Summer Training at

Plasmagen Biosciences Pvt. Ltd.
(1st April – 31ST May, 2019)

Usage pattern of IVIG in IVF cases (Recurrent Pregnancy Loss) and Anti-D IM (500IU) among the Gynaecologists.

By
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Under the guidance of
Dr. Ashok Peepliwal

MBA in Pharmaceutical Management

2018-2020

Institute of Health Management Research, Jaipur

INSTITUTE OF HEALTH
MANAGEMENT RESEARCH
(WHO Collaborating Centre for District Health System Based on Primary Health Care)

IIHMR UNIVERSITY

CERTIFICATE

This is to certify that **Manisha Sharma** has undergone Summer Training at **Plasmagen Biosciences Pvt. Ltd.** from 1st April 2019 to 31st May 2019.

The candidate herself completed the project assigned to her in Summer training. Her approach to project was sincere and proactive. This Summer Training is in partial fulfillment of the course requirement recommended for the award of MBA in Pharmaceutical Management.

I wish her success in all her future endeavors.

Mr. Ashok Peepliwal
Associate Professor
IIHMR University, Jaipur

Dr. Sandeep Narula
Dean-in-charge and Associate Professor
IIHMR University, Jaipur

CERTIFICATE OF INTERNSHIP

THIS CERTIFICATE IS PRESENTED TO

Ms. Manisha Sharma

In recognition to the valuable contribution towards the Marketing Research Project
in the field of Blood Plasma Products
on the topic

"USAGE PATTERN OF IVIG IN IVF & ANTI-D I.M. (500I.U.) AMONG GYNAECOLOGISTS"

April, 2019 - May, 2019

Dr. Ranjeet S. Ajmani
Chief Executive Officer

PlasmaGen Biosciences

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 has been complied 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 ***Mr. Awadhesh Nath Tiwari (Senior Manager) of PlasmaGen Bioscience Pvt Ltd***, who took lot of pain to supervise this project work. His guidance, advice, timely suggestion, explicit decision, attention had been privilege for me. I have no words to express my of gratitude to him for his encouragement & relevant criticism time to time.

Foremost, completion of this project would have not been possible without the valuable suggestions of my faculty mentor ***Dr. Ashok Peepliwal*** whose guidance helped me a lot during project.

I would like to express my special gratitude and thanks to ***Ms. Aarthi GR (HR Manager) of PlasmaGen Biosciences Pvt Ltd,*** for mailing me time to time and keeping me updated with all the latest updates and instructions on behalf of the company.

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

MANISHA SHARMA

TABLE OF CONTENT

EXECUTIVE SUMMARY

The project undertaken is a market survey on the Usage pattern of IVIG in IVF (Recurrent Pregnancy Loss) & Anti-D IM 500IU among gynaecologists. Recurrent pregnancy loss is defined as the loss of three or more consecutive pregnancies in the first trimester [1]. RSA affects 1-1.8% of women [1, 2]. IVIG have been used in the prevention of miscarriages of auto immunologic cause, either alone or in combination with other immunomodulatory agents [3]. The mechanism by which IVIG could favor pregnancy success include reduction in the cytotoxic activity of NK cells, [4] expansion of regulatory T cells and enhancement of their suppressive function and down-modulation of the production of antibodies by B cell, among other.[5] IVIG has proven to be a safe and effective therapy in pregnant patients with primary immunodeficiencies and other immune-based disorders. In particular, the decrease in the cytotoxic activity of NK cells has been associated with pregnancy success [5].

Anti-D IM is given to prevent Rh disease in mother who is Rh negative and to treat idiopathic thrombocytopenia in people who are Rh positive, it's given during following pregnancy. If a fetus is Rho (D) – Positive and the mother is Rho (D) - Negative, the mother is at risk of Rho-D alloimmunization, where the mother mounts an immune response to fetal red blood cells. Thus, it has minimal effect on the first such pregnancy but in a second pregnancy it leads to hemolytic disease of the newborn.

However, the purpose of my market survey was to determine what the obstacles are and to draw a perfect reflection of the current plasma market for IVIG in IVF cases. Thereby, finding new prospects for PlasmaGen Biosciences.

From all the responses collected from the doctors it was evident that availability and quality of plasma products are not very satisfactory at areas which are surveyed. A clear majority of the doctors found that the current prices of IVIG are very expensive for a common man to afford. Doctors have unanimously said that awareness is required for both patients and themselves regarding IVIG in IVF cases. Consumption rate is very less and choosing their favorite brand has been done purely on the basis of availability, quality and price of the product.

ABBREVIATIONS

- IVIG – Intravenous Immunoglobulin.
- IVF – Invitro Fertilization.
- RPL – Recurrent Pregnancy Loss.
- RSA – Recurrent Spontaneous Abortion.
- NK cell – Natural Killer Cells.
- Rh – Rhesus.

ORGANIZATION PROFILE

SOURCE: http://www.plasmagen.in/

PlasmaGen BioSciences is an Indian Bio-pharmaceutical organization specializing exclusively in Plasma Protein Therapy.
Headquartered in Bangalore- India, PlasmaGen has been making every effort in the domain of Plasma product Industry and has become an Imperative one stop destination for the medical fraternity for most of the plasma products need. We have a basket of plasma products and the widest range of immunoglobulins in India catering to the requisites of various realms viz. Haematology, Oncology, Immunology, Paediatrics, Rheumatology, Dermatology and Neurology.

South Asian Association for Regional Co-operation (SAARC) includes 8 countries; India, Afghanistan, Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka, these countries not only share geographical proximity and political agenda but also share many common social concerns- Healthcare, Education, Economic Infrastructure and many more. SAARC region share similar challenges when it comes to awareness, accessibility, availability and affordability of safe plasma products because of the limited consistent supply of safe plasma and low plasma fractionation capacity.

We therefore pursue a vision of ushering in the Plasma Protein industry in SAARC region & endeavor to provide an extensive assortment of safe plasma products to enrich the quality of life of patients. This is a step working towards addressing the very contemporary concept of regional self-sufficiency.

PlasmaGen BioSciences, having a niche and expertise in the cosmos of plasma product therapies; also works closely with the government on various plasma policies and

haemovigilance, which can be extended and leveraged for growth of this industry in entire SAARC region.

MISSION

- Provide a wide range of safe plasma products to patients, in India and SAARC (South Asian Association for Regional Cooperation) region, on consistent basis.
- Create strategic partnership to enable the global market accessible to India and SAARC region.
- Develop a consortium of stakeholders involved in Plasma Protein Therapy to optimize the use of surplus unutilized plasma for India and SAARC region.
- Pave the road for achieving self-sufficiency in Plasma Protein Therapy in India and SAARC region.
- Work in close association with regulatory agencies and collaborate with research institutions to change the landscape of Plasma Protein Industry in India.

VISION

To achieve global recognition and trust, as an Indian plasma product company, dedicated towards improving the health and quality of life of patients in India and SAARC (South Asian Association for Regional Cooperation) region.

VALUES

- **LEADERSHIP -** Courage & Passion
- **RESPECT & INTEGRITY -** Transparent Work Environment
- **QUALITY** - Reflection Of Our Excellence
- **SOCIAL RESPONSIBILITY** - People & Environment
- **HARMONY** - Work-Life Balance
- **CUSTOMER SATISFACTION** - Exceeded Expectation

'PLASMAGEN' PRODUCTS

- Plasma Glob
- Albu Max
- Plasma Rho – D I.V
- Plasma Rab – I.M
- Plasma Hep
- Ver Bumin

PROBLEM STATEMENT

For an aspiring company to do business in protein therapy, the plasma market is not a very congenial place to do business in. Since, plasma products such as IVIG, Human Albumin, Anti-D, Hepatitis and Tetanus Immunoglobulin are all expensive their only source being Human Blood. Blood donors have to be paid hefty sums of money for any donation of blood they make.

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

With an in depth market survey on the usage pattern IVIG in IVF cases and Anti- D IM (500IU) among the gynaecologists in the market. I seek to determine the demand, the usage pattern, personal preferences, preferred brand and substitutes, quality, and factors influencing for not prescribing IVIG in the given regions of India which will hopefully come handy when embarking on new business proposition in the plasma market.

OBJECTIVE OF THE STUDY

MAIN OBJECTIVE

- To analyze the usage pattern of IVIG in IVF (Recurrent Pregnancy Loss) & Anti- D IM (500IU) among Gynaecologists.

SUB OBJECTIVE

- To know the frequency of IVIG and Anti-D IM being prescribed.
- To know the Strength at which IVIG and Anti-D IM being prescribed.
- To know the preferred brand and substituents of IVIG and Anti-D IM being prescribed.
- To know at which indications is IVIG prescribed in IVF cases.
- To know the awareness and acceptability for Anti-D IM 500IU and Polyclonal Anti-D over monoclonal Anti-D.
- To know the expecting cost for Anti-D IM 500IU.
- To know the factors influencing for not prescribing IVIG in RPL cases.

RESEARCH METHODOLOGY

RESEARCH DESIGN: - Descriptive / Quantitative research.

SAMPLING

- **Study Area: -** Mumbai, Ahmedabad, Chennai, Bangalore.
- **Method: -** Convenient sampling.
- **Sample Size**: - a. Anti-D IM (500IU) – 176 Doctors.

  b. IVIG – 154 Doctors.
- **Study Time: -** 1st April – 31st May 2019

DATA COLLECTION

- **Tool : -** Structured questionnaire.
- **Method :-** Survey method.
- **Technique :-** face to face interview.
- **Approach :-** Quantitative data collection.

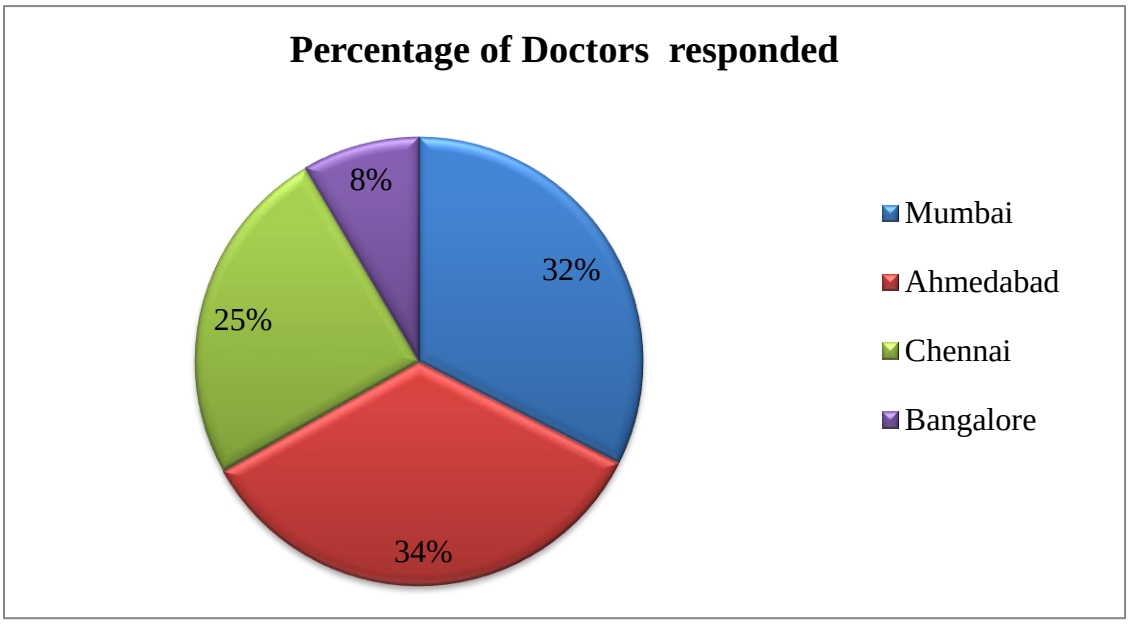
DATA MANAGEMENT

- **Data Processing: -** Manual compilation of the data collected in field and then will be entered in the database.
- **Data Entry: -** MS Excel spread sheets.
- **Data Representation and Analysis: -** MS Excel is used for graphical representation and for analyzing the data.
- **Target Population: -** IVF Specialist and Gynaecologists of corporate, government hospitals and IVF centers.

DATA ANALYSIS OF IVIG (IVF CASES)

1. ***Number of responded for IVIG in IVF cases***

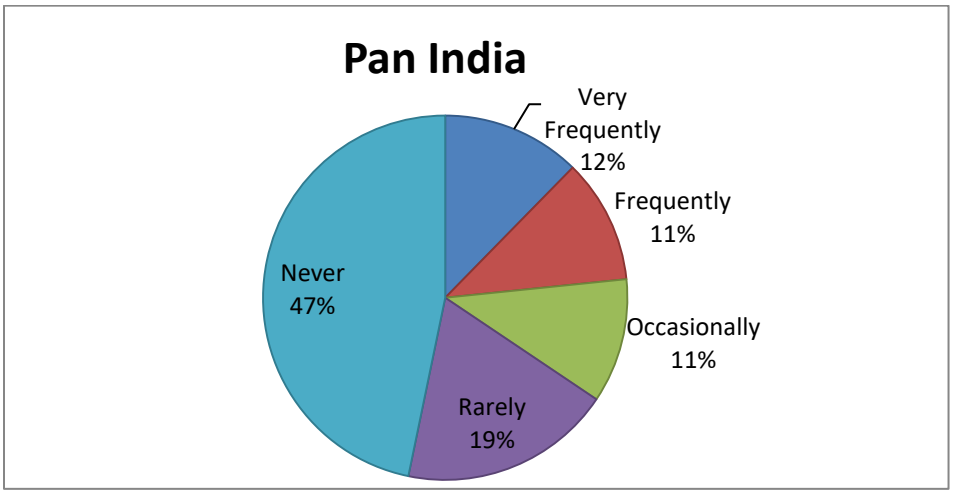
Cities	**Percentage of Responded**
Mumbai	32%
Ahmedabad	34%
Chennai	25%
Bangalore	8%

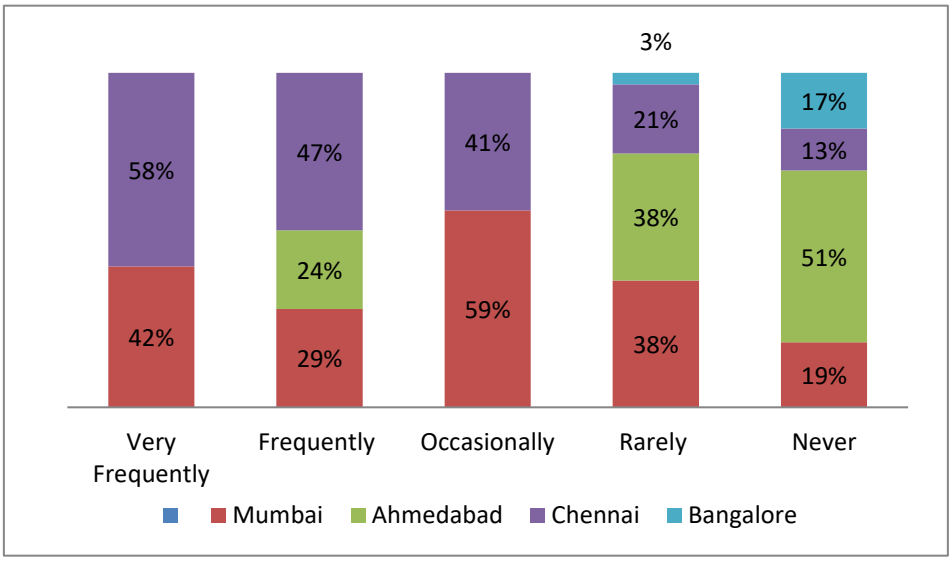


In the survey carried out for IVIG, total 154 Doctors were interviewed out of which 32% respondents were from Mumbai, 34% from Ahmedabad, 25% from Chennai, 8% from Bangalore.

2. Prescribing frequency of IVIG in IVF cases

Cities	Very Frequently	Frequently	Occasionally	Rarely	Never
Pan India	19	17	17	29	72
Mumbai	8	5	10	11	14
Ahmedabad	0	4	0	11	37
Chennai	11	8	7	6	9
Bangalore	0	0	0	1	12

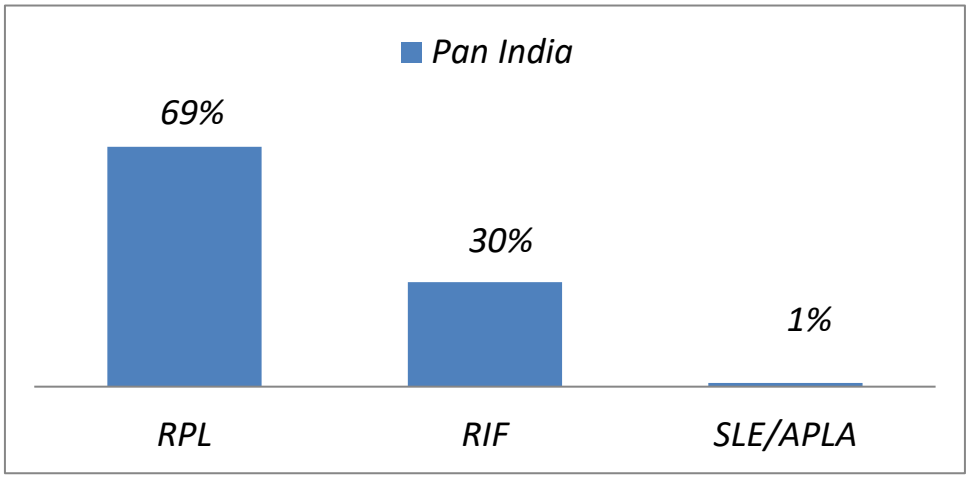


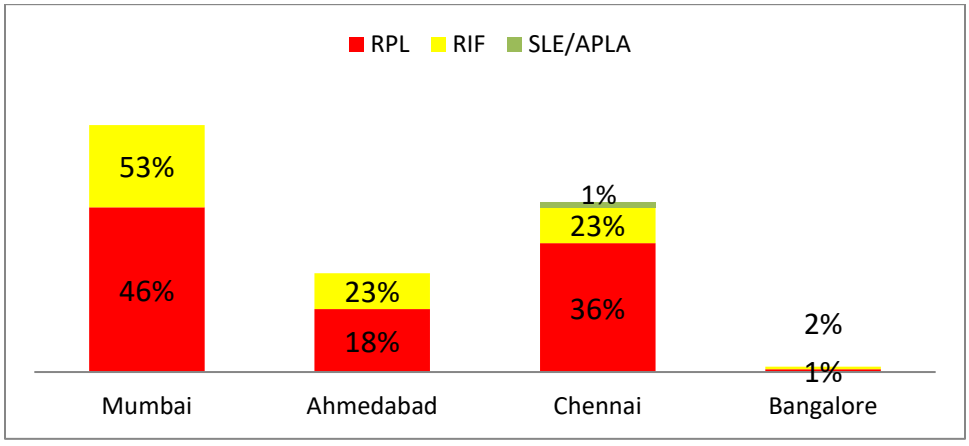


- The data suggest 12% doctors are very frequent prescribers and 11% are frequent prescribers, these doctors can be our potential prescribers if we approach them.
- 11% are occasional prescribers and 19% are rare prescribers because of less awareness about the safety and efficacy of the product therefore awareness about IVIG in IVF cases this is necessary.

3. Indications of IVF cases where IVIG is being prescribed

Cities	RPL	RIF	SLE/APLA
Pan India	131	57	2
Mumbai	60	30	0
Ahmedabad	23	13	0
Chennai	47	13	2
Bangalore	1	1	0

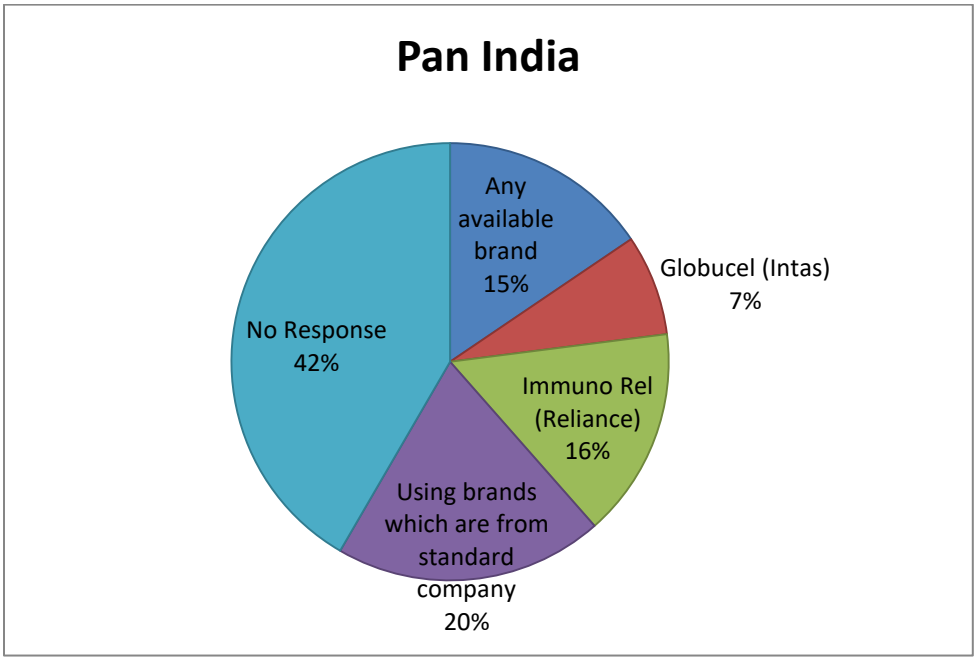


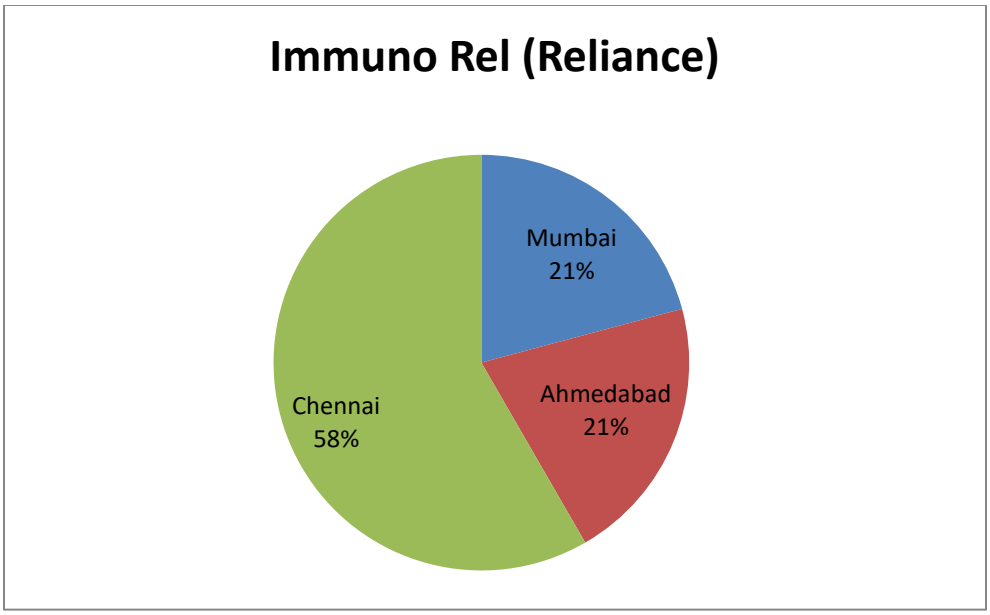


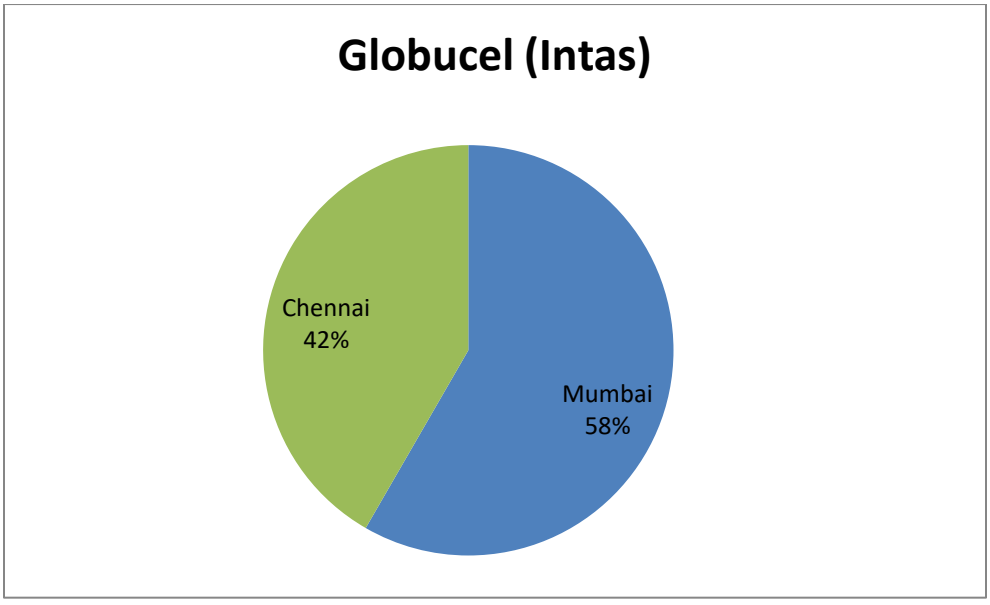
This data suggest the indications of IVF cases were IVIG is prescribed among the doctors is as followed; 69% doctors prescribe in Recurrent Pregnancy Loss, 30% in Recurrent Implantation Failure because of increase in success rate of pregnancy.

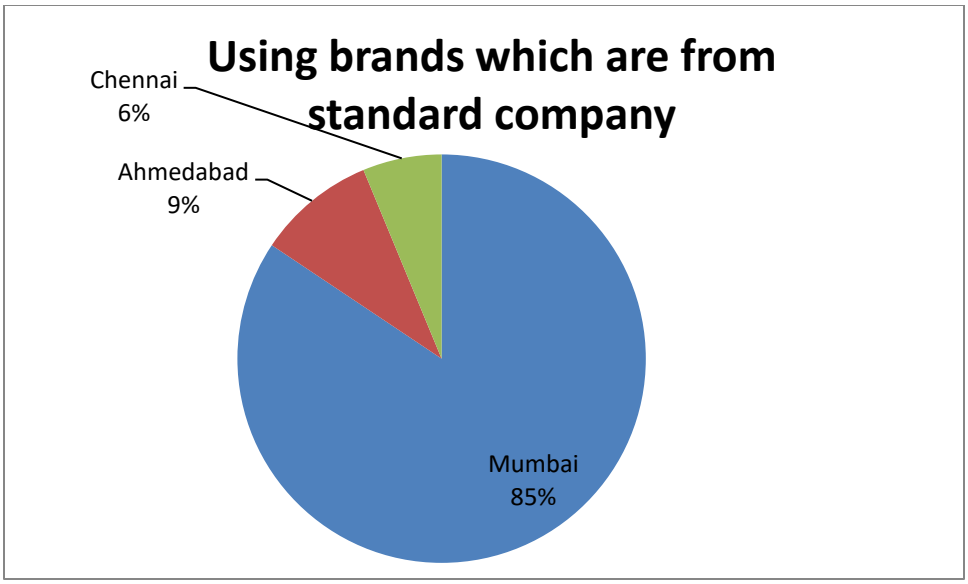
4. Preferred brand for IVIG in IVF cases

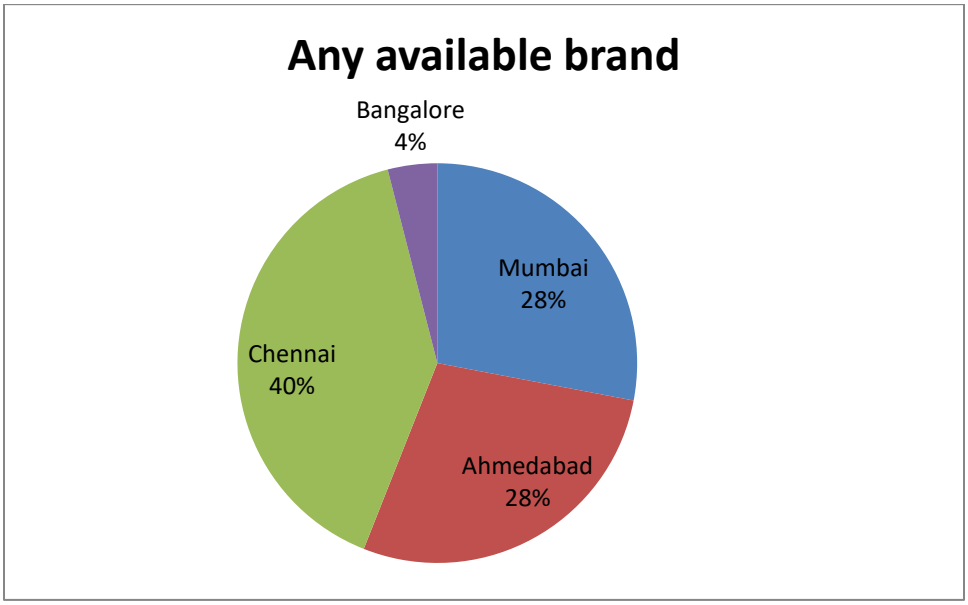
Cities	**Any available brand**	**Globucel (Intas)**	**Immuno Rel (Reliance)**	**Using brands which are from standard company**	**No Response**
Pan India	25	12	25	32	67
Mumbai	7	7	5	27	9
Ahmedabad	7	0	5	3	38
Chennai	10	5	14	2	8
Bangalore	1	0	0	0	12




Immuno Rel (Reliance)
Mumbai
21%
Ahmedabad
21%
Chennai
58%


Globucel (Intas)
Chennai
42%
Mumbai
58%

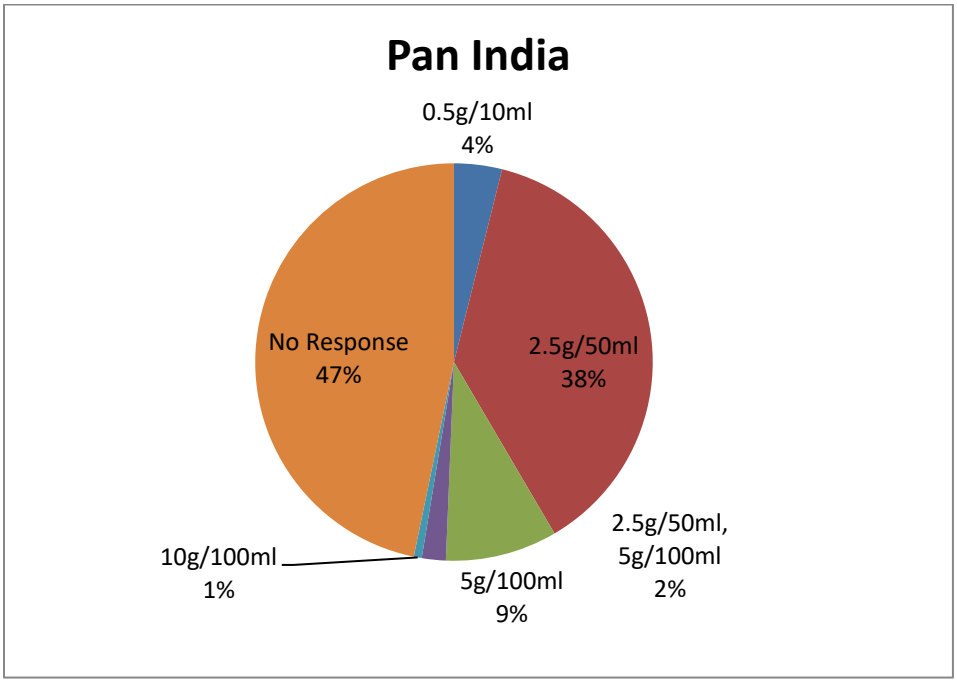


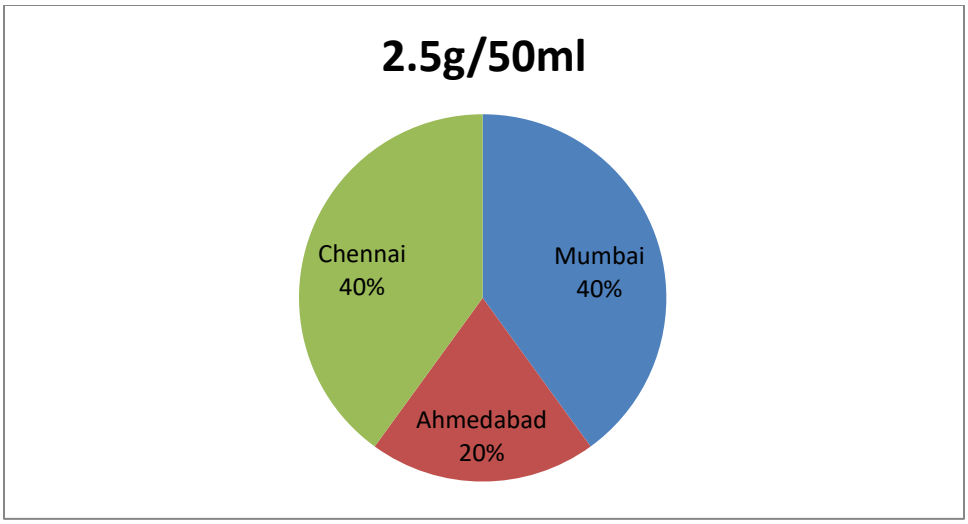


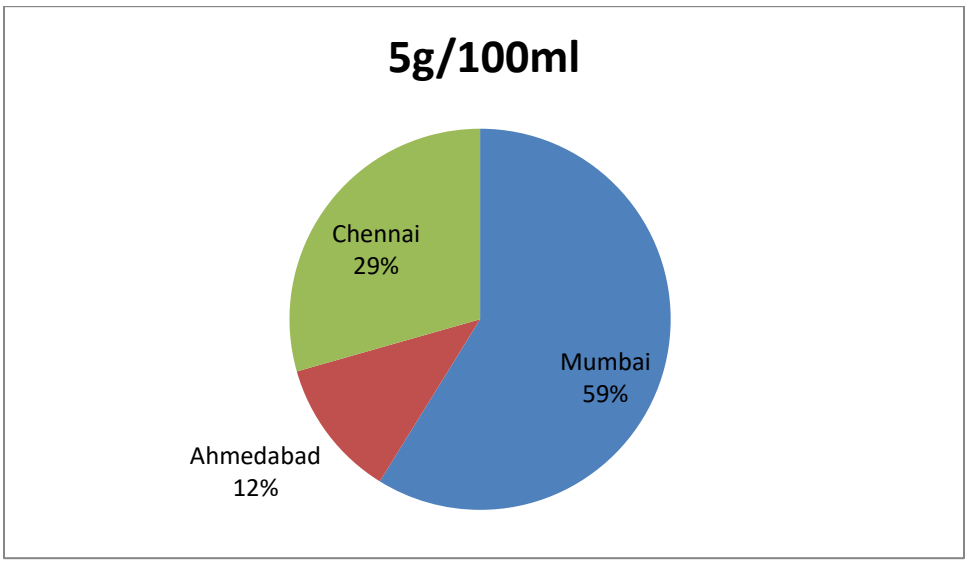
This data suggest the preferred brand for IVIG in all 4 cities, about 20% doctors prescribe brands of standard company, 15% prescribe any available brand. These doctors are majority in Mumbai and Chennai which can easily be convinced instead of tapping to our competitor company prescribers.

5. Strength of IVIG being prescribed in IVF cases

Cities	0.5g/10 ml	2.5g/50 ml	5g/100ml	2.5g/50ml, 5g/100ml	10g/100m l	No Response
Pan India	6	58	14	3	1	72
Mumbai	3	23	9	1	1	13
Ahmedabad	0	12	2	0	0	38
Chennai	3	22	3	2	0	8
Bangalore	0	0	0	0	0	14



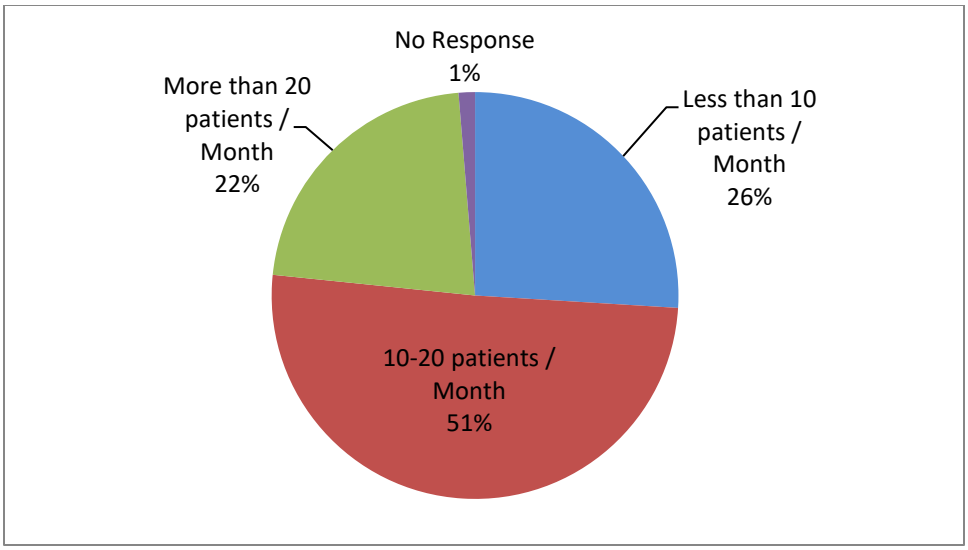


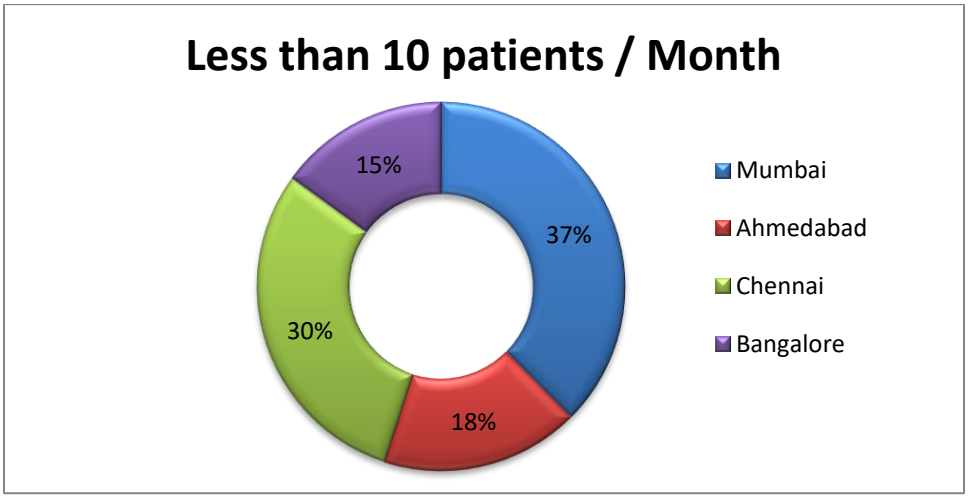


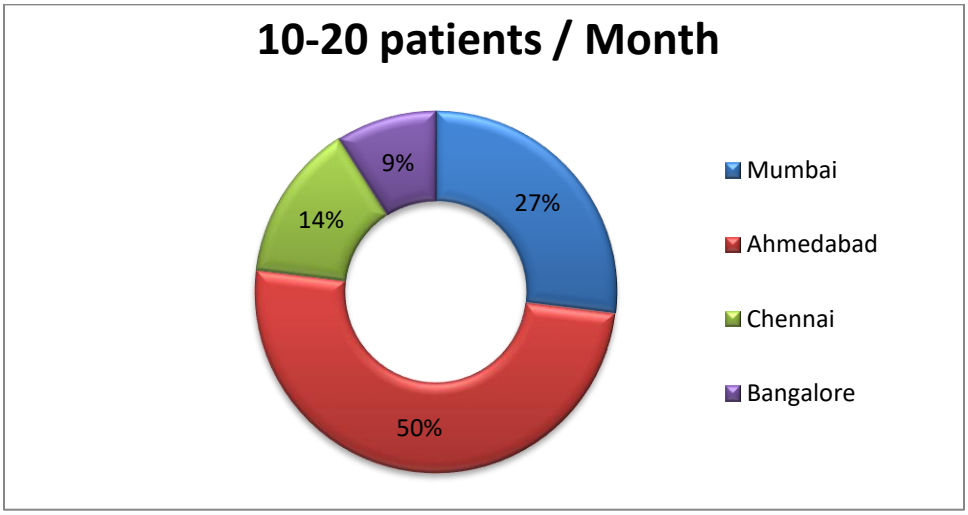
This data suggest the strength of IVIG being prescribed in IVF cases among the doctors is as followed; 38% doctors prescribe 2.5g/50ml and 9% (5g/100ml) as our product of IVIG is also available in the same strength, these doctors can be our potential prescribers.

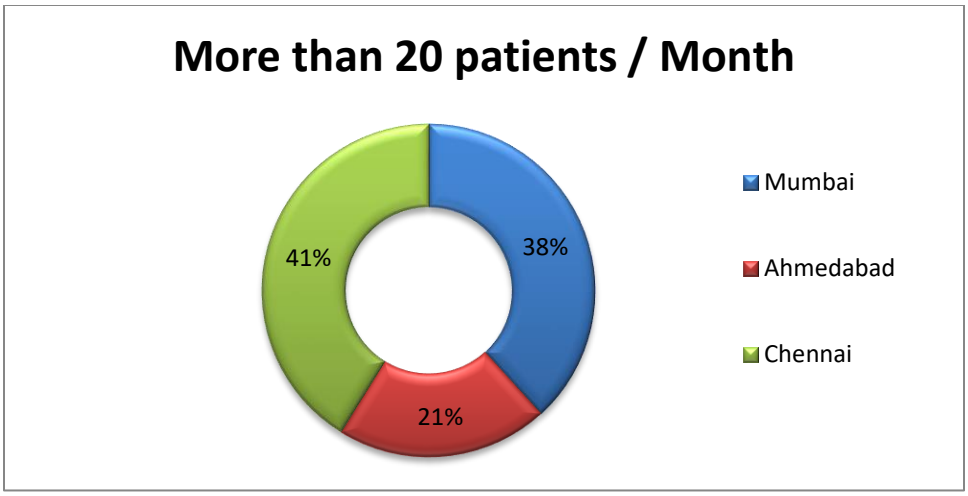
6. Frequency of IVF cases

Cities	**Less than 10 patients / Month**	**10-20 patients / Month**	**More than 20 patients / Month**	**No Response**
Pan India	40	78	34	2
Mumbai	15	21	13	1
Ahmedabad	7	39	7	0
Chennai	12	11	14	1
Bangalore	6	7	0	0


No Response
1%
More than 20
patients /
Month
22%
Less than 10
patients /
Month
26%
10-20 patients /
Month
51%


Less than 10 patients / Month
15%
37%
30%
18%
Mumbai
Ahmedabad
Chennai
Bangalore

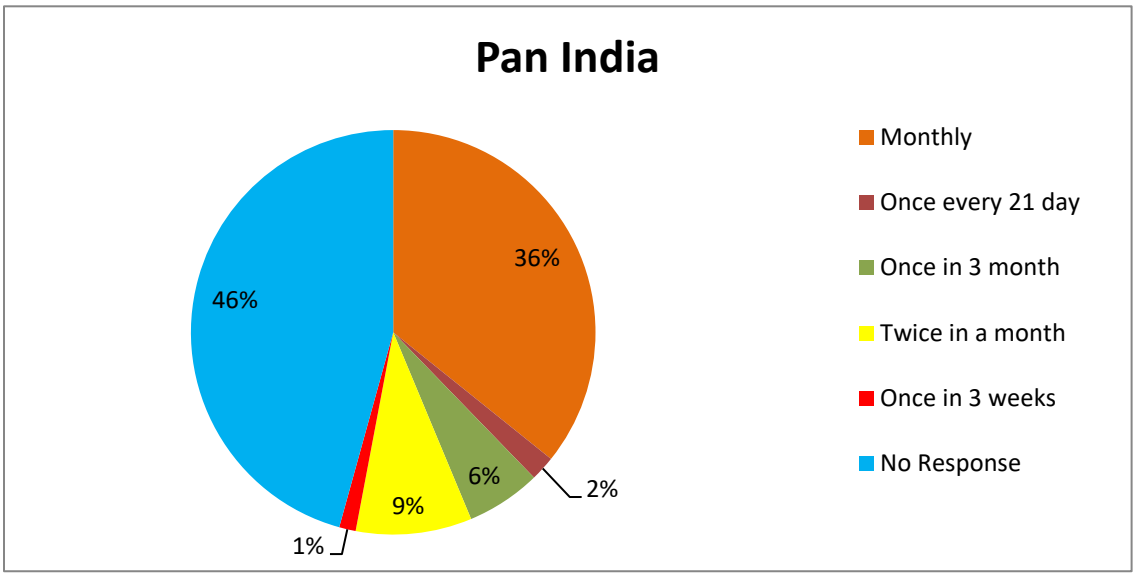

10-20 patients / Month
9%
27%
14%
50%
Mumbai
Ahmedabad
Chennai
Bangalore

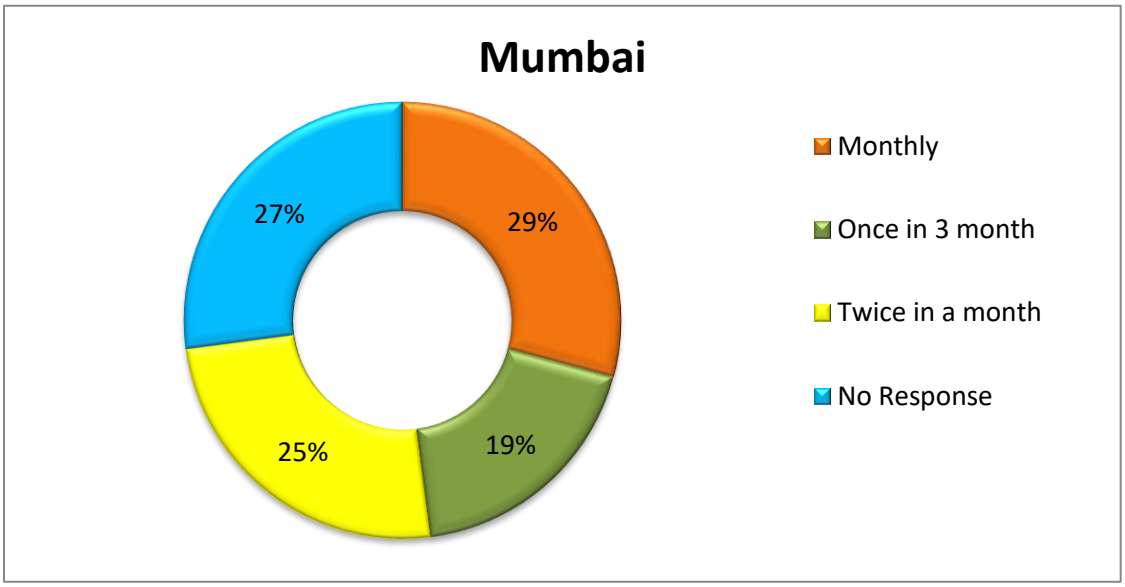


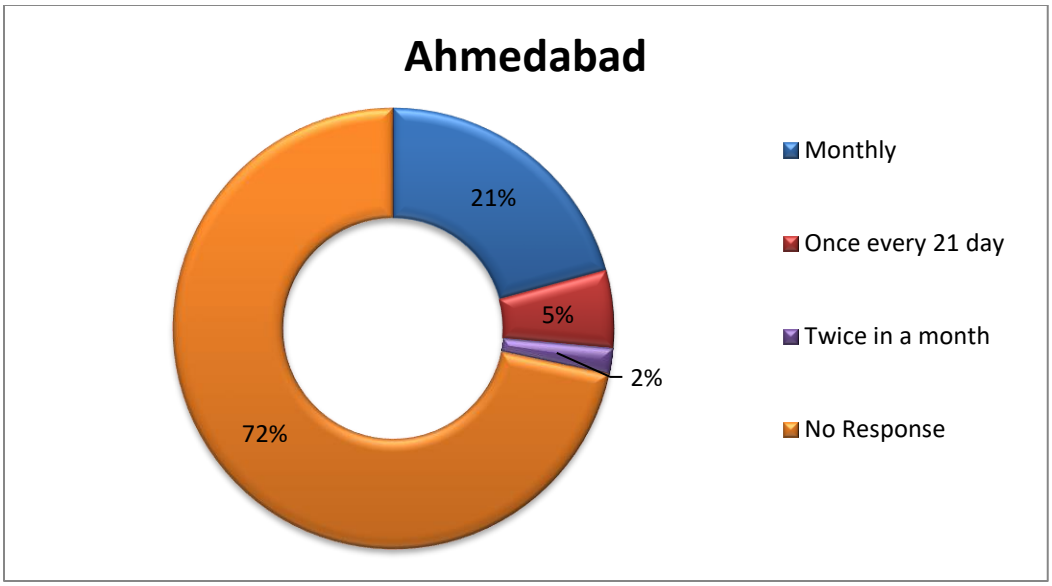
The frequency of IVF cases among the doctors is as followed, 51% doctors have 10-20 patients/month, 22% more than 20 patients / month, these doctors are majority in Ahmedabad & Chennai. Therefore, chance of RPL cases due to auto immune cause can be high.

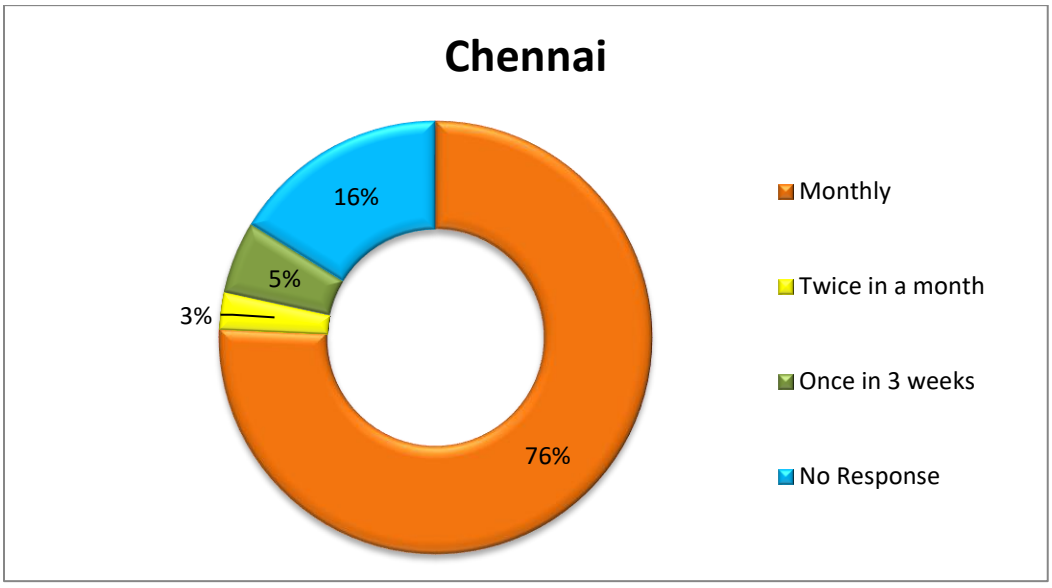
7. Dosage pattern of IVIG in RPL cases

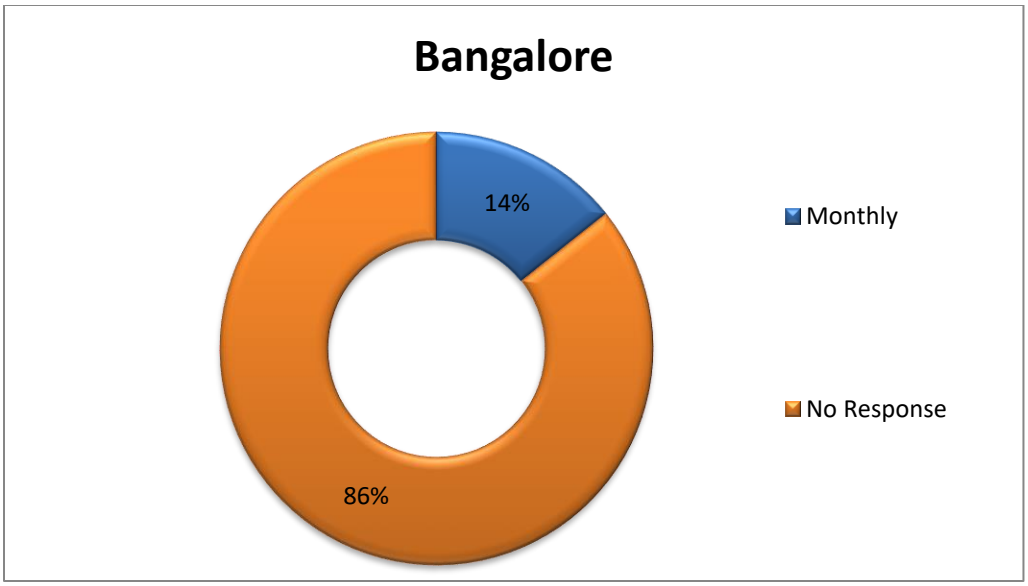
Cities	**Monthly**	**Once every 21 day**	**Once in 3 month**	**Twice in a month**	**Once in 3 weeks**	**No Response**
Pan India	54	3	9	14	2	69
Mumbai	14	0	9	12	0	13
Ahmedabad	11	3	0	1	0	38
Chennai	28	0	0	1	2	6
Bangalore	2	0	0	0	0	12


Pan India
36%
2%
6%
9%
1%
46%
Monthly
Once every 21 day
Once in 3 month
Twice in a month
Once in 3 weeks
No Response


Mumbai
29%
19%
25%
27%
Monthly
Once in 3 month
Twice in a month
No Response


Ahmedabad
21%
5%
2%
72%
Monthly
Once every 21 day
Twice in a month
No Response

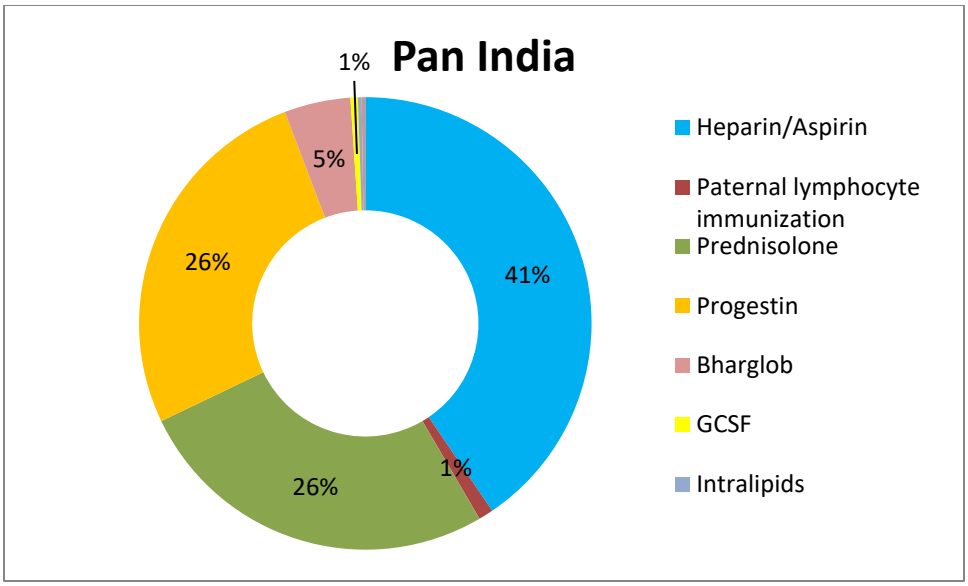

Chennai
16%
5%
3%
76%
Monthly
Twice in a month
Once in 3 weeks
No Response

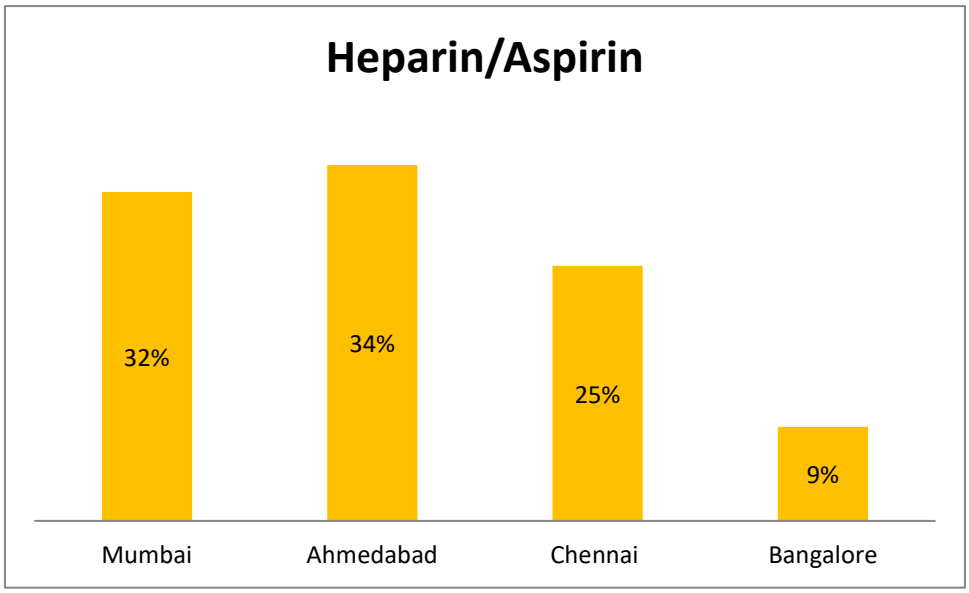


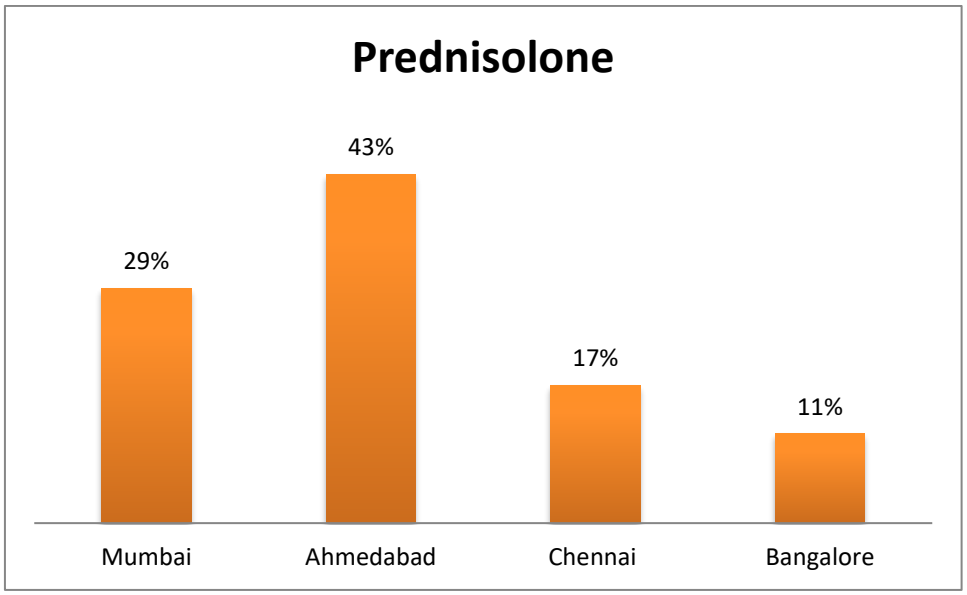
The dosage pattern of IVIG in RPL cases is as followed; 36% prescribe monthly, 9% Twice in a month, 6% Once in 3 month, as there are more monthly prescribers of IVIG, this shows that these 36% doctors can be our potential prescribers and these are majority in Chennai.

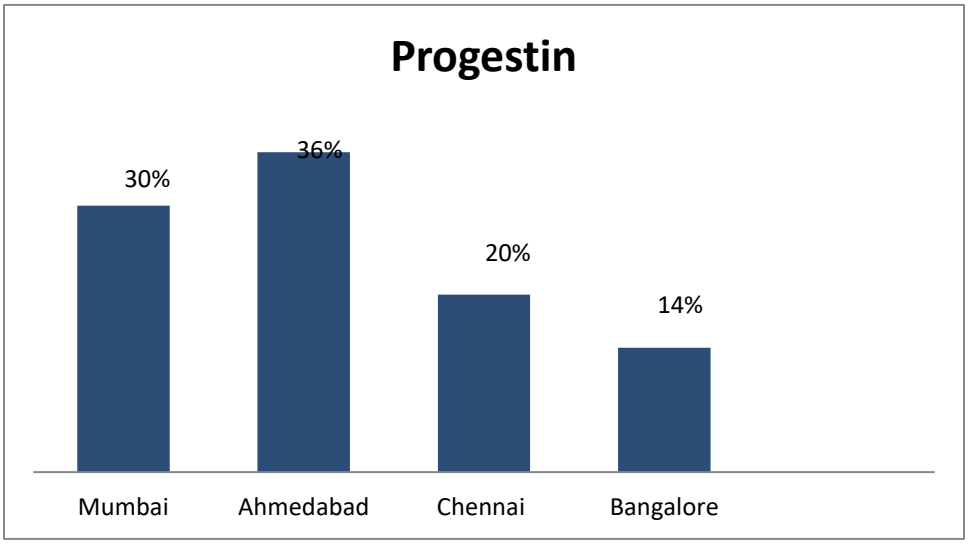
8. Preferred substitutes of IVIG in RPL cases

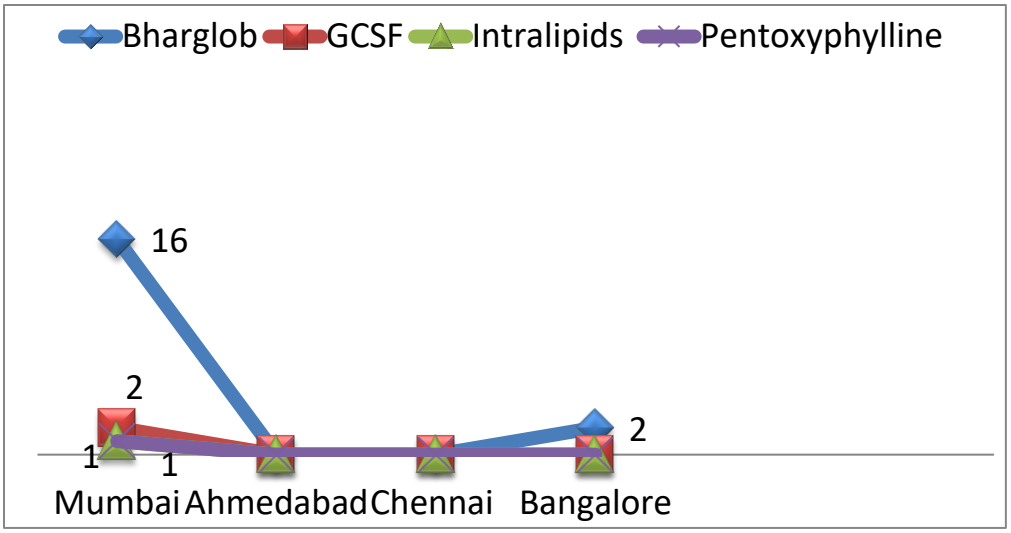
Cities	**Heparin /Aspirin**	**Paternal lymphocyte immunization**	**Prednisolone**	**Progestin**	**Bharglob**	**GCSF**	**Intralipids**	**Pentoxyphylline**
Pan India	154	4	100	100	18	2	1	1
Mumbai	49	2	29	30	16	2	1	1
Ahmedabad	53	0	43	36	0	0	0	0
Chennai	38	2	17	20	0	0	0	0
Bangalore	14	0	11	14	2	0	0	0


Pan India
1%
5%
26%
41%
26%
1%
Heparin/Aspirin
Paternal lymphocyte immunization
Prednisolone
Progestin
Bharglob
GCSF
Intralipids


Heparin/Aspirin
32%
34%
25%
9%
Mumbai
Ahmedabad
Chennai
Bangalore


Prednisolone
43%
29%
17%
11%
Mumbai
Ahmedabad
Chennai
Bangalore

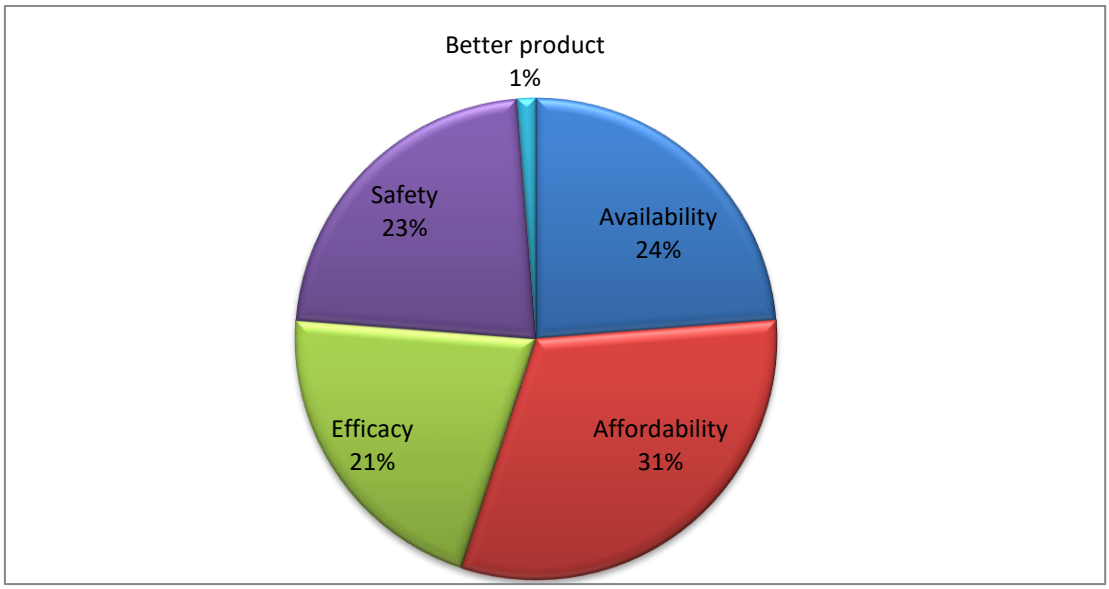

Progestin
36%
30%
20%
14%
Mumbai
Ahmedabad
Chennai
Bangalore



The preferred substituents for IVIG in RPL cases are 41% doctors prefer Heparin, 26% Prednisolone, 26% Progestin and 5% Bharglob, due to their safety, efficacy, availability and cost effective factor but their mechanism of action is entirely different when compared to IVIG. These substituents are not efficient as IVIG in RPL cases with auto immune cause.

9. Factors influencing for prescribing substituents of IVIG in RPL cases

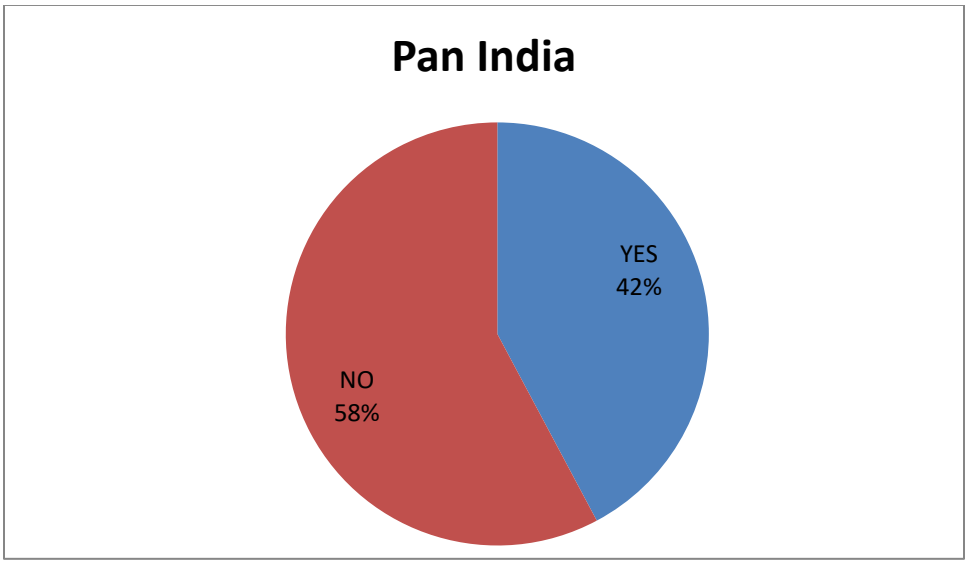
Factors	**Pan India**
Availability	92
Affordability	121
Efficacy	82
Safety	87
Better product	5

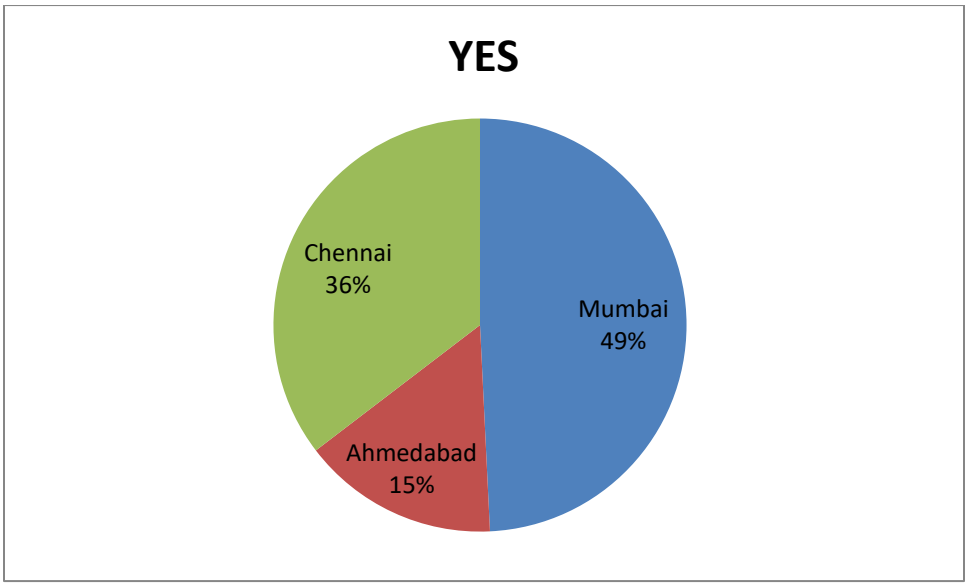


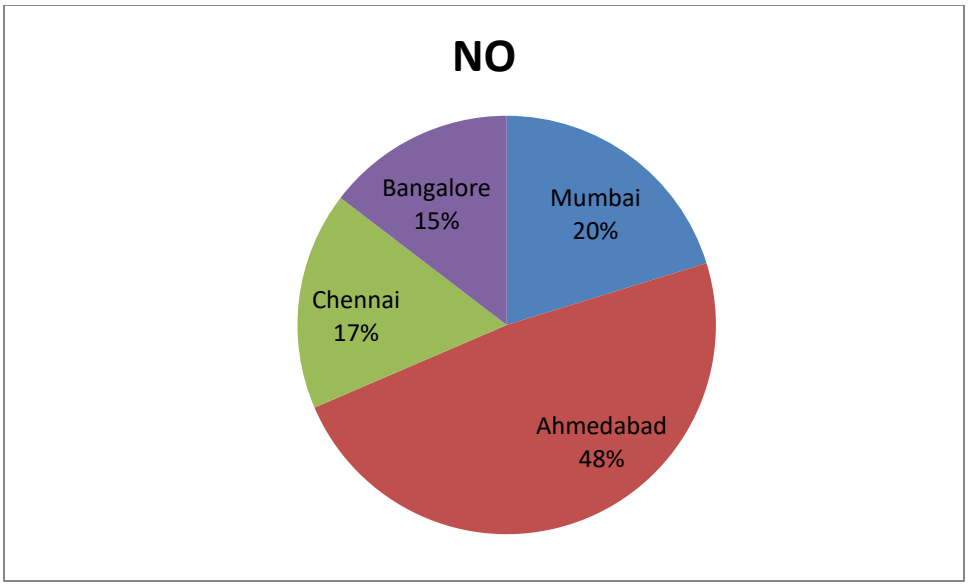
- The above graph suggests the pricing is still an issue with the patients as 31% doctors believe that the product is not affordable but because of the urgency and lifesaving nature of the drug, the patient's manage to buy the product.
- 24% doctors believe that the availability of the product is low therefore, company should try to meet current unmet needs of the doctors.
- 21% Efficacy and 23% safety issues of the products is found so each and every doctor must be made 100% clear about safety issues of these products through different awareness program.

10. Is IVIG in IVF preferred in combination with other drugs

	Pan India	**Mumbai**	**Ahmedabad**	**Chennai**	**Bangalore**
YES	65	32	10	23	0
NO	89	18	43	15	13


Pan India
YES
42%
NO
58%


YES
Chennai
36%
Mumbai
49%
Ahmedabad
15%



This data suggests the preferences of using IVIG in combination with other drugs, 42% doctors preferred IVIG in combination where as 58% do not prefer in combination. Mumbai and Chennai doctors prefer IVIG in combination with other drugs so, they can be targeted first.

11. Name of the drugs IVIG is given in combination with: - Heparin, Aspirin, Progesterone, Bharglob, Ecosprin, Calcium, GCSF, Lonopin, Progestin, Steroids, Intralipids.

12. Dosage of IVIG in combination with other drugs in IVF: -0.5g/10ml, 2.5g/50ml or same has Bharglob i.e. 16.5%.

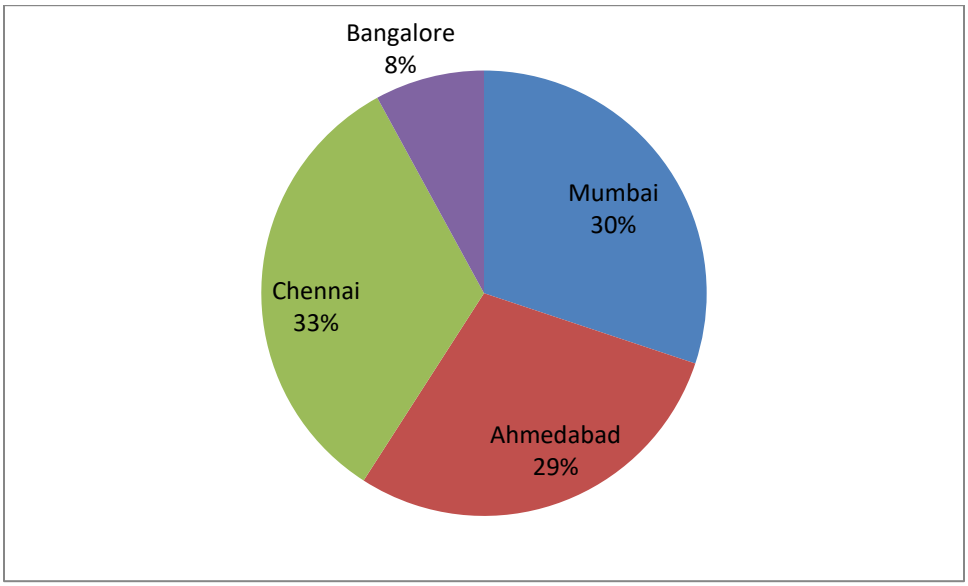
13. Stage /level is IVIG given in combination with other drugs in IVF cases: - It's given at same stage.

14. The reason for combination of drug with IVIG in IVF: - No pregnancy loss & Better result.

DATA ANALYSIS OF Anti-D IM 500IU

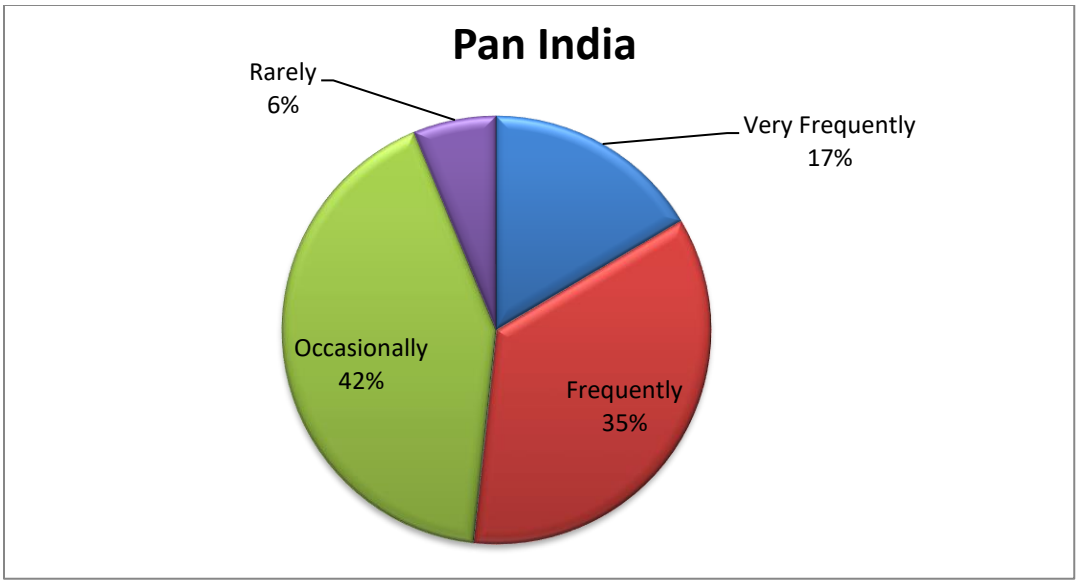
1. Number of responded for Anti-D 500IU (100µg)

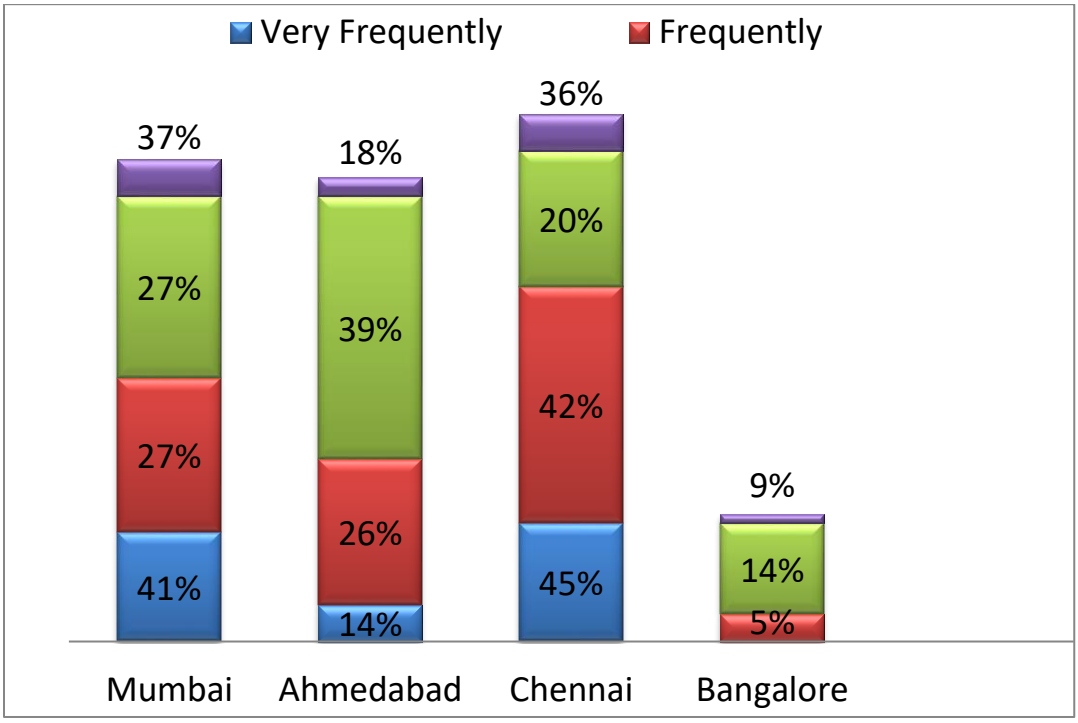
Total sample size was 176



2. Prescribing frequency of Anti-D IM 500IU among gynecologists

Cities	**Very Frequently**	**Frequently**	**Occasionally**	**Rarely**
Pan India	29	62	74	11
Mumbai	12	17	20	4
Ahmedabad	4	16	29	2
Chennai	13	26	15	4
Bangalore	0	3	10	1

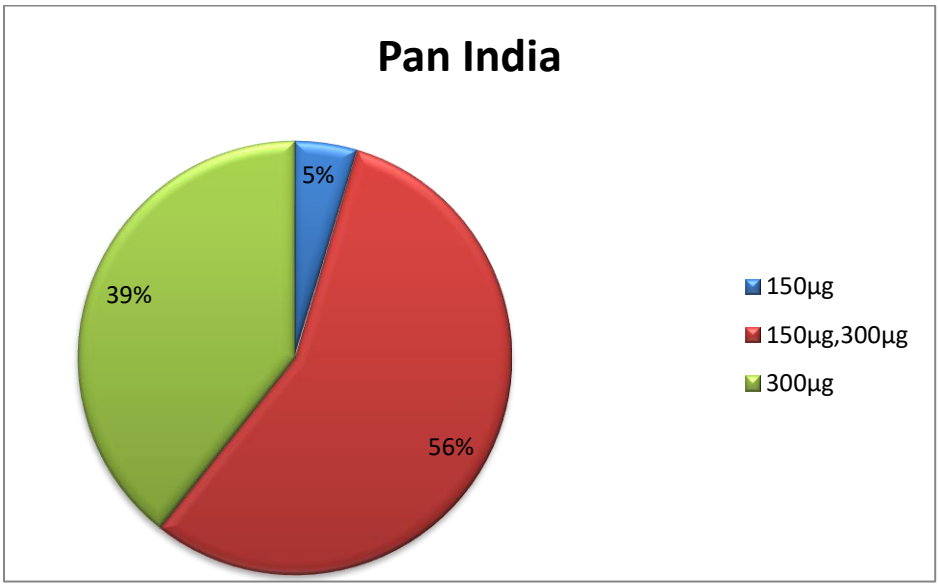


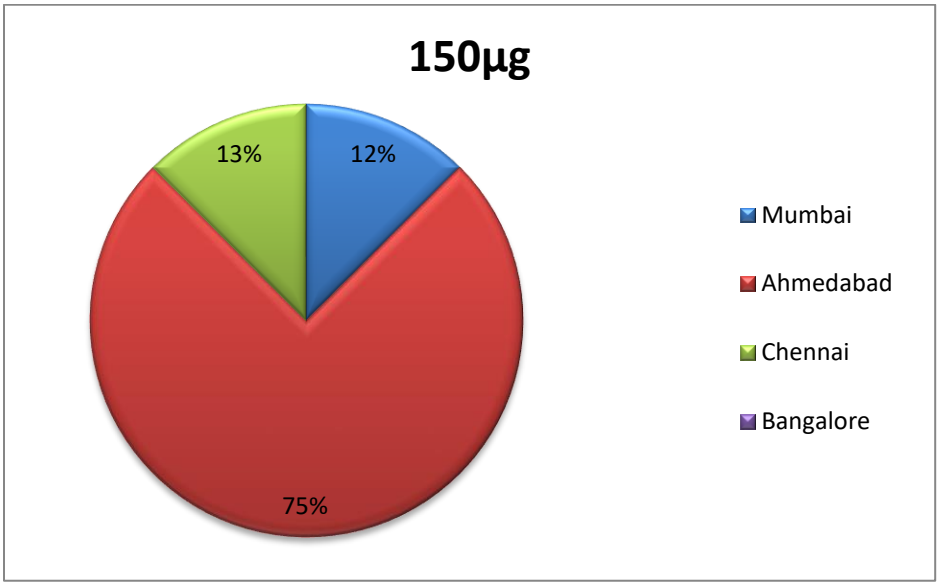


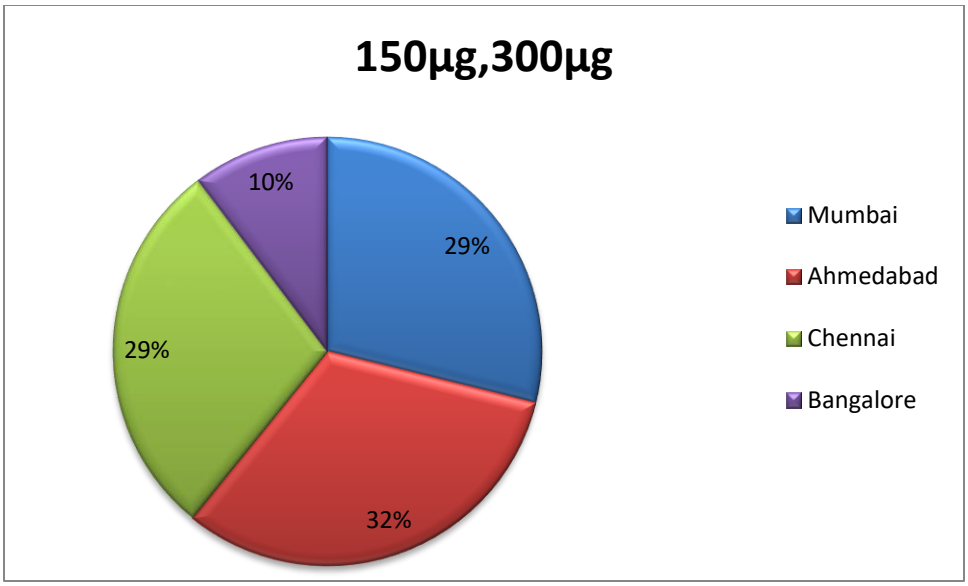
The prescribing frequency of Anti-D IM is 17% uses very frequently, 35% uses frequently, 42% uses occasionally; which clearly show that Anti-D IM is on market demand but it's for 150 µg and 300 µg. Therefore, coming out with new strength (100 µg) can cover a great market share only when provided with evidence of safety and efficacy.

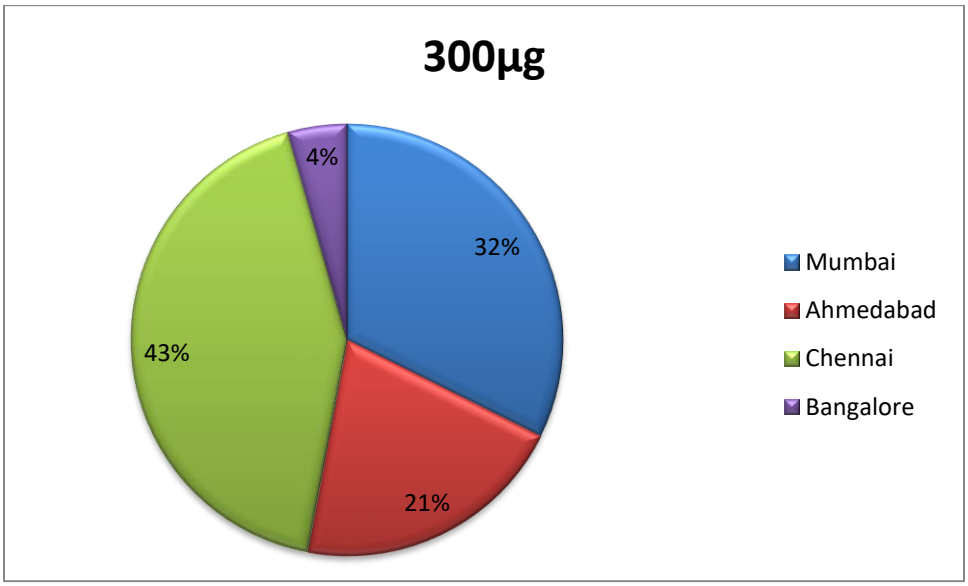
3. Strength of Anti-D IM 500IU being prescribed

	150µg	**150µg,300µg**	**300µg**	**100µg**
Pan India	8	97	68	3
Mumbai	1	28	22	2
Ahmedabad	6	31	14	0
Chennai	1	28	29	0
Bangalore	0	10	3	1





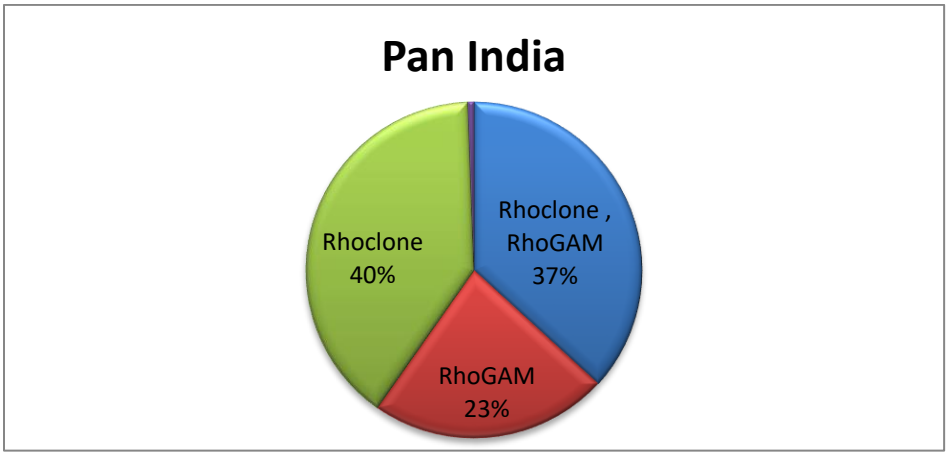


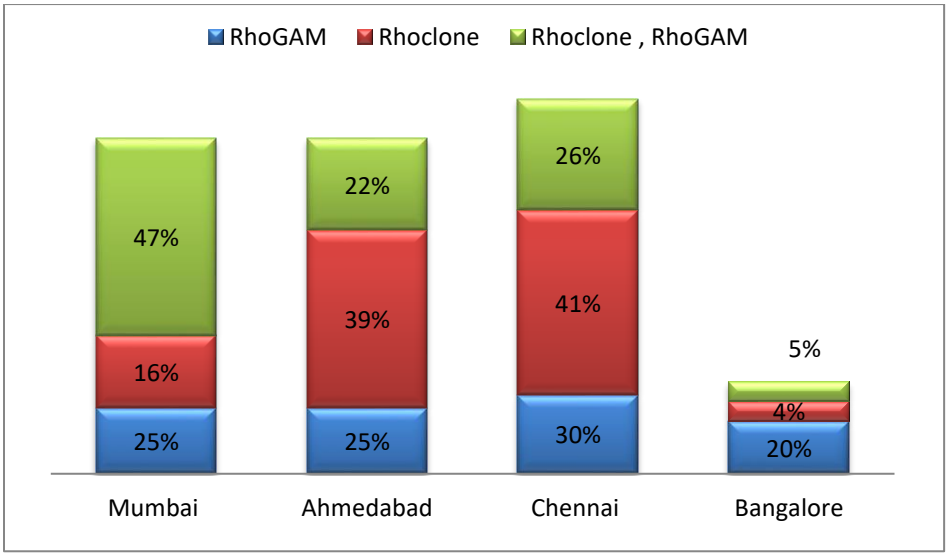


The prescribed strength for Anti-D IM (500IU) is as followed; 56% doctor prescribe150µg and 300µg according to the pregnancy weeks, 39% 300µg and 5% 150µg. Here the doctors prescribing 150µg can be focused first, because convincing them to prescribe 100µg would be easier when compared to 300µg prescribers.

4. Most preferred brand for Anti-D IM 500IU

Cities	Rhoclone , RhoGAM	RhoGAM	Rhoclone
Pan India	64	40	69
Mumbai	10	11	30
Ahmedabad	10	27	14
Chennai	12	28	17
Bangalore	8	3	3



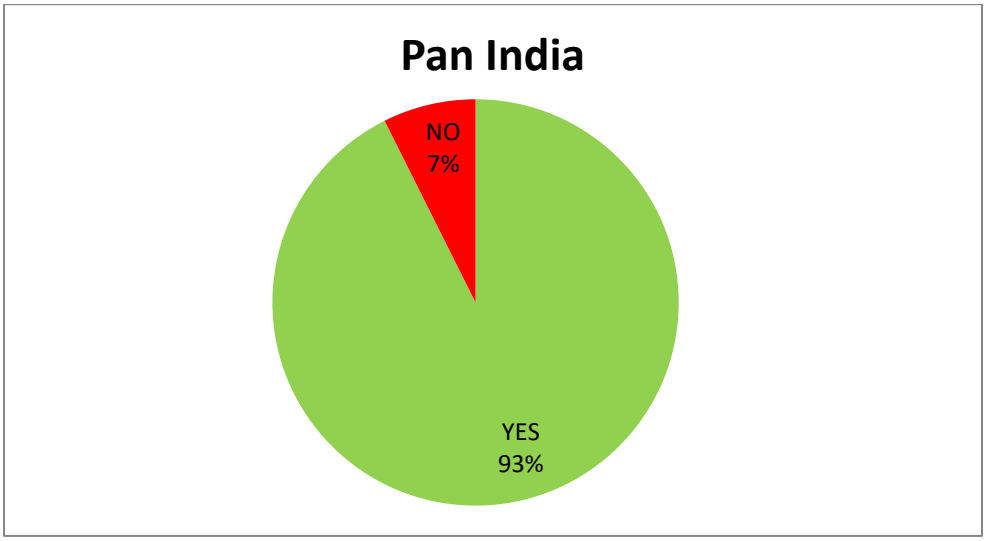


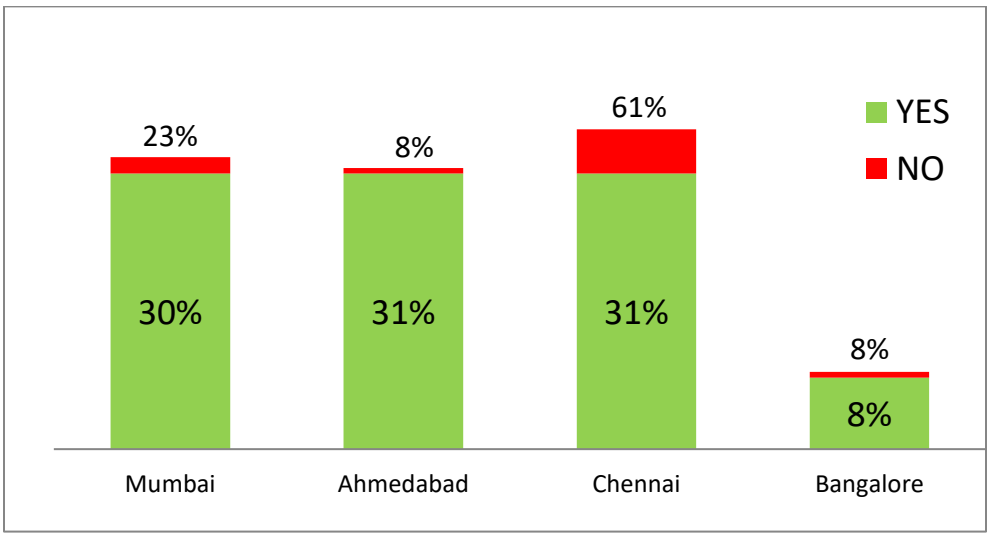
The foremost preferred brand for Anti-D IM is as followed; 37% doctors prescribe both Rhoclone and RhoGAM, 40% prescribe Rhoclone, 23% RhoGAM. Here we can focus on our competitor's prescribers, because we have a new strength which can be given in early abortions or early pregnancy, instead of giving 150µg which would be cost effective to the patients.

.

5. Preferences to use polyclonal over monoclonal Anti-D immunoglobulin if given has a choice.

	Pan India	Mumbai	Ahmedabad	Chennai	Bangalore
YES	163	50	50	50	13
NO	13	3	1	8	1

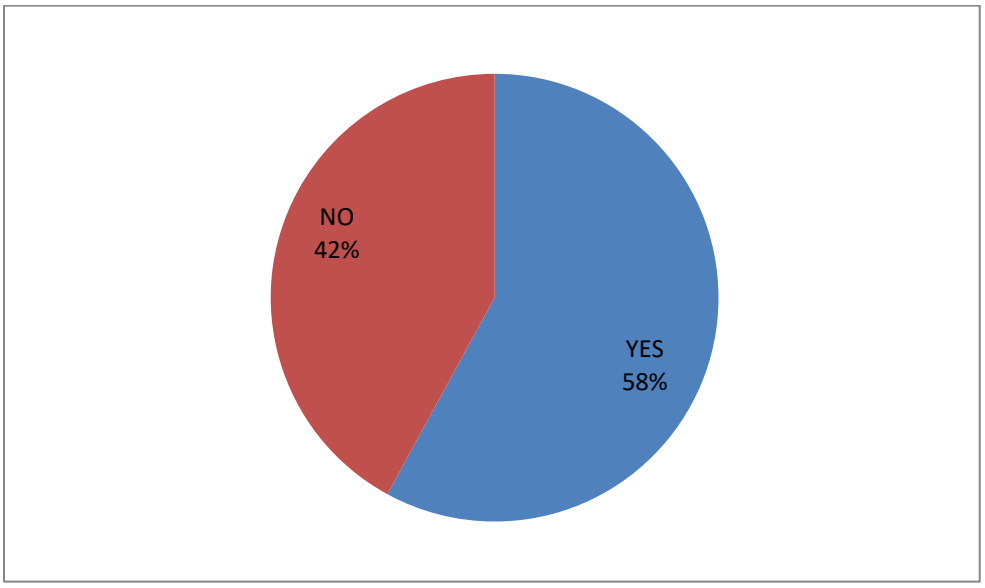




The acceptability to use polyclonal immunoglobulin over monoclonal Anti-D immunoglobulin is 93%. As polyclonal has broad spectrum use, due to lack of awareness and evidence about polyclonal Anti-D doctors prefer monoclonal Anti-D IM immunoglobulin only.

6. Awareness for Anti-D IM 500IU among Gynaecologists

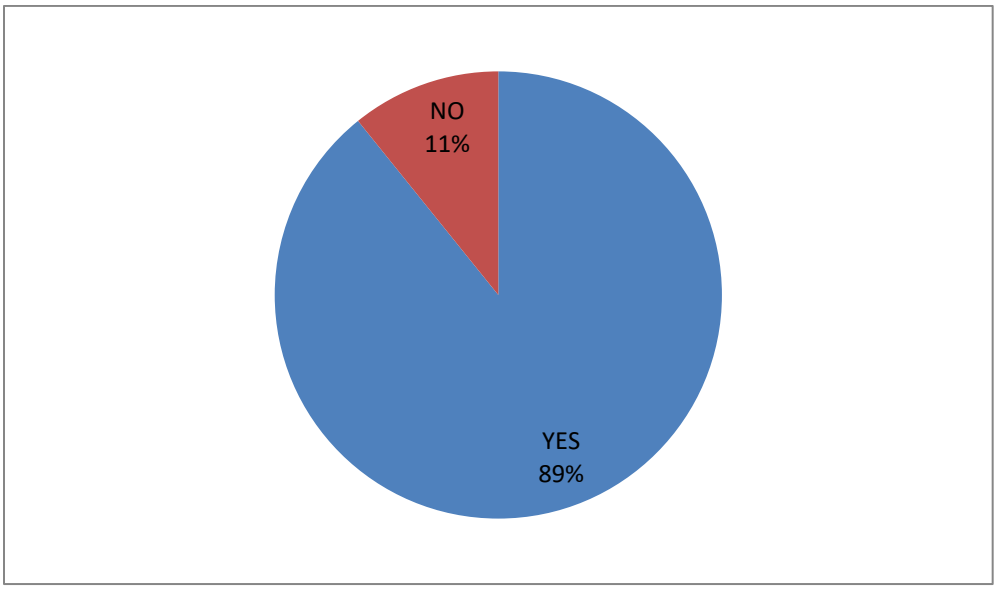
	Pan India	Mumbai	Ahmedabad	Chennai	Bangalore
YES	102	14	28	48	12
NO	74	39	23	10	2



This data suggests the awareness for Anti-D IM (500IU) is as followed; 58% doctors were aware about Anti-D IM 500IU and 42% were not aware about it. Only senior most Gynaecologists were aware of 100µg, whereas junior doctors were unaware. Therefore, Sales team of company should make extra efforts, to make the product known to each and every doctor by frequent visits & conducting campaigning.

7. Gynaecologists looking forward for Anti-D IM 500IU

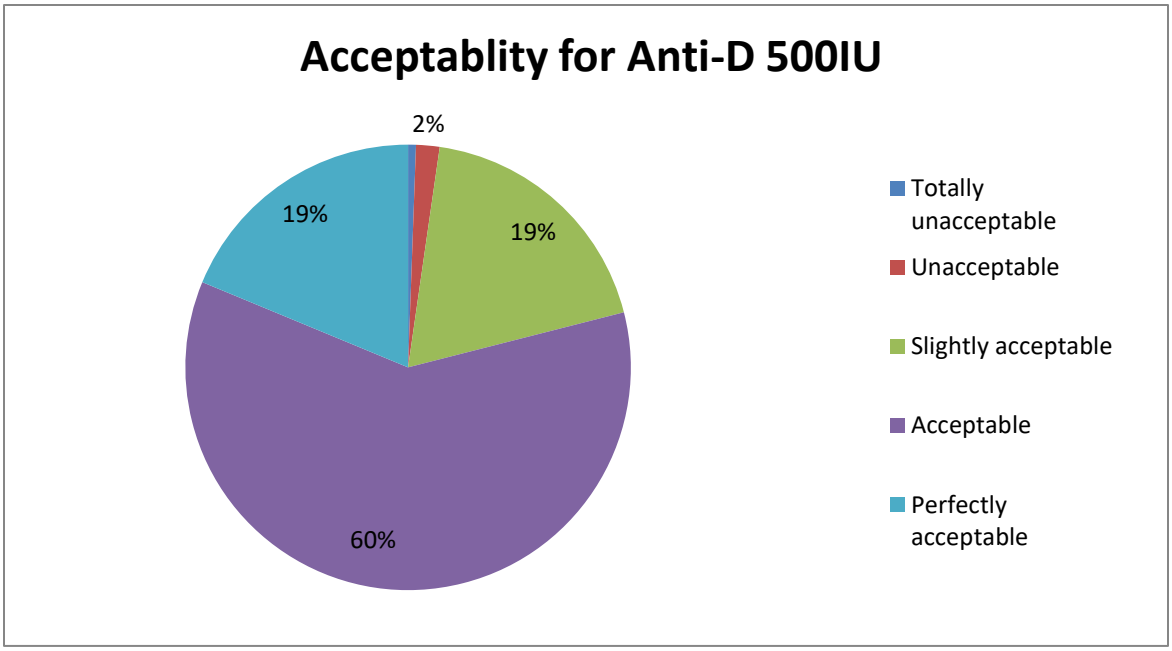
	Pan India	Mumbai	Ahmedabad	Chennai	Bangalore
YES	157	45	49	51	12
NO	19	8	2	7	2

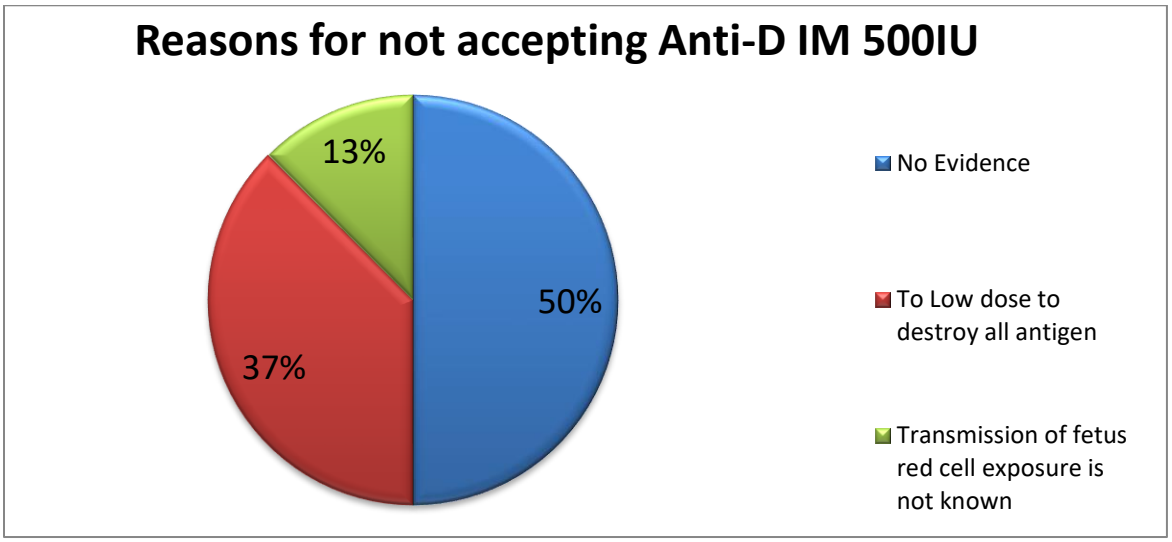


This data suggests that 89% doctors are looking forward for Anti-D IM (500IU). Therefore, our main focus must be on these doctors who are looking forward for the product because they can be our potential customers.

8. If Anti-D IM 500IU is introduced what would be the acceptability level of the doctors

	Pan India	Mumbai	Ahmedabad	Chennai	Bangalore
Totally unacceptable	1	0	1	0	0
Unacceptable	3	3	0	0	0
Slightly acceptable	33	13	8	9	3
Acceptable	106	31	37	27	11
Perfectly acceptable	33	6	5	22	0

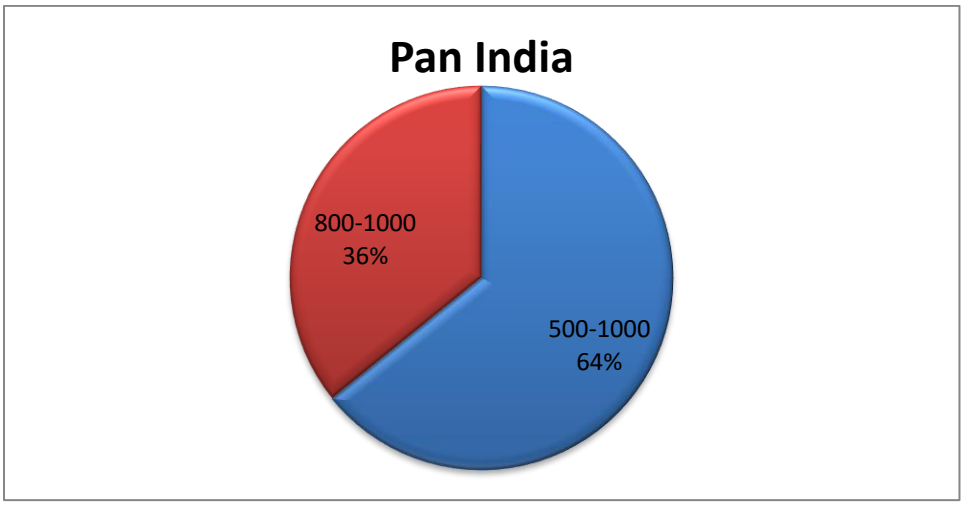


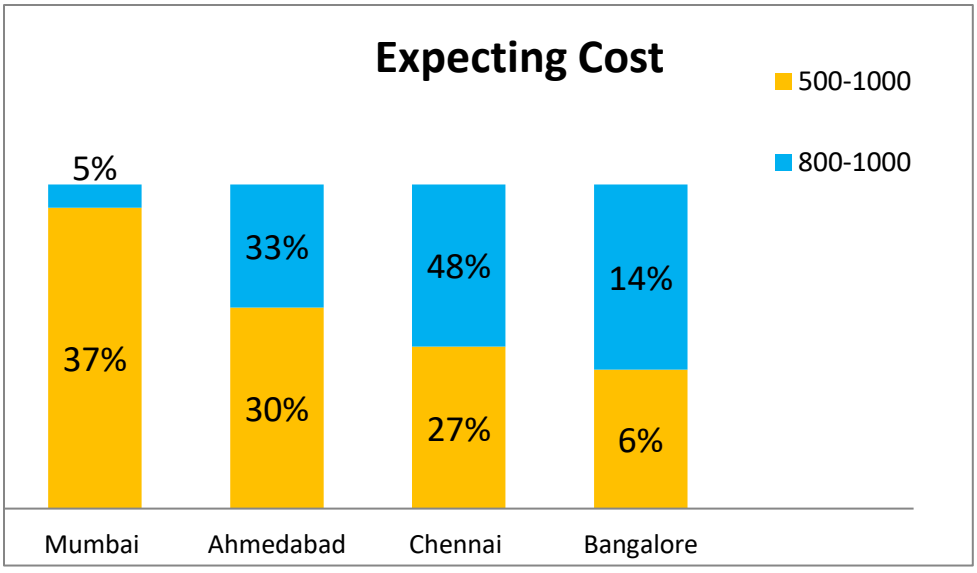


The acceptability level for Anti-D IM (500IU) among gynaecologists is as followed; 19% doctors said it can be perfectly acceptable, 60% said its acceptable, 19% said slightly acceptable and only 2% are not accepting to overcome this we must provide those doctors with strong evidence stating about its efficacy and safety.

9. Expecting cost for Anti-D IM 500IU

	500-1000	800-1000
Pan India	104	58
Mumbai	39	3
Ahmedabad	31	19
Chennai	28	28
Bangalore	6	8

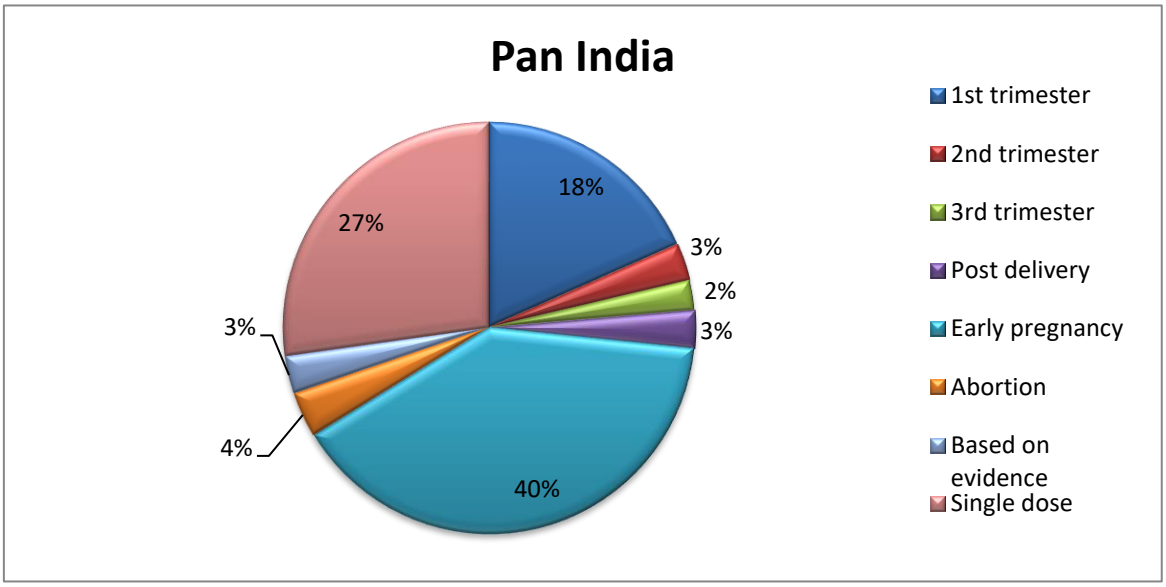


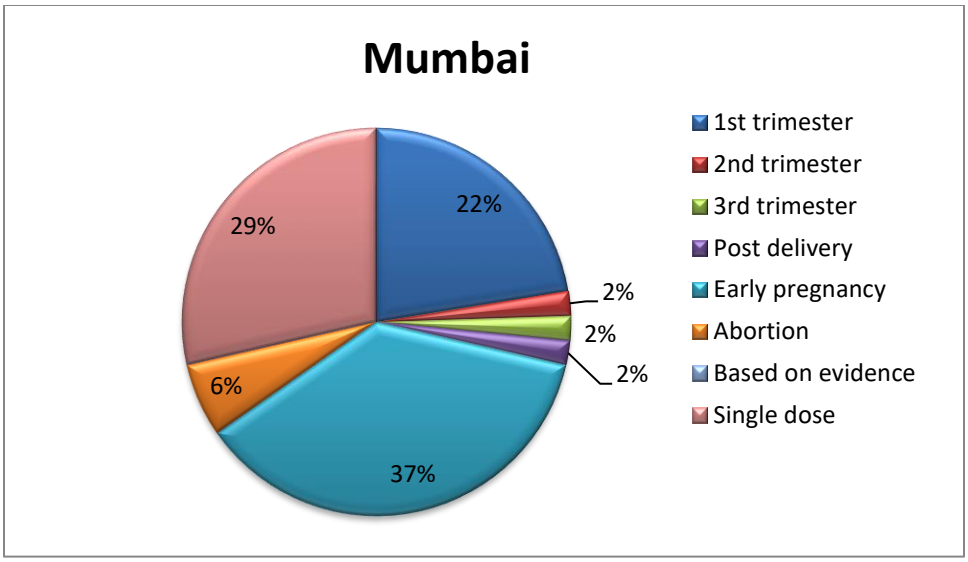


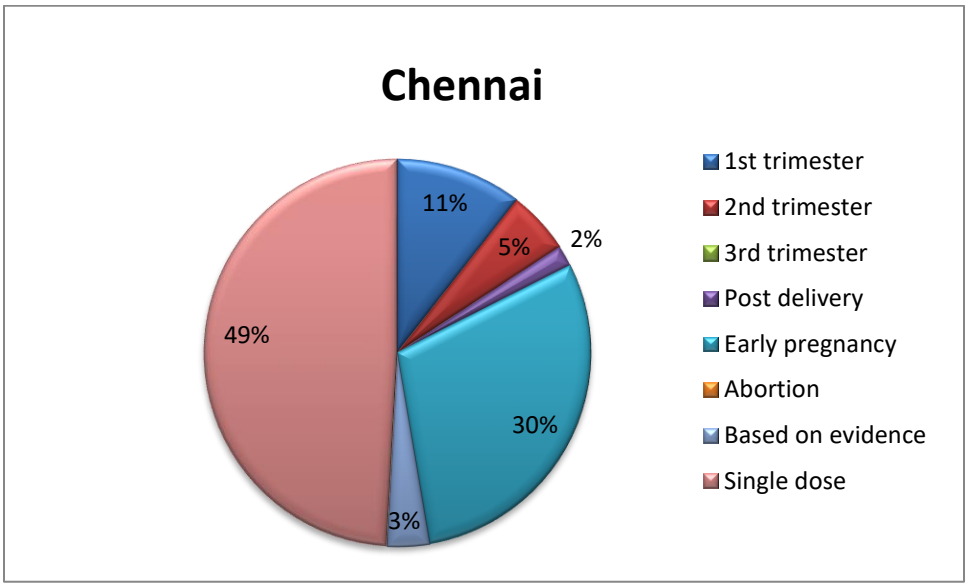
The expecting cost for Anti-D IM (500IU) among the gynaecologists is as followed; 64% doctors expected the cost to be between 500-1000rs and 36% said 800rs. Therefore, Anti-D IM (500IU) can be accepted if its cost is half of 150µg. If efficacy is similar to 150µg with minor side effects, then cost would not be a major factor for prescribing 100µg.

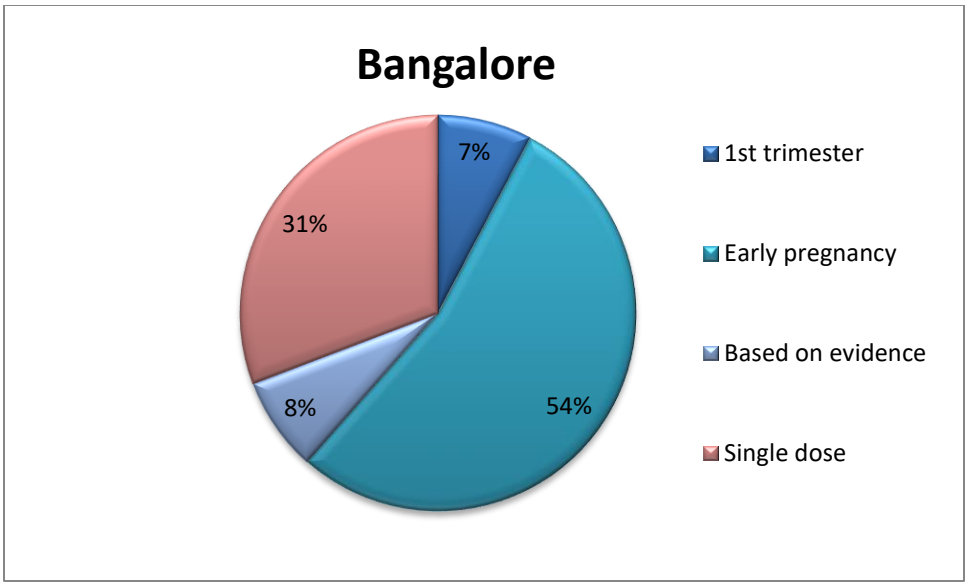
10. Dosage frequency / stage at which Anti-D IM 500IU can be preferred

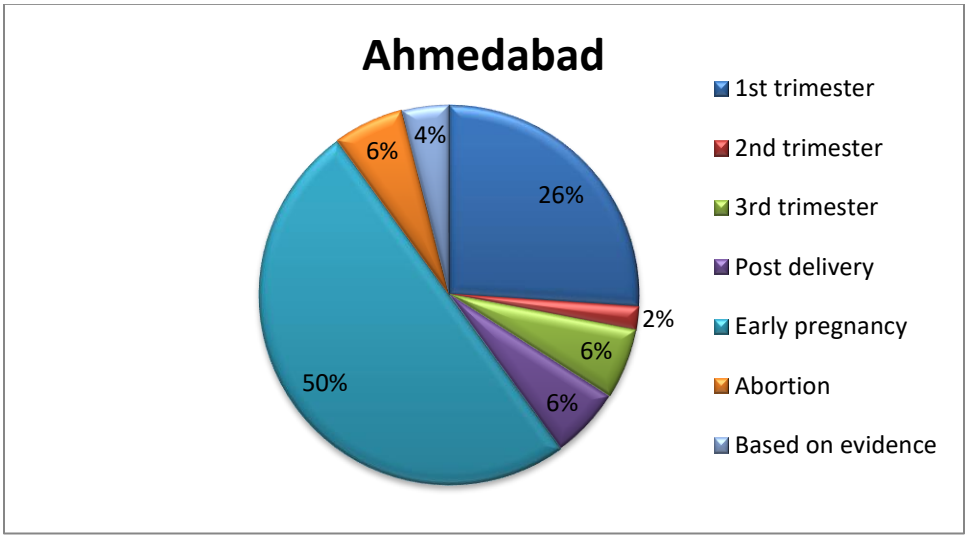
	1st trimester	2nd trimester	3rd trimester	Post delivery	Early pregnancy	Abortion	Based on evidence	Single dose
Pan India	31	5	4	5	67	6	5	46
Mumbai	11	1	1	1	18	3	0	14
Ahmedabad	13	1	3	3	25	3	2	0
Chennai	6	3	0	1	17	0	2	28
Bangalore	1	0	0	0	7	0	1	4




Mumbai
22%
2%
2%
2%
37%
6%
29%
1st trimester
2nd trimester
3rd trimester
Post delivery
Early pregnancy
Abortion
Based on evidence
Single dose


Chennai
11%
5%
2%
30%
3%
49%
1st trimester
2nd trimester
3rd trimester
Post delivery
Early pregnancy
Abortion
Based on evidence
Single dose





The dosage frequency and stage at which Anti-D IM (500IU) can be preferred is as followed; 18% doctors said it can be preferred in 1st trimester, 3% in 2nd trimester, 2% in 3rd trimester, 3% in post-delivery , 40% in Early pregnancy, 4% in abortion, 3% based on evidence they would prefer, 27% said single dose .

OBSERVATIONS AND FINDINGS

Findings of IVIG

- The data suggests that (12%) doctors are very frequent prescribers of IVIG and (11%) are frequent prescribers of IVIG, who can be our potential prescribers.
- They are not fully satisfied with the availability, efficacy and safety because doctors said that IVIG is available as and when required, they don't keep in stock with them all the time, which at times becomes problematic in emergency.
- Out of 154 doctors interviewed for IVIG, the maximum prescribers are of Reliance Life Sciences and Intas Biopharmaceuticals Ltd. As these companies are our competitor we should tap those doctors which uses brand of any standard company, here we have to promote not only our product, but also about our company through which brand awareness and brand equity is achieved.
- Doctors use Bharglob (IM), because of easy administration therefore, Bharat serum has emerged as the market challenger in this segment.
- The data suggests that the pricing is still an issue with the patients, as doctors believe that the product is not affordable for patients because of the urgency and lifesaving nature of the drug, the patients manage to buy the product.

Findings of Anti-D IM 500IU

- The data suggests that the acceptability for Anti-D IM (500IU) is high therefore, launching this product can achieve greater market share. Aggressive Promotional activities, educational events & awareness programs need to be conducted for the product at regular intervals.
- The data suggests that the pricing of Anti-DIM (500IU) can be ranged between 500-1000rs.

RECOMMENDATION AND CONCLUSION

- With the data collected at the time of project, now we have a clear understanding of the market position of the company and the loop holes in the demand and supply of the product.
- Reliance, Intas, Bharat serum is undoubtedly market leaders in this segment or market challenger in the current market scenario.
- But PlasmaGen also has the opportunity to cover the untapped market and the share of the doctors who are currently not prescribing any particular brand by improvising on its market reach.
- Also will have to do extensive marketing so as to establish the brand & come up with wider product mix.
- Sales team of company should make extra efforts to make the product known to each and every doctor by conducting campaigning.
- Still some of the doctors are having doubt about the safety issue of these products and some are even not aware, what should be the safety issues to be followed for these products. So each and every doctor must be made 100% clear about safety issues of these products through different awareness programs.
- Promotional activities, educational events and awareness program need to be conducted at regular intervals.
- Some market surveys should be continued by the company to actually know the market scenario and keep themselves up-dated with their competitors and strategy followed by them.
- Company should try to meet current unmet needs of the population and provide people more economical products with best services and should try to fill the voids in terms of: 1.Awareness
  2. Non-availability
  3. Pricing issues

LEARNINGS

1. During my summer internship, I got to actually experiences how to get information even in adverse conditions.

2. I also got to know the importance of skills and knowledge and how important it is to create right combination of the skills to get success in any project.

3. Relationship of company's representatives with the doctors is very important and how medical representatives interact to achieve their targets for the growth of the companies.

4. Last but not the least, during any project a feeling of trust must be created among the target population before getting any information from them.

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ANNEXURE

QUESTIONNAIRE

Usage pattern of IVIG in IVF (Recurrent pregnancy loss) & Anti-D I.M (500IU) among gynaecologists.

Name_____ Specialist_____

Email _____ Hospital_____

1. How frequently is IVIG prescribed in IVF cases.

- ☐ Very frequently (3 or more in a month)
- ☐ Frequently (1 or more in a month)
- ☐ Occasionally (1 in 3 months)
- ☐ Rarely (1 in 6 month)
- ☐ Never

2. In what indications is IVIG prescribed in IVFcases

- ☐ RPL (Recurrent pregnancy loss)
- ☐ RSA (Recurrent spontaneous abortions)
- ☐ RM (Recurrent miscarriage)
- ☐ RIF (Recurrent implantation failure)
- ☐ Others_____

3. Which is the preferred brand for IVIG in IVF cases

- ☐ Any available brand
- ☐ Using brands which are from standard company
- ☐ Immuno Rel (Reliance)
- ☐ Globucel (intas)
- ☐ Others_____

4. At what strength IVIG is prescribed in IVF

- □ 0.5g/10ml
- □ 2.5g/50ml
- □ 5g/100ml
- □ 10g/100ml

5. What is the reason for selecting this strength of IVIG for IVF

_____

6. What is the frequency of cases of IVF patients

- □ Less than 10 patients /month
- □ 10 -20 patients/month
- □ More than 20 patients /month

7. Dosage pattern of IVIG in RPL cases

- □ Monthly
- □ Alternative in a month
- □ Twice in a month
- □ Once in 3 months
- □ Once in 6 months
- □ Others_____

8. Which are the preferred substitutes in cases of RPL cases

- □ Heparin + aspirin
- □ Paternal lymphocyte immunization
- □ Prednisolone
- □ Progestin
- □ Third-party donor cell immunization
- □ Trophoblast membrane infusions
- □ Others_____

9. Which are the factors influencing for prescribing substituents of IVIG in RPL cases

- □ Better product
- □ Availability
- □ Affordability
- □ Safety
- □ Efficacy
- □ Others_____

10. Is IVIG in IVF preferred in combination with other drugs

□Yes
□No

***If Yes**

11. Name of the drug it is given in combination with_____

12. What will be the dosage of IVIG in combination with other drug in IVF _____

13. At which stage /level is IVIG given in combination with other drug for IVF treatment _____

14. What is the reason for combination of drug with IVIG in IVF _____

QUESTIONNAIRE

Usage pattern of Anti-D I.M (500IU) among gynaecologists

Name_____ Specialist_____

Email _____ Hospital_____

1. How frequently is Anti-D prescribed

- □ Very frequently (3 or more time in a month/patient)
- □ Frequently (1 or more time in a month/patient)
- □ Occasionally (1 in 3 months/patient)
- □ Rarely (1 in 6 month/patient)
- □ Never

2. At what strength Anti-D I.M is prescribed

- □ 150µg
- □ 300µg
- □ 500IU (100µg)

3. Which is the preferred brand for Anti-D I.M

- □ Rhoclone
- □ Rhophylac
- □ RhoGAM
- □ MicRhoGAM
- □ WinRho SDF
- □ OTHERS

4. Will you prefer to use polyclonal Anti-D immunoglobulin over monoclonal Anti-D immunoglobulin

- □ YES
- □ NO

* IF NO, then why_____

5. Are you aware of Anti-D 500IU (100µg)

- □ Yes
- □ No

6. Are you looking forward for Anti-D I.M 500IU (100µg)

- □ Yes
- □ No

7. If Anti-D 500IU (100µg) is introduced what would be your acceptability for Anti-D I.M 500IU (100µg)

- □ Totally unacceptable
- □ Unacceptable
- □ Slightly acceptable
- □ Acceptable
- □ Perfectly acceptable

***If Never for [6Q]**

Reason for not accepting the Anti-D I.M 500IU (100µg)

_____

8. If preferred Anti-D 500IU (100µg) what would be the dosage frequency of Anti-D I.M 500IU (100µg)_____

9. What is the cost you would be expecting for Anti-D 500IU (100µg)_____