Effect of COVID 19 on women and childcare in Iraq

Dr. Arjwan Marawan Shaaban 1, Dr.Eman A. Al-Taee 2, Dr.Raouf Tariq Raouf 3.
1. Family physician, Director of department of specialized centers and hospitals at MOH.
2. Family physician at Nineveh health directorate.
3. Director of the health statistical division at MOH.
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**Abstract:**
Introduction: Coronavirus disease (COVID-19) is a new mutation of coronavirus (SARS-CoV) that cause a pandemic in 2019. During COVID-19 pandemic, women and children were affected by the disruption of health services, specifically in developing countries. Patients and methods: The study was done in Iraq, Descriptive study was done to identify the effect of Covid19 on women and child care in many aspects including: site of births, primary health care services and breastfeeding for three years (2019, 2020, 2021).

Results: The total births decreased in year 2020 compared to 2019, while in 2021 it is more than 2019, a decrease in births in governmental hospitals with the onset of the pandemic, and then return to the rise. Increased births in private hospitals during the years 2020, 2021.

Discussion: Decrease of governmental hospital birth and antenatal care visits because the women afraid from getting infection with COVID-19 in health centers.

**Keywords:** COVID 19, antenatal care, breastfeeding, birth.
Introduction:
Coronavirus disease (COVID-19) is a new mutation of coronavirus (SARS-CoV) that cause a pandemic in 2019, which overspread internationally.\textsuperscript{(1)} According to WHO, during pandemics all supports directed to overcome the emergencies, so, the routine and basic health care services usually neglected.\textsuperscript{(2)} During epidemics of Ebola at 2014, The maternal and neonatal mortality caused by Ebola virus itself is less than that caused by indirect effect of health care services destruction due to epidemic shift of services.\textsuperscript{(3)} During COVID-19 pandemic, women and children were affected by the disruption of health services, specifically in developing countries.\textsuperscript{(4)} Pregnant women and children in low resources countries are likely to face big impact during pandemics.\textsuperscript{(5)} For example, In 2020, the maternal mortality ratio (MMR) was 211 per 100,000 live births while there were around 5.3 million under five deaths.\textsuperscript{(6)} Restriction for visiting hospitals to patients relatives during pandemics, and depending on tele-consultations, together with fear of infection, make confusion to pregnant ladies and patients about seeking health care from health centers or not.\textsuperscript{(7-9)} in order to not overburden the hospitals, during epidemic many patients think that their health problems are not important enough to go to hospitals which are already overcrowded with patients.\textsuperscript{(10)} Many countries adopt lockdown and low person-person contact due to unavailability of vaccine at the beginning and deficiency of treatment.\textsuperscript{(11-13)} about breast-feeding and covid19, theoretically newborns do not have immunity against disease.\textsuperscript{(14)} This put breastfeeding among infected ladies understudy during pandemic,\textsuperscript{(15)} also the mother afraid from transmitting the virus to their babies.\textsuperscript{(16)} Finally two reviews in 2020 favored continue lactation even if the mother is infected.\textsuperscript{(17,18)}

Patients and methods:
Study setting: The study was done in Iraq, the data from the monthly reports sent from the primary health care centers, hospitals and the statistics of the Ministry of health and environment.
Study design: Descriptive study was done to identify the effect of Covid19 on women and child care in many aspects including: site of births, primary health care services and breastfeeding for three years (2019,2020,2021).
Data analysis: Computer feeding and statistical Analysis was done by Acer computer and Minitab (18th edition), many statistical diagrams was used to explain the relations.
Results:
I. Site of births:
I.1 Total births:
The total births in Iraq decreased in year 2020 compared to 2019, while in 2021 it is more than 2019 as shown in figure -1-

![Figure 1: The total number of births in Iraq](image)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>909380</td>
</tr>
<tr>
<td>2020</td>
<td>885824</td>
</tr>
<tr>
<td>2021</td>
<td>910907</td>
</tr>
</tbody>
</table>

I.2 Births in governmental hospitals:
we note a decrease in births within governmental hospitals with the onset of the pandemic (2020) and then return to the rise by 2021,
especially in the months after the first quarter to the end of the year as shown in figure -2- with non-significant p-value(0.336).

I.3 Births in centers that contain birthing halls:
The results show fluctuating increase and decrease during the three years of the study as shown in figure -3- with non-significant p-value(0.0154).

I.4 Births in private hospitals:
Results showed increased births in private hospitals during the years 2020,2021 in comparison to year of 2019 as shown in figure -4- with highly significant p-value (0.007).
I.5 Births outside the health institutions:

Results show an increase in births outside the health institutions in the second half of the years 2020, 2021 in comparison to 2019 as showed in figure -5- with non-significant p-value (0.511).

II. Primary health care services

Comparisons were made between the first and fourth antenatal care visits for pregnant women in Iraq on a monthly basis for the three years of the study. In addition, the results show that the first and fourth visits percentages were declined in 2020, 2021 in comparison to 2019 for the...
months (January to April), while in months (May to August) there is an increase of visits in comparison to the first third of the year. From September to December, there is fluctuation in the percentage of visits (figures 6-17). In addition, the results show that Anbar directorate recorded the lowest visits (first and fourth) in comparison to other health directorates.
### Figure 8 - Periodic medical examination for pregnant women and mothers for the month of March

<table>
<thead>
<tr>
<th></th>
<th>Baghdad/kara kh</th>
<th>Baghdad/Rusafah</th>
<th>Basrah</th>
<th>Ninevah</th>
<th>Mayssan</th>
<th>Deawaniah</th>
<th>Dyala</th>
<th>Anbar</th>
<th>Babil</th>
<th>Karbalah</th>
<th>Kerkuk</th>
<th>Wastit</th>
<th>Thi-Qar</th>
<th>Mutarna</th>
<th>Salah aldeen</th>
<th>Najaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 1st visit</td>
<td>73%</td>
<td>54%</td>
<td>61%</td>
<td>30%</td>
<td>66%</td>
<td>74%</td>
<td>78%</td>
<td>17%</td>
<td>67%</td>
<td>78%</td>
<td>55%</td>
<td>56%</td>
<td>65%</td>
<td>40%</td>
<td>43%</td>
<td>76%</td>
</tr>
<tr>
<td>2019 4th visit</td>
<td>41%</td>
<td>14%</td>
<td>29%</td>
<td>10%</td>
<td>17%</td>
<td>30%</td>
<td>34%</td>
<td>3%</td>
<td>31%</td>
<td>38%</td>
<td>28%</td>
<td>54%</td>
<td>25%</td>
<td>10%</td>
<td>29%</td>
<td>39%</td>
</tr>
<tr>
<td>2020 1st visit</td>
<td>49%</td>
<td>35%</td>
<td>43%</td>
<td>18%</td>
<td>32%</td>
<td>52%</td>
<td>61%</td>
<td>17%</td>
<td>61%</td>
<td>48%</td>
<td>51%</td>
<td>52%</td>
<td>54%</td>
<td>38%</td>
<td>32%</td>
<td>57%</td>
</tr>
<tr>
<td>2020 4th visit</td>
<td>26%</td>
<td>10%</td>
<td>21%</td>
<td>5%</td>
<td>8%</td>
<td>22%</td>
<td>37%</td>
<td>2%</td>
<td>26%</td>
<td>28%</td>
<td>23%</td>
<td>37%</td>
<td>17%</td>
<td>9%</td>
<td>17%</td>
<td>24%</td>
</tr>
<tr>
<td>2021 1st visit</td>
<td>54%</td>
<td>49%</td>
<td>65%</td>
<td>24%</td>
<td>53%</td>
<td>53%</td>
<td>71%</td>
<td>21%</td>
<td>59%</td>
<td>54%</td>
<td>51%</td>
<td>51%</td>
<td>38%</td>
<td>39%</td>
<td>33%</td>
<td>72%</td>
</tr>
<tr>
<td>2021 4th visit</td>
<td>18%</td>
<td>11%</td>
<td>24%</td>
<td>7%</td>
<td>8%</td>
<td>16%</td>
<td>36%</td>
<td>3%</td>
<td>17%</td>
<td>24%</td>
<td>20%</td>
<td>16%</td>
<td>10%</td>
<td>9%</td>
<td>9%</td>
<td>23%</td>
</tr>
</tbody>
</table>

### Figure 9 - Periodic medical examination for pregnant women and mothers for the month of April

<table>
<thead>
<tr>
<th></th>
<th>Baghdad/kara kh</th>
<th>Baghdad/Rusafah</th>
<th>Basrah</th>
<th>Ninevah</th>
<th>Mayssan</th>
<th>Deawaniah</th>
<th>Dyala</th>
<th>Anbar</th>
<th>Babil</th>
<th>Karbalah</th>
<th>Kerkuk</th>
<th>Wastit</th>
<th>Thi-Qar</th>
<th>Mutarna</th>
<th>Salah aldeen</th>
<th>Najaf</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019 1st visit</td>
<td>71%</td>
<td>62%</td>
<td>67%</td>
<td>33%</td>
<td>59%</td>
<td>69%</td>
<td>76%</td>
<td>17%</td>
<td>68%</td>
<td>69%</td>
<td>61%</td>
<td>58%</td>
<td>64%</td>
<td>41%</td>
<td>47%</td>
<td>76%</td>
</tr>
<tr>
<td>2019 4th visit</td>
<td>42%</td>
<td>16%</td>
<td>30%</td>
<td>10%</td>
<td>14%</td>
<td>27%</td>
<td>25%</td>
<td>2%</td>
<td>29%</td>
<td>40%</td>
<td>29%</td>
<td>54%</td>
<td>23%</td>
<td>11%</td>
<td>22%</td>
<td>36%</td>
</tr>
<tr>
<td>2020 1st visit</td>
<td>50%</td>
<td>43%</td>
<td>59%</td>
<td>23%</td>
<td>61%</td>
<td>51%</td>
<td>77%</td>
<td>20%</td>
<td>68%</td>
<td>47%</td>
<td>63%</td>
<td>54%</td>
<td>58%</td>
<td>27%</td>
<td>30%</td>
<td>66%</td>
</tr>
<tr>
<td>2020 4th visit</td>
<td>18%</td>
<td>8%</td>
<td>18%</td>
<td>7%</td>
<td>9%</td>
<td>20%</td>
<td>46%</td>
<td>5%</td>
<td>22%</td>
<td>22%</td>
<td>21%</td>
<td>33%</td>
<td>16%</td>
<td>8%</td>
<td>17%</td>
<td>22%</td>
</tr>
<tr>
<td>2021 1st visit</td>
<td>54%</td>
<td>46%</td>
<td>58%</td>
<td>24%</td>
<td>56%</td>
<td>51%</td>
<td>64%</td>
<td>23%</td>
<td>55%</td>
<td>62%</td>
<td>50%</td>
<td>52%</td>
<td>48%</td>
<td>35%</td>
<td>33%</td>
<td>65%</td>
</tr>
<tr>
<td>2021 4th visit</td>
<td>18%</td>
<td>10%</td>
<td>18%</td>
<td>7%</td>
<td>8%</td>
<td>21%</td>
<td>31%</td>
<td>3%</td>
<td>19%</td>
<td>23%</td>
<td>19%</td>
<td>16%</td>
<td>13%</td>
<td>8%</td>
<td>8%</td>
<td>23%</td>
</tr>
</tbody>
</table>
Figure -10- Periodic medical examination for pregnant women and mothers for the month of May

Figure -11- for the periodic medical examination of pregnant women and mothers for the month of June
Figure -12- Periodic medical examination for pregnant women and mothers for the month of July

Figure -13- Periodic medical examination for pregnant women and mothers for the month of August
Figure -14- Periodic medical examination for pregnant women and mothers for the month of September

Figure -15- A periodic medical examination for pregnant women and mothers for the month of October
Breast-feeding:
The results show increase percentage of breast feeding in most of Iraqi cities for the years of 2020, 2021 in comparison to 2019 (figures 18-29).
Figure -18- Percentage of newborns who were breastfed for the month of January

Figure -19- Percentage of newborns who were breastfed for the month of February
Figure -20- Percentage of those who were breastfed for the month of March

Figure -21- Percentage of those who were breastfed for the month of April
Figure -22- Percentage of newborns who were breastfed for the month of May

Figure -23- Percentage of newborns who were breastfed for the month of June
Figure-24- Percentage of newborns who were breastfed for the month of July

Figure -25- Percentage of newborns who were breastfed for the month of August
Figure -26- Percentage of newborns who were breastfed for the month of September

Figure -27- Percentage of newborns who were breastfed for the month of October
Figure -28- Percentage of newborns who were breastfed for the month of November

Figure -29- Percentage of newborns who were breastfed for the month of December
Discussion:

Site of births

Total births
This study show decreased total births in 2020, this may be due to fear of having congenital anomalies in newborns if getting the infection, while in 2021 it is more than 2019 and this might be due to increase in vaccination rate and the people want to complete their families after the decrease in births in the previous year.

Births in governmental hospitals:
This study show decrease in deliveries in these hospitals in 2020, like result of Anil K. Singh etal, Binyam Tilahun etal results (19,20) this may be due to the fact that the ladies afraid from getting infection with covid 19 in hospitals, the percentage begin to rise in 2021 after increase in vaccination rate and increase in preventive care strategies, on the contrary, Shweta Bankar etal study shows that deliveries in hospitals are increased during pandemics, because women think that this will let them able to receive better medication for themselves and their newborn (21).

Births in centers that contain birthing halls:
The results show fluctuation in percentages of births in these centers with no direct relationship with the pandemic, may be because these centers are the only place for labor in rural areas.

Births in private hospitals:
The study show increase in deliveries in private hospitals because the governmental hospitals was used to treat covid 19 patients mainly and the people thinks that the isolation and protective care equipment and sanitization techniques are better in private hospitals than other places, the result is same like Shweta Bankar etal results (21).

Births outside health institutes:
The results show increase in deliveries outside health centers during the pandemic like Binyam Tilahun etal results, (20) in which 60-70% of mothers delivered at home, authors suspect this is due to fear from being infected with covid 19.

Primary health care services:
The results show decrease visits in the winter, like Binyam Tilahun etal Shweta Bankar etal, Mar Requena-Mullor etal, Faran Emmanuel etal results, (20-23) in May to august there is increase in visits, fluctuating percentages of visits from September to December. The decrease in visits belong to many reasons like: fear from getting infected with covid 19 virus, (24) some women think that their complains are not so important
and don’t want to increase the burden on health workers and may be due to the availability of tele-consultations programs which don’t need health centers visits.

**III. Breast feeding:**

This study show increase breast feeding rate during the pandemic may be due to decrease job times of the working mothers because many countries depend on the lockdown to flatten the curve of infections which gave the women more time for lactation, also they know that breast feeding support the immunity of their infants, and forbidding many private jobs with crowded nature during the pandemic lead to decrease the income of many families so they depend on breast feeding as a cheap and available method of feeding, on the contrary, Mar Requena-Mullor etal results shows breastfeeding of newborns decreased during the pandemic (76.0% before versus 70.6% during the pandemic), \(^{(22)}\) and this may be due to geographic and social differences between the studies.

Nowadays, many articles recommend breastfeeding regardless of infection, arguing that transmission of the virus by this route is impossible and that the benefits outweigh the dangers. \(^{(25-29)}\)

**References:**


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