

Summer Training at

PlasmaGen Biosciences Ltd. Pvt.
(April 14- June 10, 2012)

Plasma Product Therapy and Blood Banks in India: Facts and Fiction

By
Pratik Bhatte

Under the guidance of
Dr. Vinod Kumar SV

Post Graduate Diploma in Pharmaceutical Management
2011-2013



Institute of Health Management Research,
Jaipur
2012

**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 is to certify that Mr. Pratik Bhattar from Institute of Health Management Research, Jaipur has undergone Summer Training at PLASMAGEN Biosciences Pvt. Ltd, Bangalore from 14th April, 2012 to 10th June, 2012.

The candidate himself carried out the project. His approach to the study has been sincere, scientific and analytical. This summer training is partial fulfillment of the course requirement is recommended for the award of post graduate diploma in pharmaceutical management.

I wish him success in all his future endeavors.

Dr. P.R. Sodani
Dean (Academic and Students Affairs)
IHMR, Jaipur

Dr. Vinod Kumar.SV
Assistant Professor
IHMR, Jaipur



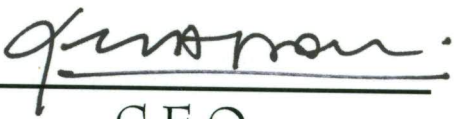
Certificate Of Appreciation

This certificate is awarded to

...Mr. Pratik Kumar Bhatte...

*in recognition of the valuable
contribution made towards the project*

*"Plasma Products Therapy And Blood Banking
Scene In India"*


CEO



PlasmaGen Biosciences Pvt. Ltd.,

No.160, KCI Chambers, 2nd floor, 5th Main Road, Chamarajapet, Bangalore-560018. INDIA
Ph: +91 80 - 42154535 / 36 Tel Fax: +91 80 - 42154537, E-mail - info@plasmagen.in

Acknowledgements

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 very thankful to Dr. Vinod Kumar (assistant professor, IIHMR), my mentor for my academic journey in IIHMR, Jaipur, for his very fruitful encouragement and supportive guidance which makes me enthusiastic in completion of project.

My heartiest thanks goes to Dr. Amit Jha (product manager) and Mr. Nipun Gurg (national head) , our guide for carrying out the project ,without whose constant guidance, co-operation & encouragement my entire project would have remained a distant dream.

I am also extremely thankful to Mr.Dalbir Sing, the placement coordinator of our institute who being a very generous and kind hearted man had never been miser in sharing valuable advices and experiences with me & had been very instrumental in choosing my course of action throughout the project.

I am also very thankful to Dr. Ranjeet Ajmani for imparting us the training on how to carry out the market research and providing us the entire necessary information one would need in carrying out the project successfully. My heartiest thanks go to Mrs. Arathi (HR Head) for mailing us from time to time and keeping us updated with all the latest updates and instructions on behalf of the company.

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

Date- 04-05-2012

Signature-

TABLE OF CONTENTS

S.N.	CONTENTS	PAGE NO.
1	EXECUTIVE SUMMARY	7
2	ORGANIZATION PROFILE	8
3	OBJECTIVES OF STUDY 3.1 INTRODUCTION 3.2 RATIONAL 3.3 OBJECTIVES	10
4	PROBLEM STATEMENTS	11
5	METHODOLOGY	12
6	ANALYSIS 6.1 ANALYSIS OF IVIG 6.2 ANALYSIS OF HEPATITIS B IG 6.3 ANALYSIS OF ALBUMIN 6.4 ANALYSIS OF ANTI D, ANTI RABIES, TETANUS HYPER IG 6.5 ANALYSIS OF FACTOR VIII, FIBRINOGEN, FIBRIN SEALANT, PCC, ANTI THROMBIN III	15-37
7	FINDINGS 7.1 IVIG 7.2 HEPATITIS B IG 7.3 ALBUMIN 7.4 ANTI D, ANTI RABIES, TETANUS HYPER IG 7.5 FACTOR VIII, FIBRINOGEN, FIBRIN SEALANT, PCC, ANTI THROMBIN III	38-40 37 38 39 39 40
8	CONCLUSION	41
9	RECOMMENDATION	41

TABLE OF FIGURES

SN	FIGURE NAME	PAGE NO
FIGURE NO 1	Graph and Table Represents Number Of Doctors Of Different City Approaches As Respondent For IVIG.	15
FIGURE NO 2	Graph And Table Represents The Using Experience Of IVIG Of Doctors.	15
FIGURE NO 3	Graph And Table Denotes Experience For Availability Of IVIG.	16
FIGURE NO 4	Graph and Table Represents Availability Experience Of IVIG Of Doctors In Different Cities.	16
FIGURE NO5	Graph And Table Represents Factors Which Influence Doctors To Make Product Preference In Respect Of IVIG	17
FIGURE NO6	Graph And Table Denotes Relationship Between Experience Of Availability Of Product And Product Preference Factor In Different Cities.	17
FIGURE NO7	Graph And Table Denotes Consumption Of IVIG In Unit Per Year Term.	18
FIGURE NO8	Graph And Table Represents Criticality Of Plasma Source In Selection Of Product.	18
FIGURE NO9	Graph And Table Represents Responses For Current Using Product's Quality.	19
FIGURE NO10	Graph and Table Represents Responses For Current Available Product.	19
FIGURE NO11	Graph And Table Gives Response For Need Of Awareness Program.	20
FIGURE NO12	Graph And Table Represents The Responses Of Doctors For Which Factor Help Him To Make Trust On Brand Of Product.	20
FIGURE NO13	Graph And Table Represents The Number Of Respondents From Different Cities For Hepetits B Immunoglobulin.	22
FIGURE NO14	Graph And Table Represents Experience Of Respondents For Using Hepetitis B Immunoglobulin.	22
FIGURE NO15	Graph And Table Represents Reponses For Avalability Of Hpetitis B Immunoglobulin From Doctres From Different Cities.	23
FIGURE NO16	Graph And Table Denotes Responses For Factor Which Make Product Preference	23
FIGURE NO17	Graph And Table Represents General Consumption Pattern Unit Per Year Of Hepetitis B Immunoglobulin.	24
FIGURE NO 18	Graph And Table Denotes Citywise Response Of Quality Of Current Using Product.	24
FIGURE NO 19	Graph And Table Represents Responses According To City For Pricing Of Current Product.	25
FIGURE NO 20	Graph And Table Reprsents The Criticality Of Plasma Source In Selection Product.	25
FIGURE NO 21	Graph Represents Responses For Need Of Awarness Program For pateints,paramedical staff and doctors.	26
FIGURE NO 22	Graph And Table Represents Factor Which Help To Make Trust On Brand Of Product.	26
FIGURE NO 23	Graph And Table Represents The Experience Of Availability Of Product.	28
FIGURE NO 24	Graph And Table Represents Responses For Factor Which Help To Make Product Preference.	28
FIGURE NO 25	Graph And Table Represents Responses Of Doctors For Quality Of Current Using Product.	29
FIGURE NO 26	Graph And Table Represents The Response Of Doctors For Pricing Of Current Product.	29

FIGURE NO 27	Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.	30
FIGURE NO 28	Graph and Table Represents Number Of Respondents For Different Products From Different Cities	31
FIGURE NO 29	Graph And Table Represents Responses For Using Experience Of Different Products.	31
FIGURE NO 30	Graph and Table Represents Responses for Availability of Current Using Product for Different Products category.	32
FIGURE NO 31	Graph And Table Denotes Responses For Factor Which Make Product Preference of different product category.	32
FIGURE NO 32	Graph And Table Represents Responses of Doctors for Quality of Current Using Product of different product category.	33
FIGURE NO 33	Graph And Table Represents The Response Of Doctors For Pricing Of Current Product for different product category.	33
FIGURE NO 34	Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.	34
FIGURE NO 35	Graph and Table Represents Responses for Availability of Current Using Product for Different Products category.	35
FIGURE NO 36	Graph And Table Denotes Responses For Factor Which Make Product Preference of different product category	35
FIGURE NO 37	Graph And Table Represents Responses of Doctors for Quality of Current Using Product of different product category	36
FIGURE NO 38	Graph and Table Represents The Response Of Doctors For Pricing Of Current Product for different product category.	36
FIGURE NO 39	Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.	37

1. **EXECUTIVE SUMMARY**

The project undertaken is a market research on the demand, consumption pattern & personal preferences of doctors & patients while buying Plasma products for medication. As plasma products such as IVIG, Human Albumin, Anti-D, Hepatitis and Tetanus Immunoglobulin are all very expensive in the market because their only source is Human Blood & blood donors charge a hefty sum for any donation of blood they make. Despite the fact that all Plasma products are lifesaving drugs & the last line of defense for many doctors, many patients refrain from buying it as their price are well beyond the reach of many poor people which form a large percentage 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. Therefore the plasma market is not a very favorable place to do business in, since the option of minimization of production costs doesn't hold over here.

However the purpose of this market research was to determine what the obstacles are and to draw a perfect reflection of the current plasma market, thereby finding new prospects for Plasmagen Biosciences, a branch of Trigenesis as it sets foot into the plasma market on their own. Throughout the market survey on doctors of reputed hospitals and in clinics in Nagpur, Raipur, Amravati, Yavatmal and Wardha demand, the consumption pattern, personal preferences and quality & availability of currently available blood & plasma brands in the this region of India were determined.

From all the responses collected from the doctors it was evident that availability and quality of plasma products are not very satisfactory in the northern region. A clear majority of the doctors found that the current prices of plasma products are very expensive. Doctors have unanimously said that awareness is required for both patients and themselves regarding plasma products. Consumption rate is very less for plasma products since one in fifty or hundred need to be prescribed with plasma products. And choosing their favorite brand has been done purely on the basis of availability, quality of the product and price.

The following few pages are a detailed account along with graphical representations of all the responses I have gathered during the research. The intentions are to depict a close reflection of the Plasma market scenario in the Chandigarh and Shimla region of India and come up with new business prospects and ways to counter the limitations of trade in Plasma market.

2. ORGANIZATION PROFILE

The study is conducted by PlasmaGen Biosciences pvt. ltd. an offshoot of Trigenesis Lifesciences situated in 160,KCI Chambers,2nd Floor,5th Main Road, Chamarajapet,Bangalore-560018 which is a pharmaceutical company dealing in protein therapy & plasma products for Indian & global markets. Its estimated sales for 2010-11 is approximately 5.3 million US \$ which would most likely to go up to 24 million US \$ by 2011-12 & 30 million US \$ by 2015. With a capacity of 1,00,000 liters of Plasma collection & having an employee strength of 150 people, they are all set to embark into the plasma market by themselves. Their action mainly includes direct sales in the International & domestic market and plasma products manufacturing by the process of fractionation.

The following few paragraphs are a brief introduction of its parent company Trigenesis Lifesciences, its history and its business activities. In the history of Indian Pharmaceutical Lifesciences industry, one name is worth a reckon i.e. Trigenesis Lifesciences (P) Ltd. It is the dominant and vital arm of RSM group having diversified business areas such as Textile clothing, Finance consulting and plastic additives & moldings along with pharmaceuticals.

In the realm of success, today RSM group earns a standing as one of the top 20 well trounced conglomerate business group of the Indian Inc. with group turnover exceeding Rs 1600 million. RSM pharmaceuticals, the Flag Ship Company of the group struck its roots in the Indian pharmaceutical distribution and marketing industry in 1987 and presently is one of the top 5 distribution houses, employing around 500 people having an annual turnover of Rs.500 Million. RSM group is built on the sturdy pillars of reliability, sound infrastructure, operational expertise and financial stability.

The success of RSM group in the distribution sector has given a strong footage for Trigenesis Lifesciences (P) Ltd - A business venture destined to the noble cause of social welfare in the emergency and critical care segment.

The Therapeutic Marvels include:

- Biologicals ; Plasma products
- Hormonal Therapy
- Recombinant Therapeutics
- Sterile anti infective
- Oncology
- Antibiotics lyophilized
- Anesthetics
- Endocrinal Steroids
- Cardiovascular drugs
- Nutritional Supplements

MISSION:

To propagate the blood component therapy for optimum use of each drop of blood donated and, uses surplus unutilized plasma for preparation of plasma products in India and SAARC regions.

VISION:

To advances plasma therapy in India and in SAARC countries.

FINANCIALS:

Its estimated sales for 2010-11 is approximately 5.3 million US \$ which would most likely to go upto 24 million US \$ by 2011-12 & 30 million US \$ by 2015. With a capacity of 1,00,000 liters of plasma collection & having an employee strength of 150 people, they are all set to embark into the plasma market by themselves. Their action mainly includes direct sales in the international & domestic market and plasma products manufacturing by the process of fractionation.

STRATEGY:

Plasmagen is focused on bridging the gap between demand and supply of plasma products. Under their study they would like to evaluate the present scene, the challenges and making India sufficient in the field of blood plasma. The study in this new area will add significant depth to the existing scenario and overcome the major challenges faced by Nation. Company is trying to focus on delivering world-class plasma products at affordable prices.

PRODUCTS: recently, company is available with 2 products in market that is Plasma-Hep and Ronsen-Glob. Plasma-Hep is a sterile, non-pyrogenic, solution of Hepatitis B-Immunoglobulin used for intramuscular use only
Ronsen-Glob is normal human immunoglobulin for intravenous use collected by plasmapheresis technique.

3. OBJECTIVES OF THE STUDY

3.1 INTRODUCTION:-

Plasma products such as IVIG, Human Albumin, Anti-D, Hepatitis and Tetanus Immunoglobulin, Anti rabies immunoglobulin, fibrin sealant and blood clotting factors are all very expensive in the market because their only source is Human Blood & blood donors charge a hefty sum of money for any donation of blood they make. Despite the fact that all Plasma products are lifesaving drugs & the last line of defense for many doctors, many patients refrain from buying it as their price are well beyond the reach of many poor people which form a large percentage 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. Therefore the plasma market is not a very favorable place to do business in since the option of minimization of production costs seldom works over here.

3.2 RATIONAL :-

The study is conducted by PlasmaGen Biosciences pvt. ltd. an offshoot of Trigenesis Lifesciences which is a pharmaceutical company dealing in protein therapy & plasma products for Indian & global markets .The purpose of our market research was to determine what the obstacles are and to draw a perfect reflection of the current plasma market thereby finding new prospects of business for them, as it sets foot into the plasma market on their own.

3.3 OBJECTIVES:-

During my market survey on doctors of reputed hospitals throughout the middle west region of India, my objectives had been to determine the demand, the consumption pattern, personal preferences and quality & availability of currently available Blood plasma brands in that area. This is going to give us an idea of the current market scenario prevalent in those cities which will serve as vital information of the market where business is intended to be done. The following few pages are a detailed account along with graphical representations of all the responses I have gathered during my field-work in those cities.

The intentions are to portray

A close reflection of the plasma market scenario in that area and come up with new business prospects and ways to counter the limitations of trade in plasma market.

- To determine the demand, the consumption pattern, personal preferences and quality & availability of currently available Blood plasma brands in western middle region of India.
- To study the perception of doctors towards plasma products and to know about the supply and demand of the plasma products in India.
- To analyze the usage pattern of plasma products by the doctors.

4. PROBLEM STATEMENT

For an aspiring company to do business in protein therapy, the plasma market is not a very congenial place to do business in since plasma products such as IVIG, Human Albumin, Anti-D, Hepatitis and Tetanus Immunoglobulin all are very expensive, their only source being Human Blood & blood donors have to be paid hefty sums of money for any donation of blood they make. There for availability of blood in our country and fractionation facilities are limited and not sufficient to fulfill nations demand for this entity of medicine.

Another issue, which was troubling us, is the lack of awareness since it is new to the market and there is little awareness among doctors & patients alike regarding its uses & implementation.

Some of the other concerns would include:

- Ever rising cost of plasma.
- Government control of pricing, since the government does not want the prices of plasma products to jet off beyond the reach of the common man.
- Poor Worldwide harmonization of regulatory issues.
- Import Limitations.

With an in depth market survey on the plasma market I seek to determine the demand, the consumption pattern, personal preferences and quality & availability of currently available blood & plasma brands in central Region of India which will hopefully come handy when embarking on new business propositions in the plasma market.

5. METHODOLOGY:-

This project is carried out for assessing the both end of market, from supply of raw material to consumption of product. for plasma product preliminary requirement is PLASMA and vital source for plasma is human blood which found in blood banks.

The consumption end is identified as doctors and medical professional who required these products during therapy. So this is the overview of plasma market. This market research based on plasma market and I am visited to Nagpur, Yavatmal, Wardha, Amravati and Raipur for this market research.

1. TARGET POPULATION :

During my market survey of the plasma market in those cities the target population had been primarily the doctors of well reputed hospitals of all over the Middle West region of India as directed by our mentor. Few of my responses had been from young interns and Hospital pharmacies which constitute a tenth of my total responses.

- For IVIG I have consulted Hematologists, Nephrologists, Oncologists, Neurologists, Immunologists.
- For Human Albumin I have consulted Hematologists, Nephrologists, Oncologists, Cardiologists, Gastroenterologists, Pulmonologists, general physician and surgeon.
- For Anti-D I have consulted Gynecologists only.
- For Hepatitis B Immunoglobulin I have consulted Physician (MD), Gastroenterologists, Nephrologists, Organ Transplant surgeon.
- For Tetanus Immunoglobulin I have consulted Internal Medicine, Physician MD, and Pediatrician.
- For Factors vii, viii, ix I have consulted with hematologist, intensivist, pediatrician.
- For Anti rabies immunoglobulin I have concerned with Internal Medicine, pediatrician, intensivist, Physician(MD),
- For Fibrin sealant I have consulted with cardio surgeon, neurosurgeon, and ophthalmologist.
- For anti-thrombin I have consulted with cardiologist, cardio surgeon,.
- For Fibrinogen I have consulted with cardio surgeon, neurosurgeon, and plastic surgeon.
- For Prothrombin complex concentrate I have consulted with pediatrician, hematologist.

2. DATA COLLECTION :

- Data collection for most of my respondents had been through Questionnaire made by my organization, PLASMAGEN BIOSCIENCES.
- This questionnaire is data collection tool in market research, all questionnaire reported as personally administered face to face interview.
- Data collection carried out by semi structure questionnaire.

3. TYPE OF RESEARCH DESIGN :

The market survey is a descriptive research; it is also across sectional research for plasma product.

4. TYPE OF SAMPLING :

Probability simple sampling is used in market research of product. List of doctors prepared by myself by various sources. Random sampling is applied when I am going to hospitals in different cities

5. TYPE OF SCALING :

The simplest form of scaling, i.e. , ordinal scaling had been used to measure doctors' preferences such as "Highly satisfied" or "Not satisfied" or "Satisfied", which had been assigned alphabets like a, b ,c etc. and represented in graphs.

6. NUMBER OF RESPONSES FOR PRODUCTS and BLOOD BANKS:

- No of respondents for IVIG are 65 doctors.
- No of respondents for hepatitis B immunoglobulin are 65 doctors.
- No of respondents for albumin are 109 doctors.
- No of respondents for Anti D immunoglobulin are 26 doctors.
- No of respondents for Anti rabies immunoglobulin are 43 doctors.
- No of respondents for factor VIII are 39 doctors.
- No of respondents for fibrin sealant are 9 doctors.
- No of respondents for tetanus hyper immunoglobulin are 24 doctors.
- No of respondents for anti-thrombin iii are 11 doctors.
- No of respondents for prothrombin complex concentrate are 3 doctors.

Not any respondents found for product factor vii, factor ix, factorviii+VWF and fibrinogen so they are excluded from analysis.

7. STUDY TIME:

- Survey starts from 18 April and finished on 31 may .Total 41 days for field survey.

8. ANALYSIS TOOL:

- SPSS and MS office EXCEL used as analysis tool.

6. ANALYSIS:-

6.1 ANALYSIS FOR IVIG (PRODUCT)

1. Number of doctors interviewed in different cities.

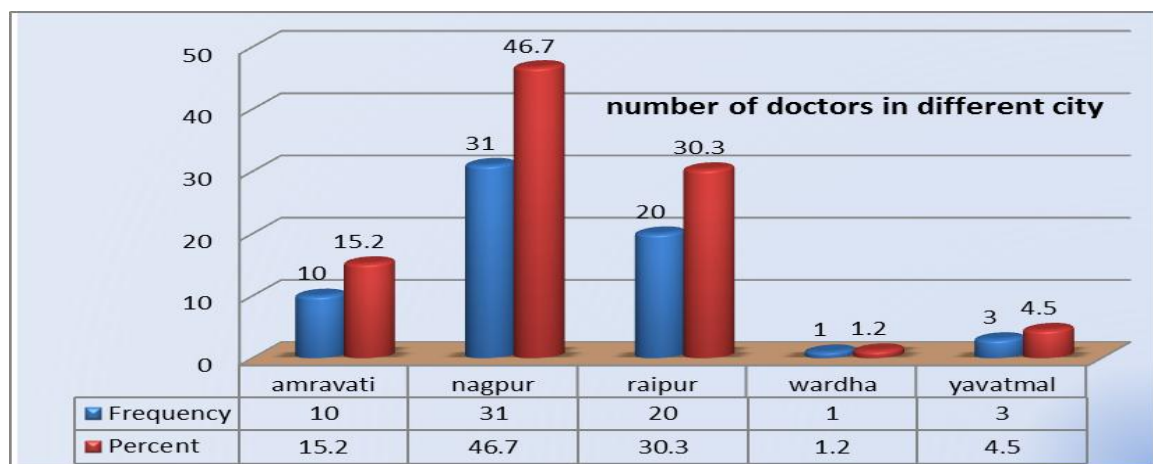


FIGURE NO.1:- Graph and Table Represents Number Of Doctors Of Different City Approaches As Respondent For IVIG.

INFERENCE:- 46% of doctors from Nagpur, 30.3% of doctors from Raipur, 15.2% of doctors from Amravati and 4.5%, 1.2% of doctors from Yavatmal and Wardha gives their response for IVIG.

2. Responses of doctors for using experience of IVIG.

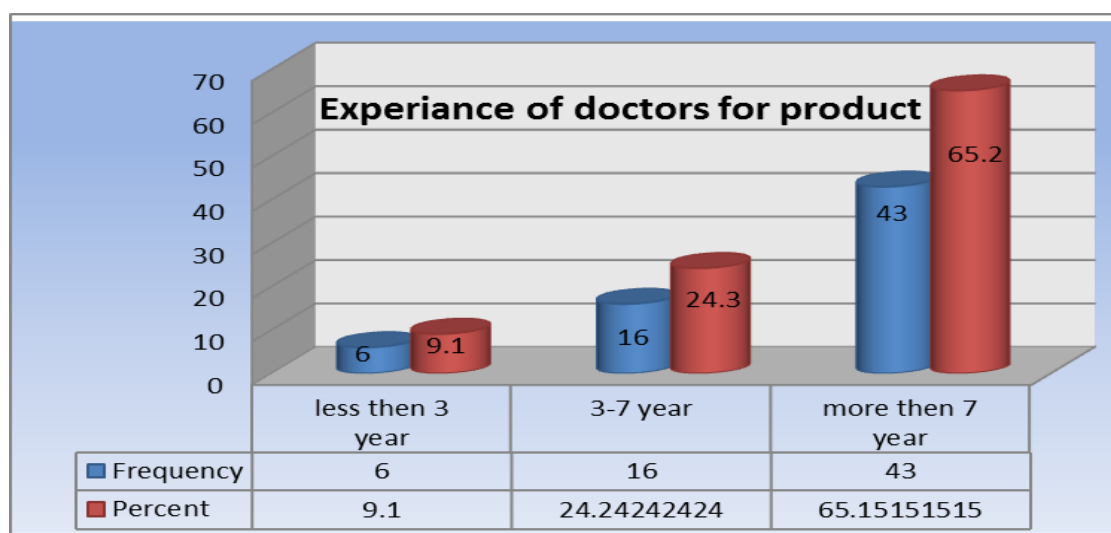


FIGURE NO 2:- Graph And Table Represents The Using Experience Of IVIG Of Doctors.

INFERENCE:- 65% of doctors uses IVIG from more than 7 years, 65% of doctors are having much experience for using IVIG.

3. Responses of doctors for experience of availability of IVIG.

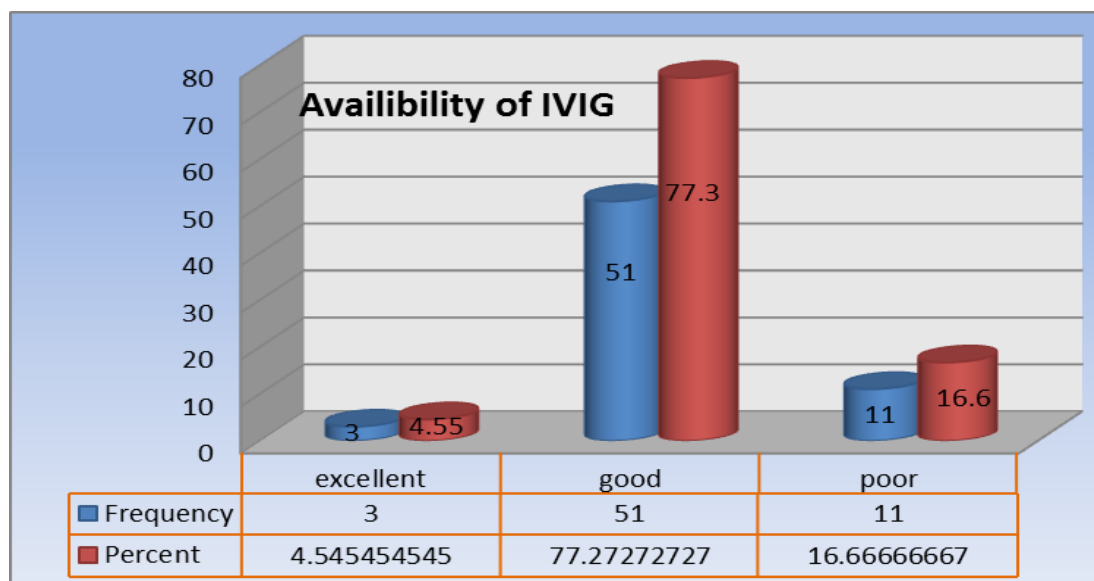


FIGURE NO.3:- Graph And Table Denotes Experience For Availability Of IVIG.

INFERENCE:- Around 77.3% of doctors said availability of IVIG is good in their experience.

4. Availability experience of doctors for IVIG from different cities.

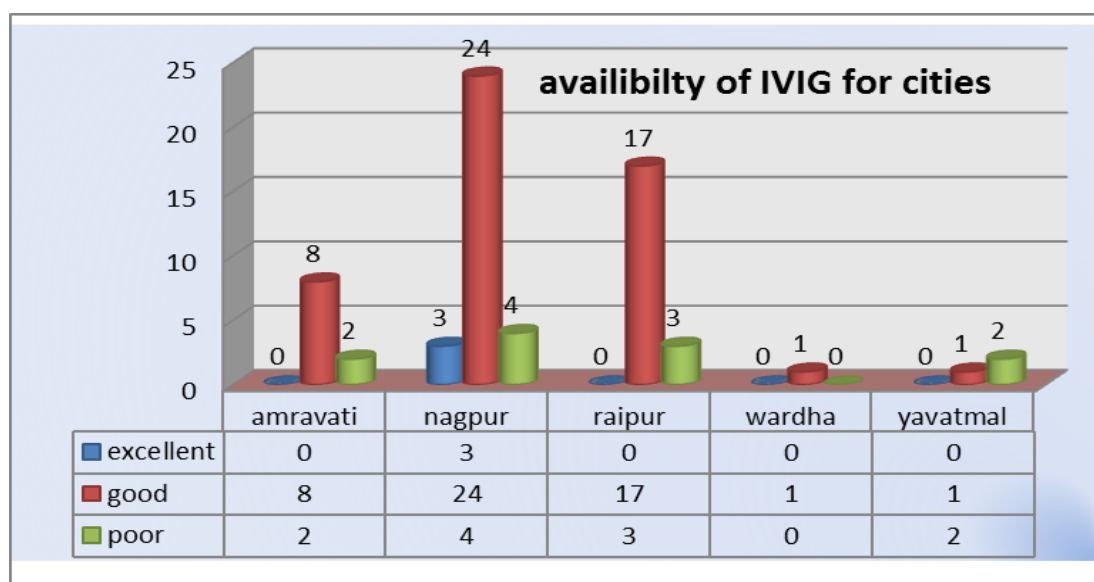


FIGURE NO.4:- Graph and Table Represents Availability Experience Of IVIG Of Doctors In Different Cities.

INFERENCE:- Availability of IVIG good in each city. Majority of doctors said that availability of product is good.

5. Factors which make product preference.

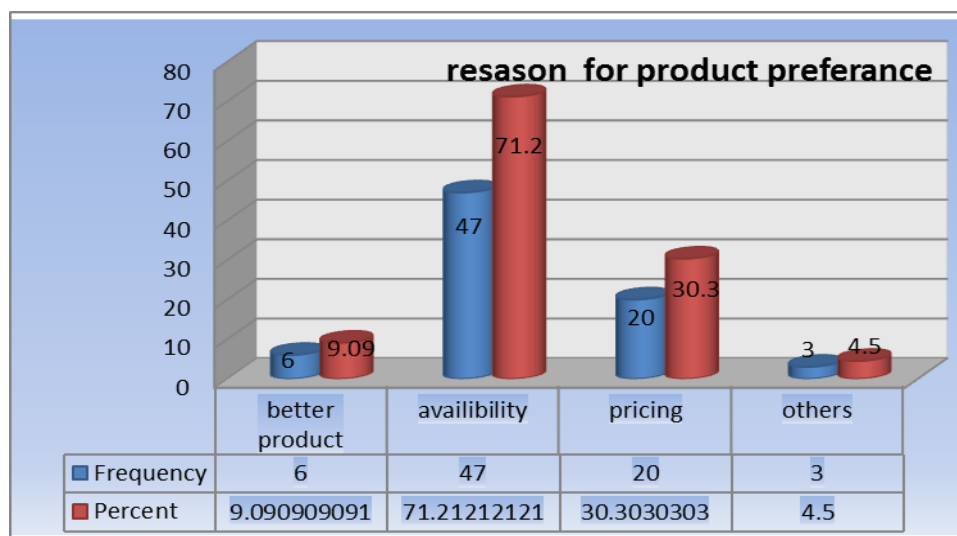


FIGURE NO.5:- Graph And Table Represents Factors Which Influence Doctors To Make Product Preference In Respect Of IVIG.

INFERENCE:- around 72% of doctors said that availability of product is factor to make product preference. Pricing is also important factor for product preference.

6. Relation between good availability experience and availability as product preference factor.

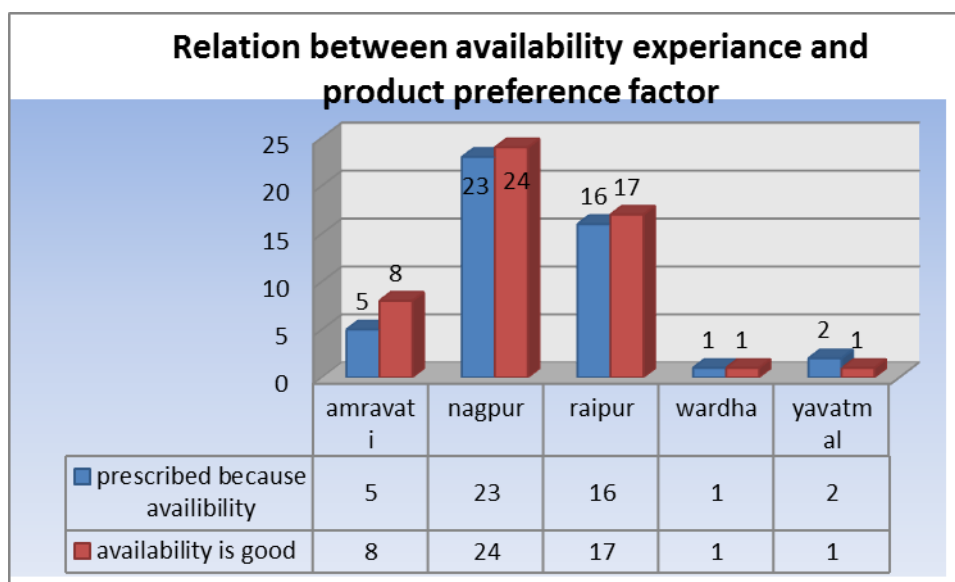


FIGURE NO.6:- Graph And Table Denotes Relationship Between Experience Of Availability Of Product And Product Preference Factor In Different Cities.

INFERENCE:- In every city where availability of product is good there major product preference factor is availability. Both responses are around same for availability.

7. General annual consumption /utilization of IVIG.

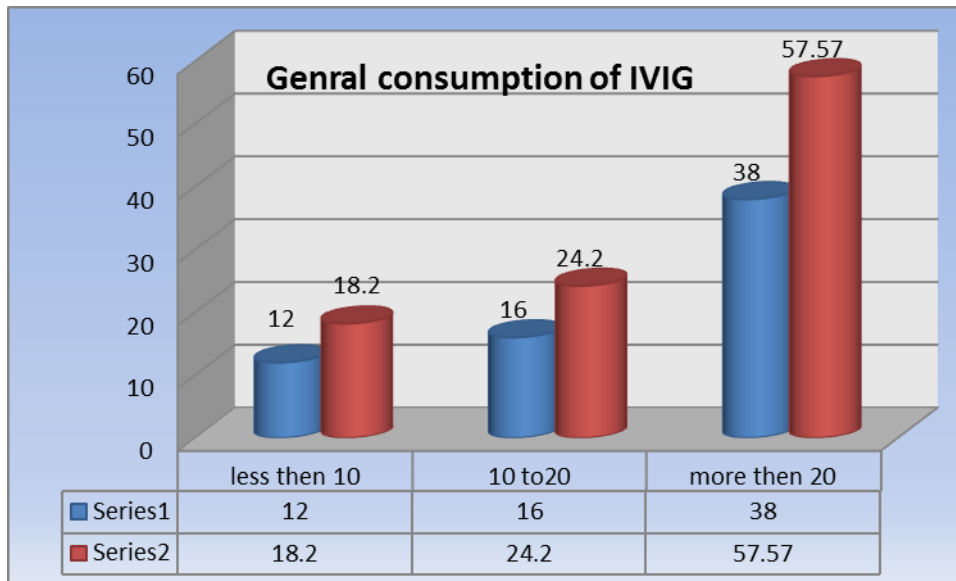


FIGURE NO.7:- Graph And Table Denotes Consumption Of IVIG In Unit Per Year Term.

INFERENCE:- Around 58% Of Doctors Uses IVIG More Than 20 Unit Per Year. 24% Doctors Uses IVIG 10-20 Unit Per Year. Figure for Consumption of IVIG shows Good Market Demand.

8. Source of plasma having criteria for selection of product.

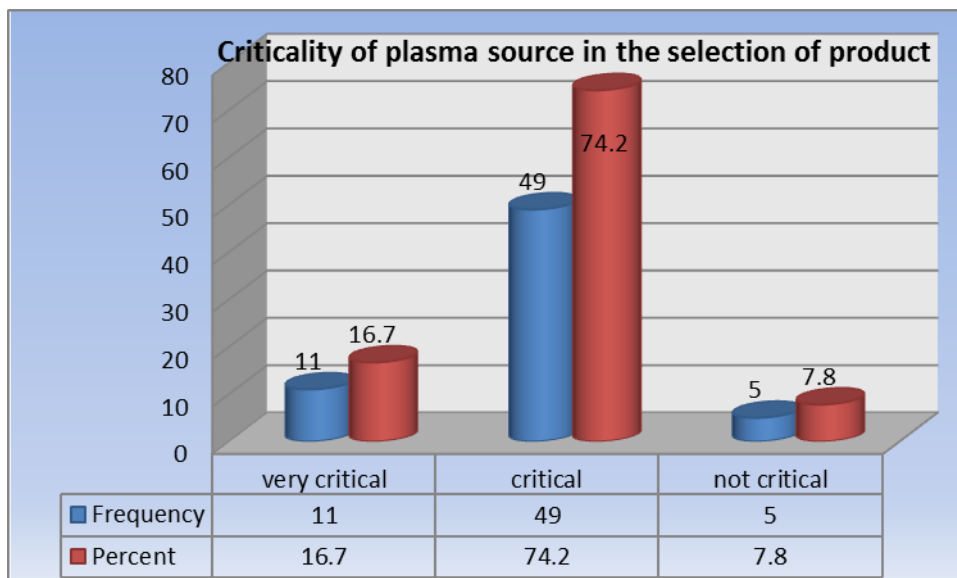


FIGURE NO.8:- Graph And Table Represents Criticality Of Plasma Source In Selection Of Product.

INFERENCE:- Around 75% of doctors feels source of plasma is critical criteria for selection of product.

9. Response for quality of current using product.

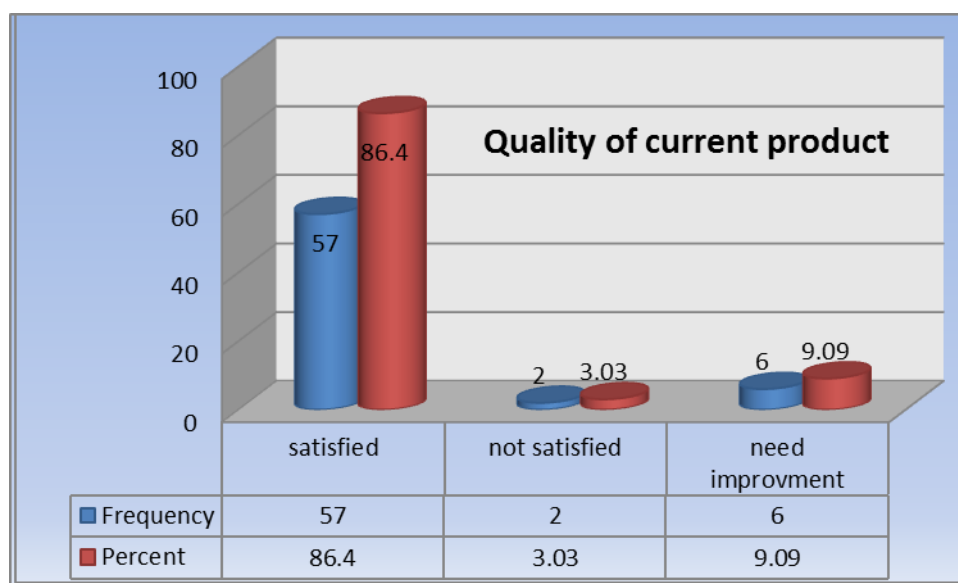


FIGURE NO.9:-Graph And Table Represents Responses For Current Using Product's Quality.

INFERENCE:- Around 87% of doctors satisfied with current dealing product's quality. Current available products in market have good quality.

10. Responses for pricing of current product.

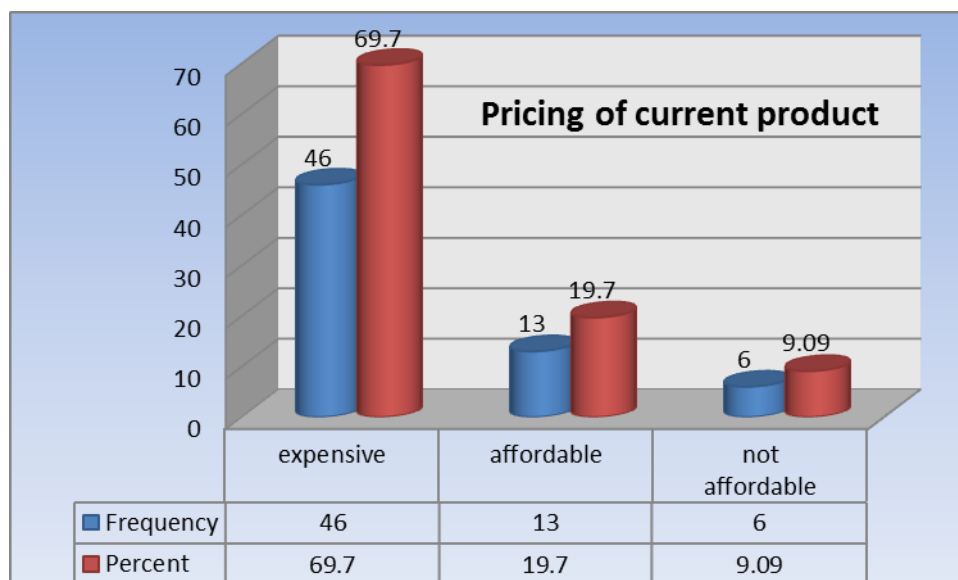


FIGURE NO.10:- Graph and Table Represents Responses For Current Available Product.

INFERENCE:- Around 70% of doctors feels current product is expensive. They said that these products are not in range of patient affordability.

11. Need of awareness program for using plasma product.

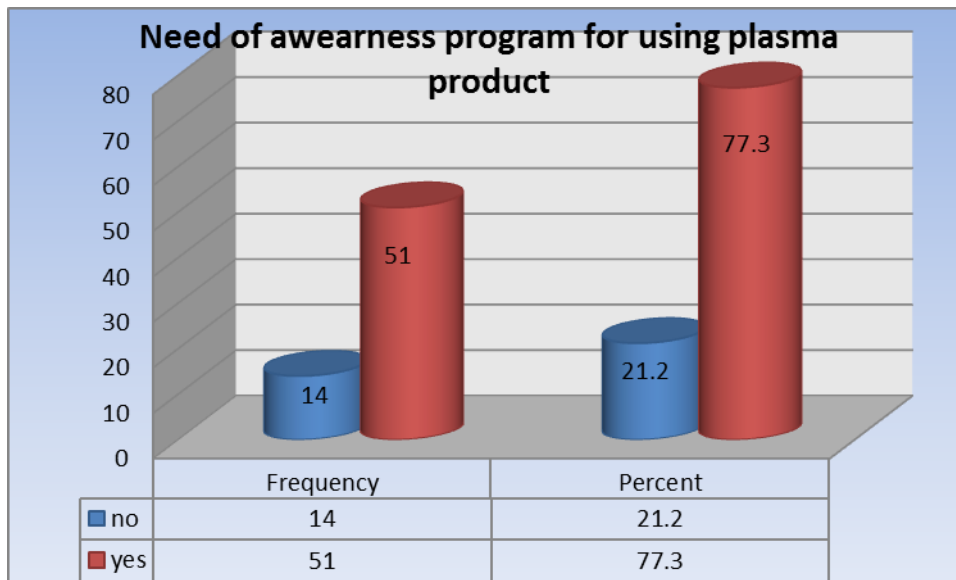


FIGURE NO.11:- Graph And Table Gives Response For Need Of Awareness Program.

INFERENCE:- Around 74% of doctors needs awareness program for patients, paramedical staff and for doctor.

12. Factor which help to make trust on brand of product.

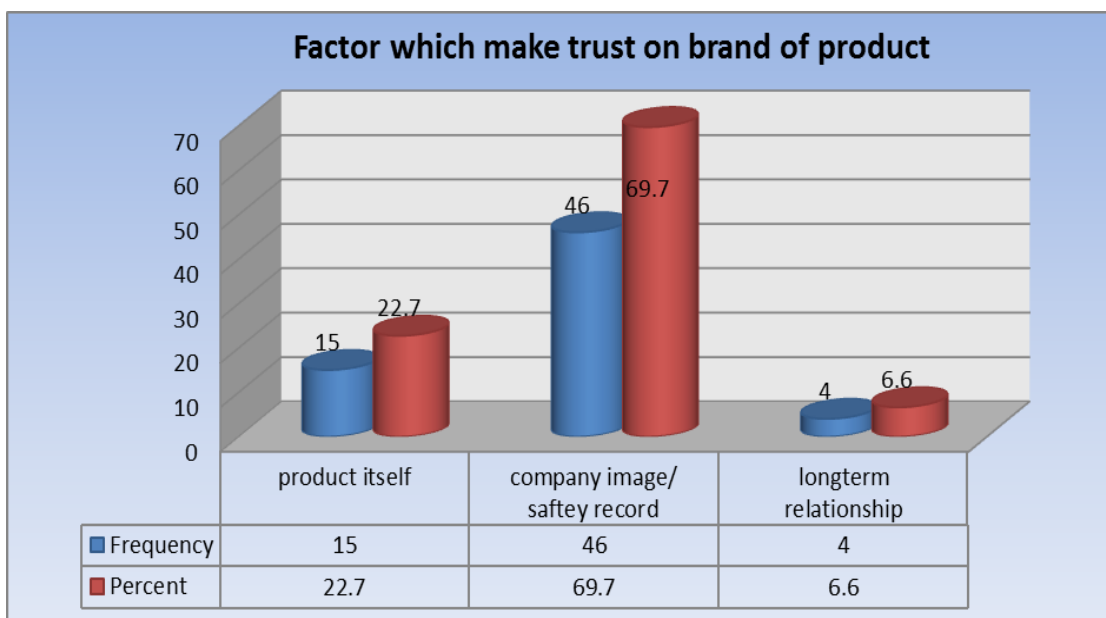


FIGURE NO.12:-Graph And Table Represents The Responses Of Doctors For Which Factor Help Him To Make Trust On Brand Of Product.

INFERENCE:- Company image and previous safety record of company is most dominating factor for making trust on any brand. Around 70% doctors comply with this statement.

- 13.** Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- 14.** Most of the doctors feels there is no sefty issue for using IVIG. But some are reported that TRNSFUSSION TRANSMITED DISESES and proper sterlization is sefty issuu for them. Some are faces anaphylectic shock and adverse reaction from products.
- 15.** Majority of doctors confermed that pricing,avalability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

6.2 ANALYSIS OF Hepetitis B Immunoglobulin.

1. Number of respondents for hepeticis B immunoglobulin from different cities.

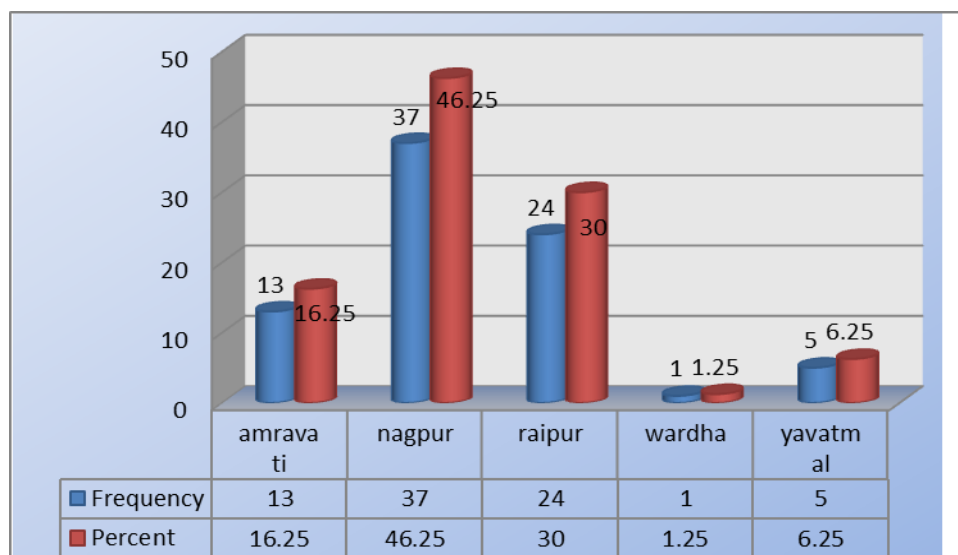


FIGURE NO13:- Graph And Table Represents The Number Of Respondents From Different Cities For Hepetits B Immunoglobulin.

INFERENCE :- Around 46% of doctors gives their reponses are come from Nagpur then 30% of doctors are from Raipur ,16% of doctors are from Amravati,restof from wardha and yavatmal.

2. Responses for experience of using product.

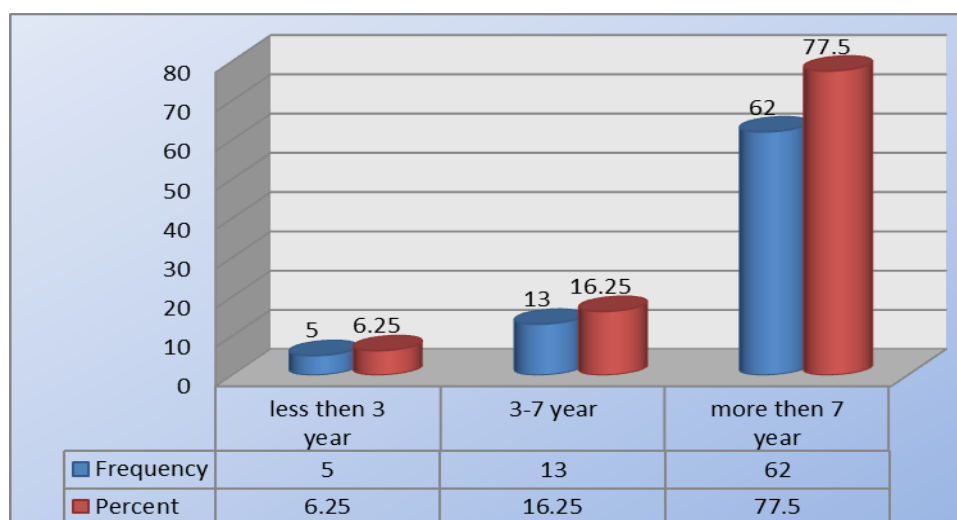


FIGURE NO.14:- Graph And Table Represents Experience Of Respondents For Using Hepetitis B Immunoglobulin.

INFERENCE:- Around 78% of doctors have more then 7 years of experience for using product.

3. Respose for city wise avalabilty of product.

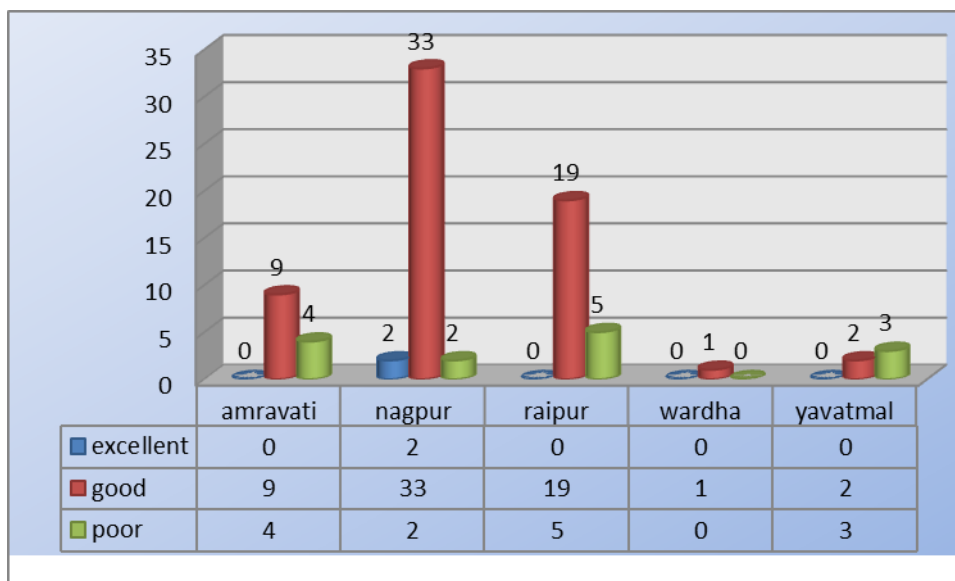


FIGURE NO.15:-Graph And Table Represents Reponses For Avalability Of Hpetitis B Immunoglobulin From Doctres From Different Cities.

INFERENCE:- Big city like nagpur and raipur avalability of product is good but in small city like amravati and yavatmal facing poor avalability of product.

4. Responses for factor which make product preference.

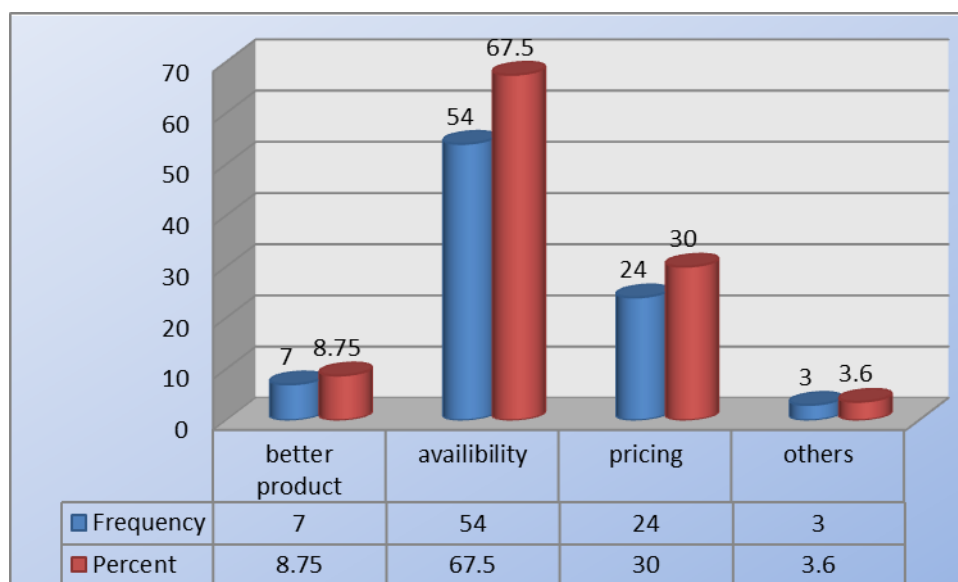


FIGURE NO16:- Graph And Table Denotes Responses For Factor Which Make Product Preference.

INFERENCE:- Around 68% of doctores said that avalability and 30% of doctors said that pricing is major factor to make product preference.

5. Responses for general consumption of hepatitis b immunoglobulin unit /year.

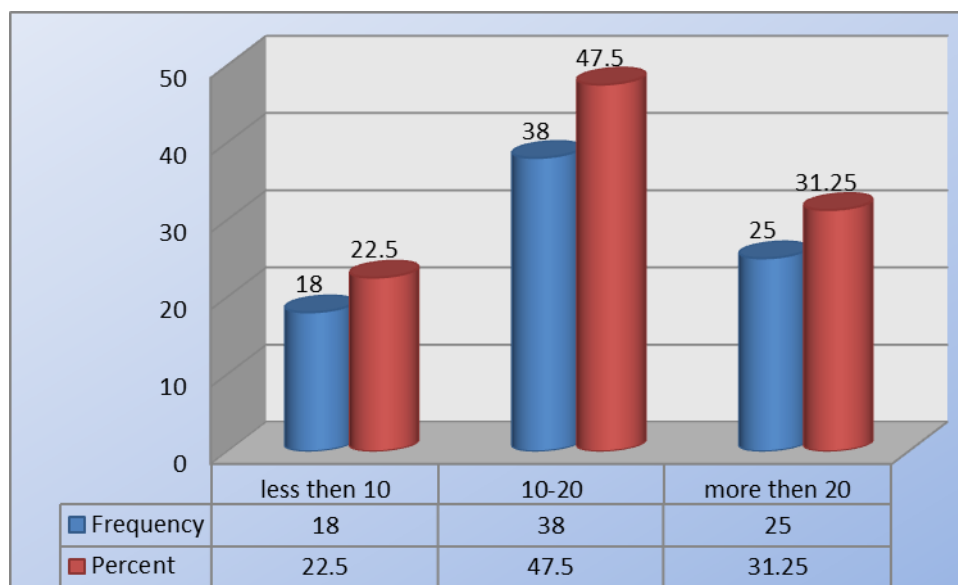


FIGURE NO17:- Graph And Table Represents General Consumption Pattern Unit Per Year Of Hepetitis B Immunoglobulin.

INFERENCE:- Around 47.5% of doctors uses 10 to 20 unit/year of hepatitis B immunoglobulin. Consumption of product in market is average.

6. Response for quality of current using product in different city.

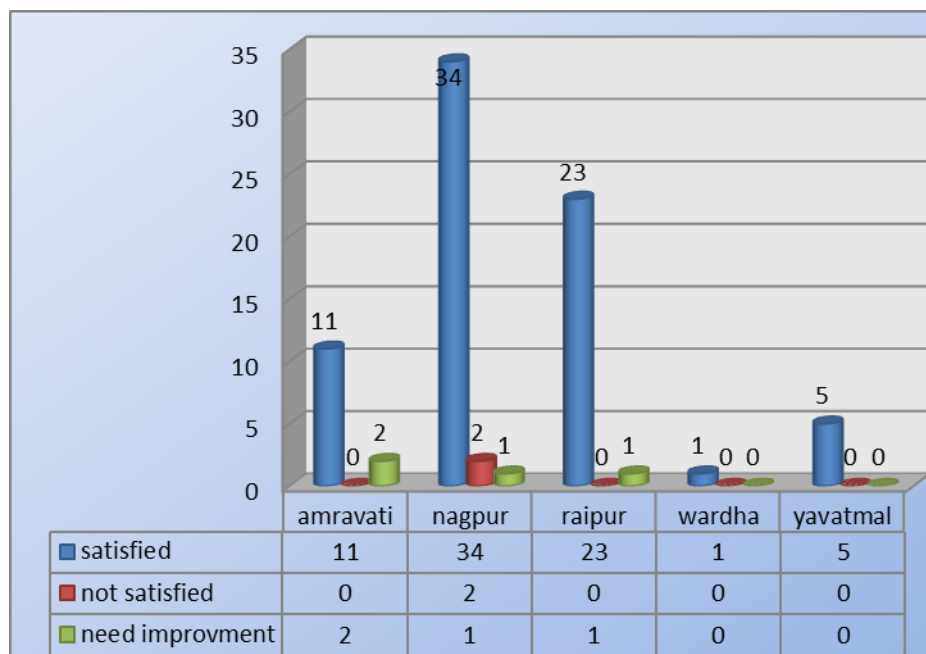


FIGURE NO.18:-Graph And Table Denotes Citywise Response Of Quality Of Current Using Product.

INFERENCE:- majority of doctors satisfied with quality of curent product in all city which covers in survey.around 91% doctors stisfied with their current using product.

7. Resonses for pricing of current using product.

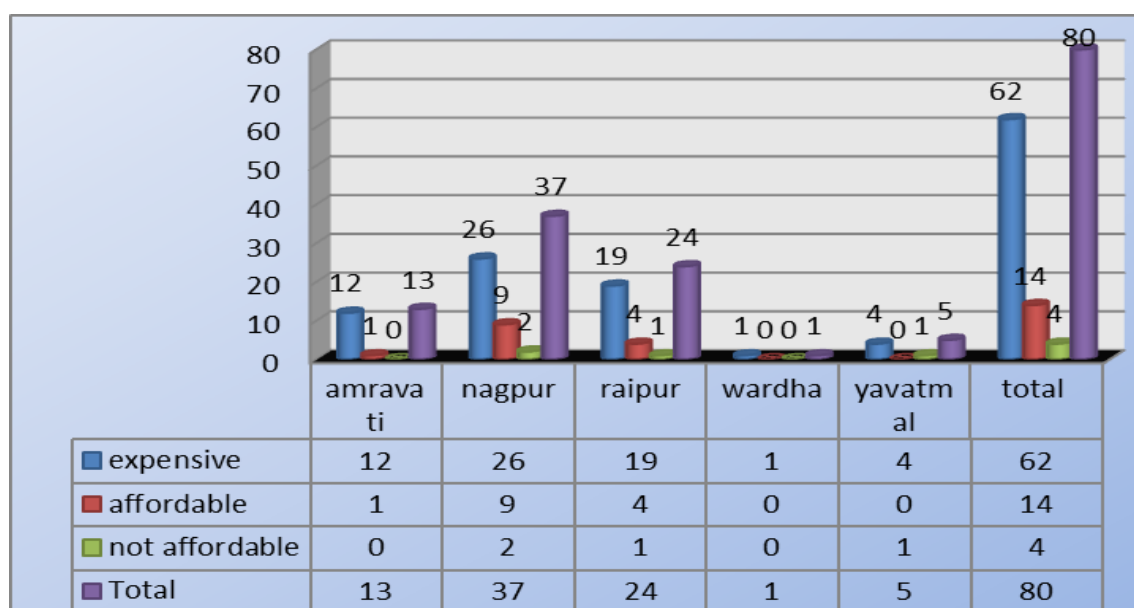


FIGURE NO.19:- Graph And Table Represents Responses According To City For Pricing Of Current Product.

INFERENCE:- Around 78% of doctors said that current available product is expensive. This product have low patient affordability.

8. Responses for Source of plasma having criteria for selection of product.

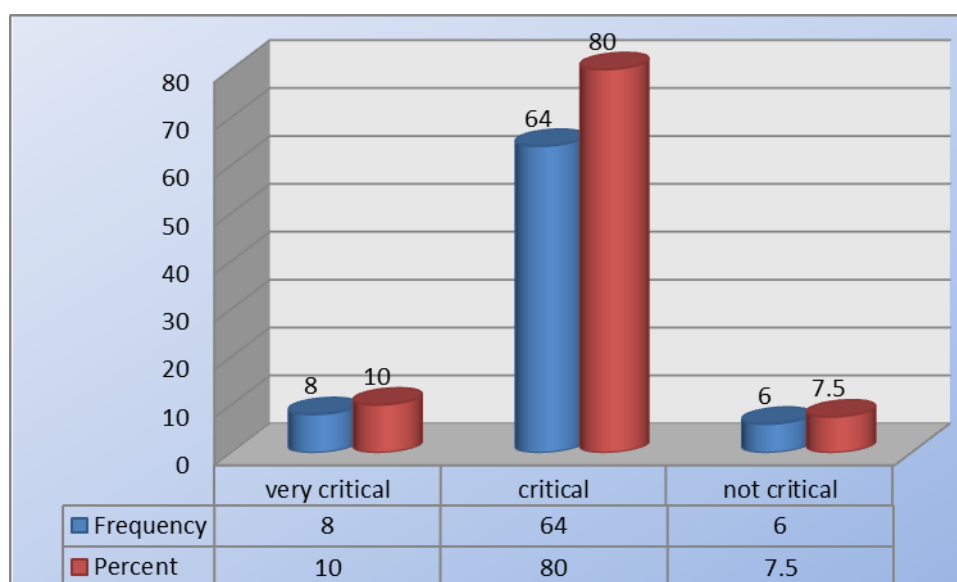


FIGURE NO.20:-Graph And Table Represents The Criticality Of Plasma Source In Selection Product.

INFERENCE:- 80% of doctors said source of plasma is critical issue for selection of product.

9. Responses for need of awaerness program for patients, para mediactal staff and doctors.

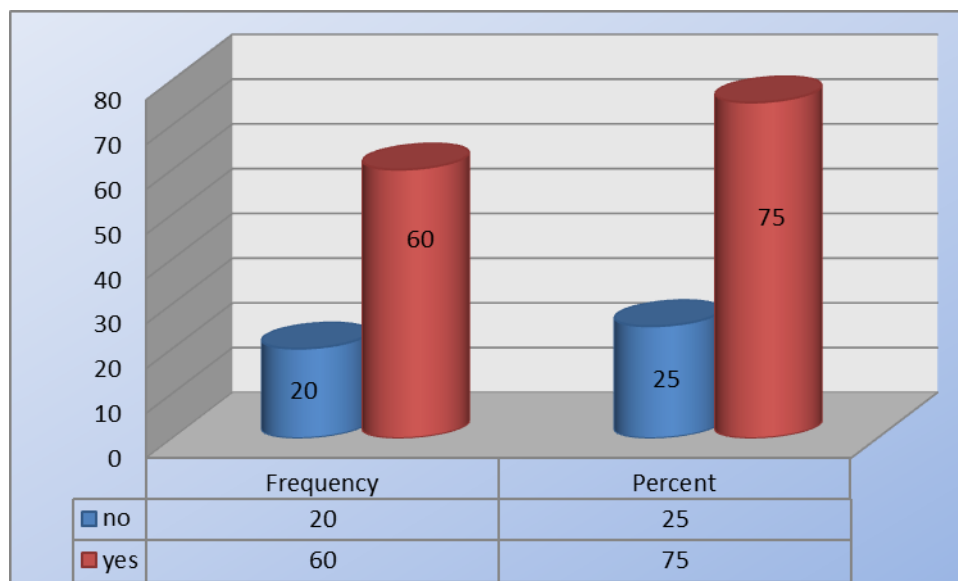


FIGURE NO.21:-Graph Represents Responses For Need Of Awareness Program For patients, paramedical staff and doctors.

INFERENCE:- 75% of doctors said that there is a lack of awareness about this product, they need an awareness program for patients and paramedical staff.

10. Responses for Factor which help to make trust on brand of product.

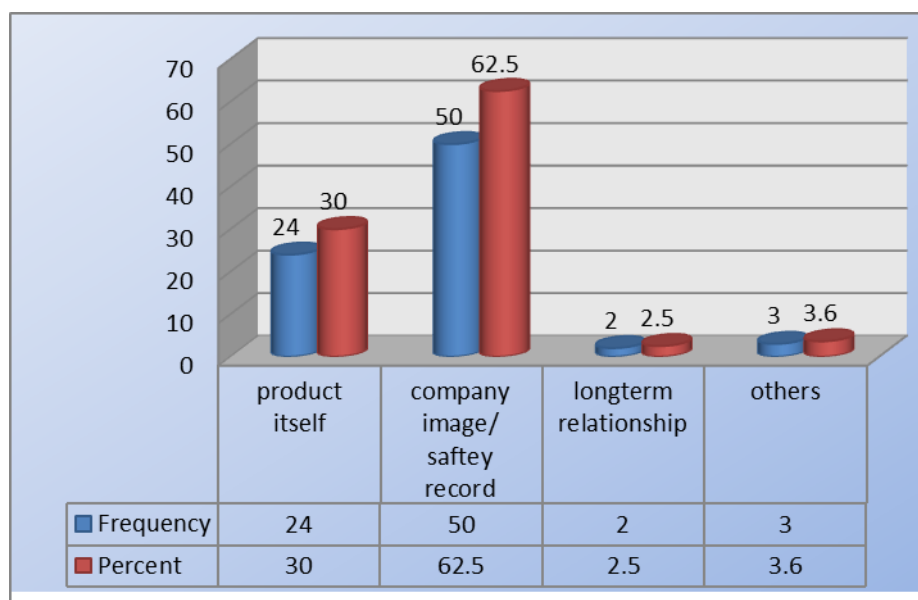


FIGURE NO.22:- Graph And Table Represents Factor Which Help To Make Trust On Brand Of Product.

INFERENCE:- According to doctors, company image and previous safety record is a major issue to make trust on a brand. Around 63% of doctors comply with this factor.

11. Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.

12.Most of the doctors feels there is no sefty issue for using IVIG. But some are reported that TRNSFUSSION TRANSMITED DISESES and proper sterlization is sefty isssu for them. Some are faces anaphylectic shock and adverse reaction from products.

13.Majority of doctors confermed that pricing,avalability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

6.3 ANALYSIS For Albumin

1) Responses for experience of availability for albumin.



FIGURE NO.23:-Graph And Table Represents The Experience Of Availability Of Product.

INFERENCE:- Majority of responses of doctors are favors the good availability of albumin. Around 80% of doctors feel good availability of albumin.

2) Responses for factor of product preference.

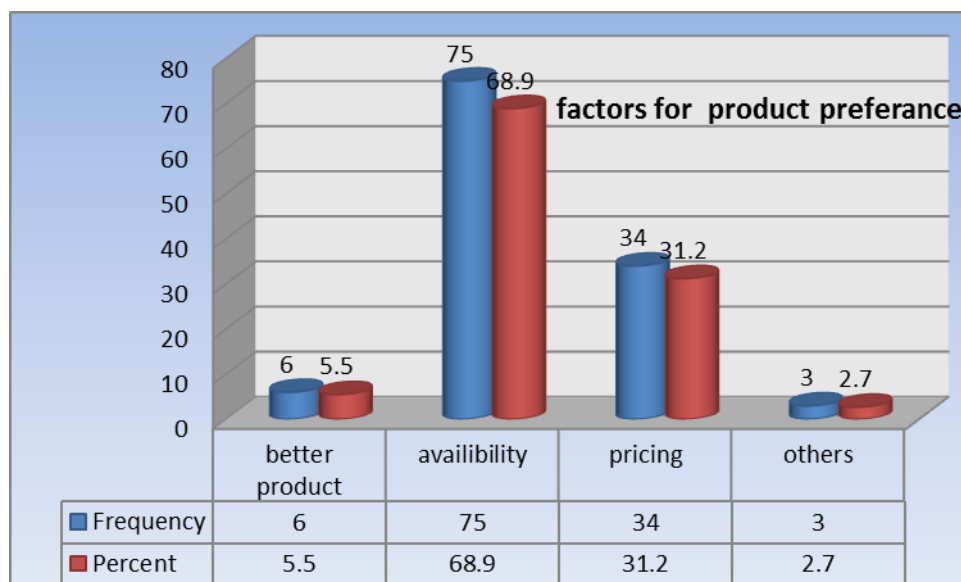


FIGURE NO.24:-Graph And Table Represents Responses For Factor Which Help To Make Product Preference.

INFERENCE:- majority of responses going with availability and pricing as major factor for making product preference. Around 69% of doctors said that availability of product is product preference criteria for them.

3) Responses for quality of current product.

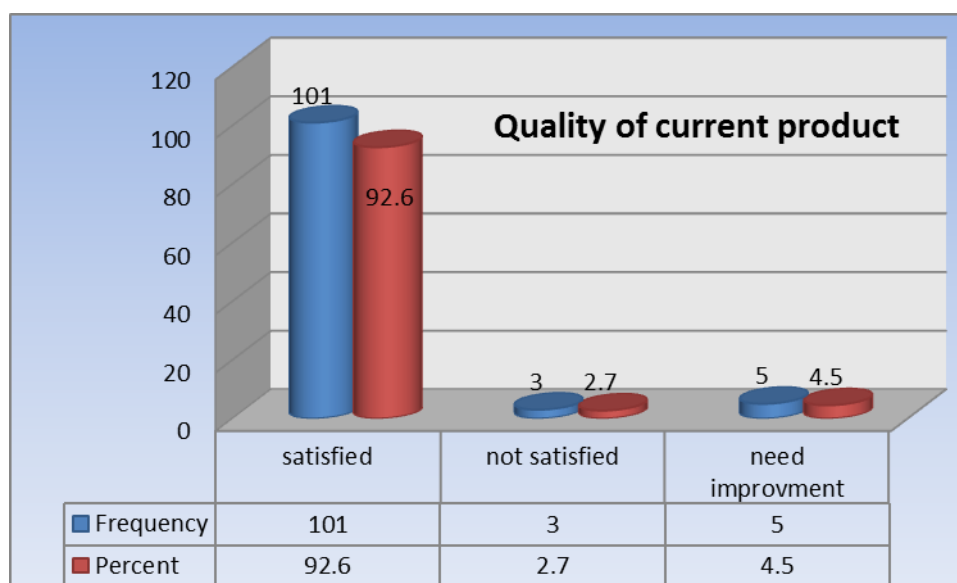


FIGURE NO.25:-Graph And Table Represents Responses Of Doctors For Quality Of Current Using Product.

INFERENCE:- Around 93% of doctors are satisfied with current using product.

4) Responses for pricing of current product.

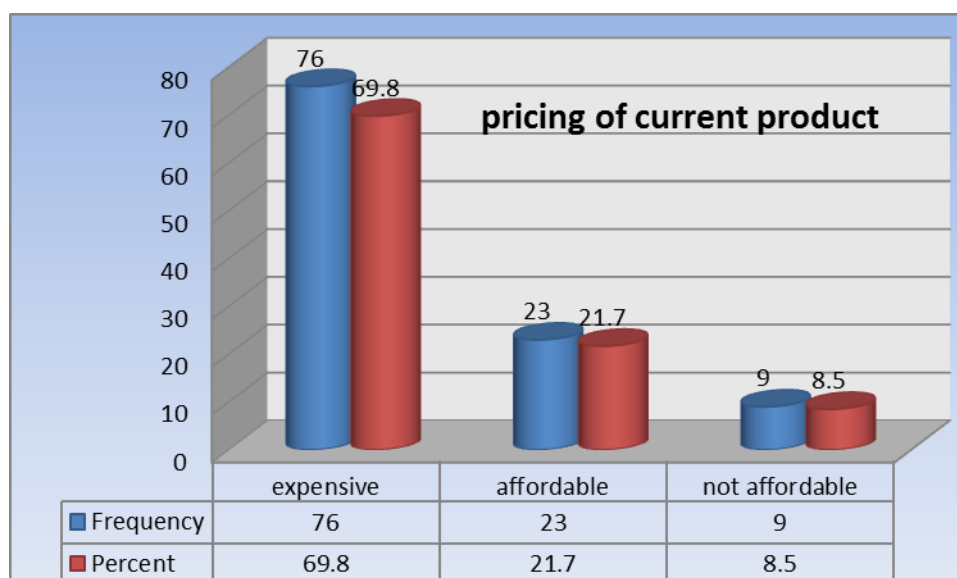


FIGURE NO.26:-Graph And Table Represents The Response Of Doctors For Pricing Of Current Product.

INFERENCE:- Around 70% of doctors said current product is expensive.

5) Responses for factor which make trust on brand of product.

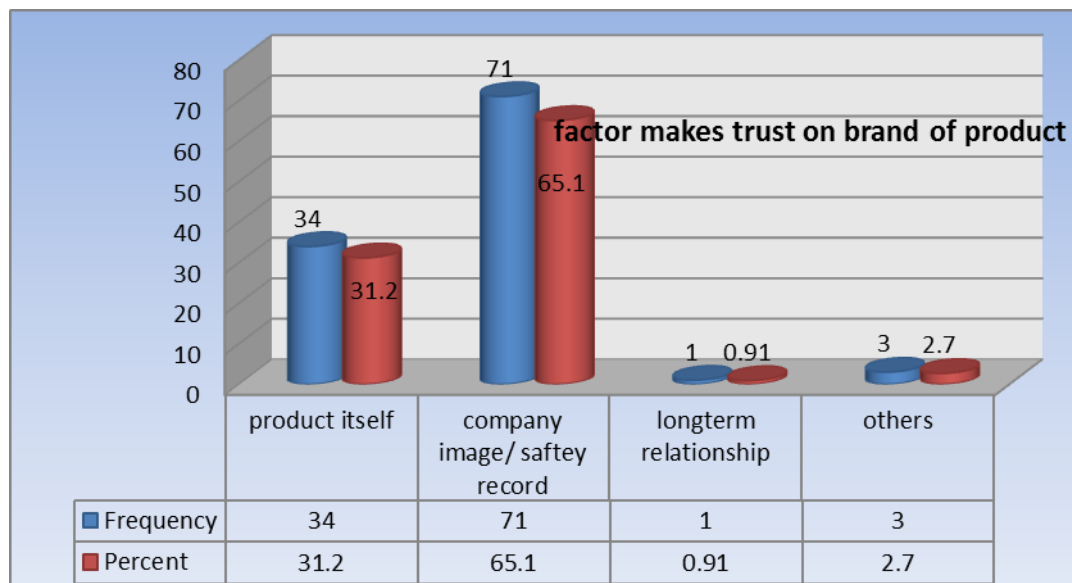


FIGURE NO.27:- Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.

INFERENCE:-majority of doctors are responded for company image and safety record is major factor for making trust on brand.

- 6) Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- 7) Most of the doctors feels there is no safety issue for using IVIG. But some are reported that TRANSFUSION TRANSMITTED DISEASES and proper sterilization is safety issue for them. Some are faces anaphylactic shock and adverse reaction from products.
- 8) Majority of doctors confirmed that pricing, availability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

6.4 ANALYSIS For anti D, antirebies and anti tetanus immunoglobulin

1. Number of respondents for different products from different cities.

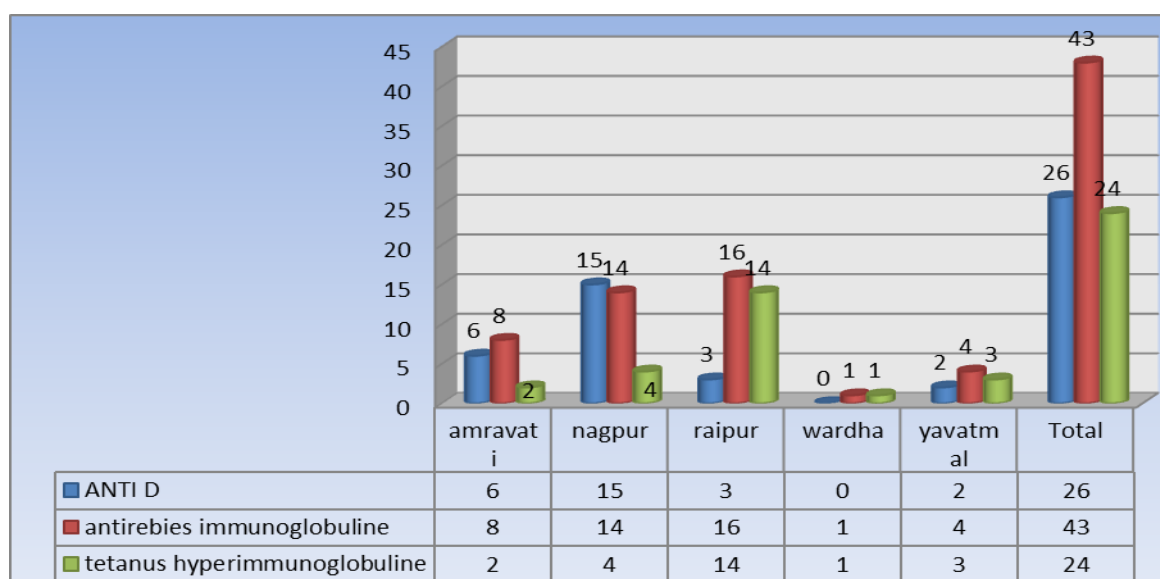


FIGURE NO 28:- Graph and Table Represents Number Of Respondents For Different Products From Different Cities.

INFERENCE:- Total number of respondents for antiD immunoglobulin is 26 and maximum responses are come from Nagpur. Total number of respondents for antireabies immunoglobulin is 43 and maximum responses are come from Raipur. Total number of respondents for tetanus hyper immunoglobulin is 24 and maximum number of responses are come from Raipur.

2. Responses for using experience of different products.

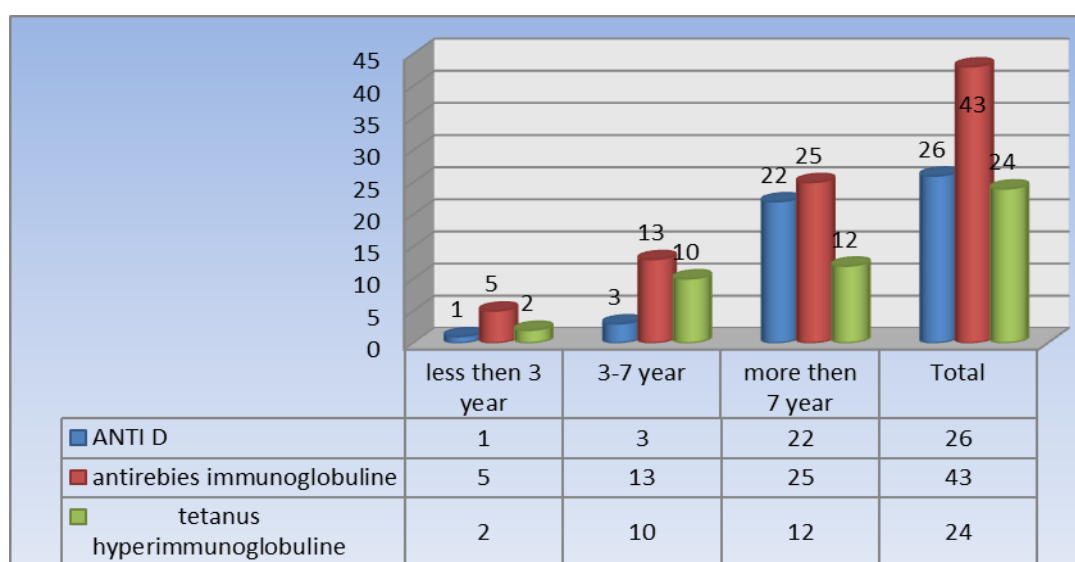


FIGURE NO.29:- Graph And Table Represents Responses For Using Experience Of Different Products.

INFERENCE:- majority of doctors are having experience of dealing products more than 7years for each product.

3. Responses for availability of current using product for different products category.

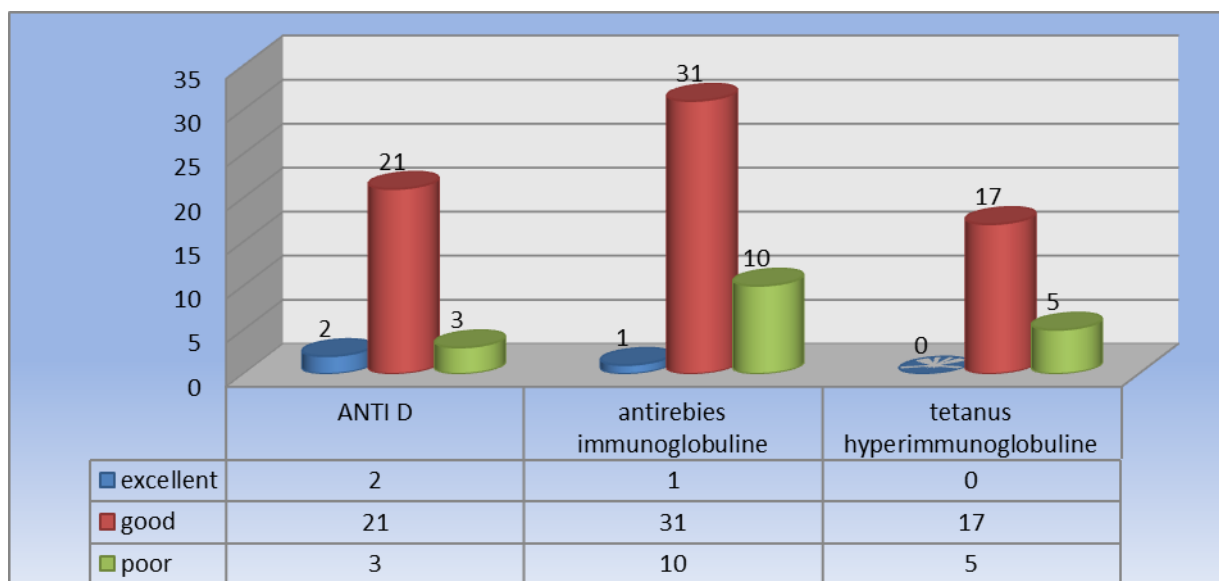


FIGURE NO.30:-Graph and Table Represents Responses for Availability of Current Using Product for Different Products category.

INFERENCE:- Most of doctors feel availability of current product is good. Around 73% of doctors feels availability of products is good.

4. Responses for factor which make product preference of different product category.

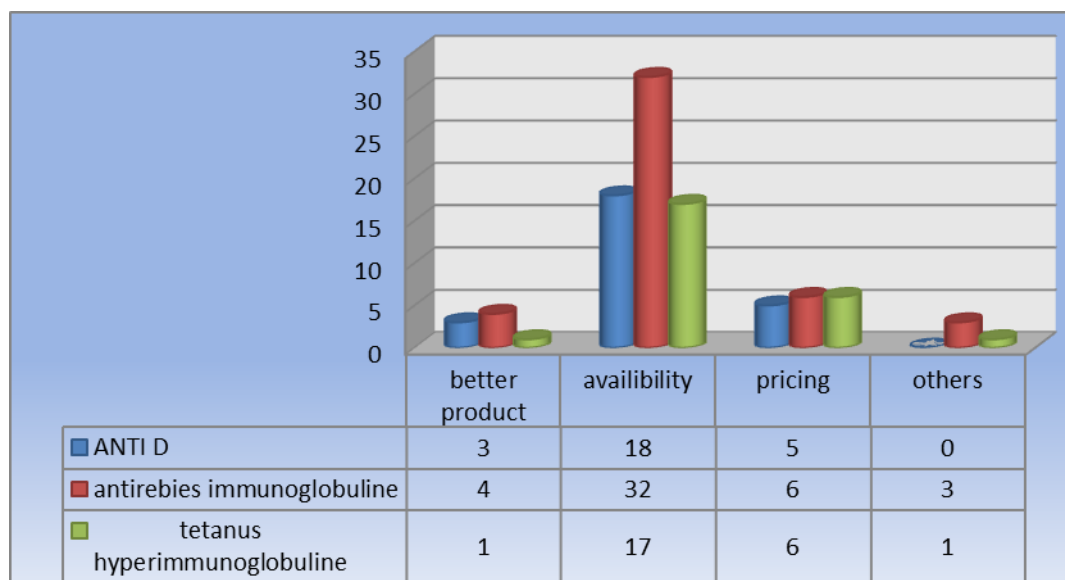


FIGURE NO31:- Graph And Table Denotes Responses For Factor Which Make Product Preference of different product category.

INFERENCE:- maximum responses are in fevour of availability factor which make product preference for each product category.

5. Responses for quality of current using products of different category of product.

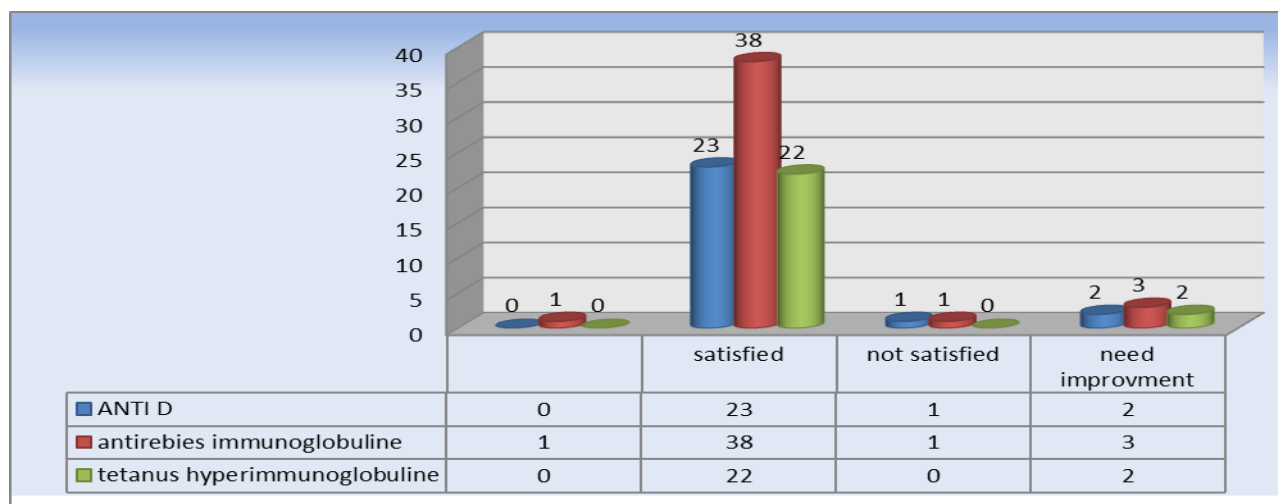


FIGURE NO.32:-Graph And Table Represents Responses of Doctors for Quality of Current Using Product of different product category.

INFERENCE:- majority of doctors are satisfied with quality of current available product. Around 94% of doctors are satisfied with quality of current product from each product category.

6. Responses for pricing of current using product from different product category.

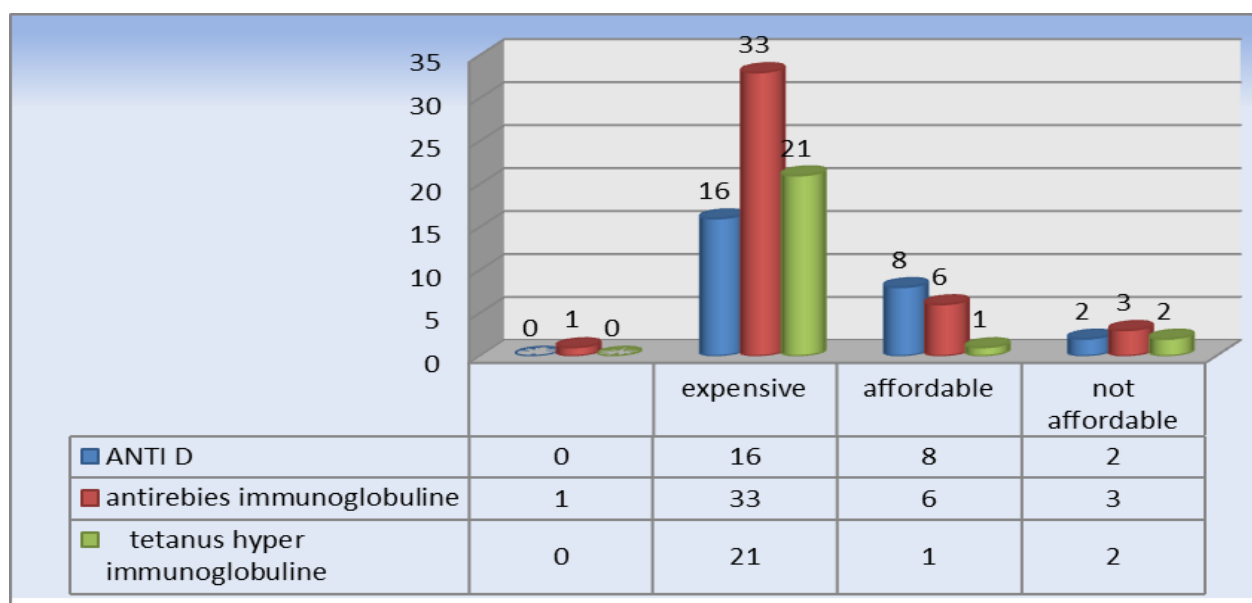


FIGURE NO.33:-Graph And Table Represents The Response Of Doctors For Pricing Of Current Product for different product category.

INFERENCE:- most of doctors said that current available products are expensive and low patient affordable in nature.

7. Responses for factor which make trust on brand of product for different product category.

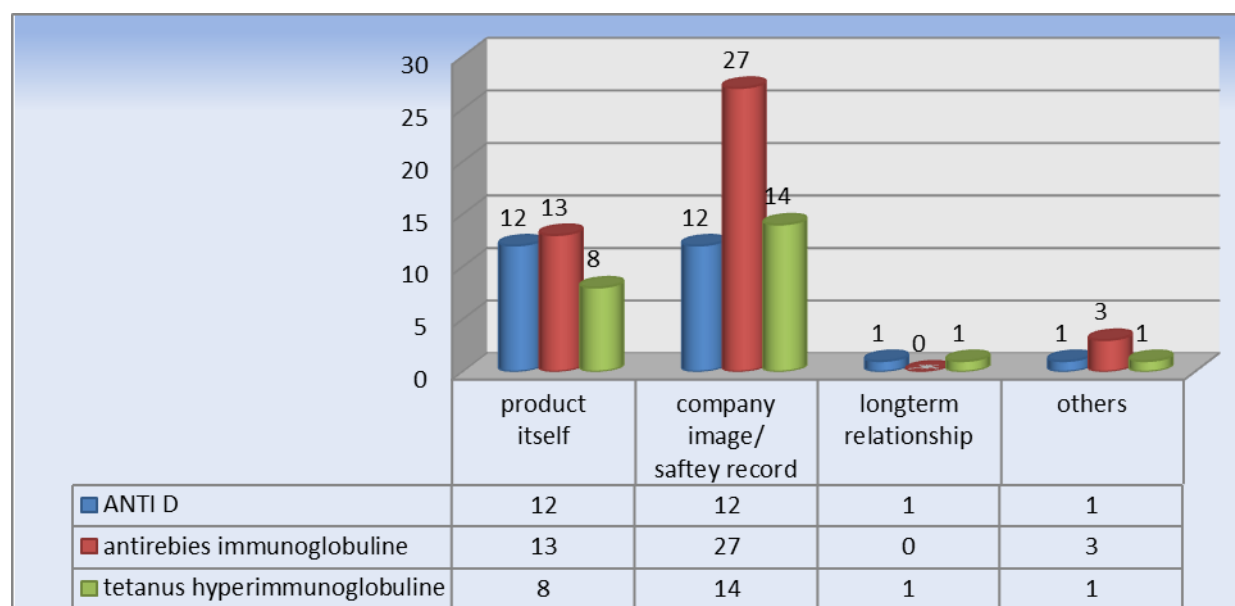


FIGURE NO.34:- Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.

INFERENCE:- Majority of doctors feel company image and previous safety record is most important factor to make trust on any brand for each category of product.

9. Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
10. Most of the doctors feels there is no sefty issue for using IVIG. But some are reported that TRNSFUSSION TRANSMITED DISESES and proper sterlization is sefty issu for them. Some are faces anaphylectic shock and adverse reaction from products.
11. Majority of doctors confarmed that pricing,avalability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

6.5 For fibrinogen, fibrin sealant, antithrombin, prothrombin complex concentrate.

1. Responses for availability of current using product for different products category

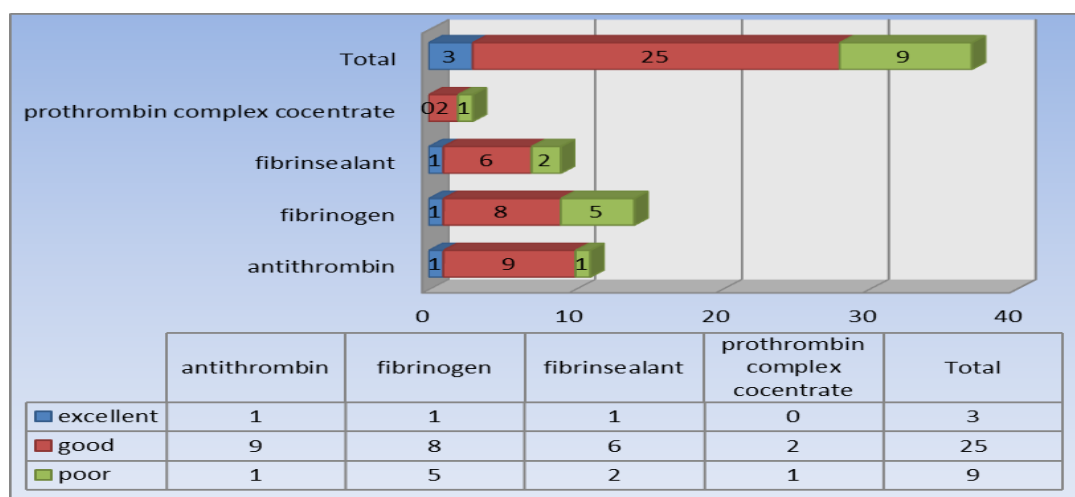


FIGURE NO.35:-Graph and Table Represents Responses for Availability of Current Using Product for Different Products category.

INFERENCE:- Majority of doctors feels availability of products is good in their view.75% of doctors feel good availability for fibrin sealant. Around 60% feel good availability for fibrinogen. Around 89% of doctors feel good availability of Antithrombin III.

2. Responses for factor which make product preference of different product category.

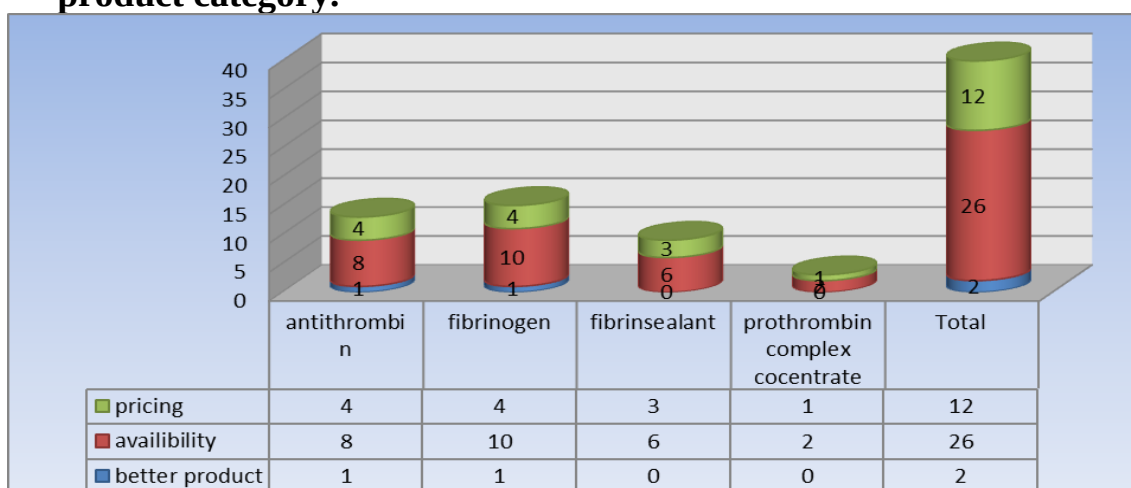


FIGURE NO36:- Graph And Table Denotes Responses For Factor Which Make Product Preference of different product category.

INFERENCE:- majority of doctors said that availability of product is major factor which make product preference for each product.then pricing is also a prominent factor for product preference.

3. Responses for quality of current using products of different category of product.

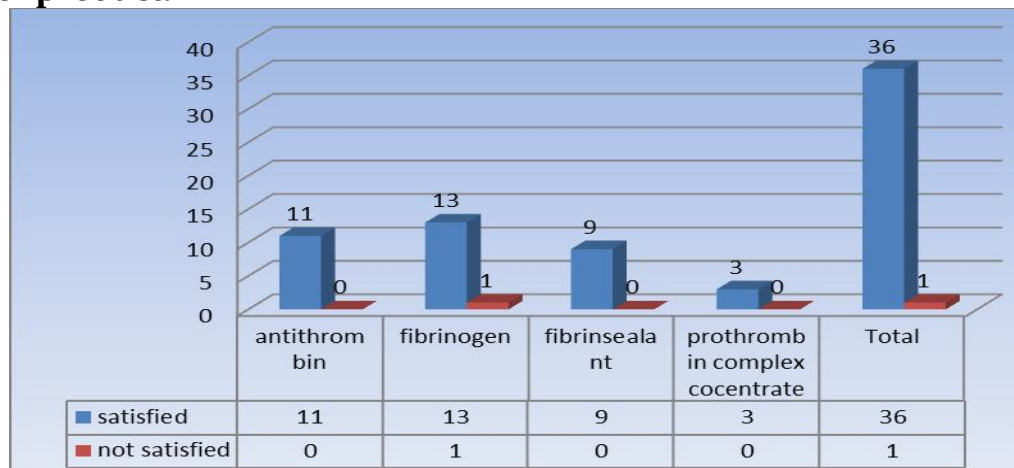


FIGURE NO.37:-Graph And Table Represents Responses of Doctors for Quality of Current Using Product of different product category.

INFERENCE:- Around every doctors are satisfied with quality of product from each category of product.

4. Responses for pricing of current using product from different product category

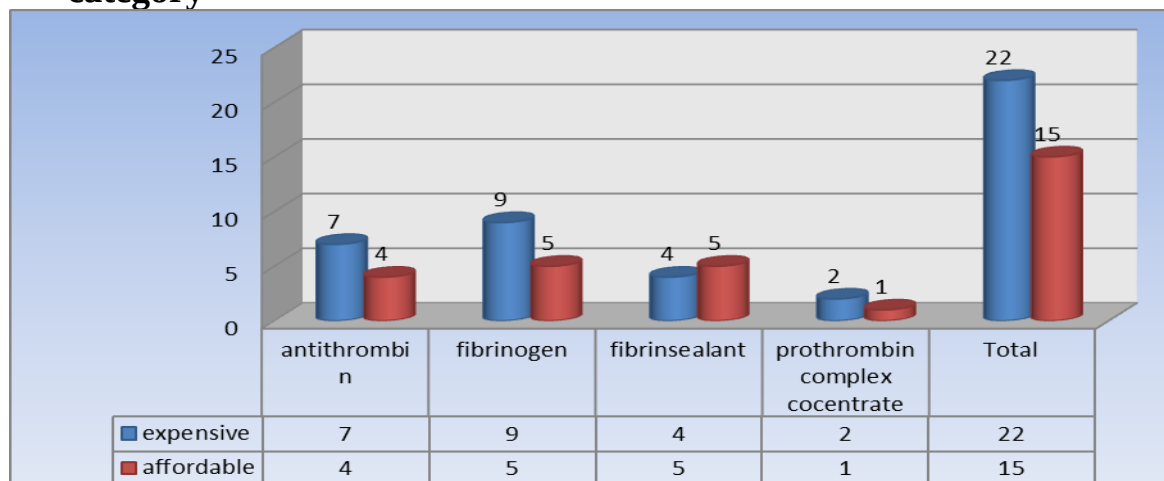


FIGURE NO.38:-Graph and Table Represents The Response Of Doctors For Pricing Of Current Product for different product category.

INFERENCE:- Most of doctors said that current available product are expensive in nature around 60% of doctors feels antithrombin is expensive product.70% of doctors said fibrinogen is expensive product but around 50% doctors said fibrin sealant is affordable product.

5. Responses for factor which make trust on brand of product for different product category

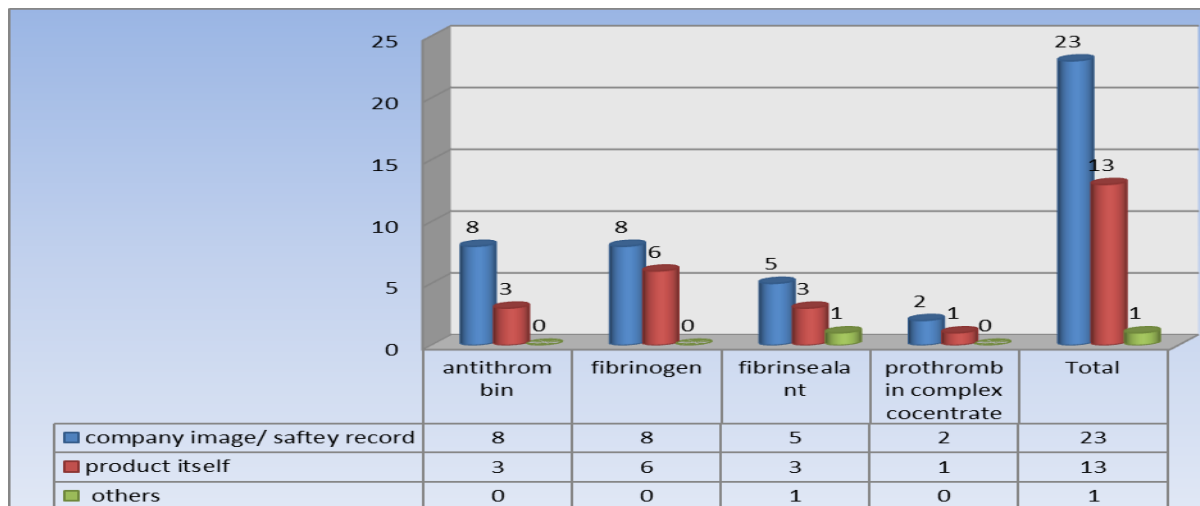


FIGURE NO.39:- Graph And Table Represents The Response Of Doctors For Factor Which Make Trust On Brand.

INFERENCE:- majority of doctors said that company image and previous safety record is major factor for making trust on any brand for each product.

6. Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
7. Most of the doctors feels there is no safety issue for using IVIG. But some are reported that TRANSFUSION TRANSMITTED DISEASES and proper sterilization is safety issue for them. Some are faces anaphylactic shock and adverse reaction from products.
8. Majority of doctors confirmed that pricing, availability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

7 KEY FINDINGS

7.1 FOR IVIG

- ✓ 46% of doctors from Nagpur, 30.3% of doctors from Raipur, 15.2% of doctors from Amravati and 4.5% , 1.2% of doctors from Yavatmal and Wardha gives their response for IVIG.
- ✓ 65% of doctors uses IVIG from more than 7 years, 65% of doctors are having much experience for using IVIG
- ✓ Around 77.3% of doctors said availability of IVIG is good in their experience.
- ✓ Availability of IVIG good in each city. Majority of doctors said that availability of product is good.
- ✓ In every city where availability of product is good there major product preference factor is availability. Both responses are around same for availability.
- ✓ Around 58% Of Doctors Uses IVIG More Than 20 Unit Per Year. 24% Doctors Uses Ivig 10-20 Unit Per Year. Figure for Consumption of IVIG shows Good Market Demand.
- ✓ Around 75% of doctors feels source of plasma is critical criteria for selection of product.
- ✓ Around 87% of doctors satisfied with current dealing product's quality. Current available products in market have good quality
- ✓ Around 70% of doctors feels current product is expensive. They said that this product s are not in range of patient affordability.
- ✓ Around 74% of doctors needs awareness program for patients, paramedical staff and for doctor.
- ✓ Company image and previous safety record of company is most dominating factor for making trust on any brand. Around 70% doctors comply with this statement.
- ✓ Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- ✓ Most of the doctors feels there is no safety issue for using IVIG. But some are reported that TRANSFUSION TRANSMITTED DISEASES and proper sterilization is safety issue for them. Some are faces anaphylactic shock and adverse reaction from products.
- ✓ Majority of doctors confirmed that pricing, availability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

7.2 FOR HEPETITIS B IMMUNOGLOBULIN

- ✓ Around 46% of doctors gives their reponses are come from Nagpur then 30% of doctors are from Raipur ,16% of doctors are from Amravati,restof from wardha and yavatmal.
- ✓ Around 78% of doctors have more then 7 years of experience for using product.
- ✓ Big city like nagpur and raipur avalability of product is good but in small city like amravati and yavatmal facing poor avalability of product.
- ✓ Around 68% of doctores said that avalability and 30% of docters said that pricing is major factor to make product preference.
- ✓ Around 47.5% of doctors uses 10 to 20 unit/year of hepetitis B immunoglobulin.Consumption of product in market is average.
- ✓ majority of doctors satisfied with quality of curent product in all city which covers in survey.around 91% doctors stisfied with their current using product.
- ✓ Around 78% of doctors said that current available product is expensive. This product have low patient affordibility.
- ✓ 80% of docters said source of plasma is critical issue for selection of product.
- ✓ 75% of doctors said that there are lake of awarress about this product,they need for awarress program for patient and paramedical staff.
- ✓ According to doctors Company image and previous saftey record is major issue to make trust on brand.around 63% of doctors complie with this factor.
- ✓ Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- ✓ Most of the doctors feels there is no sefty issue for using IVIG. But some are reported that TRNSFUSSION TRANSMITED DISESES and proper sterlization is sefty isssu for them. Some are faces anaphylectic shock and adverse reaction from products.
- ✓ Majority of doctors confermed that pricing,avalability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

7.3 FOR ALBUMIN

- ✓ Majority of responses of doctors are favors the good availability of albumin. Around 80% of doctors feel good availability of albumin.
- ✓ Majority of responses going with availability and pricing as major factor for making product preference. Around 69% of doctors said that availability of product is product preference criteria for them.
- ✓ Around 93% of doctors are satisfied with current using product.
- ✓ Around 70% of doctors said current product is expensive.
- ✓ Majority of doctors are responded for company image and safety record is major factor for making trust on brand.
- ✓ Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- ✓ Most of the doctors feels there is no safety issue for using IVIG. But some are reported that TRANSMISSION TRANSMITTED DISEASES and proper sterilization is safety issue for them. Some are faces anaphylactic shock and adverse reaction from products.
- ✓ Majority of doctors confirmed that pricing, availability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

7.4 FOR ANTI D, ANTI RABIES, TETANUS ANTI HYPER IMMUNOGLOBULIN

- ✓ Total number of respondents for antiD immunoglobulin is 26 and maximum responses are come from Nagpur. Total number of respondents for antirabies immunoglobulin is 43 and maximum responses are come from Raipur. Total number of respondents for tetanus hyper immunoglobulin is 24 and maximum numbers of responses are come from Raipur.
- ✓ Majority of doctors are having experience of dealing products more than 7 years for each product.
- ✓ Most of doctors feel availability of current product is good. Around 73% of doctors feels availability of products is good.

- ✓ Maximum responses are in favour of availability factor which make product preference for each product category.
- ✓ Majority of doctors are satisfied with quality of current available product. Around 94% of doctors are satisfied with quality of current product from each product category.
- ✓ Most of doctors said that current available products are expensive and low patient affordable in nature.
- ✓ Majority of doctors feel company image and previous safety record is most important factor to make trust on any brand for each category of product.
- ✓ Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- ✓ Most of the doctors feels there is no safety issue for using IVIG. But some are reported that TRANSMISSION TRANSMITTED DISEASES and proper sterilization is safety issue for them. Some are faces anaphylactic shock and adverse reaction from products.
- ✓ Majority of doctors confirmed that pricing, availability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

7.5 For fibrinogen, fibrin sealant, antithrombin, prothrombin complex concentrate

- ✓ Majority of doctors feels availability of products is good in their view. 75% of doctors feel good availability for fibrin sealant. Around 60% feel good availability for fibrinogen. Around 89% of doctors feel good availability of Antithrombin.
- ✓ majority of doctors said that availability of product is major factor which make product preference for each product. then pricing is also a prominent factor for product preference.
- ✓ Around every doctor are satisfied with quality of product from each category of product.
- ✓ Most of doctors said that current available product are expensive in nature around 60% of doctors feels antithrombin is expensive product. 70% of doctors said fibrinogen is expensive product but around 50% doctors said fibrin sealant is affordable product.
- ✓ Majority of doctors said that company image and previous safety record is major factor for making trust on any brand for each product.

- ✓ Most of the doctors gives their preference on mostly using brand names for IVIG are BHARAT SERUM (40%) and RELIANCE (30%). Doctors mention that they using this company product in mixed manner.
- ✓ Most of the doctors feels there is no sefty issue for using IVIG. But some are reported that TRNSFUSSION TRANSMITED DISESES and proper sterlization is sefty issu for them. Some are faces anaphylectic shock and adverse reaction from products.
- ✓ Majority of doctors confermed that pricing,avalability, patient condition and recommended use of product is MAJOR PRESCRIBING FACTOR for them.

8 CONCLUSION:

The plasma product market is still an untapped one and has a lot of scope of improvement and awareness. There is presence of few market competitors. Therefore companies should put some more efforts to develop their research and development strategies and also to make people aware of the use of plasma product and its emerging uses in today's world. Availability and pricing is major factor to get market's grip. Absence of good cold chain and quality is demand of market for these products. Government hospitals and privet hospitals have different prospective for product preferences. Plasma product therapy has wide range of specialty division for implication of plasma product.

9 RECOMMENDATIONS:

- Increase awareness of the company and its products by increasing the sales force and expanding the team.
- The products should be made affordable and competitive pricing must be done.
- The product must be made available easily at the retail outlets.
- The Company must expand its research and development units.
- Product should be made in small packaging unit for small dosage.
- COMPANY name is not very known for doctors in territory. So company should make rigorous marketing campaign for stabilizing as known brand in plasma product market.
- There are few new awaiting competitors knock the door of this field. So this is alarming situation and company should proactive on this situation.

ANNEXURE QUESTIONNAIRE

PlasmaGen Biosciences Pvt. Ltd.
No.160, KCI Chambers, 2nd Floor, 5th Main Road,
Chamarajapet, Bangalore-560018.
Ph: + 91-80-42154535/36/37 Fax: + 91-80 - 421 545 38 Email : info@plasmagen.in

Name:

Address:.....

.....

City **state** **pincode**.....

Ph.No. **Mobile :**

Email:

1. How long you have been using ?

a. Less than 3 yr, b. 3-7 yr, c. More than 7 yr.

2. Availability of product has been...

a. Excellent, b. Good, c. Poor.

3. Any specificbrand you prefer.

.....

.....

.....

4. Is it because of

a. Better Product b. Availability c. Pricing d. Other ()

5. What is general consumption pattern?

a. Less than 10, b. 10- 20, c. More than 20

6. Because it is a biologic “made out of human plasma”; would you consider source of plasma important criterion in selection of the product?

a. Very critical, b. Critical, c. Not critical.

7. Any safety issues for these products?

.....

.....

.....

8. Your opinion on the quality of currently available brands?

a. Highly satisfied b. Satisfied c. Not satisfied d. Need improvement

9. Pricing of currently available brands?

- a. Expensive, b. Affordable, c. Not Affordable.

10. Does any awareness program about blood/ plasma products is required for patients / doctors / paramedical staff?

- a. Yes b. No.

11. How do you trust a brand of blood plasma product ?

- a. Product itself b. Company's image / safety record
c. Long term relationship d. Any other factor ()

12. What are the major issues in prescribing plasma products to the patients.

.....
.....

13. Any references, if you would like to give

.....
.....
.....