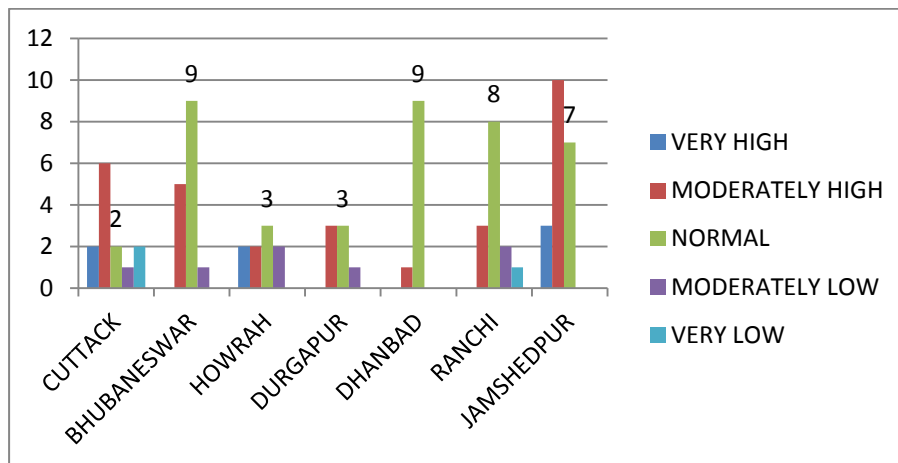


FIGURE NO: 29

The above figure indicates that, awareness level of maximum number of doctors is “NORMAL”.

b. FOR ANTI-RABIES IG :

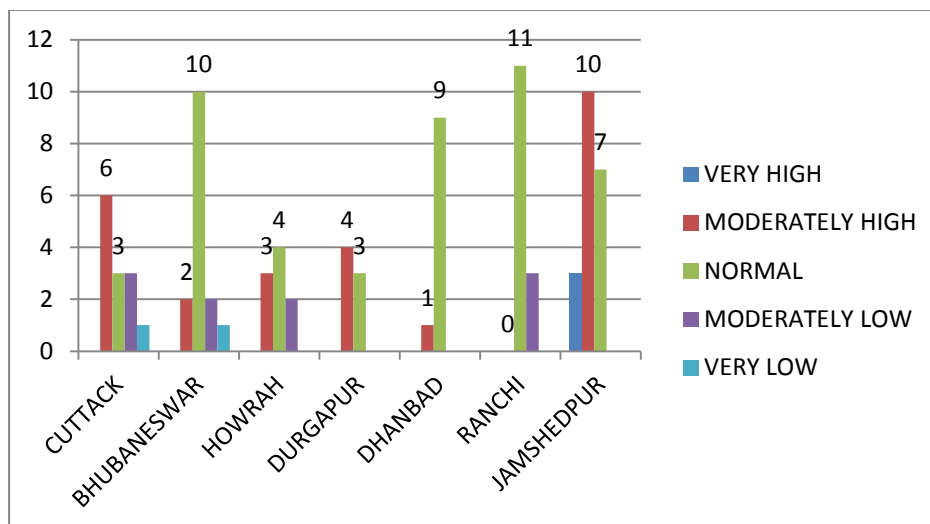


FIGURE NO: 30

The above figure indicates that, awareness level of maximum number of doctors is “NORMAL” as well “MODERATELY HIGH”.

c. FOR ANTI-TETANUS IG :

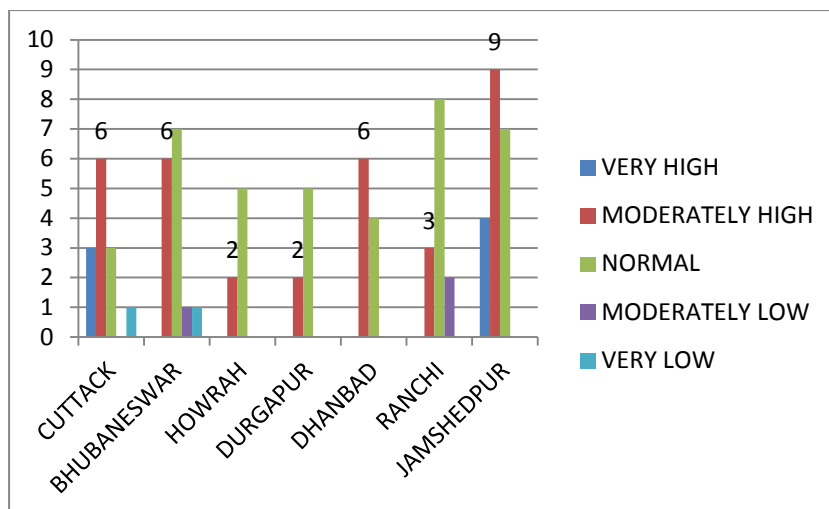


FIGURE NO: 31

The above figure indicates that, awareness level of maximum number of doctors is “NORMAL” as well “MODERATELY HIGH”.

d. FOR ANTI – D IG :

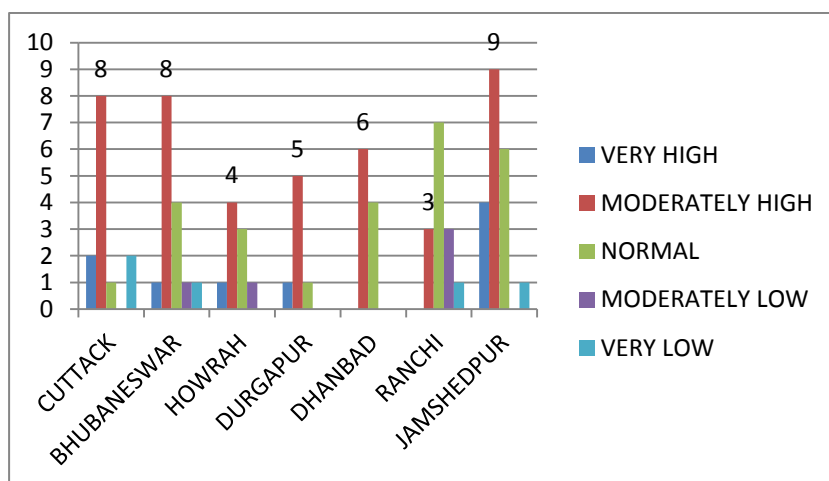


FIGURE NO: 31

The above figure indicates that, awareness level of maximum number of doctors is “MODERATELY HIGH”.

J. GRAPH REPRESENTING FACTORS RESPONSIBLE FOR NOT PRESCRIBING OF A PRODUCT :

a. FOR CUTTACK CITY :

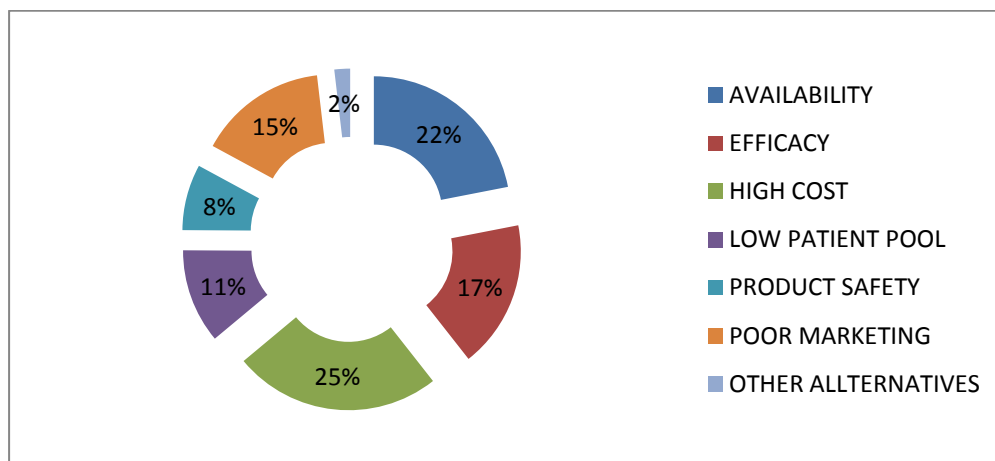


FIGURE NO: 32

The above graph represent that, out of 100%, the highest score i.e. 25% given to High cost, 22% is for availability, 17% is for Efficacy, 15% is for poor marketing, 11% is for low patient pool, 8% is for product safety and the least score is given to other alternatives i.e. 2%

b. FOR BHUBANESWAR CITY :

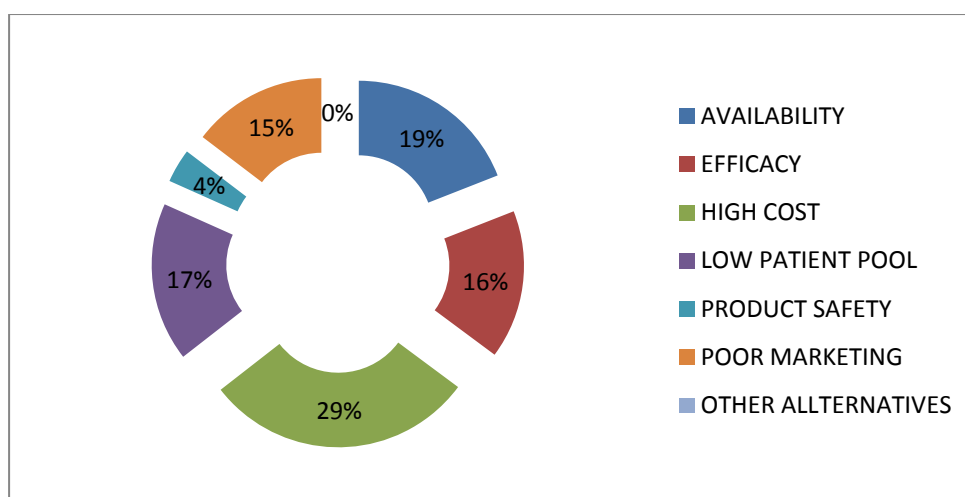


FIGURE NO: 33

The above graph represent that, out of 100%, the highest score i.e. 29% given to High cost, 19% is for availability, 17% is for Low patient pool, 16% is for Efficacy, 15% is for poor marketing, and the least score is given to product safety i.e. 4%.

c. FOR HOWRAH CITY :

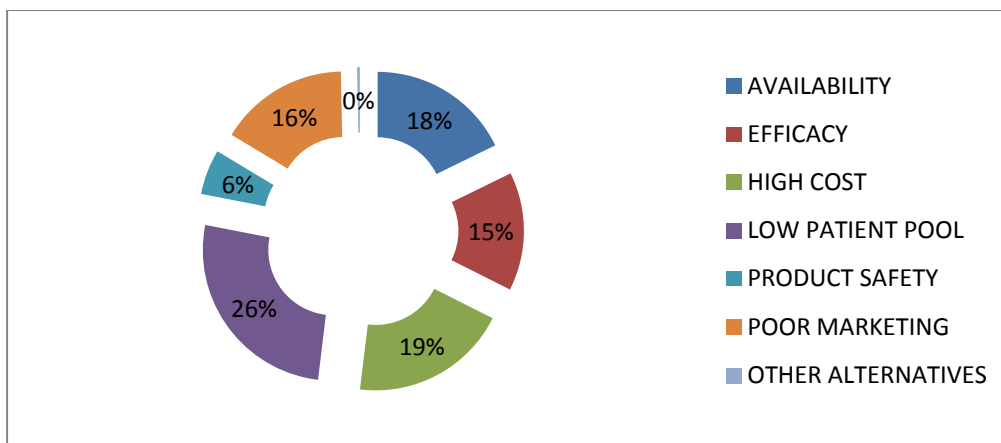


FIGURE NO: 34

The above graph represent that, out of 100%, the highest score i.e. 26% given to Low patient pool, 19% is for High cost, 18% is for Availability, 16% is for poor marketing, 15% is for Efficacy, and the least score is given to product safety i.e. 6%.

d. FOR DURGAPUR CITY :

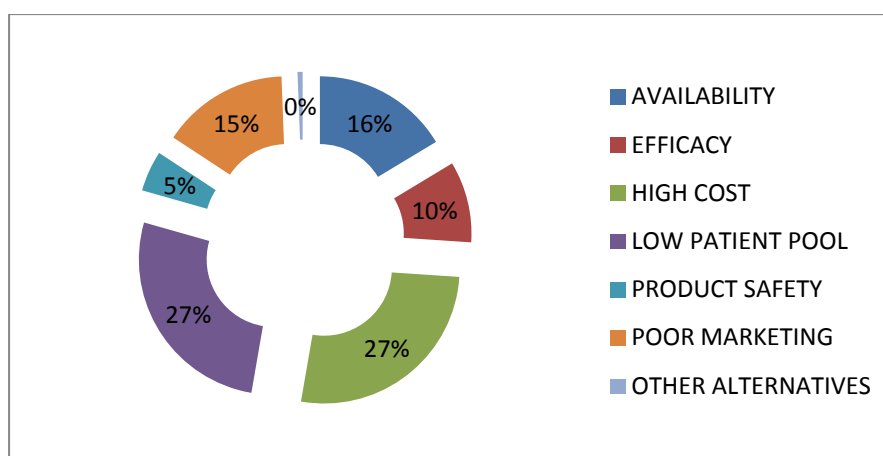


FIGURE NO: 35

The above graph represent that, out of 100%, the highest score i.e. 27% given to Low patient pool and High cost, 16% is for Availability, 15% is for poor marketing, 10% is for Efficacy, and the least score is given to product safety i.e. 5%

e. FOR DHANBAD CITY :

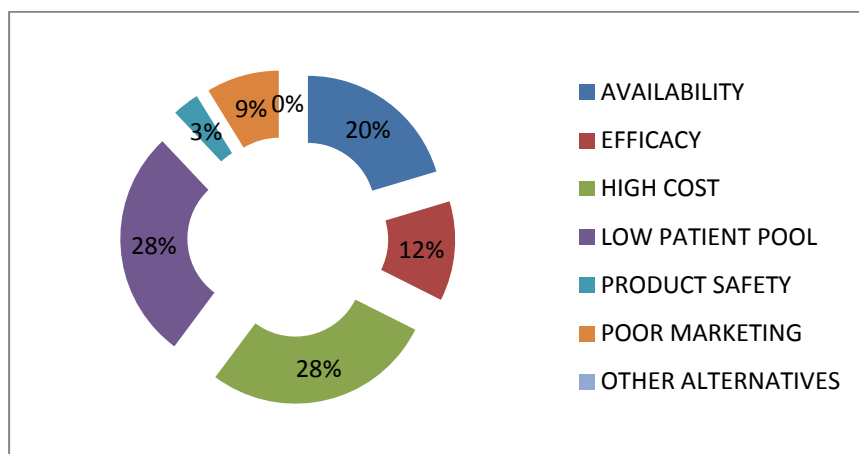


FIGURE NO: 36

The above graph represent that, out of 100%, the highest score i.e. 28% given to Low patient pool and High cost, 20% is for Availability, 12% is for Efficacy, 9% is for poor marketing, and the least score is given to product safety i.e. 3%.

f. FOR RANCHI CITY :

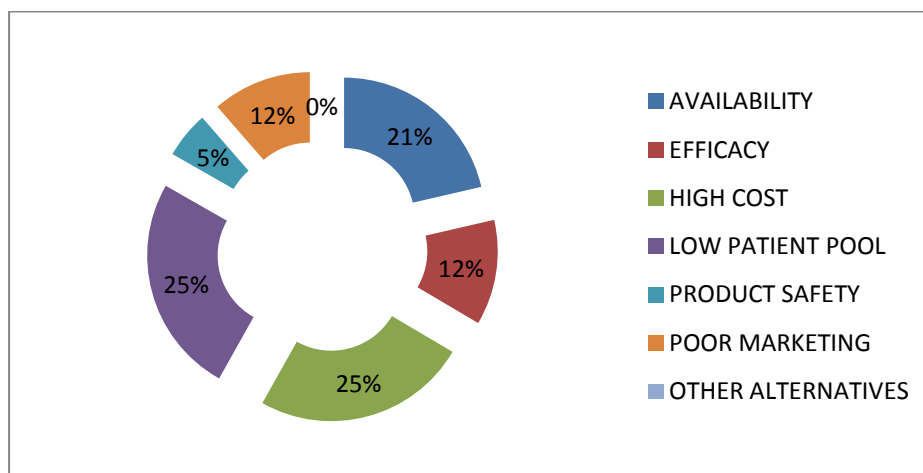


FIGURE NO: 37

The above graph represent that, out of 100%, the highest score i.e. 25% given to Low patient pool and High cost, 21% is for Availability, 12% is for Efficacy and poor marketing, and the least score is given to product safety i.e. 5%.

g. FOR JAMSHEDPUR CITY :

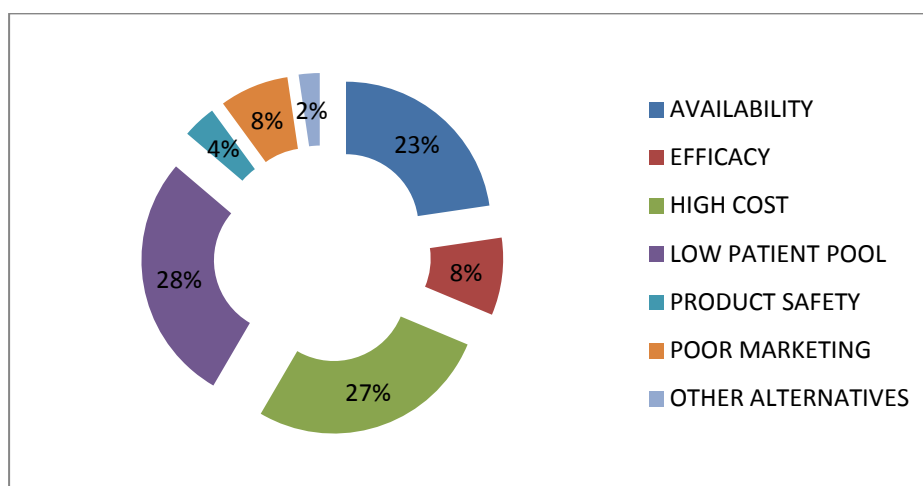


FIGURE NO: 38

The above graph represent that, out of 100%, the highest score i.e. 28% given to Low patient pool, 27% is for High cost, 23% is for Availability, 8% is for Efficacy and poor marketing, 4% is for product safety and the least score is given to product safety i.e. 2%.

FINDINGS

After the market research survey, it is found that:

- Out of total sample i.e. 100%, 61% doctors prescribing plasma products and the rest of the 39% doctors are not prescribing plasma products.
- Out of 7 factors, 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 fulfil with supply but in Cuttack and Bhubaneswar they get somewhat difficult to get these products.

FOR HEP-B IG:

- Out of 61% of doctors 90% said it is easy for them to get this products and 10% said it is difficult for them.
- Maximum number of diagnosed cases i.e. 86% Found to be within **0 to 5** and 79% percentage of patients can be administered IG is within **0 to 10**.
- **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 74% said it is easy for them to get this 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% 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** and 73% percentage of patients can be administered IG is within **0 to 10**.
- **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 90% said it is easy for them to get this 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**.
- **Roclone** 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.

RECOMMENDATIONS

- 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