

SUMMER TRAINING
AT
FORTIS LAFEMME, GK II, NEW DELHI

FROM 24 May,2021 to 16 July,2021

A REPORT

By

MARIYA ASIF

MBA HOSPITAL AND HEALTH MANAGEMENT

2020-22



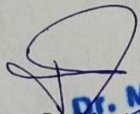
July 16th, 2021

To Whomsoever It May Concern

This is to certify that **Ms. Mariya Asif** has completed her internship in Medical Administration Department from May 24th to July 16th, 2021 at Fortis La Femme, GK-2, New Delhi- 110048.

The projects undertaken during her internship is 'Study of Knowledge, Attitude, Practices and Vaccine hesitancy regarding COVID-19 in pregnant women' and 'Delay in start of OT'.

We wish her all the best for her future endeavors!


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The success and outcome of this summer training program at Fortis LaFemme Hospital, New Delhi required guidance and assistance from a lot of people and I am extremely fortunate to have got this all along the completion of my training. I would like to express my sincere gratitude to everyone who stood by me and helped me out.

First and foremost, I would like to thank **Dr. Meeta Dixit**, Medical Superintendent, Fortis LaFemme, New Delhi for providing me the opportunity to work with the organization and make my summer training a valuable experience.

I would also extend my gratitude to all the hospital staff for sparing their valuable time and providing me enriching knowledge and useful insight regarding the functioning of the hospital.

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I will try my best to use this knowledge and skills for the goodwill of the society and people and will continue to work on my future endeavours with the same zeal and hard work.

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ACRONYMS/ ABBREVIATIONS USED

ABBREVIATIONS	FULLFORM
NICU	Neonatal Intensive Care Unit
LDR	Labour Delivery Room
SHCO	Small Health Care Organisation
CoV	Coronavirus
Covid-19	Coronavirus Disease -19
MERS	Middle East Respiratory Syndrome
SARS	Severe Acute Respiratory Syndrome
AIIMS	All India Institute of Medical Sciences
WHO	World Health Organization
OPD	Out Patient Department
IPD	In Patient Department
TAT	Turn Around Time
UHID No.	Unique Health Identification Number
CSSD	Central Sterile Supply Department
EtO	Ethylene Oxide
QR code	Quick Response Code
RCOG	Royal College of Obstetricians & Gynaecologists
KAP	Knowledge Attitude and Practice

OBSERVATIONAL LEARNING

- **ORGANIZATIONAL PROFILE-**

Fortis La Femme is a maternity hospital, located in Greater Kailash, Delhi. This hospital initiated its activities in August 2004, and since then, has established itself as one of the best in business. Fortis Le Femme gives Prenatal and Postnatal consideration to every mother who reaches out to them. The principle aim of this hospital is to provide the best kind of clinical and non-clinical therapy to women. All the workers in Fortis La Femme Greater Kailash, be it healthcare workers or otherwise, do their utmost to withhold their motto which is “**Make Strong Women Stronger**”. The hospital was rewarded with the latest NABH reaccreditation in 2019 which is valid till 2022. In terms of size, it is a Small Health Care Organisation (SHCO). The facility has **38 beds** (29 wards + 9 NICU – Neonatal Intensive Care Unit) with the best possible and newest medical services, equipment and facilities. This facility grabbed the award for being the “Most Popular Maternity Hospital” in 2013. Fortis La Femme is a Non- Covid Hospital.

- **VISION –**

"Saving & Enriching Lives"

- **MISSION –**

"To be a globally respected healthcare organisation known for Clinical Excellence and Distinctive Patient Care”

- **MEANING OF THE FORTIS LOGO:**

The Fortis logo is a logo that carries a deeper meaning. It portrays an image of various fundamental qualities like trust, morals, and administration. The association of green shading hands and a red speck show Fortis' brand of medical service. The hands in the logo are shaded green, showcasing wellbeing,



support, liberality, prosperity, and empathy. The red dab addresses energy, otherworldliness, boldness, and an image of best of luck and gives a prompt relationship to Indian roots.

Fortis La Femme in GK-II, Delhi is particularly famous for consideration of the mother and child and the centre claims to fame of this hospital are:

HOSPITAL SPECIALITY:	HOSPITAL FACILITIES:
➤ Obstetrics & High-risk Pregnancy ➤ Paediatrics ➤ Gynaecology surgery ➤ Neonatology ➤ Cosmetology ➤ Dermatology ➤ Endocrinology ➤ Mental Health & Behavioural sciences ➤ Ophthalmology ➤ ENT, Head & Neck surgery ➤ Foetal medicine	➤ Neonatal Intensive Care [NICU] ➤ Psychiatric counselling ➤ International patient care ➤ 24x7 Pharmacy ➤ Operation theatres ➤ Ambulance service ➤ Mama Mia services ➤ Diagnostic centre ➤ Milk Bank ➤ Blood Storage Centre ➤ Car parking ➤ Cafeteria ➤ Housekeeping, Allied service manager, OP manager, Guest relation manager.

LAYOUT OF THE FACILITY –

FLOORS	DEPARTMENTS
BASEMENT	• Billing • IPD Pharmacy • Purchase • Engineering and Maintenance • Console • Medical Records Department • Information Technology • Finance and Accounts • Marketing • Human Resource • Security • Pathology Lab • IVF (Invitro Fertilisation) • Mamma Mia (Massage and physiotherapy Centre)
GROUND FLOOR	• Front Office – Admissions and Billing • OPD Chambers • Emergency • Cafeteria • Radiology • OPD pharmacy
FIRST FLOOR	• Nursing Station • Wards- 15 rooms
SECOND FLOOR	• Nursing Station • Wards- 14 rooms • Blood Storage centre
THIRD FLOOR	• 3 OT and 1 IVF OT • Recovery Room • LDR (Labour Delivery Room) - 4 Beds • NICU – 9 Beds

Following are the general findings and details of various areas/departments of the hospital –

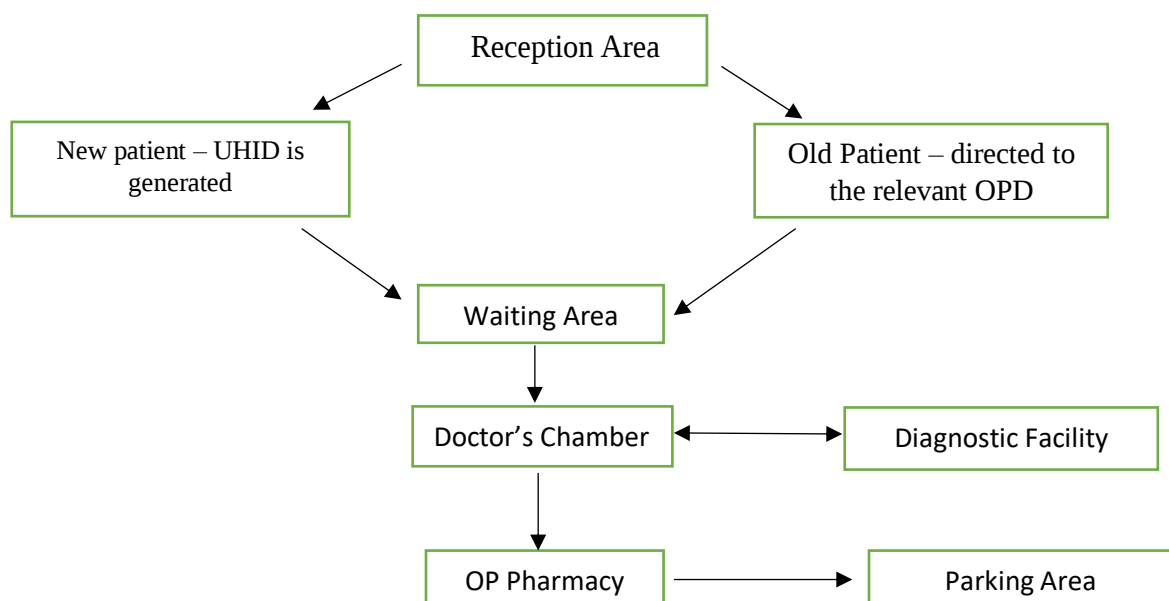
- **FRONT DESK AREA –**

It consists of different areas designated to do different work; the desks provide certain facilities for the customer.

- ✓ Admission Desk – It deals with the admission process, and also registration of both IPD and OPD patients. IPD patients are given a General Consent Form and a Covid Consent Form to sign. They also provide estimation services whereby an estimated cost for treatment is calculated which will be paid by the IPD patients if they wish to undergo the said procedure or treatment in this facility.
- ✓ IPD/OPD Billing – This desk has the function of generating bills according to the consultation in case of OPD patients and according to procedure in IPD patients. It is here where the patients pay the charges for the services they avail.
- ✓ TPA Desk – Handles the issues related to insurance of patients.

- **OUTPATIENT DEPARTMENT (OPD)**

The Gynaecology and Paediatrics OPD are situated on the ground floor. There are 8 chambers and 3 patient coordinators assigned for the smooth flow of functions. Patients come in with an appointment as well as general walk- ins. As appointments are fixed patients receive a confirmation text for their respective appointments. Patient queries regarding booking an appointment is entertained by the patient coordinators through telecommunication medium. An average patient load of 100 patients is observed each day. The flow diagram of the OPD is as follows –



- **IN-PATIENT DEPARTMENT (IPD) -**

On request by the patient for admission into IPD, an IP number is generated for the patient. This is a one-time assignment and keeps changing every time the patient requests for fresh admission into IPD. A covid negative report is mandatory for admission.

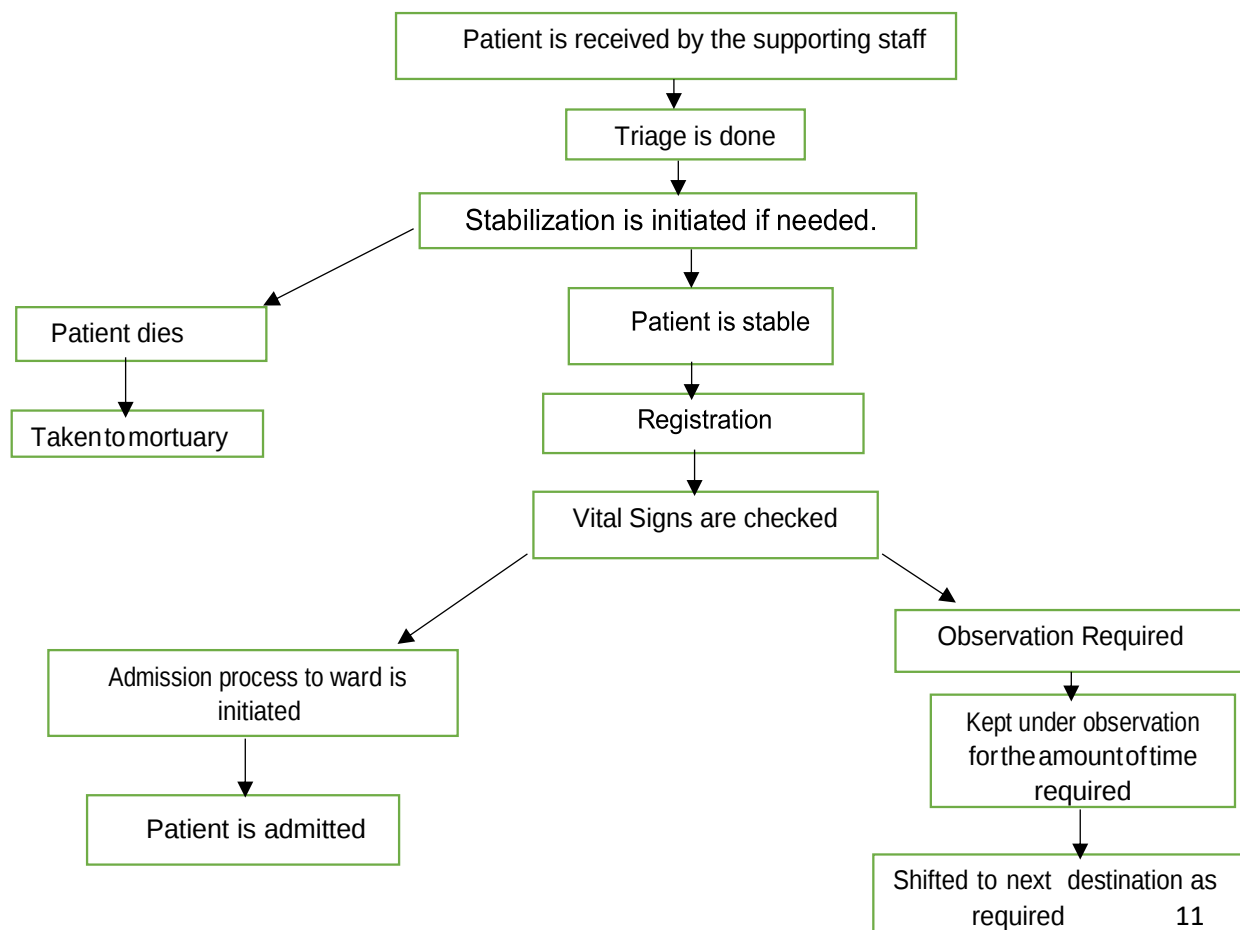
Consent form is signed by the patient or relatives at the time of admission into the hospital in the preferred ward. Consent is taken from the patient at every step throughout his treatment in the hospital – before every procedure and every required subsequent treatment. The patient is intimated about the updates gross bill for payment on a daily basis, so that s/he has an idea about how much has been spent and how much s/he can spend in the future. In terms of billing, the patients are categorised in 2 heads-

Cash – The ones who want to pay by cash

TPA (Third Party Administrator) – The ones who are covered by their insurance scheme.

- **EMERGENCY DEPARTMENT –**

There is one Emergency Room located at the ground floor. There is one ambulance on call. The patient is given treatment on bases of the triaging done. If the case is severe or a covid case then the case is appropriately shifted to another facility. The emergency cases entertained are only related to obstetrics.



It is mandatory for patients to have a negative Covid report but in emergency cases as such reports are not present then the patient is kept in a suspected room where the doctors and nurses and the staff only enters wearing a PPE kit. A Rapid Covid test is done on a priority basis and if the patient is found to be covid positive then she is shifted to other facility.

- **OPERATION THEATRE (OT) –**

There are 4 OTs in total:

- ✓ Three OTs are reserved for obstetric procedures and procedures like Reduction mammoplasty, Hysteroscopy, D&C, Total Laparoscopic Hysterectomy etc.
- ✓ One OT is reserved for IVF (In-Vitro Fertilisation) procedures.

The scheduling for the OTs is done on a direct entry basis.

There are three beds reserved in Recovery Room and a separate area is reserved as the Pre-Op area.

The medical personnel working in OT has to change into hospital scrubs when entering the OT area, additional safety measures like latex gloves, N-95 masks, hair covers and separate slippers are worn.

Patient is first brought into the Pre-Op area 30 mins prior to the procedure then shifted to OT after that the patient is shifted to the recovery room and then after an hour under observation the patient is finally shifted to the respective ward.

- **RADIOLOGY DEPARTMENT –**

The different radiology services available at the facility are X-ray and Ultrasound. The patient is received in the radiology department along with a copy of the bill, the procedure is carried out, following which post procedure counselling is done and then the patient is guided to the next destination along with the reports.

The TAT (Turn Around Time) for Ultrasound –

- ✓ Average waiting time for ultrasound – OPD 20 mins
Outliers- walk-in patients
- ✓ Ultrasound reporting within 15 mins
Outliers- Twin pregnancies, Emergency scans done on Sundays and holidays, Scans done after 8pm, Colour doppler, Xray guided procedures.

- **MEDICAL RECORDS DEPARTMENT (MRD)**

MRD handles the history of the patient's treatment at the hospital. It contains all the details regarding the procedures undertaken, the doctors who treated them. The UHID (Unique Health Identification) number is generated for a patient and remains the same for every time the patient revisits. This number helps to keep a track of the information and record of the patient. The retention period for these files is 3 months in MRD department after that they are shifted to the storehouse. The period of retention for files are 7 years, files regarding infant are for 18 years and for Medico Legal Cases retention is for +3 years after the case is solved.

The files are colour coded the

- ✓ Blue ones are for surgery files,
- ✓ Yellow represents the Delivery cases and
- ✓ Green files are that of the infants.

Stickers are used Blue for routine files Black for death and Red related to Medico-Legal cases.

Two days within the discharge or death the file has to be submitted to the MRD department. If the file doesn't reach the department, then the MRD supervisor send a pending file list to the nursing station and to the Medical Superintendent. On receiving of the files, they are checked for all the documents, for the deficient files a period of 4 days is given to complete the file and re submit.

- **PATIENT WELFARE DEPARTMENT –**

The main focus of this department is patient satisfaction, it addresses the queries and complaints of the patients regarding the premises, staff or anything related to the facility. The job is to solve the problem of the patient and the goal is to achieve patient satisfaction. They continually try to improve their performance to satisfy the customer by different means, like taking feedbacks.

- **CENTRAL STERILE SUPPLY DEPARTMENT -**

This department deals with sterilization of all equipment and linen that are being used in the facility in the process of treatment. All equipment are collected from various

departments and are sent further for sterilization. A dump lift is dedicated for the smooth movement of instruments to and from the CSSD department. Autoclaving that uses steam and Ethylene Oxide Processing (EtO) uses gas as a mode for sterilization.

- **MAMMA MIA SERVICES –**

It is a special initiative started by the facility focussing on pre and post-natal massage along with providing labour and lactation support, Lamaze, fitness and yoga for the expecting and new mothers, workshops for the expecting couple etc.

PROJECT UNDERTAKEN DURING INTERNSHIP-

During the 8 weeks of training in this facility I was assigned a project to map the delays occurring in the OT and to find the reason behind the delays. I was assigned in the OT and I had to record the

Timing of when the patient came in the hospital, when she was assessed by the nurse and the doctor, when was shifted to the Pre-Op area and, subsequently the wheel in time to OT.

I collected a series of data and on analysis two main reasons for the delay were observed.

1. The patient has to be in the hospital 3 hours prior to the surgery. But it was seen that in almost 85% cases the patient was late to the hospital by 1.5 to 2.5 hours which further delayed the process of examining assessing of the patient and hence caused an overall delay in start time of the procedure.
2. The other reason was observed was delay caused by the doctor, at times it was seen that the patient was inside the Pre-Op area but due to the delay caused by the head surgeon the whole case was delayed.

These reasons are avoidable and can be minimised to reduce the delays of the cases and to improve the efficiency of the operation theatre in the hospital. It is of utmost priority to work on improving the efficiency of the OT, otherwise if the management is poor, then there is a great possibility of wastage of both efforts and resources to keep up with the schedules by the medical staff eventually compromising the attention to patient safety.

PROJECT REPORT

BACKGROUND

Coronaviruses (CoV) are an enormous group of infections that cause sickness going from the normal virus to more serious illnesses, for example, Middle East respiratory disorder (MERS)-CoV and extreme intense respiratory condition (SARS)-CoV. Coronavirus disease likewise generally known as COVID-19 is an exceptionally irresistible infection brought about by Severe Acute Respiratory Syndrome Coronavirus (SARS-CoV-2) which was first distinguished in Wuhan, China, in December 2019.^[1] Covid-19 was proclaimed a worldwide pandemic with outstanding spread worldwide by World Health Organization (WHO) on 11th March, 2020. Universally, as of 5:31pm CEST, 2 July 2021, there have been 182,319,261 confirmed cases of COVID-19, including 3,954,324 deaths, as per WHO ^[2]. The first instance Of Covid-19 disease was recorded on 27th January, 2020 in Kerala, where a 20-year-old female went to the Emergency Department in General Hospital, Thrissur, Kerala, with a one-day history of dry cough and sore throat ^[3]. After the distinguishing proof of the main case soon neighbourhood transmission started from March 2020.

Dr. Randeep Guleria (Director of AIIMS, New Delhi) said, “the respiratory infections come in waves that occur because the virus changes its form and a portion of the population remains susceptible to it. But when most people develop immunity — either through vaccination or naturally — the virus becomes endemic” ^[4]. The two waves of COVID-19 that India has endured so far, are separated by a gap of four to five months. The first peak, which was in September and the second peak, in April-May, are separated by a period of six months. The second wave was deadlier and resulted in soaring numbers of active cases, new symptoms like drop in Oxygen levels, conjunctivitis, pneumonia, skin rashes, along with development of Mucormycosis also known as black fungus in patients affected from Covid is being observed. Second wave resulted in about an average of more than 2000 deaths every day, fatalities in the second wave are now nearly 57% of all Covid deaths in the country ^[5]. The third wave is claimed to be inevitable and may arrive soon if Covid appropriate behaviour is not followed.

The government released guidelines and SOPs for COVID preventive behaviour and initiated the Covid-19 vaccination campaign for the country in a phase wise fashion, initially offering vaccines for more susceptible groups, i.e., frontline workers and older people. As of May 2021, vaccination was made available for all adults and trials for children were being planned. India has completely immunized around 5% of its eligible population against Covid-19 and would have to dramatically increase its speed of vaccinations to cover all individuals by end of the year, as per Union health ministry's data ^[6]. As of 30 June 2021, a total of 2,950,104,812 vaccine doses have been administered as per WHO ^[2].

Pregnancy usually lasts 40 weeks, and is partitioned into three trimesters, each enduring three months. There is an obvious lack of knowledge in India regarding COVID-19 when it comes to pregnancy. Clinical experience of pregnancies is often complicated by coronaviruses such as SARS and MERS, which translates to a logical assumption that pregnant woman are highly vulnerable to severe SARS-CoV-2 infection ^[7]. Physiological changes caused by pregnancy affect immunity, respiration, blood coagulation, and cardiovascular system. The effect of SARS-CoV-2 in pregnancy still needs to be resolved, and a coordinated, global effort is needed to decide the impacts on implantation, foetal development and advancement, work, and neonatal wellbeing. Asymptomatic disease presents a further test with respect to provision of service, prevention, and management.

LITERATURE REVIEW

Studies are being conducted to determine the effects and threats that Covid-19 poses to pregnant women.

A good level of knowledge and practice is required in view of Covid-19 specially when it comes to pregnant women as stated by *Coronavirus diseases and pregnancy: COVID-19, SARS, and MERS* by Fathi M, Vakili K, Deravi N, Yaghoobpoor S, Ahsan E, Mokhtari M, Moshfeghi M, Vaezjalali, in some cases, viral ailments, and the drugs administered to treat them may be detrimental to the health of a pregnant woman and her child, warranting the need for utmost care and attention when treating such a patient.

Pregnancy presents strategic problems for obstetricians overseeing infected or supposedly infected expecting women. *Attitudes and precaution practices towards COVID-19 among pregnant women in Singapore: a cross-sectional survey* by Lee, RWK, Loy, SL, Yang, L *et al* stated the proposition by The Royal College of Obstetricians & Gynaecologists (RCOG) that the COVID-19 pandemic expands the danger of perinatal tension, sadness, and abusive behaviour at home against pregnant women. Thus, pregnant women require a greater deal of care than non-pregnant women. Few studies have tackled the associated risks and impact of COVID-19 on pregnant women.

Pregnancy and Covid-19: management and challenges by Wenling Y, Junchao Q, Xiao Z, Ouyang S, stated that the coronavirus may lead to an overwhelming surge of cytokine in the mother's body, which may lead to the production of an unwanted immune response in reply and cause damaging changes in leucocytes and other cells responsible for immunity, resulting in adverse events in pregnancy associated viral infections and their treatment.

According to *Coronavirus disease 2019 (COVID-19) pandemic and pregnancy* by Dashraath P, Wong JLJ, Lim MXK, Lim LM, Li S, Biswas A, Choolani M, Mattar C, Su LL. Pregnant women are always a vulnerable group when it comes to outbreaks and infectious diseases. Increased susceptibility to infections in general is a result of physiological and mechanical changes a woman's body undergoes in pregnancy, especially in the cardiovascular capacity

which may lead to respiratory failure. To date, the 55 pregnant Covid infected women and 46 neonates were found to have no direct vertical transmission evidence.

Coronavirus disease 2019 in pregnant women: a report based on 116 cases by Yan J, Guo J, Fan C, Juan J, Yu X, Li J, Feng L, Li C, Chen H, Qiao Y, Lei D, Wang C, Xiong G, Xiao F, He W, Pang Q, Hu X, Wang S, Chen D, Zhang Y, Poon LC, Yang H observed that there was no link between SARS CoV-2 infection which may cause spontaneous abortion or premature births. The virus is not known to be transmitted vertically.

Since the vaccination program has started and is on its full fledge still there are various concerns regarding getting vaccinated. India currently has opened its doors for vaccinating pregnant women, as of July 2021. *Safety of COVID-19 vaccines, their components, or their platforms for pregnant women: A rapid review* evaluates the how safe Covid-19 vaccines are and finds nothing which indicates any sort of risk for pregnant woman in these vaccines. Although, given the novelty of vaccines coming into the market, further data is required. WHO guidelines recommend pregnant women to receive vaccines, especially those at a higher risk of infection and those suffering from co-morbidities.

Breastfeeding is not documented to transmit Covid-19 from a mother to a child. *Breastfeeding during the COVID-19 pandemic – a literature review for clinical practice* by Lubbe W, Botha E, Niela-Vilen H, Reimers P. concludes that the practice of breastfeeding should be encouraged and skin to skin contact of the new-born should not be discouraged. Mothers who are very ill to breastfeed should be provided with means to collect their breast milk, and it should then be fed to the infant by someone else, or the new-born should be fed by a healthy breastmilk donor. Benefits of breastfeeding outweighs the risk hence should be practiced.

Covid-19 and pregnancy – where are we now? A review by Rajewska A, Mikołajek-Bedner W, Lebdowicz-Knul J, Sokołowska M, Kwiatkowski S, Torbé A sheds light on the issue that in the third trimester, premature rupture of membranes, foetal distress, and premature labour can be caused by the Covid-19 virus.

RATIONALE OF STUDY

Pregnant women are a susceptible group to many diseases and therapies. Covid-19, being such a highly transmissible deadly disease, is no different. As the COVID-19 pandemic keeps on increasing all around the world, it is of utmost priority to comprehend the mindset of pregnant ladies in regard to the current pandemic. A study exploring the knowledge, attitude and practices of pregnant women of the common masses is highly relevant and useful in the current times. It will aid in identification of the areas where more emphasis needs to be given, and will consequently empower the healthcare professionals to think about weaknesses and stresses that pregnant women undergo and provide better advise, and answer to queries of pregnant ladies in regard to COVID-19 during all stages of pregnancy.

RESEARCH QUESTION

WHAT IS THE LEVEL OF KNOWLEDGE, ATTITUDE, PRACTICES AND VACCINE HESITANCY REGARDING COVID-19 IN PREGNANT WOMEN IN AN URBAN SETTING?

OBJECTIVES

- 1) To gather primary, first-hand data about pregnant women's knowledge, attitude, and practices towards COVID-19 in Delhi, India.
- 2) To study vaccine hesitancy in pregnant women in view of Covid-19
- 3) Identifying areas of intervention, and providing recommendations for the welfare for pregnant women and preparing them to face the upcoming wave of Covid-19.

RESEARCH METHODOLOGY

- **Study Design –**

The study design was Quantitative, a cross-sectional survey among women visiting the Out Patient department (OPD) of Fortis LaFemme Hospital, Delhi was carried out. A questionnaire was prepared taking into account the assessment of knowledge, attitude and practice (KAP) of pregnant women in view of Covid-19. The questionnaire had 23 questions and 5 sections, namely demographic information, knowledge regarding

Covid-19, attitude regarding Covid-19, practices regarding Covid-19 and Attitude regarding vaccination for Covid-19. The questionnaire is attached in Appendix.

- **Study Population & Sample size –**

The study was conducted among pregnant women attending the outpatient department (OPD) of Fortis LaFemme Hospital, New Delhi. A sample size of 110 pregnant women was taken.

- **Sampling Technique –**

An institutional based cross-sectional survey was conducted, sampling technique used was that of Purposive Sampling where by only pregnant women were selected and surveyed.

- **Type of Data –**

The data collected in the survey was purely primary in nature and no reference to any previously available data has been made.

- **Tools –**

Keeping in mind the current scenario and precautions to be taken nowadays, a google form was curated and to access the form a quick response (QR) code, was generated which could be scanned on the mobile phones of the respondent.

- **Period of Study –**

The period of study was for 8 weeks from – May 2021 to July 2021.

- **Analysis –**

Simple Frequency Count Method was used to obtain the results in percentages, and descriptive analysis was done.

- **Ethical Issues –**

An informal consent was obtained from each respondent.

ANALYSIS AND INTERPRETATION-

A total of 110 survey responses of pregnant women who attended the obstetrics outpatient department of Fortis LaFemme, (GK) New Delhi were taken in the duration of 8 weeks from May to July 2021.

Table 1 illustrates the demographic and clinical characteristics of the respondents. Among the participants, most of the women were aged between 30 to 34 years (44.5%, n=49), were post-graduate (57.3%, n= 63) and were working women (55.5%, n=61). This represents socio-demographics in the respondents. Obstetric history of sample population shows that most participating women conceived naturally (87.3%, n= 96), were in their third trimester (49.1%, n= 54) and were primiparous (65.5%, n=72) with no comorbidities present (95.5%, n= 105).

AGE (In Years)		
	Frequency (n)	Percentage (%)
20-24	4	3.6
25-29	30	27.3
30-34	49	44.5
35-40	24	21.8
41-44	3	2.7
EDUCATIONAL QUALIFICATION		
	Frequency (n)	Percentage (%)
Higher Secondary	3	2.7
Graduate	41	37.3
Post graduate	63	57.3
PhD	3	2.7
OCCUPATION		
	Frequency (n)	Percentage (%)
Working	61	55.5
Non-working	49	44.5
TYPE OF CONCEPTION		
	Frequency (n)	Percentage (%)
Natural	96	87.3
IVF/IUI	14	12.7

DURATION OF PREGNANCY		
	Frequency (n)	Percentage (%)
First trimester	18	16.4
Second Trimester	38	34.5
Third Trimester	54	49.1
NO. OF CHILDREN		
	Frequency (n)	Percentage (%)
0	72	65.5
1	35	31.8
More than or equal to 2	3	2.7
CO-MORBIDITIES		
	Frequency (n)	Percentage (%)
Diabetes	3	2.7
Thyroid	2	1.8
None	105	95.5

Table 1 - Clinical characteristics and demographics of Participants.

Figure 2.1- is a bar graph depicting the Source of First information on Covid-19 Virus, the main source for initial information of the Covid pandemic was News Media eg.- TVs, Radio, magazine, newspaper by 76 (69.1%) of pregnant women, followed by that was official websites and media of international health organizations eg. WHO by 19 (17.3%). Social Media eg – twitter, WhatsApp, etc. were the first source of information for 9 (8.2%) women and 6 (5.5%) of them gained information through word of mouth through friends or family.

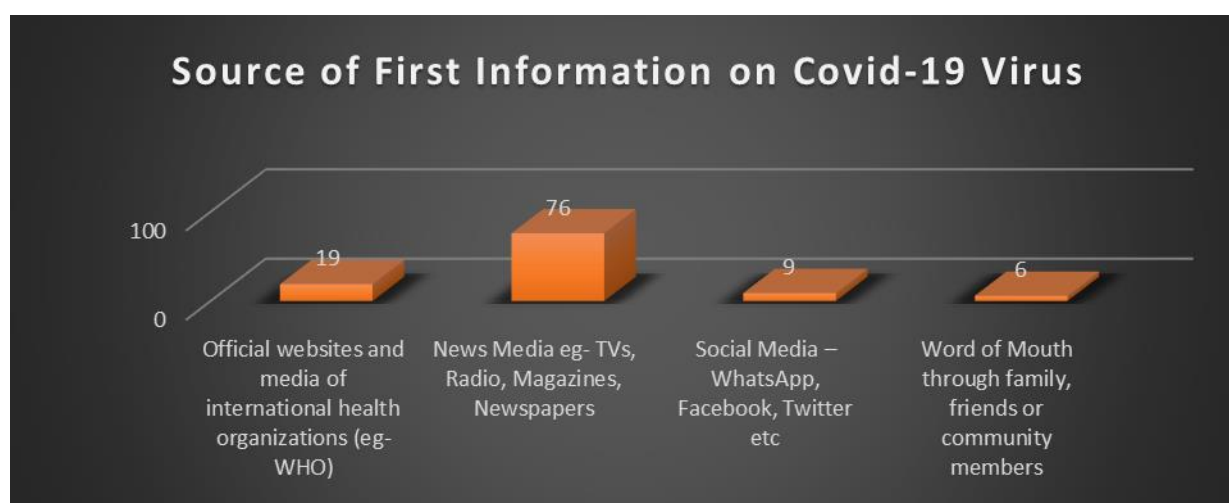


Figure 2.1 - Source of First information on Covid-19 Virus

Figure 2.2 - Represents the perception of expecting women on what they think causes the recurring waves of Covid -19 pandemic. 58 (52.7%) of women believe that the reason is carelessness of people (not taking precautions), while 40 (36.4%) believe that mutation of the virus is the reason at play, 10 (9.1%) women think that the lack of vaccination is the cause and only 2 (1.8%) women blame it on the poor lifestyle of people due to lockdown.

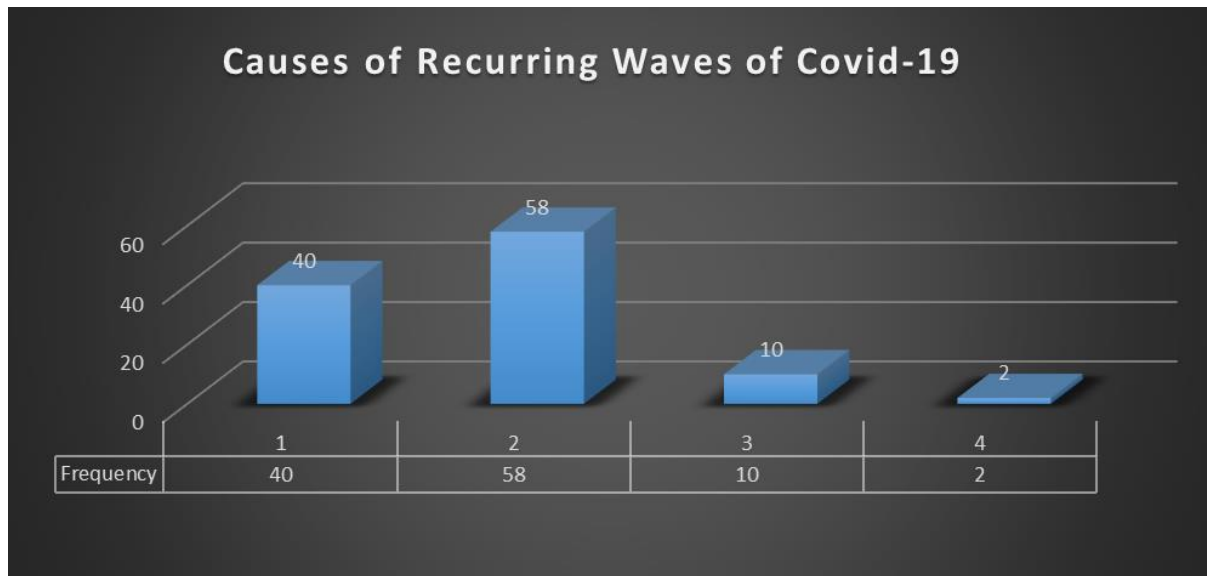


Figure 2.2 – Causes of recurring waves of Covid-19

Figure 2.3 is a bar graph depicting knowledge of pregnant women on risk factors of Covid- 19. Majority of the women i.e. 105 (95.5%) opted for direct physical contact with body of infected person as a risk factor. The least opted risk factor for Covid-19 was direct contact with bats, live animals and sea food by only 5 (4.5%) of women. Other risk factors that were opted for were – touching or sharing lines, dishes etc. with the infected person by 87 (79.1%) women, travel to places where there is an epidemic by 62 (56.4%) women, being a healthcare worker opted by 33 (30%) women, living in the same locality of the infected person by 29 (26.4%) of women.

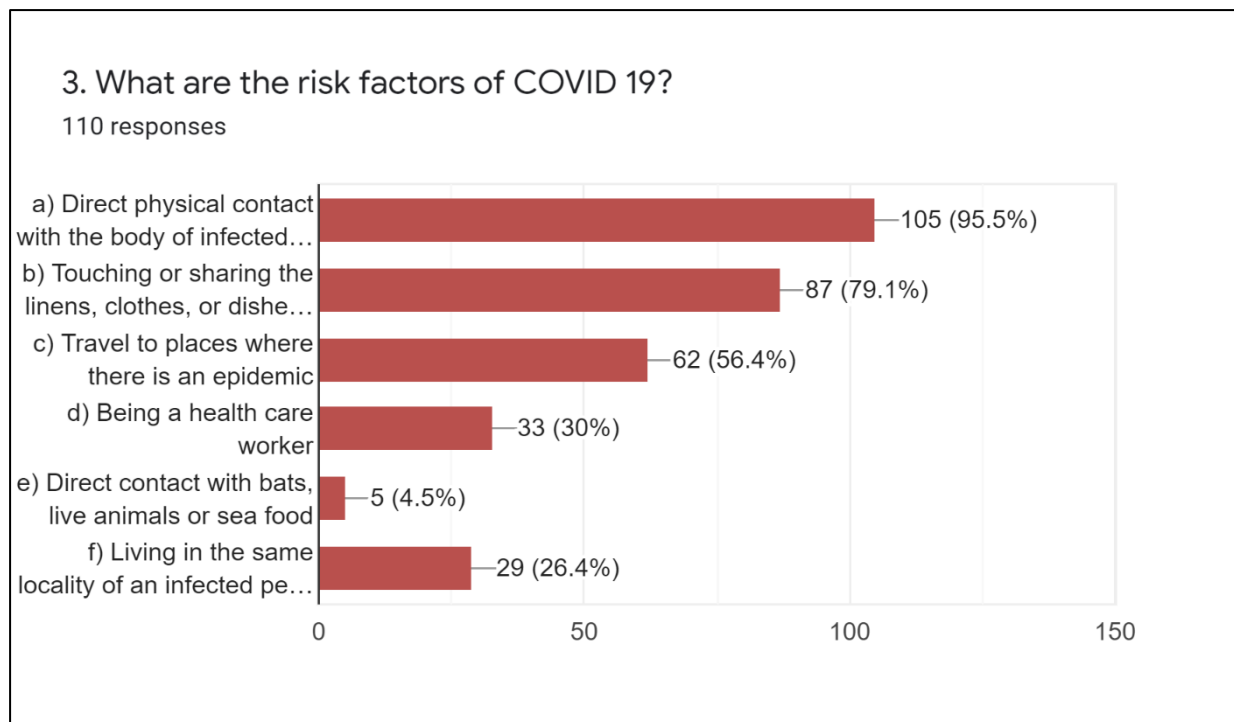


Figure 2.3 – Knowledge on risk factors of Covid-19

Figure 2 .4 is a bar graph representing knowledge of pregnant women on new symptoms of Covid-19 that were seen in the Second wave of Covid-19. Change in Oxygen saturation was the most opted symptom by 91 (82.7%) women, followed by pneumonia opted by 60 (54.5%), conjunctivitis selected by 49 (44.5%), shivers and chills by 42 (38.2%), skin rashes by 41 (37.3%), blurred vision by 28 (25.5%) and the least opted symptom was seen to be delayed healing of wounds by only 9 (8.2%) expecting women.

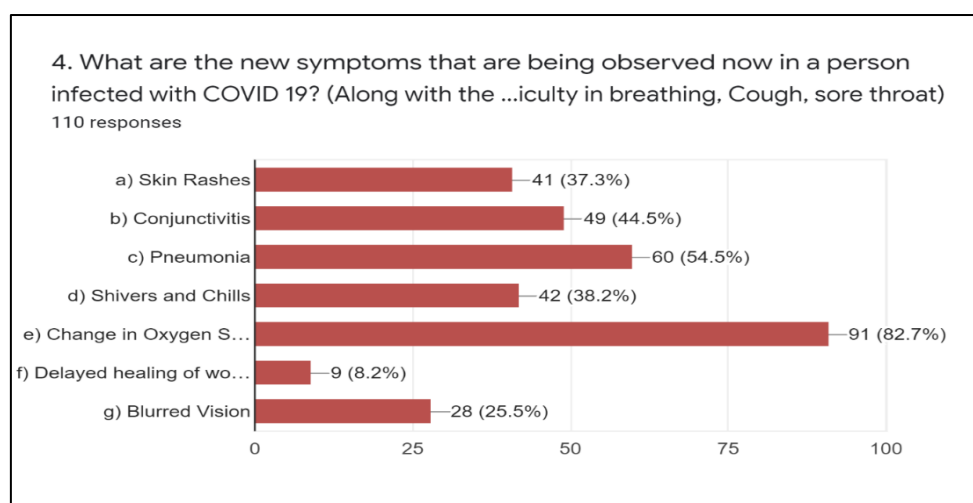


Figure 2.4 – Knowledge on New symptoms of Covid-19 Second Wave in India

Table 2.5 shows distribution of participants' knowledge towards COVID-19 in pregnancy. It was interpreted that majority of women 57 (51.8%) go with the notion that pregnant women have increased susceptibility to Covid-19. On the other hand, 11 (10%) of women believe that pregnant women are not more susceptible to Covid-19 infection. When assessing knowledge on the fact whether COVID 19 infection increase risks and complications in pregnancy it was observed that majority 57 (51.8%) agreed to it while only 4 (3.6%) were not in favour of it. 38 (34.5%) were unsure and 11(10%) had no knowledge regarding it.

KNOWLEDGE	YES n (%)	NO n (%)	MAYBE n (%)	DON'T KNOW n (%)
Are pregnant women more susceptible to Covid?	57 (51.8%)	11 (10%)	27 (24.5%)	15 (13.6%)
Does COVID 19 infection increase risks and complications in pregnancy?	57 (51.8%)	4 (3.6%)	38 (34.5%)	11 (10%)

Table 2.5 - Distribution of participants' knowledge towards COVID-19 in pregnancy

Table 3.1 shows the distribution of participant's attitude towards COVID-19 in pregnancy. 107 pregnant women (97.3%) considered that Covid-19 is a serious disease while 2 (1.8%) didn't consider it to be serious in nature and 1 (0.9%) was not sure about its severity.

It was observed that majority of the participants 105 (95.5%) modified their working habits in fear of getting infected with Covid-19 virus, 4 (3.6%) didn't practice any change in their behaviour.

It was seen that there is lack of awareness regarding whether breastmilk is a carrier of the covid-19 virus where majority of subjects 53 (48.2%) were not sure about it, and 7 (6.4%) had the misconception that breastmilk is a carrier of the virus.

98 (89.1%) expecting mothers plan to breastfeed their infant, while 45 (40.9%) are not sure if they would still breastfeed if they contract the Covid-19 virus.

Majority of the sample population 100 (90.9%) agreed to the fact that religious practices like baby shower, pujas, etc. are not necessary in the current scenario and can be avoided as the priority is to take precautions, on the other hand 10 (9.1%) women believe that religious ceremonies are essential occasions and must be held.

ATTITUDE	YES n (%)	NO n (%)	MAYBE n (%)
Do you think COVID 19 is a serious disease?	107 (97.3)	2 (1.8)	1 (0.9)
In the past few months have you modified your working habits in the fear of getting COVID 19?	105 (95.5)	4 (3.6)	1 (0.9)
Is breastmilk a carrier of COVID 19 Virus?	7 (6.4)	50 (45.5)	53 (48.2)
Would you opt for breastfeeding under normal circumstances?	98 (89.1)	8 (7.3)	4 (3.6)
Would you opt for breast feeding if you are Covid positive?	24 (21.8)	41 (37.3)	45 (40.9)
	YES, They are essential n (%)	NO, It's necessary to take precautions. n (%)	
Do you believe religious practices like baby showers, pujas etc. should still be carried out?	10 (9.1)	100 (90.9)	

Table 3.1 – Representation of participant's attitude towards COVID-19 in pregnancy

Figure 3.2, shows the perception on Origin of Covid-19 Virus, as perceived by the sample population. It was found that the majority population i.e., 83 (75%) hold the belief that Covid-19 is a man-made virus with the aim of bioterrorism. An equal amount 12 (11%) share the

belief that it is due to increasing contact between humans and animals and that it is a punishment of God. About 1(1%) trace back the origin to climate change and 2 (2%) don't believe in any of the given options.

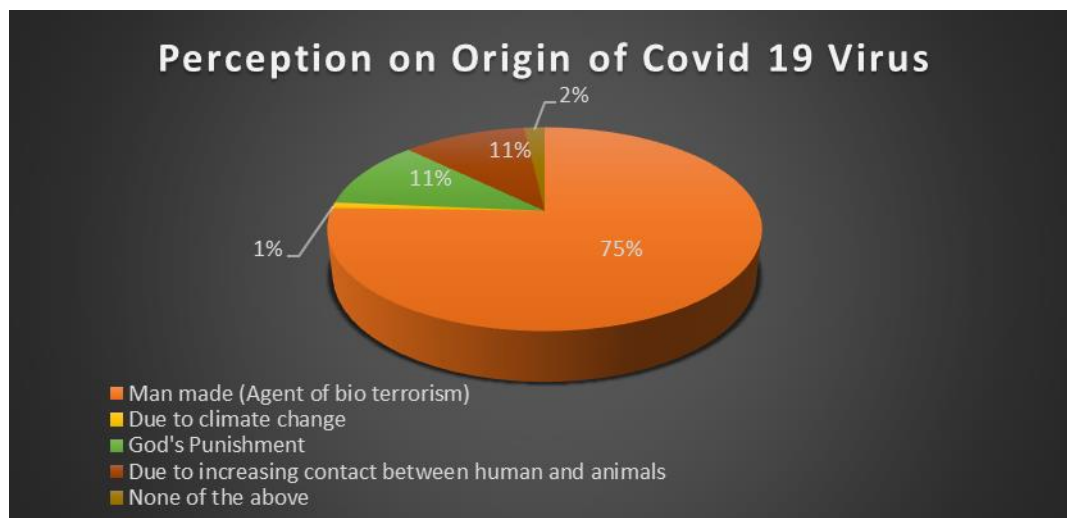


Figure 3.2 – Perception on origin of Covid 19 Virus.

In figure 3.3 depicts the rating for fear of contracting the covid 19 virus is depicted where 1 signifies no fear at all and 10 signifies very much fear. It was interpreted that majorly the population falls on the higher side of the rating scale (above 5 point). 28 (25.5%) show extreme fear of contracting the covid 19 virus and on the contrary only 2 (1.8%) have no fear at all.

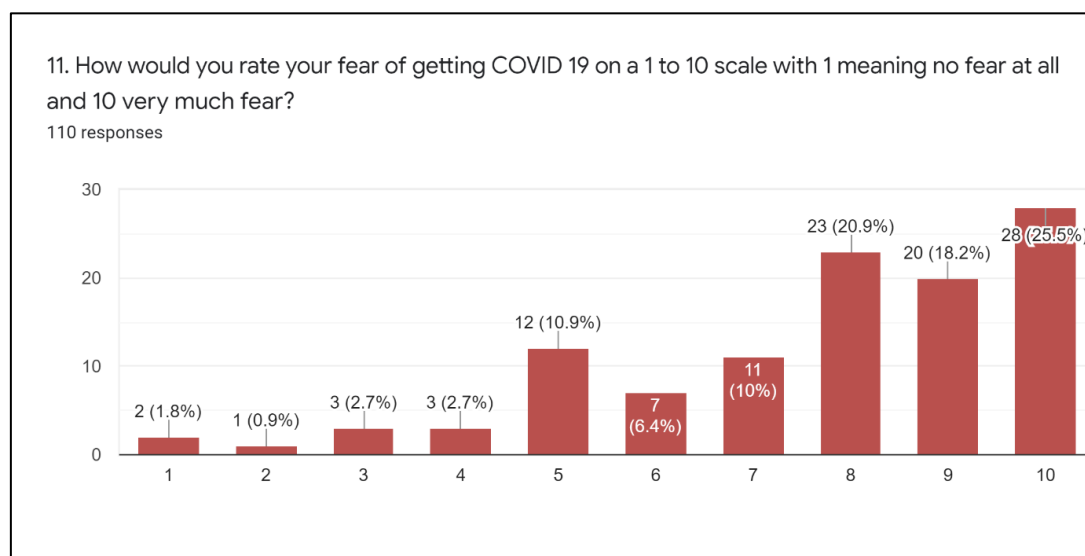


Figure 3.3 – Rating Scale for Fear of getting Infected with Covid-19

Figure 3.4 is a bar graph depicting measures adopted by the expecting women in regard to protect their family from Covid-19. The various measures were Washing hands for 20 seconds with soap and water which is being followed by 103 (93.6%), standing six feet apart from people by 89 (80.9%), taking medicines based on other's experience to avoid hospitalization by 32 (29.1%), using sanitizers by 101(91.8%), Staying home (unless absolutely necessary) by 101(91.8%), Wearing masks when going out by 104 (94.5%), Use of latex gloves and face shield when going out 61 (55.5), not touching face 77 (70%), change in diet 32 (29.1%) and Exercise by 51 (46.4%) women. The precautions that are widely being adopted are wearing of masks while going out and washing hands for 20 seconds with soap and the least adopted measure include taking medications based on other's experience to avoid hospitalization and changing the diet.

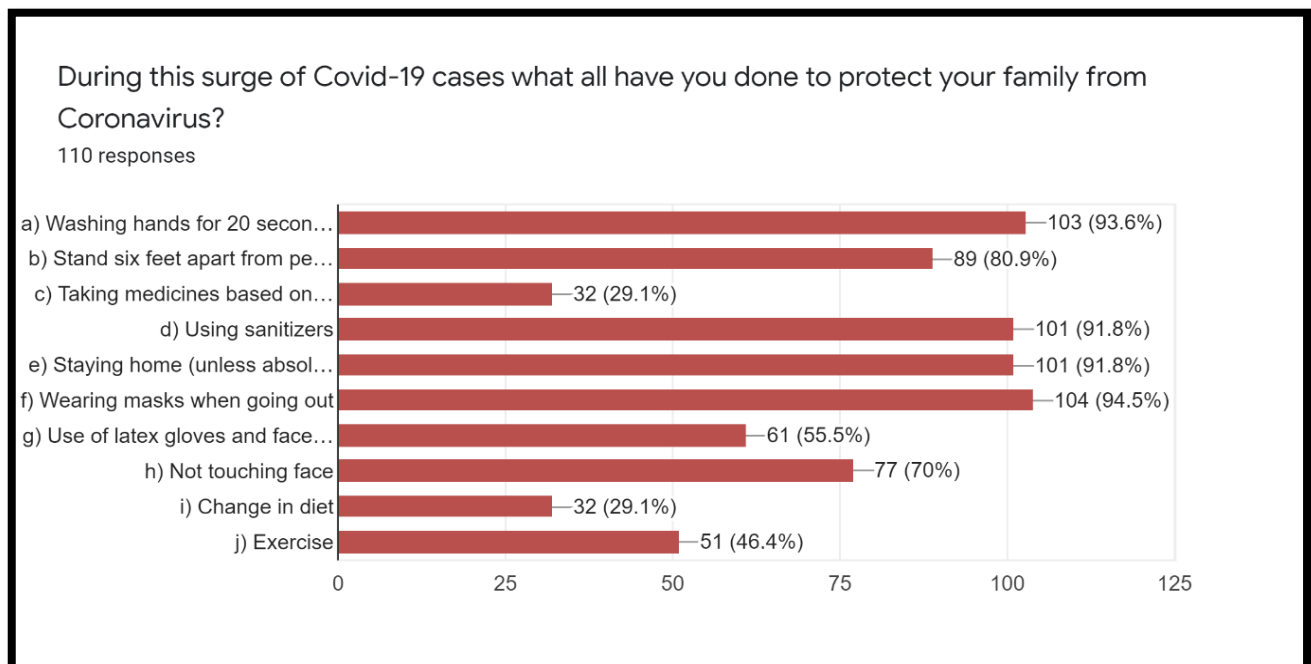


Figure 3.4 - Measures adopted by the expecting women in regard to protect their family from Covid-19

Table 4, is a representation of participant's practices in view of Covid-19. 102 (92.7%) women strictly adhere to the curfew times imposed by the government in the lockdown period. 59 (53.6%) pregnant women don't allow visitors in their house in the current time of lockdown but 21 (19.1%) of them are open to visitors while 30 (27.3%) allow visitors sometimes. The fear of covid-19 has made 42 (38.2%) pregnant women miss their clinic appointments while 65 (59.1%) still attended all their clinic appointments in covid times.

PRACTICES	YES n (%)	NO n (%)	SOMETIMES n (%)
Do you strictly follow the curfew times and restrictions imposed by the government?	102 (92.7)	4 (3.6)	4 (3.6)
Do you allow visitors in your house nowadays?	21 (19.1)	59 (53.6)	30 (27.3)
	YES n (%)	NO n (%)	NOT SURE n (%)
Did you skip planned visits to the doctor due to fear of Covid-19?	42 (38.2)	65 (59.1)	3 (2.7)

Table 4 - Distribution of participants' practices towards COVID-19 in pregnancy

Table 5.1– shows attitude of pregnant women regarding the Covid-19 Vaccination. Among the 110-sample population of pregnant women, 50 (45.5%) don't know whether it is safe for pregnant women to get Covid-19 vaccination. 18 (16.4%) believe that it is safe to take the Covid vaccination during pregnancy and 42 (38.2%) oppose this notion.

Regarding awareness of Covid-19 vaccination drive for pregnant women in countries like US, UK, Australia etc. 67 (60.9%) women were aware about it while 18 (16.4%) were not aware about it and 25 (22.75) were unsure.

69 (62.7%) expecting mothers are ready to get vaccinated during their pregnancy, on the other hand 21(19.1%) women are not willing to get vaccinated during pregnancy and about 20 (18.2%) were not sure whether they will take the Covid-19 jab.

On opinion of vaccination drive being held for the lactating mothers, 76 (69.1%) pregnant women were sure that they will get vaccinated for Covid-19 post childbirth, 18 (16.4%) of the sample population are not willing to get vaccinated post childbirth and about 16 (14.5%) of them are unsure regarding the same.

ATTITUDE REGARDING VACCINATION	YES n (%)	NO n (%)	DON'T KNOW n (%)
Do you think it is safe to get vaccinated during pregnancy?	18 (16.4)	42 (38.2)	50 (45.5)
Are you aware that countries like US, UK, Australia etc. have started vaccinating the pregnant women on a priority basis?	67 (60.9)	18 (16.4)	25 (22.7)
If and when India starts vaccination drive for the pregnant women, will you get vaccinated?	69 (62.7)	21 (19.1)	20 (18.2)
India has started vaccination drive for the lactating mothers. Are you willing to get vaccinated post childbirth?	76 (69.1)	18 (16.4)	16 (14.5)

Table 5.1 – Attitude of pregnant women regarding the Covid-19 Vaccination.

Figure 5.2 - depicts the Reasons for not opting for Covid-19 vaccine. The major reason for the vaccine hesitancy in pregnant women was seen to be the fear of side effects of the jab (62%). The second major reason for the hesitancy was seen to be the uncertainty about the efficiency of the vaccine (34%). Cultural/ Religious barriers (2%) and Other Reasons (2%) were the minor causes for not opting the vaccination for Covid-19 by expecting mothers.

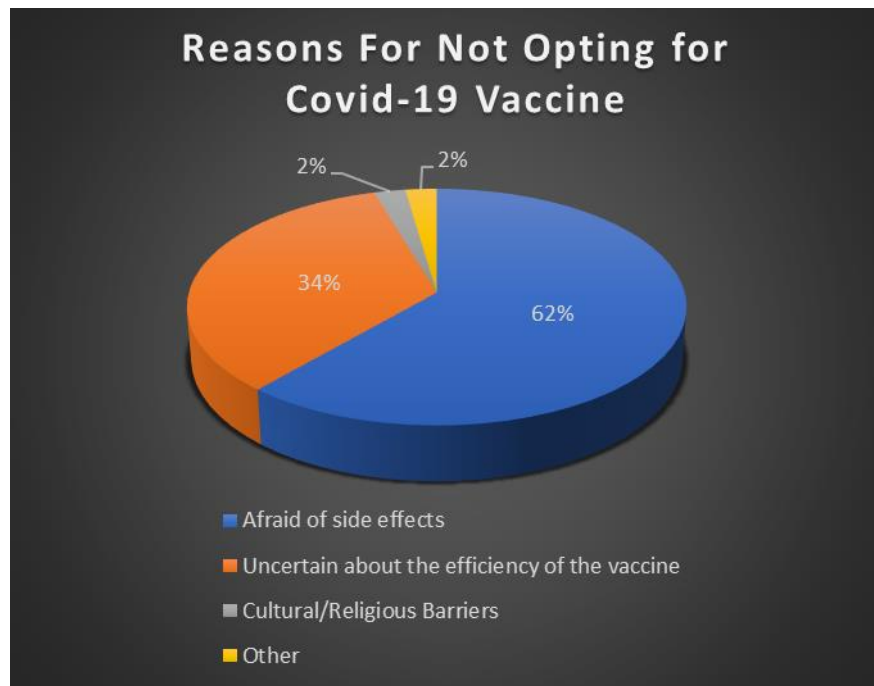


Figure 5.2 - Reasons for not opting for Covid-19 vaccine.

CONCLUSION AND RECOMMENDATION-

Pregnancy comes along with an increased burden that poses a psychological and emotional challenge to vulnerable pregnant women. This makes it essential to know the status of KAP of pregnant women in the current pandemic times to guarantee appropriate management of expecting mothers in such times. It was seen that majority of the sample population possesses adequate knowledge, attitude and practice towards Covid-19. Majority of the sample population possesses adequate knowledge, attitude and practice towards Covid-19. Knowledge level in the area of susceptibility of pregnant women to the virus, breastfeeding and postnatal care is low. Emphasis on knowledge in these areas is needed. Majority of the pregnant women are ready to get vaccinated but awareness needs to be created for the percentage of expecting women who are hesitant to get vaccinated for Covid-19. Information acquired from this study can better aid and guide the gynaecologists and obstetrics practitioners to further aid pregnant women. Doctors can utilise this information to deliver suitable counselling to their patients with respect to Covid- 19 among pregnant women.

Recommendations to create awareness for pregnant women regarding Covid-19 are – Clinicians must emphasise on promotion of appropriate covid behaviour in pregnant women Breastfeeding and skin to skin contact should be encouraged. To spread awareness for this, a Covid- 19 management workshop can be held for pregnant women where such facts can be communicated to them, and their doubts can be resolved. It should be communicated to all doctors to describe the benefits of the vaccine to the patients, and also to clarify their doubts by making them aware of the new Government guidelines regarding vaccination of pregnant women. Putting up of informative posters and distribution of pamphlets in hospitals and obstetric clinics regarding pregnancy and its management in times of Covid-19. Along with that they must be encouraged to visit official government websites for accurate information and to avoid rumours and miscommunication.

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APPENDIX

QUESTIONNAIRE ON KNOWLEDGE ATTITUDE AND PRACTICES OF PREGNANT WOMEN IN VIEW OF COVID 19

DEMOGRAPHIC INFORMATION

- Age -
- Educational Qualification – Higher Secondary/ Graduate/ Post Graduate/ PhD
- Occupation -
- Type of Conception – Natural/ IVF or IUI
- Duration of Pregnancy – First Trimester/ Second Trimester/ Third Trimester
- Number of Children – 0 / 1 / more than or equal to 2
- Co-Morbidity (If Any) –

KNOWLEDGE

1. How did you first get the information on COVID 19? (Choose one)
 - a) Official websites and media of international health organizations (eg -WHO)
 - b) News Media eg- TVs, Radio, Magazines, Newspapers
 - c) Social Media – WhatsApp, Facebook, Twitter etc
 - d) Word of Mouth through family, friends or community members
 - e) Religious or local leaders
2. What do you think is the main cause of the waves of COVID 19 pandemic? (Choose one)
 - a) Mutation of the virus
 - b) Carelessness of People (Not taking Precautions)
 - c) Lack of Vaccination
 - d) Poor lifestyle of people due to lockdown
 - e) Increased anxiety of people

3. The risk factors of COVID 19 according to you are? (Select all that apply)
- a) Direct physical contact with the body of infected persons
 - b) Touching or sharing the linens, clothes, or dishes/utensils of the case
 - c) Travel to places where there is an epidemic
 - d) Being a health care worker
 - e) Direct contact with bats, live animals or sea food
 - f) Living in the same locality of an infected person
4. What are the new symptoms that are being observed now in a person infected with COVID 19? (Along with the general symptoms like- Fever, Difficulty in breathing, Cough, sore throat)
(Select all that apply)
- a) Skin Rashes
 - b) Conjunctivitis
 - c) Pneumonia
 - d) Shivers and Chills
 - e) Change in Oxygen Saturation level
 - f) Delayed healing of wounds
 - g) Blurred Vision
5. Are pregnant women more susceptible to COVID 19?
- a) Yes c) Maybe
 - b) No d) Don't Know
6. Does COVID 19 infection increase risks and complications in pregnancy?
- a) Yes c) Maybe
 - b) No d) Don't Know

ATTITUDE

7. Do you think COVID 19 is a serious disease?

a) Yes b) No c) Uncertain

8. Do you think COVID 19 is a disease that is

- a) Man-made (agent of bioterrorism)
- b) Due to Climate change
- c) God's punishment
- d) Due to Increasing contact between Humans and Animals

9. Rate your fear of getting infected with COVID 19 on a 1 to 10 scale with 1 meaning no fear at all and 10 very much fear?

(No fear at all) 1 2 3 4 5 6 7 8 9 10 (Very much fear)

10. In the past few months have you modified your working habits in the fear of getting COVID 19?

- a) Yes
- b) No

11. Do you believe religious practices like baby showers, pujas etc. should still be carried out?

- a) Yes, they are essential
- b) No, right now it's necessary to take precautions

12. Is breastmilk a carrier of COVID 19 Virus?

- a) Yes b) No c) Maybe

13. Would you opt for breastfeeding under normal circumstances?

- a) Yes b) No c) Maybe

14. Would you opt for breastfeeding if you are Covid positive?

- a) Yes b) No c) Maybe

PRACTICES

15. During this surge of Covid 19 cases what all have you done to protect your family from Coronavirus? (Select all that apply)

- a) Washing hands for 20 seconds with soap and water
- b) Stand six feet apart from people
- c) Taking medicines based on other's experience to avoid hospitalization
- d) Using sanitizers
- e) Staying home (unless absolutely necessary)
- f) Wearing masks when going out
- g) Use of latex gloves and face shield when going out.
- h) Not touching face
- i) Change in diet
- j) Exercise

16. Do you strictly follow the curfew times and restrictions imposed by the government?

- a) Yes
- b) No
- c) Sometimes

17. Do you allow visitors in your house nowadays?

- a) Yes, if it's a part of extended family, or close friends
- b) No, I don't entertain any visitors nowadays
- c) Sometimes

18. Did you skip planned visits to the doctor due to fear of COVID-19?

- a) Yes
- b) No
- c) Not Sure

ATTITUDE REGARDING VACCINATION

Tick the correct option.

	Yes	No	Don't Know
1. Do you think it is safe to get vaccinated during pregnancy			
2. Are you aware that countries like US, UK, Australia etc. have started vaccinating the pregnant women on a priority basis?			
3. If and when India starts vaccination drive for the pregnant women, will you get vaccinated?			
4. India has started vaccination drive for the lactating mothers. Are you willing to get vaccinated post childbirth?			

5. If no, then why?
- a) Afraid of side effects
 - b) Cultural/ Religious Barriers
 - c) Uncertain about the efficiency of vaccine
 - d) Other (please specify)
-

ANNEXURE

S. No.	Name Of the Department	Date (s) of visit	% of Time Spent	Interacted with (Name and Designation)
1.	SOP Literature Reading + Observation	17 May,21 – 22 May, 21	1 week	Ms. Divya Rai (Quality Inspector)
2.	MRD (Medical Records Department)	24 May,21 – 25 May, 21	2 days	Mrs. Aman (MRD In charge)
3.	Biomedical + Radiology Department	26 May,21 – 27 May,21	2 days	Ms. Mahima Singh (Biomedical Supervisor)
4.	Operation Theatre	31 May, 21 – 19 June, 21	3 weeks	Dr. Sheba (OT In charge)
5.	Front Desk	21 June, 21 – 3 July, 21	2 weeks	Mr. Jayant Dayal (Patient Coordinator)
6.	Patient Welfare	5 July, 21 – 9 July,21	1 week	Mrs. Shilpa Kapoor (Patient Welfare Head)