IMPACT OF COVID-19 ON FERTILITY IN SUB-SAHARAN AFRICA

What do we know and what could we expect?

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COVID-19 pandemic has claimed millions of lives, impacted people's livelihoods, their health and changed population life styles: 153 million cases & >3 millions deaths (Worldwide)

COVID-19 measures were associated with baby boom, particularly in sub-Saharan Africa:
- Limited access to essential health services (Hussein, 2020)
- Expected 60 million fewer women using modern contraception (Dasgupta, et al., 2020)
- Expected 15 million additional unintended pregnancies (Riley et al., 2020)

However, evidence from the 1918 Influenza Pandemic in Sweden and analysis of the impact of HIV on fertility show mixed findings
- Influenza and fertility reduction in the long terms (Bobeger-Fazlić et al., 2017)
- Low fertility of HIV-infected Women (Zaba & Gregson, 1998)

Further,
- COVID-19 may negatively affect sperm quality and reduce fertility in men
- The distribution of COVID-19 by age, education, place of residence, living standard may affect fertility
RESEARCH MAJOR QUESTIONS

• What are the potential impacts of COVID-19 on fertility in sub-Saharan Africa?
  • How COVID-19 could influence fertility in sub-Saharan Africa?
  • How could we measure the potential impacts of COVID-19 on fertility in sub-Saharan Africa?
  • What do we know?
HOW COULD COVID-19 IMPACT FERTILITY?

Biological perspective
- Reduction of sexual activity
- Negative effect on the possibility to conceive
- Early termination of pregnancy
- Poor quality of male sperms and sex differential mortality

Selectivity
- Mortality and morbidity by sex, age, marital status, education, living standard and place of the residence

Behavioral effects
- Psychological: fear of the future? Replacement reflex?
- Economic: fear of the future?

Availability and Utilization of health services
- Family planning, antenatal care, etc.
COVID-19 & FERTILITY: CONCEPTUAL FRAMEWORK

COVID-19 OUTBREAK

LOCKDOWN

Access to Family planning Service

Conflict / divorce

Other fertility factors

Sexual activity

COVID-19 SELECTIVITY

Socio-Economic hardship

Distribution by selected characteristics

Fecundity

FERTILITY CHANGE

Abortion service

Fertility intention
### 1. TRENDS IN NUMBER OF BIRTHS: Before - after

<table>
<thead>
<tr>
<th>NUMBER OF BIRTHS PER MONTH</th>
<th>CONCEPTION PERIOD</th>
<th>DATA SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before December 2020</td>
<td>Before lockdown:</td>
<td>Birth registration</td>
</tr>
<tr>
<td></td>
<td>&lt; March 2020</td>
<td>Health and Demographic Surveillance Systems (HDSS)</td>
</tr>
<tr>
<td>December 2020-February 2021</td>
<td>During lockdown:</td>
<td>Surveys</td>
</tr>
<tr>
<td></td>
<td>March –May 2020</td>
<td></td>
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<tr>
<td>March – August 2021</td>
<td>Post 1st lockdown:</td>
<td></td>
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<tr>
<td></td>
<td>June –November 2020</td>
<td></td>
</tr>
<tr>
<td>September -December 2021</td>
<td>2nd Crisis (Before vaccine):</td>
<td>Censuses</td>
</tr>
<tr>
<td></td>
<td>December 2020-March 2021</td>
<td></td>
</tr>
<tr>
<td>From January 2022</td>
<td>Post vaccine period</td>
<td></td>
</tr>
<tr>
<td></td>
<td>From April 2021</td>
<td></td>
</tr>
</tbody>
</table>
### VARIABLES
- Use of modern contraception
- Contraception stock out per month
- Number of abortions per month!
- Infant and under-five mortality
- Number of unions per month

### STRATEGY OF ANALYSIS

**Before lockdown:**
- Before March 2020

**During lockdown:**
- March – May 2020

**Post 1st lockdown:**
- June – November 2020

**2nd Crisis (Before vaccine):**
- December 2020 - March 2021

**Post vaccine period:**
- From April 2021

### DATA SOURCES
- Health Information Systems
- Health and Demographic Surveillance Systems (HDSS)
- Vital Registration Systems
- Surveys
- Censuses
### 3. BEFORE – AFTER: SOCIO-ECONOMIC DETERMINANTS, COVID-19 SELECTIVITY AND PLAUSIBILITY HYPOTHESIS

#### COVID-19 MORBIDITY & MORTALITY
- Women (15-49): distribution by age
- Men (20-64): distribution by age
- Place of residence (Urban, peri-urban/ slums rural)
- Marital status (In union versus not in union)

#### STRATEGY OF ANALYSIS
- Modelling and Demographic projection
  - Before COVID-19
  - After COVID-19

#### DATA SOURCES
- Health Information Systems
- Health and Demographic Surveillance Systems (HDSS)
- Vital Registration Systems
- Surveys
IMPACT OF COVID-19 ON FERTILITY
SELECTIVITY: Variation by country

South Africa:
Number of cases: 1,576,320
Total Fertility Rate: 2.4 children/ woman

Democratic Republic of Congo
Number of Cases: 29,611
Total Fertility Rate: 6.0 children per woman

- Men are most affected than women in the DR Congo
- 22% of COVID-19 patients in the DR Congo where female aged 15-49;
- Pandemic for urban dwellers and wealthier people? 80% cases in Kinshasa & wealthier municipalities
- Potential effect of HIV in South Africa (HIV and Gender)
Large majority of Sub-Saharan African (SSA) population were able to access health facilities despite the COVID-19 pandemic
COVID-19 and Reproductive health services

Number of new modern contraceptive methods users January 2020 to March 2021 in DRC

Source: DRC health information systems

Proportion of referred women who access a contraceptive method within 14 days in Mozambique

Source: Leight, et al. (2021)
Changes to contraceptive use status between pre-COVID-19 and during COVID-19 in Kenya and Burkina Faso

Source: Karp C, et al. (2021)
COVID-19 and Reproductive health behavior in DRC

Number of births March 2020 to March 2021 in DRC

Source: DRC health information systems

Stock out in contraception over the last six months by province in DRC

<table>
<thead>
<tr>
<th>Province</th>
<th>Frequency of stock out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haut Katanga</td>
<td>4</td>
</tr>
<tr>
<td>Haut Lomami</td>
<td>4</td>
</tr>
<tr>
<td>Kasai Oriental</td>
<td>0</td>
</tr>
<tr>
<td>Kasi Central</td>
<td>3</td>
</tr>
<tr>
<td>Kinshasa</td>
<td>0</td>
</tr>
<tr>
<td>Kongo Central</td>
<td>3</td>
</tr>
<tr>
<td>Lomami</td>
<td>0</td>
</tr>
<tr>
<td>Lualaba</td>
<td>0</td>
</tr>
<tr>
<td>Nord Kivu</td>
<td>0</td>
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<tr>
<td>Sankuru</td>
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<tr>
<td>Sankuru</td>
<td>0</td>
</tr>
<tr>
<td>Sud Kivu</td>
<td>0</td>
</tr>
<tr>
<td>Tanganyika</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
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CONCLUSION

• Relationship between COVID-19 pandemic and fertility is complex
  • Theories and factors associated are not mutually exclusive
  • Impact might depend on countries, place of residence and individual characteristics
• Three hypotheses:
  • Increase in Fertility: Lockdown – sexual activity-low contraceptive use; Increase in child marriage/adolescent fertility, Covid-19 and school drop-out, etc.
  • No change in fertility: selectivity of COVID-19 (urban residence – most educated – less poor population)
  • Decrease: Lockdown - Economic hardship – fear of the future and intention to avoid additional child / Conflict and divorce, population structure
• Current data do not show significant changes in fertility and/or proximate indicators
• Data challenges:
  • Covid-19 has affected data collection mechanisms in SSA (surveys/censuses were postponed, other methods were used which can affect data quality, etc.)
  • Need for reliable data and use of advanced statistical methods.
References


