

**Summer Training at
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**Plasma Products Therapy and Blood Banking Scene in India:
Facts and Fiction**

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Acknowledgement

I would like to express my heartiest thanks to *Dr. Ranjeet Ajmani “CEO of PlasmaGen Biosciences Pvt. Ltd.”* for granting me an opportunity to undergo summer training in their esteemed organization. The project report on “*Plasma Products Therapy and Blood Banking Scene in India: Facts and Fiction*” has been compiled involving the hard work of many. Now is the time to express my heartiest gratitude towards them.

First of all I am highly thankful to my project guide *Dr. Amit Jha (Product Manager of PlasmaGen Biosciences) and Nipun Garg (National Manager Plasma Procurement and business Development of PlasmaGen Biosciences)*, Who took a lot of pain to supervise this project work. Their guidance, advice, timely suggestion, explicit decision, attention had been privilege for me. I have no words to express my heavy debt of gratitude to them for their encouragement and relevant criticism time to time.

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Last but not the least from the bottom of my heart I wish to thank my parents, friends for their kind co-operation and encouragement which help me in completion of this project. My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities

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EXECUTIVE SUMMARY

The project undertaken is a market research on the demand, consumption pattern & personal preferences of doctors while prescribing Plasma products for medication. As we all know that 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 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's 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 & paramedical staff regarding its uses & implementation. Therefore the plasma market is not a very favourable place to do business in since the option of minimization of production costs doesn't hold over here

However 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 for PlasmaGen Biosciences, a branch of Trigenesis as it sets foot into the plasma market on their own. Throughout my market survey on doctors of reputed hospitals of (Jaipur Kota, Bhilwara, Udaipur, Abu Road, Ajmer) I sought to determine the demand, the consumption pattern, personal preferences and quality & availability of currently available blood & plasma brands in these cities of Rajasthan

From all the responses I collected from the doctors it was evident that availability and pricing of plasma products are not very satisfactory in these regions. 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 patients, paramedical staff and for doctors too 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 favourite 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 my field-work. The intentions are to depict a close reflection of the Plasma market scenario in some cities of Rajasthan and come up with new business prospects and ways to counter the limitations of trade in Plasma market.

Plasma Market Overview

This section is designed to provide some background information on the Therapeutic Plasma market.

The Overall Therapeutic Plasma Market

Blood plasma products represent a US\$11.7B global market of which Marketing Research Bureau (MRB) estimated US\$1.7B is sold in Asia including China and India. This market is dominated by 5 major manufacturers who have undergone considerable consolidation and reorganization in the recent past. Plasma fractionation is a capital intensive, inflexible, high cost production process similar to the old steel mills. According to MRB, US sales of human derived plasma products have grown at a compound rate of 10% over the past 18 years to sales of \$4.0 billion in 2008, which represented an 11.5% increase over 2007.

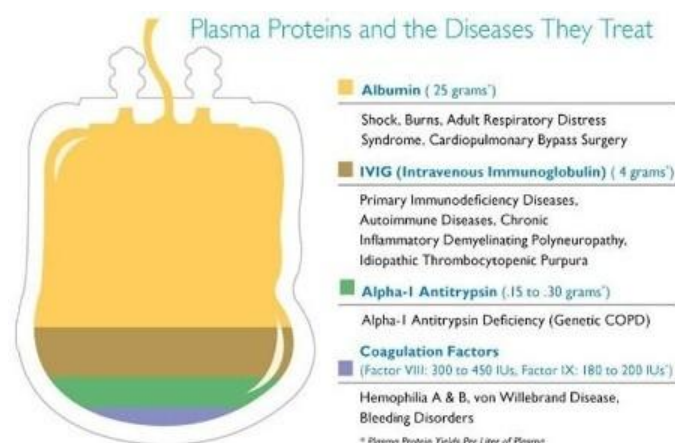
The fractionators are focused on the European and US markets and only supply Asia with excess product. As a result, supply in Asia is variable and pricing high. There are no commercial international Asian plasma fractionators and the minimum capital cost of establishing a new facility is US\$100m for a 100,000 litre facility.

History of the Plasma Fractionation Process

The Plasma fractionation process was originally developed by Dr Edwin Cohn to deliver Albumin for the Allies in World War II. This process was developed further after the war to produce a number of therapeutic products including Factor VIII and IVIG. The major change to this process occurred in the late 1980s with the realization that viruses could be transmitted via plasma products. As a result, a number of virus removal steps were added to the original Cohn process creating a multi step low yield process.

Current Plasma Fractionation Yields

Today the Therapeutic Plasma Fractionation processes only recover about 50% of the total protein from a litre of plasma. In other words, approximately 50% of the albumin and IVIG is lost in the current fractionation process. For example the Plasma Proteins Manufacturing Association has produced the following table of manufacturing yields:



Asian Therapeutic Plasma market

To put the Asian market into perspective, the Australian Government spent A\$400m in 2009-10 on Therapeutic Plasma products with a population of 21 m people. On this basis the potential Therapeutic Plasma market of the following Asian countries is:

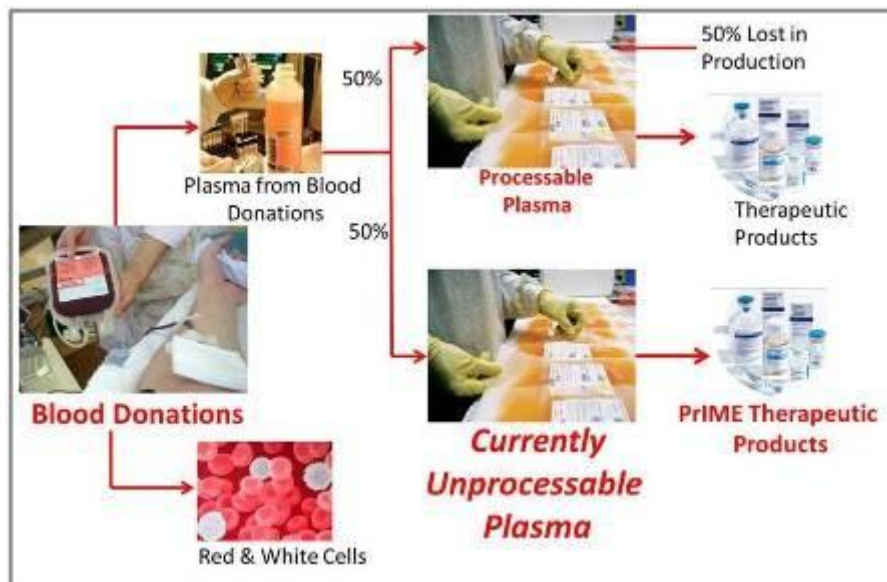
Country	Population	Potential Market Size
Singapore	5m	\$100M
Thailand	60m	\$1.2B
Philippines	90m	\$1.6B
Malaysia	25m	\$470M

The above table indicates the size of the potential for a novel technology like the PrIME to address the significant shortage of Therapeutic Plasma products in Asia. None of these countries are self sufficient and all are looking to increase the supply of Therapeutic Plasma products to meet their local needs.

Currently the European market which represents 11% of the world's population accounts for 36% of the world's Therapeutic Plasma consumption. By comparison the Asia & Pacific markets account for 58% of the world's population but only represent 15% of the world's consumption of Therapeutic Plasma products.

Currently Unprocessable Plasma

In addition, the regulators will not allow the fractionators to process plasma from certain countries for safety reasons no matter what the volume of plasma. This wasted or 'Currently Unprocessable Plasma' accounts for approximately 50% of all the plasma collected in most Asian countries.



As a result most Asian countries are forced to buy from the fractionators and discard the plasma they collect. Significantly, every 50,000L of currently Unprocessable Plasma can generate over US\$30m of Therapeutic Plasma products. There is an opportunity to supply the Asian plasma market for a technology that:

- Can process small volumes (less than 10,000L batches); and
- Is based on a disposable manufacturing system so that it can fractionate *Currently Unprocessable Plasma*.

- Make countries in Asia self-sufficient in their plasma product requirements in line with 2010 WHO mandate.

This is the unique niche that the PRIME process addresses and on average this Currently Unprocessable Plasma will generate \$30m of sales and \$15M of annual profit per country. The existing fractionators cannot address the Currently Unprocessable Plasma market as it is difficult to validate the removal of pathogens from their manufacturing plants between batches. This is why the regulators, such as FDA, will not allow fractionators in their countries to import Currently Unprocessable Plasma.

Blood Banks & India

According to the World Health Organisation South Eastern Asia's estimated blood requirement is about 15 million units, but collects annually about 9 million units, leaving a gap of 6 million. India with its huge population is lagging behind in blood collection. India has 2,433 blood banks that requires 9 million units of blood annually, but collects only 7 million.

With 909 governments promoted blood banks, 362 voluntary organisations, 684 blood banks associated with private hospitals and 500 blood banks owned by private charity organisation, the blood bank services sector is highly fragmented in the country. Relatively smaller countries like Singapore, Thailand or Sri Lanka blood transfusion services are centrally coordinated and doing best job. Most of the hospital based blood banks in India often force the patient relatives to replace blood unit.

Though the voluntary donations are increasing (45% in 2002 to 53% in 2008) this is very common in hospital based government and private blood banks leading to all sort of malpractices. Many blood banks show replacement donations as voluntary donations on record. It is difficult to track later.

In India, the ratio of use of blood components to whole blood is 15:85, while globally it is 90:10. This shows how poorly equipped we are. Many blood banks in India still not equipped to make components. They also try to malign the one those who separate components attaching religious values. Most of the blood banks issue whole blood. Even majority doctors prescribe whole blood, without understanding advancement in transfusion medicine. As a result they contribute to shortage of blood in the country and also overburden the patient unnecessarily causing harm at times. Blood Transfusion reactions are common in whole blood transfusions.

Many government and private blood banks are very poorly equipped posing threat to the health care system. At present, India follows a procedure of mandatory licensing under the Drugs and Cosmetics Rules for blood banks. According to Gupta of NACO, only 500 blood banks in India can be termed as “big banks” because they collect more than 10,000 units annually. Nearly 600 of the rest are “small banks” that collect a paltry amount of 1,000 units a year. Most of the 2,433 blood banks are moderate — they collect 3,000-5,000 units of blood a year. “Probably, 90% of Indian blood banks still do not have the first level quality documents like quality policy and quality manual probably because it is not mandatory under drugs and cosmetics Act in India”. Says Dr.N.Chowdury from a reputed blood bank.

Organization Profile

PlasmaGen Biosciences



About Us

PlasmaGen Biosciences is a young biopharmaceutical company, incorporated in the field of “Transfusion Medicine”, which includes operation of blood centres and plasma fractionation. The company’s goal is to achieve self-sufficiency in blood/plasma products in India and SAARC nations and grow globally

We do realize that there is a huge gap between demand and supply of plasma products in most of the developing economies including India. We also recognize that India has immense potential to generate huge amount of surplus plasma and produce plasma products like Albumin, Immunoglobulin, Factor VIII, Factor IX, Fibrinogen, Fibrin Glue, etc. Many of these products are used as life- saving medicines.

With very clear vision fuelled by passion and commitment, we aim to represent the modern face of Transfusion Medicine in India. We have a team of young, dynamic and experienced people who are committed and determined to translate vision into reality.

We have people of board with international experience who have worked at very senior positions in private sector and have been serving in high-level delegations/committees in Govt. Of India.

PlasmaGen is 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 litres 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.

Mission statement

PlasmaGen's mission is to propagate the blood component therapy for optimum use of each drop of blood donated and, use surplus unutilised plasma for preparation of plasma products for India and south Asian Association of Cooperation (SAARC) region.

PlasmaGen is committed to provide quality plasma products to its valuable customers.

Products of PlasmaGen



OBJECTIVES OF THE STUDY

6.1 Primary Objective

- To analyse the present scene of plasma product and blood banks and to find out the huge gap between the demand and supply of plasma products.

6.2 Secondary Objective

- To study the perception of doctor's while prescribing any brand of plasma products.
- To study the perception of doctor's regarding availability, pricing and quality of plasma products.
- To study the perception of pathologist of different blood banks of Rajasthan regarding the surplus plasma available in blood banks can be utilized for fractionation which also made consortium between blood banks and plasma Fractionation Company.

Methodology

Research Design

➤ **7.1 Type Of Research Design**

The market survey undertaken is an example of a descriptive / quantitative research since the overall research design is rigid and pre-planned all throughout our study.

➤ **7.2 Research Tool**

Semi Structured Questionnaire is used and framed in a way so as to derive maximum information from the doctors as well as pathologist especially their perception about the different brands of plasma products and the plasma available that are available and most importantly the reasons behind their prescribing products by the doctors and the brand associated with it.

➤ **7.3 Scope Of The Study**

In India, the ratio of use of blood components to whole blood is 15:85, while globally it is 90:10. This shows how poorly equipped we are. Many blood banks in India still not equipped to make components. 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 of money for any donation of blood 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 a large percentage of our population.

The study will help us 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.

➤ **7.4 Data Collection Method**

• **7.41 Primary Data Collection**

The Data is collected for the first time & thus happens to be original in character. It was collected through means of a semi structured questionnaire. The semi structured questionnaire was designed covering close ended and open ended questions.

It was aimed to derive maximum information from the doctors.

7.5 Sampling Characteristics

Products	Specialties
• IVIG •	• Hematologists, Nephrologists, Oncologists, Neurologists, Immunologists
• Human Albumin	• Haematologists, Nephrologists, Oncologists, Gynaecologists
• Hepatitis B Immunoglobulin	• Physician(MD), Gastroenterologists, , Nephrologists, Organ Transplant Cardiologists, Gastroenterologists, Pulmonologists
• Anti-D •	• Gynaecologists
• Tetanus Immunoglobulin	• Internal Medicine, Physician MD, Pediatricians
• Fibrin Sealant •	• Neuro Surgeon, Plastic surgeon, General Surgeon, Cardiac Thoracic Surgeon, Eye Surgeon, Cardiac Surgeon
• Factor VIII •	• Hematologists, Intensivist, Pediatricians
• Factor VII •	• Hematologists, Pediatricians, Neuro Surgeon, Cardiac Thoracic Surgeon, Cardiac Surgeon
• Fibrinogen •	• Vascular Surgeon, Hematologists, Neuro Surgeon, Cardiac Thoracic Surgeon, Cardiac Surgeon , General Surgeon
• Thrombin •	• Vascular Surgeon, Neuro Surgeon, Cardiac Surgeon , General Surgeon
• Anti Thrombin III	• Liver Surgeon, Paediatric Physicians or Surgeon, Kidney Transplant Surgeon, Cardiac Thoracic Surgeon.
• Prothrombin Complex	• Gynaecologists, Neuro Surgeon, Physicians, Pediatricians.
• Pathologist doctor of blood banks	• Plasma

➤ **7.6 Sampling Units**

Sampling units were the Government & Private Hospitals and Blood Banks of Jaipur, Kota, Bhilwara, Udaipur, and Abu Road, Ajmer.

➤ **7.7 Sample Size**

200 doctors of different specialties

50 Blood Banks

➤ **7.8 Time Period of Project**

60 Days

➤ **7.9 Sampling Technique**

Simple Random Sampling

➤ **7.10 Data Analysis Technique**

The data was compiled and analysed in the Microsoft Excel

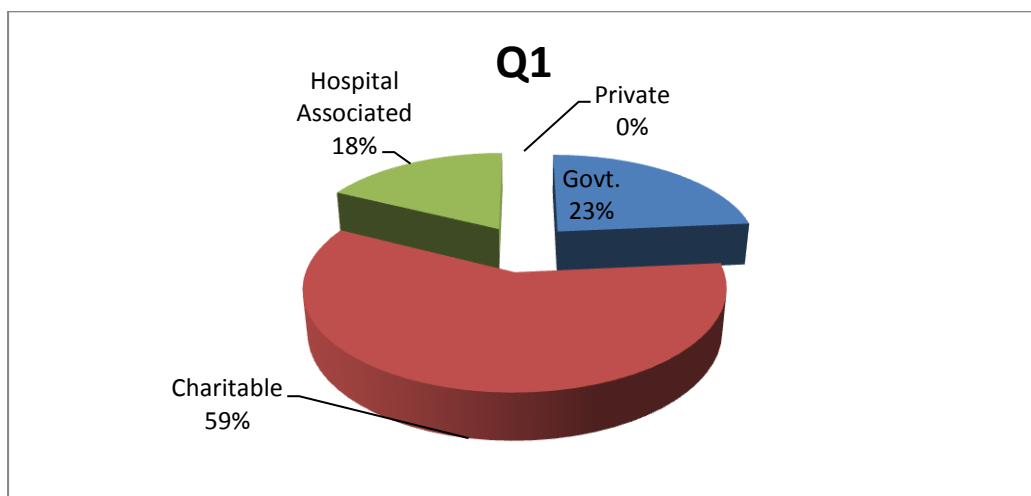
Data Analysis of Blood Banks

- ❖ No. Of blood banks visited 17 out of 50. 15 blood banks are component and 2 are whole blood banks. 5 blood banks rejected and didn't give data.

Q1. Nature of Blood Bank?

- A. Govt.
- B. Charitable
- C. Hospital Associated
- D. Private

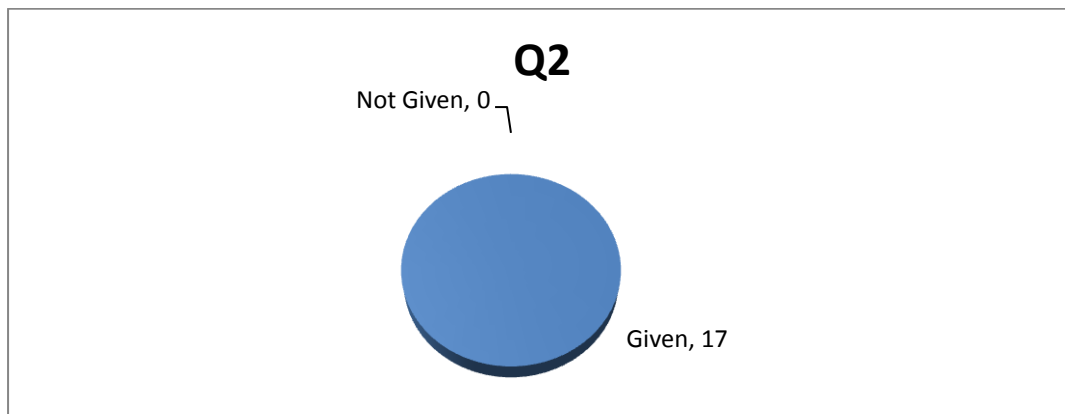
Analysis:



Q2. Percentage of blood banks who has given license no.

- 1. Given
- 2. Not given

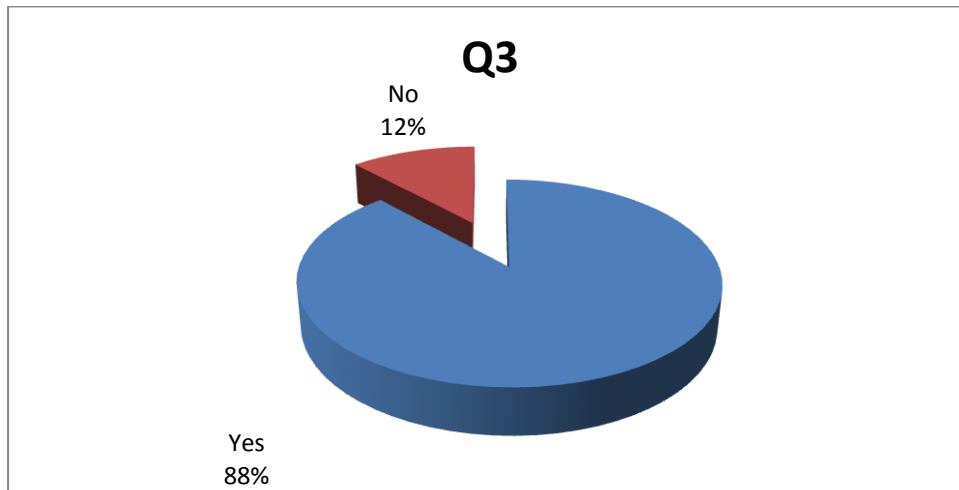
Analysis:



Q3. Having Permission to conduct blood collection drives/camps?

- A. Yes
- B. No

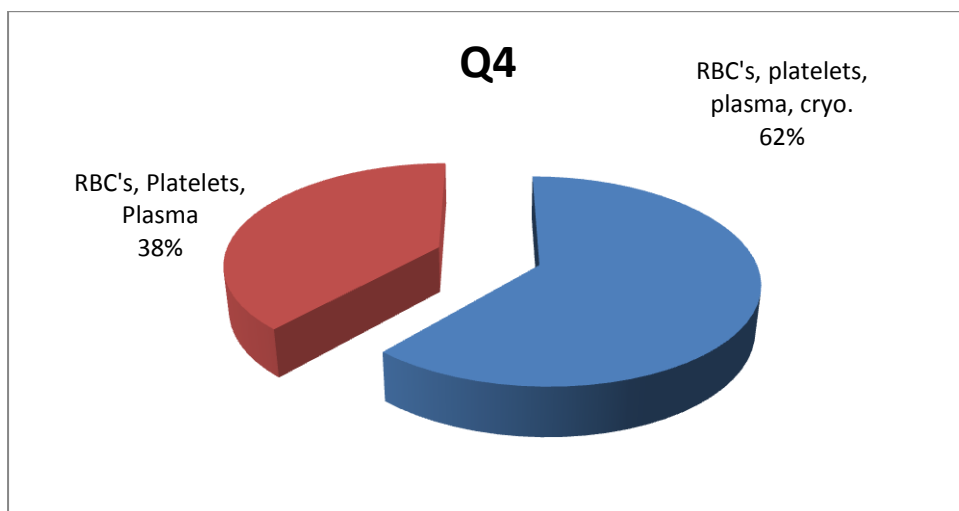
Analysis:



Q4. Blood Centre Having License to prepare?

- A. Packed RBC's, Plasma. Platelets, cryoprecipitate
- B. Platelets, RBC's, Plasma

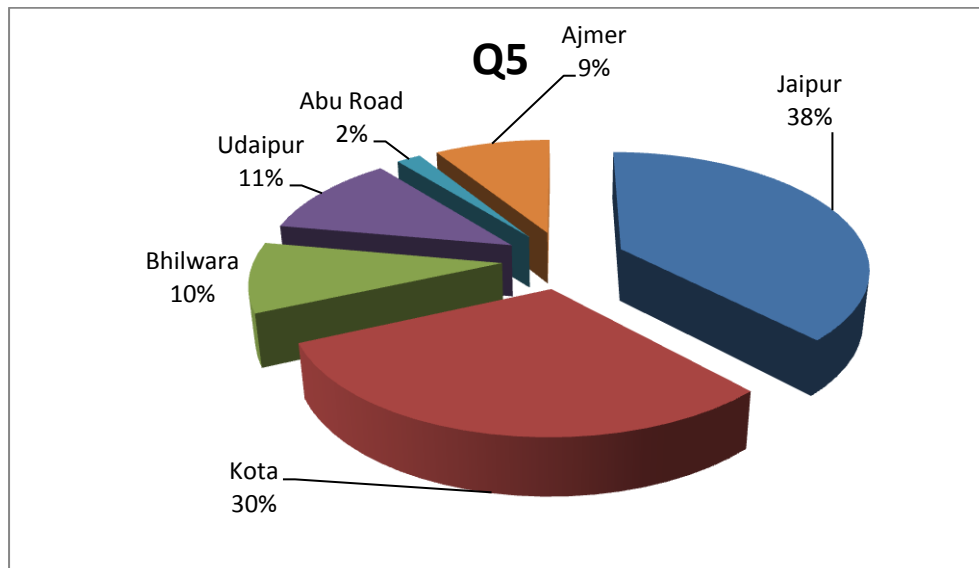
Analysis:



Q5. Total blood collection from different area of Rajasthan?

- A. Jaipur covered 3 blood banks
- B. Kota covered 3 blood banks
- C. Bhilwara covered 3 blood banks
- D. Udaipur covered 4 blood banks
- E. Abu Road covered 2 blood banks
- F. Ajmer covered 2 blood banks

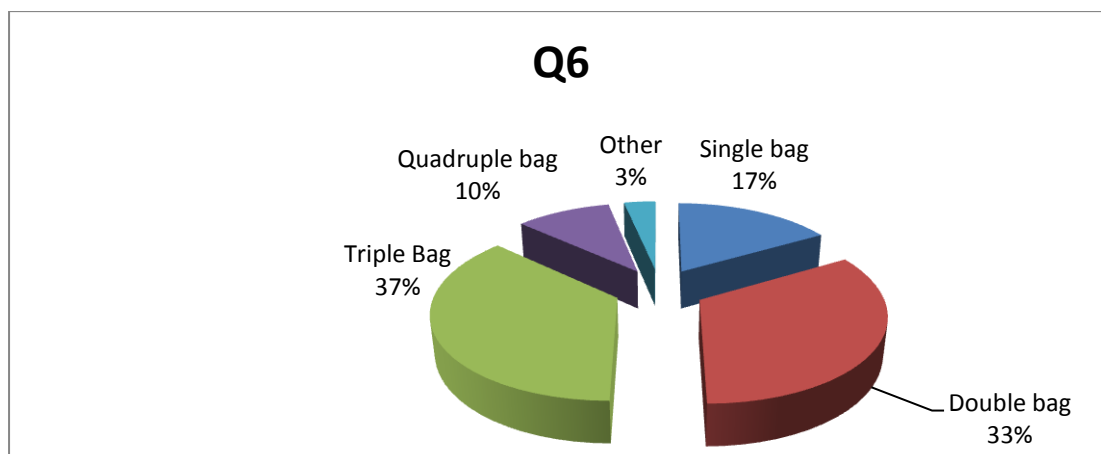
Analysis



Q6.Total Blood collected in percentage:

- a) Single blood bag b) Double blood bag c) Triple blood bag d) Quadruple blood bag
- e) Other

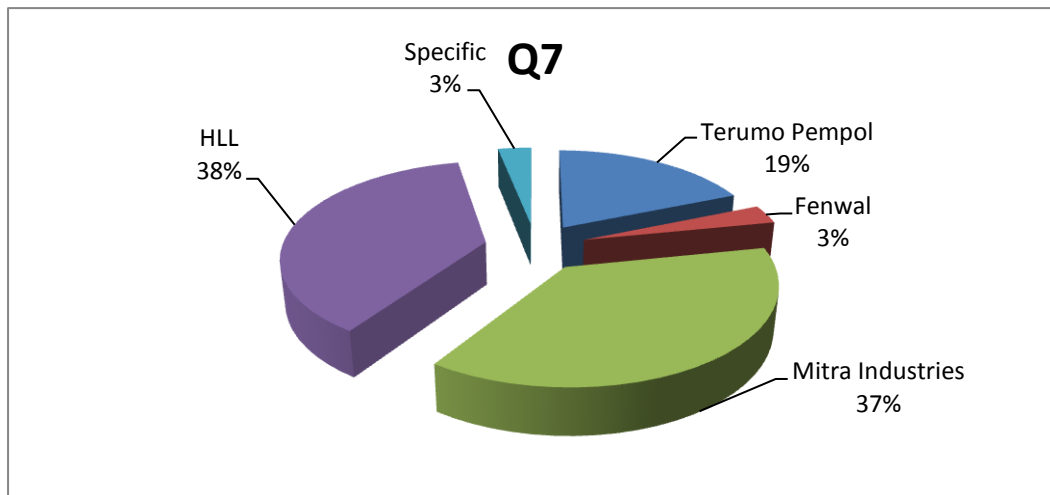
Analysis:



Q7. Which Company Blood Bag is mostly used for blood collection?

- A. Terumo Pempol
- B. Fenwal
- C. HLL
- D. J Mitra

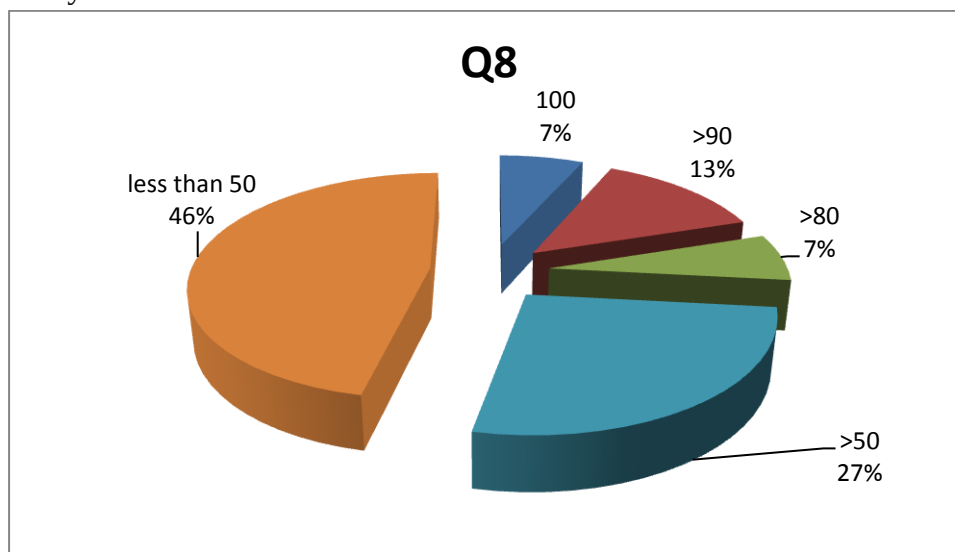
Analysis:



Q8. What is the percentage of voluntary blood collection?

- A. 100
- B. >90
- C. >80
- D. >70
- E. >50

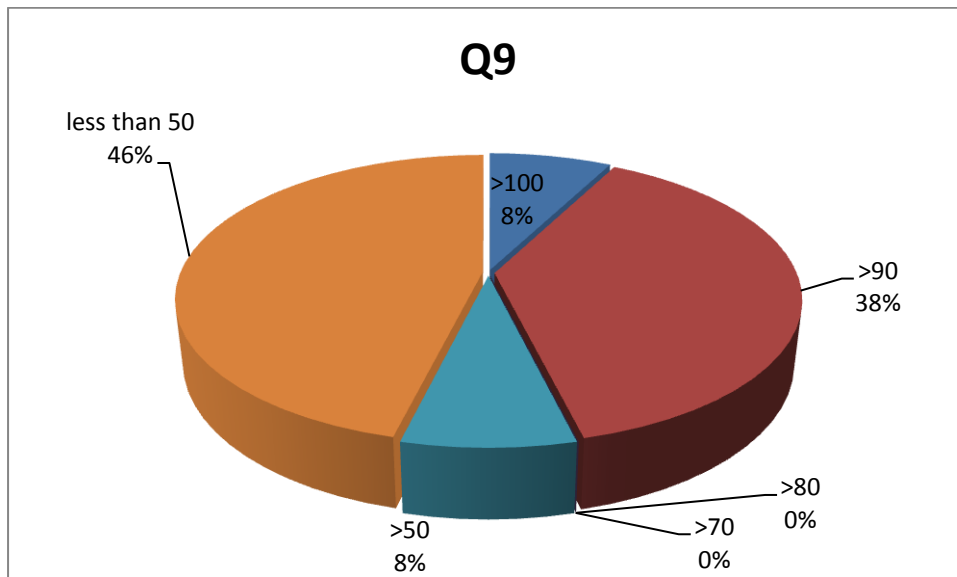
Analysis:



Q9. What is the percentage of blood componentization?

- A. 100
- B. >90
- C. >80
- D. >70
- E. >50

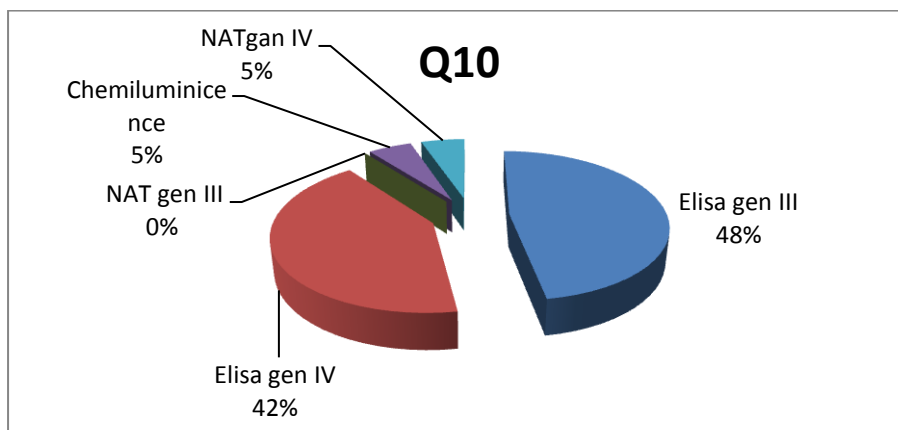
Analysis:



Q10. Which protocol is followed for screening of blood/ plasma?

- A. Elisa generation III
- B. Elisa generation IV
- C. NAT generation III
- D. NAT generation IV
- E. Chemiluminiscence

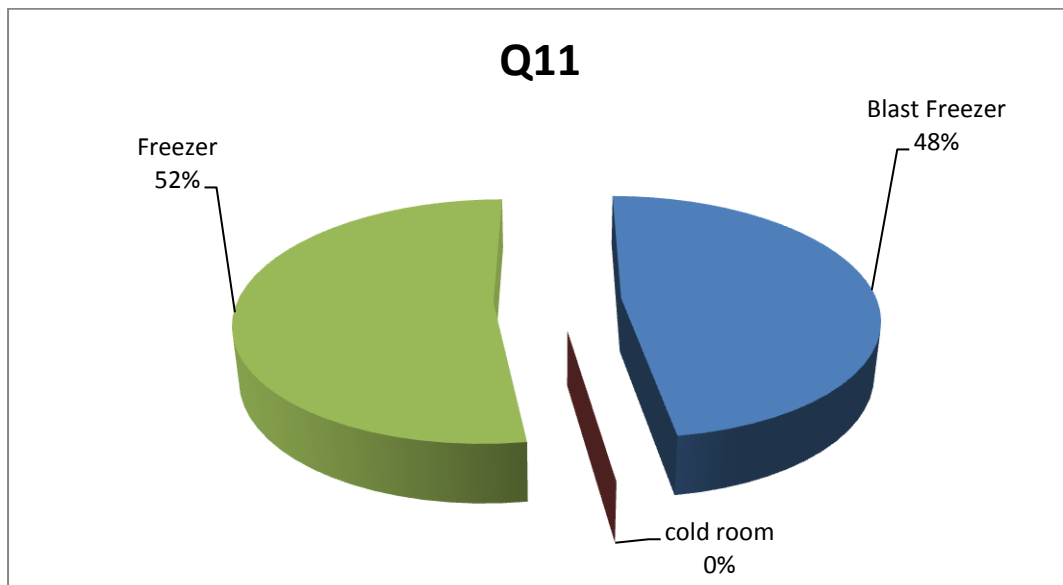
Analysis:



Q11. Where you Store plasma?

- A. Blast Freezer
- B. Cold Room
- C. Freezer

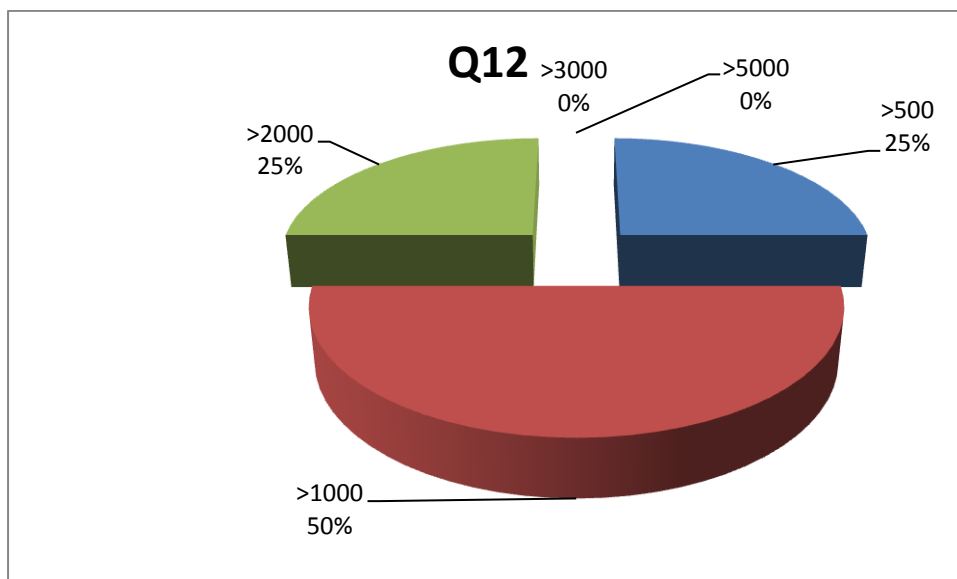
Analysis:



Q12. What is the maximum capacity of storage of plasma at your blood center?

- A. >500
- B. >1000
- C. >2000
- D. >3000
- E. >5000

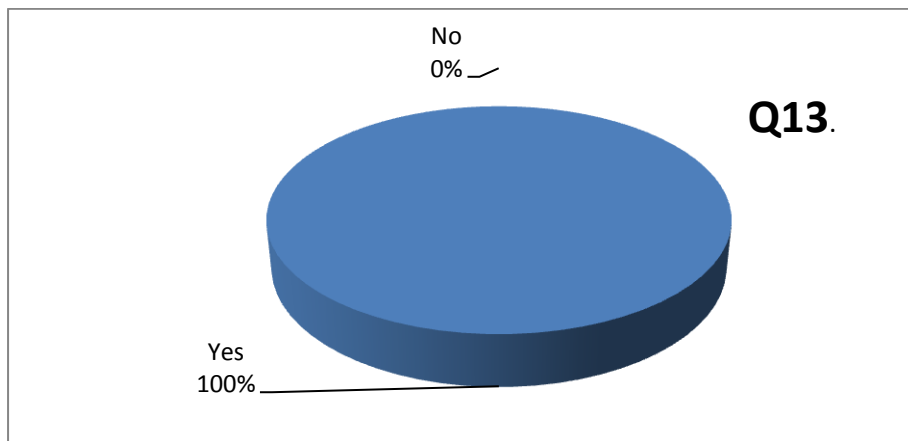
Analysis



Q13. Do you think a consortium between blood banks and plasma Fractionation Company would help all concerned?

- A. Yes
- B. No

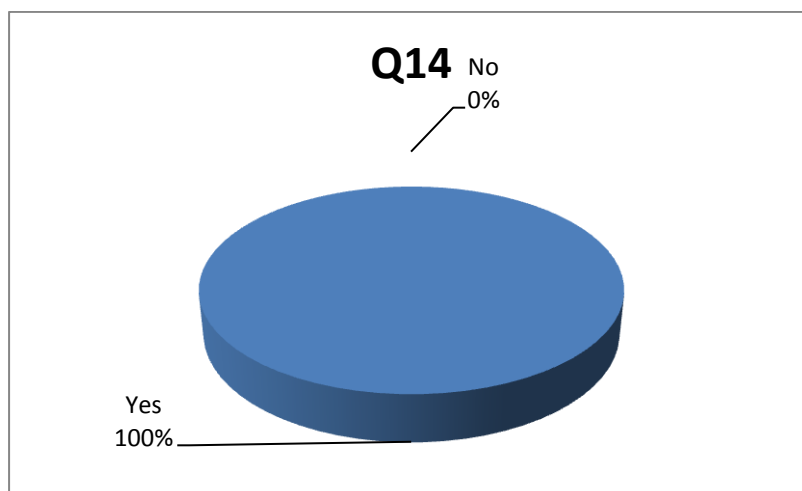
Analysis



Q14. Do you agree that surplus plasma available with blood banks can be utilised for fractionation?

- A. Yes
- B. No

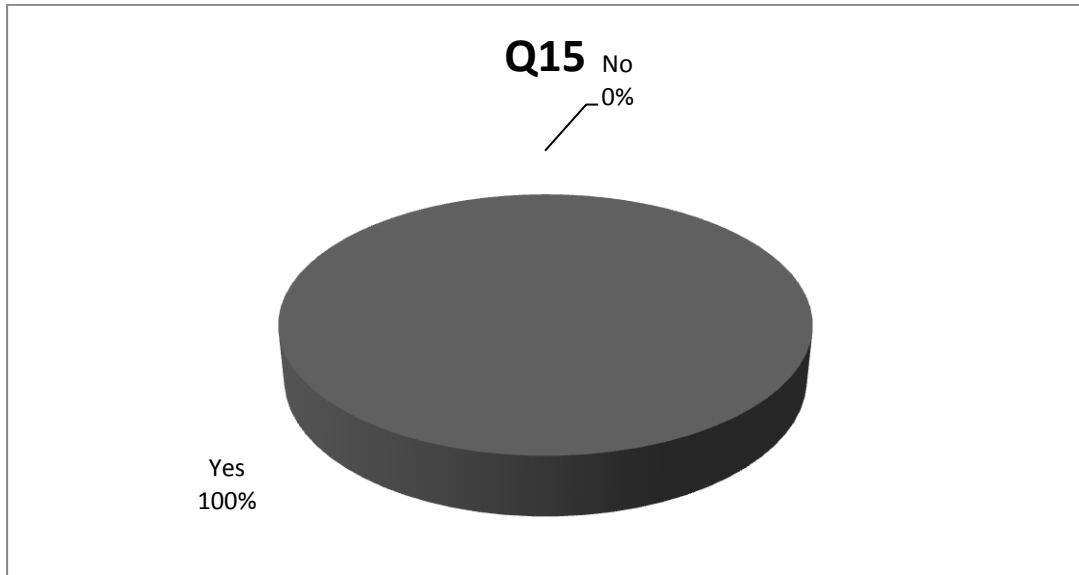
Analysis:



Q15. Would your blood centre like to give plasma for fractionation?

A. Yes B. No

Analysis:



Data Analysis and Interpretation of Plasma Products

Anti -D

🚦 Open ended questions answers given by doctors regarding Anti -D

Q3. Any specific brand you prefer.....?

- Use brand ordered by the government.
- Any Available brand
- Rhogaim
- Product of Bharat Serum
- Use standard and low price brand
- Product of Reliance
- Rhoclone
- Inj. Vinobulin

Q7. Any safety issues for Anti –D?

- Well tested and less side effects
- Safe from HIV , Hepatitis –B , C
- Proper screening for infection
- Proper cold storage condition
- Safe from blood borne infection
- Risk of Anaphylaxis, aseptic meningitis
- All routine Checkups of product
- Hypersensitivity reaction
- Safe from allergy and infection
- Proper guidelines to use
- Proper regulatory body, Transportation issues
- Must given within 72 hrs of delivery
- Check Bioavailability

Q12. What are major issues in prescribing Anti -D to the patients?

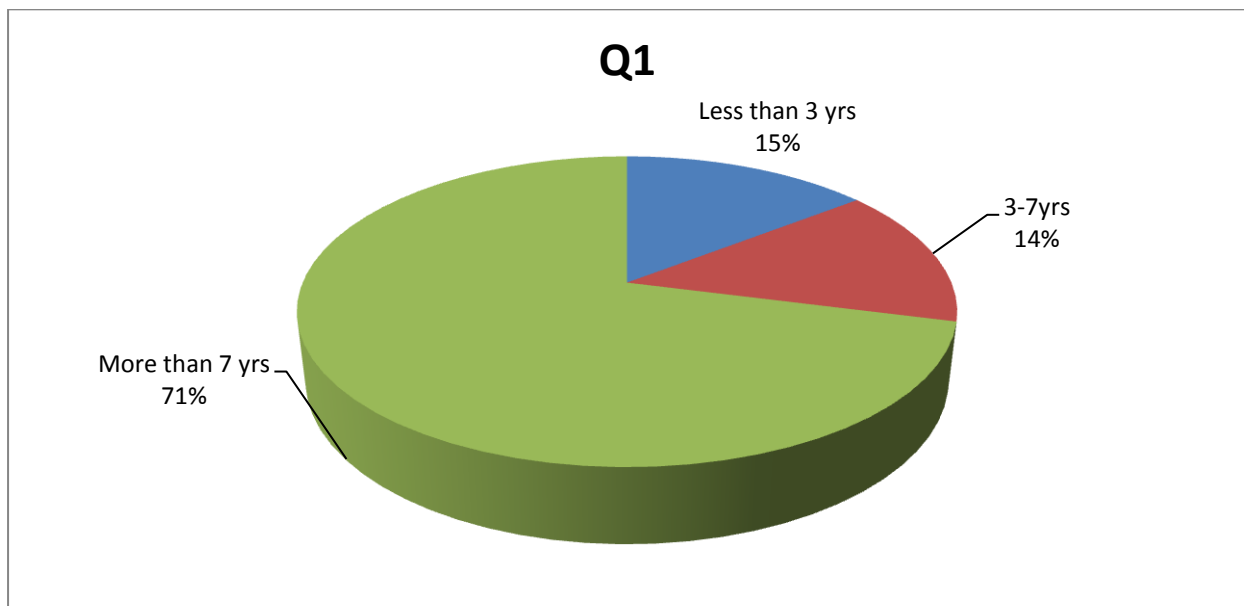
- Availability , safety, price, efficacy, purity
- Standard and low price set by the government
- Necessity, better product
- Proper timing, Infection risk
- Expensive, Health concern issues
- Good quality, affordability
- Immune response and prognosis

🚦 Closed ended questions answers given by doctors regarding Anti -D

Q1. How long you have been using Anti- D?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

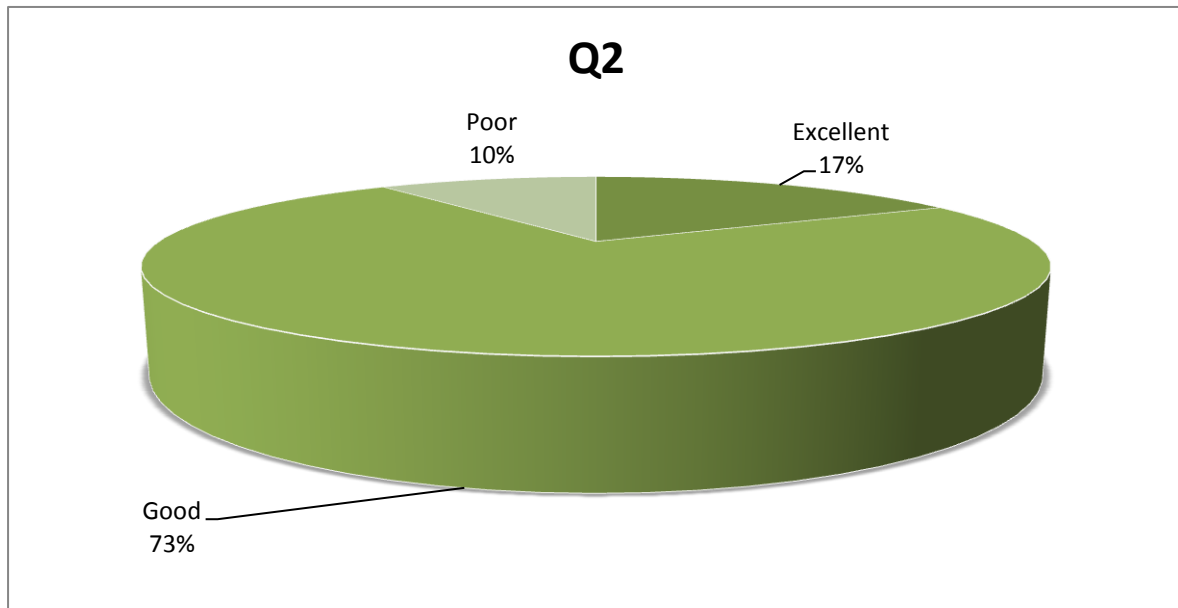
On the basis of this Pie chart, it is analysed that :

- 15% doctors are using Anti -D less than 3 yrs
- 14% doctors are using the same between 3 to 7 yrs
- There are 71% doctors who are using Anti -D more than 7 yrs

Q2. Availability of Anti D has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

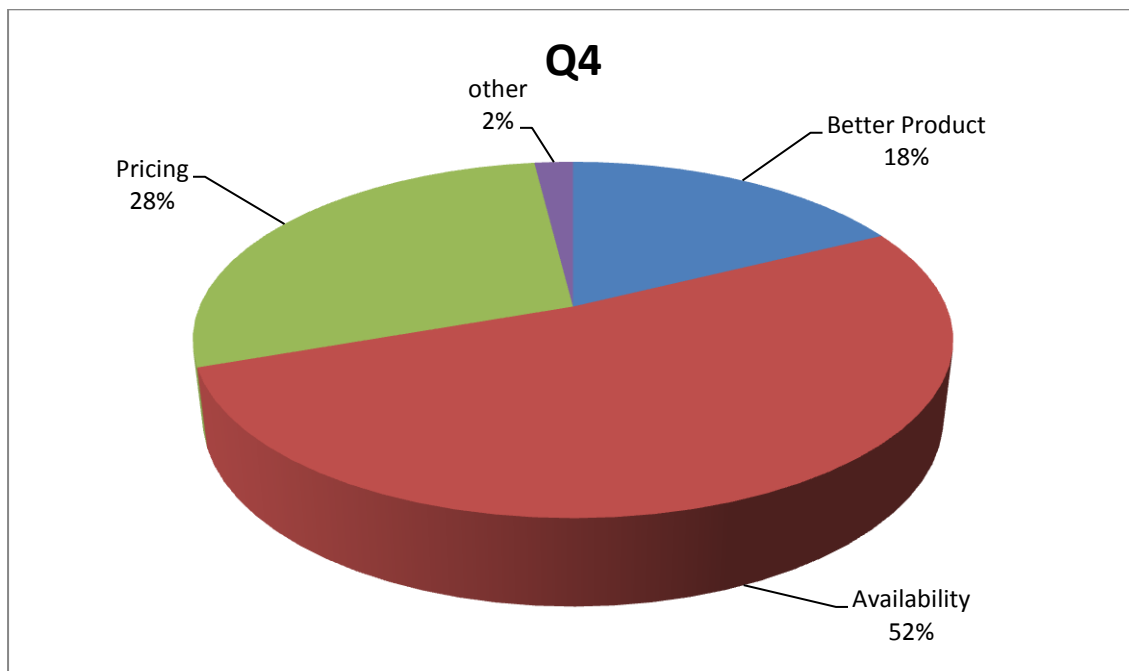
From the above Pie chart, it is analysed that availability of Anti- D is good.

- According to 17% of doctors availability of Anti- D is Excellent
- 73% doctors said that the availability is good
- 10% doctors said that the availability is poor

Q4. If any brand of Anti- D you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

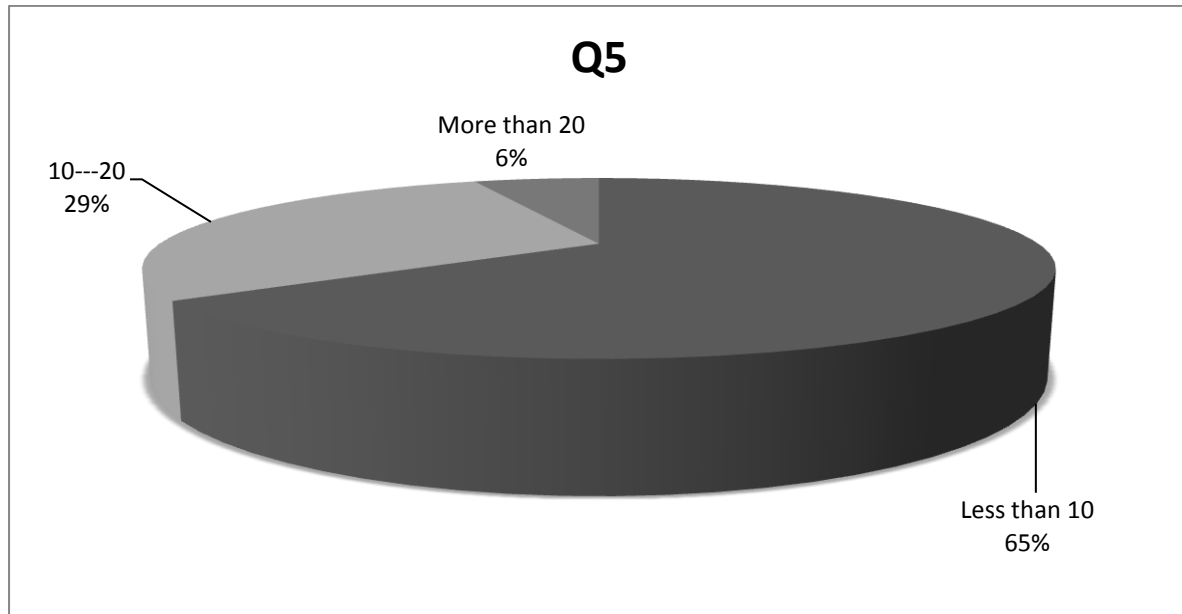
It is analysed with this Pie Chart that doctors are using any brand because of its availability:

- Around 18 % doctors prefer any brand just because of better product.
- 52% doctors prefer due to availability
- 28% prefer pricing before using Anti –D
- 2% said other factors are there while using any brand.

Q5. What is general consumption pattern of Anti- D?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis:



Interpretation:

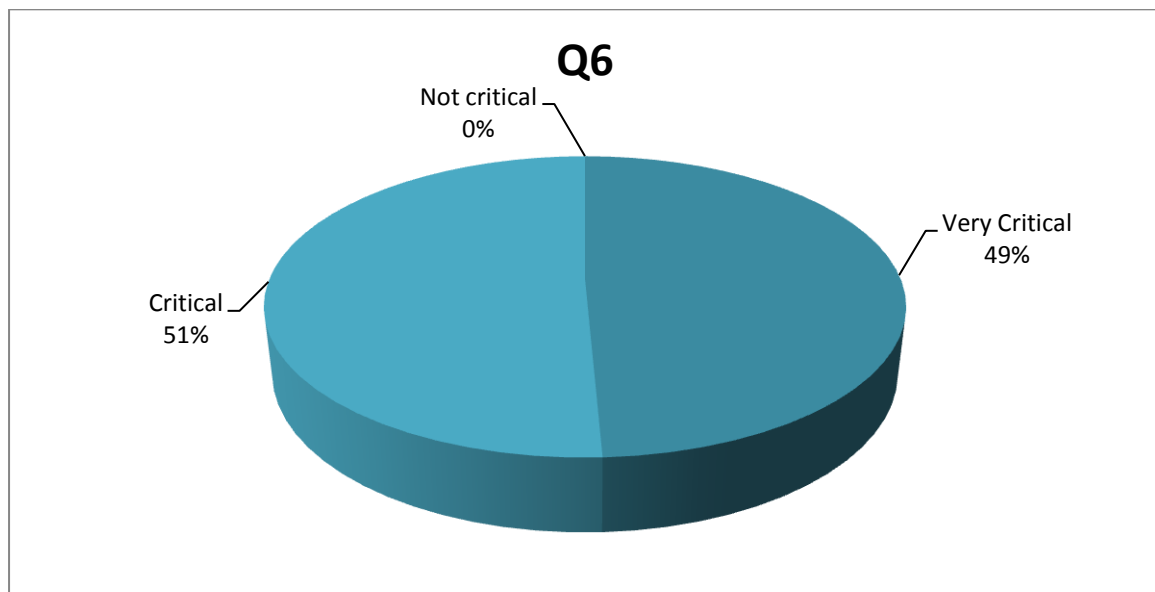
According to the above Pie chart. The general consumption pattern per month of Anti - D is:

- 65% doctors whose consumption pattern per month is less than 10
- 29% doctors having consumption pattern is 10-20
- 6%doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of Anti-D?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

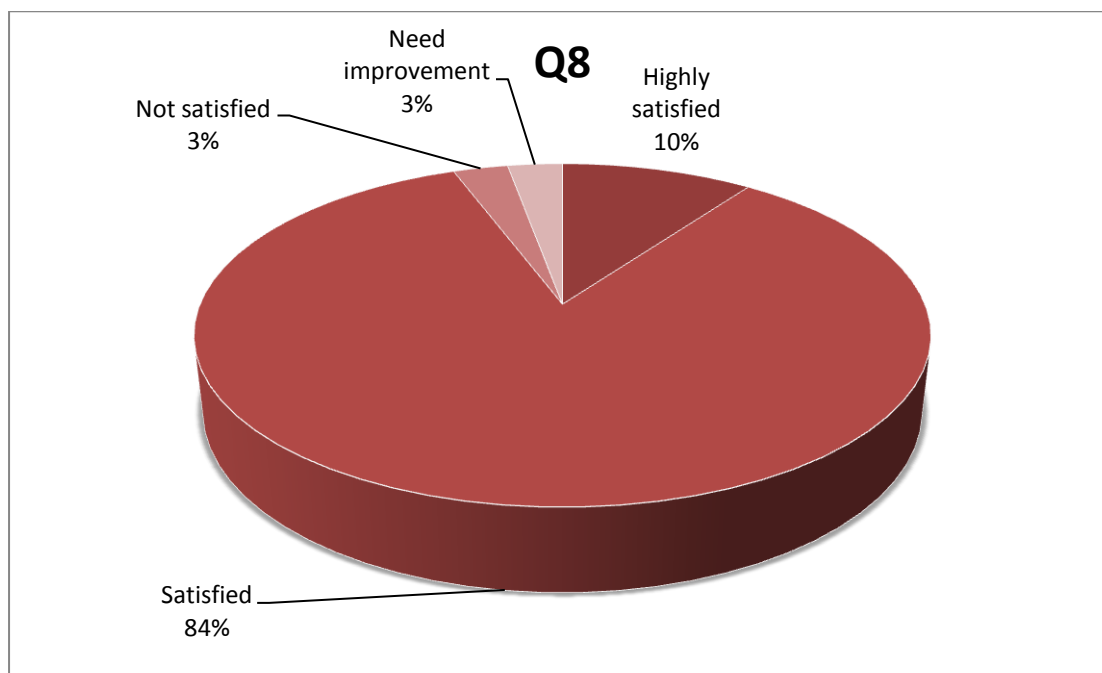
From the above Pie chart. It is estimated that no doctor said that source of plasma is not the critical process.

- Around 51% doctor thinks that is very critical process
- 49% doctors believes it's a critical process

Q8. Your opinion on the quality of currently available brands of Anti-D?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

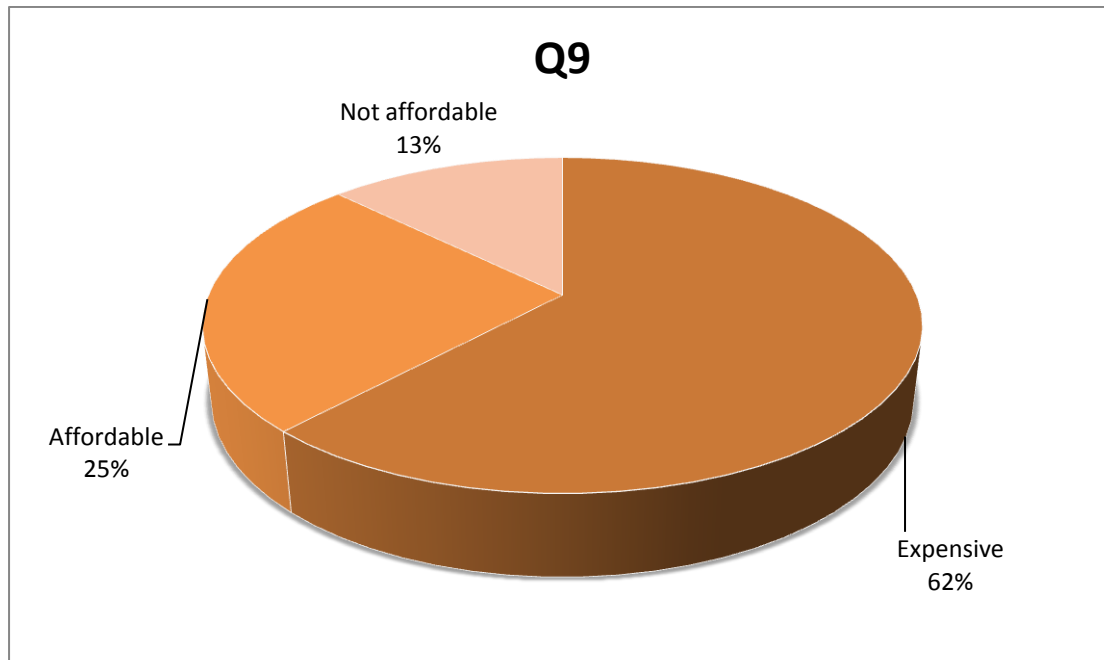
The above Pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 10% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 84% doctors are only satisfied
- 3% are not satisfied
- And according to 3% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Anti-D?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



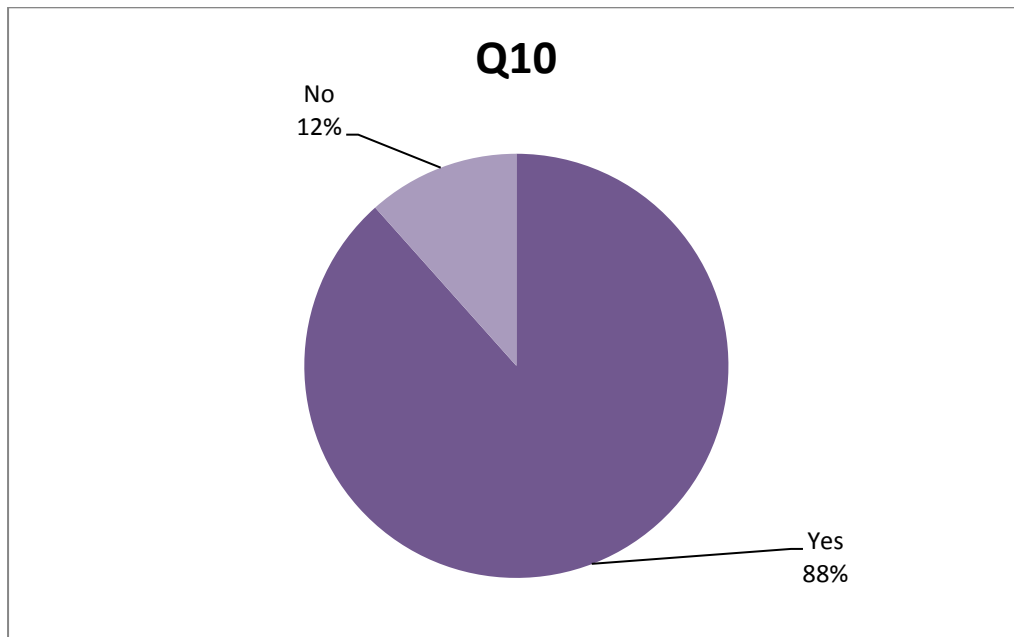
Interpretation:

- 62% doctors said that currently available brands of Anti -D are Expensive.
- 25% doctors said it can be affordable by the patients.
- 13% said that it is not affordable

Q10. Does any awareness program regarding Anti-D is required for patients / doctors / paramedical staff?

- A. Yes
- B. No

Analysis:



Interpretation:

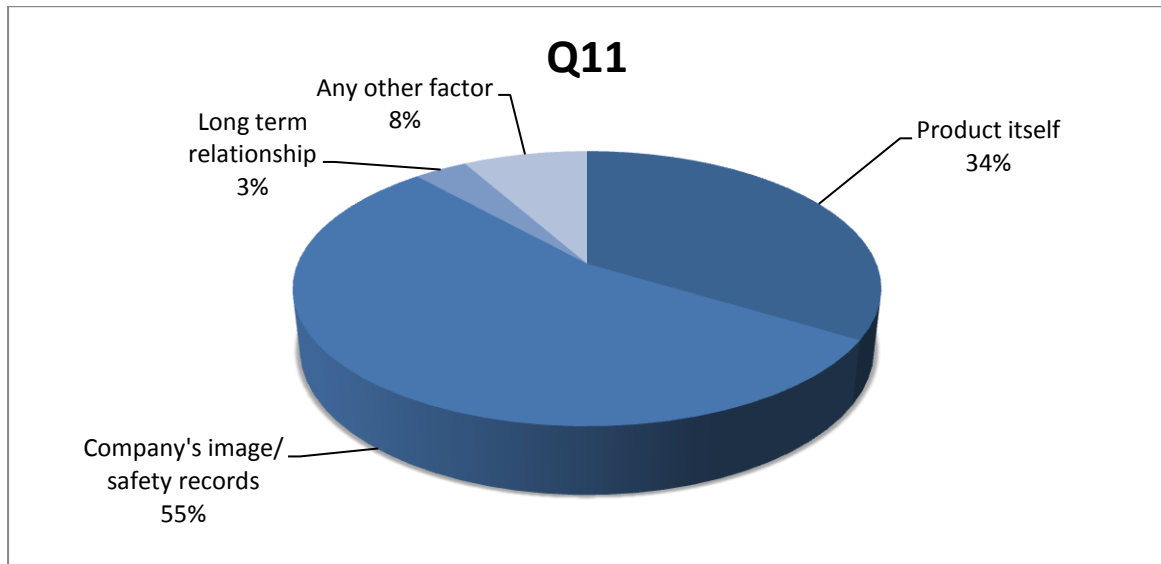
It is analysed from the above Pie chart that:

- According to 88% doctors they believe that yes awareness program is required regarding plasma products.
- 12% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Anti -D?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above Pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 34% doctors believe that product itself must be good.
- 55% doctors said that company's image and safety records are important
- 3% doctors think that long term relationship is there.
- 8% doctors said there are other factors

IVIG

✚ Open ended questions answers given by doctors regarding IVIG (Intravenous Immunoglobulin)

Q3. Any specific brand you prefer.....

- Any Available Brand
- Brand ordered by the government
- Using brands which give cost benefit to patients
- Bharat Serum
- Standard and low price brand
- Few brands are available so no choice
- Claris

Q7. Any safety issues for IVIG?

- Safe from allergic reactions
- Well tested and less side effects
- Should be sterilised properly
- Safe from HIV, Hepatitis C, B
- Safe from blood borne infection
- Certain regulatory body must be there
- Cold chain Maintenance
- Storage and transportation issues

Q12. What are major issues in prescribing IVIG to the patients?

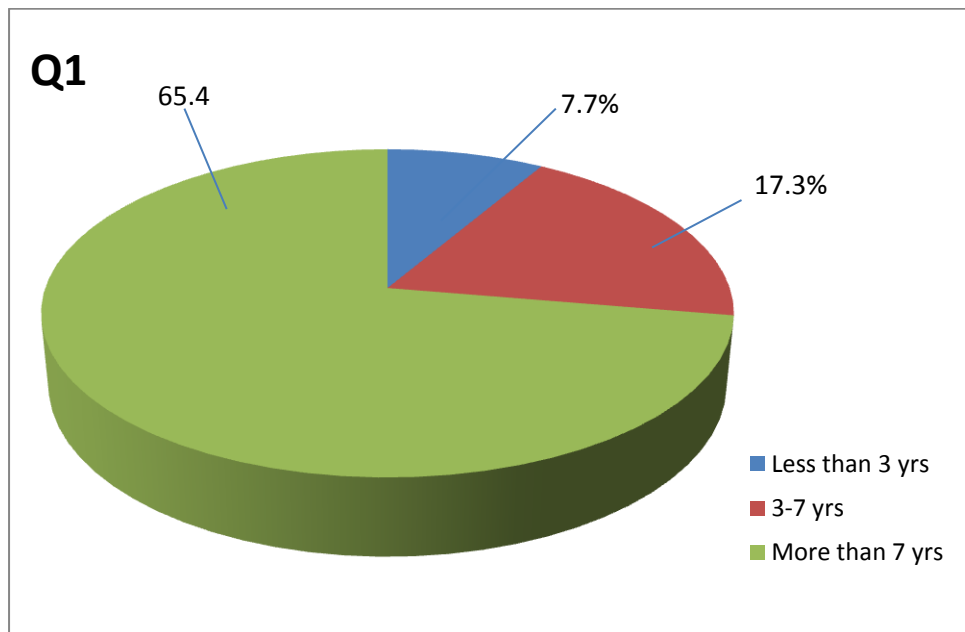
- Efficacy , safety , availability, price
- Safe for patient
- Immune disorder
- Infection Risk
- Nutritional Disorder
- Indication and affordability
- Disease and its requirement

✚ Closed ended questions answers given by doctors regarding IVIG (Intravenous Immunoglobulin)

Q1. How long you have been using IVIG?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

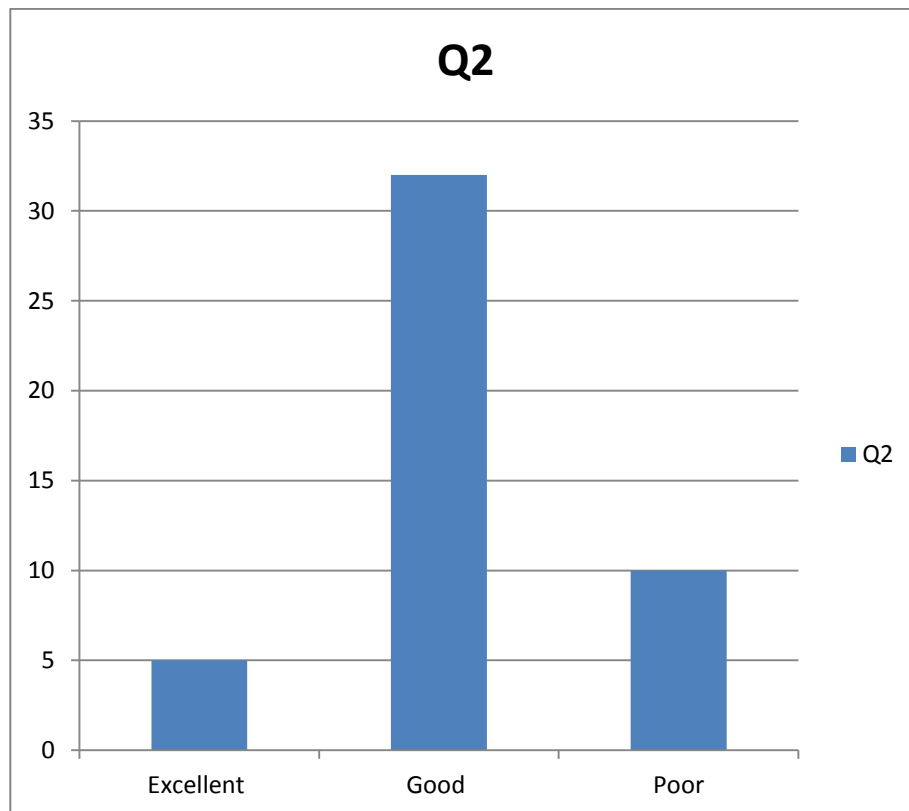
On the basis of this Pie chart, it is analysed that:

- 7.7 % doctors are using IVIG less than 3 yrs
- 17.3 % doctors are using the same between 3 to 7 yrs
- There are 65.4 % doctors who are using IVIG more than 7 yrs

Q2. Availability of IVIG has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

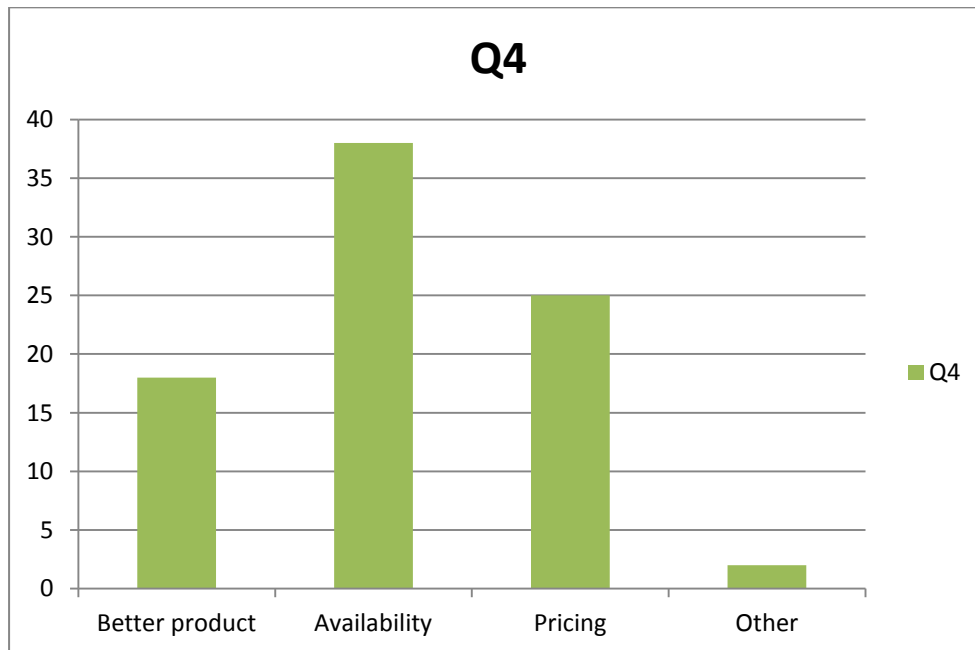
From the above Bar Graph, it is analysed that availability of IVIG is good.

- According to 9.6 % of doctors availability of IVIG is Excellent
- 61.5 % doctors said that the availability is good
- 19.2% doctors said that the availability is poor

Q4. If any brand of IVIG prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

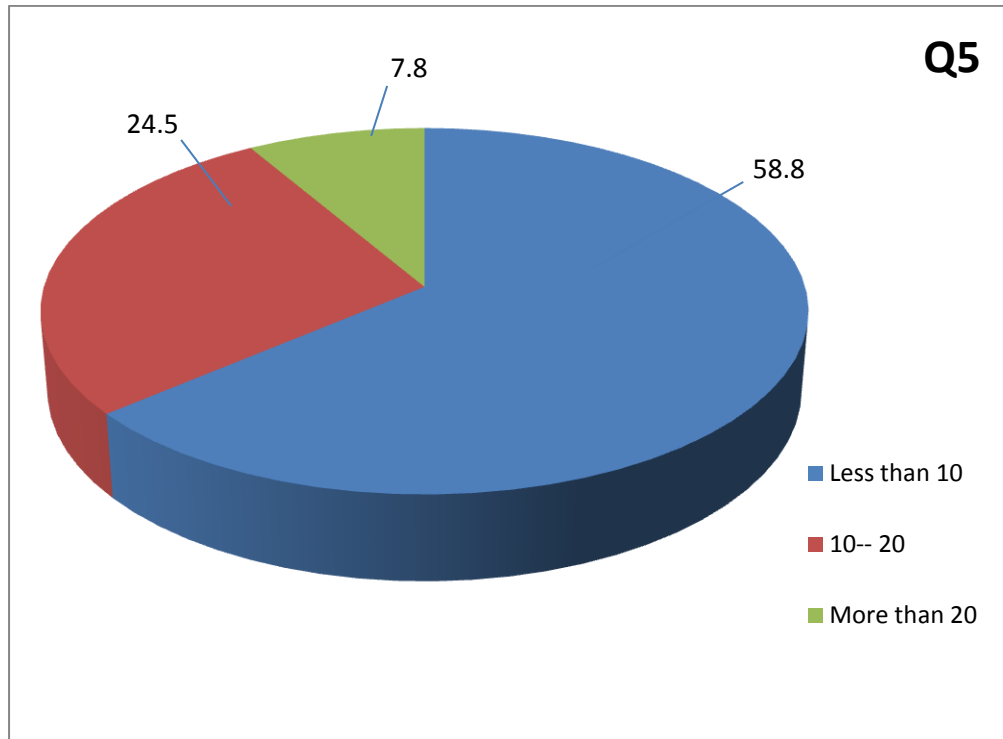
It is analysed with this Bar Graph that doctors are using any brand because of its availability:

- Around 34.6% doctors prefer any brand just because of better product.
- 73% doctors prefer due to availability
- 48% prefer pricing before using IVIG
- 3.8% said other factors are there while using any brand.

Q5. What is general consumption pattern of IVIG?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

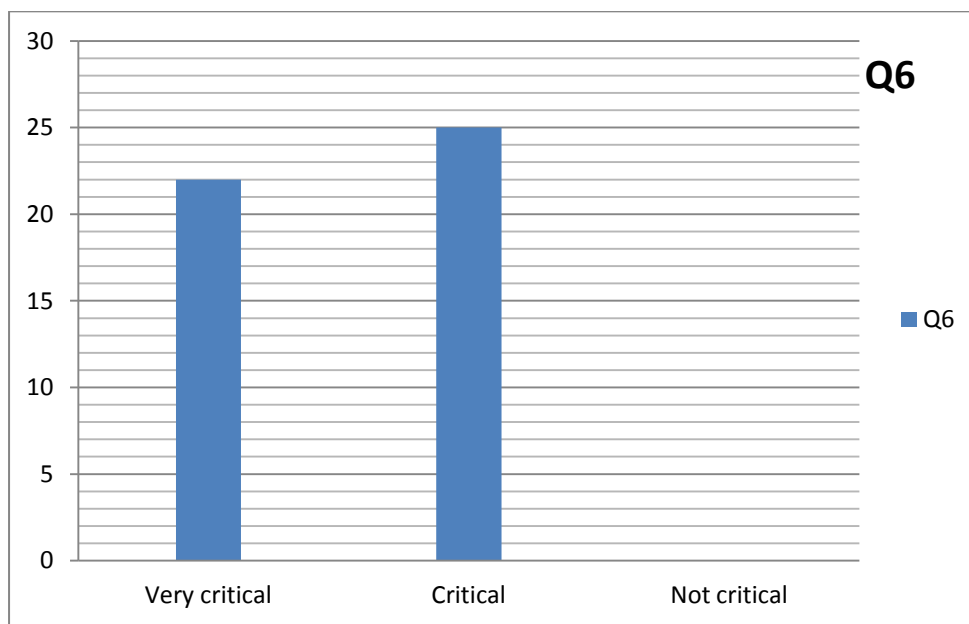
According to the above Pie chart. The general consumption pattern per month of IVIG is:

- 58% doctors whose consumption pattern per month is less than 10
- 24.5 % doctors having consumption pattern is 10-20
- 7.8% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of IVIG?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

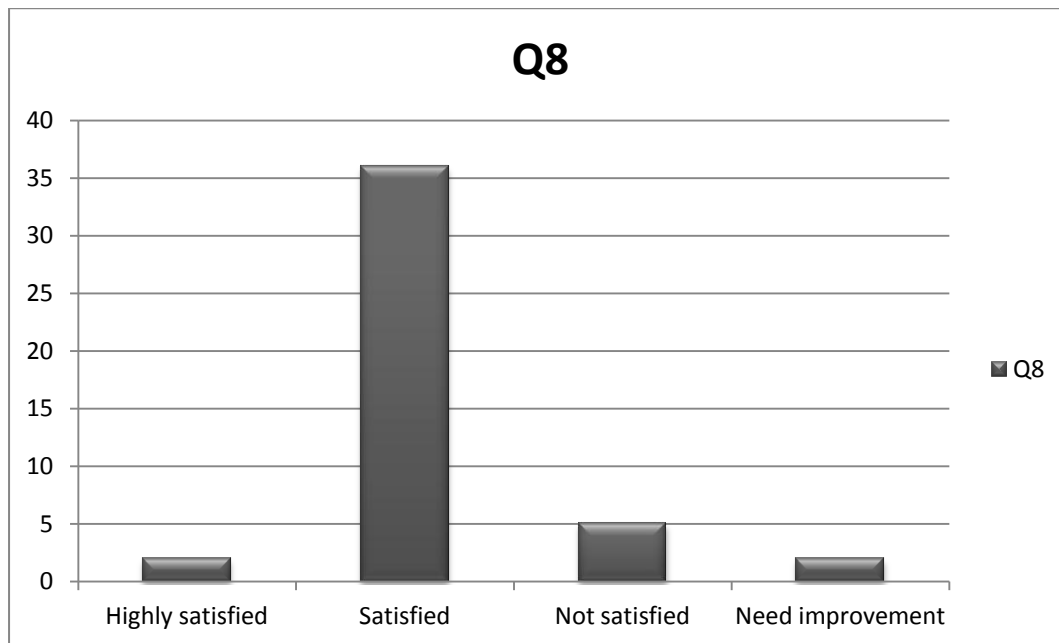
From the above Bar graph. It is estimated that no doctor said that source of plasma is not the critical process.

- Around 43% doctor thinks that is very critical process
- 49% doctors believes it's a critical process

Q8. Your opinion on the quality of currently available brand of IVIG is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

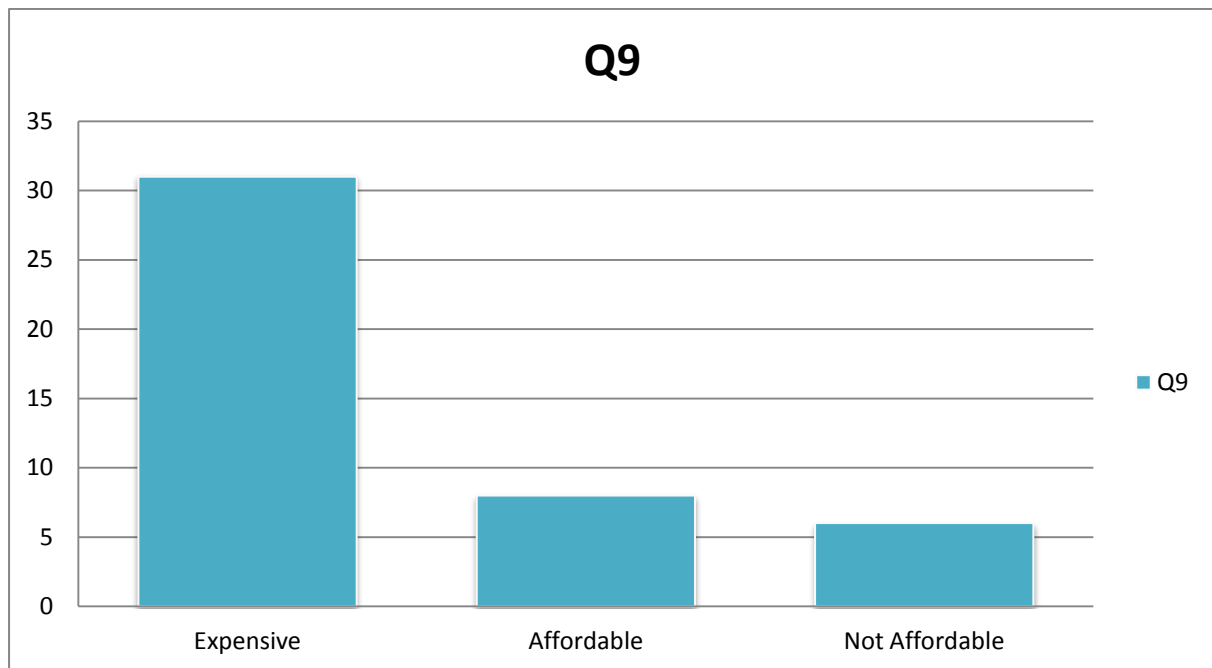
The above Bar graph shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 3.9 % doctors are highly satisfied with the quality of currently available brands of plasma products.
- 70.6% doctors are only satisfied
- 9.8% are not satisfied
- And according to 3.9% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of IVIG?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

From the above graph it shows the pricing of currently available plasma products:

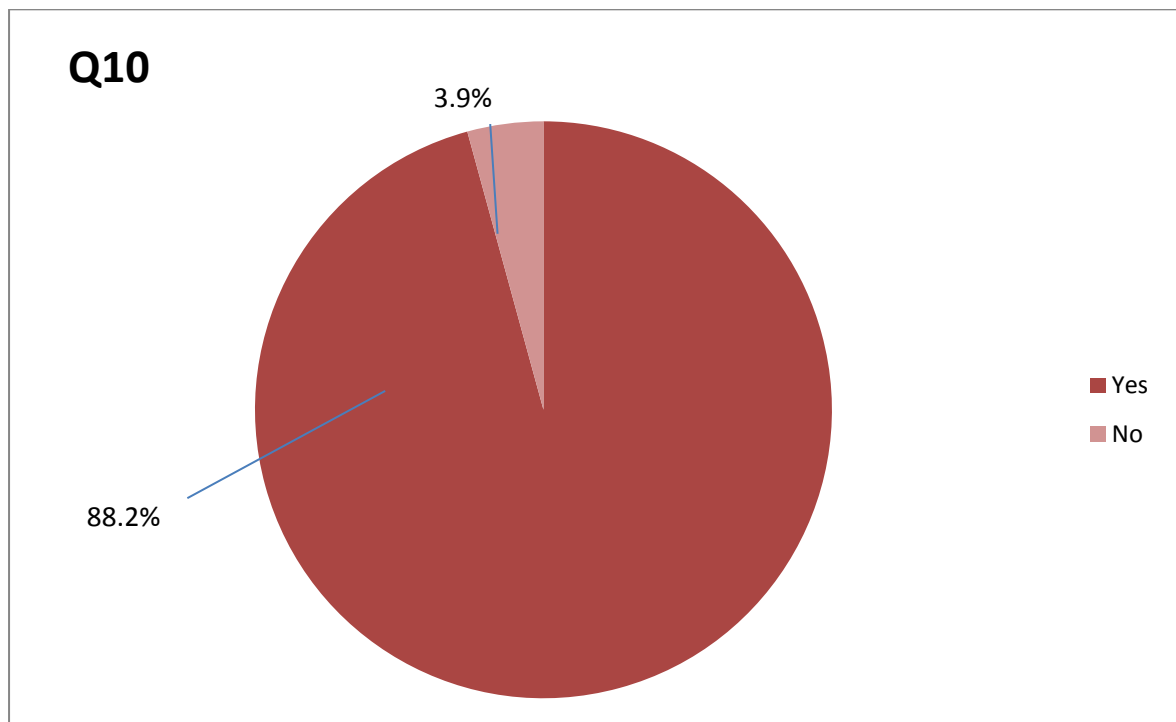
- 60.8% doctors said that currently available brands of IVIG are Expensive.
- 15.7 % doctors said it can be affordable by the patients.
- 11.8 % said that it is not affordable

Q10. Does any awareness program regarding IVIG is required for patients / doctors / paramedical staff?

A. Yes

B. No

Analysis:



Interpretation:

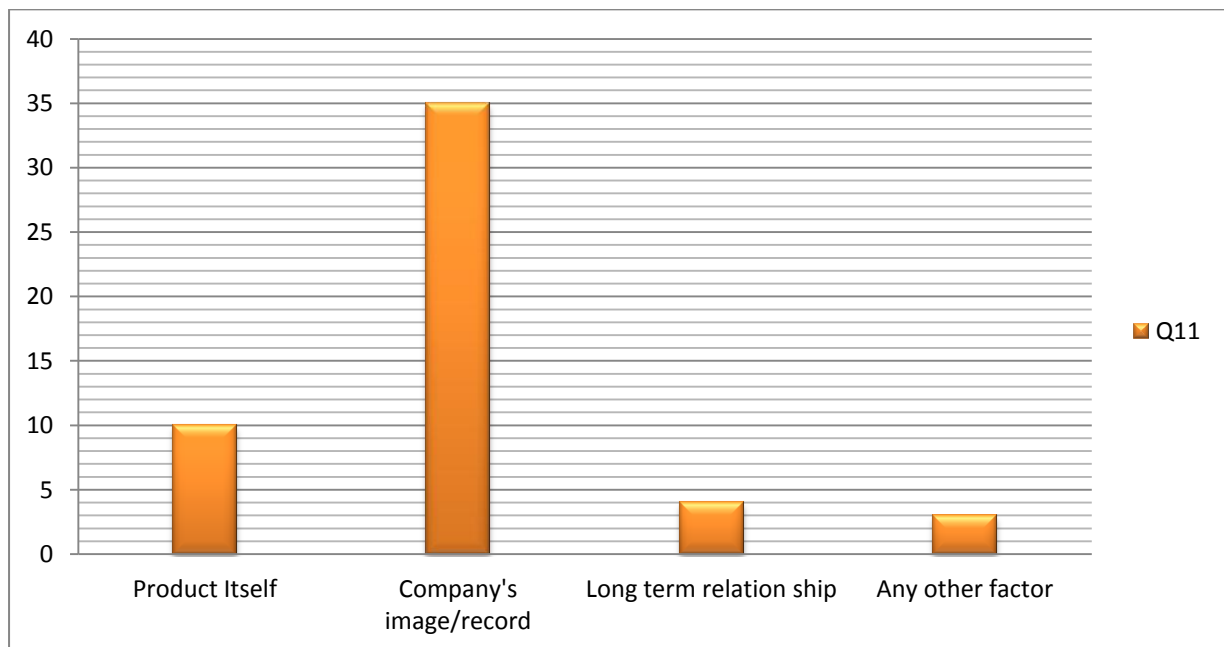
It is analysed from the above Pie chart that:

- According to 88.2% doctors they believes that yes awareness program is required regarding plasma products.
- 3.9% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Blood plasma product (IVIG)?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above bar graph shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 19.6 % doctors believe that product itself must be good.
- 68.6 % doctors said that company's image and safety records are important
- 7.8 % doctors think that long term relationship is there.
- 5.9 % doctors said there are other factors.

Hepatitis- B Immunoglobulin

🌈 Open ended questions answers given by doctors regarding Hepatitis-B

Q3. Any specific brand you prefer Hepatitis you prefer?

- Any brand
- Specifically depend upon availability
- Product of Bharat Serum
- Hep-B
- Few brands so no choice
- Geneae- B

Q7. Any safety issues for Hepatitis- B?

- Well tested and less sideeffects
- Risk of allergy reactions
- Incidence of Anaphylaxis
- Blood Borne Infection
- Proper indication
- Proper cold storage conditions
- Transportation issues

Q12. What are major issues in prescribing Hepatitis- B to the patients?

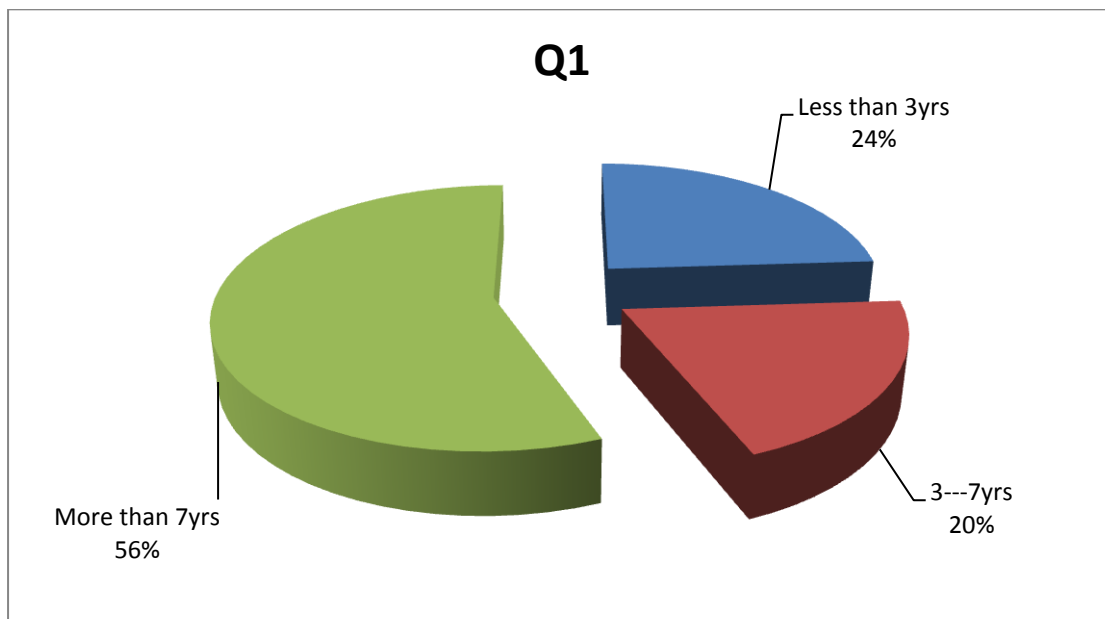
- Cost, safety, efficacy, Availability. Necessity
- Safe for patients
- Expensive
- Health concern issues
- Low price set by government
- Need of patient
- Disease and its requirement

🚦 Closed ended questions answers given by doctors regarding Hepatitis-B

Q1. How long you have been using Hepatitis –B?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

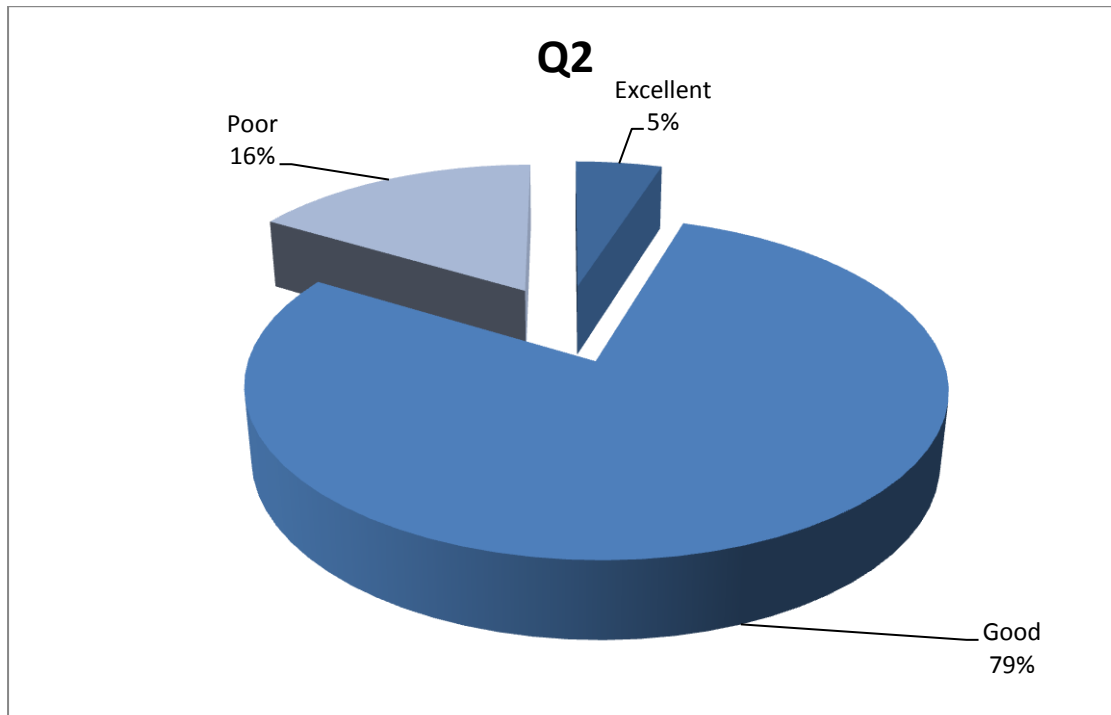
On the basis of this Pie chart, it is analysed that :

- 24% doctors are using Hepatitis -B less than 3 yrs
- 20% doctors are using the same between 3 to 7 yrs
- There are 56% doctors who are using Hepatitis -B more than 7 yrs

Q2. Availability of Hepatitis- B has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

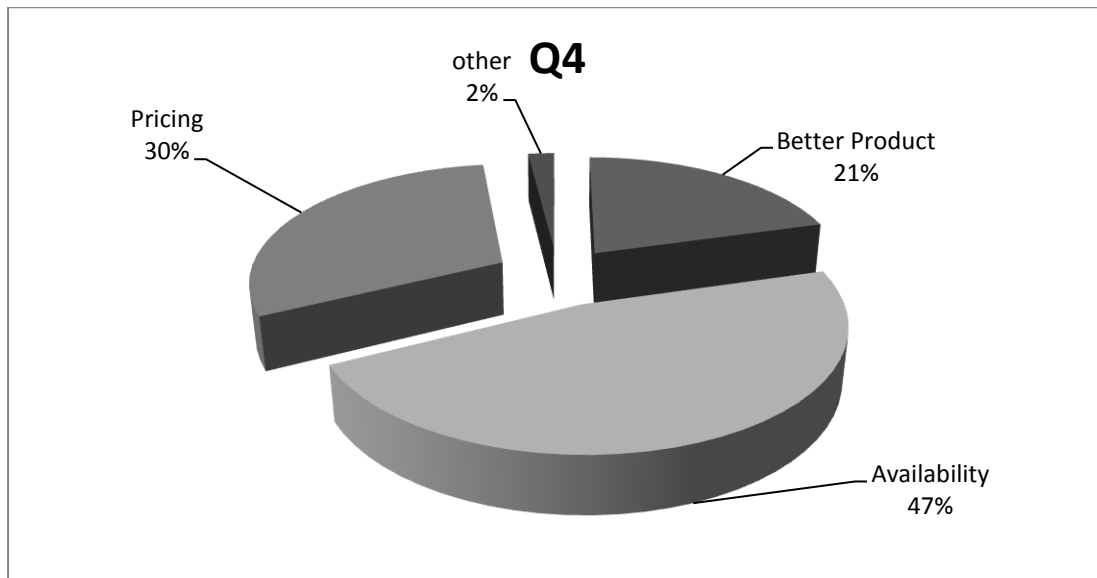
From the above Pie Chart, it is analysed that availability of Hepatitis- B is good.

- According to 5% of doctors availability of Hepatitis- B is Excellent
- 79% doctors said that the availability is good
- 16% doctors said that the availability is poor

Q4. If any brand of Hepatitis -B you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

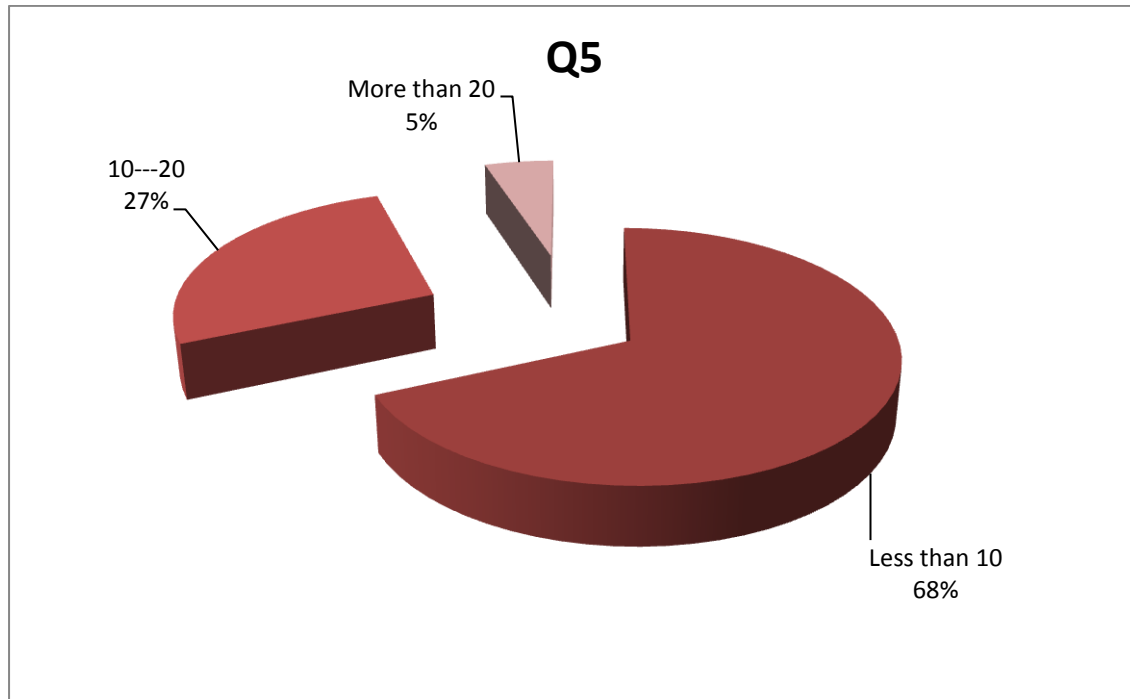
It is analysed with this Pie Chart that doctors are using any brand because of its availability:

- Around 21% doctors prefer any brand just because of better product.
- 47% doctors prefer due to availability
- 30% prefer pricing before using Hepatitis-B
- 2% said other factors are there while using any brand.

Q5. What is general consumption pattern of Hepatitis- B?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

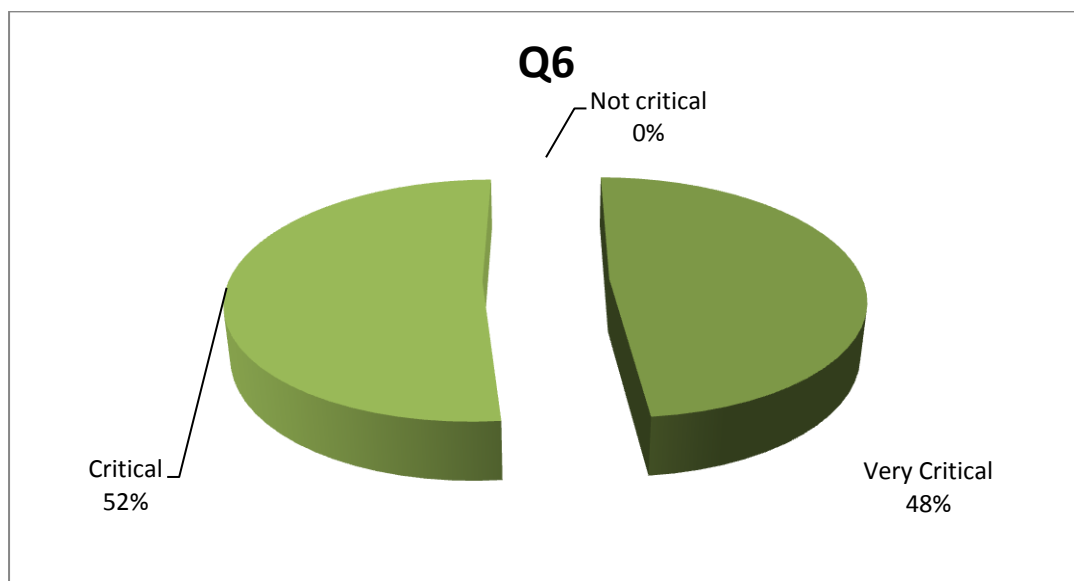
According to the above Pie chart. The general consumption pattern per month of Hepatitis- B is:

- 68% doctors whose consumption pattern per month is less than 10
- 27% doctors having consumption pattern is 10-20
- 5% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of Hepatitis-B?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

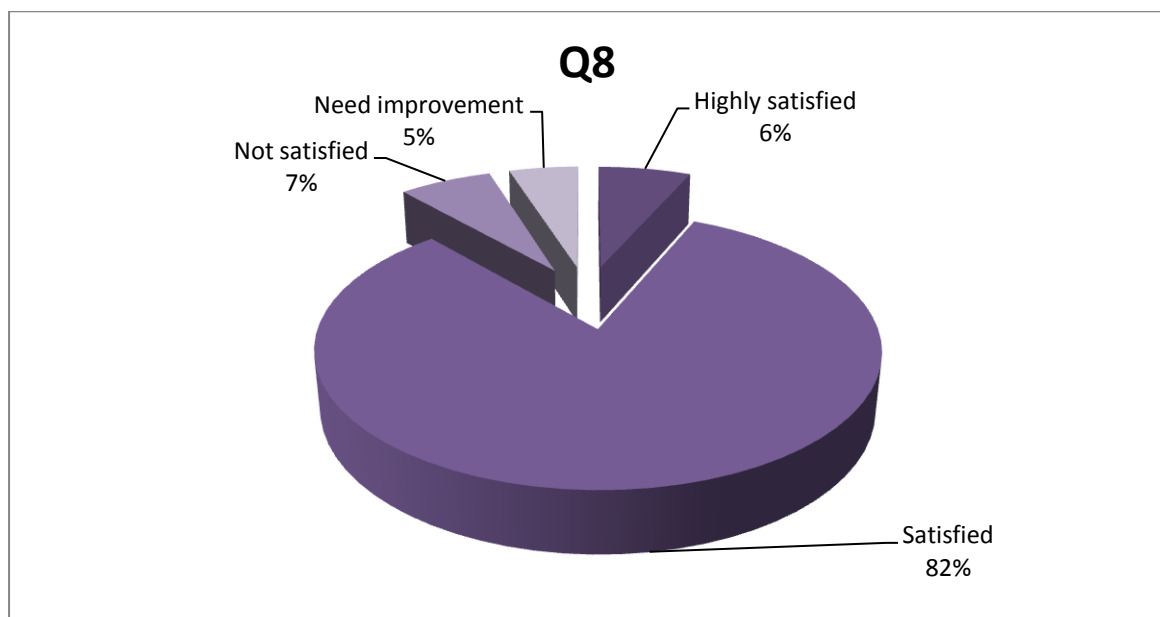
From the above Pie Chart. It is estimated that no doctor said that source of plasma is not the critical process.

- Around 48% doctor thinks that is very critical process
- 52% doctors believes it's a critical process

Q8. Your opinion on the quality of currently available brand of Hepatitis –B is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis:



Interpretation:

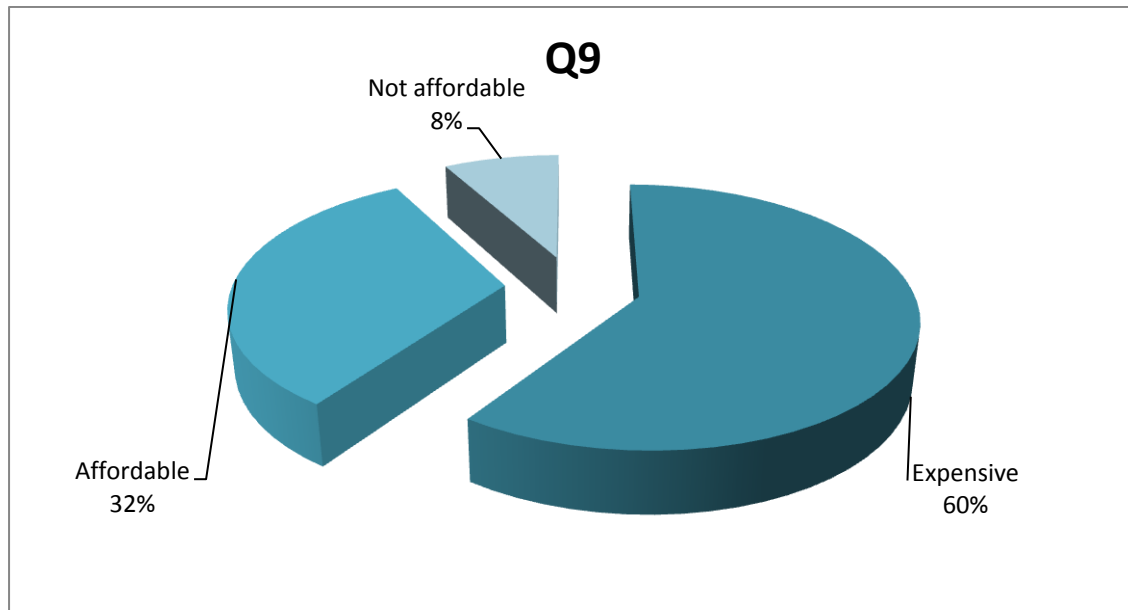
The above Bar graph shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 6% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 82% doctors are only satisfied
- 7%are not satisfied
- And according to 5% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Hepatitis- B?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

From the above Pie chart it shows the pricing of currently available plasma products:

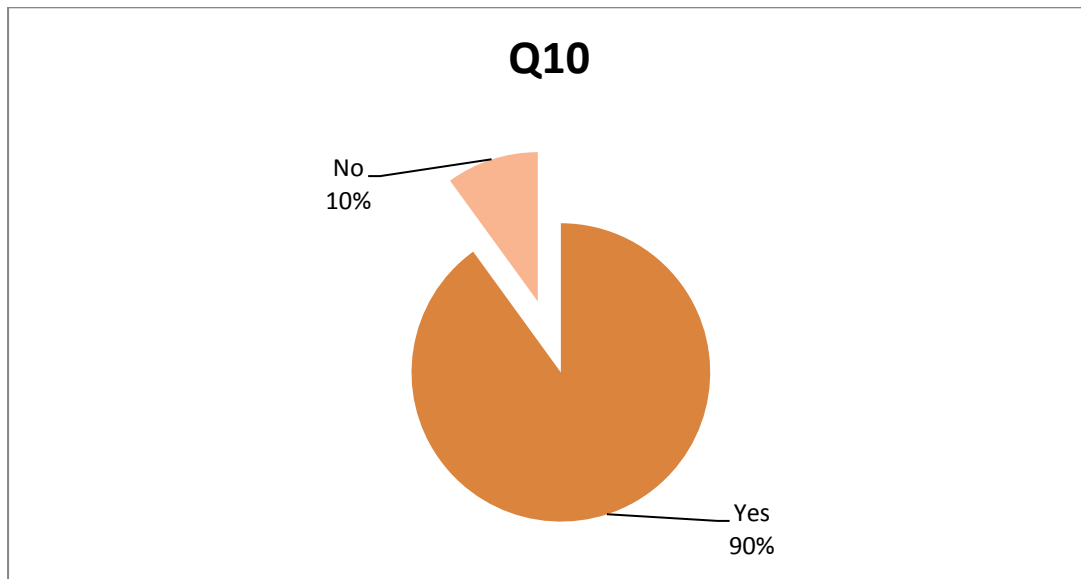
- 60% doctors said that currently available brands of Hepatitis-B are Expensive.
- 32% doctors said it can be affordable by the patients.
- 8% said that it is not affordable

Q10. Does any awareness program regarding Hepatitis –B is required for patients / doctors / paramedical staff?

A. Yes

B.No

Analysis:



Interpretation:

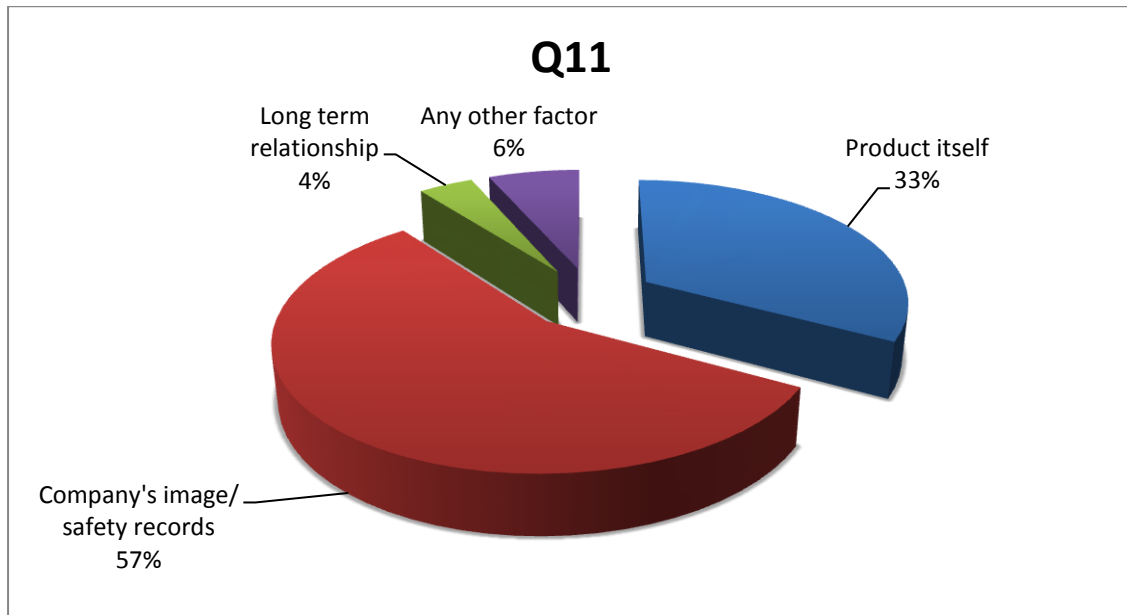
It is analysed from the above Pie chart that:

- According to 90% doctors they believe that yes awareness program is required regarding plasma products.
- 10% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Hepatitis-B?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relationship
- D. Any other factor

Analysis:



Interpretation:

The above Pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 33% doctors believe that product itself must be good.
- 57% doctors said that company's image and safety records are important
- 4% doctors think that long term relationship is there.
- 6% doctors said there are other factors.

Albumin

✚ Open ended questions answers given by doctors regarding Albumin?

Q3. Any specific brand of Albumin you prefer?

- Any brand
- 20% Albumin
- Alburel
- Product of Bharat Serum

Q7. Any safety issues for Albumin?

- Well tested and less side effects
- Safe from HIV , Hepatitis –B , C
- Proper screening for infection
- Proper cold storage condition
- Safe from blood borne infection
- Risk of Anaphylaxis, aseptic meningitis
- All routine Checkups of product
- Hypersensitivity reaction
- Safe from allergy and infection
- Proper guidelines to use
- Proper regulatory body, Transportation issues
- Check Bioavailability

Q12. What are major issues in prescribing Albumin to the patients?

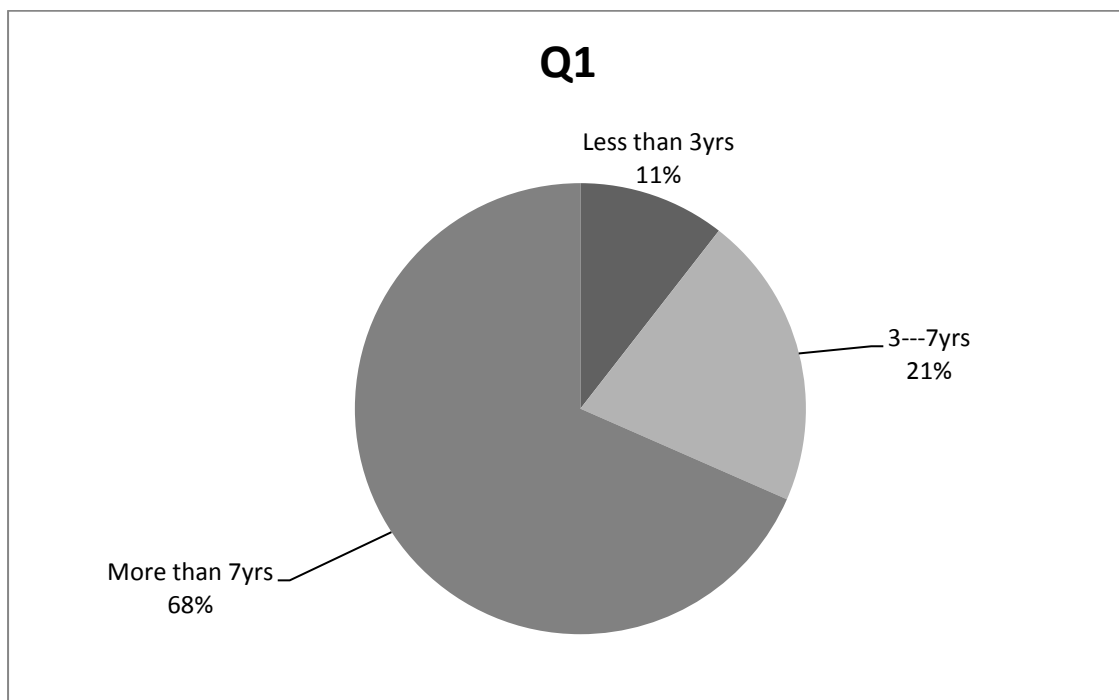
- Purity
- Availability , safety, price, efficacy
- Standard and low price set by the government
- Necessity, better product
- Proper timing, Infection risk
- Expensive, Health concern issues
- Good quality, affordability
- Immune response and prognosis

🚦 Closed ended questions answers given by doctors regarding Albumin?

Q1. How long you have been using Albumin?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

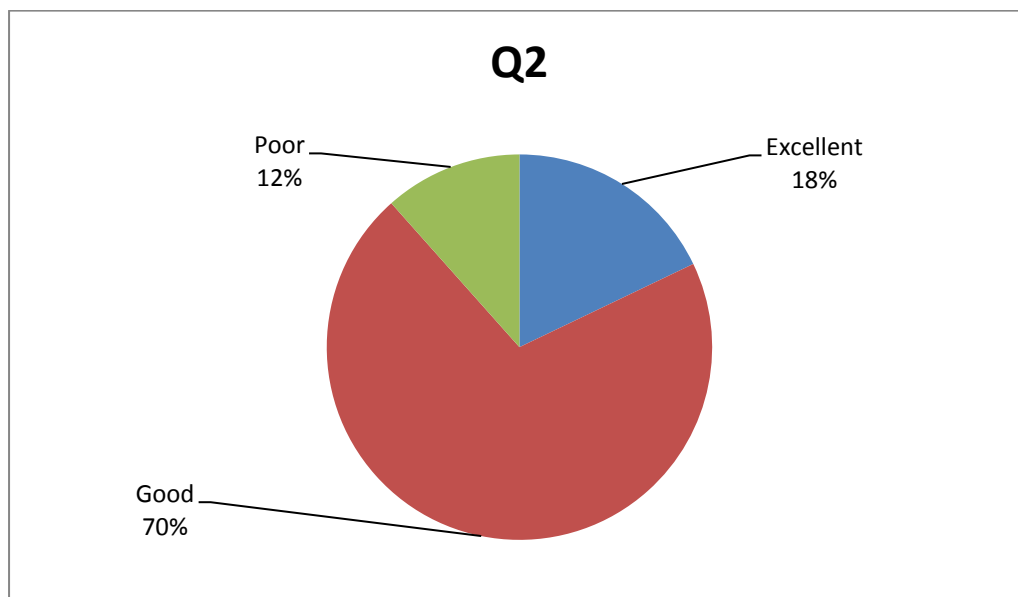
On the basis of this Pie chart, it is analysed that:

- 11% doctors are using Albumin less than 3 yrs
- 21% doctors are using the same between 3 to 7 yrs
- There are 68% doctors who are using Albumin more than 7 yrs

Q2. Availability of Albumin has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

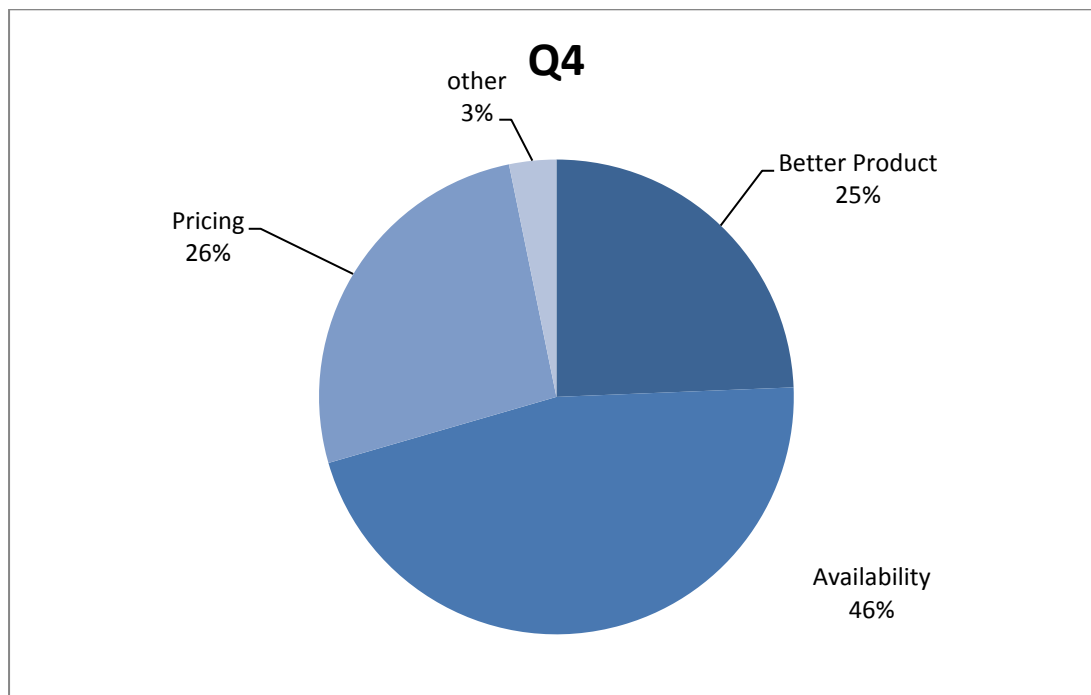
From the above Pie chart, it is analysed that availability of Albumin is good.

- According to 18% of doctors availability of Albumin is Excellent
- 70% doctors said that the availability is good
- 12% doctors said that the availability is poor

Q4. If any brand of Albumin you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

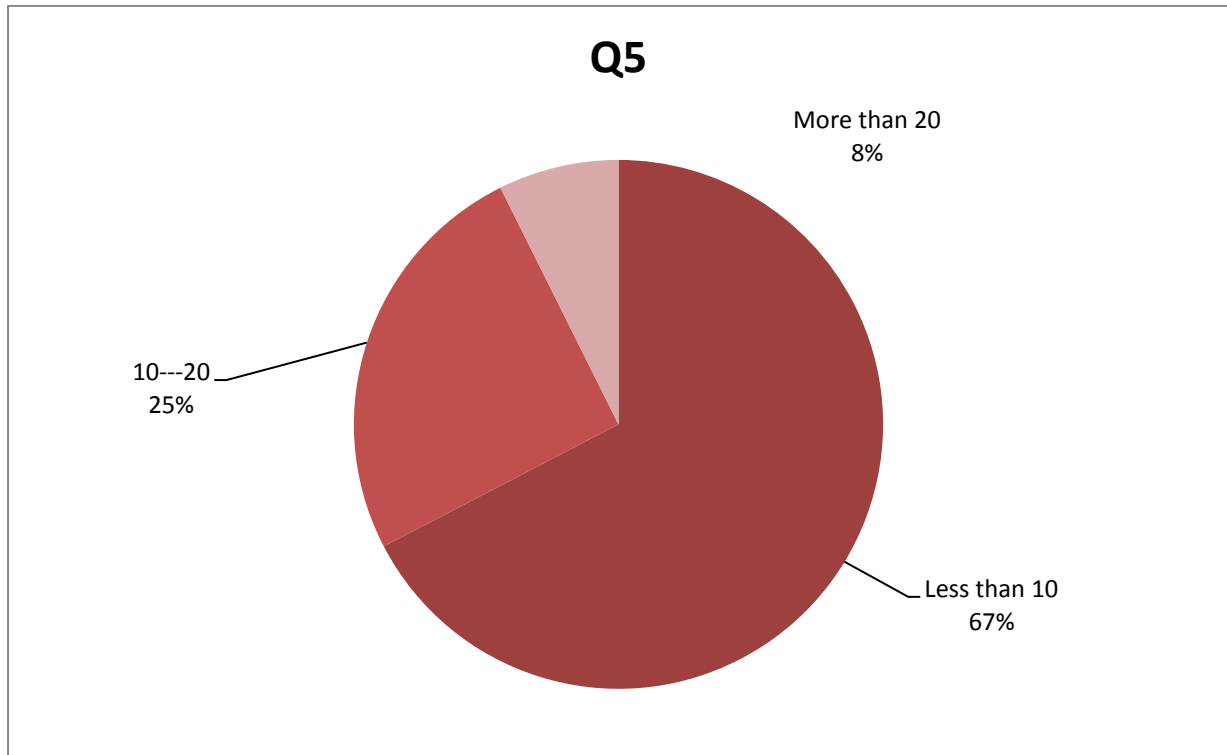
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 25% doctors prefer any brand just because of better product.
- 46 % doctors prefer due to availability
- 26% prefer pricing before using Albumin
- 3% said other factors are there while using any brand.

Q5. What is general consumption pattern of Albumin?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

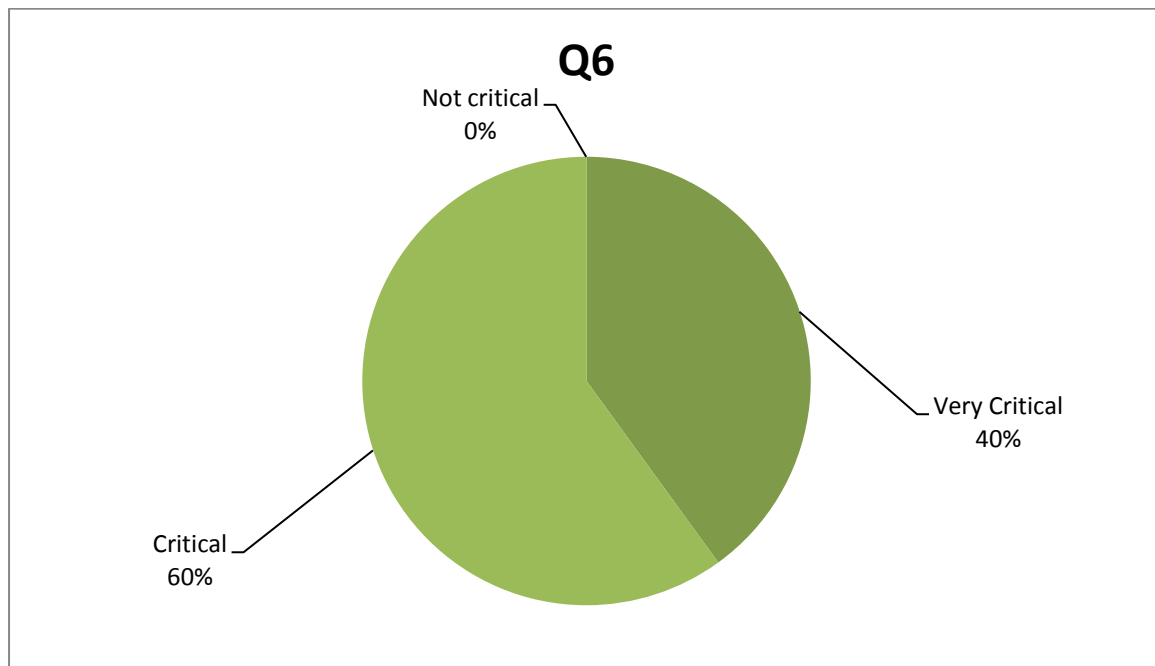
According to the above Pie chart. The general consumption pattern per month of Albumin is:

- 67% doctors whose consumption pattern per month is less than 10
- 25% doctors having consumption pattern is 10-20
- 8% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of Albumin?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

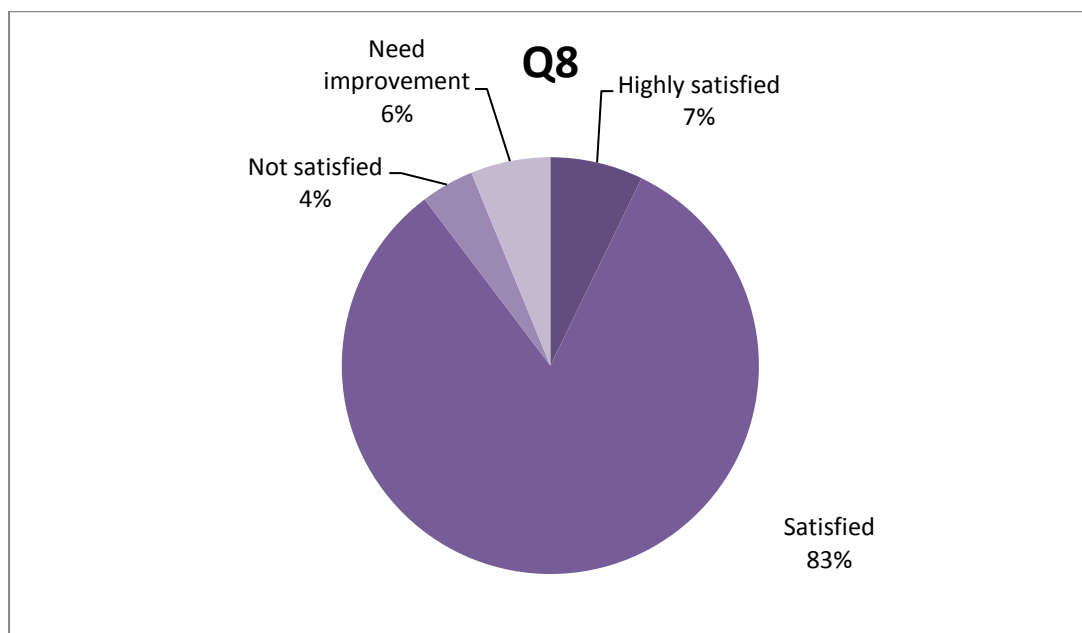
From the above pie chart. It is estimated that no doctor said that source of plasma is not the critical process.

- Around 40% doctor thinks that is very critical process
- 60% doctors believes it's a critical process

Q8. Your opinion on the quality of currently available brand of Albumin is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

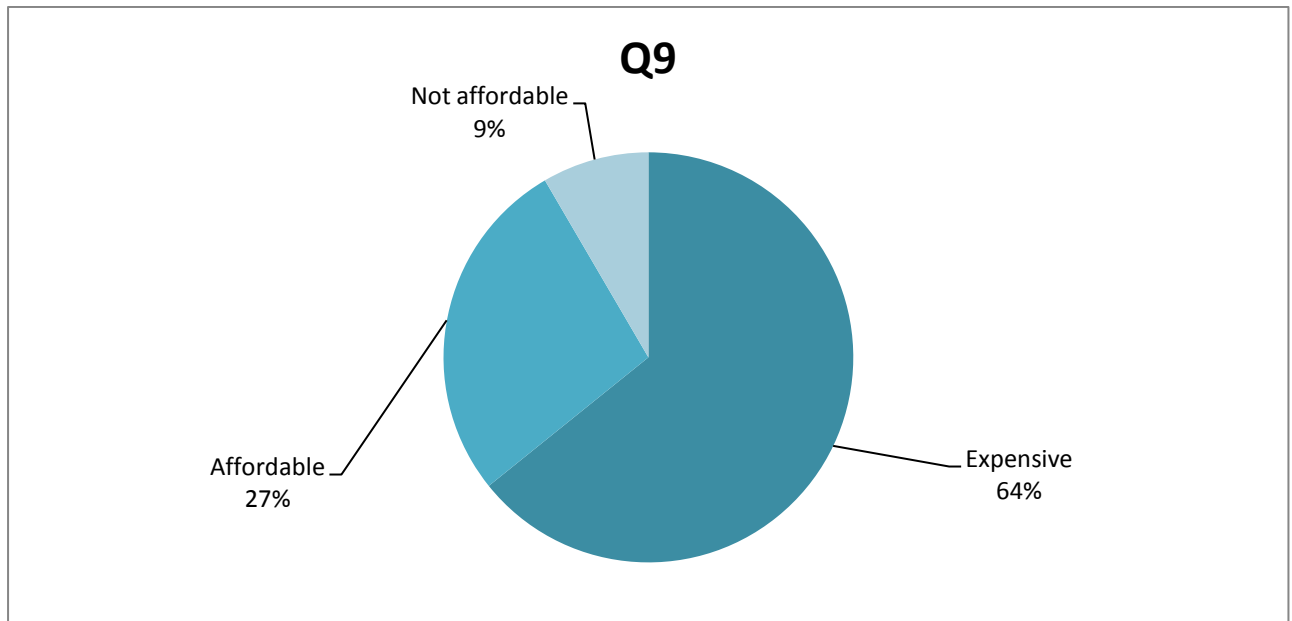
The above pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 7% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 83% doctors are only satisfied
- 4% are not satisfied
- And according to 6% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Albumin?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

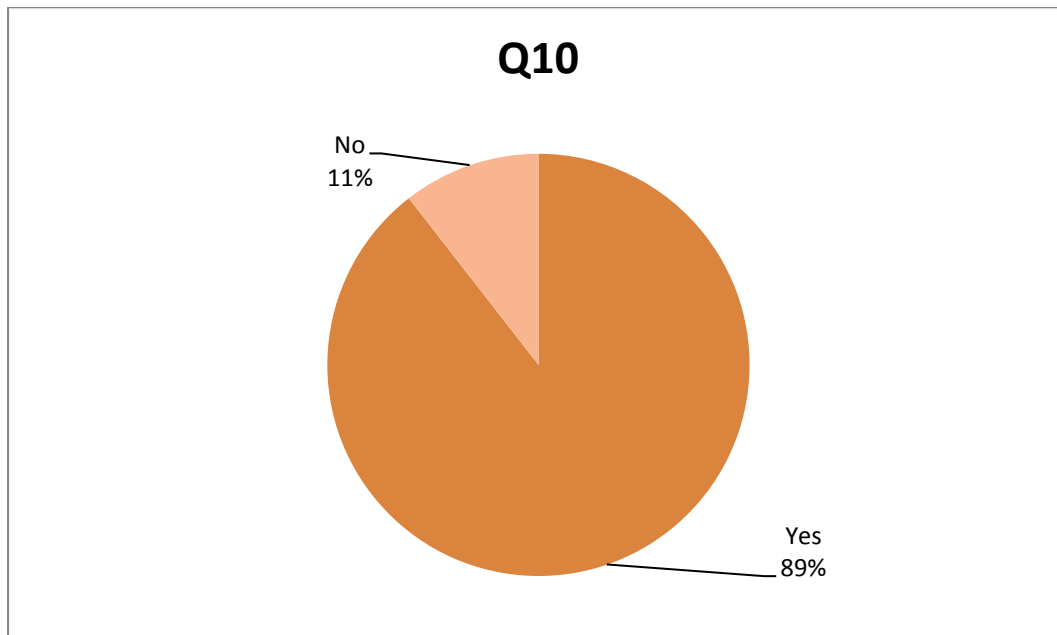
From the above pie chart it shows the pricing of currently available plasma products:

- 64% doctors said that currently available brands of Albumin are Expensive.
- 27% doctors said it can be affordable by the patients.
- 9% said that it is not affordable

Q10. Does any awareness program regarding Albumin is required for patients / doctors / paramedical staff?

- C. Yes
- D. No

Analysis:



Interpretation

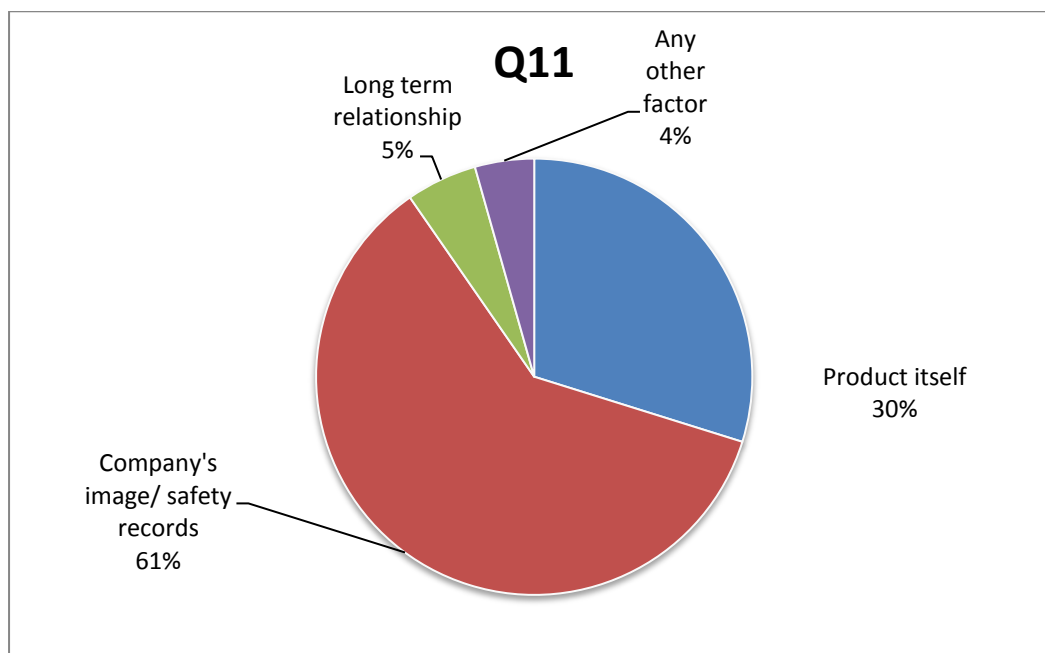
It is analysed from the above Pie chart that:

- According to 89% doctors they believe that yes awareness program is required regarding plasma products.
- 11% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Albumin?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above Pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 30% doctors believe that product itself must be good.
- 61%% doctors said that company's image and safety records are important
- 5% doctors think that long term relationship is there.
- 4% doctors said there are other factors.

Anti Rabies Immunoglobulin

✚ Open ended questions answers given by doctors regarding Anti Rabies Immunoglobulin.

Q3. Any specific brand you prefer Anti Rabies Immunoglobulin.

- Any Available Brand
- Brand ordered by the government
- Using brands which give cost benefit to patients
- Bharat Serum
- Standard and low price brand
- Few brands are available so no choice
- Claris

Q7. Any safety issues for Anti Rabies Immunoglobulin?

- Safe from allergic reactions
- Well tested and less side effects
- Should be sterilised properly
- Safe from HIV, Hepatitis C, B
- Safe from blood borne infection
- Certain regulatory body must be there
- Cold chain Maintenance
- Storage and transportation issues

Q12. What are major issues in prescribing Anti Rabies Immunoglobulin to the patients?

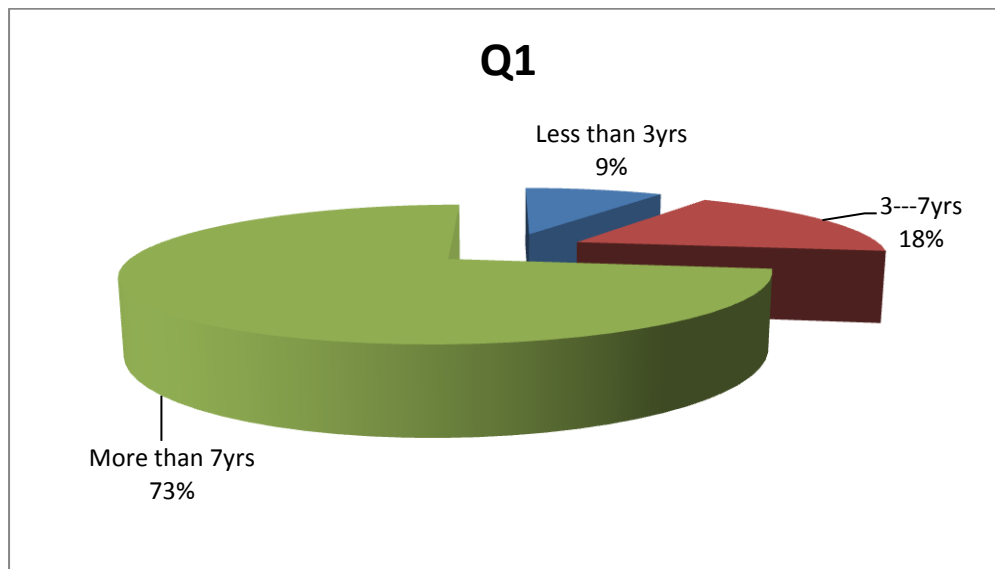
- Efficacy , safety , availability, price
- Safe for patient
- Immune disorder
- Infection Risk
- Nutritional Disorder
- Indication and affordability
- Disease and its requirement

✚ Closed ended questions answers given by doctors regarding Anti Rabies Immunoglobulin.

Q1. How long you have been using Anti Rabies Immunoglobulin?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

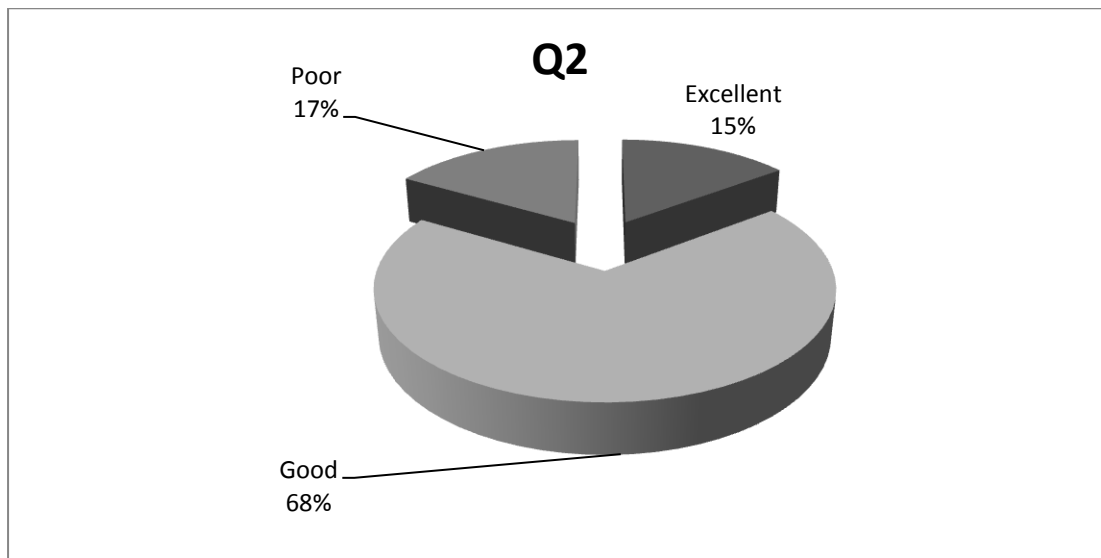
On the basis of this Pie chart, it is analysed that:

- 9% doctors are using Albumin less than 3 yrs
- 18% doctors are using the same between 3 to 7 yrs
- There are 73% doctors who are using Albumin more than 7 yrs

Q2. Availability of Anti Rabies Immunoglobulin has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

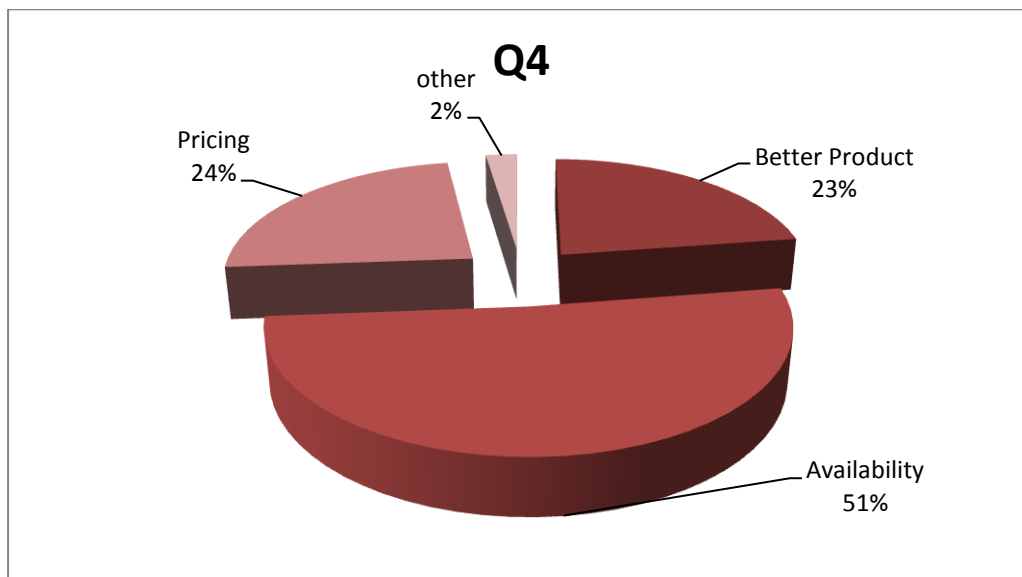
From the above Pie chart, it is analysed that availability of Anti Rabies Immunoglobulin is good.

- According to 15% of doctors availability of Anti Rabies Immunoglobulin is Excellent
- 68% doctors said that the availability is good
- 17% doctors said that the availability is poor

Q4. If any brand of Anti Rabies Immunoglobulin you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

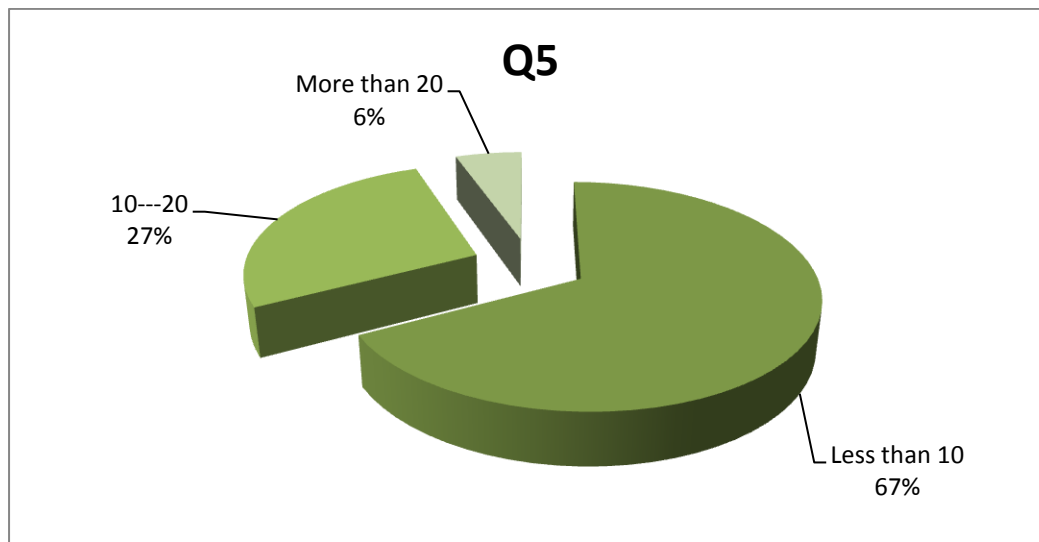
It is analysed with this Pie Chart that doctors are using any brand because of its availability:

- Around 23% doctors prefer any brand just because of better product.
- 51% doctors prefer due to availability
- 24% prefer pricing before using Anti Rabies Immunoglobulin
- 2% said other factors are there while using any brand.

Q5. What is general consumption pattern of Anti Rabies Immunoglobulin?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

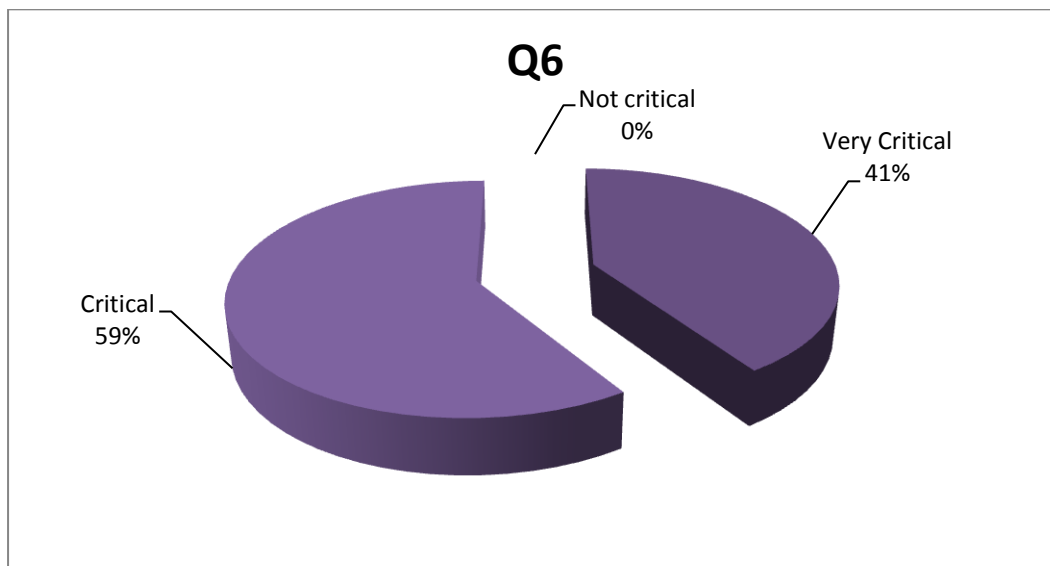
According to the above Pie chart. The general consumption pattern per month of Anti Rabies Immunoglobulin is:

- 67% doctors whose consumption pattern per month is less than 10
- 27% doctors having consumption pattern is 10-20
- 6% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of Anti Rabies Immunoglobulin?.

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

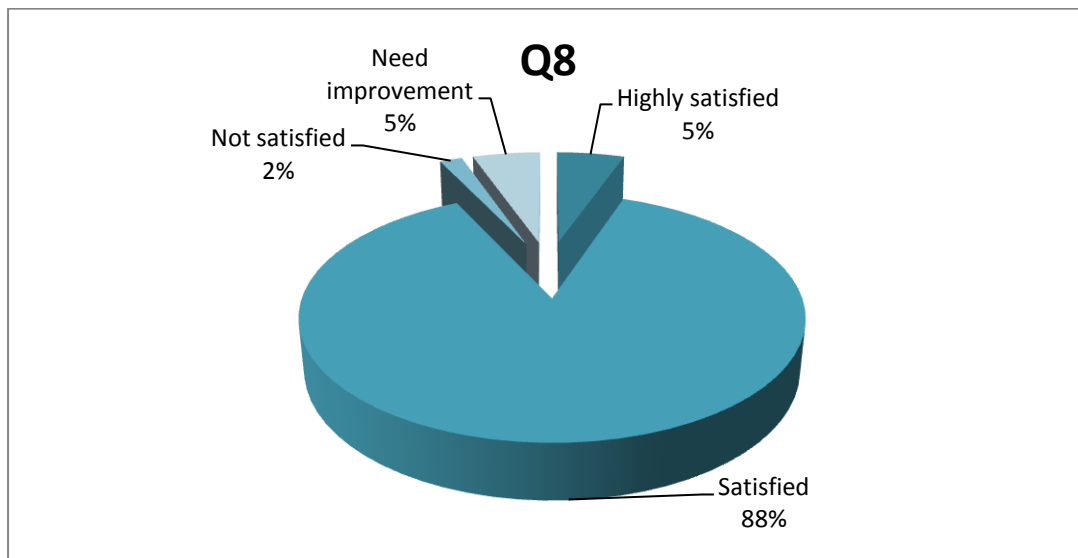
From the above Pie chart. It is estimated that no doctor said that source of plasma is not the critical process.

- Around 41% doctor thinks that is very critical process
- 59% doctors believes it's a critical process

Q8. Your opinion on the quality of currently available brand of Anti Rabies Immunoglobulin is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

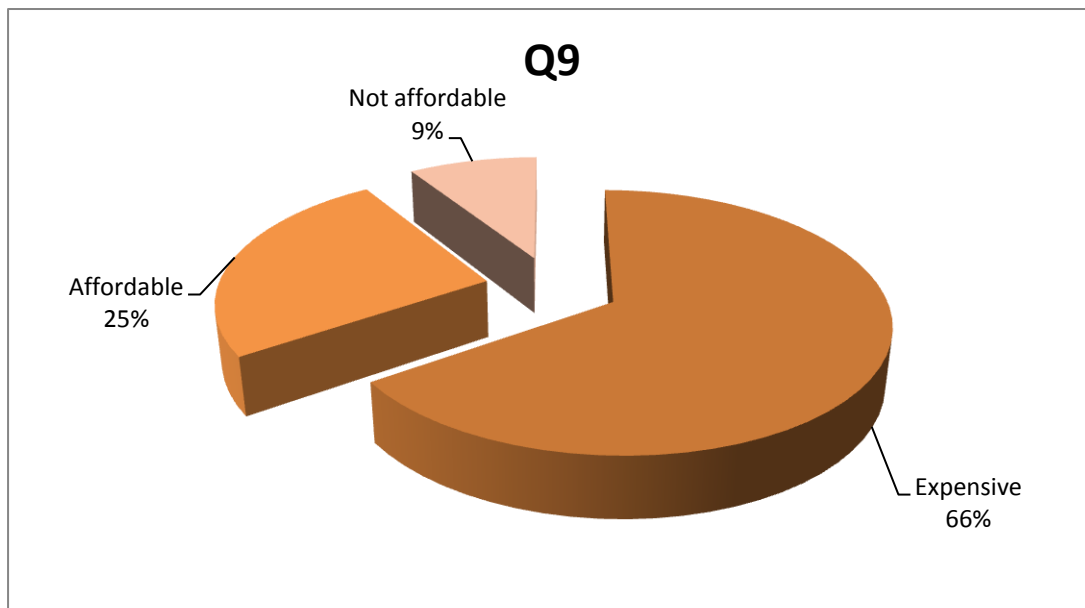
The above pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 5% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 88% doctors are only satisfied
- 2% are not satisfied
- And according to 5% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Anti Rabies Immunoglobulin?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

From the above Pie chart it shows the pricing of currently available plasma products:

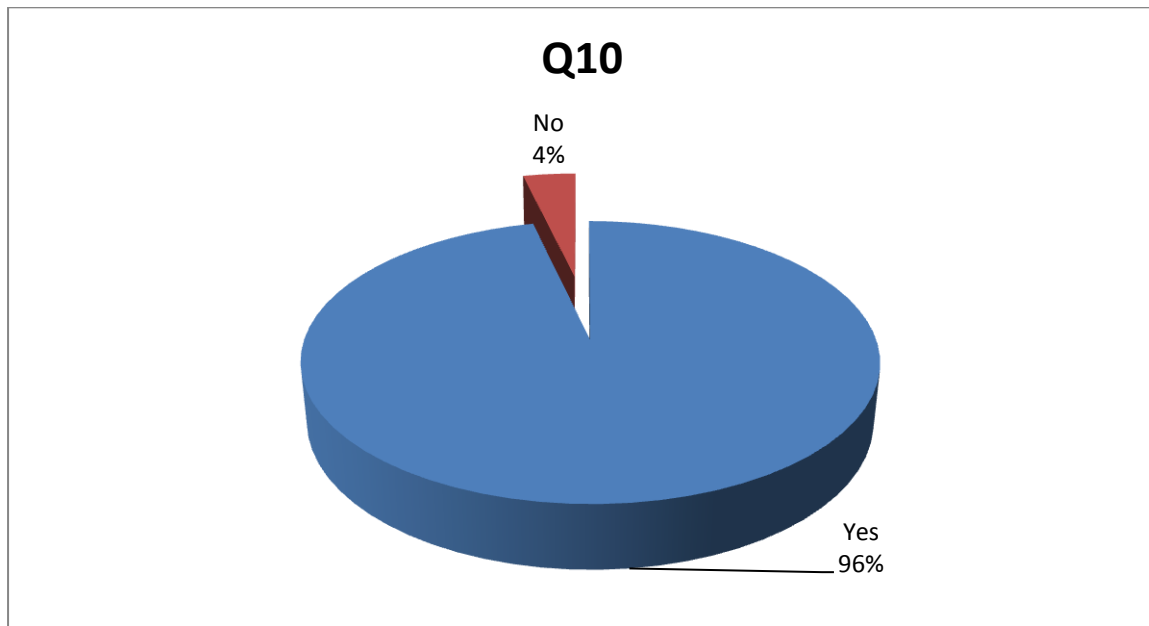
- 66% doctors said that currently available brands of Anti Rabies Immunoglobulin are Expensive.
- 25% doctors said it can be affordable by the patients.
- 9% said that it is not affordable

Q10. Does any awareness program regarding Anti Rabies Immunoglobulin is required for patients / doctors / paramedical staff?

A. Yes

B. No

Analysis:



Interpretation:

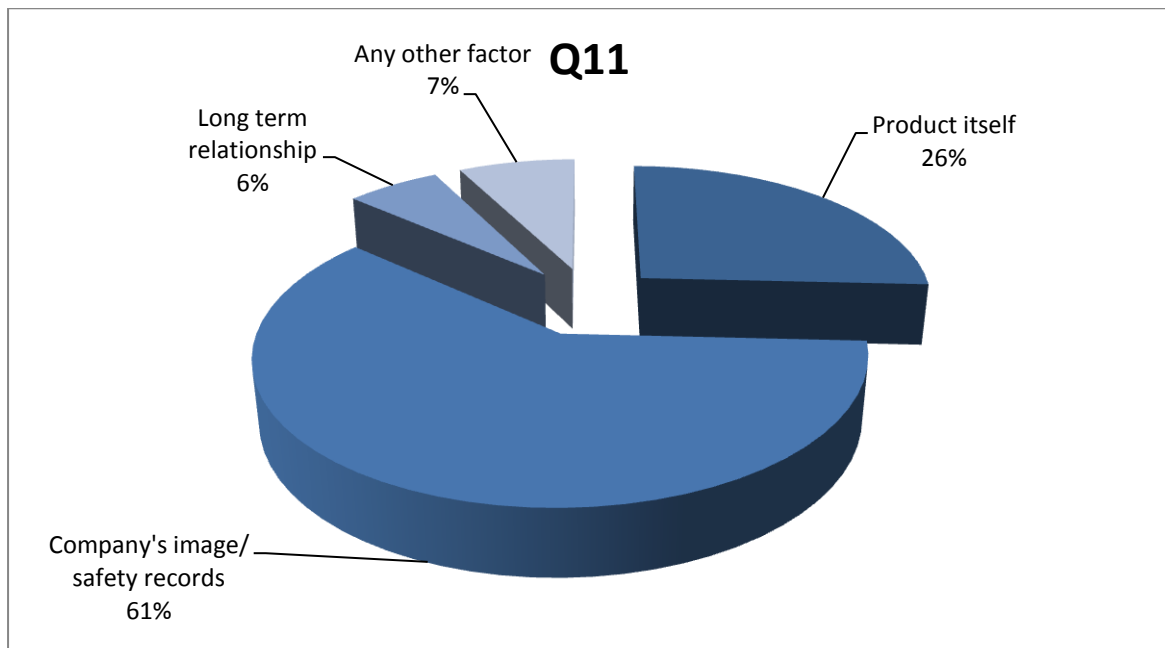
It is analysed from the above Pie chart that:

- According to 4% doctors they believes that yes awareness program is required regarding plasma products.
- 96% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Anti Rabies Immunoglobulin?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 36% doctors believe that product itself must be good.
- 61%% doctors said that company's image and safety records are important
- 6% doctors think that long term relationship is there.
- 7% doctors said there are other factors.

Fibrin Sealant

 Open ended questions answers given by doctors regarding Fibrin Sealant

Q3. Any specific brand of Fibrin Sealant you prefer?

- Any available brand

Q7. Any safety issues for Fibrin Sealant?

- Free from HIV, Hepatitis –B, C
- Contamination free and within expiry date

Q12. What are major issues in prescribing Fibrin Sealant to the patients?

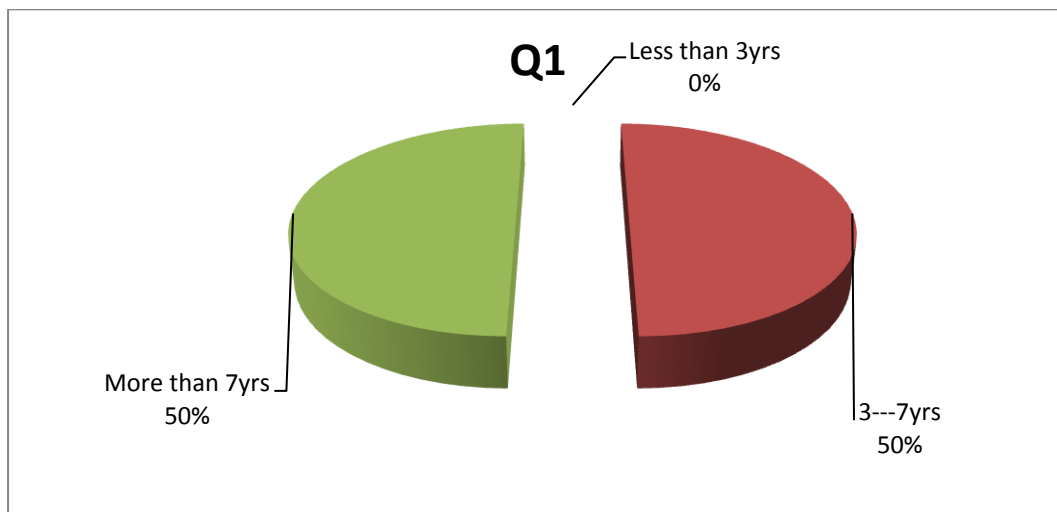
- Availability, price, safety
- Bleeding disorder, trauma

🚦 Closed ended questions answers given by doctors regarding Fibrin Sealant

Q1. How long you have been using Fibrin Sealant?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

On the basis of this Pie chart , it is analysed that :

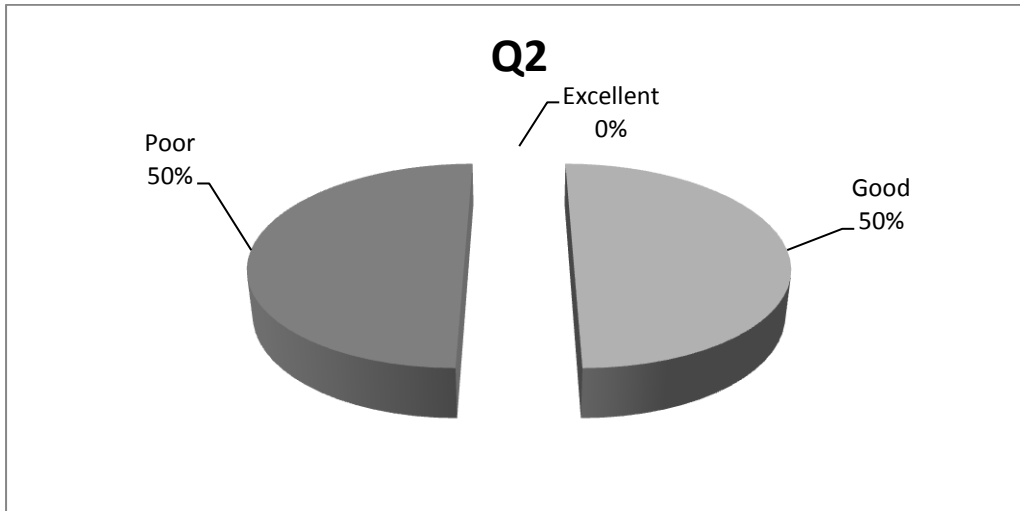
- 0% doctors are using Fibrin Sealant less than 3 yrs
- 50% doctors are using the same between 3 to 7 yrs
- There are 70% doctors who are using Fibrin Sealant more than 7 yrs

Q2. Availability of Fibrin Sealant has been.....

- A. Excellent

- B. Good
- C. Poor

Analysis:



Interpretation:

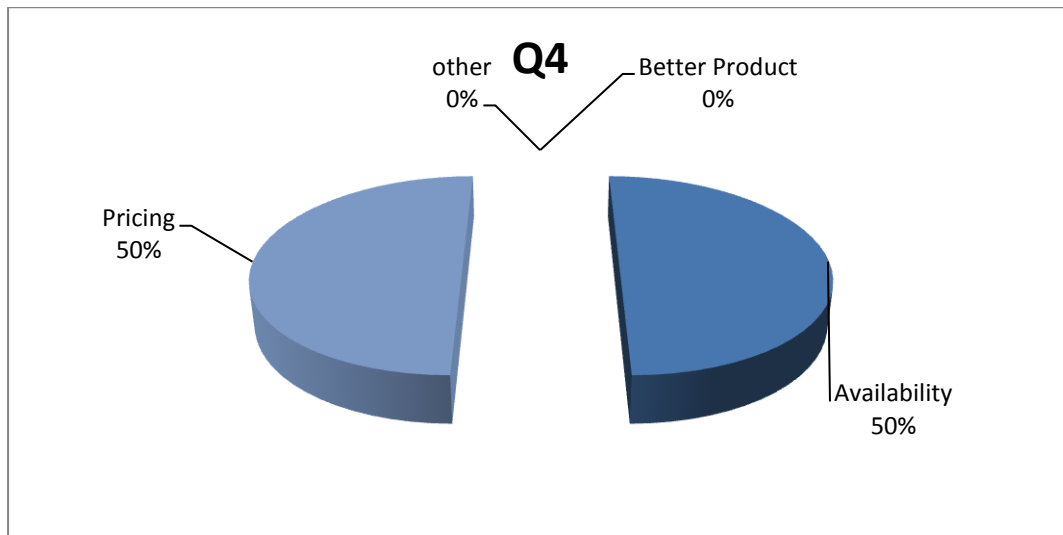
From the above Pie chart, it is analysed that availability of Fibrin Sealant is good.

- According to 0% of doctors availability of Fibrin Sealant is Excellent
- 50% doctors said that the availability is good
- 50% doctors said that the availability is poor

Q4. If any brand of Fibrin Sealant you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

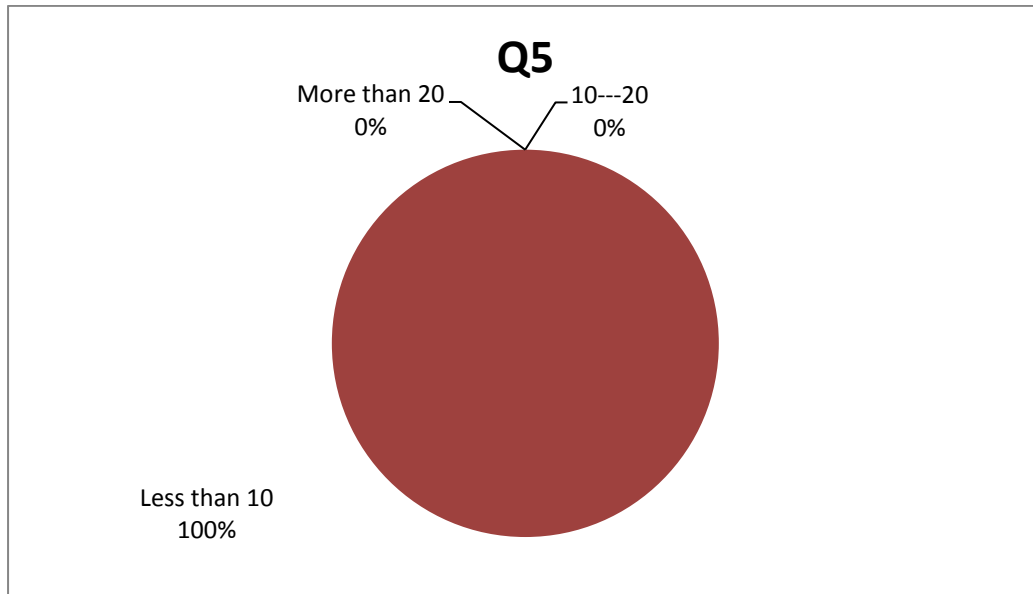
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 0% doctors prefer any brand just because of better product.
- 50% doctors prefer due to availability
- 50% prefer pricing before using Fibrin Sealant.
- 0% said other factors are there while using any brand

Q5. What is general consumption pattern of Fibrin Sealant?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

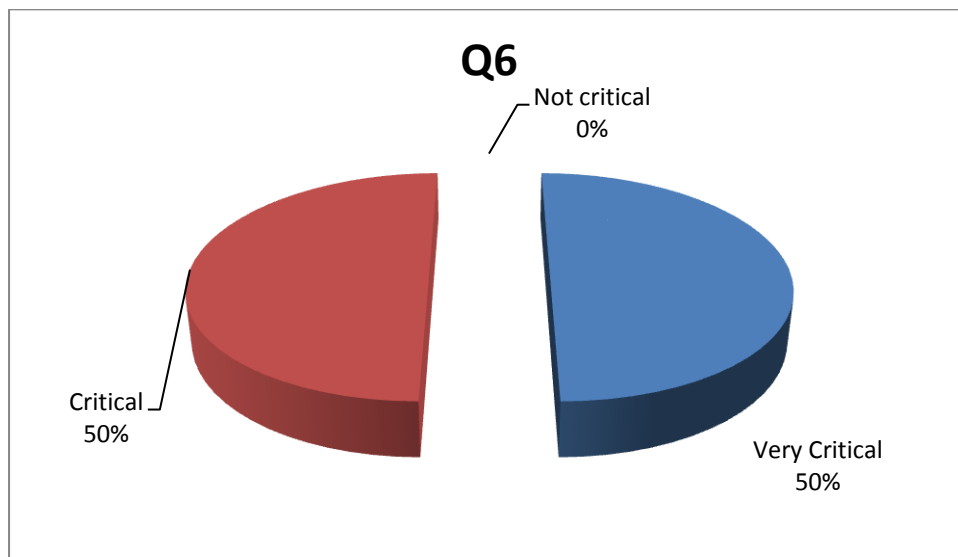
According to the above Pie chart. The general consumption pattern per month of Fibrin Sealant is:

- 100% doctors whose consumption pattern per month is less than 10
- 0% doctors having consumption pattern is 10-20
- 0% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of Fibrin Sealant?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

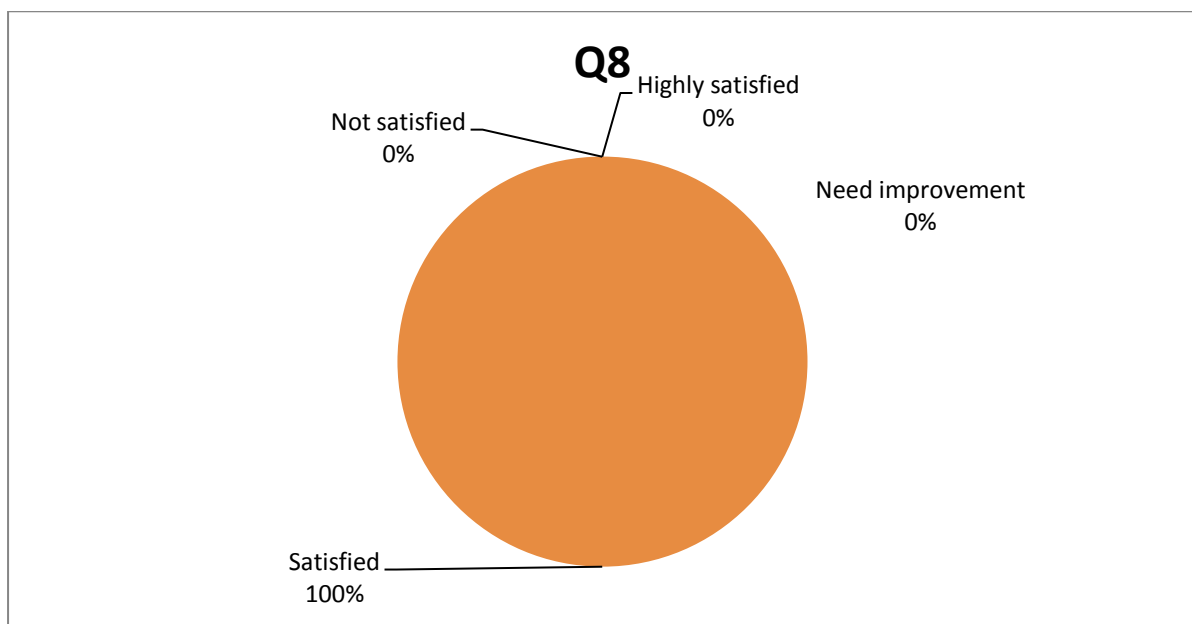
From the above Pie Chart it is estimated that no doctor said that source of plasma is not the critical process.

- Around 50% doctor thinks that is very critical process
- 50% doctors believes it's a critical process
- 0% said not critical

Q8. Your opinion on the quality of currently available brand of Fibrin Sealant?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

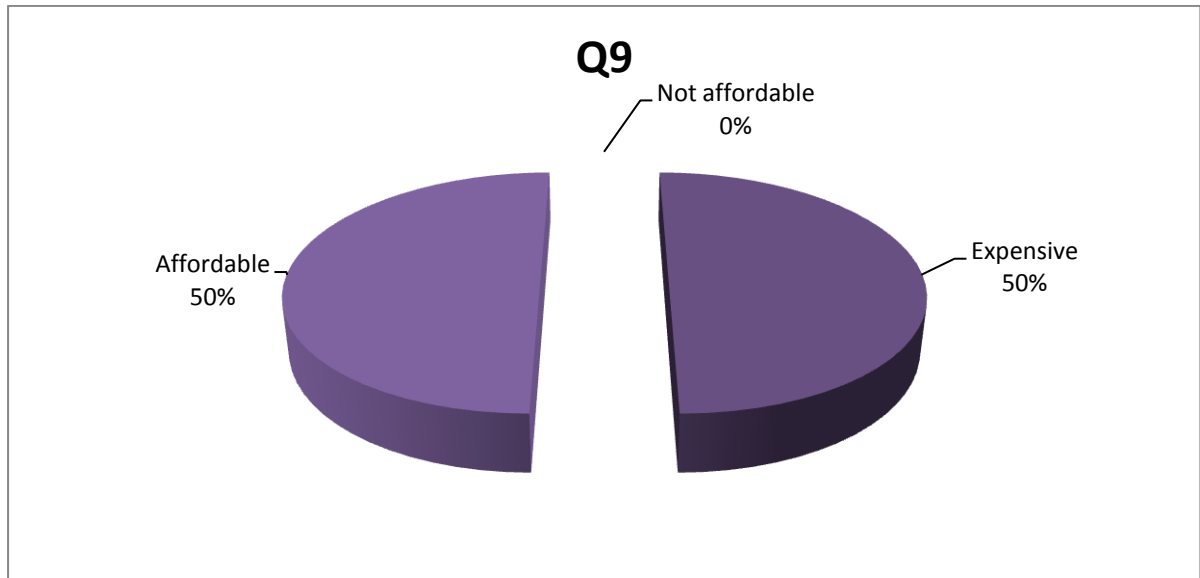
The above pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 0% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 100% doctors are only satisfied
- 0% are not satisfied
- And according to 0% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Fibrin Sealant?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

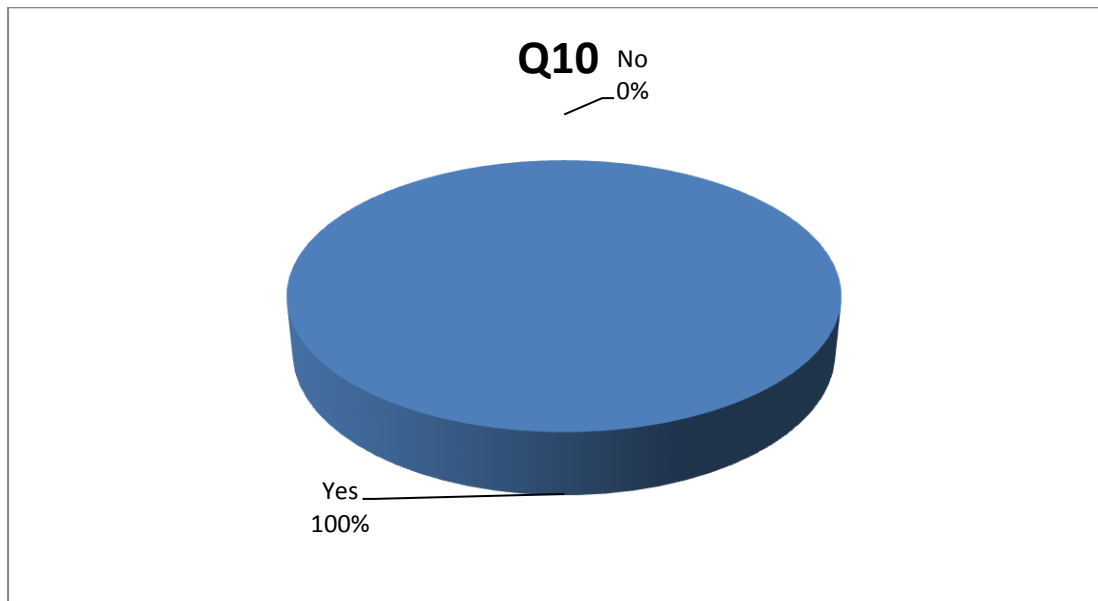
From the above pie chart it shows the pricing of currently available plasma products:

- 50% doctors said that currently available brands of Fibrin Sealant are Expensive.
- 50% doctors said it can be affordable by the patients.
- 0% said that it is not affordable

Q10. Does any awareness program regarding Fibrin Sealant is required for patients / doctors / paramedical staff?

- A. Yes
- B. No

Analysis:



Interpretation:

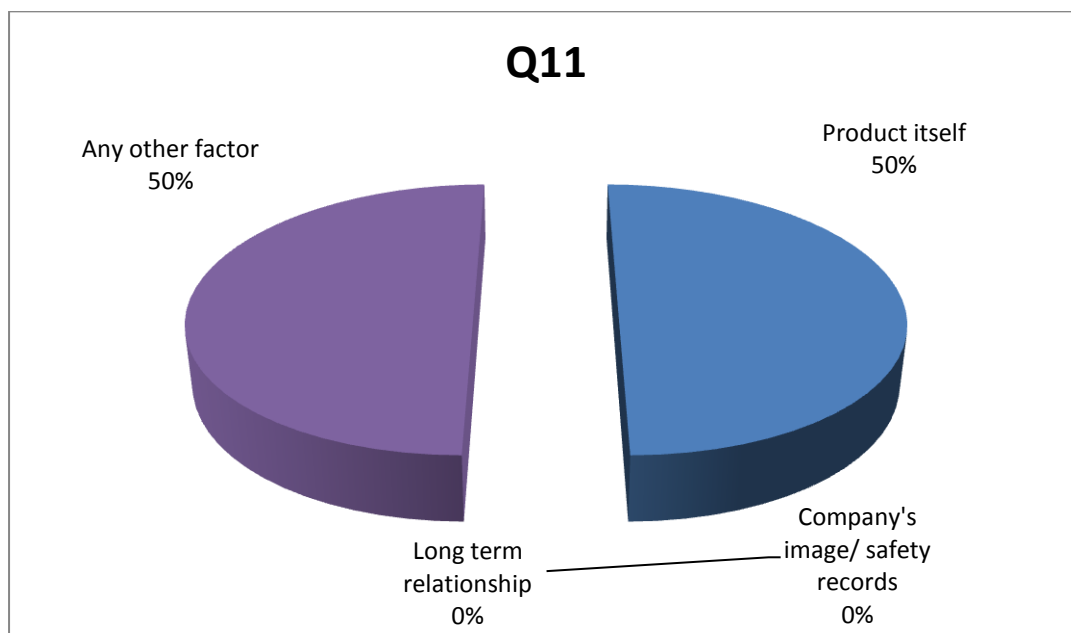
It is analysed from the above Pie chart that:

- According to 100% doctors they believe that yes awareness program is required regarding plasma products.
- 0% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Blood plasma product Fibrin Sealant?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 50% doctors believe that product itself must be good.
- 0% doctors said that company's image and safety records are important
- 70% doctors think that long term relationship is there.
- 50% doctors said there are other factors.

Factor VII

 Open ended questions answers given by doctors regarding Factor VII

Q3. Any specific brand of Factor VII you prefer?

- Any Brand
- Products of Bharat Serum

Q7. Any safety issues for Factor VII?

- Routine checkups of product
- Safe from blood borne infection
- Contamination free, within expiry date

Q12. What are major issues in prescribing Factor VII to the patients?

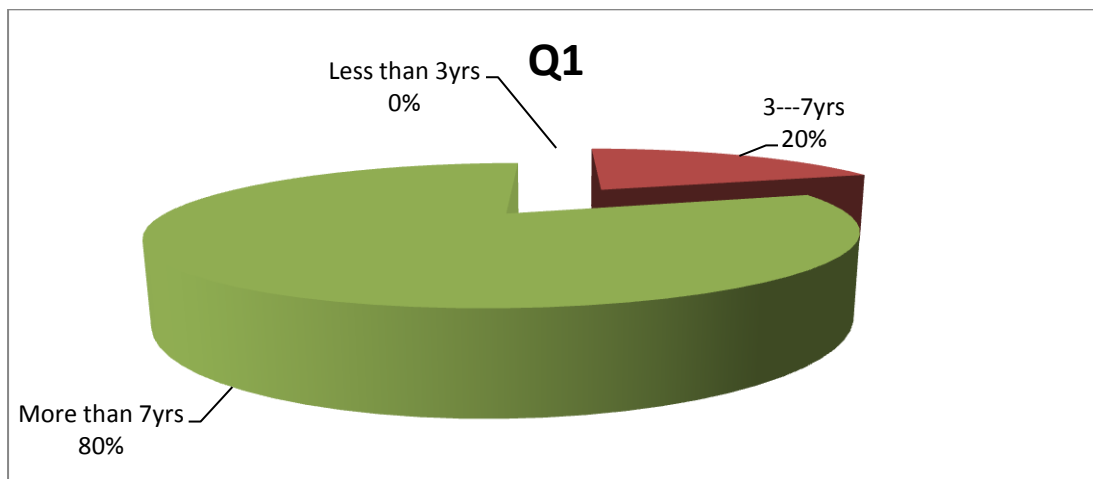
- Expensive
- Cost , purity
- Bleeding disorder

🚦 Closed ended questions answers given by doctors regarding Factor VII

Q1. How long you have been using Factor VII?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

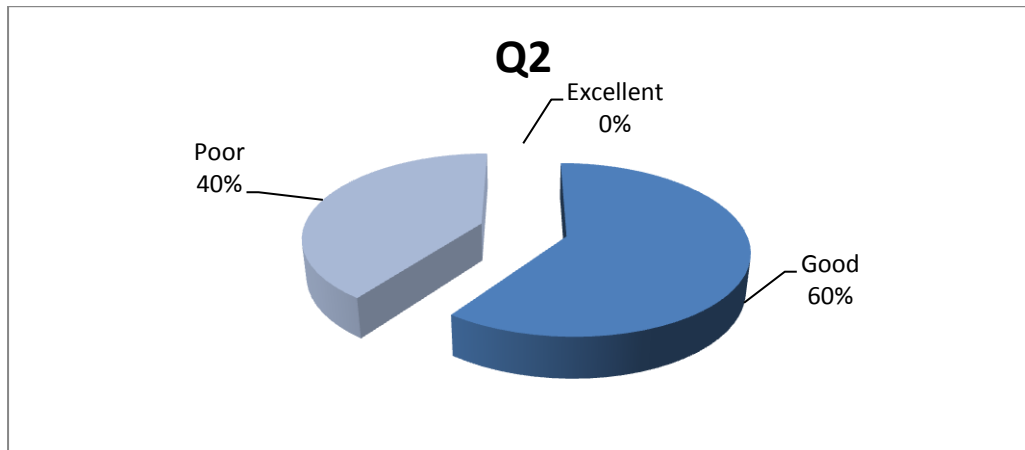
On the basis of this Pie chart, it is analysed that:

- 0% doctors are using FactorVII less than 3 yrs
- 20% doctors are using the same between 3 to 7 yrs
- There are 80% doctors who are using Fibrin Sealant more than 7 yrs

Q2. Availability of Factor VII has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

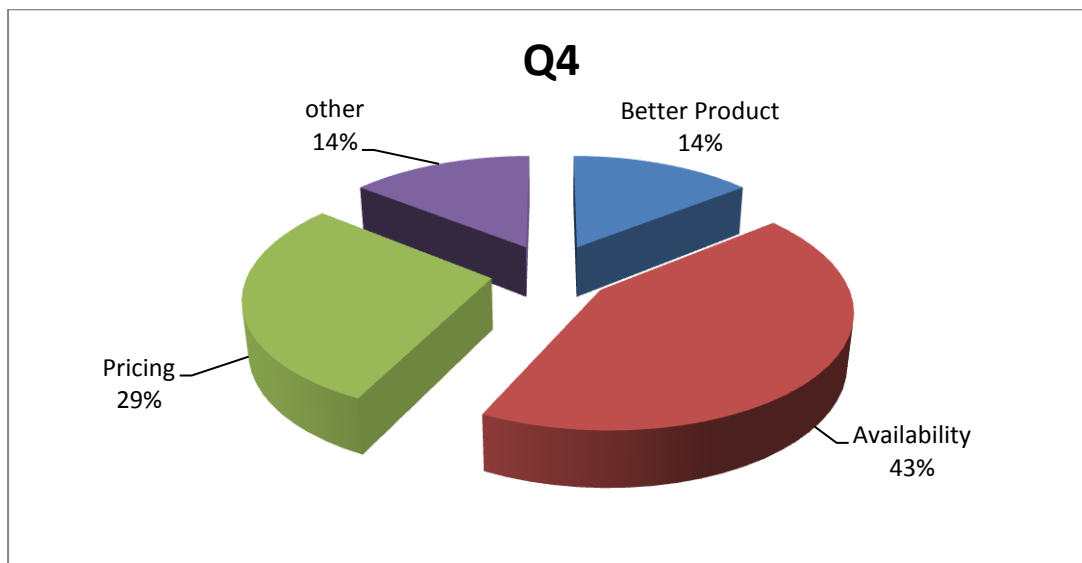
From the above pie chart, it is analysed that availability of VII is good.

- According to 0% of doctors availability of Factor VII is Excellent
- 50% doctors said that the availability is good
- 50% doctors said that the availability is poor

Q4. If any brand of Factor VII you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

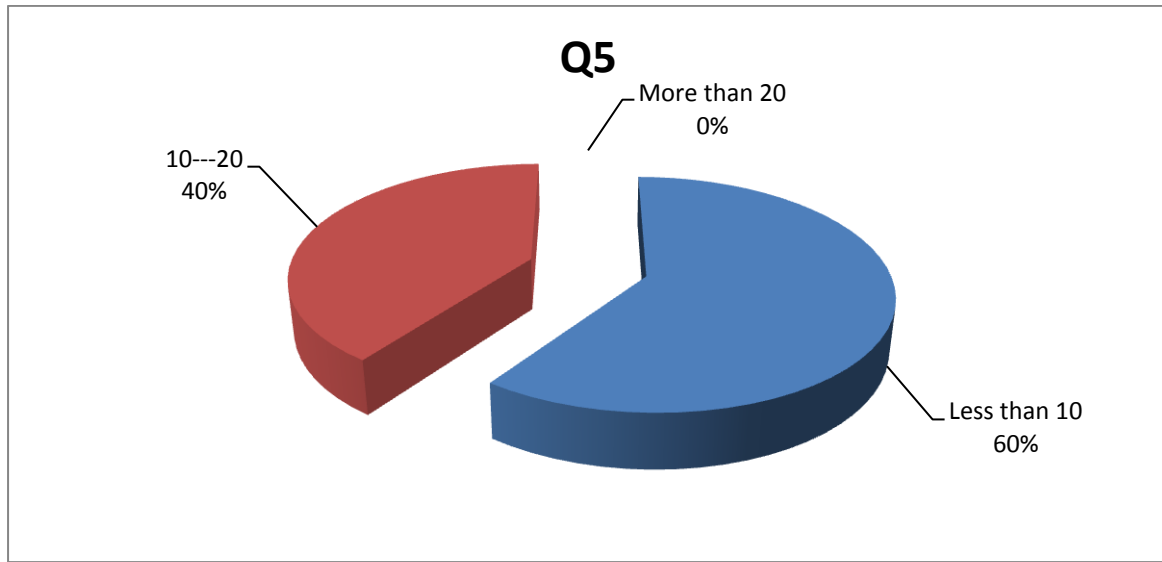
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 14% doctors prefer any brand just because of better product.
- 43% doctors prefer due to availability
- 29% prefer pricing before using Factor VII
- 14% said other factors are there while using any brand

Q5. What is general consumption pattern of Factor VII?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

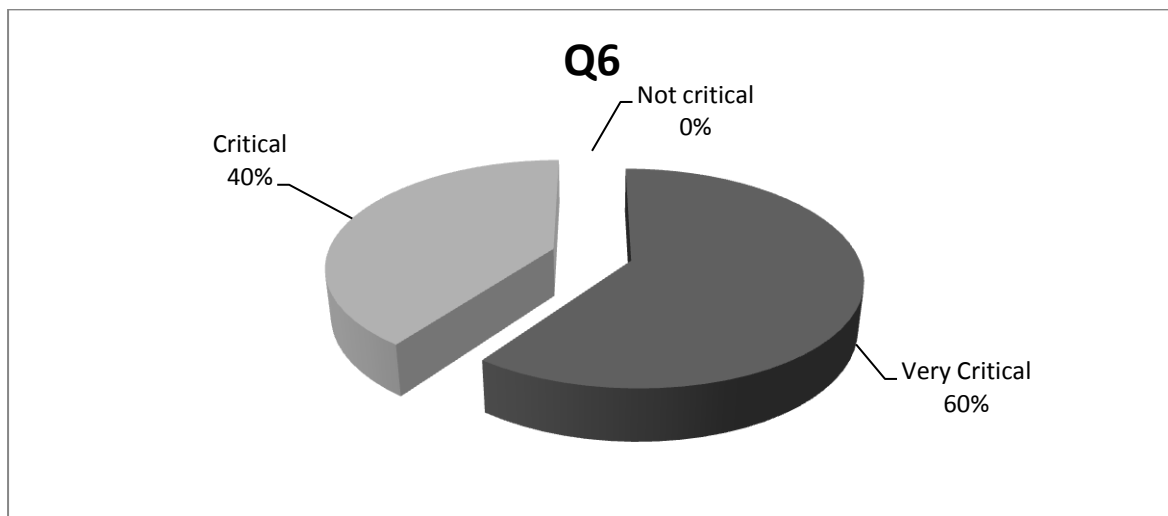
According to the above Pie chart. The general consumption pattern per month of Factor VII is:

- 605 doctors whose consumption pattern per month is less than 10
- 40% doctors having consumption pattern is 10-20
- 0% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of VII?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

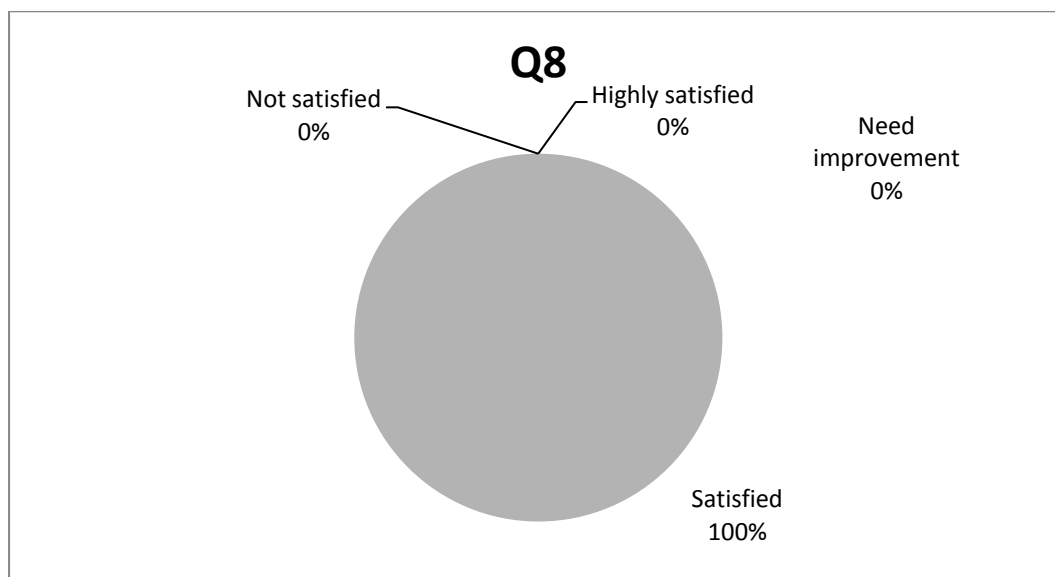
From the above Pie Chart it is estimated that no doctor said that source of plasma is not the critical process.

- Around 60% doctor thinks that is very critical process
- 40% doctors believes it's a critical process
- 0% said not critical

Q8. Your opinion on the quality of currently available brand of Factor VII?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



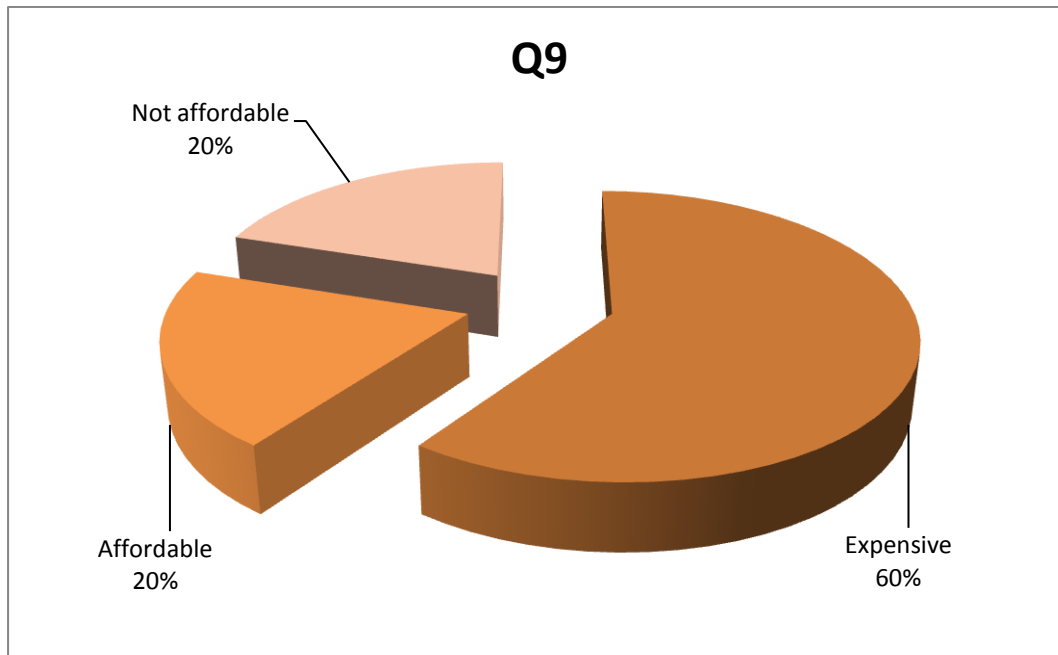
The above pie chart shows that doctors are satisfied or not from the plasma products or they need improvement :

- It is estimated that 0% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 100% doctors are only satisfied
- 0% are not satisfied
- And according to 0% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Factor VII?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

From the above graph it shows the pricing of currently available plasma products:

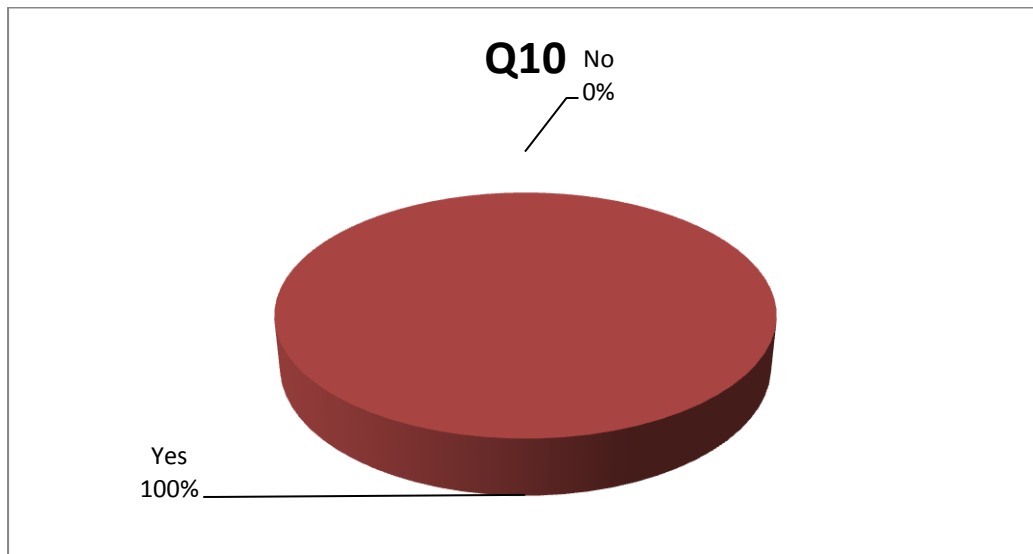
- 60% doctors said that currently available brands of Factor VII are Expensive.
- 20% doctors said it can be affordable by the patients.
- 20% said that it is not affordable

Q10. Does any awareness program regarding Factor VII is required for patients / doctors / paramedical staff?

A. Yes

B. No

Analysis:



Interpretation:

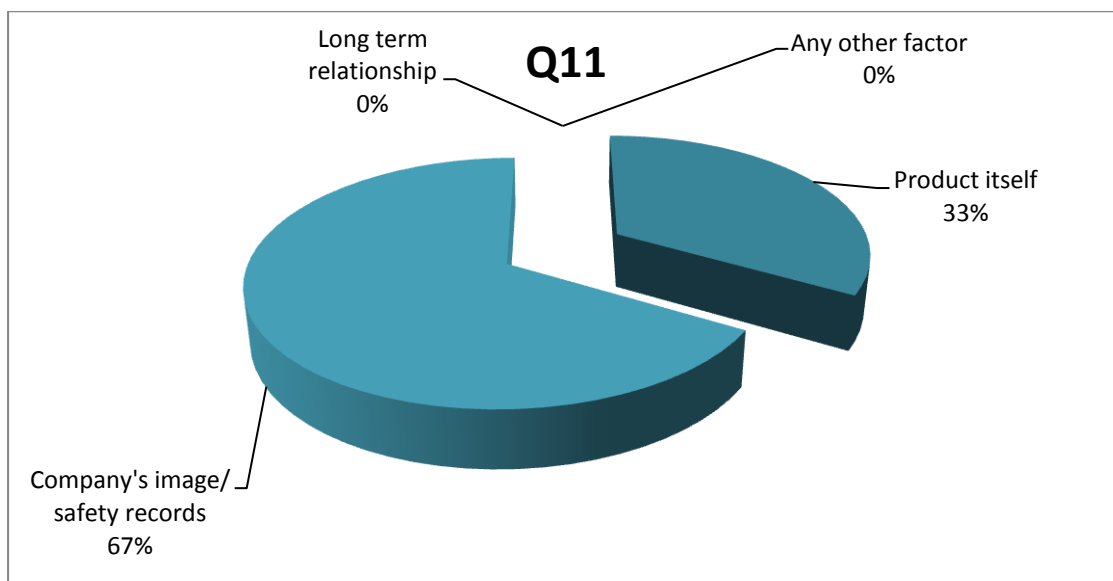
It is analysed from the above Pie chart that:

- According to 100% doctors they believes that yes awareness program is required regarding plasma products.
- 0% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Blood plasma product Factor VII?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relationship
- D. Any other factor

Analysis:



Interpretation:

The above pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 33% doctors believe that product itself must be good.
- 67% doctors said that company's image and safety records are important
- 0% doctors think that long term relationship is there.
- 0% doctors said there are other factor

Factor VIII

 Open ended questions answers given by doctors regarding Factor VIII

Q3. Any specific brand of Factor VIII you prefer?

- Any Brand
- Product of Bharat Serum
- Standard and low price brands
- Claris

Q7. Any safety issues for VIII?

- Proper preservation
- Incidence of Anaphylaxis
- Should be given through central lines may cause hypersensitivity
- Regulatory body must be there
- Storage and transportation issue

Q12. What are major issues in prescribing VIII to the patients?

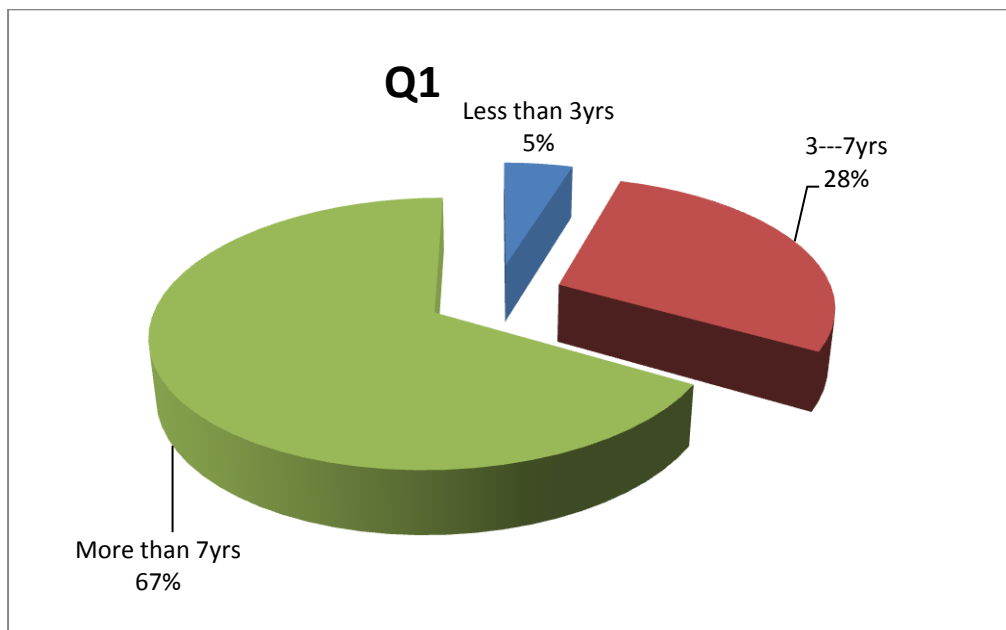
- Purity, safety, efficacy, availability, necessity. Cost
- Bleeding disorder
- In disease
- Sae for patients

🚦 Closed ended questions answers given by doctors regarding Factor VIII

Q1. How long you have been using Factor VIII

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

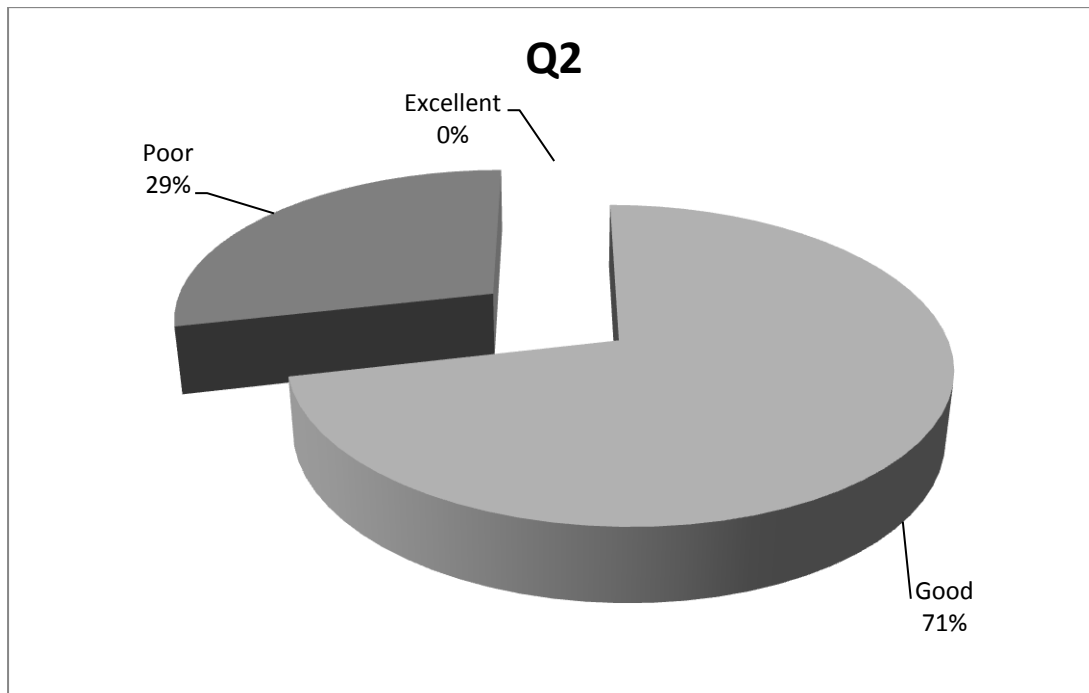
On the basis of this Pie chart, it is analysed that:

- 5% doctors are using FactorVIII less than 3 yrs
- 28% doctors are using the same between 3 to 7 yrs
- There are 67% doctors who are using Factor VIII more than 7 yrs

Q2. Availability of Factor VIII has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

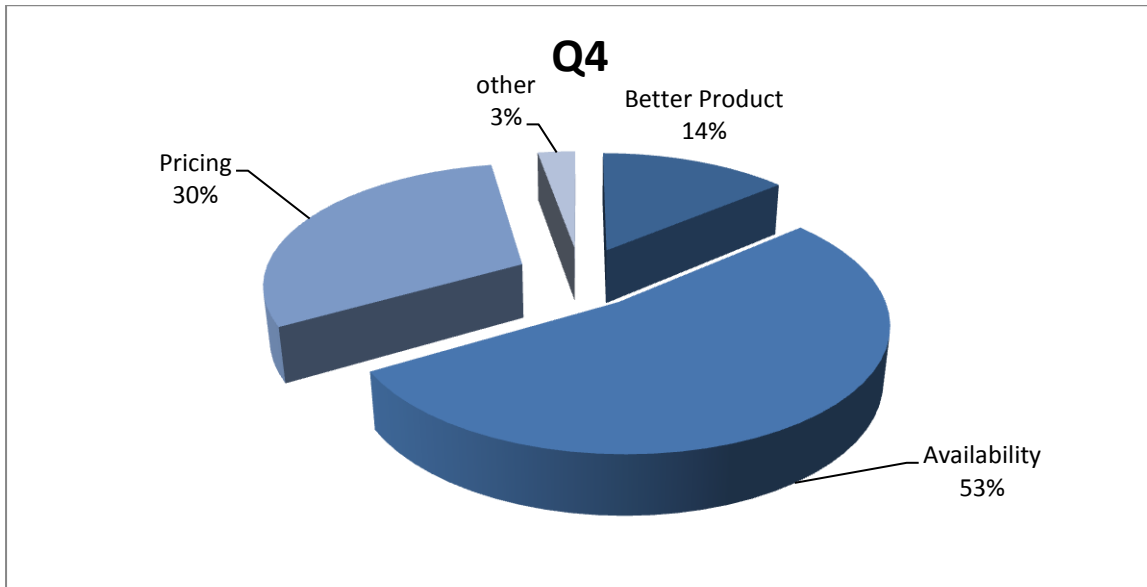
From the above pie chart, it is analysed that availability of Factor VIII is good.

- According to 0% of doctors availability of Factor VIII is Excellent
- 71% doctors said that the availability is good
- 29% doctors said that the availability is poor

Q4. If any brand of Factor VIII you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

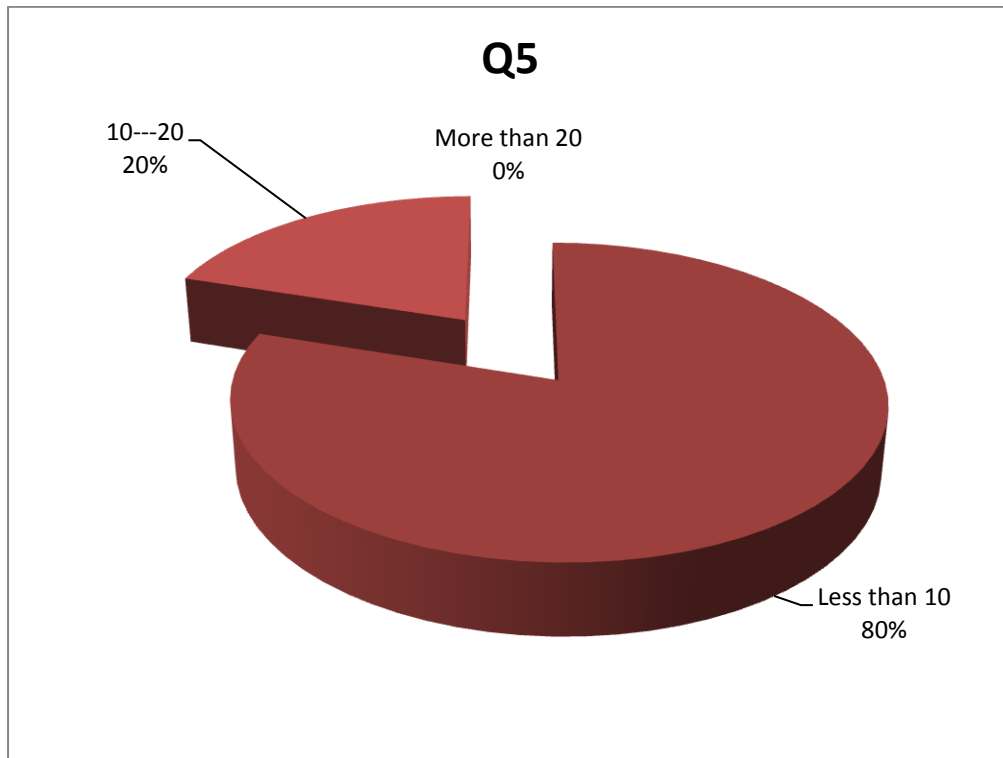
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 14% doctors prefer any brand just because of better product.
- 53% doctors prefer due to availability
- 30% prefer pricing before using Factor VIII
- 3% said other factors are there while using any brand

Q5. What is general consumption pattern of Factor VIII?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

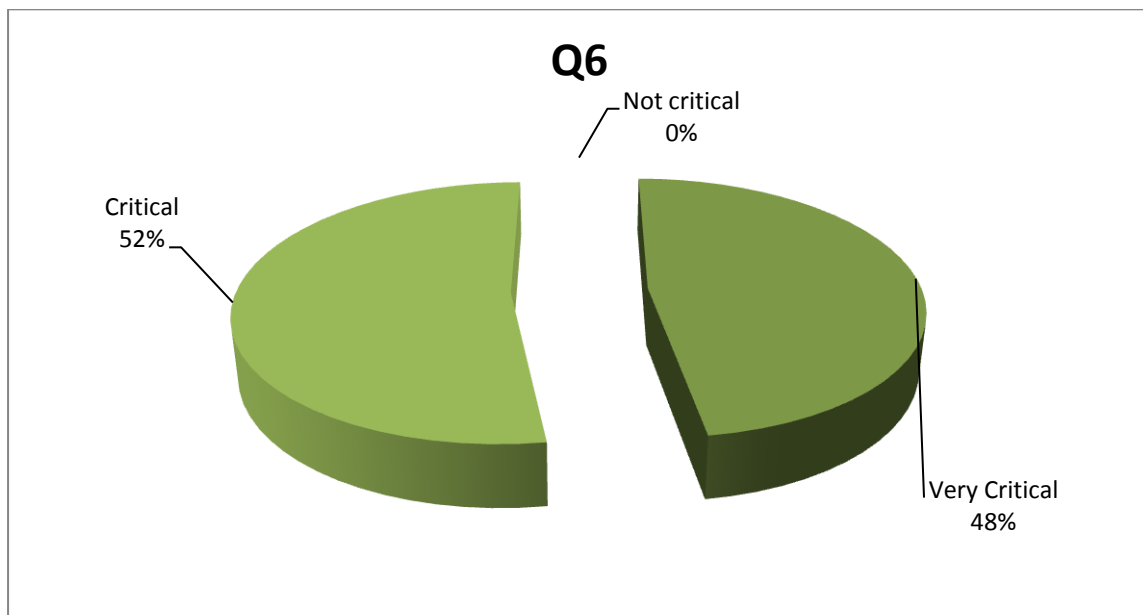
According to the above Pie chart. The general consumption pattern per month of Factor VIII is:

- 80% doctors whose consumption pattern per month is less than 10
- 20% doctors having consumption pattern is 10-20
- 0% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma”; would you consider the source of plasma important criterion in selection of VIII?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

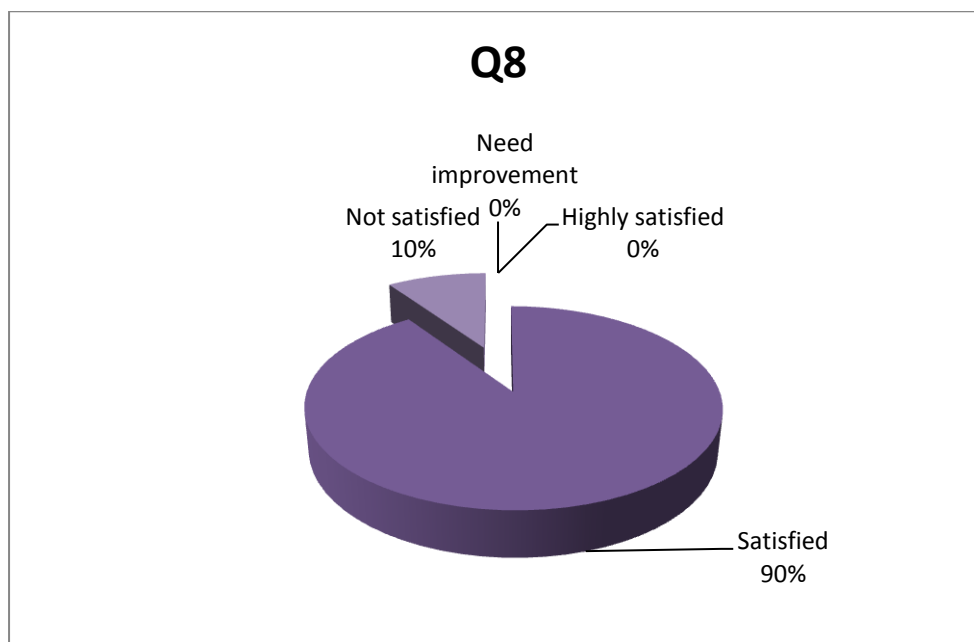
From the above Pie Chart it is estimated that no doctor said that source of plasma is not the critical process.

- Around 48% doctor thinks that is very critical process
- 52% doctors believes it's a critical process
- 0% said not critical

Q8. Your opinion on the quality of currently available brand of Factor VIII is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



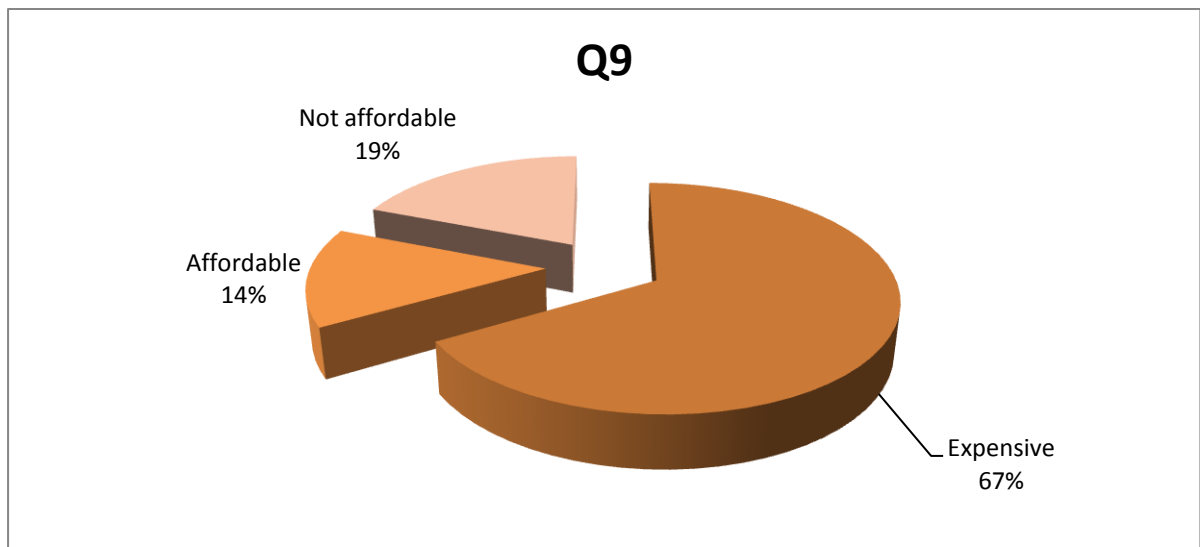
The above Pie Chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 0% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 90% doctors are only satisfied
- 0% are not satisfied
- And according to 10% doctors the brands of plasma products need improvement.

Q9. Pricing of currently available brands of Factor VIII?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

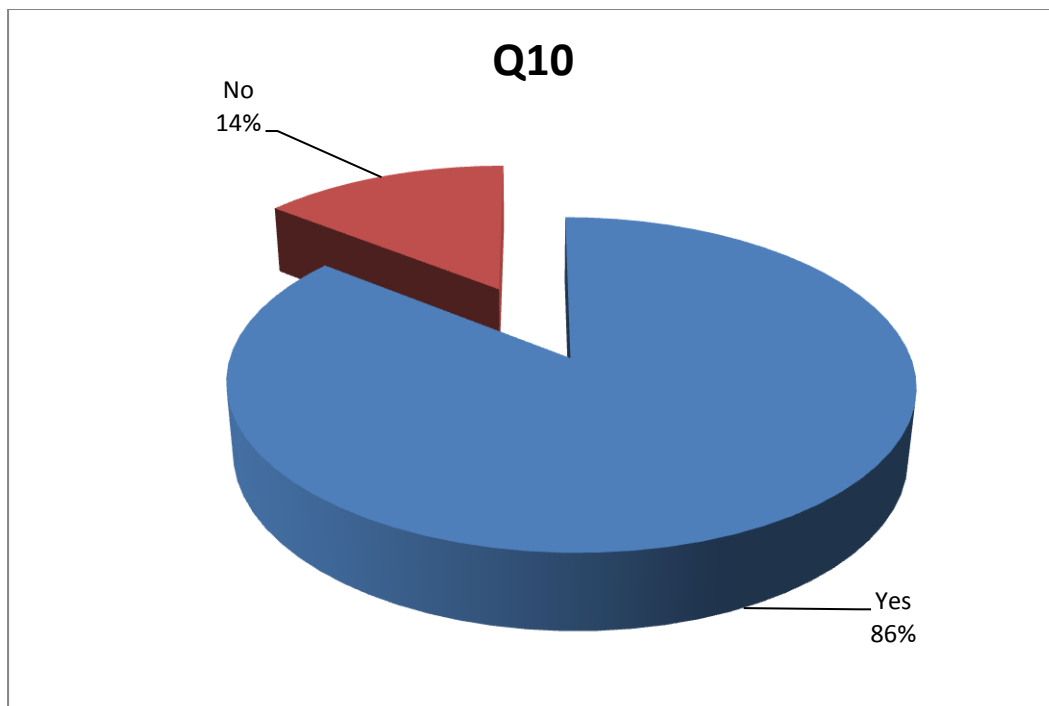
From the above pie chart it shows the pricing of currently available plasma products:

- 67% doctors said that currently available brands of Factor VIII are Expensive.
- 14% doctors said it can be affordable by the patients.
- 19% said that it is not affordable

Q10. Does any awareness program regarding Factor VIII is required for patients / doctors / paramedical staff?

- A. Yes
- B. No

Analysis:



Interpretation

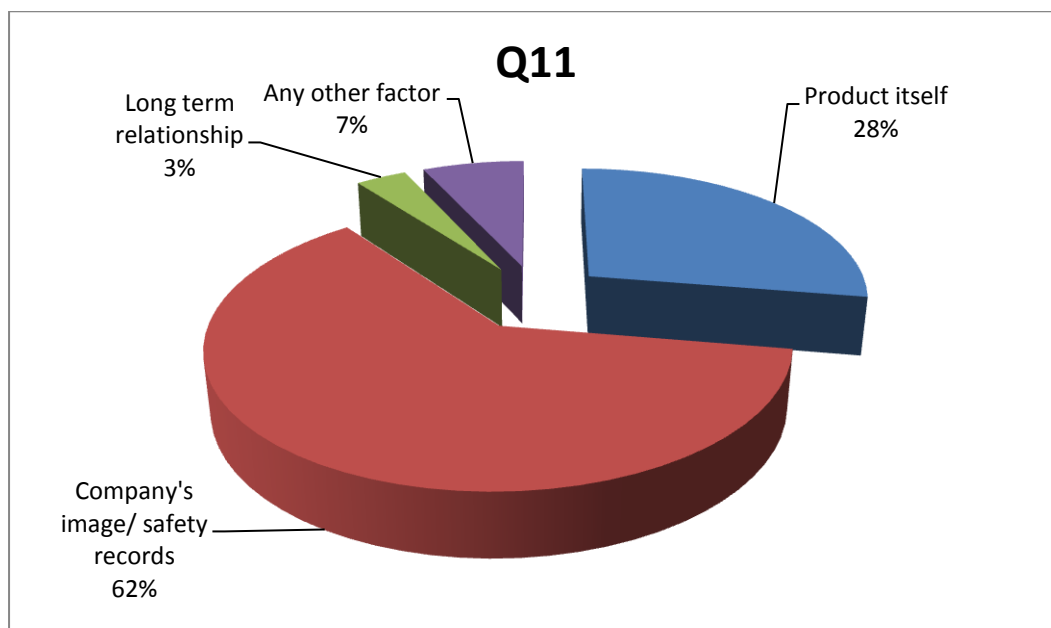
It is analysed from the above Pie chart that:

- According to 86% doctors they believe that yes awareness program is required regarding plasma products.
- 14% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Factor VIII?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 28% doctors believe that product itself must be good.
- 62% doctors said that company's image and safety records are important
- 3% doctors think that long term relationship is there.
- 7% doctors said there are other factor

Fibrinogen

 Open ended questions answers given by doctors regarding Fibrinogen

Q3. Any specific brand of Fibrinogen you prefer?

- Any

Q7. Any safety issues for Fibrinogen

- Safe from Blood borne infection and allergy
- Safe from HIV, Hepatitis B, C

Q12. What are major issues in prescribing Fibrinogen to the patients?

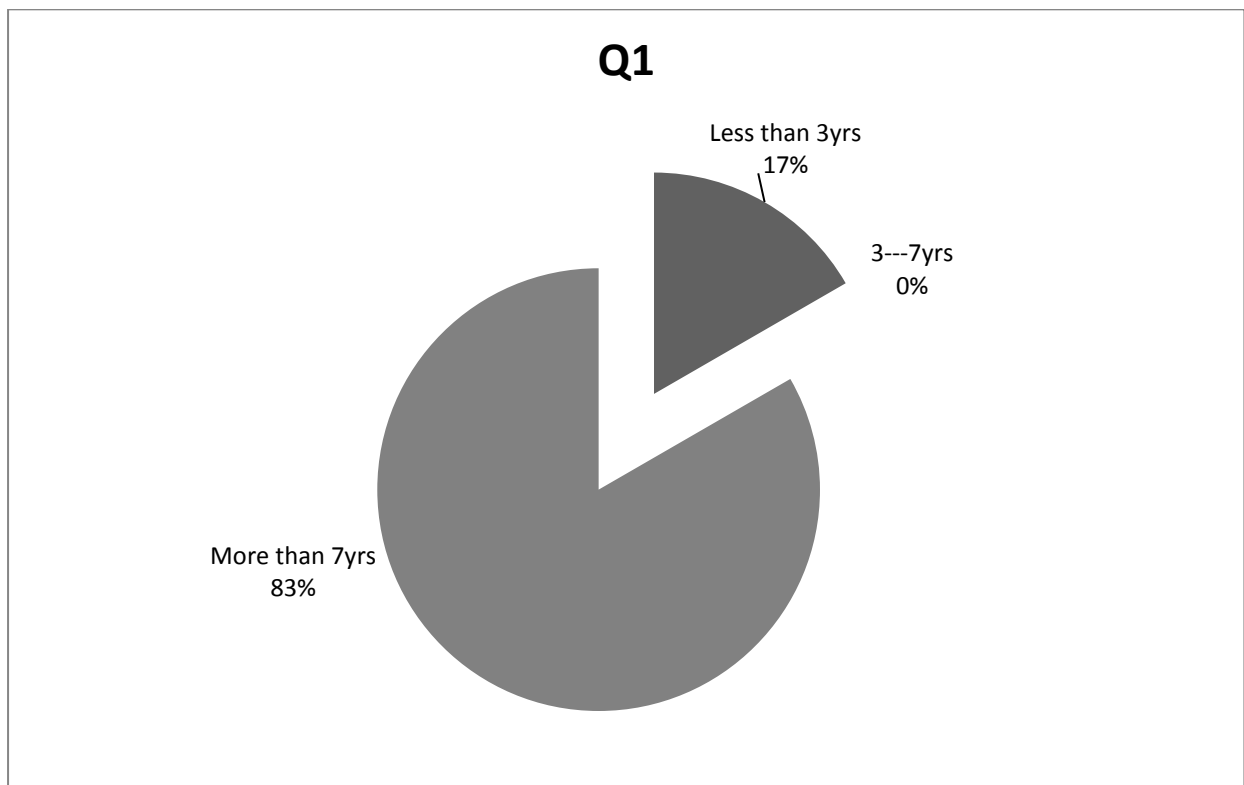
- Safety, cost , availability,
- Risk of infection and pricing

🚦 Closed ended questions answers given by doctors regarding Fibrinogen

Q1. How long you have been using Fibrinogen?

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

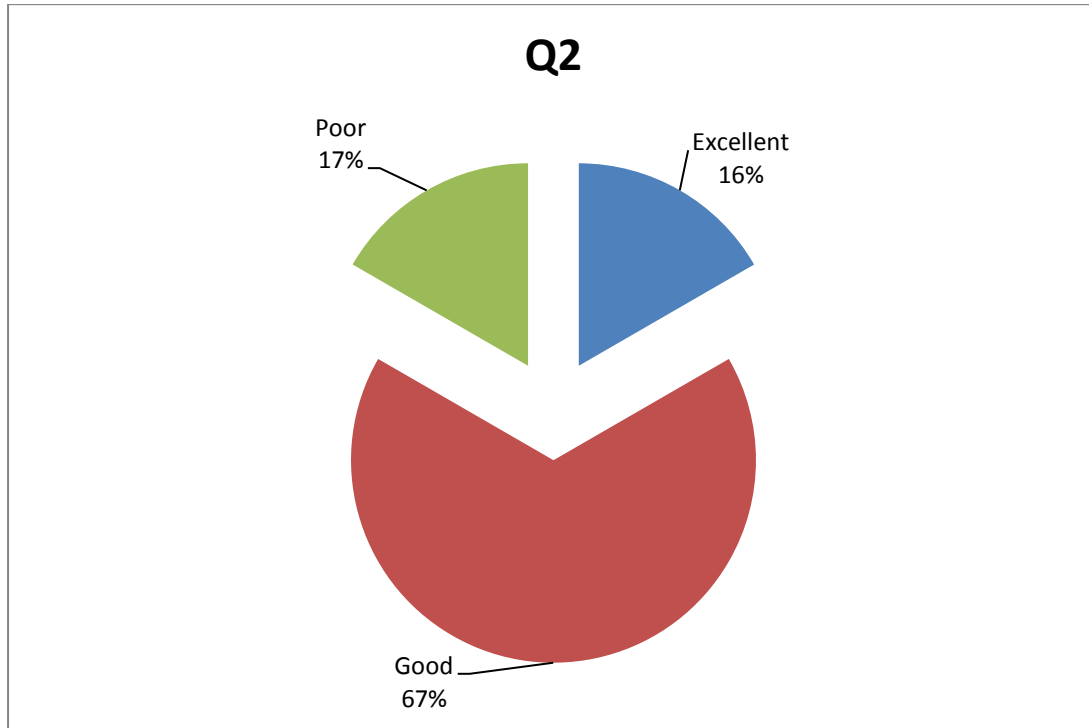
On the basis of this Pie chart, it is analysed that:

- 17% doctors are using Fibrinogen less than 3 yrs
- 0% doctors are using the same between 3 to 7 yrs
- There are 83% doctors who are using Fibrinogen more than 7 yrs

Q2. Availability of Fibrinogen has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

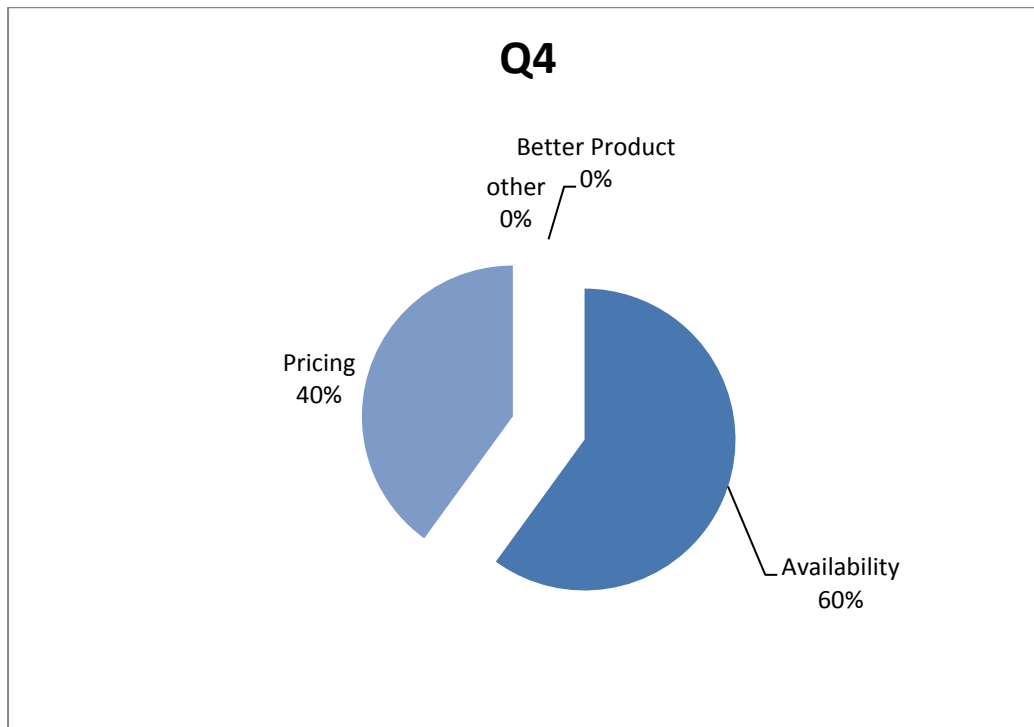
From the above pie chart, it is analysed that availability of Fibrinogen is good.

- According to 16% of doctors availability of Fibrinogen is Excellent
- 67% doctors said that the availability is good
- 17% doctors said that the availability is poor

Q4. If any brand of Fibrinogen you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

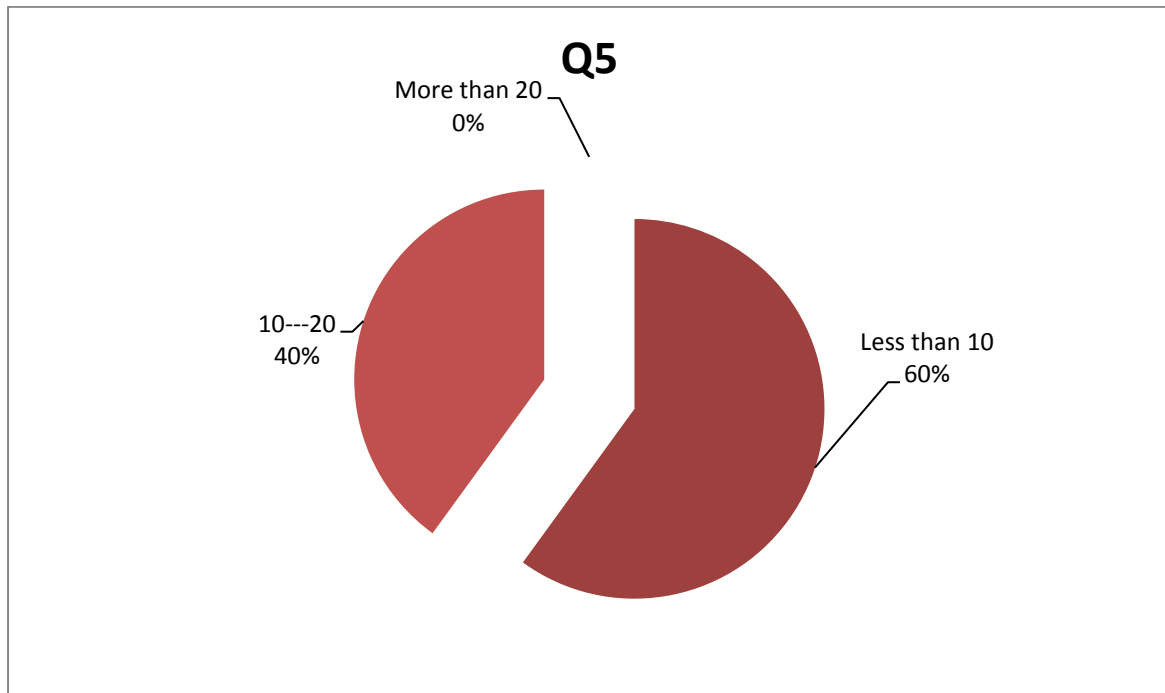
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 0% doctors prefer any brand just because of better product.
- 60% doctors prefer due to availability
- 40% prefer pricing before using Fibrinogen
- 0% said other factors are there while using any brand

Q5. What is general consumption pattern of Fibrinogen?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

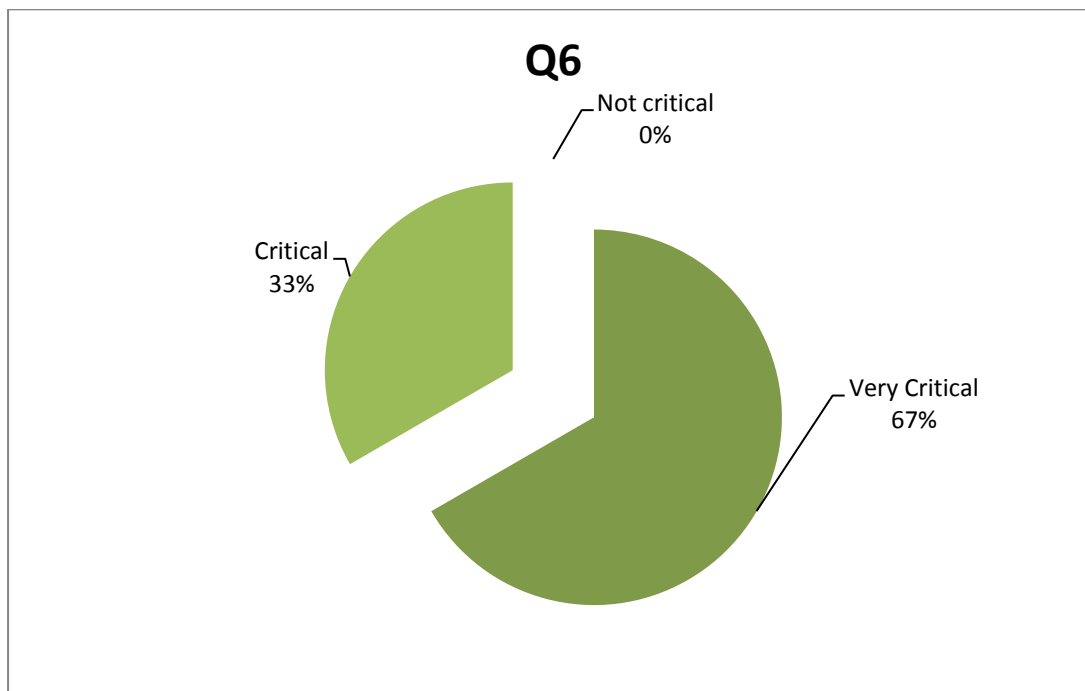
According to the above Pie chart. The general consumption pattern per month of Fibrinogen is:

- 60% doctors whose consumption pattern per month is less than 10
- 40% doctors having consumption pattern is 10-20
- 0% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma” ; would you consider the source of plasma important criterion in selection of Fibrinogen?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

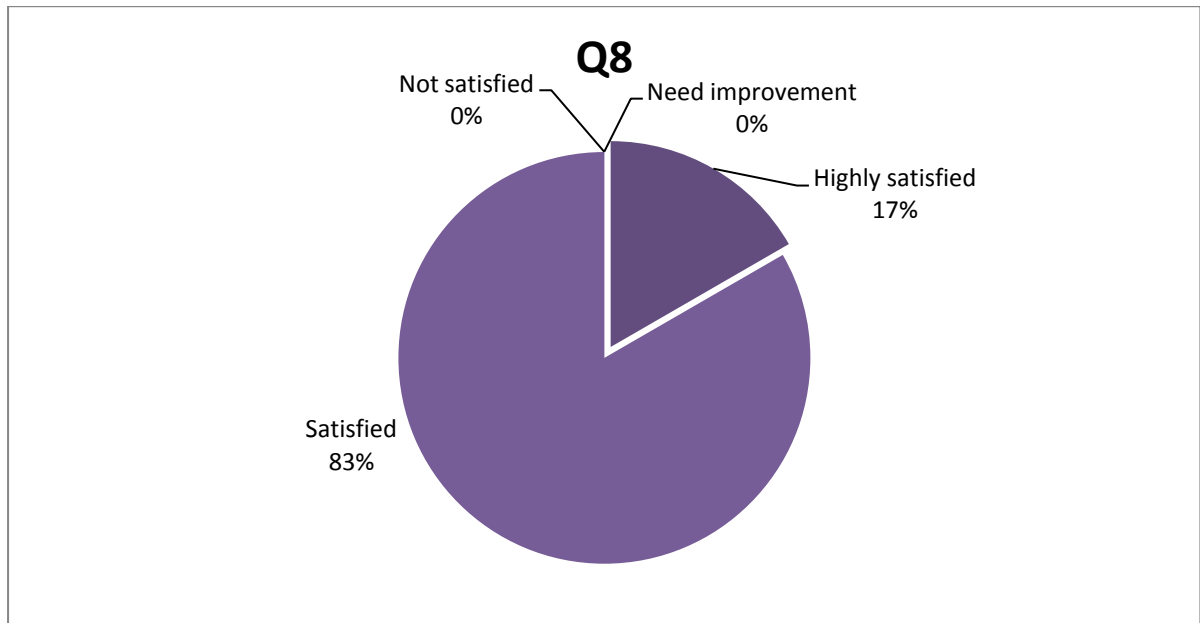
From the above Pie Chart it is estimated that no doctor said that source of plasma is not the critical process.

- Around 67% doctor thinks that is very critical process
- 33% doctors believes it's a critical process
- 0% said not critical

Q8. Your opinion on the quality of currently available brand of Fibrinogen is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

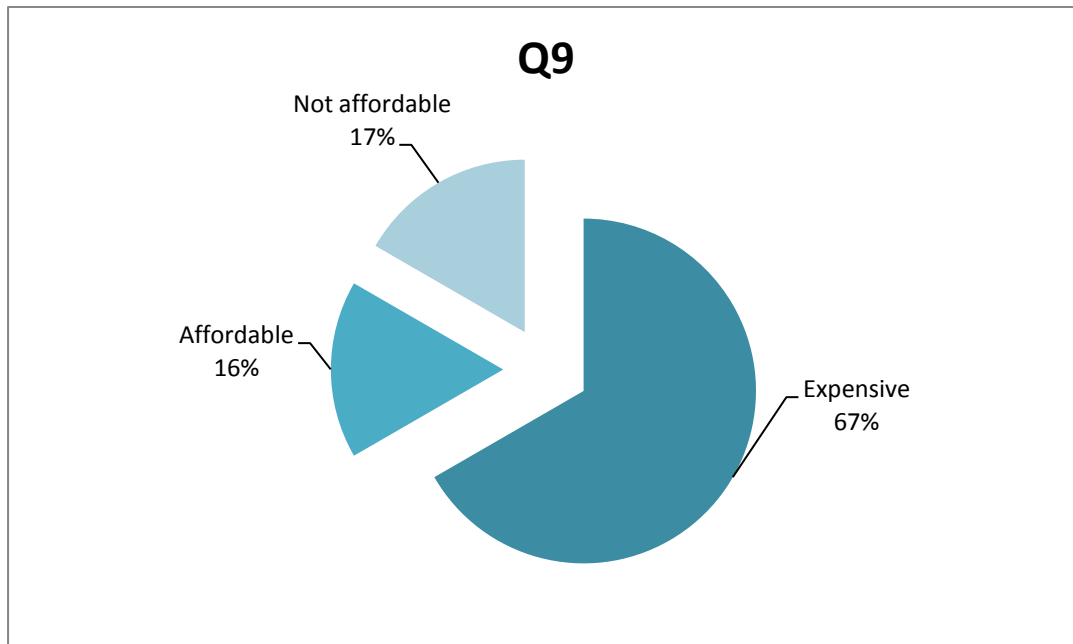
The above Pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 17% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 83% doctors are only satisfied
- 0% are not satisfied
- And according to 0% doctors the brands of plasma products need improvement

Q9. Pricing of currently available brands of Fibrinogen?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

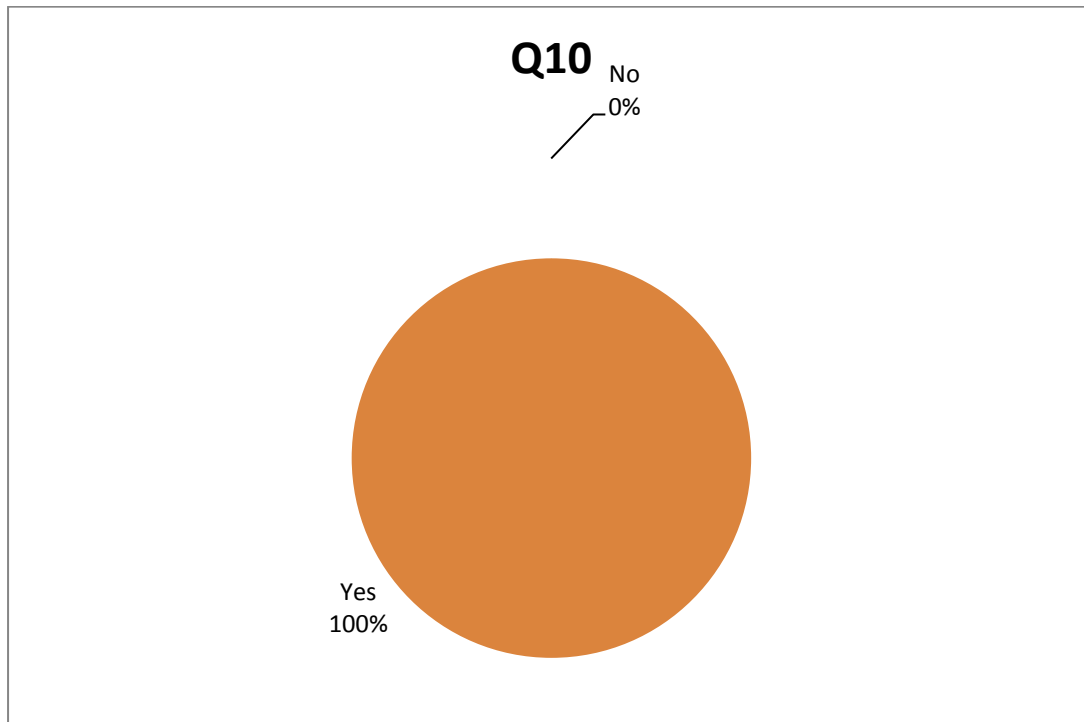
From the above pie chart it shows the pricing of currently available plasma products:

- 67% doctors said that currently available brands of Fibrinogen are Expensive.
- 16% doctors said it can be affordable by the patients.
- 17% said that it is not affordable

Q10. Does any awareness program regarding Fibrinogen is required for patients / doctors / paramedical staff?

- A. Yes
- B. No

Analysis:



Interpretation:

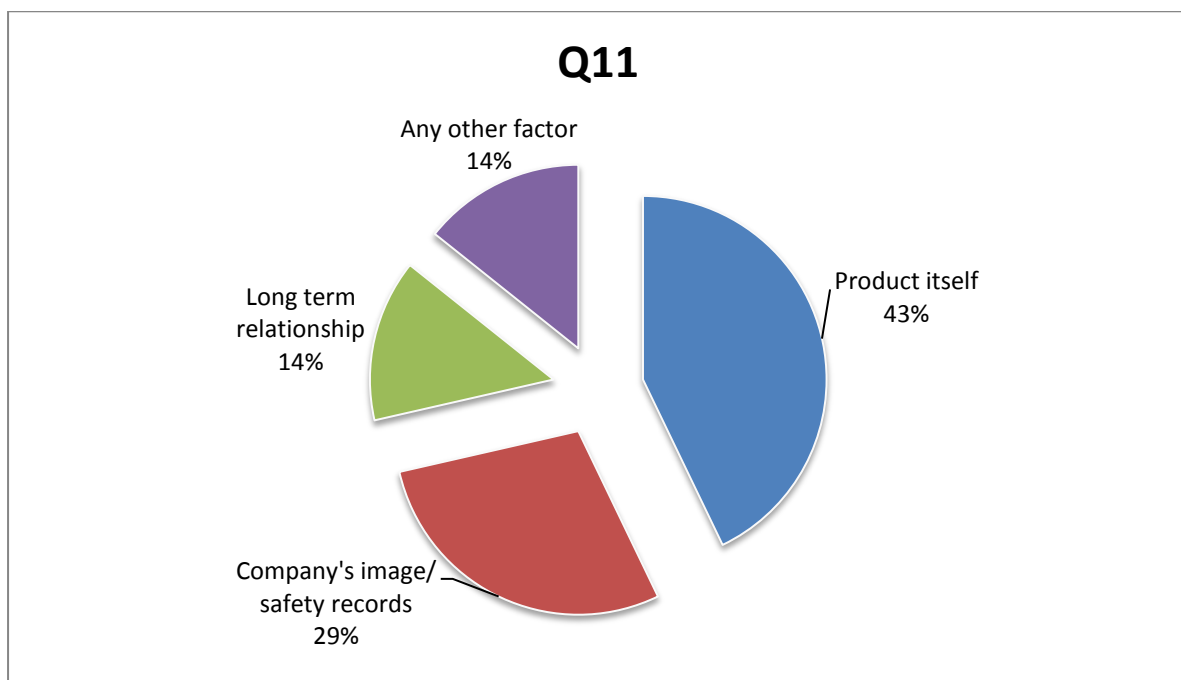
It is analysed from the above Pie chart that:

- According to 100% doctors they believe that yes awareness program is required regarding plasma products.
- 0% doctors said no there is no requirement for awareness program

Q11. How do you trust a brand of Fibrinogen?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relationship
- D. Any other factor

Analysis:



Interpretation:

The above Pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 43% doctors believe that product itself must be good.
- 29% doctors said that company's image and safety records are important
- 14% doctors think that long term relationship is there.
- 14% doctors said there are other factors.

Tetanus Hyper Immunoglobulin

 Open ended questions answers given by doctors regarding Tetanus Hyper Immunoglobulin

Q3. Any specific brand of Tetanus Hyper Immunoglobulin you prefer?

- Any available brand
- Product of Bharat Serum
- Claris

Q7. Any safety issues for Tetanus Hyper Immunoglobulin?

- Free from HIV, Hepatitis –B, C
- Contamination free and within expiry date
- Proper indication
- Risk of transmission of disease
- Allergic Reactions
- One should check the bioavailability

Q12. What are major issues in prescribing Tetanus Hyper Immunoglobulin?
to the patients?

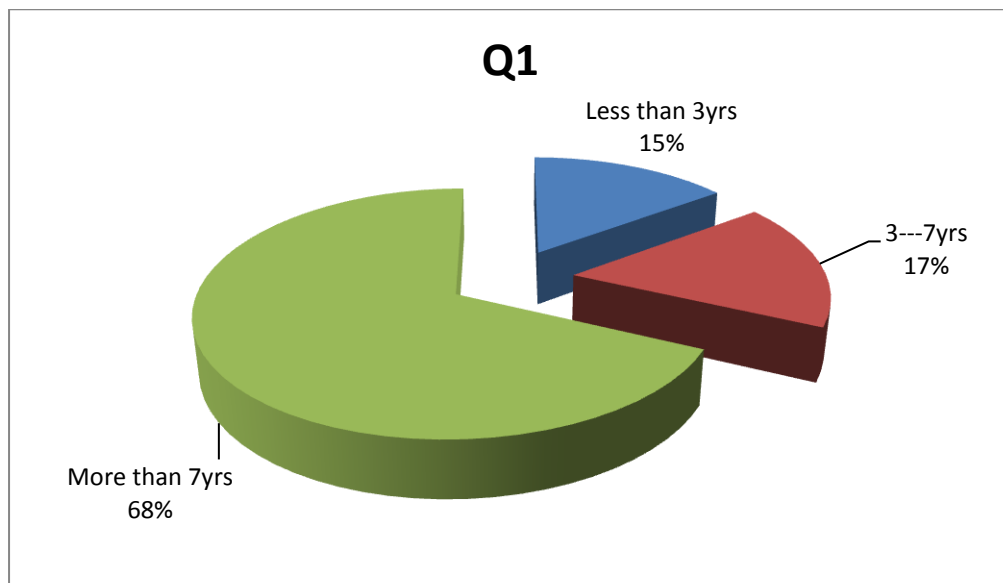
- Availability, price, safety
- Bleeding disorder, trauma
- Depending upon indication
- Quality and affordability

+ Open ended questions answers given by doctors regarding Tetanus Hyper Immunoglobulin

Q1. How long you have been using Tetanus Hyper Immunoglobulin

- A. Less than 3yrs
- B. 3-7 yrs
- C. More than 7 yrs

Analysis:



Interpretation:

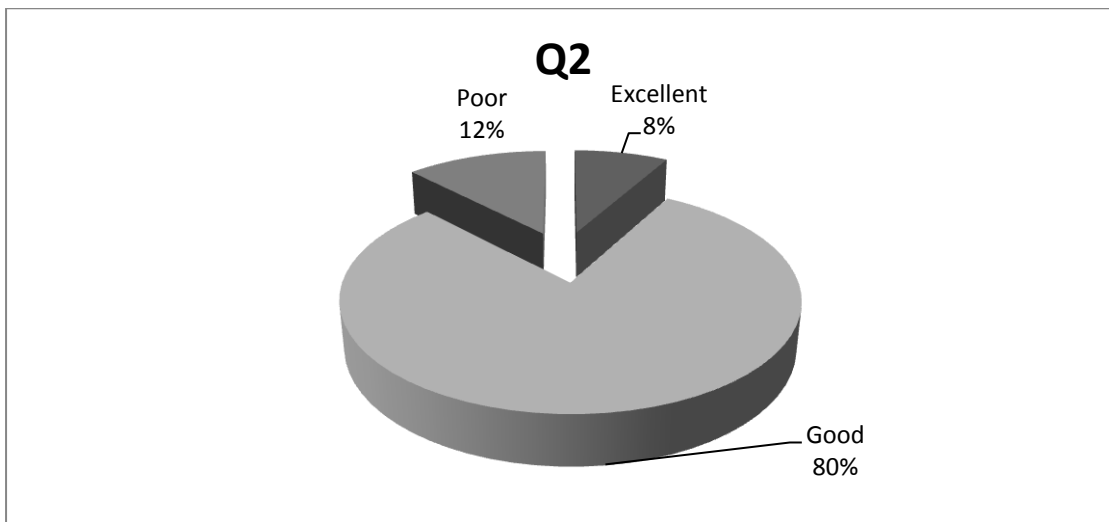
On the basis of this Pie chart, it is analysed that:

- 15% doctors are using Tetanus Hyper Immunoglobulin less than 3 yrs
- 17% doctors are using the same between 3 to 7 yrs
- There are 68% doctors who are using Tetanus Hyper Immunoglobulin more than 7 yrs

Q2. Availability of Tetanus Hyper Immunoglobulin has been.....

- A. Excellent
- B. Good
- C. Poor

Analysis:



Interpretation:

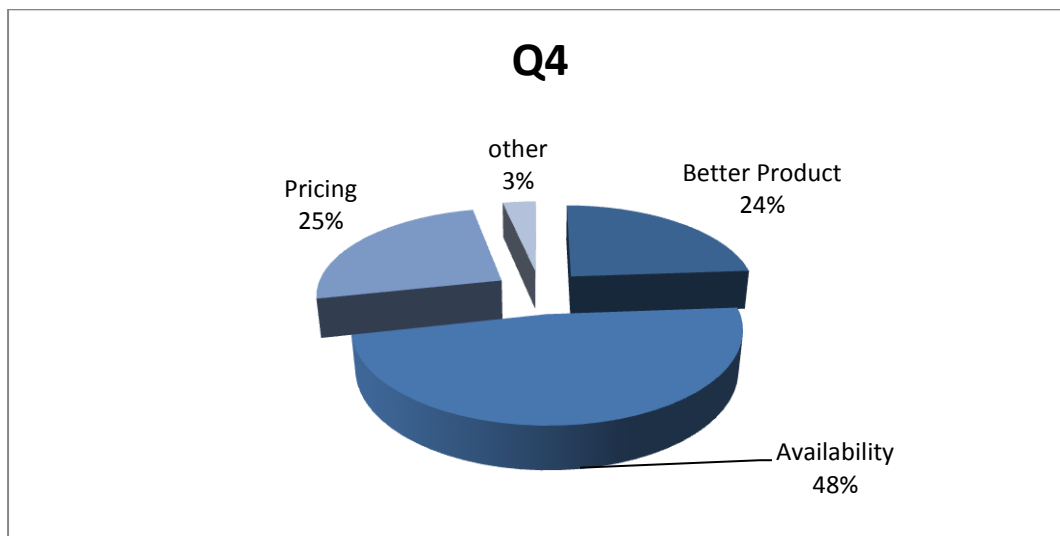
From the above, it is analysed that availability of Tetanus Hyper Immunoglobulin is good.

- According to 8% of doctors this availability of Tetanus Hyper Immunoglobulin is Excellent
- 80% doctors said that the availability is good
- 12% doctors said that the availability is poor

Q4. If any brand of Tetanus Hyper Immunoglobulin you prefer because of.....

- A. Better product
- B. Availability
- C. Pricing
- D. Other

Analysis



Interpretation:

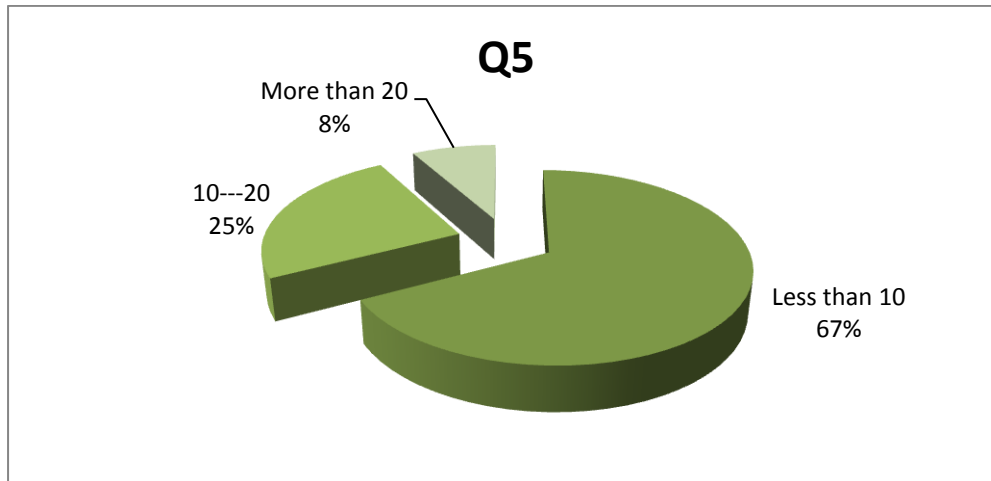
It is analysed with this pie chart that doctors are using any brand because of its availability:

- Around 24% doctors prefer any brand just because of better product.
- 48% doctors prefer due to availability
- 25% prefer pricing before prescribing Tetanus Hyper Immunoglobulin
- 3% said other factors are there while using any brand

Q5. What is general consumption pattern of Tetanus Hyper Immunoglobulin?

- A. Less than 10
- B. 10-20
- C. More than 20

Analysis



Interpretation:

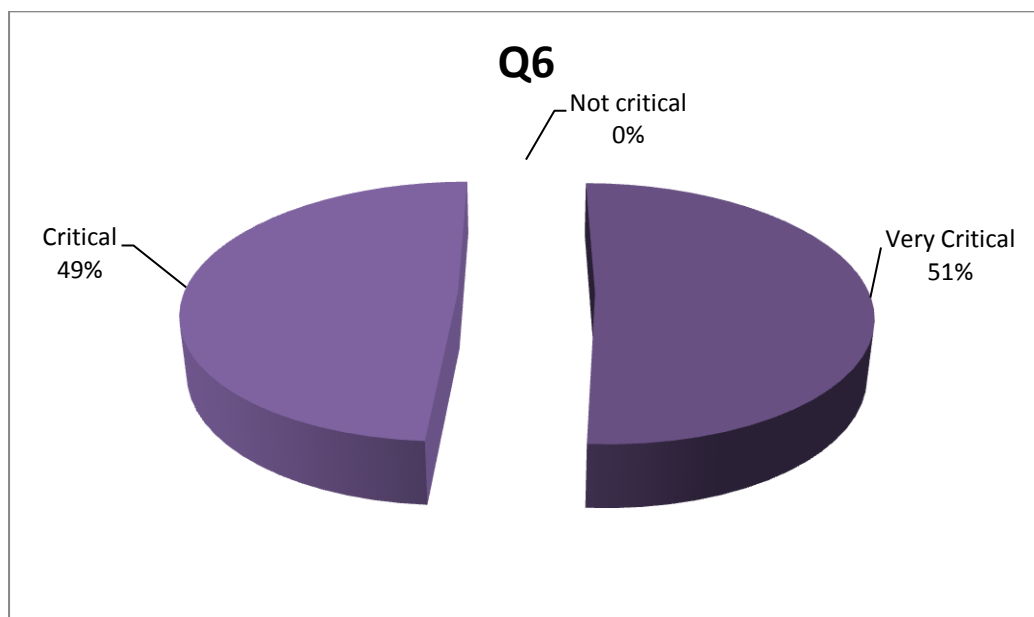
According to the above Pie chart. The general consumption pattern per month of Tetanus Hyper Immunoglobulin is:

- 67% doctors whose consumption pattern per month is less than 10
- 25% doctors having consumption pattern is 10-20
- 8% doctors having the same is more than 20

Q6. Because it is biologic “made out of human plasma” ; would you consider the source of plasma important criterion in selection of Tetanus Hyper Immunoglobulin?

- A. Very critical
- B. Critical
- C. Not critical

Analysis



Interpretation:

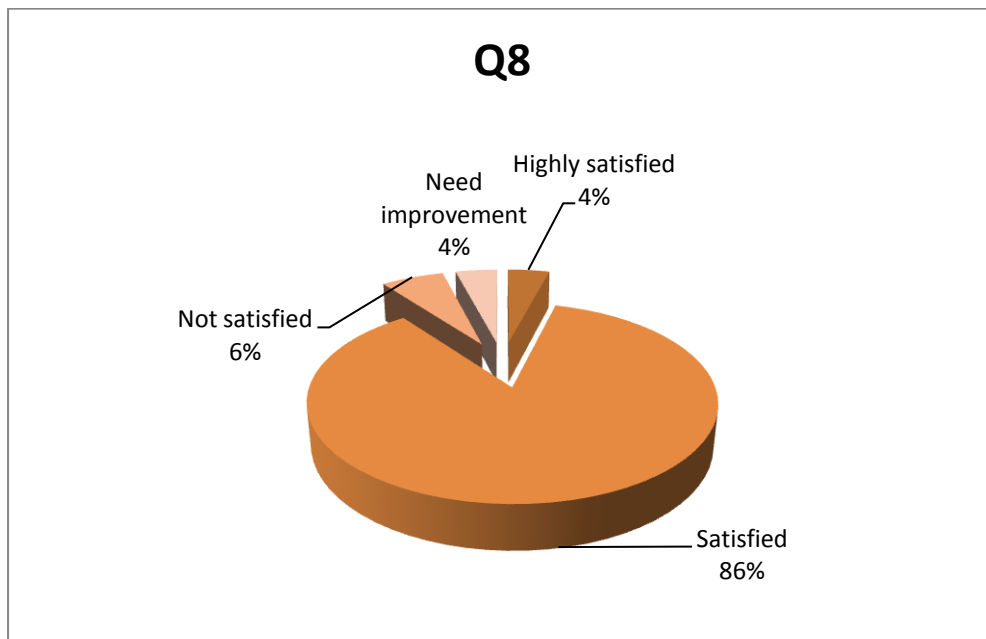
From the above Pie Chart it is estimated that no doctor said that source of plasma is not the critical process.

- Around 51% doctor thinks that is very critical process
- 49% doctors believes it's a critical process
- 0% said not critical

Q8. Your opinion on the quality of currently available brand of Tetanus Hyper Immunoglobulin is?

- A. Highly satisfied
- B. Satisfied
- C. Not satisfied
- D. Need improvement

Analysis



Interpretation:

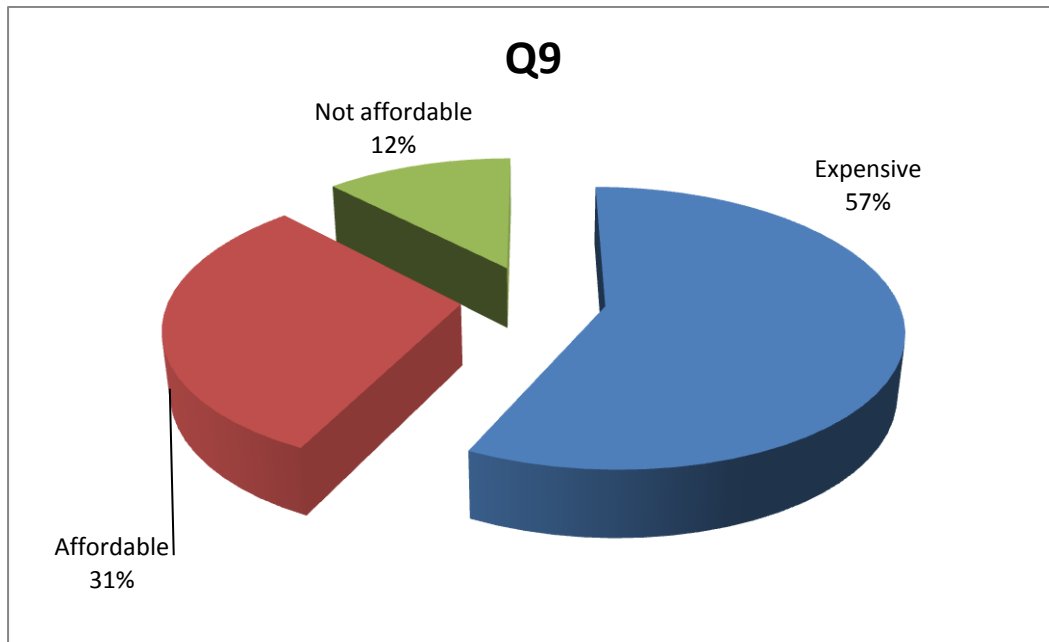
The above pie chart shows that doctors are satisfied or not from the plasma products or they need improvement:

- It is estimated that 4% doctors are highly satisfied with the quality of currently available brands of plasma products.
- 86% doctors are only satisfied
- 6% are not satisfied
- And according to 4% doctors the brands of plasma products need improvement

Q9. Pricing of currently available brands of Tetanus Hyper Immunoglobulin?

- A. Expensive
- B. Affordable
- C. Not Affordable

Analysis:



Interpretation:

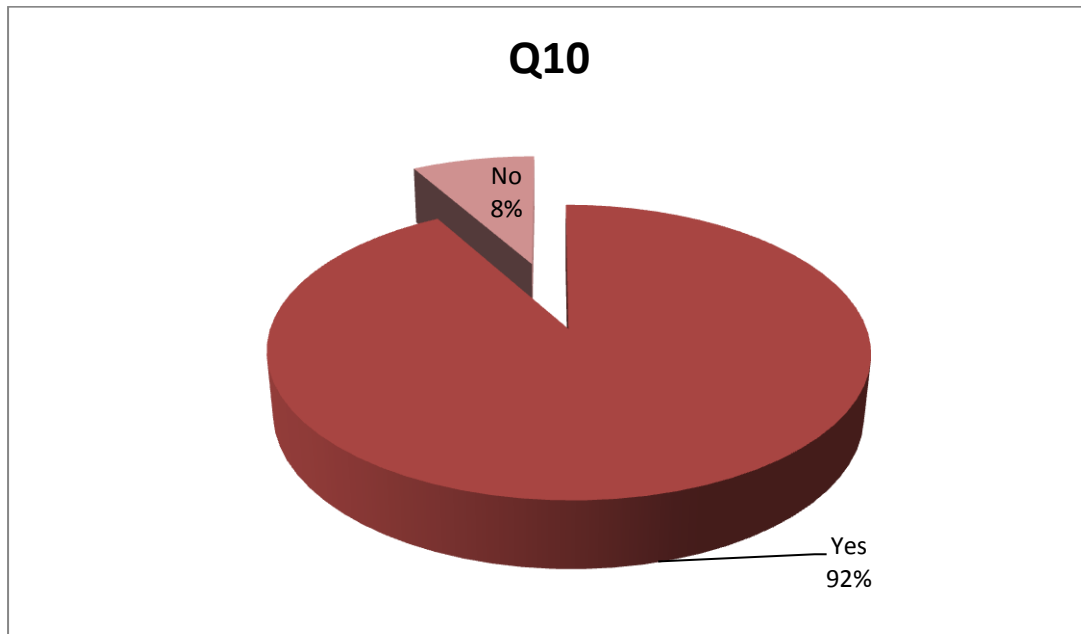
From the above pie chart it shows the pricing of currently available plasma products:

- 57% doctors said that currently available brands of Tetanus Hyper Immunoglobulin are expensive.
- 31% doctors said it can be affordable by the patients.
- 12% said that it is not affordable

Q10. Does any awareness program regarding Tetanus Hyper Immunoglobulin is required for patients / doctors / paramedical staff?

- A. Yes
- B. No

Analysis:



Interpretation:

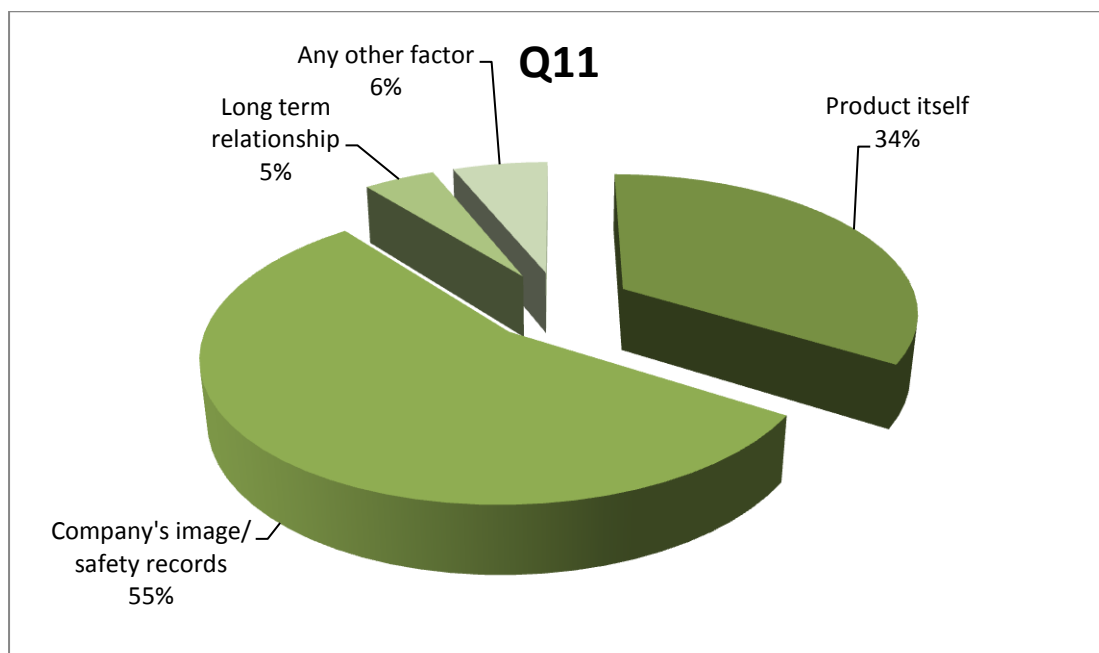
It is analysed from the above Pie chart that:

- According to 92% doctors they believe that yes awareness program is required regarding plasma products.
- 8% doctors said no there is no requirement for awareness program is required

Q11. How do you trust a brand of Tetanus Hyper Immunoglobulin?

- A. Product itself
- B. Company's image / safety records
- C. Long term Relation ship
- D. Any other factor

Analysis:



Interpretation:

The above pie chart shows that which one is the most used criteria for doctors while choosing or having trust on any brand:

- 34% doctors believe that product itself must be good.
- 55% doctors said that company's image and safety records are important
- 5% doctors think that long term relationship is there.
- 6% doctors said there are other factors.

Findings/Conclusion

1. The cities which I had covered during survey there are 59% blood banks which are charitable, 28% are govt associated, 18% are hospital associated and none of the bank is private I found.
2. 88% blood banks having the permission to conduct camps while 12% don't have.
3. 62% blood banks having license to prepare platelets, plasma, RBC's and cryoprecipitate while 38% blood bank are preparing only platelets, plasma, RBC's.
4. Around maximum blood collection take place from Jaipur about 38%, then from Kota 30%, Bhilwara 10%, Udaipur 11%, and from Abu Road and Ajmer 2% and 9%
5. HLL and J Mitra blood bag is used by many blood banks about 38% and 39%, the Pempol is the leading one around 19%, Fenwal is used minimum around 3%.
6. 52% plasma store into freezer, 48% into Blast freezer., none of the blood bank store into cold room
7. 100% blood bank says that yes there would be the consortium between blood banks and plasma fractionation company, nobody says no
8. 100% blood banks thinks that yes the surplus plasma available in blood banks can be utilised for fractionation
9. 48% blood banks are using Elisa gen III technique for screening of blood, 42% are using Elisa gen IV, 5% are using chemiluminiscense and 5% are using NAT gen IV.
10. All blood banks which I had covered are agreed and they are ready to give surplus plasma for fractionation.
- 11 The availability of plasma product is good among or somewhat poor among the areas I visited. None of the doctor said excellent
- 12 It is analysed through the whole study that the price of plasma product is too expensive and difficult to afford by the people
- 13 Doctors are using any available brand of plasma product. Very few doctors told about the particular brand they are using.
- 14 Maximum doctors said that the source of the plasma is an important criterion while choosing plasma products as it is a very critical process.
- 15 Doctors prefer any brand of the company for plasma products because of the company's name and safety records.
- 16 Around $\frac{3}{4}$ doctors said that yes some awareness program must be there for patients, paramedical staff and doctor too.

Recommendation

- After completion of whole survey I found that places like Bhilwara and Abu Road which is tribal area where it is difficult to buy plasma products so again the pricing is very important factor both for the doctors as well as patients so it must be reduce at certain level.
- Places like Kota, Udaipur, Ajmer, Abu Road, and Bhilwara including Jaipur where availability of plasma product is an important factor which is still lacking in these areas so this must be improved.
- During the survey I found that many of the doctors don't know about the plasma products like IVIG and what its use so the proper awareness programs regarding plasma products must be conducted time to time by the company which would be beneficial for the doctors as well as paramedical staff.
- During my survey I found that there is one component blood bank which is not using NAT, ELISA or any other standard technique for the screening of blood. As plasma product is derived from blood. So there should be use of proper screening method.
- In many of the government blood banks no aseptic or hygienic condition was available so this is also one of the major issues which should be removed.
- Awareness programs must be provided to the pathologist in the blood banks regarding plasma and plasma products.
- There are maximum doctors whose general consumption pattern of plasma product is less than 10. This shows that either doctor not aware about plasma products or they are not prescribing due to lack of availability.
- During collection of data I realized that doctors are very conscious regarding plasma products because these are life saving products and must be given at proper time so timing is also depend upon the availability of these products.
- Even doctors are very serious regarding the safety issues of plasma product because people can suffer with the blood borne infections so proper safety measures must be taken by the company.
- Proper information should be given by market representative to the doctors regarding plasma products and its importance.

Annexure

QUESTIONNAIRE

Doctors

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

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.

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

- a. Yes b. No.

12. 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 ()

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

.....

14 Any references, if you would like to give

.....

QUESTIONAIRRE

Blood Banks

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 of Blood Bank.....

Name of Doctor.....

Address.....

City.....State.....Pin Code.....

Ph.No.....Mobile.....

Email.....

Q1. What is the nature of Blood Centre?

1. Govt 2. Charitable 3. Hospital Associated 4. Private/ Stand Alone

Q2. Blood Centre License Number and Validity of License?

.....

Q3. Do you have permission to conduct blood collection drives/ camps? If yes, how many drives/camps do you conduct?

.....

Q4. Your Blood Centre is having License to prepare

1. Packed RBC's 2. Platelets 3. Plasma 4. Cryoprecipitate

Q5. Total Blood Collection (units) for the year 2011-2012?

1. <10000 2. <15000 3. <20000 4. <25000 5. <30000 6. <35000 7. <40000
8. < 50000

Q6. Total blood collected in as percentage:

Blood Bag	Single bag	Double bag	Triple bag	Quadruple bag
450				
350				

Q7. Which company blood bag is mostly used for blood collection?

1. Terump Pempol 2. Fenwal 3. HLL 4. Mitra Industries 5. Specific.....

Q8. What is the percentage of voluntary blood collection?

1. 100 2. >90 3. >80 4. >70 5. >50 6. Specific.....

Q9. What is the percentage of blood componentization?

1. 100 2. >90 3. >80 4. >70 5. >50 6. Specific.....

Q10. What is the percentage of issuance of plasma component to the patient?

1. 10 2. <20 3. <30 4. <40 5. <50 6. Specific.....

Q11. Which protocol is followed for the screening of Blood/ Plasma?

Name of technique	Elisa (generation)		NAT (generation)		Chemiluminiscense
	III	IV	III	IV	
HIV					
HBV					
HCV					

Q12. How many cases individually recorded for all Transfusion- Transmissible infections?

Year	HIV	HBV	HCV	SYPHILIS	MALARIA
2010-2011					
2011-2012					

Q13. How do you prepare and store plasma?

1. Blast freezer
2. Cold room
3. Freezer

Q14. Is cryoprecipitate component is prepared? If yes, what percentage?

1. Yes
2.% of plasma
3. No

Q15. Do Haemophilic patient's approach your blood centre for cryoprecipitate? If yes, what how many patient's /month?

1. Yes
2.patients/ month
3. No

Q16. What is the maximum capacity for storage of plasma at your blood centre?

1. >500
2. >1000
3. >2000
4. >3000
5. >3000
6. >5000
7. Specific.....

Q17. What is the monthly average availability of surplus plasma units?

1. 250
2. >500
3. >1000
4. >2500
5. Specific.....

Q18. Do you think forming a consortium between blood banks and plasma Fractionation

Company would help all concerned?

1. Yes
2. No

Q19. Do you agree that surplus plasma available in blood banks can be utilised for fractionation?

1. Yes 2. No

Q20. Would your blood bank like to give plasma for fractionation?

1. Yes 2. No

Q21. Details for blood bank staff:

Description	No. Of Persons	Name and Contact Details
Administration		
Technical		
Non- Technical		