

BRIEF REPORT

# Possible Impact of COVID-19 on Children in Africa, Reflections from Italy and Burkina Faso

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## ABSTRACT

Africa is the World Health Organization-region least affected by the Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) pandemic. Here, we compare the situation in severely hit Italy with that in less hit Burkina Faso, focussing on the differences in epidemiological, geographical, demographical, cultural and medical conditions to highlight how a full-blown war on the pandemic can impact on other, equally important aspects of global child health.

**KEYWORDS:** COVID-19, Africa, epidemiology, global child health

With less than 100 000 of the over 5 800 000 confirmed infections with SARS-CoV-2 at the 1<sup>st</sup> of June 2020, Africa is the World Health Organization-region least affected by the pandemic and related deaths (<2500 of the more than 360 000 fatalities counted globally) [1].

This is confirmed by a closer look on the spread in the two countries we work in: in Burkina Faso during the 2 months between 30 March 2020 (the first day the country case count reached 200 infections) and 30 May 2020, infections increased from 207 to 852 with 53 fatalities, while in Italy—again in the first 2 months after infections exceeded 200—the increase was exponential: from 233 to over 200 000, with almost 30 000 deaths [2].

Certainly, there are important differences in the number of tests performed, but excess mortality of thousands cannot be ignored in any country. Factors

like population density (Burkina Faso 72 people per km<sup>2</sup>, Italy 205) contribute in explaining the difference as does the shape of the population pyramid which shows 55.6% of the people in Burkina Faso being children and adolescents, while in Italy only 17.9% of the population are below adult age [3]. In addition, overweight prevalence among adults in Burkina Faso is less than half that in Italy (23.2% vs. 58.5%) and less than 1/5th among children 5–9 years (7.8% vs. 42%) [4]. Furthermore, the role of climate in the spread of the virus is not yet fully elucidated, but higher temperatures (average difference in spring +20°C) and a specific humidity may dry droplets faster and thus reduce this part of transmission [5]. Climate also influences living conditions, with Italians passing their time during winter and early spring indoors while life in Burkina Faso is mostly outdoors (or with open windows). There is

also less (though crowded) public transport as there are fewer commuting workers and less events attracting large crowds from far away.

While we still ignore the exact reason, though a reduced expression of the ACE-2 receptor in the respiratory tract of children seems to play a major role, we note that children are less affected by the virus, both quantitatively (1.7% of all infections in Burkina Faso and 2.1% in Italy) and qualitatively, with most of the infections in children being a- or paucisymptomatic, and last but not least mortality: as of June 1<sup>st</sup>, only four children died in Italy due to SARS-CoV-2 infections, while no childhood death has been registered in Burkina Faso [6].

However, as children show less symptoms like sneezing and coughing, they may spread less virus. Diarrhoea and abdominal pain are frequent among children with SARS-CoV-2 infection, mimicking an uncomplicated and all too frequent gastroenteritis of other infectious origin. This involvement of the gastro-enteric tract is of concern, as the proportion of children suffering from wasting and stunting in Africa remains staggering high and every episode of diarrhoea increases the risk of malnutrition, which is indeed the single most important factor for the still high under-5-mortality [7]. The impact of the pandemic on malnutrition will be important, not just because families lack the means to buy quality food but also because national and international food transport has been reduced and the fight on coronavirus disease 2019 (COVID-19) absorbs an important share of health system capacities, from finances to human resources, at the expense of basic services such as screening for malnutrition and its management.

If malnutrition, by all means an immunodeficiency similar to HIV, may reduce the paediatric inflammatory multisystem syndrome temporally associated with SARS-CoV-2 often resembling an atypical Kawasaki syndrome [8], remains to be seen. The possibility of a specific range of pre-existing coronavirus-antibodies causing antibody-dependent enhancement (similar to severe dengue [9]) has not been ruled out. On the other hand, a protective role for cross-reacting antibodies against tropical diseases has never been investigated.

Most of the promising non-pharmaceutical measures recommended to contain the spread of the virus

are simply not feasible, particularly in children: physical distancing, mask-wearing (at 45+°C!) and frequent hand washing is impossible where, starting with water, everything is a scarce resource.

In both settings fear of the caregiver that he and/or the child brought for consultation may catch an infection with SARS-CoV-2 during contact with the health system, is an additional concern. In Brescia, access to the Paediatric Emergency Room dropped 77% in March, 73% in April and 64% in May as compared to the previous year! In Ouagadougou, the reduction was less pronounced and shorter: 2.5% in March, 68% in April and 38% in May.

Prescription of expensive, unnecessary (at best) or even dangerous drugs poses an additional threat, as medicines like chloroquine and lopinavir/ritonavir or azithromycin are already in short supply all over the world for those who need them for the correct indication—and their indiscriminate use may lead to increased resistance in usually susceptible germs.

Initial experience from the multi-ethnic societies in America and the UK shows that the higher risk for severe disease and death observed in the non-Caucasian population is based more on socio-economic living conditions than on ethnicity [10]. There are no reliable data on migrant-children in the EU, but in Brescia children from sub-Saharan Africa are not overrepresented among those hospitalized with SARS-CoV-2 infection.

Unfortunately, experience with Ebola reveals how even a successful full-scale fight against an epidemic has a number of deadly side-effects on children, food insecurity to missed prenatal care and from vaccinations to the undertreatment of acute (diarrhoea, pneumonia, malaria and dengue) and chronic pathologies (HIV, TB and malnutrition), thus multiplying the victims that the epidemic reaps directly. In Italy, by the end of May, more children died for not presenting to an Emergency room for fear of SARS-CoV-2, than from confirmed COVID-19, the same is probably true for Burkina Faso! To this list, many more problems need to be added, from exploitation and violence, to abuse and last but not least formal and informal education.

The fight of the new pandemic must not stop our ongoing war on child mortality. The important

results already achieved with the Millennium Developmental Goals and those now envisaged by the Sustainable Developmental Goals are at risk if we lose our grip on paediatric primary health care!

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