



HAVE YOU CONTRIBUTED TO THE INDIAN PLASMA REVOLUTION?

Blood Plasma: Future as we see it

Vinod Nahar, PlasmaGen MD

Global trends are clearly pointing to the shift towards biologics as the future of healthcare and blood plasma is emerging as the fastest growing area of breakthrough and opportunities. The Indian Blood plasma industry is at its early stage and has the opportunity to grow into a multibillion-dollar industry and offer the much needed products to the needy. While plasma acquisition costs play a large role in the overall expenditure incurred to produce plasma derived therapies, the manufacturing cost also plays a critical role, as millions are being invested in fractionation and purification projects in India to expand and modernize plasma manufacturing plants. Still, there is continued interest from veteran and new players alike in expanding the industry with new facilities, especially in India which still imports the bulk of their products at a high cost but wish to have our own domestic industry.

Here are a few early pointers that will shape the future of this sector:

1. Blood plasma is just scratching the surface in terms of the value it can bring to healthcare and wellness.
2. As a nation, we must prioritize investment and attention towards identifying and addressing the healthcare needs of patients who may be silently suffering, bringing them to the forefront of medical attention.
3. The shift of focus to R&D, manufacturing and becoming self-sufficient in this space is slow but steady.
4. The investment in improving the blood collection, eliminating any waste in processing the blood and earmarking a significant portion of the collected blood to plasma would yield highest quality at an affordable price.
5. In the time to come, India would like to achieve atma nirbharta in blood plasma products and in the process become a global power house specially catering to patients in India & the emerging countries.

PlasmaJan is an initiative from our team to bring the nuances of the sector to the fore. We welcome our readers to contribute wholeheartedly to this endeavour.

Thought for the fortnight

The Bhavishya Purān states

दर्शनमेकं कलौ युगे | dārnamekam kalau yuge [v5]

"In the age of Kali, giving in charity is the means for purification."

Can there be a purer thought to donate blood? It's time to move beyond the lip service to blood donation and take every opportunity to bust the myths, spread the word and share the joy of health and happiness



E-Mail

editor@plasmajan.in (Editorial team)
reach@plasmajan.in (General Inputs)

Sector Highlights: Current Figures

- The global blood plasma products market should reach \$45.7 billion by 2027 from \$33.2 billion in 2022 at a compound annual growth rate (CAGR) of 6.6% for the forecast period of 2022 to 2027.
- Immunoglobulins segment of the global blood plasma products market is expected to grow from \$15.8 billion in 2022 to \$22.5 billion in 2027 at a CAGR of 7.3% for the forecast period of 2022 to 2027.
- Hyperimmune globulin segment of the global blood plasma products market is expected to grow from \$2.0 billion in 2022 to \$2.8 billion in 2027 at a CAGR of 7.4% for the forecast period of 2022 to 2027.

Plasma Applications: New Developments

The pace of technological advancements is swift, making it challenging to anticipate what the upcoming years will hold. While security measures are expected to enhance throughout the industry, the evolving landscape of threats necessitates a proactive approach to prevention, rather than a reactive response. Advancements in technologies like artificial intelligence, machine learning, and extended reality will stay with us, contributing to ongoing improvement in the quality and efficiency of healthcare.

We continue to see application of evolved computing and connectivity impacting the blood collection and remote processing impacting the overall efficiency of the process. The same can be seen in the quality assurance through advanced sensors and anomaly detection algorithms.

Another area where we see great strides is in the protein-based therapy and wellness solutions. In the current year, this progress would accelerate and it is expected that blood plasma application would be more ubiquitous, safe and affordable.



PlasmaJan showstopper of the month

Sankalp Blood Center

On a warm summer night in 2003, when a group of young engineering students met a man going from pillar to post - begging people to donate blood for his kin, they were shaken to the core. How could someone be struggling to find someone to donate blood in the Silicon Valley of India for hours together? They rushed in and donated blood - but as it turned out, it was too late...

Over next few years, hundreds of students joined in in their endeavour to change this. They met every Sunday in the college canteen going into the fine details of the problems at hand and the solutions that they worked out. The young minds were driven by a firm resolve to work meticulously and provide a meaningful and sustainable solution rather than temporary stop gap fixes.

Bringing together more than 200 very rare blood group individuals, the organisation is taking care of demand for hundreds extremely rare blood groups each year. Till date, everyday hundreds of calls come to the helpline and people find relief on their fingertips. By mid-2017, a decade after the beginning, the revolution has resulted in 1000+ voluntary blood donation drives touching nearly 100,000 units of blood. True to their natural selves, the engineers at Sankalp build extensive technology platforms to plan the blood donation camps.

Since earlier days, when all the people involved were volunteers, Sankalp has had very high focus on measurability and accountability. Each person in the organisation had distinct roles and responsibilities and weekly scrutiny was the norm. This included Children with deformed growth, stunted and suffering was too much to take. Team Sankalp pledged to help the kids who suffered from a blood disorder called thalassaemia - and needed blood transfusions every few weeks to survive!

Within few months, there was a robust system to bring in accountability and measurability. The timing of interventions, their adequacy and their effectiveness was being routinely measured. The whole system was giving very specific feedback on what were the top priorities for the kids. The system brought forth excellent results and the mean pre-transfusions haemoglobin rose from 6.8gm/dl to 8.4 gm/dl within a few months.

As the organisation furthered its commitment to the little ones' wellbeing, they realised that the only permanent way to end the vicious cycle of blood transfusion for a lifetime was bone marrow transplantation. A common friend asked the team to meet a world known expert of the disease who happened to stay in Bangalore for a couple of hours while he waited for his onwards flight to Madurai. This is when the team met Dr Lawrence Faulkner from Cure2Children and the meeting is best described by the participants as - love at first sight. Dr Faulkner promised to lead the medical team and brought in the proven Cure2Children model to offer cure in developing countries. In April 2015, the team finalised the setting up of its first even BMT centre in Bangalore, with 6 kids having a matched donor, very little money in the bank, but a firm resolve to do whatever it takes. It truly was a small step for the team - which turned out to be a giant leap for thalassaemia.

Sankalp is from the tradition of सा विद्या या विमुक्तये.. Knowledge is what paves the way for Mukti. Mukti from rog, shok, dwesh, agyaan, abhaav, aadi se mukti!

Star Blood donor of the month

In the bustling neighbourhood of Cotton Pet in Bangalore, resides a 45yrs old silent hero, Mr. Amjad Pasha Y. For over a decade, he has been passionately impacting countless lives through his regular and humble blood donations. His contribution of Single Donor Platelets (SDP), white blood cells (WBC), and whole blood is currently at 190 and he isn't done yet. The PlasmaJan team recently had the privilege of sitting down with Amjad to learn more about his journey as a blood donor.

Amjad's journey as a blood donor began in 2009 at Ramaiah Hospital. The catalyst for his first donation was a personal one - the urgent need for blood for his brother-in-law. The cries for help was futile and his friend Sajida challenged him to think "Why search outside when you can donate". Since then Amjad has embarked on a journey of taking upon himself to steadily contribute towards saving lives.

Managing the usual pressures of family, work, and health as he fuels his determination to be relentless in contributing his blood. While acknowledging the family pressure and their genuine concern for his well being, Amjad emphasizes the crucial role family plays in supporting his frequent donations.

Amjad has overcome multiple challenges and misconceptions along the way such as family pressure, social stigma, and myths of blood donation. He believes that donation is a safe and simple procedure, which enhances one's health & immunity, reduces risk of heart diseases and improves blood circulation.

Recalling an emotional incident, Amjad shared a poignant moment when a patient's father, older than him at 65, saluted him out of respect. The tears in his eyes reflected a mix of humility and gratitude, revealing the profound impact such a simple act can have.

Beyond being a donor, Amjad is an advocate for blood donation. He has motivated numerous individuals, including his son and friends, to become regular donors.

If given just five minutes on TV to speak about blood donation, Amjad's message to the public is clear: "One donation can help save three lives." He urges more people to come forward, highlighting the minimal percentage of the population currently contributing.

Amjad Pasha's story is one of selflessness, responsibility, and a deep connection to the well-being of society. His journey exemplifies the transformative power of a single act - donating blood - and serves as an inspiring call to action for us all. PlasmaJan team is humbled by his thinking and thanks him for his story and purpose for our reader community.



Amjad Pasha: Saving lives one pint at a time - 190th donation and counting!

If you really want to lend a hand, lend an arm.

If you find anybody looking for blood, please ask them to call sankalp help-line

sankalp blood centre helpline- 9480044444

The role of Blood centres in Thalassemia Management

Dr. Chandra Viswanathan (MBBS, MD, DTM, DTB, PhD),
Consultant, PlasmaGen Biosciences

Thalassemia patients depend on blood centres for their survival with frequent blood transfusions.

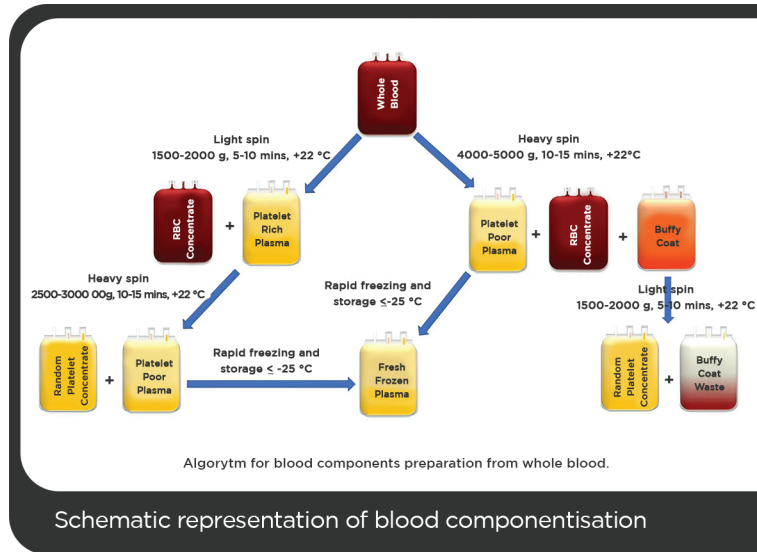
We well know that β thalassemia is an inherited blood disorder from parents to children through genes, and so cannot make enough of a protein called globin, an important part of the blood haemoglobin [Hb] - deficiency of which is known as anaemia. Anaemia may lead to chronic fatigue, low energy, growth problems, delayed puberty, low scholastic abilities, and over time impaired efficiency of all organs. If unchecked, it can affect vital organs like the endocrines, liver, spleen, bone, heart etc. Most children with Thalassaemia need blood as frequently as once in three weeks, while a few others may need it more often.

Bridging the blood demand - supply gap

Efforts have been made to prioritise blood availability by implementing componentisation of all blood collected i.e. separating RBCs, Platelets, and plasma, so that more people will benefit. Inappropriate storage, inadequate storage, inefficient cold chain transport, all lead to ineffective distribution and blood wastage. Efforts to curb these occurrences will go a long way in addressing the supply gap.

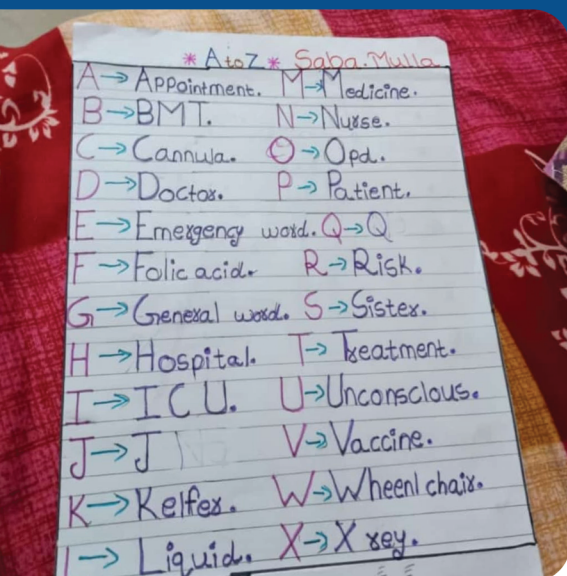
Innovative marketing approaches, that aim to enhance sensitisation among potential donors, allaying misconceptions, and concern around blood donation, is certainly helpful, but we still have a gap between the demand and supply. By combining legislative support, innovative strategies, and the adoption of efficient models, adopting new software platforms like the e Rakt-Kosh for efficient distribution, the challenge of blood shortage can be effectively addressed.

Government bodies, via blood transfusion councils, instruct blood centres to provide packed red blood cells (PRBCs) at no cost, considering the hardships faced by such children. Packed cells are concentrated Red blood corpuscles, derived by spinning whole blood in a centrifuge and decanting the excess plasma. It is very clear that this is a social obligation and we need to fulfill. We therefore need to have policies and procedures that will support this. To meet this, blood centres seek support of public, several NGOs, blood donors and the corporates, who provide support through their CSR activities.



Readers contribution

Sourced from Sankalp India Foundation's Facebook Page, captures a beneficiary's perspective on the organization's mission. They express a heartfelt vision of striving to restore "ABCD" to its rightful significance for every child, particularly in the context of blood-related issues.



Blood plasma: Regulatory and policy

National blood policy 2003

The National Blood Policy (NBP) was adopted in April 2002. The policy's objectives include:

- Ensuring an adequate and safe blood supply
- Providing safe and adequate blood, blood components, and blood products
- Developing and reorganizing blood transfusion services
- Ensuring equitable access to safe blood
- Providing adequate resources and technology
- Building the capacity of health-care personnel

The NBP also addresses:

- Establishing a sustainable financial structure
- Recruiting and retaining voluntary non-remunerated blood donors
- Testing all donations for Transfusion Transmissible Infections (TTIs)
- Appropriate blood grouping and compatibility

The NBP also established the Drugs Controller General of India (DCGI) at the center and Drug Controllers in the states. These offices monitor the functioning of blood banks and ensure quality

I Contribute Forward (ICF): PlasmaGen Family Drive

One debt that we can avoid is the debt of blood by contributing ahead. Join PlasmaGen's ICF initiative exclusive family drive. Our mission is to fill our plasma pool tanks with our own plasma to add to the pride of kicking of the Plasma Fractionation facility. We need to plan well in advance so that we can pool maximum amount of plasma in our maiden production run.

To enable this, we are regularly conducting collection drives and we have the assurance of our partner blood centre to hold our contributed plasma separately and make it available to us exclusively when our operations start.

Send a mail to hrbp@plasmagen.in to register your interest.



Expert speak - Business/Tech Anant Bharne, PlasmaGen

Indian market Drivers: Blood Plasma Market

The US is the primary supplier of plasma and plasma-derived drug products to the world with plasma sourced solely from US donors. India, like most other country manufacturing plasma-derived therapies relies on importing plasma, plasma fractions, and plasma drug products from the US.

Increasing prevalence of blood plasma disorders and the rising demand of blood plasma derivatives products are making it important for India to strive towards self-sufficiency of plasma.

Restraints:

High cost of plasma therapy
Easy availability of recombinant plasma

Opportunity:

Increasing in awareness about blood & plasma donation

Challenge:

Stringent regulatory requirements

Market Trends:

Indian blood plasma market is segmented into three notable segments which are based on the basis of type, application and end user.

Based on type, the market is segmented into immunoglobulin, coagulation factor concentrates, albumin, protease inhibitors and other plasma products. Immunoglobulin segment is dominating the market due to rising demand of immunoglobulin products in the treatment of various blood disorders.

Based on application, the market is segmented into neurology, haematology, critical care, pulmonology, hamate-oncology, rheumatology, immunology and other applications. Haematology segment is dominating the market due to rising incidence of blood disorders as compared to others.

Based on end user, the market is segmented into hospitals, clinics, clinical research laboratories and academic institutes

Quiz

- Q1- How much plasma does human blood contain?
- Q2- How much blood does an adult have
- Q3- How quickly can the body replenish lost plasma?
- Q4- Which country has the highest blood plasma centres?
- Q5- Why were the early COVID recovered patients in great demand?

please share your quiz responses to reach@plasmajan.in

Publishing Team

Newsletter Champion

Rahul Jain

Editing Team

Co-Editor: Dr. Chandra V
Editor: Dr. Randhir Mishra

Content Contributors

Alok S Chandrashekar
Rahul K Jain, PlasmaGen
Sankalp India Foundation Team

Creative Team

Azam Khan
Scooby Designs

PlasmaGen Biosciences: Making bold Strides

Rahul Jain, Director, PlasmaGen

"PlasmaGen Biosciences is an Indian biopharmaceutical organization specializing exclusively in Plasma Protein and Speciality Care Therapy. Headquartered at Bengaluru- India, PlasmaGen has been making every effort to enhance these products' availability for the patients.

We realize a huge gap that exists between the availability of Plasma & Speciality Care products, and immense need of its therapies in India and other developing economies. We, therefore, pursue a vision of ushering in these niche therapy segments in India and gradually in other geographies.

Our endeavour is to provide an extensive range of safe Plasma & Speciality Care products to enrich the quality of life of patients. We have a basket of products catering to the requisites of various specialities in the field of medicine viz. Neurology, Haematology, Oncology, Immunology, Paediatrics, Rheumatology, Gynaecology, Critical Care, Organ Transplant, Dermatology etc.

The newest addition to the PlasmaGen capabilities – our plant in Kolar reflects growth mindset. Designed after visiting over 20 world class plants across the globe, the facility finds firm foundation in our 3 core tenets of care, quality, and safety.

As we continue to evolve at speed, we are also cognizant of creating an ecosystem of opportunity for our employees to tap into their potential for further development."

PlasmaGen Biosciences, having a niche and expertise in the cosmos of Plasma product therapies; also works closely with the government bodies on various commitments for addressing the issues like affordability, accessibility and hemovigilance. This commitment of ours will be extended and leveraged for growth of Plasma Protein Therapy among SAARC nations and other developing economies as well."

You are invited to make your contributions for the next issue of PlasmaJan. Please feel free to share your feedback and suggestions to make PlasmaJan more interesting.