The Impact of COVID-19 Pandemic on Patient Attendance in Hospitals in Rivers State, Nigeria for the Period of 2020 - 2021.

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ABSTRACT

Background: Outpatient clinics have always been part of services provided in Hospital settings. The novel coronavirus disease had affected service provision in the various health facilities in the Rivers State during the period of the pandemic. The health system was affected during this period under review.

Aim: To determine the impact of the COVID-19 pandemic on outpatient attendance in hospitals in Rivers State.

Methodology: The study is a retrospective cross-sectional study conducted on secondary data collected from the District Health Information System 2 platform of the Health Management Information System from 1st January, 2018 to 31st December, 2022. The data from 558 health facilities that offer outpatient services in the State, were collected, analysed and represented as frequencies, percentages and charts.

Results: A total of 12,392,423 patients attended the health facilities in Rivers State over the 5 years under review with 2,615,326 (21.1%) of them attending the outpatient clinic with more female attendance at 59.9%. The lowest Hospital attendance was 25.4% in 2020 and 26.4% in 2021 compared to previous years of 2018 (31.8%) - 2019 (32.4%) and 2022 (33.5%).

Conclusion: Various individual, facility, and policy-level factors affected the utilization of services during the pandemic. There is a need to augment general outpatient services in the Rivers State by removing barriers to access, especially for the vulnerable population.

Keywords: COVID-19 pandemic, Lockdown, Hospital Attendance

BACKGROUND

The novel Coronavirus was initially identified in Wuhan city, Hubei Province, China[1]. The WHO later designated coronavirus disease (COVID-19) as a Public Health Emergency of International Concern (PHEIC) [2]. It placed a huge impact on the public across the globe[1]. In the UK, strict lockdown measures were introduced in March 2020, November 2020 and January 2021[3].

The COVID-19 pandemic was first diagnosed in Rivers State, Nigeria in March 2020[4]. The States noted its first confirmed COVID-19 case on March 19, 2020. The State government then put in place a few controls measures to reduce the spread of the virus from spreading. These measures included lockdown, curfews, and social distancing. The pandemic caused a disruption of health services globally as treatment of coronavirus took precedence over other health conditions [3].

Some studies done on patient attendance include that by Tygesen B.G et al on impact of the COVID-19 pandemic

on the unplanned patient flow in a Danish healthcare region during the pre- COVID period (1st March 2019-28th February 2020) and first year of the COVID-19 pandemic (1 March 2020–28 February 2021). In this health facility in Central Denmark Region, there was a reduction in the attendance to the emergency department.[5] Our results demonstrate changes in unplanned patient flow and patient characteristics in hospital contacts during the first year of the COVID-19 pandemic. These findings are relevant for national, regional and local healthcare agencies and policy makers to prepare for and respond to future pandemics and large-scale healthcare crisis.

In a study to determine the impact of Covid-19 Pandemic on the utilization and delivery of healthcare services among outpatients during the early phase of the pandemic in Nigeria by Aigbonoga et al revealed that healthcare utilization was significantly impacted by the pandemic as there was a reduction in hospital visits by patients during the pandemic ($P<0.0003$) in University Teaching Hospital, Ibadan.[6] Restriction of movement and fear of contracting the virus was identified as reasons for the reduction in healthcare services utilization in about 59% of the participants. Patients rated the quality healthcare services delivered to them as 'average' during the pandemic as opposed to 'good' before the pandemic.

Another study by Chhabra et al analyzed the profile of outpatient department attendance of a tertiary care hospital during pre-and post-pandemic lockdown period in North, India. This included all consecutive patients presenting to OPD from August 1, 2019 to November 23, 2020. There was a significant reduction in OPD attendance during the COVID-19 lockdown era with less female attendance recorded.[7] Both male and female attendance in the OPD showed a decline during this period.

This reduction was also observed in Rivers State since various hospitals had disruption to health services and temporary closure of some wards excluding emergency services. The aim of this study is to determine the impact of the COVID-19 pandemic on patient attendance in hospitals in Rivers State.

As of 31st December 2021, there had been about 5.4 million deaths and more than 287 million confirmed cases of COVID-19 globally as reported by World Health Organization [8]. About 36% of confirmed cases were in the American Continent, 36% in Europe, 12% in India and only about 2.5% in the African continent, which was about 7.4 million cases (with 47% in South Africa and 3.1% in Nigeria)[4]. Nigeria had 244,120 confirmed cases of COVID-19 and 3045 associated deaths[4] as at December, 2021.

METHODOLOGY

The research is a retrospective cross-sectional study, of data from the electronic health record platform known as the District Health Information System 2 (DHIS-2)[9] of the Health Management Information System. (NHMIS). The DHIS 2 platform in Rivers State, Nigeria was used to input data from 558 healthcare facilities (which comprise public and private healthcare facilities). These healthcare facilities provide outpatient clinic services throughout the State. Secondary health facility data from 1st January 2018 to 31st December 2022 were used in this study. This data was analysed using Special Package for the Social Sciences (SPSS) version 21 and represented as frequencies, percentages and charts.

RESULT

A total of 12,392,423 patients attended the health facilities in Rivers State over the 5 years under review with 2,615,326 (21.1%) of them attending the outpatient clinic.

Table 1: The General Attendance from 1st January 2018 – 31st December 2022

Year	General Attendance	Outpatient clinic
2018	2,462,684	470,797
2019	2,598,387	583,190
2020	2,104,703	449,932
2021	2,256,779	538,141

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2022	2,969,870	573,266
Total	**12,392,423**	**2,615,326**

The total hospital attendance rate by gender is seen in figure 1, with female attendance being higher at 59.9% and males at 40.1%.

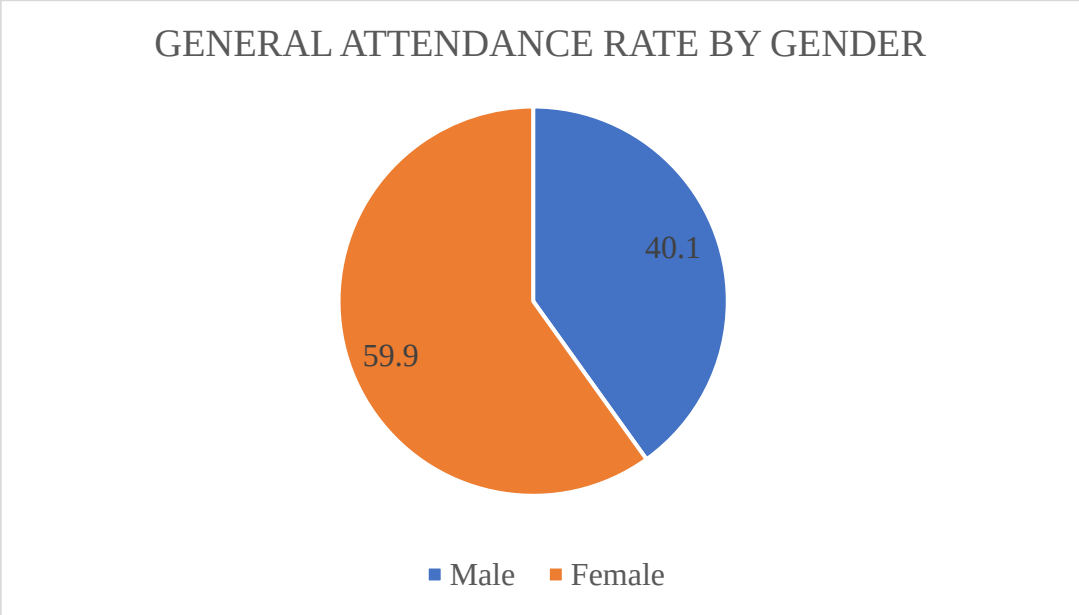

Figure 1: General Attendance by Gender from 1st January 2018 – 31st December 2022.

The data obtained showed the percentage of hospital attendance from 1st January 2018 – 31st December 2022 as 31.8 % and 32.4% in 2018 and 2019 before the decline in 2020 (25.4%) and 2021 (26.4%). It then appreciated by 33.5% in 2022 as observed in figure 2.

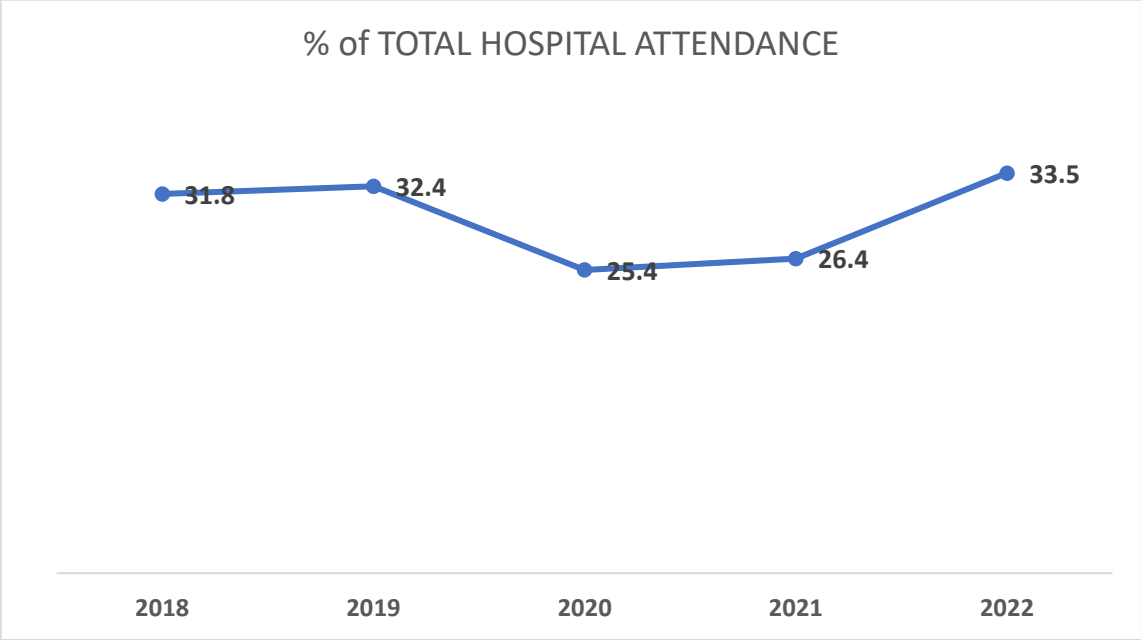

Figure 2: Total percentage of Hospital Attendance for 1st January 2018 – 31st December 2022.

The percentage of general attendance by gender had been relatively steady at 59.9% in 2018, 60.3% in 2019, 60.1% in 2020, 60.2% in 2021 and 59.3% in 2022 for female patients in figure 3. Male attendance during this period has been low from 40.1% in 2018 to 39.7%, 39.9%, 39.8% in 2019, 2020, and 2021 respectively then increased to 40.7% in 2022 as shown in figure 3.

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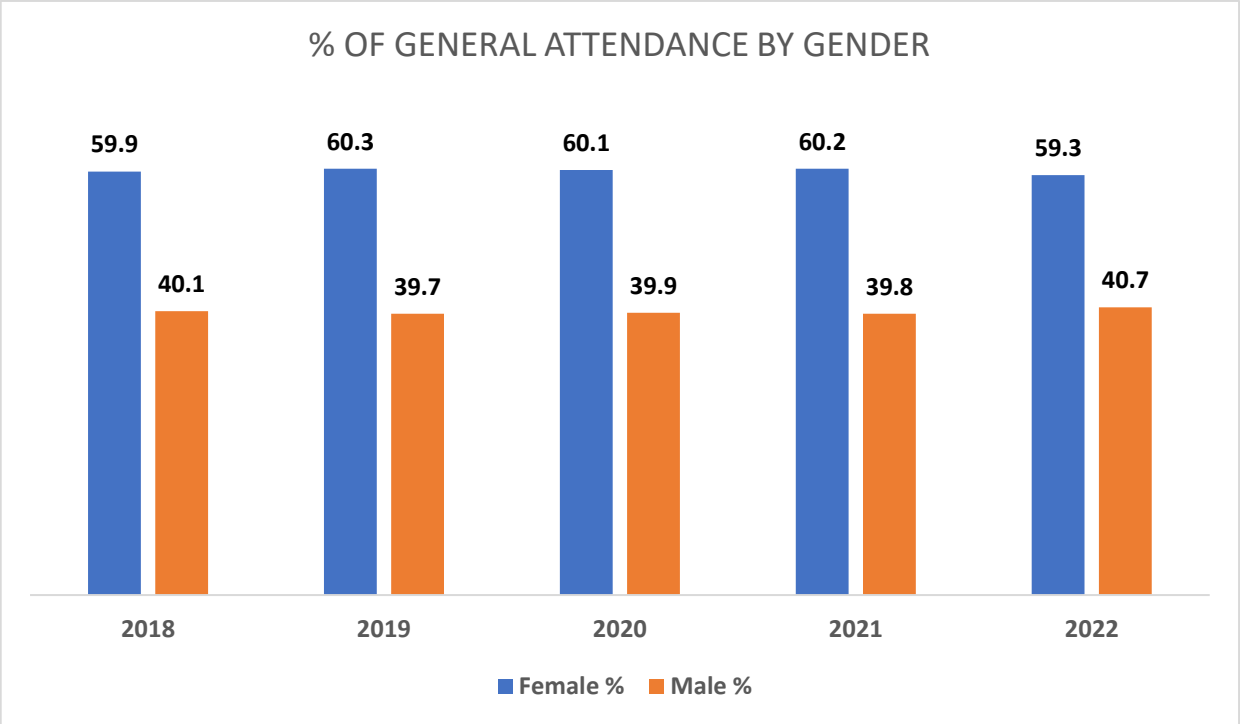

Figure 3: General Patient Attendance by Gender from 1st January 2018 – 31st December 2022

The highest hospital attendance by age was seen in children aged 29 days -11months with 2018 having (31.4%), 2019 (30.5%), 2020 (32.9%), 2021 (32.5%) and 2022 (28.8%) followed by those aged 20 years and above having 27.5% in 2018, 29.1% (2019), 30.7% (2020), 30.0% (2021) and 26.4% (2022) in figure 4. The lowest attendance was seen in ages 5 – 9 years with 4.8% in 2018, 5.1% (2019), 5.0% (2020), 4.7% (2021), 4.8% in 2022.

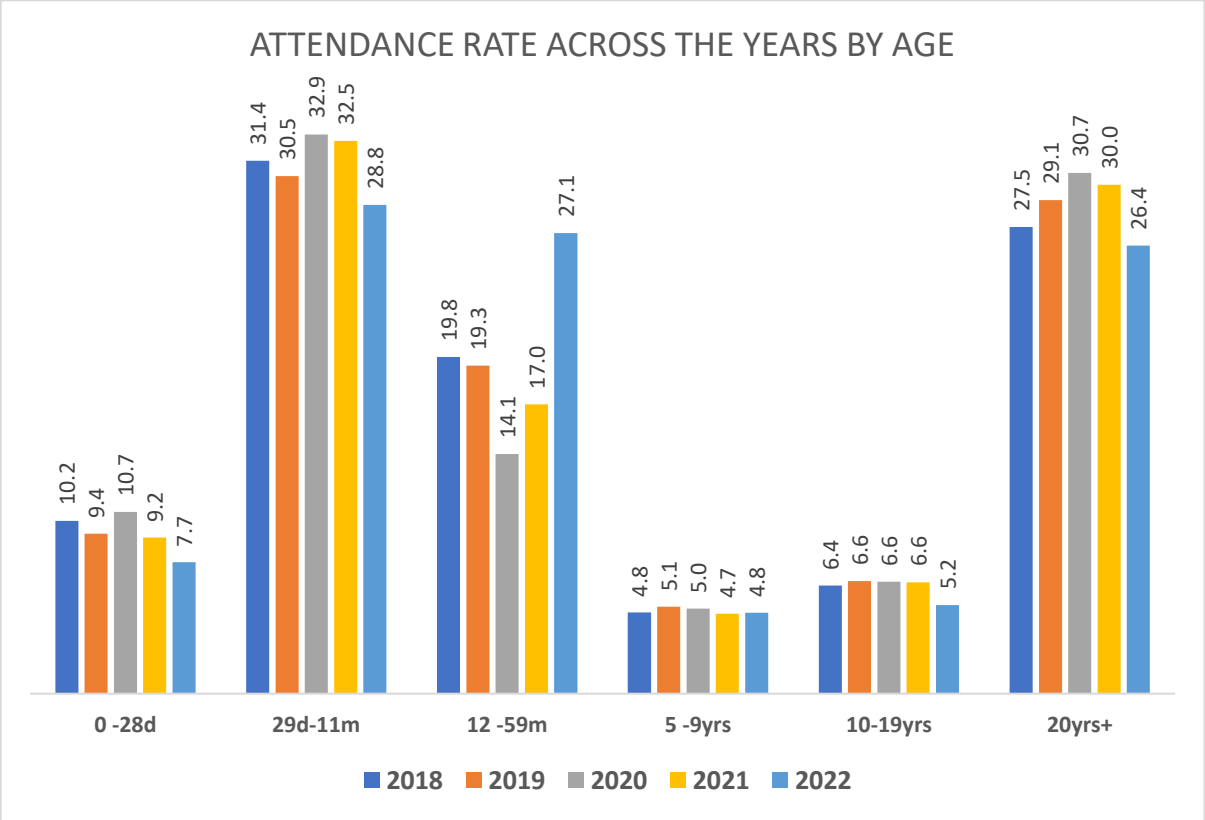

Figure 4: Out-Patient Department attendance Rate according to Age from 1st January 2018 – 31st December 2022

There was an increase in OPD attendance from 19.1% in 2018 to 22.4% in 2019 but reduced to 21.4% in 2020. There was a further increase to 23.8% in 2021 and then a decline to 19.3% in 2022 as seen in Figure 5.

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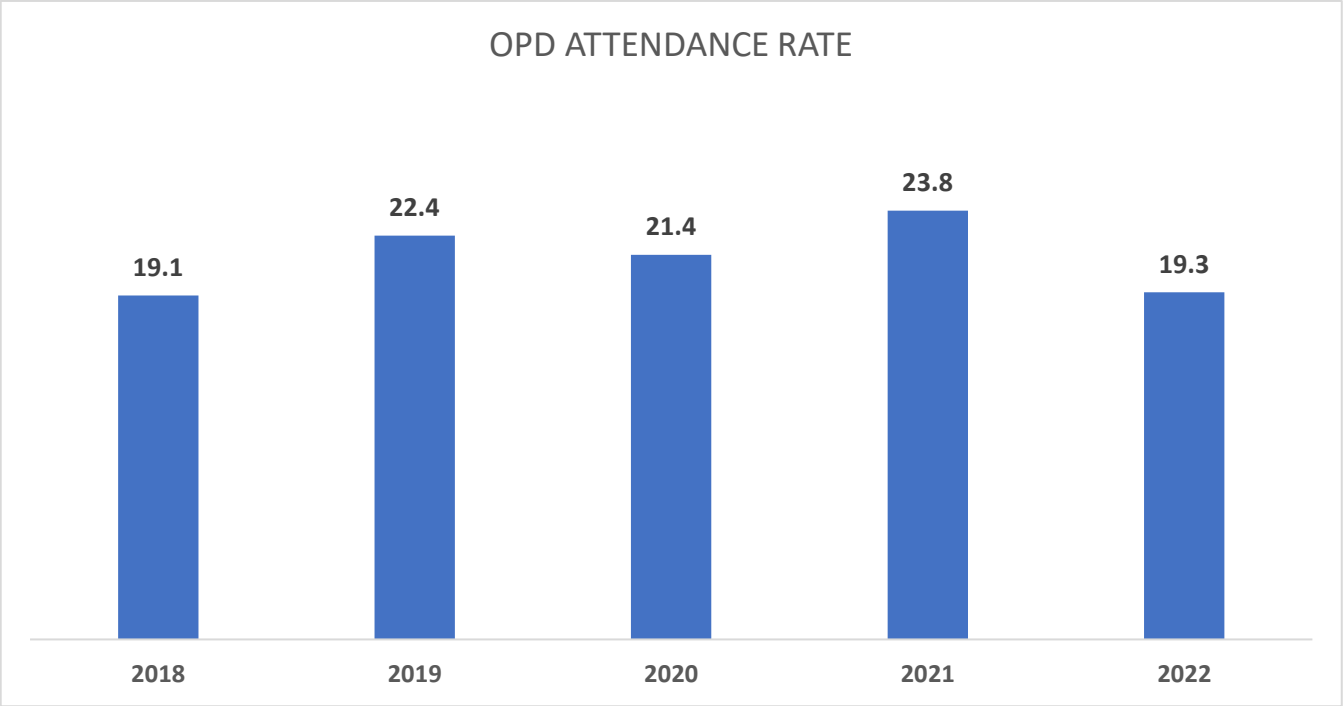

Figure 5: The Outpatient Attendance Rate from 1st January 2018 – 31st December 2022

DISCUSSION

A total of 12,392,423 patients attended the health facilities in Rivers State over the 5 years under review with 2,615,326 (21.1%) of them attending the outpatient clinic. Hospital attendance fell to 25.4% in 2020 and 26.4% in 2021 later increased to 33.5% in 2022. This decline in clinic attendance was similar to a study by Gitau et al on impact of measures to curb COVID-19 patient attendance at 10 hospitals in Machakos country, Kenya. Here a great decline in attendance was noted among larger hospitals that ran specialty clinics. It was observed by most hospital management staff that the closure of clinics was the main reason for reduced attendance while patients added that they also feared contracting COVID-19 at the hospital and the stigma they would face should they be quarantined[10].

There was an obviously higher hospital attendance by females at 59.9% in 2018 to 60.3% in 2019 as against the males of 39.7% in 2019 to 40.7% in 2022. We know that females use health care services more than males[11].

In this study the outpatient clinic attendance was relatively low, ranging from 19.1% in 2018, 21.4% in 2020 after which it increased to 23.8% in 2021 before reducing to 19.3% in 2021.

A study by Tygesen B.G et al on impact of the COVID-19 pandemic on the unplanned patient flow in a Danish healthcare region, focusing on emergency departments during the pre- COVID period (1st March 2019- 28th February 2020) and first year of the COVID-19 pandemic (1 March 2020–28 February 2021) in the Central Denmark Region revealed that the overall number of unplanned patient attendance was reduced from 257,657 to 248,706 during the COVID-19 period.[5]

There was also a significant reduction in hospital services utilization in about 59% of cases during the pandemic ($P < 0.0003$) in a study by Aigbonoga et al on the Impact of Covid-19 Pandemic on the Utilization and Delivery of Healthcare Services among Outpatients during the Early Phase of the Pandemic in Nigeria.[6] The recommendation is that efforts be made to improve hospitals and nationwide preparedness for future pandemics to prevent healthcare interference and delay.

Another study by Chhabra et al that analyzed the profile of outpatient department attendance of a tertiary care hospital during pre-and post-pandemic lockdown period in North, India showed a significant reduction in OPD attendance during the COVID-19 lockdown era with less female attendance recorded. This included all consecutive patients presenting to OPD from August 1, 2019 to November 23, 2020.[7]

LIMITATION

In view of the fact that this was a review of data already present in the state hospitals, it did take into consideration the sociodemographic characteristics of the patients that visited the facility during this period.

CONCLUSION

Despite the necessity of outpatient care during the COVID -19 era, various individual, facility, and policy-level factors affected the utilization of services during the pandemic. There is a need to augment general outpatient services in the Rivers State by removing barriers to access. The public health response should strengthen collaborative efforts with primary-level healthcare to increase service provision, especially to more vulnerable population.

Ethical Consideration

Ethical Approval was obtained from the Rivers State Research and Ethics Committee RSHMB/RSHREC/2024/120

RECOMMENDATION

The study highlights the need for continued efforts to provide other means of patient- doctor consultations like telemedicine and patient appointment scheduling to reduce overcrowding of the clinics.

The risk of COVID-19 transmission has been greatly reduced, thanks to the implementation of precautions by numerous healthcare facilities, which ensure that citizens can still receive the care they require. These actions include widespread health education on the preventive or promotion measures and information dissemination.

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