

Summer Training
At
Apollo Hospitals
Jubilee Hills, Hyderabad

10th May' 2021 to 2nd July' 2021

A Report

On

**COVID – 19 VACCINATIONS: Where we stand and the
challenges ahead?**

By

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MBA Hospital and Health Management

2020-2022



ACKNOWLEDGEMENTS

On the very beginning of this report, I would like to extend my sincere gratefulness and heartfelt appreciativeness towards all the respected personages who have helped me to attempt this endeavor. Without their active guidance, assistance, cooperation, and motivation, I would not have made advancement in the report. It is a privilege to have a wonderful 8 weeks (10th May – 2nd July) internship in one of the world's most renowned hospital organization. The internship experience I had with the **APOLLO HEALTHCITY, HYDERABAD** was a great chance for growth, learning and professional evolution. I am appreciative for this chance and for getting an opportunity to meet such countless brilliant individuals and experts who directed me through this internship.

I would also like to take this moment to express my deepest acknowledgment and special recognition to the HR-training and development team, **Mr. Suresh Reddy sir** (Regional Head/General Manager- HR, Apollo hospitals), who despite being outstandingly busy with his work schedule, took time to listen, direct and keep us on the rightful path and permitting us to carry our internship at their prestigious organization and guiding throughout the internship.

It is my deepest emotion to place on record my best compliments and deep sense of gratitude to Ms. **Poonam Reddy mam** and Mr. **Naveen Kumar Reddy sir** (Executive-HR apollo hospitals) for their mindful and precious supervision which were extremely helpful for my study both on paper and in effect.

I express my deepest recognition to **Ms. Sreelayka mam** and **Ms. Geeta Mam**, operations executive at vaccination department for giving necessary advice and guiding me during every step. I am using this opportunity to admit their contribution delightfully.

I would like to express genuine thanks to **Dr. P.R. Sodani** (president, IIHMR university, Jaipur) for giving me a chance to do summer internship. Now, I would like to express my honest gratitude towards my mentor at IIHMR University, **Dr. Deepti Sharma Ma'am** for her support, invaluable instructions, and supervision. This report is the result of her meticulous and generous outlook.

I would also like to express a deep sense of gratitude to the Placement Cell of my esteemed university for guiding me throughout the internship process and for providing time to time internship guidelines.

I comprehend this possibility as a big milestone in my career progression. I will always attempt to use learned skills and knowledge in the best potential way, and will strive to work on the developments, to attain desired career aspirations.

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Corporate Identity Number (CIN) : L85110TN1979PLC008035

02st Jul, 2021

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **Dr.Rubina Hassan** of IIHMR University Jaipur has completed her Project on “A Study COVID-19 Vaccination, Where we stand & challenges ahead” at Apollo hospitals, Hyderabad. She has done her Internship from 10th-May-2021 to 02nd-Jul-2021 in **Operations & Human Resources** department. During the period we found her performance to be good and regular in her duties.

We wish all the success in her future endeavors.

For Apollo Hospitals Enterprise Limited



E.POONAM REDDY
MANAGER
HUMAN RESOURCES



Organisation Accredited
by Joint Commission International



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ACRONYMS/ABBREVIATIONS

AEFI – Adverse Event Following Immunization

COVID – Corona Virus Disease

CREDAI – Confederation of Real Estate Developers Associations of India

CT – Computerized Tomography

DCGI – Drugs Controller General of India

EMA – European Medical Authority

HRMS – Human Resources Management System

IPD – In-Patient Department

IT – Information Technology

IVP – Intravenous Pyelogram

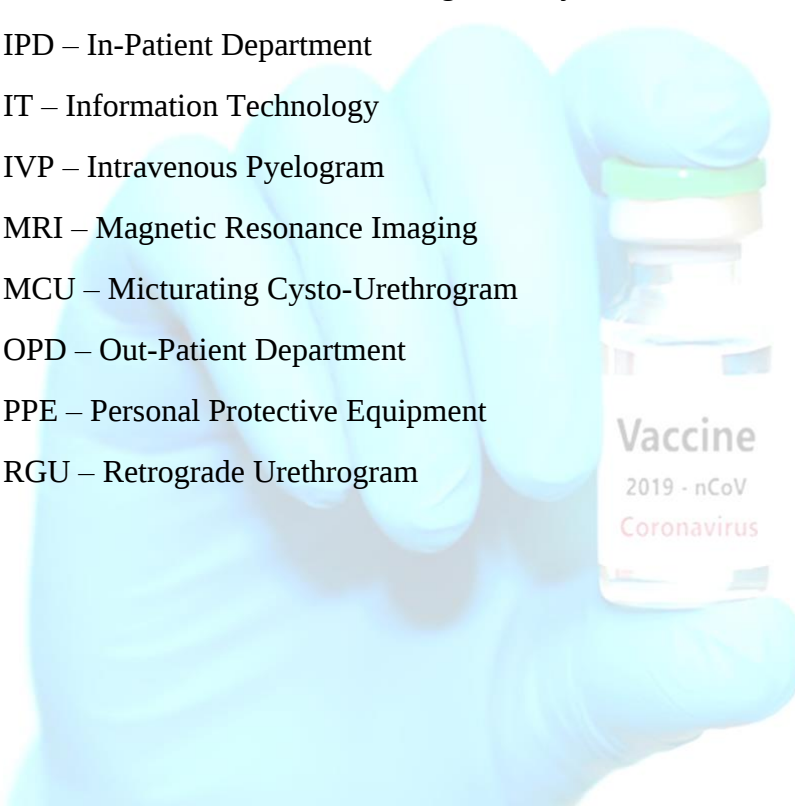
MRI – Magnetic Resonance Imaging

MCU – Micturating Cysto-Urethrogram

OPD – Out-Patient Department

PPE – Personal Protective Equipment

RGU – Retrograde Urethrogram



ORGANIZATION PROFILE

APOLLO HOSPITAL, JUBILEE HILLS, HYDERABAD

INTRODUCTION



Image 1.0

Apollo Hospitals Hyderabad first opened its doorways to the world in 1988. It has worked with a goal to carry elite medical services to individuals with a firm confidence in the upsides of greatness, skill, sympathy, and advancement. Today, after almost thirty years, Apollo Hospitals, Hyderabad has arisen as the best and confided in incorporated Health City in Asia, gaining practical experience in whole range from transitioning sickness to wellbeing along with comprehensive treatment.

There will never be a sluggish moment at Apollo Hospitals, Hyderabad. Every day clinic gets numerous drug store walk-ins, affirmations, crisis cases, and health counsels. With consistently spent at the medical clinic, committed specialists and staff play out a large number of administrations which includes CT filters, MRIs, Cardiac Surgeries, Dialysis strategies, organ transfers, but that's just the beginning; this for a portion of worldwide expenses. The Centre of Excellence at Apollo Hospitals offer a one-stop solution for patients with all sort of medical problems, saving their precious time, effort, and cost, from having to meet several doctors and to undergo diagnostic procedures to have their condition diagnosed.

Major specialties including Heart, Neurology, Bones, Joints & Spine, Cancer Organ Transplants, Gastro & Colorectal, Bariatric Surgery, Gynecology and Ophthalmology are major of Centers of Excellence available, which offer extraordinarily group practice programs.

Apart from that now the Apollo health city has been running the COVID – 19 Vaccination program in which public is coming as well as Apollo is also having tie ups

with many bigger and smaller companies and corporates through which mass population is being vaccinated each day.

DEPARTMENTS: -

Clinical Departments	
Cardiology	Pulmonology
Gastroenterology	Dermatology & Cosmetics
Neurology & Neurosurgery	ENT
Orthopedics	Ophthalmology
Emergency & Critical Care	Spine
Oncology	Physiotherapy & Rehabilitation
Transplant Unit	Preventive Medicine
Nephrology & Urology	Robotics
Pediatrics & Neonatology	Bariatrics
Anesthesiology	Endocrinology
Psychiatry	Gynecology & Obstetrics
Day care Facility	General Medicine

Table 1.0
2019 - nCoV
Coronavirus

Non-Clinical Departments	
Human resources & Training	Quality
Medical records	Marketing & Communications
IT	Biomedical Engineering
Central Sterile Services	Finance & Accounts
Ambulance control	Blood Bank
Laundry & House - keeping	Maintenance
Food & Beverages	Materials & Purchase
Laboratories	Corporate Relations

Table 1.1

Clinical Department

Emergency Medicine Department

Emergency Medicine Department (EMD) is top of the line area of patient care in the hospital and is committed to provide early entry, appropriate conveyance and treatment in its pre-hospital care along with quality urgency care to all patients who visit the emergency medicine department. The EMD mainly has two areas of operations:

- 1) Emergency Medical Services (Pre-hospital care in ambulance by emergency medical technicians & ambulance drivers)
- 2) Emergency Room (In- hospital care by emergency physicians, emergency nurses, housekeeping & other assistants)

The emergency medicine department is located on the ground floor and has a dedicated access for patient entry. There are in total 20 beds in the ER (including the isolation room bed).

Out - Patient Department (OPD)

The OPD is the first point of contact between the patients and the hospital. OPD includes those patients who do not spend a night in the hospital. The general OPD process in Apollo hospital Jubilee Hills Hyderabad is given below:

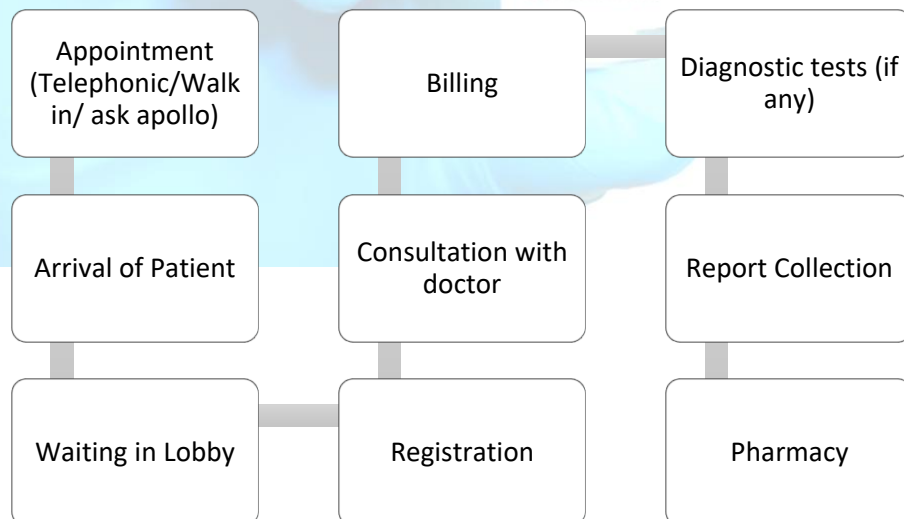


Fig. 1.0

In – Patient Department (IPD)

The IPD is the department where the patients are admitted in the hospital. In other words, they are those who spend at least one night in the hospital for their treatment. The general process flow for the IPD patients in Apollo Hospital, is as follows:

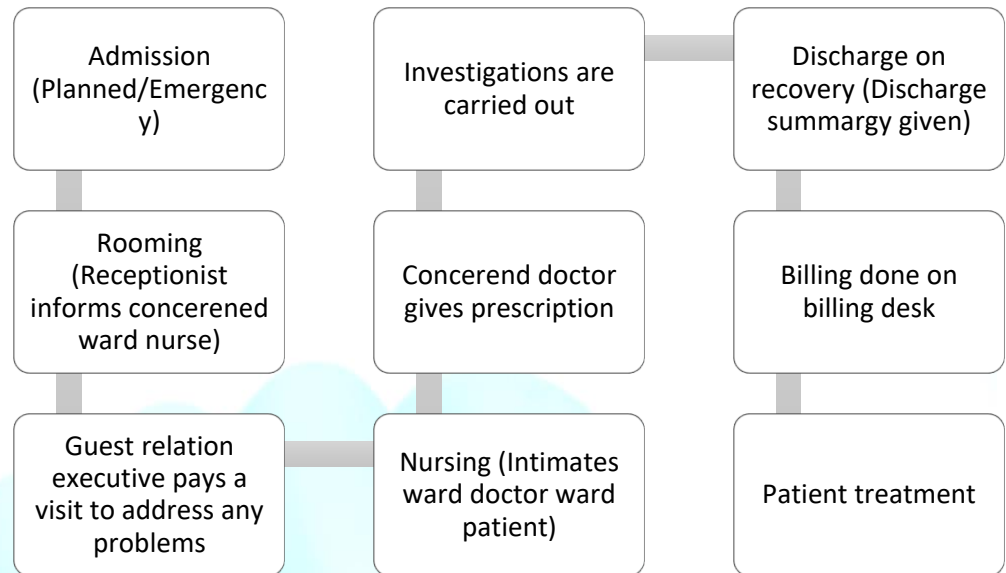


Fig 1.1

Apollo Personalized Health Checkup:

Apollo Personalized Health Checkup is basically a preventive health check-up plan for its customers. Here every individual can tailor his/her health check-ups according to their needs and wishes. The touch points for APHC in Apollo Hospital is:

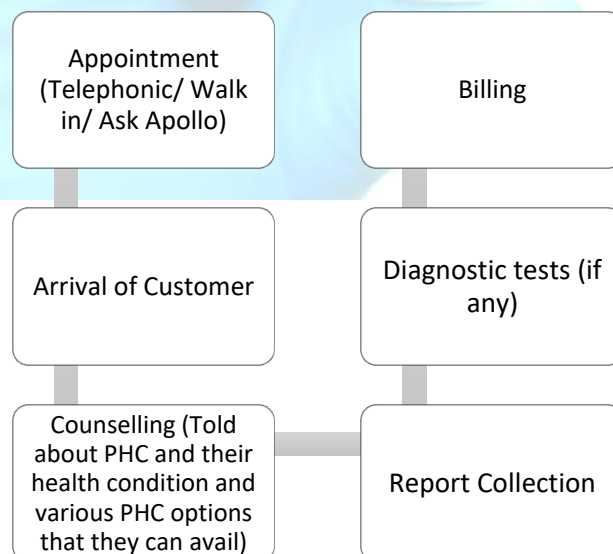


Fig. 1.2

Non-Clinical Departments

Central Sterile Services Department (CCSD):

The CCSD is located on the third floor of the hospital. The department is functional 24×7. There are multiple methods of sterilization followed based on the type of material. The methods are –

Method of Sterilization	Number of Equipment
Steam	3
Plasma	3
Ethylene Oxide (ETO)	1

Table 1.2

The process followed for sterilization is given below:

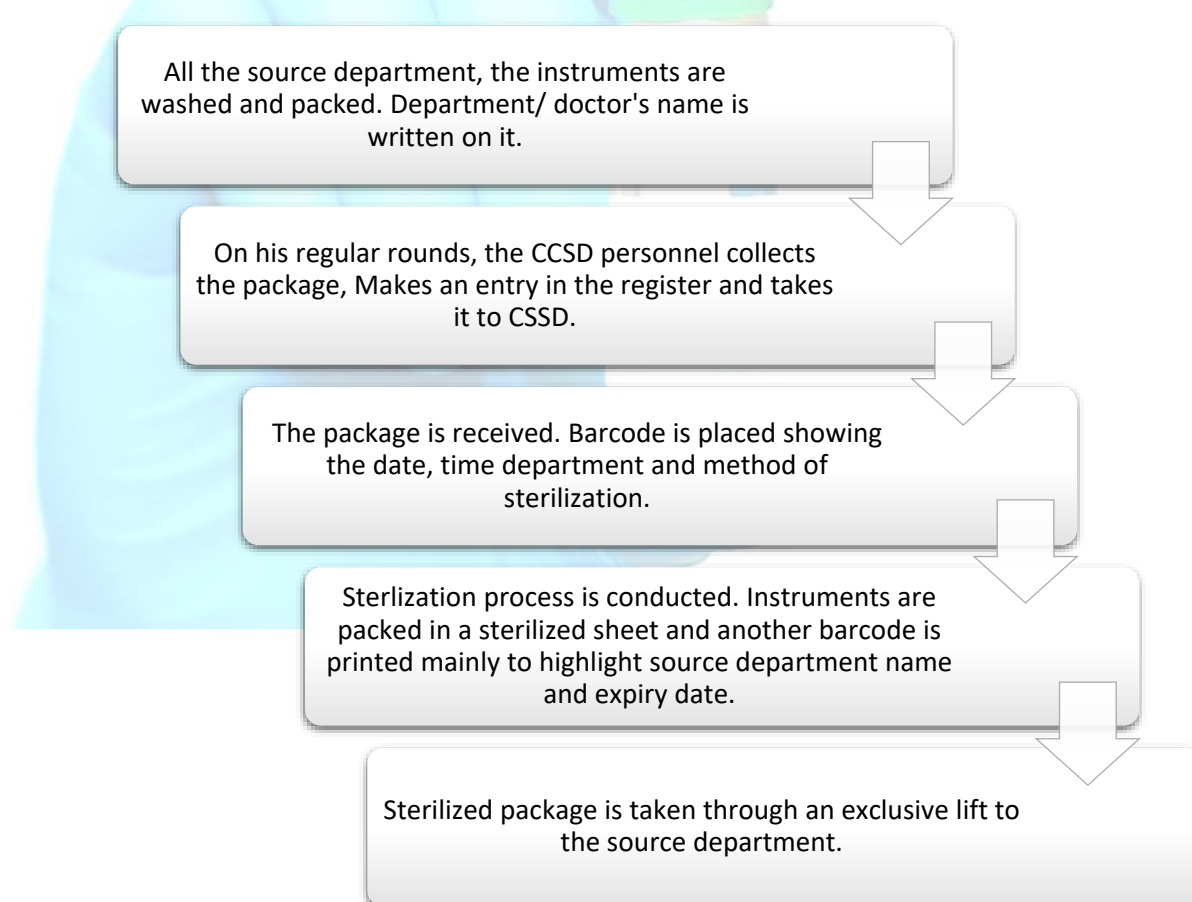


Fig. 1.3

Medical Records Department:

The medical department is in the basement, -3 level. The hospital stores physical records of the patients i.e., hard copies of the files. The files are stored according to the registration number of the patient. The hospital also maintains soft copies by scanning the files and storing them in external storage devices.

The records are kept for a duration as directed by the government. It is as follows:

1. OPD records: 3 years
2. IPD records: 10 years
3. Medico-legal cases: 15 years
4. Death record: 15 years
5. Birth record: 18 years

Post the designated duration, the records are shredded by following the procedure given by the government. The procedure is given below:

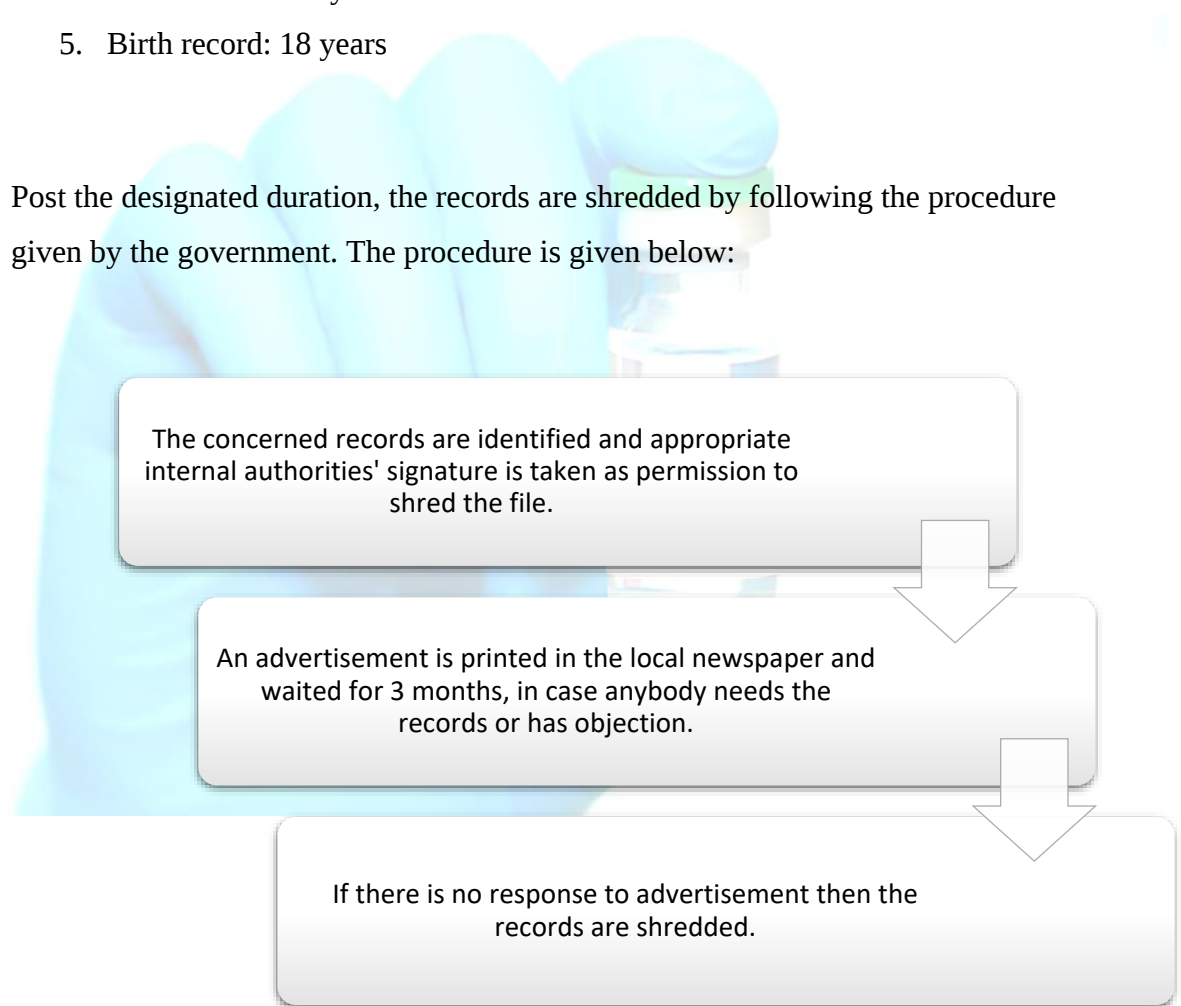


Fig. 1.4

IT Department:

The IT department is located on the fourth floor of the hospital. This department is outsourced from Tata Consultancy Services (TCS). The employees are responsible for the smooth functioning of the internal HMIS, Med Mantra. Any support required, hardware or software, is provided by IT to the hospital.

Blood Bank:

Apollo Hospitals Hyderabad has licensed blood bank with Component and Phresis lab. It successfully meets the request for rare blood transfusion. It offers 24 hours service and has an excellent diagnostic and support service.

Finance Department:

Since Apollo hospitals are a chain of corporate hospitals, they give due importance to the finances. The finance department works closely with the corporate relations department. They have a separate section on the website displaying financial reports for investors to view. They prepare and upload unaudited quarterly reports and audited annual reports.

Food and Beverage Department:

In Apollo Hospitals, Hyderabad, the food and beverage services are provided by the Apollo Sindoori. Apollo Sindoori is one of the leading hospital caterers in India. They work in coordination with the dieticians to provide services to the patients according to their specific needs.

Laboratory Services:

The hospital lab services provide essential diagnostic services which help the physician/doctor to make important decision related to the treatment of the patient. The sample collection from the patients on outpatient basis is done through the sample collection department. For the in-house patients, it is directly dispatched through the sample dispatch boys.

Departments in Hospital Laboratory are:

1. Biochemistry
2. Hematology
3. Microbiology
4. Transfusion Services/ Immunology

5. Immuno-Histopathology (IHC)
6. Cytology
7. Histopathology
8. Radioimmunoassay

Radiology:

The main aim of this department is to provide imaging diagnostic facilities which helps the clinician to plan the treatment of the patient. The department is well-fitted with state of art equipment and provides following facilities:

1. Conventional Radiology:
 - 1.1. Plain radiography
 - 1.2. Barium swallow, meal, follow through
 - 1.3. IVP, RGU, MCU
2. Imaging Facilities
 - 2.1. US including Doppler
 - 2.2. CT scans
 - 2.3. MRI including MR angiography
 - 2.4. Mammography
3. Invasive Procedures
 - 3.1. Percutaneous needle biopsy
 - 3.2. Percutaneous drainage procedure
4. Diagnostic facilities and Instruments:
 - 4.1. Conventional X-ray machine
 - 4.2. Portable X-ray unit
 - 4.3. Ultrasound
 - 4.4. Ultrasound with color Doppler
 - 4.5. CT-Scan
 - 4.6. MRI



A GLANCE ABOUT APOLLO

A snapshot of a revolution

- Healed over 26 million lives
- 6.5 million Health Check ups
- Patients from more than 120 countries
- Over 125,000 Cardiac Surgeries
- Over 10,000 Joint Replacement Surgeries
- First Liver Transplant in Child and adults
- First Multi-Organ Transplant surgical procedure-
- Over 7000 Kidney Transplants
- Over 500 Bone Marrow & 929 Liver Transplants

Apollo at a glance

- Turnover - 31,475 (INR Millions)
- PAT - 2,194 (INR Millions)
- Total Hospitals - 50
 - Owned Hospitals - 36
 - Managed Hospitals - 14
- Total no of beds - 8,276
- Pharmacies - 1,364
- Diagnostic clinics - 76

One Day at Apollo Hospitals

- Over 30000 Foot falls
- Over 2200 Admissions
- Over 50000 Lab tests
- 600 Major surgeries
- 3000 emergency cases
- 400 Dialysis
- 2-3 organ transplants
- 250 MRIs
- 400 CT scans
- 30-35 cardiac surgeries



PROJECT REPORT

INTRODUCTION

Covid sickness (COVID-19) is a compelling infection derived by a newly found virus. Majority of people contaminated with the COVID-19 infection will confront mild to direct respiratory ailment and recover without demanding any remarkable treatment. More conventional individuals, and those with elemental clinical problems like cardiovascular infection, persistent respiratory sickness, diabetes and malignant growth are bound to foster genuine illness. The most appropriate way to prevent and hinder its spread is to be all around educated about the COVID-19 infection, the sickness it causes and how it transmits from one individual to another. Guard yourself as well as other people from contamination by washing and cleaning your hands or applying sanitizer habitually and not touching your face. The COVID-19 infection spreads mostly through droplets of spit or release from the nose when an infected person coughs or snuffles, so it is important that we practice respiratory decorum.

WHO is bringing the world's researchers and worldwide wellbeing experts together to speed up the innovative work measure and foster new standards and norms to restrict the spread of the Covid virus and help care for those influenced? The accessibility of a protected and successful antibody for COVID-19 is very much perceived as an extra device to add to the control of the pandemic. Simultaneously, the difficulties and endeavors expected to quickly create, assess, and produce this at scale are colossal. It is imperative that we assess whatever number antibodies as could reasonably be expected as we can't anticipate the number of will end up being practical.

To fight this pandemic, various laboratories were putting their best efforts in the production of the vaccine and as a result of that some of them are successful. As till date 3 vaccines has been launched in India and by comparing all the 3 vaccines, we can know their difference and we can also answer when to take a particular vaccine, who should/should not take a specific kind of vaccine and how much they are effective. Till now, 2624733776 vaccine doses were administered in India and the vaccination drive is going on at an enormous rate.

The framework comprises of three main 'D' – dimensions of achieving widespread global COVID-19 immunity via vaccinations. The three D's are 'development', 'dissemination', and 'deployment': assuring the continuous maturation of safe and effective vaccines, supplying and circulating the vaccine around the globe, and utilizing the vaccine within countries.

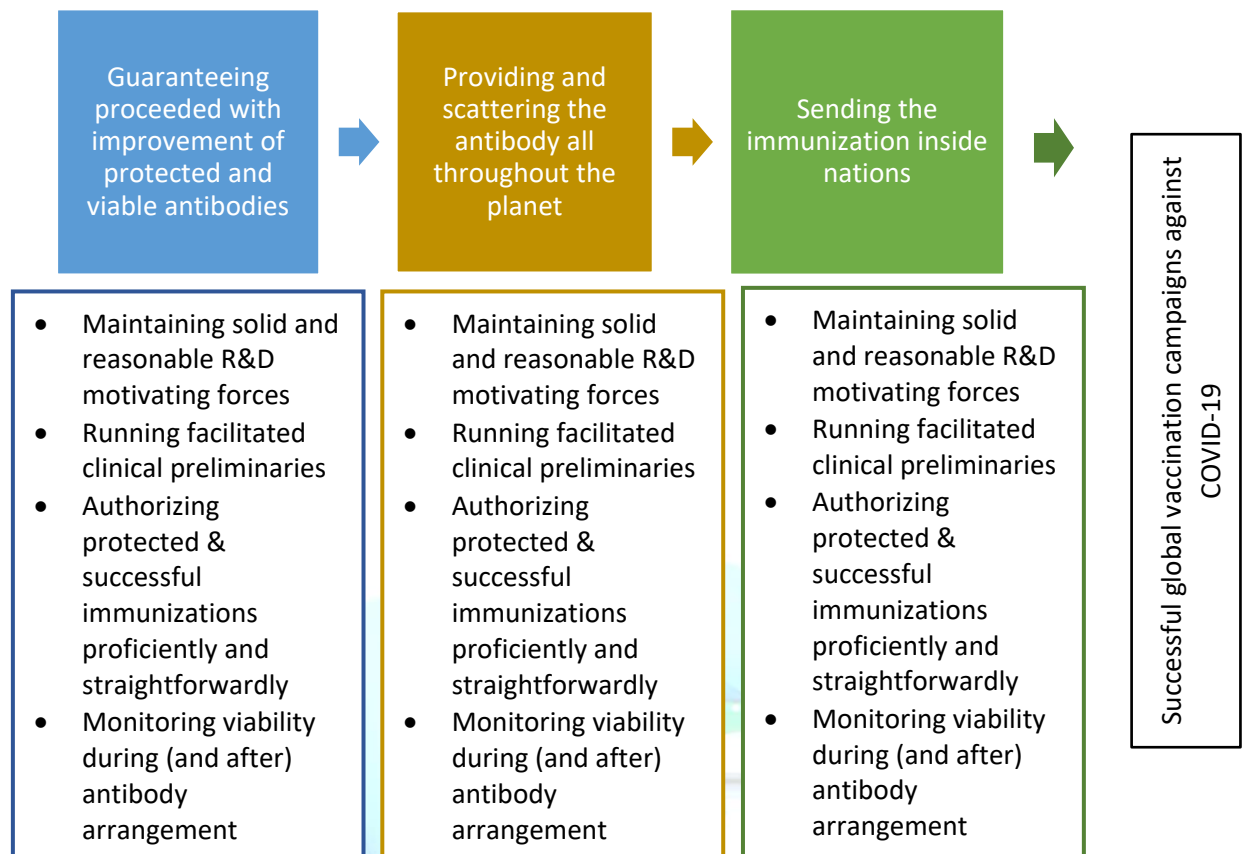


Fig. 1.6

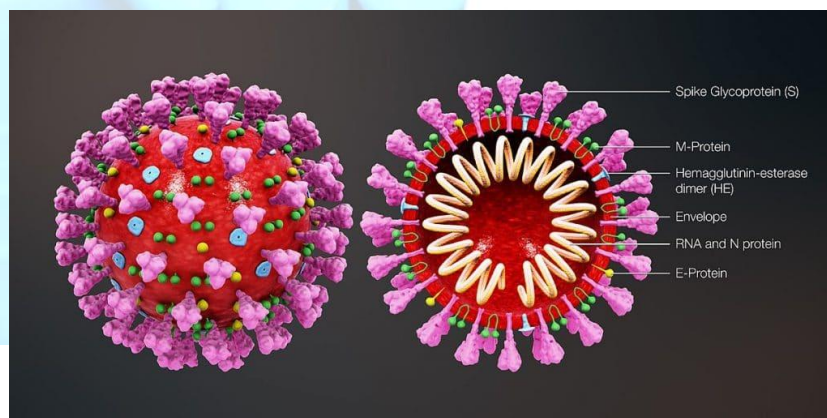


Image 1.1

COVAXIN vs COVISHIELD vs SPUTNIK V

COVAXIN

Covaxin is a deactivated antibody that holds the dead infection, which provokes the resistant reaction however doesn't makes the individual debilitated. Bharat Biotech, a 24-year-old antibody creator with an arrangement of 16 immunizations and

advancement to 123 nations, utilized an example of the Covid, detached by India's National Institute of Virology. The preliminary data result of the phase 3 trial shows that the vaccine has an efficacy rate of 81%. The gap between two doses of the vaccine are 28 days apart.

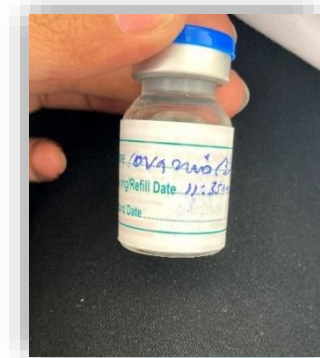


Image 1.2

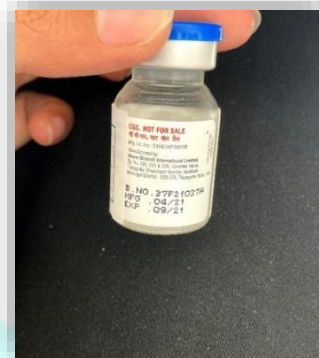


Image 1.3

COVISHIELD

The Oxford-AstraZeneca vaccine's (SII), Covishield is established on the viral vector platform. The vaccine is made from a weak form of a common cold virus from chimpanzees. When the vaccine is injected into an individual, it urges the immune system to start making antibodies and primes it to strike any coronavirus infection. The doses of COVID-19 vaccine have a 70% efficacy rate. It is two doses shot, where the both the doses are administered 12 weeks apart.



Image 1.4

SPUTNIK V

The vaccine, developed by Moscow's Gamaleya Institute is also a vector vaccine, based on adenovirus. It uses a cold-type virus, manipulated to be harmless, as a carrier to hand

over a small fragment of the coronavirus to the body. Safely exposing the body to a part of the virus's genetic code makes the path to recognize the threat and learn to fight it off, without the risk of becoming ill. Sputnik V gives around 92% protection against coronavirus. Two slightly different versions of the vaccine are administered at the gap of 21 days.



Image 1.5



Image 1.6



Image 1.7

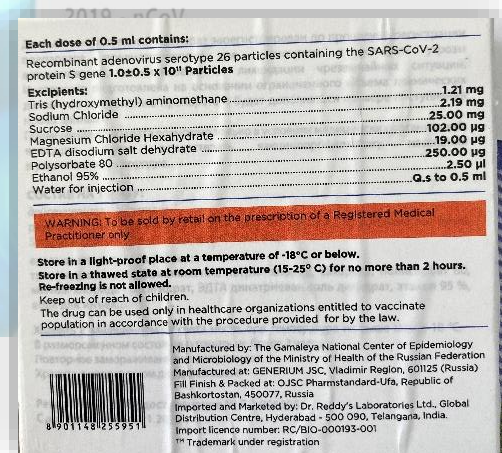


Image 1.8

A comparison between Covishield, Covaxin and Sputnik V

This table gives us the basic idea about the differences in the vaccines available till the date. The initial price announced by the government of COVID-19 vaccines are given in this table.

Vaccine	Type of Vaccine	Dosage and time gap between doses	Storage and expiry	Price in INR (Rs)
AstraZeneca (Covishield from SII - Pune)	Viral Vector	Two injections, 12-week duration	2 to 8 degrees Celsius, 6 months	Rs. 780/-
CoVaxin (Bharat Biotech, Hyderabad)	Inactivated Virus	Two injections, 4–8-week duration	2 to 8 degrees Celsius	Rs. 1410/-
Sputnik V (Gamaleya - Russia & Dr Reddy's)	Viral Vector	Two injections; 21 days to 3 months duration	-18.55 degree Celsius (liquid form) and 2 to 8 degrees Celsius (dry form)	Rs. 1145/-

Table 1.3 Coronavirus

Vaccine efficacy-

All three vaccines have shown promising results in their respective clinical trials.

COVISHIELD

The peer-reviewed results of the Phase-III trials of the Covishield show that it is up to 90% effective. The outcomes additionally uncovered that the immunization was just 62% viable when members were given two full portions, however its adequacy rose to 90% when a half portion followed by a full portion was managed. Likely, the immunization will be viable against the new strain too.

Covishield works effectively against the UK strain and is being tested against the Brazilian variant.

COVAXIN

The updated second interim phase 3 trial data display that Covaxin has an efficacy rate of 78% a tad lower than the earlier reported efficacy of 80.6% based on the first interim trials conducted in March. The efficacy against severe COVID-19 disease was 100%, as claimed by company, but that against protecting from asymptomatic COVID-19 infection was 70%. The vaccine can induce antibodies that can neutralize even the UK strain and other heterologous strains.

Covaxin is successful in protecting against both, the UK, and Brazilian variants.

SPUTNIK V

Manufacturers of the Sputnik V vaccine released a statement detailing an impressive 95% efficacy rate. Estimations depended on the examination of information on volunteers who got both the doses of the Sputnik V antibody or fake treatment at the subsequent control point as per the clinical preliminary convention. Fundamental information from volunteers got 42 days after the primary portion or 21 days after the subsequent portion demonstrates Sputnik V's viability is over 95%.

According to the makers of the vaccine, Sputnik is one of the best options against the mutations of the virus as it is the only one that uses two totally different shots.

How safe are they and what are their Side-Effects?

The one aspect where Covaxin has an obvious edge is the eligible age group. Covaxin can be controlled to anybody more than 12 years old, while Covishield has been considered safe just for those over 18 years old.

Recent studies of the European Medical Authority (EMA) have shown the possibility of “unusual” blood clots (thrombosis) along with abnormally low blood platelets (thrombocytopenia) as a very rare side effect of the AstraZeneca vaccine. This has provoked the Indian specialists, including the National Committee for Adverse Event Following Immunization (AEFI), to audit the unfavourable responses of Covishield and Covaxin.

While taking both antibodies, it is ideal to tell your immunization supplier ahead of time on the off chance that you are pregnant, breastfeeding, invulnerable compromised, or confronting some other genuine wellbeing related issue.

COVISHIELD

Covishield does have a few side effects, such as pain, redness, itching, swelling or bruising, feeling unwell, fatigue, chills, fever, headache, nausea, joint pain, and muscle ache, but they are mostly mild to moderate in nature and can be treated with over-the-counter pills.

It is likewise known to have set off unfavourably susceptible responses like bothersome skin rash, windedness, and growing of the face or tongue, so on the off chance that you have a background marked by sensitivities, it is fitting to talk with a specialist first.

COVAXIN

Along comparable lines, Covaxin also has actuated results including site torment, infusion site growing, injected site redness, injected site tingling, firmness in upper arm, shortcoming in the infusion arm, bodyaches, migraine, fever, disquietude, shortcoming, rashes, nausea, heaving.

However, Covaxin is less likely to cause any allergic reaction. But if there is any, it is advisable to consult with a doctor first without any delay.

SPUTNIK V

Sputnik as well, has transient minor unfriendly occasions, for example, torment at the infusion point and influenza like indications including fever, shortcoming, weakness, and migraine. No unforeseen antagonistic occasions were recognized as a feature of the examination.

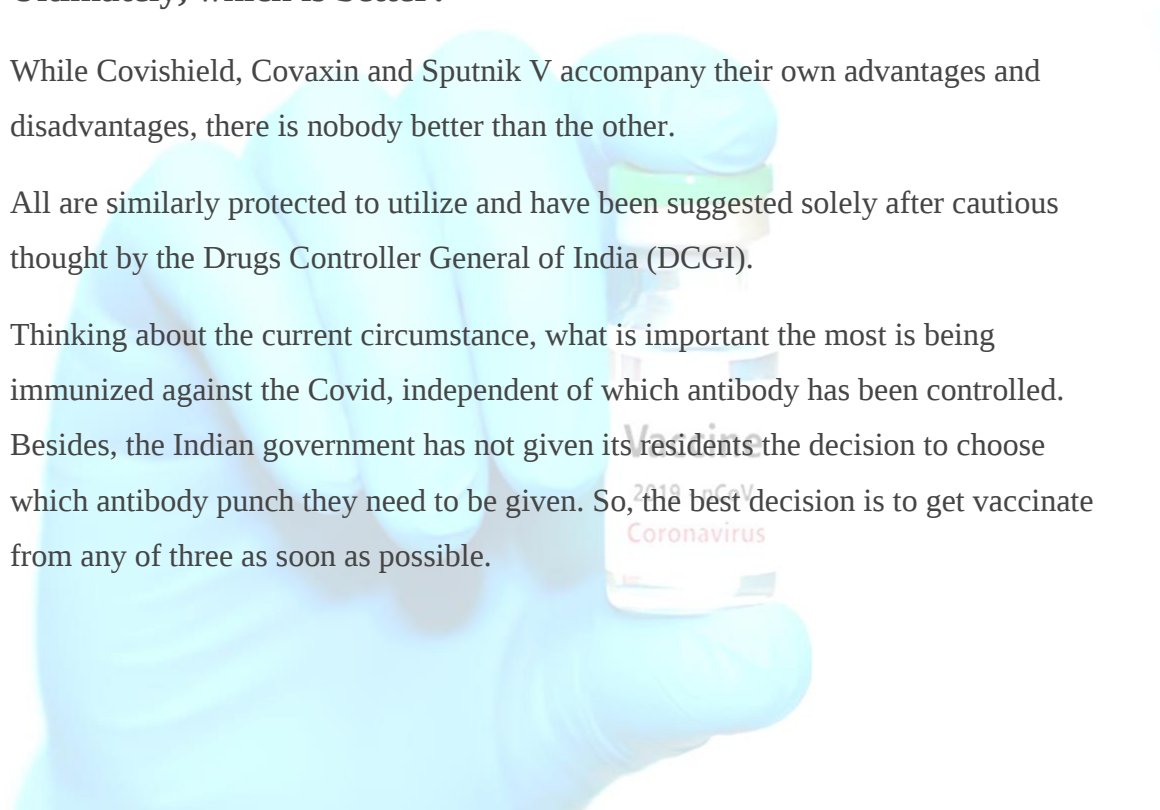
It ought not be regulated to anybody in an intense phase of hypersensitive response. One ought to complete blood tests for Immunoglobulin E and C-responsive protein in the event of sensitivities, and on the off chance that they are not inside as far as possible, they ought to rethink getting the Sputnik hit.

Ultimately, which is better?

While Covishield, Covaxin and Sputnik V accompany their own advantages and disadvantages, there is nobody better than the other.

All are similarly protected to utilize and have been suggested solely after cautious thought by the Drugs Controller General of India (DCGI).

Thinking about the current circumstance, what is important the most is being immunized against the Covid, independent of which antibody has been controlled. Besides, the Indian government has not given its residents the decision to choose which antibody punch they need to be given. So, the best decision is to get vaccinate from any of three as soon as possible.



LITERATURE REVIEW

S.NO	TITLE	AUTHOR/ NEWSPAPER	DATE/ YEAR
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1.	COVISHIELD VS COVAXIN VS SPUTNIK V: WHICH ONE IS BETTER?	TIMES OF INDIA https://timesofindia.indiatimes.com/life-style/health-fitness/web-stories/best-coronavirus-vaccine-covaxin-vs-covishield-vs-sputnik-v-which-one-is-better/photostory/83205740.cms	4 TH JUNE 2021
COVAXIN: - It contains the dead virus which activates the immune response but does not make the person ill. Efficacy rate is 81%. COVISHIELD: - Derived from a weak version of common cold virus from chimpanzee. Efficacy rate is 70%. SPUTNIK: - Based on an adenovirus. Efficacy Rate is 92%. Two slightly different variations of vaccine are administered. Each of the two doses uses a different type of adenovirus: first dose with type-26 (Ad26), then a booster dose with type-5 (Ad5). Keywords: Vaccine, Covid-19, homegrown, inactivated, efficacy, adenovirus, infection			
2.	CORONAVIRUS VACCINE: WHY DO SOME PEOPLE GET SIDE-EFFECTS AND SOME DON'T?	TIMES OF INDIA https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/coronavirus-vaccine-why-do-some-people-get-side-effects-and-some-dont/photostory/83511534.cms	15 TH JUNE 2021, 11:00 IST
1.Different vaccines showcase different responses. 2.Covaxin tends to dole out 'fewer' inflammatory reactions in comparison to Covishield. 3.Women, more than men, tend to experience harsher, and more intense side-effects from the vaccine doses. Keywords: Coronavirus, vaccinated, side-effects, antibodies, immunity, symptoms, immune system			

3.	SIDE EFFECTS OF COVISHIELD: 26 CASES OF MINISCULE BLEEDING, CLOTTING REPORTED, BY GOVERNMENT	ZEE NEWS https://zeenews.india.com/india/adverse-effects-of-covishield-26-cases-of-miniscule-bleeding-clotting-recorded-says-government-2362654.html	17 TH MAY 2021, 20:31PM IST
Over 23,000 adverse events have been reported since the vaccination drive involving Covishield and Covaxin vaccines started in the country and of these 700 cases were reported to be serious. Keywords: Potential, administered, immunisation, beneficiaries, symptoms, monitoring, adverse			
4.	SPUTNIK V COVID-19 VACCINE: HOW MUCH DO WE KNOW ABOUT ITS ADVERSE EFFECTS?	MEDICAL NEWS TODAY https://www.medicalnewstoday.com/articles/sputnik-v-covid-19-vaccine-how-much-do-we-know-about-its-side-effects	10 TH MAY 2021
Sputnik V is developed by the Gamaleya National Centre of Epidemiology and Microbiology in Russia. It was the first COVID-19 vaccine to be authorized. The most common adverse effects are: ○ flu-like illness ○ headache ○ fatigue ○ injection-site reactions 45 out of 16,427 participants who received the vaccine reported serious adverse events, including deep vein thrombosis, haemorrhagic stroke, and hypertension. Keywords: Sputnik V, Gamaleya, illness, spike protein, vulnerability, side-effects			

5.	COVAXIN COVID-19 VACCINE: WHAT TO KNOW ABOUT SIDE EFFECTS	MEDICAL NEWS TODAY https://www.medicalnewstoday.com/articles/covaxin-covid-19-vaccine-what-to-know-about-side-effects	
Covaxin is also known as BBV152. It is a type of whole-virus vaccine called an inactivated vaccine. The vaccine's phase 1 and 2 clinical trial data results state that adverse events include fatigue, nausea, body aches, vomiting, and chills. No serious side effects were as such reported. Of the 380 individuals who received the first dose of the vaccine, at a concentration of either 3 or 6 micrograms, 17 participants, or 4.5%, experienced injection-related reactions, and 23 participants, or 6.1%, experienced systemic reactions, such as body aches and fever. A similar resembling number of adverse reactions were reported after the second dose. Keywords: emergency, authorization, biotechnology, replicate, adverse, vaccine			
6.	ADVERSE EFFECTS AND THEIR ASSOCIATION WITH COMORBIDITIES AFTER FIRST AND SECOND DOSES OF COVISHIELD VACCINATION AMONG HEALTHCARE WORKERS OF GOVERNMENT OWNED MEDICAL	 Authors: - A Remlabeevi, Thomas Mathew, G S Harikumaran Nair, Greeshma Lathika Rajasekharan Nair, Mariyam Rajee Alex Adverse effects and their collaboration with comorbidities after first and second doses of Covishield vaccination among healthcare workers of Government owned medical colleges in Kerala medRxiv	25 th May' 2021

	COLLEGES IN KERALA		
The objective of this research was to find the percentage of vaccine recipients with adverse effects following the first and second doses of Covishield vaccination. The key findings were that 56.7% of those who reciprocated after receiving either first or second dose of the vaccine developed at least one symptom afterwards (63.3% after first and 24.3% after second dose of the vaccine respectively). Symptoms like chest pain, dry mouth, breathing difficulty were also noted. Seizures were also recorded as an adverse event by the responders. Keywords: Covishield, comorbidity, health workers, paramedical, medication, Infection, symptoms			
7.	THE WILLINGNESS TO RECEIVE COVID-19 VACCINE AND ITS RELATED FACTORS: “VACCINATION REFUSAL COULD PROLONG THE WAR OF THIS PANDEMIC”	Author: Wake AD https://www.dovepress.com/the-willingness-to-receive-covid-19-vaccine-and-its-associated-factors-peer-reviewed-fulltext-article-RMHP	21 st June' 2021
There was insufficient level of enthusiasm to receive COVID-19 vaccine, and several components were associated with it. Health education and enlightenment should be provided concerning this vaccine to improve the willingness and desire of the community. Key Words: COVID-19, vaccine, willingness, acceptance, associated factors, demand			

8.	EFFICACY AND SAFETY OF COVID-19 VACCINES	Authors: Kai Xing, Xiao-Yan Tu, Miao Liu, Zhang-Wu Liang, Jiang-Nan Chen, Jiao-Jiao Li, Li-Guo Jiang, Fu-Qiang xing, Yi Jiang https://pubmed.ncbi.nlm.nih.gov/33691913/	March'2021
Most of the COVID-19 vaccines appear to be effective and safe. Double dose vaccination is recommended. However, more study is needed to inspect the long-term efficacy and safety of the vaccines and the influence of dose, age, and production process on the protective efficacy. Keywords: Covid-19 vaccines, Covid-19, Aged, China, muffins, SARS-CoV 2, Vaccines			
9.	ACCEPTANCE AND ATTITUDES TOWARDS COVID-19 VACCINES	Authors: Tamam El-Elimat, Mahmoud M. AbuAlSamen, Basima A. Almomani, Nour A. Al-Sawatha, Feras Q. Alali https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250555	23 rd April' 2021
Jordan is identified a one of the lowest countries in the acceptance of COVID-19 vaccines, where 36.3% of its total population refused to get vaccinated. Hence, there is a need of awareness campaigns in order to encourage COVID-19 vaccines recognition. Keywords: availability, affordability, population, attitude, acceptance			
10.	CONCERNS & MOTIVATIONS ABOUT THE COVID-19 VACCINATION	The Lancet Infectious Diseases https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(20)30926-9/fulltext	15 th Dec' 2020
This study reveals data collected in Australia in April 20, which suggested that 86% of people surveyed (3741 of 4362) were ready to vaccinate against COVID-19 if a vaccine is available. The data projected that the most			

reported reasons to get vaccinated were to protect family and self, as safety was the main concern about the vaccine.

Keywords: Community, pandemic, vaccinate, Covid-19, vaccines



General finding on learning-

Department wise/programme wise observations, Critical factor affecting functioning of department-

As being posted in the operations department and was working with the covid 19 vaccination programme has given a brief idea how the vaccination programme is actually running and what are the major critical factors that are affecting the programme outside (that are not related to the hospital or department) as well as inside factors (flaws within the department that are affecting the vaccination process).

The COVID-19 pandemic and subsequent lockdowns devastatingly affect India's casual area, which utilizes a larger part of the nation's labour force. Indeed, even as India battles to broaden antibody inclusion during serious deficiency and a dangerous second wave, it is important that this interaction focuses on the large numbers of casual laborers who are in danger of openness to the infection and furthermore face loss of jobs.

While medical care laborers and other forefront laborers were immunized in the underlying drives in January and February this year, as of now, the qualification for inoculation depends on age. Given the intense lack, most states keep on focusing on those over 45 years. Beside lack of common sense hampering its creation, India's imperfect system to vaccinate its populace is driven by innovation. This methodology has avoided a large number of casual specialists from the inoculation drive.

The COVID-19 immunization can give basic assurance and decrease the danger of mortality and is viewed as a vital counteractant out of this emergency and a rampart against an expected third wave. But casual specialists are less inclined to be inoculated because of different obstructions in the current immunization structure.

a. Digital Divides

To start with, the immunization system is vigorously subject to innovation and confined by age. Online enlistment is required for those in the 18-45 age bunch. This advantages metropolitan inhabitants with assets, however a huge extent of labourers need computerized proficiency and don't approach gadgets or web.

Besides, a greater part of the casual labour force is in the 18-45 age bunch because of the laborious idea of work. Need by age gathering and innovation driven-inoculation programs have prompted antibody incongruities. In families where nobody has gotten inoculation, immunize procuring individuals from the family, paying little heed to age and admittance to gadgets, so they are secured and can keep on working.

b. Employer Responsibility

Second, at every possible opportunity, bosses should be roped in to help inoculation arrive at a bigger populace of laborers. Like a few private corporate associations that have made responsibilities to inoculate representatives and their families, in certain areas it could be feasible to stretch out immunization to casual specialists through the channel of business. The development to an inoculation drive should zero in on solid general wellbeing informing.

c. Effective Messaging

Third, the development to an inoculation drive should zero in on solid general wellbeing informing. Since numerous specialists don't approach news media or web-based media, it is important to investigate different methods of correspondence to bust legends around immunization. This is imperative to ensure the cycle of assent isn't compromised.

d. Inclusive Vaccination

Fourth, attributable to the significant expense of immunization procurement and conveyance, state governments are starting to limit inoculation by residence status. For example, the Uttar Pradesh government as of late pronounced that first inclination will be given to local people. This is unexpected thinking about that UP conveys a larger number of travellers than it gets.

The gathering said that at the current speed, India's inoculation drive will require 2.4 years to finish, while worldwide disease transmission specialists have cautioned that the infection may transform in less than a year, making it hard for ebb and flow antibodies to contain the spread.

e. Limitations - Where are the stocks?

Serum Institute of India as of now has a limit of delivering 70 million dosages every period of Covishield, which it vows to increment to 100 million portions by June. Bharat Biotech has a current limit of delivering 10 million dosages of Covaxin a month, which it has vowed to twofold by May and make 60 million by July. This implies India will have a supply of around 90 million antibody dosages each for the period of May and June.

The Centre would in any case require that numerous dosages as the work of immunizing the 45 or more-age bunch has far to go. Test this: while more than 100 million individuals of this classification have their first portion, just 13 million have their second up until now and the excess 87 million will line up in May and June for it. There are 450 million individuals in the 45 or more-age classification, showing that the errand is a long way from accomplished for this need bunch which represents 80% of Covid mortalities.

f. Private hospitals step out

Private emergency clinics, according to the new strategy, can neither immunize individuals of the 45 or more class at Rs 250 for every portion from May 1 nor will they get any more antibody supplies from the Centre. They have been advised to secure their provisions solely from the antibody providers from May 1. This would imply that 3,977 private immunization destinations functional in the nation as of now would stop to work from May 1 as they would not get any stocks quickly from the two providers for any of the age gatherings. Individuals who got their first portion from a private clinic may well need to make a beeline for one of the 53,438 government immunization places for their subsequent portion. This would just press government inoculation focuses till private clinics get stocks straightforwardly from providers and resume immunization in June or much later as they will get the stocks after the states do.

g. Vaccination numbers falling

The falling immunization numbers are a further reason for stress with the states putting it's anything but an absence of stocks from the Centre while the focal government has focused on that the states actually have almost 11 million dosages in their stock with 2 million more on the way. The lockdowns in different states have eased back the inoculation drive with individuals wondering whether to venture out

given the rampaging second flood of the pandemic. The fall in immunization numbers is distinct in the most exceedingly awful, influenced states like Delhi where the activity ought to have been done in mission mode given the dramatic ascent in cases.

h. Production

Starting May 1, the Great Indian Vaccine Rollout was relied upon to cover a huge number of individuals in the 18-44 age section the nation over in the immunization drive against Covid-19. At the point when it was dispatched on January 16, the staged rollout of the program was in a state of harmony with the accessibility of Covid immunizations in the country. The primary goal was the medical services and bleeding edge laborers managing the pandemic. Then, at that point it was the turn of those over 60 years where death rates were the most noteworthy for the infection. Everything looks OK. Things started to turn out badly in late March when the public authority brought down the age for antibody qualification to 45 years or more from April 1 and request started exceeding stock. Focal government authorities guarded themselves by calling attention to that India had immunized more than 143 million individuals and keeping in mind that it was not the biggest number (the US and China have vaccinated more), it was yet the quickest as far as the quantity of days taken. What those figures concealed was the awkward reality that they covered scarcely 1.5 percent of the populace. Of those figured as generally defenceless (over 60), just 50 percent of an expected 120 million have been inoculated up until this point, including 9.3 million who had likewise gotten the second portion by April 27. About 60 million senior residents still need to be covered even as, from April 1, another 200 million of those 45 years or more joined the line for the immunization.

i. Distribution

A complete guide for the antibody rollout, figuring in assembling destinations, dissemination focuses and last-mile wellbeing utilities, and guaranteeing that there is insignificant wastage, and the immunization is put away at the right temperatures in cool chains, is as yet underway. Without such an outline, antibody creators are anxious the fault for the looming intense immunization deficiency will be set at their entryway. General wellbeing specialists contend that arranging and controlling the

stream to the inoculation habitats will represent a more prominent test than the immunizing costs.

j. Pricing

Covishield is at present the most moderate immunization in the worldwide antibody market as costs depend on advance financing given by the nations for in danger antibody producing. Bharat Biotech Covaxin is inactivated and profoundly cleaned making the assembling cycle costly because of low interaction yields. Medication firm Dr Reddy's Sputnik V immunization (imported) will cost Rs 995.40 per shot in India. Notwithstanding, there is a likelihood that the antibody will be sold at a cheaper once the neighbourhood supply starts in the country. The main transfer of imported portions of the Sputnik V antibody arrived in India on May 1, and got administrative freedom from the Central Drugs Laboratory, Kasauli, on May 13, 2021. Price was revised on June 10th.

Vaccine Prices at Apollo Hospital, Jubilee Hills, Hyderabad				
Vaccine	Cost per dose	Tax	Maximum Service Charge	Maximum Price per dose
COVISHIELD	Rs. 600	Rs. 30	Rs. 150	Rs. 780
COVAXIN	Rs. 1,200	Rs. 60	Rs. 150	Rs. 1,410
SPUTNIK V	Rs. 948	Rs. 47	Rs. 150	Rs. 1,145

Table 1.4

All these vaccines are being offered free of cost at government-run hospitals and health centres, and these prices are applicable only to those who opt to pay and get vaccinated at private hospitals.

The cost of Covaxin stands out in contrast to everything else particularly given the way that industry specialists gauge it costs around Rs40 to deliver one portion of the antibody. Covaxin is a local antibody, grown together with the Indian Council for Medical Research (ICMR), the public authority's clinical exploration arm. Such an antibody ought to have undeniably offered a monetary advantage to the Indian government and its residents, particularly since it chops down the exertion of haggling in a global market. Expenses being settled straight by the immunizer maker is moreover the central government's mistake. "The condition is exacerbated by how the public authority is an accessory in this immunizer and has not stepped in to fix this.

Prosperity experts say the example is unreasonably affecting people in remedially underserved networks. Facility chose to scatter the inoculation first to crisis centres, which then transformed into the fundamental deliverer of the shot to their own clinical consideration workers and others who qualified. When in doubt, people should have a fundamental thought expert auxiliary with the clinical facility, or get care from the clinical centre, to have a chance there.

That suggests that people living in more shocking organizations without critical facilities routinely face a lot harder time finding induction to the still-insufficient vaccination. The issue highlights one of the challenges specialists face in the push to inoculate people fairly. One of the patients referred to "You need to know somebody who knows somebody who acknowledges how to get it, and shockingly then, it's anything but's a sure thing". The condition has dealt with possibly recently as more centres have started the immunization enrolment.

However, wellbeing service has asked state government to use 100% limit of all private emergency clinics empanelled under Ayushman Bharat, focal government wellbeing plan and state medical coverage plans to empower them to adequately work as Coronavirus immunization focuses. It is additionally recommended that medical clinics not empanelled under these three classifications ought to likewise be worked as immunization focuses on the event that they have sufficient number of vaccinators, adequate room for perception of those inoculated, cold chain offices and game plans to deal with any unfriendly impacts.

SUGGESTIONS FOR IMPROVEMENT-

To meet the key anticipated information needs, country programmes should design a system to:

- ✓ Supervise fair take-up, inclusion by portion and finished timetable, after some time by geology, by populace gatherings, and hazard gatherings
- ✓ Monitor how much public arrangements to focus on in danger gatherings (in light old enough, nature of their work or previous circumstances) and in danger environment (e.g., medical clinic and long-haul care offices) are adequately carried out

- ✓ Contribute a solid and believed individual inoculation record/testament for any wellbeing, work related, instructive and travel purposes (according to public arrangements)
- ✓ Assure that the essential records and documentation are set up for usage in reviews, security checking, infection observation, and antibody adequacy contemplates and ensure that individuals can be supervised for the full course, in the probable case that a multi-dose schedule is essential, to track defaulters and shorten the incidence of dropouts.
- ✓ Projects need to quantify and oversee administration accessibility and status parts of COVID-19 immunization conveyance, for instance their human asset limit, accessibility of antibodies and supplies, the accessibility of individual defensive gear (PPE), or cold chain limit. Information about all these basic limits can be accounted for a month-to-month office detailing framework, caught in a devoted framework, for example, a HR the board framework (HRMS) or coordination's the executives' data framework.

RATIONALE

COVID-19 vaccine is on track to become the fastest developed vaccine in history. At the start of 2021, India launched world's largest vaccination drive against COVID-19 across 3006 vaccination sites in our country. Understanding what we know and still don't know about a vaccine for COVID-19 can help shed light on its safety and efficacy. The vaccine will help us achieve two things - one it will bring down the number of cases and decrease mortality ratio. Vaccines train our immune system to identify the targeted virus and create antibodies to battle off the disease without getting disease itself. The amalgamation of getting vaccinated and following CDC recommendations to protect yourself and others provides the best protection from COVID-19. COVID-19 vaccination is now showing us a path to transition out of this phase of pandemic. Ending the COVID-19 pandemic will arrest the growing negative impact the virus is having on education, health care and countless other activities of a functioning and operational society. However, the biggest challenge at the moment lies in logistic of dispensing vaccines to vast population. As for now it seems that the challenges with the "known knowns" (COVID cases, hospitalization, and effective management) are being dealt with, and with India transitioning through "known unknowns" (managing vaccine logistics and unforeseen complications). The real test will lie in dealing with

the "unknown unknowns" (short term and long-term vaccine efficacy, capacity to control the pandemic and boosting the economy and health care).

RESEARCH QUESTION

What is the vaccination process, when people are developing side-effects, which age group is getting vaccinated and why is it important to manage the vaccination process and where we are doing this research?

SPECIFIC OBJECTIVES

To study about the COVID-19 Vaccination process at the Apollo Hospitals, Jubilee Hills, Hyderabad and about the challenges that hospital personnel and general public are facing during this vaccination process.

- ✚ To study in detail the whole vaccination process.
- ✚ Turnaround time of vaccination.
- ✚ Likelihood of people towards a particular vaccine.
- ✚ Side effects of the vaccines.
- ✚ Availability of vaccines.

METHODOLOGY

This study is conducted in different stages through the duration of eight weeks. The timeline for the same is given below:

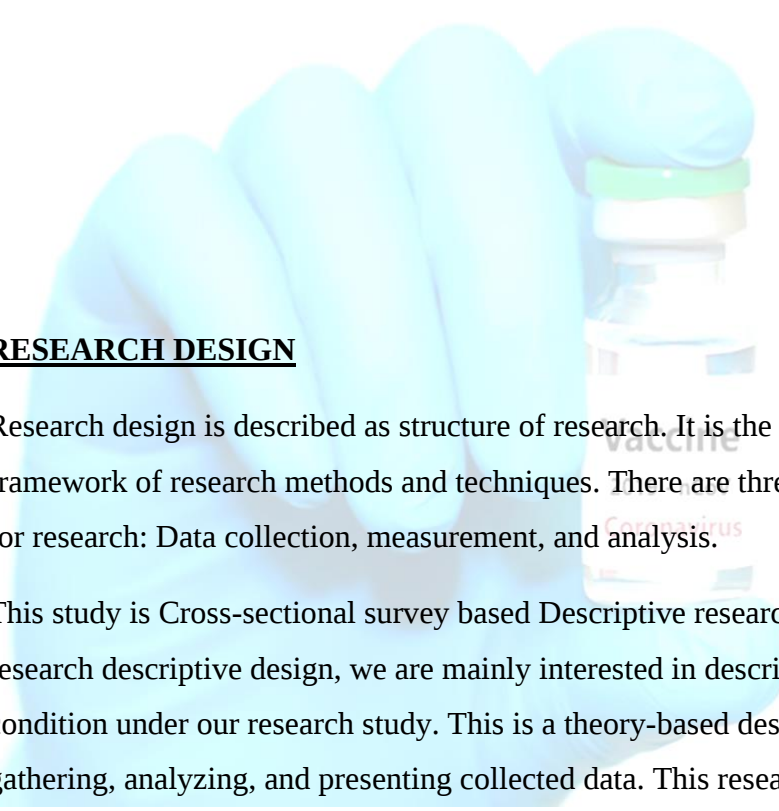
Stage	Week							
	1	2	3	4	5	6	7	8
Observation								
Process Design								
Formative Evaluation								

Table 1.5

Observation:

The vaccination at the Apollo hospital used to begin at 9:30 am. People book online slots and come for vaccination at Apollo Hospitals where they must firstly collect the

receipts and get them verified on the COWIN portal for their vaccination and must wait for their vaccine turn. After they get vaccinated, they are suggested to wait for 30-40 minutes in the observation room where doctors are available for their assistance.



RESEARCH DESIGN

Research design is described as structure of research. It is the configuration framework of research methods and techniques. There are three main types of designs for research: Data collection, measurement, and analysis.

This study is Cross-sectional survey based Descriptive research design. In this research descriptive design, we are mainly interested in describing the situation or condition under our research study. This is a theory-based design method created by gathering, analyzing, and presenting collected data. This research aims to describe a population, situations, or phenomenon accurately and systematically. It can definitely provide us information regarding what, where, when, and how questions, but not why questions.

Descriptive research is defined as a type of quantitative research, though qualitative research can also be utilized for descriptive purposes. Survey research allows to collect larger volumes of data that can be studied and analyzed. The use of survey in this research project is to gauge public opinion on vaccination drive by government.

SAMPLE SIZE AND SAMPLING TECHNIQUE

Sampling is the procedure of methodically selecting a sub-set of the total population. Once the type of cases to be studied have been set, the next step is to decide how the individual cases shall be chosen. We take population, and a sample is a subset of a population. Our sampling technique is non-Probability sampling. It comes under Accidental sampling as we had to take the cases that happened to be available. Under vaccination drive survey, it is difficult and expensive to do a probability sampling, thus non-probability sampling provides the only feasible means for collecting data. The main aim of this study is to maximize the variety of qualitative information from a group of respondents and to get an extensive view of how the vaccination drive is being implemented, and to learn about a wide range of issues to be solved, and to get a wide variety of proposed solutions to existing problems. Non- Probability sampling permitted to select a diversification of respondents and to seek people who are most likely to provide articulate answers to complex questions.

Sample size determination is the process of choosing number of observations or duplicate to include in a statistical sample. It plays an important role in making inferences about a population. The minimum sample size that is required for a very large population ($N > 10,000$) is:

$$n = \frac{z^2 p (1 - p)}{d^2}$$

Where:

n = desired sample size (when population is greater than 10,000)

z = standard normal deviate usually set at 1.96 (or more simply at 2.0), which corresponds to 95% confidence level.

p = proportion in the target population estimated to have a particular characteristic.

$q = 1 - p$

d = degree of accuracy desired

DATA COLLECTION

There are numerous ways to collect data. The approach selected majorly depends on the study objectives, the study design, availability of time, money, and personnel. An

important consideration in deciding on the best way to collect data is whether the study is expected to produce relatively precise quantitative findings or to produce qualitative descriptive information.

Mode of data collection

Questionnaire

Our data collection for a prospective COVID-19 vaccine in the apollo hospital, Hyderabad was collected using a cross-sectional design. The survey was constructed using Google Forms platform and forwarded to people. The questionnaire was developed in bilingual (English and Telugu) format and self-administered on a voluntary basis to individuals who came for vaccination. The survey ran for 45 days covering the period of May 11th to July 2nd, 2021, collecting responses from total of 19,246 individuals. The responses were then downloaded from Google forms platform and transferred for data treatment/preparation for statistical analysis.

Following are the questions used for data collection-

Q 1. What vaccine do you prefer to get vaccinated with?

- a) Covishield
- b) Covaxin
- c) Sputnik

Q 2. Which vaccine has the maximum side effect?

- a) Covishield
- b) Covaxin
- c) Sputnik

Q 3. Whom do you turn for getting information on vaccines?

- a) Family/ Relative
- b) Friend
- c) Health worker
- d) Media/Internet

Q 4. How safe do you think is the vaccine?

- a) Completely safe
- b) Moderately safe
- c) Not at all safe

Q 5. What rating would you give to the Apollo Hospital services? (5- Highest, 1- Lowest)

- b) 5
- c) 4
- d) 3
- e) 2
- f) 1

Q 6. Any suggestions for improvement: -

Administrative documentation and records

Both new and existing data was observed to gather dependable information about the number of dosages of COVID-19 immunizations have been conveyed (appropriation) and the number of individuals has been inoculated with those portions (organization).

It was done through records reported by emergency clinic in addition to through programming inputs. This incorporates overseeing antibody inventories, following immunization dosages given to beneficiaries, making immunization records, booking immunization arrangements, sending arrangement updates, and other managerial capacities.

ANALYSIS USED FOR COLLECTED DATA

Research data analysis is a method used by researchers for decreasing data to a story and interpreting it to derive perceptions. The data analysis process assists in reducing a large chunk of data into smaller fragments, which makes sense. Three fundamental things occur during the information investigation procedure: the main information association, rundown and arrangement together add to turning into the second realized strategy utilized for information decrease. It helps in exploring examples and subjects in the information for simple recognizable proof and connecting. Third and the last way is information examination – scientists do it in both hierarchical and base up design. There are a few methods to dissect the information in subjective exploration, yet the strategies utilized in this report are content examination and story investigation. We utilized the graphical investigation to decipher our information.



RESULTS AND ANALYSIS

Q1.

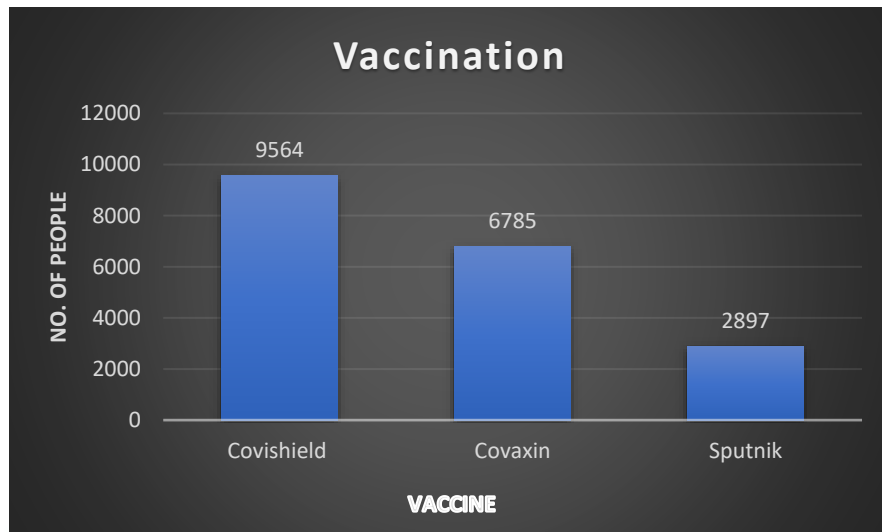


Fig. 2.0 representing the number of people who came for the specific vaccine i.e., Covishield, Covaxin and Sputnik V

Q2.

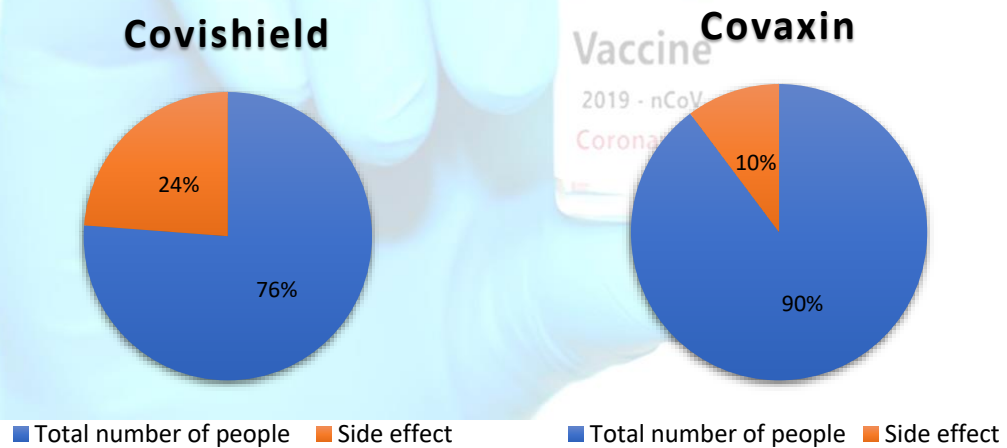


Fig. 2.1 Representing the percentage or people who experience side effects after the first dose of Covishield and Covaxin.

Q3.

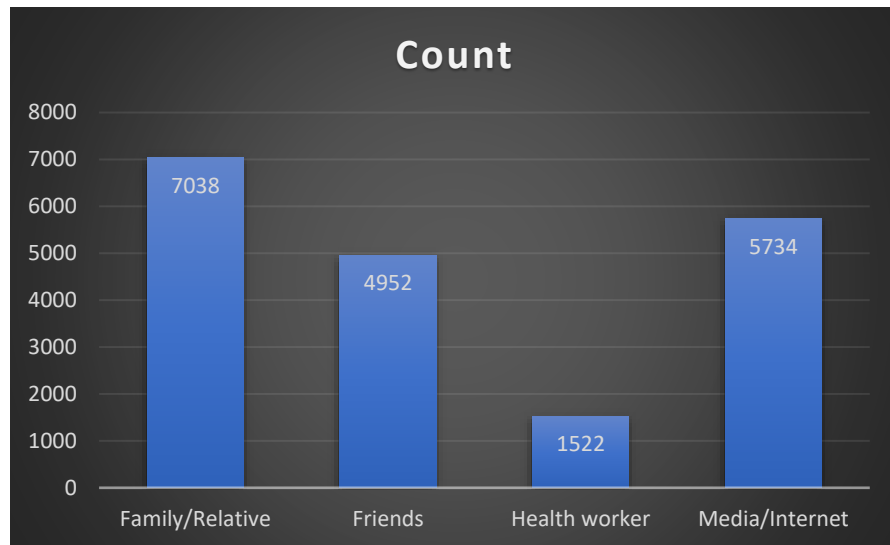


Fig. 2.2 Representing that to whom an individual turn most to when they have any query regarding the vaccination

Q5.

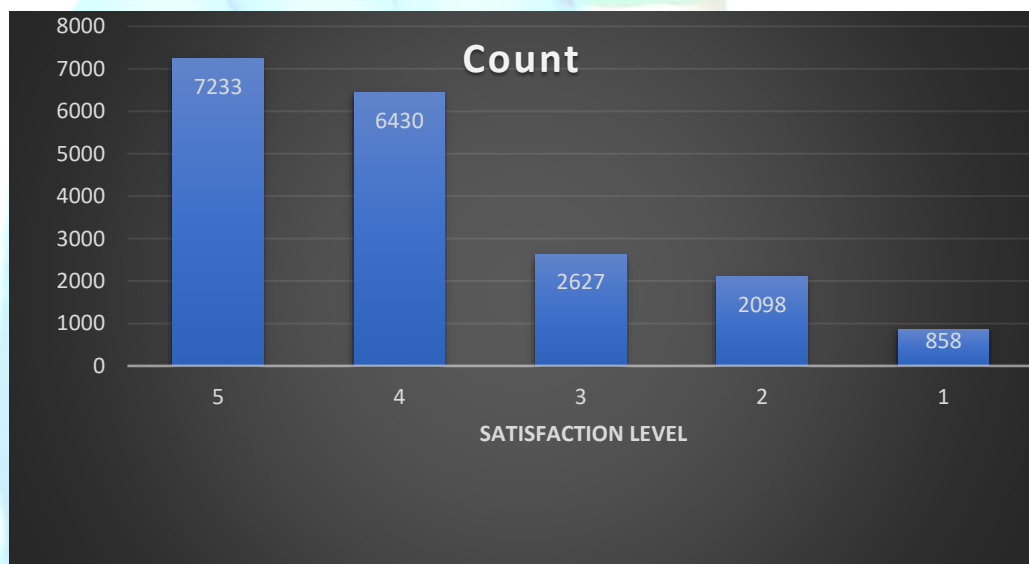


Fig. 2.3 Representing the satisfaction level of the people who came for vaccination at the Apollo Hospitals, Hyderabad

INTERPRETATION

The following observations were drawn from the results of the questionnaires, the interview and focus group discussions conducted with the subjects.

1. Graph (fig. 2.0) results reveal that the total number of people who came during the periods of 8 weeks for the vaccination are 19246, and out of them 9564 were registered for Covishield, 6785 for Covaxin and 2987 for Sputnik V. The highest number of people were registered for Covishield and the lowest are for Sputnik V.

The reasons behind this can be: -

- ❖ The price of Covishield is the least among all the three vaccines i.e., Rs. 780 whereas Covaxin was costing 1410 and Sputnik V was priced at 1145.
- ❖ The availability of Covishield is higher than that of Covaxin and Sputnik V.
- ❖ The Sputnik V was launched on 17th May'2021, which was much later than the other two vaccines and moreover, Reddy lab who launched this vaccine in India had not made it available for the public. Sputnik V is only being given to their employees and the family members of their employees.

2. The graph (fig. 2.1) represents the percentage of people who experienced side effects after the first dose of Covishield and Covaxin. The results that we obtained are that out of total people who came for Covishield vaccine 24% people experienced side effects after first dose which includes –

- Pain along with tenderness at the injection site
- Headache
- Muscle or joint aches
- Fever and chills
- Nausea

Likewise, on the other hand only 10% people i.e., 1 out of 10 experienced the side effects after the first dose of Covaxin which includes –

- Fever
- Headaches
- Irritability
- Pain, swelling, or having both at the site of injection.

The results for side effects after the first dose of Sputnik V vaccine cannot be obtained due to the delayed launch of the vaccine.

3. The graph (fig. 2.2) concludes that most of the people reach their family/relatives when they have any query regarding the COVID vaccine, and the least number of people reach to health workers. The reason behind this can be:
 - The unavailability of health workers due to this pandemic.
4. The graph (fig. 2.3) concludes that the overall satisfaction level of the people coming for the vaccination at the Apollo Hospitals is satisfactory. Out of total people, 7233 people gave 5 rating to the services provided by the Apollo Hospitals, whereas on the other hand there are some downfalls too due to which 858 people gave 1 rating.



RECOMMENDATIONS AND CONCLUSION

Apollo health city, jubilee hills, Hyderabad is conducting mega mass vaccination drive and I was lucky enough to experience the entire process, observing vaccination procedure, interacting with public and staff, knowing the registration and billing, observing patients etc. person need to register online mandatorily on cowin portal/Aarogya setu app and seek an appointment to get vaccinated, as walk-ins are not permitted. The immunization cycle and records to be given to get the antibody continue as before. Right now, three immunizations, covaxin (created by Hyderabad based bharat biotech) and covishield (created by oxford – astrazeneca and produced by serum foundation of India) and sputnik v (created in Russia, sold by dr. Reddy research centers) are running in India.

Apollo clinics has immunized almost 1.5 million individuals so particularly far as a component of its obligation to help the Center and Telangana government's Coronavirus inoculation drive. Apollo gathering of emergency clinics has arisen as single biggest vaccinator in India with near 1.5 million pokes and Apollo emergency clinics, Hyderabad with more than 2 lakh hits so far is the biggest private vaccinator in Telangana.

Apollo had multiple corporate tie-ups with Zomato, dominos, Air India, GVK, Air blast, Thyrocare, High court staff, Axis bank, ICICI bank. Another vaccination drive was conducted at HICC NOVOTEL Hotel for other corporates like amazon, Intel, Aditya birla group, Unimart, Cognizant, Qualcomm, Microsoft etc. Apollo homecare is established for on-site vaccination drives for various corporates and resident welfare committee.

As far as my observation, covishield was opted more in comparison to other two vaccines, especially people above 45yrs and people travelling abroad as covishield is WHO approved. Patients taking covishield were facing more side effects than covaxin. There was scarcity for covaxin.

Patients mostly had queries regarding on slot booking facility, wrong vaccine registration etc. there were 4 counters for covishield, 2 for covaxin and 1 for sputnik. There were no separate counters for patient queries or for elderly. Minimum time for patient coming for registration till patient leaves the vaccination Centre is 1 hour (registration+billing+vaccination=30minutes/observation=30minutes).

There was lack of proper patient waiting area ultimately leading to not following social distancing protocol. Proper data of vaccination for corporates was mismanaged. There was staff shortage at billing desk. No segregation was done for different age groups for vaccination.

There was excellent management with supportive staff at vaccination Centre. Nursing staff was polite and helpful. Patients were managed well right from waiting area till observation room. Special services were provided for elderly, physically challenged patients. Vaccination was also provided inside vehicles and ambulance for non-ambulatory patients.

To broaden the vaccination drive Apart from vaccinating at its hospitals in Telangana, the hospital has conducted multiple outreach camps. Apollo focuses on patient centric approach trying to make patient experience as seamless as possible right from moment patient enters the vaccination Centre till, they leave the hospital.

Vaccination in India is challenging because of huge population and inherently fragile healthcare system. Presently we are in grip of second wave of pandemic seen anywhere in the world. We long to return to normal but “normal led to this”. The race is on and humanity has no option but to defeat the virus and stay ahead in the race.



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ANNEXURE I

Sr. No.	Name of the Department	Date(s) of Visit	% Of Time Spent	Interacted with (Name and Designation)
1.	Human Resources (HR)	10 th May'2021	1 Day	Mr. Suresh Reddy (Regional HR Head) Ms. Poonam Reddy (HR Manager) Mr. Naveen Kumar Reddy (Executive HR)
2	Operations Department (Vaccination Centre)	11 th May'2021 to 12 th June'2021	60% (33 Days)	Ms. Geeta Rani. C (Operations Executive, Head at vaccination centre) Ms. Sreelayka (Operations Executive, in charge of vaccination centre)
3.	Human Resources (HR)	13 th June'2021 to 27 th June'2021	27% (15 Days)	Mr. Suresh Reddy (Regional HR Head) Ms. Poonam Reddy (HR Manager) Mr. Naveen Kumar Reddy (Executive HR)
4.	Quality Department	28 th June'2021 to 30 th June'2021	3 Days	Ms. P. Soma Das (Regional Head) Mr. J. Vamshi Krishna (Executive)
5.	Finance Department	31 st June'2021 to 2 nd July'2021	2 Days	Mr. Sudhir Kumar Sahu (General Manager) Mr. Pavan Kumar Gunda (Executive)

Table 1.6

ANNEXURE II

6/27/2021

Vaccination Survey questionnaire

Vaccination Survey questionnaire

Pre-vaccination and post-vaccination feedback from the people.

***Required**

1. Q1. What vaccine do you prefer to get vaccinated with? *

Mark only one oval.

- ☐ Covishield
☐ Covaxin
☐ Sputnik V
☐ Other: _____

2. Q2. Which vaccine has the maximum side effect?

Mark only one oval.

- ☐ Covishield
☐ Covaxin
☐ Sputnik V
☐ Other: _____

3. Q3. Whom do you turn to for your information on vaccines?

Mark only one oval.

- ☐ Family/ Relative
☐ Friend
☐ Health Worker
☐ Media/Internet
☐ Other: _____

https://docs.google.com/forms/d/1z0xOz96i4cpcyQ8hYc377GavudJw0OA7iwanLp_jWiw/edit

1/2

4. Q4. How safe do you think is the vaccine?

Mark only one oval.

- ☐ Completely Safe
- ☐ Moderately Safe
- ☐ Not at all safe
- ☐ No idea whether it's safe or not
- ☐ Other: _____

5. Q5. What rating would you give to the Apollo Hospital services? (5- Highest, 1- Lowest)

Mark only one oval.

- ☐ 5
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1
- ☐ Other: _____

6. Any Suggestions for improvement?

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ANNEXURE III

Vaccine	Covishield	Covaxin	Sputnik
Total number of people	9564	6785	2897

Table 1.7 Representing the number of people who came for the specific vaccine i.e., Covishield, Covaxin and Sputnik V

Vaccine	Covishield
Total number of people	9564
Side effect	2987

Table 1.8 Representing the percentage or people who experience side effects after the first dose of Covishield.

Vaccine	Covaxin
Total number of people	6785
Side effect	774

Table 1.9 Representing the percentage or people who experience side effects after the first dose of Covaxin.

Source of Information	Count
Family/Relative	7038
Friends	4952
Health worker	1522
Media/Internet	5734

Table 1.10 Representing that to whom an individual turn most to when they have any query regarding the vaccination

Satisfaction level	5	4	3	2	1
Count	7233	6430	2627	2098	858

Table 1.11 Representing the satisfaction level of the people who came for vaccination at the Apollo Hospitals, Hyderabad



-----THE END -----