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IMPACT OF THE COVID-19 PANDEMIC ON ROUTINE IMMUNISATION IN SOWETO AND THEMBELIHLE IN GAUTENG PROVINCE, SOUTH AFRICA

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Abstract

Introduction

The Covid-19 pandemic had devastating direct and indirect effects across the world, including in South Africa. The pandemic placed immense pressure on the already burdened health care system coupled with the lockdown measures, which may have affected the timing of routine childhood immunisation services. This study aimed at assessing the impact of the COVID-19 pandemic on the timeliness of routine immunisation in South Africa.

Methods

We used data from the Soweto and Thembelihle HDSS South Africa collected between 2017 and 2021 to conduct a retrospective cohort analysis. Information on vaccination status was recorded from vaccination cards of children aged 0-23 months. We used Chi-square or Fisher's exact tests to compare the vaccination timeliness (early, timely, late), missed doses and reasons for missed doses between the pre-pandemic and pandemic periods of child routine vaccinations. We specifically included Bacillus Calmette-Guérin (BCG), 3 doses of the hexavalent vaccine (DTaP- HepB, IPV, Hib) (Hexaxim, hexa1, hexa3 and hexa4), 1 dose of the Pneumococcal Conjugate Vaccine (PCV3) and 1 dose of the Measles Conjugate Vaccine (MCV2)

Results

Of the 2888 eligible children, 1,427 children were born in the pre-pandemic period and 1461 in the pandemic period. The proportions of receiving BCG vaccine timely versus late during the pre-pandemic period compared to the pandemic period. were similar ($p=0.783$). However, the timeliness for receiving PCV3, hexa3, hexa4 and MCV2 vaccines were significantly different. between the pandemic and pre-pandemic periods at P-values of $p<0.001$, $p<0.001$, $p=0.013$ and $p<0.001$ respectively. Generally, early vaccines were received more in the pre-pandemic time than the pandemic time while more delayed in

the pandemic than the pre-pandemic time. Finally, PCV3, hexa4 and MCV2 had better timeliness during the pandemic except for hexa3 which had better timeliness during the pre-pandemic period.

The proportions of missed doses between the two times were similar in all vaccines except MCV1 at a p value of 0.007. The primary caregiver was the main reason for missing rota2, PCV2 and PCV3 doses before the pandemic, while child illness for hexa3, rota2 and PCV2 during the pandemic

Conclusion

The COVID-19 pandemic was associated with delayed vaccination on some vaccines received later in childhood with child illness as the most common reason for missing vaccines during the pandemic, significantly manifesting its direct and indirect effects on routine immunisation and the health system. Policymakers and health system planners should ensure that catch-up programs are organised to avert vaccine-preventable diseases (VPDs).