

Shift in Health Statistics due to COVID Pandemic in Tertiary Care Center of Western Part of Rajasthan

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Abstract: *Background: Considering the rise in COVID cases there has been shift in hospital statistics due to various causes like lockdown, fear among people and many others. Our study aims to find this shift among one of the tertiary care centres in Rajasthan. Method: This was a cross sectional study conducted in western part of Rajasthan in department of Obstetrics and Gynaecology, Umaid hospital, Jodhpur. All the admitted patients and OPD data were analysed from the hospital records Conclusion: After analysing the data it was found that total number of patients admitted, major and minor procedures and total deliveries has statistically declined. However, there was not much difference seen in mortality and near miss mortality data.*

Keywords: COVID, Health Statistics, Lockdown

1. Introduction

Corona virus disease 2019 also known as COVID-19 infection, begins in December 2019 in Wuhan city of China and is still continuing^(1, 2, 3). It was declared as an outbreak of public health emergency of international concern in January 2020 and was declared a pandemic in the month March 2020.

Its infection fatality ratio^(4,5) (death attributed to a disease divided by a total number of individual affected) has been on the continuous rise since; according to the center for evidence-based medicine, a presumed estimate of global IFR in October 2020 is between 0.1 % to 0.35%⁽⁶⁾. Along with it another parameter that is analyzed is the case fatality ratio, which is calculated by the number of deaths attributed to a disease divided by the total number of diagnosed individuals up to the date⁽⁷⁾. According to WHO CFR varies from 0.1% to over 25% in different countries⁽⁸⁾

With the rise in the number of cases burden on the public health system also rose. Most affected were the tertiary care centers. With the decrease in elective surgeries, there has been a surge in emergency cases at the tertiary center level.

The COVID pandemic lockdown has brought myriads of effect on the public health system. With the withdrawal of services from the private sector, increase referrals from peripheries due to lack of availability of facilities in private sector; public sector of the health system has been overburdened. But fear of COVID has urged people to stay

at home thus this has brought myriads of effect on health system considering this change of spectrum this study is conducted to identify the shift of statistics in the Obstetrics and Gynecology Department of Umaid hospital from the pre COVID era to the current COVID era.

2. History

Epidemic is defining as the occurrence in a community or region of cases of an illness; clearly in excess of normal expectancy (Porta 2014). A pandemic is defined as an epidemic occurring over a very wide area crossing international borders and affecting large number of people. (Porta 2014). COVID is not the first pandemic which has doomed this earth; different pandemics have occurred at different time effecting the human as well as animal population on this earth. Table 1 provides the list of pandemics in the world. Madhav et al (2017), Garrett (2007), Keogh-Brown et al (2008), Fanetal (2018) have argues that global pandemic is inevitable. Ferugson et al (2020) have argued that the corona pandemic is the most serious pandemic that has doomed the world since Spanish influenza pandemic (1918). These pandemics have brought myriads of effect on the health system and will continue to do so. Bombay influenza pandemic is believed to kill up to 17-18 million people in the country^{1, 2}. The 1918 flu pandemic has estimated to be responsible for 50-1000 million deaths. The most recent swine flu pandemic resulted in under a million deaths. So does the pandemic will continue to effect the health system our aim is to strengthen this health system so as to minimize the casualties.

| Name | Time period | Type/ Pre-Human host | Death toll |
|------------------------------|---------------|--|------------|
| Antonine plague | 165-180 | Believed to be either small pox or measles | 5M |
| Japenese small pox epidemic | 735-737 | Variola major virus | 1M |
| Plague of Justinian | 541-542 | Yersinia pest is bacteria/Rat, fleas | 30-50M |
| Black death | 1347-1351 | Yersinia pestisbacteria/Rat, fleas | 200M |
| New World Small pox Outbreak | 1520 -onwards | Variola major virus | 56M |
| Great Plague of London | 1665 | Yersinia pest is bacteria/Rat, fleas | 100000 |

Volume 10 Issue 5, May 2021

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|-----------------------|--------------|--|----------------------|
| Italian plague | 1629-1631 | Yersinia pestis bacteria/Rat, fleas | 1M |
| Cholera Pandemics 1-6 | 1817-1923 | V. Cholerae bacteria | 1M+ |
| Third Plague | 1885 | Yersinia pestis bacteria/Rat, fleas | 12M(China and India) |
| Yellow fever | Late 1800s | Virus/Mosquitoes | 10000—150000 |
| Russian flu | 1889-1890 | H2N2(avian origin) | 1M |
| Spanish flu | 1918-1919 | H1N1virus/pig | 40-50M |
| Asian flu | 1957-1958 | H2N2virus | 1.1M |
| Hong Kong Flu | 1968-1970 | H3N2virus | 1M |
| HIV/AIDS | 1981-present | Virus/Chimpanzees | 25-35M |
| Swine flu | 2009-2010 | H1N1virus/Pigs | 200000 |
| SARS | 2002-2003 | Corona virus/ Bats, Civets | 770 |
| Ebola | 2014-2016 | Ebola virus/ Wild animals | 11000 |
| MERS | 2015-present | Corona virus/Bats, camels | 850 |
| COVID19 | 2019-present | Corona virus –unknown (possibly pangolins) | 4700 |

3. Aim

To identify the shift in the statistics of the Obstetrics and Gynaecology department of Umaid hospital in the pre COVID era from April 2019 to October 2019 to current COVID era from March 2020 to November 2020.

4. Method

This study was an observational cross sectional study conducted in the Obstetrics and Gynecological Department of Umaid Hospital; after obtaining permission from the ethics department of Dr. S N Medical College comparing the

results from pre COVID times (April 2019 to October 2019) with current COVID times (April 2020 to October 2020). All the data which will be including total OPD patients, total admissions in the obstetric department including in ward and labor room, total referrals, total deliveries subcategorized into total vaginal deliveries and total cesarean sections, total abortions and evacuations done, near miss maternal mortality and total mortalities along with it health personnel affected with COVID will be collected from hospital records and will be analyzed.

5. Result

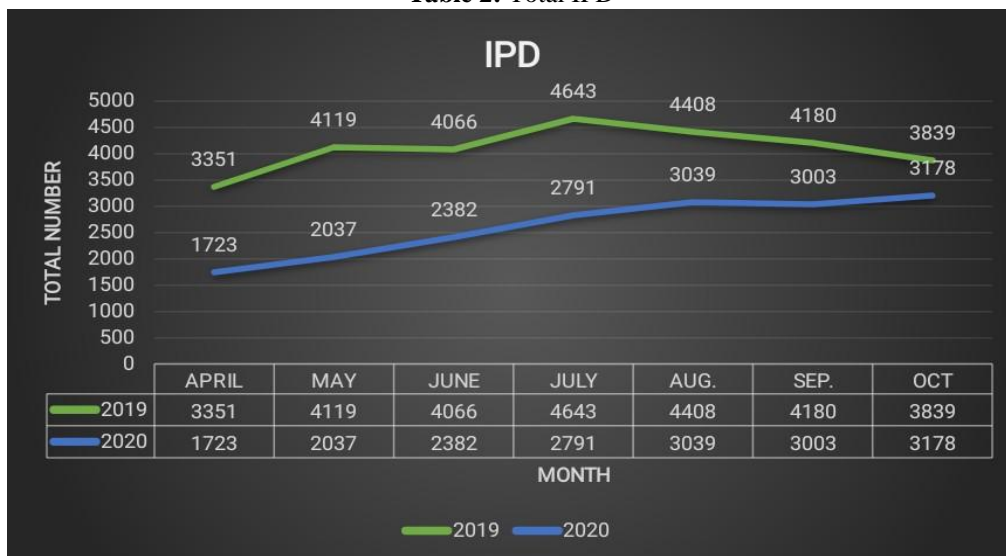
Table 1: Total OPD Admissions



P=0.00001

The above table shows difference in the OPD admission between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

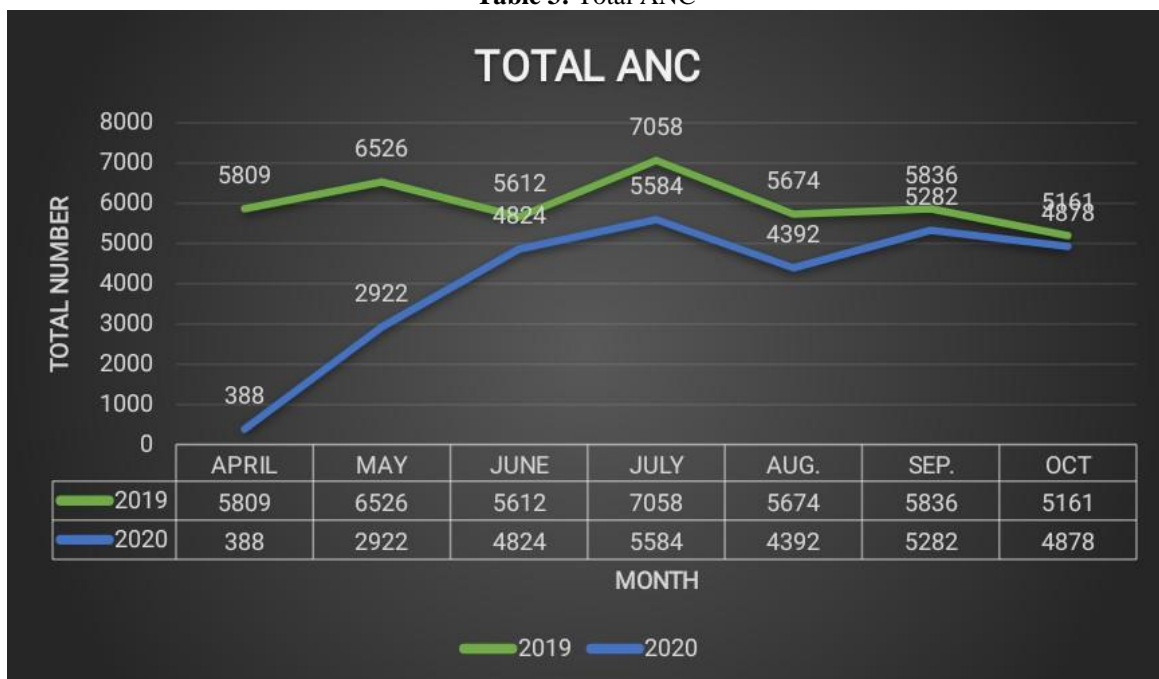
Table 2: Total IPD



P=0.0001

The above table shows difference in the IPD admission between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

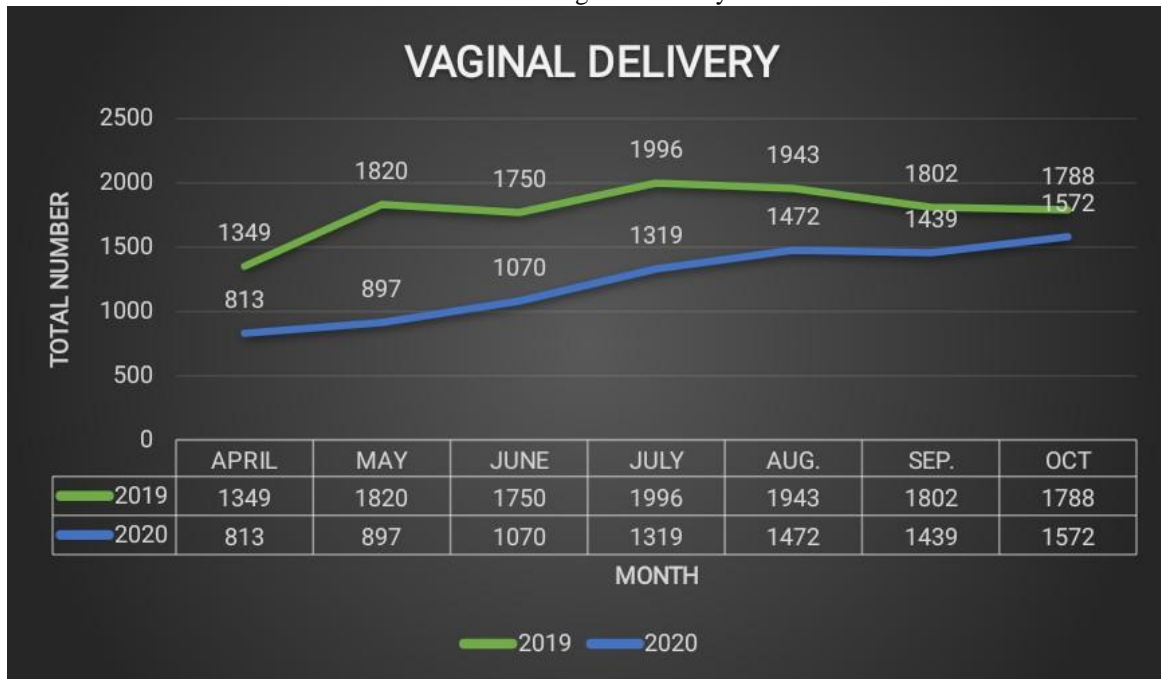
Table 3: Total ANC



P=0.03

The above table shows difference in the ANC booking between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

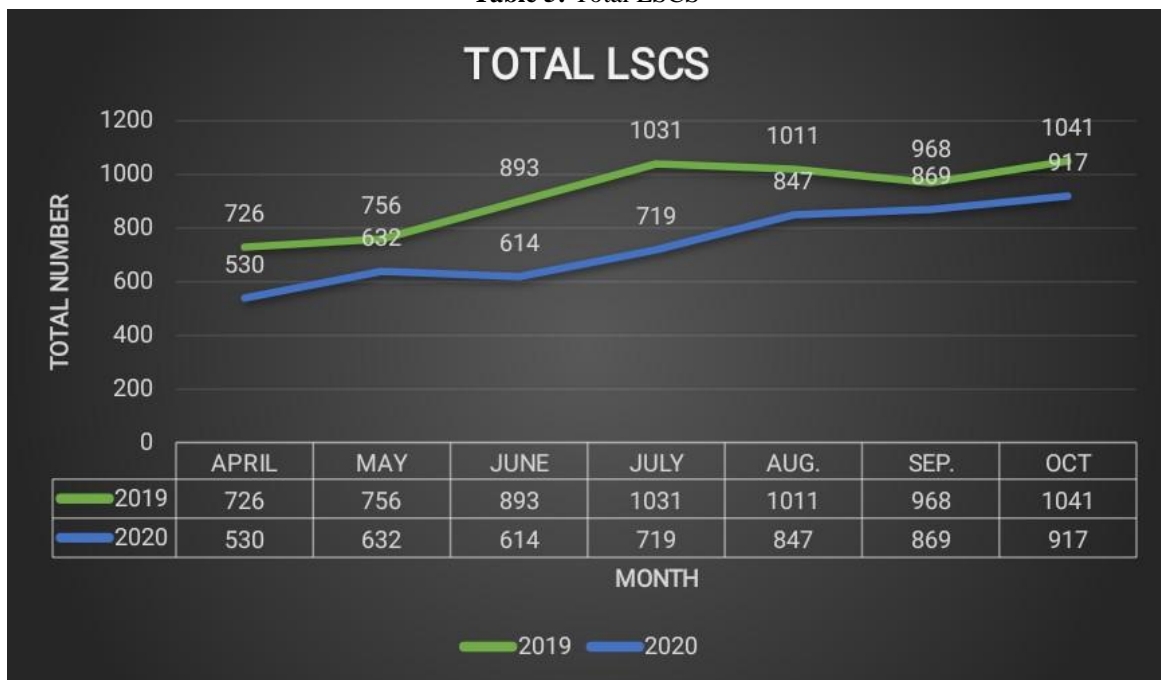
Table 4: Vaginal Delivery



P=0.002

The above table shows difference in the vaginal deliveries admission between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

Table 5: Total LSCS



P=0.02

The above table shows difference in the cesarean section between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

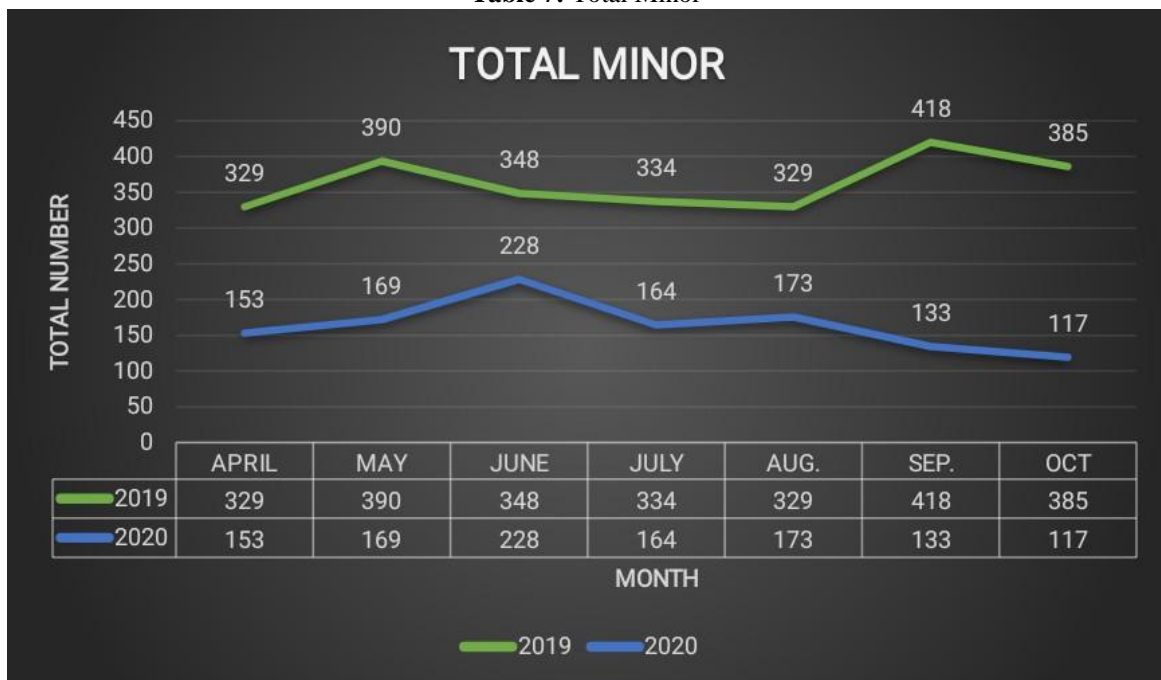
Table 6: Major Operation



P=0.00005

The above table shows difference in the **major operation** between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

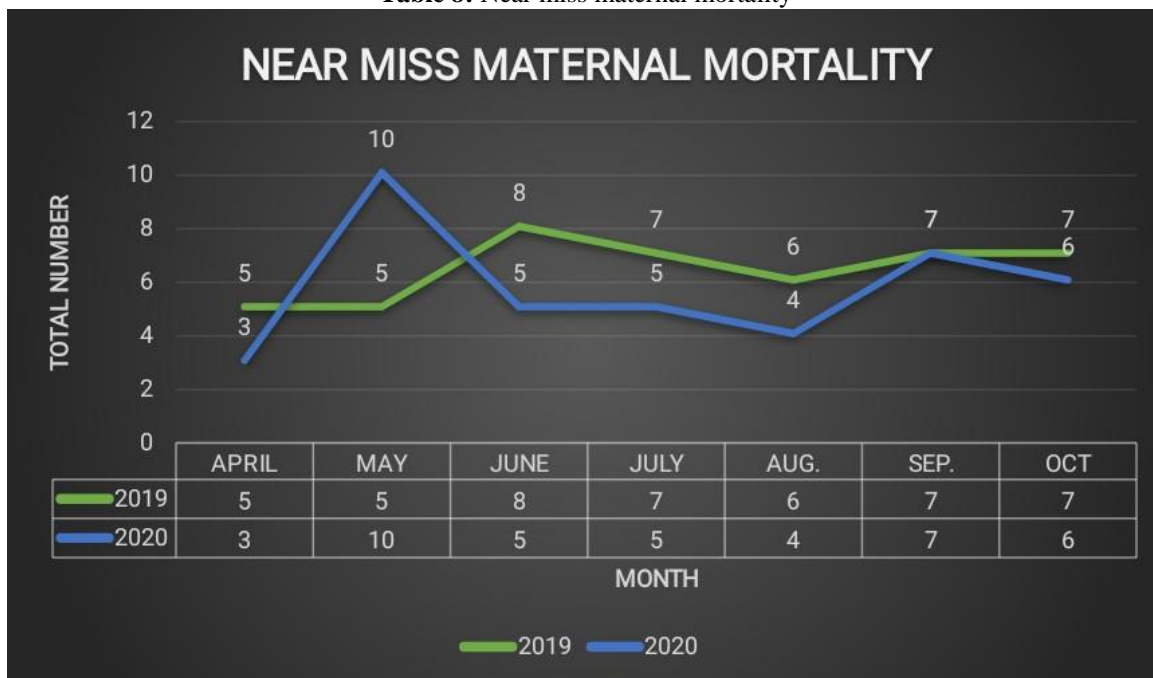
Table 7: Total Minor



P=0.04

The above table shows difference in the **total minor procedures** between the year 2019 and 2020. The p value for above table is <0.05 which is found to statistically significant.

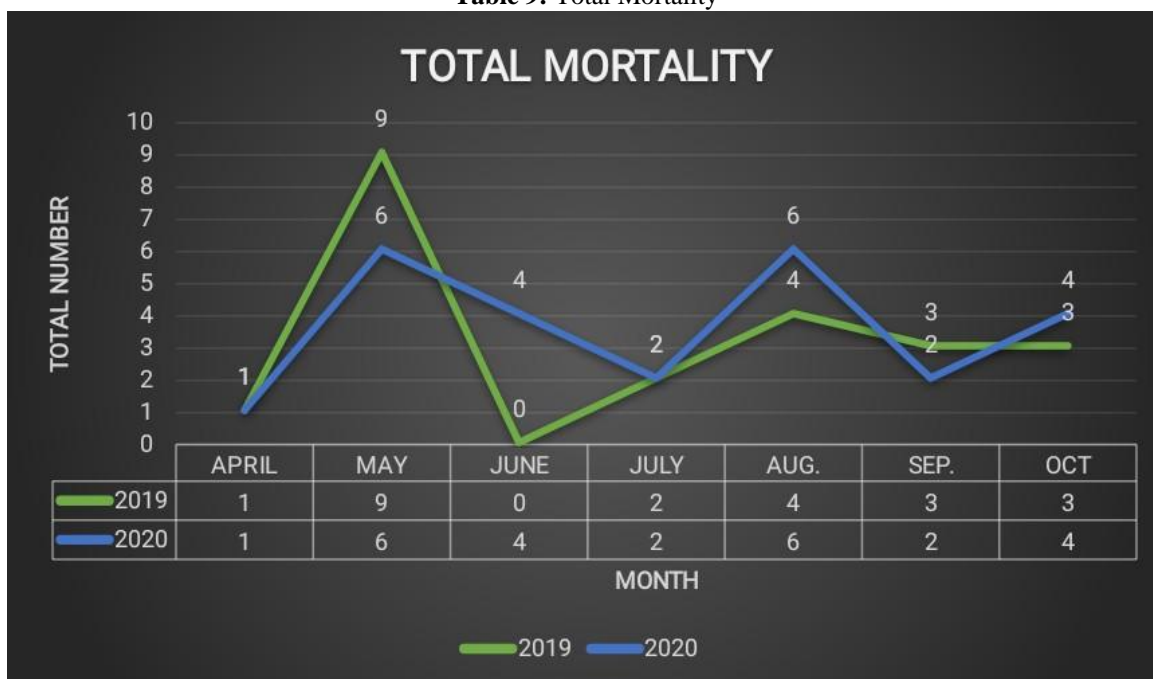
Table 8: Near miss maternal mortality



P=0.4

The above table shows difference in the **near miss maternal mortality** between the year 2019 and 2020. The p value for above table is >0.05 which is found to statistically significant.

Table 9: Total Mortality



P=0.7

The above table shows difference in the mortality between the year 2019 and 2020. The p value for above table is >0.05 which is not found to be statistically significant.

6. Observation

As seen in table 1 number of total OPD admissions has statistically declined during the lockdown period; this is the effect of lockdown imposed during this period which resulted in a decrease in communication and transport.

During this period elective procedures were abandoned moreover patients were mostly managed on an OPD basis or from home which directly throws impact on the total number of admissions, anc bookings, as well as major and minor operative procedures as depicted in table 2,3,6 and 7. Considering table 4 and 5 total number of deliveries, have declined which included both vaginal and cesarean sections; our is a tertiary care center which has catered the population of western Rajasthan however restrictions due to COVID resulted in a decrease in communication and transport and

more stringent measurement by government agencies resulted in the strengthening of peripheries center .despite this fact the emergencies which could not be managed at peripheries were referred here thus no significant impact has occurred on maternal near-miss and maternal mortality.

<<https://gulfnews.com/opinion/op-eds/how-the-spanish-flu-changed-the-course-of-indian-history-1.1584285312898>> [Accessed 6 April 2021].

7. Conclusion and Summary

As the coronavirus doomed the planet earth from economy to health sector everything crumbled up. Neither the rich nor the poor were spared, everyone was equally affected. Though the figures show a reduction in the number of OPD admissions, anc bookings, deliveries, operations attributing to the worldwide lockdown, imposing a ban on the movement of people, shutting up of major universities to the small grocery shop; the overall burden on health system rose as more and more staff was recruited in the management of COVID patients, peripheries were further strengthened up by raising staff capacity .health care workers catering to these patients were themselves affected many were quarantined, many lost their lives but despite all the fact one of them give up and still are continuing in providing selfless services to the nation.

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