REVIEW ARTICLE

African Children Vulnerabilities in COVID-19 Era: A Review

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Abstract

The pandemic of COVID-19 has spread from China to the whole world. Here we address the vulnerability of African children in the context of this health crisis. Based on medical, socio-economic and anthropological studies, we present a thematic review that examines the issue at three levels. Firstly, we address the question of the effect of the virus on children in regard to strategies implemented to limit its spread and the capacity of medical devices in Africa. Second, we address the issue of the additional disruptions that the virus could generate by infecting the parents or guardians of children who often find themselves subject to the disquietudes of an informal economy. Finally, we discuss the long-term effects of the crisis on children about food security issues, particularly in relation to overweight and obesity. Based on studies that have documented the long-term overweight risks that can occur due to school cessation as a result of lockdown measures, we provide strategies to address this emerging public health problem in Africa. We conclude the study by suggesting that all these forms of vulnerabilities remain proactive areas of work to better prepare Africa for future pandemics. *(Afr J Reprod Health 2020 (Special Edition); 24[2]: 154-171).*

Keywords: COVID-19; African children; Extended family; OVC; Vulnerabilities

Résumé

La pandémie de COVID-19 s'est étendue de la Chine au monde. Nous abordons ici la vulnérabilité des enfants africains dans le contexte de cette crise sanitaire. Partant d'études médicales, socio-économiques et anthropologiques, nous présentons une revue thématique qui examine la question à trois niveaux. D'abord, nous traitons de l'effet du virus sur les enfants au regard des stratégies visant la limitation de sa propagation et des dispositifs médicaux en Afrique. Ensuite, nous traitons des perturbations supplémentaires que le virus pourrait générer en infectant les parents ou tuteurs des enfants, eux-mêmes, soumis aux perturbations d'une économie informelle. Enfin, nous discutons des effets à long terme de la crise sur les enfants en ce qui concerne les questions de sécurité alimentaire, notamment en matière de surpoids et d'obésité. Sur la base d'études qui ont documenté les risques de surpoids à long terme, pouvant survenir en raison de l'arrêt de la scolarité suite aux mesures de quarantaines, nous proposons des stratégies pour faire face à ce problème de santé publique émergent en Afrique. Nous concluons l'étude en suggérant que toutes ces formes de vulnérabilité restent des domaines de travail proactifs en vue de mieux préparer l'Afrique aux futures pandémies. *(Afr J Reprod Health 2020 (Special Edition); 24[2]: 154-171).*

Mots-clés: COVID-19 ; Enfants africains ; Famille élargie ; OVC ; Vulnérabilités

Introduction

Coronavirus pandemic (COVID-19) has provided an opportunity, to underscore the importance of international commitment in implementing basic infection prevention and control measures for future epidemics[1–3]. The virus appeared in December 2019 in Wuhan, Hubei Province, China. COVID-19 spread rapidly to other provinces in China and then internationally. On January 30, 2020, the World Health Organization (WHO) declared Covid-19 a public health emergency of international concern. By April 7, 1,279,722 cases had been confirmed and 72,616 (5.7%) patients had died in 211 countries[4]. It illustrated the importance of ensuring minimum standards that should be in place at national and health facility levels to provide minimum safety to patients, health care workers and visitors. These minimum requirements are subject to a WHO larger Infection Prevention and Control (IPC) program aimed at ensuring the quality of care, health

security and antimicrobial resistance (AMR). They are starting points to constitute additional and crucial elements in a stepwise manner based on local conditions[5]. Taking to account the peculiarities of the local conditions entails the IPC requirements to sound less prescriptive and being rather recommendations for gradually progressing on the demanding journey, for some countries, until the full achievement of all requirements of the IPC core components[5–7]. With regard to low- and middle-income countries (LMICs), the situation of Africa with respect to strategies to face the pandemic is interesting to discuss at many points. However, considering that the measures deployed internationally in the fight against the pandemic insist understandably on increased vigilance with regard to elderly people[8–10], it seems crucial to us to consider the additional question of the implications of this health crisis on children who constitute a larger proportion of Africa's population. After providing a brief overview of the measures taken in Africa in the early stages of the pandemic and the issues that these measures raise, we conducted a thematic review of the effects of the pandemic on childcare around three points. In the context of COVID-19, we successively evoked the possible difficulties of hospital care, some possible alterations in family life, and the dangers that may weigh on the lives of children in the longer term.

Combining prudence and boldness against an unknown scourge

In the spread of the COVID-19 virus transmission between countries and the subsequent recording of large numbers of deaths, Africa is lagging in providing data on morbidity and mortality similar to those then recorded in the first countries affected by the disease. According to statistics, only low-level endemic transmissions have been observed in parts of Africa[11,12]. The spread of the disease across the continent appears, firstly, to be restrained by several opportune factors leading to a relative optimism. It has been posited that the Bacillus Calmette-Guérin (BCG) immunization coverage appears to have had a mitigating effect on the level of pandemic harm[13], while climate and the relative youth of the population are also likely to have played a contribution. However, these statements based on observations with no evidence, raise the issue of a need for environmental and seroepidemiological studies to address transmissions and viability of coronaviruses (SARS-1, MERS, and SARS-2 the new COVID-19) in Africa[11,14]. Indeed, because of the studies still in progress on the virus, and the few known characteristics of its full impact, these observations cannot be a cause for celebration for the continent[15]. Rather, they may indicate a complexity and diversity of challenges for African countries, requiring more integrative and longitudinal data to understand what will happen concerning one of the most traumatic pandemics of contemporary times. Thus, for example, it is likely that the limitations of population testing, partly explains the low numbers of confirmed cases of COVID-19[13,16]. Many suggestions were made to African stakeholders on the crucial use of time and the possibility of looking at external examples to see what was working in terms of reducing the spread of the virus to minimize mortality rates. This does not mean that countries such as South Korea and Singapore, which were able to cope well at the beginning of the pandemic, had the same characteristics in terms of socio-cultural contexts and resources as low-and middle-income African countries, but that there are viable solutions that could be found if the different African actors try to use adaptable strategies to their environments. Educational awareness through social media campaigns, leadership by community leaders, and increased testing are viable options using the plausible insights gained in combating the Ebola outbreak in the Democratic Republic of Congo[16–18]. On the other hand, some authors have acknowledged the proactive and cautious approach taken by governments in instituting widespread and swift lockdown, with additional measures such as daily curfews, and prohibition of all forms of public transportation[8].

Silent victims of a strained public health services

These measures may be painful for a long period in the context of Africa; however, it epitomizes the

flaws in health and economic systems especially when the safety of children and mothers is considered[18]. In Uganda, women in labour and their newborns were endangered by the curfew measures declared from 19:00 hours until 06.30 hours for 14 days, hindering timely access to health services. In Liberia, Guinea and Sierra Leone, women were unable to access to health services with worrying consequences for increases in infant and maternal mortality rates[17]. The pandemic also impacts the ability for a fragile health system, to provide timely care to many children suffering from various diseases with symptoms similar to those of COVID-19. The health care resources available in medical centres, as well as the level of the Intensive Care Unit (ICU) in hospitals, and the individual expertise of intensive care physicians in managing complicated patients have also been reported to be crucial factors in determining the rates of mortality[19]. But on the other hand, several studies in sub-Saharan countries pointed out that data on critical care resources are not available[6,20,21], which is related to several reasons including the paucity of qualified intensive care providers and researchers; the low level of funding ;and limited academic mentorship and infrastructure to conduct research[6,22].

One way to estimate the capacity of a country's ICUs at first glance, although more in-depth surveys may be needed to capture the intricacies of ICU's complex skills, is to identify the number of ICU beds available for a certain number of people, most often 100,000 persons. The method is not perfect and can lead to mis-estimates[23], but it does provide some insights into the gaps in efficiency between the health systems of countries with fewer medical resources and those of more developed countries[24]. Reporting such an indicator for some African countries in comparison to those of high income countries lead some authors to conclude that critical care deficits remain in many low income countries[25]. Touray and colleagues[6], provided these indicators in their study of ICU capacity in the Gambia. Uganda, for example, has about 0.1 ICU beds/100,000 and Zambia about 0.6 ICU beds/100,000, indicating that these ratios are significantly lower than those of industrialized countries such as South Africa which has 8.9 ICUs/100,000, and Sweden with 5/100,000, Germany with 29/100,000, and the United States with 33 ICUs/100,000[6,26]. In the same study, the Gambia showed a ratio of 0.4 ICU beds/100,000 populations. Although ICUs and the supply of ICU beds can be a financial burden on health care systems, it remains clear that fewer ICU beds means less availability of ICUs for care during disasters and pandemics[27].

The burden of health in Africa is complex due to a combination of factors including the variability of infection typologies, the trend of populations to seek alternative means of healing before seeking public or private health services, and the enormous difficulties of access to health facilities in remote and hard to reach communities[20,28]. Therefore, health facilities in Africa will be easily be overwhelmed in extraordinary times such as those posed by COVID-19. For health workers, due to the increase in the number of coronavirus patients and the time required to put on personal protective equipment, it will make it difficult to treat sick children quickly. Another challenging task is the potential to miss a disease condition under the guise of symptoms of another disease[9]. Additionally, as more is known about the virus and its damages, it appears that it may not be as harmless to younger people who contract it as is presently being proposed[3]. Earlier studies suggested that a smaller proportion of young people as compared to adults may be susceptible to the virus with only about 2% of cases described in patients being under age 20, with no deaths reported in the group aged 9 and younger[3,4]. An epidemiologic report described 731 confirmed COVID-19 cases in the pediatric population, of whom more than 90% of patients were characterized as asymptomatic, or with mild or moderate symptoms[29]. Thus far, only a few studies have reported occurrences of deaths among children affected by COVID-19[29–31]. However, unusual reports of pediatric patients being treated for what appeared to be cases of Kawasaki disease following COVID-19 infections were noted. Other papers have since further refined the clinical features of the disease. The U.S. Centers for Disease Control and Prevention (CDC) and WHO have published their definitions of the disease, which they have named "Multisystemic

Inflammatory Syndrome in Children" (MIS-C)[32,33]. MIS-C is, like Kawasaki disease, a syndrome with various clinical manifestations and an absence of pathognomonic findings or diagnostic tests. However, patients with MIS-C are older and have more intense inflammation and more significant myocardial damage than patients with Kawasaki disease[32,34,35]. Causal links to COVID-19 have not yet been thoroughly established, although most affected children have tested positive for the virus[36]. Recent studies[34,35] also suggest that, for a significant proportion of patients, MIS-C generally occurs in a strong temporal association with the effects of COVID-19 (at least 1 to 2 weeks after COVID-19 infection); thus supporting the hypothesis that MIS-C is a severe post-infection reaction of some children to COVID-19[36–38]. An important point in the African context is that when considering the clinical criteria for COVID-19 testing through respiratory symptoms, due to the constraints of test availability; pediatric patients with only fever symptoms or fever mainly with involvement of other organ systems such as gastrointestinal symptoms could be missed[37].

If children are perceived as "silent carriers", this may generate irrational fears and avoidance towards the children or their parents. This may in turn, produce psychological impact on the children. Indeed, just like adults, children may perceive avoidance as rejection and react emotionally to it. There is much to learn from the emotionality of children in contexts as varied as those of rural Africa, each with socio-economic constraints. But psychological work conducted in a variety of cultural contexts tend to show that children who perceive themselves as rejected are more likely to exhibit behavioral problems[39,40]. A more recent concept, more researched in rich countries but much more difficult to assess in African contexts, concerns the notion of neglect. To say that neglected children issues will be difficult to assess in African contexts is not to pretend that the reality pointed out by the concept does not exist in African contexts. On the contrary, the socio-economic upheaval that the pandemic will accentuate is likely to create the conditions for the emergence of complex cases of child neglect. Child neglect has been defined in developed countries[41] to highlight this particular form of child maltreatment, which is not as intense, blatant and obvious as abuse but is more diffuse, insidious and the most common form of child maltreatment. To illustrate the fact that cases of neglect are not taken as seriously as they should be, and far less seriously than cases of abuse, Dubowitz posits as follows:

> *«An infant's poor growth due to inadequate food may not be as dramatic as a broken bone or a sexually transmitted disease. The term "abuse" connotes a ring of urgency in a way "neglect" does not»*[42].

In short, child neglect is a sensitive expression of child maltreatment that is often either difficult to spot or measure. When it comes to studying it, it sometimes presents itself as a taboo. It may be an uncomfortable subject to mention when for example, in interpersonal relationships, it would be indelicate to point out to a mother that her child is lightly or heavily clothed for the weather, or is negligently dressed[42–45]. Thus, to begin, as we have done here, by highlighting the particular typology of child maltreatment that corresponds to neglect is to emphasize that the definition, and particularly the operational definition of child neglect, can make the underlying construction complex to substantialize in the developed societies in which the concept was formulated. This is because the concept; namely the operational concept, may have various definitions, several dimensions and result in different decision-making; pragmatically, a judge, doctor or teacher will not be interested in the same way in establishing whether or not child neglect has occurred[41,46].

Child neglect and its assessment

An integrative and comprehensive theoretical framework is necessary to understand the complex, collective and social size of child maltreatment issues. The ecological theory of human development, considering the multiple and integrative factors contributing to human development, was a seminal approach to broaden all prior conceptions related to the issue[47–49]. It has opened up a field of conceptualization which has made it possible to consider child maltreatment as

an expression of a greater social evil than that previously described by the medical model focusing primarily on the deviant nature of the parent-child relationship[49]. Therefore, it is not only deviant parents, "types of people" or juvenile delinquency that are involved, society as a whole share the responsibility for child protection. In other words, the ecological theory will highlight the fact that, in addition to personal and interpersonal factors, the interaction between children and parents will also be influenced by community and societal factors such as the availability of child care, constraints due to poverty or circumstantial difficulties.

A key point in differentiating child neglect from other forms of maltreatment is that explained by Young (see Rose and Meezan)[50]. Young since 1964 has proposed to distinguish between occurrences of neglect involving failure or omission of mothers to provide care for their children without this being intentional and abuse act. Following this initial work, other contributions from perspectives much more inspired by ecological theory, assert the plurality of ecological holders of the omissions that characterize child neglect[43,51,52]. Abuse, on the other hand, refers not to omissions but to acts that are committed and potentially harmful to children. Once these distinctions have been made, it is important to ensure that no hierarchy is established between children who suffer from various forms of ill-treatment. While summarizing points of a conceptual nature on child well-being that has been going on for decades, mostly in countries advanced on the issue, the above presentation has not distinguished between the conceptual and operational definition of child neglect. Again, it should be noted that this is a much-debated issue, tricky to present in a few lines, and which extends the conceptual question of how to define neglect, to the methodological question of how to measure or evaluate it.

Conceptual definitions of child neglect are based on an understanding of the nature of neglect. They may be broad and open enough to summarize main current notions while adaptable to new knowledge. This is consistent with what we have attempted to do here by outlining several theoretical features that clarify the evolutionary emergence of the concept. This evolution marked by a break with the psychopathological paradigm of deviance is inspired by the ecological theory of human development[49,53,54]. Operational definitions of child neglect have to do with how to measure the pattern, severity, and chronicity of neglect. Therefore, these types of definitions will focus on the perspectives from which the measurement of neglect is approached, for example, on the adequacy between the instruments involved in the materialization of the latent concept on the one hand, and the specific aspects of neglect addressed on the other. The concept is heterogeneous and substantiating omissions of care, in the case of neglect, is almost always the first step in ecological decision-making. One of the methodological points discussed in the design of measurement tools is whether a neglectful behavior by a caregiver (a parental omission for example), should be measured based on its influence on the children; for example, on the harm to the children or separately from this outcome.

An interesting contribution to these methodological issues by Straus and Kantor[55], is that neglectful behavior should be not only measured separately from harm experienced by the child but also separately from its causes and contexts. The reasons advanced by the authors for the methodological choice of separate measures of each of these variables involved in understanding child neglect is the particular nature of each of them and their unique contributions to the expressions of the various aspects of neglect. For example, neglectful behavior, per se, occurs more often than it may result in actual harm to the child. A child may be left unattended several times without apparent harm resulting, while in other cases a single occurrence of the neglectful behavior results in the child's death. This should therefore not lead to an underestimation of the importance of the neglectful behavior towards the child separately from its consequences. Indeed, the more neglectful behavior occurs, the greater the risk of subsequent harm. A quite similar pattern of reasoning illustrating the importance of measuring separately different aspects of neglect's variables is feasible regarding neglectful behavior and its motives or contexts[55]. The fact is that since a

variable such as incidence of neglectful behavior is not always equivalent to harmful consequences, nor always subsequent to the same material or cultural circumstances, it seems, from a methodological point of view, more instructive to measure these different aspects separately so as not to surmise about the complex and singular dynamics of their interactions.

That said, separate measures do not mean measures that cannot be dealt with in relation to each other. For example, omissions of care on the one hand and cultural circumstances on the other can be established separately before assessing the extent to which a given omission is or is not associated with a given cultural circumstance. This is precisely the process that has established the importance of cultural determinations in setting out what is or is not acceptable towards a child on the part of his or her parents and his or her community[46,55,56]. Finally, operational definitions of neglect are often more explicit about the plurality of dimensions of the concept of neglect as they characterize it. In this respect, the cultural or community dimension is very often mentioned. Straus and Kantor, for example, provided this definition, which deliberately insists on the neglectful behavior by a caregiver:

> *"Neglectful behavior is behavior by a caregiver that constitutes a failure to act in ways that are presumed by the culture of a society to be necessary to meet the developmental needs of a child and which are the responsibility of a caregiver to provide"*[55].

Another feature of operational definitions of child neglect is that the definitions may vary among those who have to use it in practice that is, for example, social workers, protective service investigators, police officers, and juvenile court judges. Noticing these variations in operational definitions of child neglect is functional to the extent to which a country can equip itself with institutional tools for child protection. But it also means that these tools must integrate several types of professional bodies: legal, medical, educational, etc., each with their ways (including collaborative or combining ways), of responding to challenges associated with the protection of children. Operational definitions of neglect may also vary between child-care professionals and the peoples of the lay community. Besides, it can vary between communities[46]. An operational definition of child neglect that is widely used by researchers and child welfare professionals, although neither unique nor perfect, is that of the U.S. Child Protective Service (CPS). According to Child Protective Services, child neglect is defined by law as:

> *"a significant omission in care by a parent or caregiver, which causes harm (according to harm standard), or creates an imminent risk of (according to the endangerment standard) serious physical or mental harm to a child under 18 years of age"*[57].

In this definition, neglects refer to various forms such as physical, medical, educational, and emotional neglect.

Physical neglect is referring to abandonment, lack of supervision, and failure to provide for a child's basic needs of nutrition, clothing, hygiene, and safety.

Medical neglect is defined as the failure to provide necessary medical or mental health treatment.

Educational neglect is defined as permitted chronic truancy, failure to enroll a child in mandatory schooling, and inattention to a child's special needs.

Emotional neglect is defined as refusals or delays in psychological care; inadequate attentions to a child's needs for affection, emotional support, attention, or competence; exposing the child to extreme domestic violence; and permitting a child's maladaptive behaviors.

We have presented in a synthetic manner, based on work already done on the issue, the various current aspects of the issue of child neglect, an insidious form of child abuse. Its study is complex and has so far only been undertaken in those countries that are economically able to equip themselves with fairly comprehensive research, legal, educational and child protection structures[41]. The tragedy of these issues is that the countries that are in a position to study them because of their socio-economic development, fairly quickly, are probably no longer those in which the problems linked to the issue will be most acute and worrying. At the same time, there is reason to

fear that new and more complex expressions of child neglect will emerge in countries with limited capacity to study and monitor it in a complex way. The context of the current COVID-19 pandemic will introduce further destabilization into rural and urban contexts that are already fragile from a health, economic and social point of view. Children who are immediately spared by the disease may, therefore, in many respects, be its collateral victims.

Collateral victims

Economic and employment vulnerabilities are currently inherent in various societies in Africa, with the informal economy being a structural factor in the organization of economic and social life[58]. It is important to note that in many African societies, regardless of the context created by the COVID-19 crisis, it is not uncommon for families to have a large but often complex structure. Extended families may be reminiscent of the traditional model of collective child-rearing with a community concern for child protection[59,60]. But the contemporary history of Africa is also one of the rapid changes in which modern conditions are as destabilizing as they are impulsive for innovative adjustments[61,62]. The African family, so to speak, can be complex even in its modern expression. It may bring together as many different figures as grandparents, biological parents or foster parents, "senior" or "junior" parents (more commonly aunts and uncles), brothers and sisters, half-siblings, cousins, foster child, adopted child and sometimes orphans. In line with westernization and urbanization trends, family size may be reduced to a modern cellular form or may be structured in a slightly larger size. But the spirit of solidarity and the sense of belonging to a larger family persist beyond the perceptible small size. This ensures that even in the case of evident cell families in urban areas, acceptance of a new member, relative, friend or visitor remains a living characteristic of families, even if this is more noticeable in rural than in urban areas. In this way, old family solidarity mechanisms can survive and be reactivated even beyond the remoteness or size of modern cell families in urban areas. The economy of the relations that the various members – mentioned above – potentially of the same family, may have with each other can be very diversified and codified, according to rules that are most often tacit but very clear to those concerned[61,63].

What holds this diversity of people together is naturally based on the biological ties that bind parents around the protection and education of their children. But beyond that, an economy of less immediate parental ties, very often simple friendly ties, can be mobilized through a variety of strategies, even though they are increasingly put to the test. The extended family determines this complex structure of African families, beyond immediate biological ties. This is what makes it so plastic and resilient, but it also underscores the modern fragility of community-based child protection systems in Africa[63]. In an interesting work addressing this issue of African systems of protection against the vulnerability of children and the most vulnerable members of the community, we note that "social" and "community" terminologies are used to characterize the collective functioning of this safety net inherited from traditional practices and values[63,64]. But it is also worth emphasizing that the two terms "social" and "community" cannot, in this case, be treated similarly, especially in view of the collective and solidary expression of protection for vulnerable children. In the case of Africa, making this distinction is important because the current community dimension of child protection is also a persistent failure of its modern social achievement. It is because it remains remarkably community-based that it is still socially fragile. Indeed, many authors see it as a solution adapted to contexts of social deprivation. But they also point out the limits, in time and the extent of the scourges, of its effectiveness.

Community-based safety nets for vulnerable children rely primarily on kinship and kinship networks, involving some reciprocal exchange through local groups. Although considered scalable, this capacity is rather weak in the usual institutional environment of rural areas in low-income countries. Therefore, when it is scalable, it sometimes does so at the cost of lowering the threshold for protecting children from abuse. This is the case when members of the extended family,

in a stressful environment, tend to use harsher and more aggressive strategies towards children[65]. In other conditions, there may be intrinsic violence committed by guardians or parents of children taking advantage of the fact that the child is an orphan or is not under the direct supervision of the biological parent who may have migrated for labour purposes. In many African communities, the notion of orphanhood is not necessarily linked to the death of the parents[63,66–69]. In Africa, it is not uncommon for some children to be in school and others not to be[70]. Children in family settings may be assigned to household chores or productive activities in informal and family income-generating units (restaurant, shop, various workshops)[71]. In this overall picture, events such as the Ebola and COVID-19 pandemics are putting a strain on households and, in any case, make children victims, whether or not they have themselves contracted the disease[17,70]. The weak institutional structuring in such an environment maintains as much of the perceptible solidarities in the mechanism of community security as it does not make it possible to establish a real level of social security. It should be possible to go beyond this in order to deal, in an inclusive manner, with the variety of forms of vulnerability encompassed by the concept of orphans in Africa[63,64], in the context of sudden health crises such as the pandemic[9,15].

- Orphans and vulnerable children (OVC): an institutional terminology

In the event that a child assisted by the grandparent is orphaned as a result of parental death, the loss of one of the caregivers due to the pandemic could result in the child's lifestyle being considerably altered. It may seem unwise to address the issue of the vulnerability of children to the COVID-19 pandemic in Africa by starting with the case of orphaned children. This could lead to excluding from the scope of our concerns all children whose situation has little to do with orphans' profile as usually defined. But in this regard, the profile of orphaned children in Africa has been seminal in re-examining the diversity and complexity of children's vulnerability. Much anthropological and social work examining the complexity of these profiles now uses the concept of "orphaned and vulnerable children" (OVC). Indeed, from an ecological perspective, researchers are calling for the investment of local conceptions of the identities of orphans[66]. These may differ from usual conceptions categorized as "maternal orphans", "paternal orphans" and "double orphans" and refer to various profiles of experiencing momentary or lasting abandonment or material deterioration. For example, and according to Chirwa[63]:

> *"Ethnographic data suggests that in Malawian culture the concept of orphanhood is much wider than defined in the official documents. It is a social and economic process that goes beyond the biological situation entailed in the demise of a parent or both parents. (…) the terms used to define an orphan and orphanhood include loss of parents; the rupture of social bonds; lack of family support; the process and situation of deprivation and want; and the lack of money or means of livelihood. Some of these are, indeed, the effects of orphanhood. However, the Malawian equivalents of orphanhood treat these as integral parts of the totality of the process of orphanhood"*[63].

In another context, when NGOs and policy programs supporting HIV/AIDS orphans prioritize taking into account children without surviving parents at the expense of children who are equally poor or even more impoverished, this kind of intervention may raise concerns such as this reported by Meintjes and Giese[64] from a school principal of Ingwavuma in northern KwaZulu (South Africa):

> *"For me, in Ingwavuma there is a problem because people are not working. There are no job opportunities. There are no factories. So, people are not working here . . . You find that even if the father is there, that the children are suffering. With the father and the mother there . . . Definitely I can't say that orphans, only the orphans, are needy. Sometimes you can find an orphan who is living better than a child who has parents"*[64].

In short, in impoverished contexts and where child-raising is embedded in kinship and other

networks, orphanhood (as defined internationally and therefore by parental death) is not necessarily considered a key indicator of children's vulnerability.

Finally, in some cases, this notion may even convey a sense of shame, so that a mother whose husband has died may feel insulted if her son or daughter is labelled an orphan:

> *«"Are my children orphans because their father has died?" asked an indignant mother, who found it offensive that her children could be regarded this way. Her opinion was bolstered by nurses at a local clinic in Gugulethu, a township in Cape Town. They argued that an orphan is a child who has nobody to care for them. They did not regard children in the care of their grandmothers, for example, as orphans»*[64].

Interestingly, and exactly the opposite, other authors interested in other contexts point out that in some parts of Africa with patriarchal norms, and where the status of women is very low, the loss of a woman's husband leads the community to consider her children as double orphans[72].

We have shown, based on a few extracts that are far from being exhaustive, the diversity of cases where the notion of orphan can be associated with varying degrees of vulnerability. It may be important to point out that in very poor contexts and where there is a collective tradition of parenting, being a biological orphan, does not necessarily present the typical profile of a vulnerable child. Many cases exist in South Africa, for example, where children flee the homes of their biological parents because their parents, for a variety of reasons, drastically fail to provide them with decent living conditions. These children, in these contexts, are those the locals consider to be orphans than children who are double orphans under the supervision of a grandmother. It may also be important to be aware of the local connotations of the orphan concept and its uses prior to supportive interventions for vulnerable children, usually led by international agencies or designed in urban settings. Taking into account local representations of orphans is a crucial requirement in implementing interventions that respond to the specific needs of communities. In this regard, the more inclusive terminology of "Orphans and Vulnerable Children" (OVC) used in studies of children vulnerabilities in low-income countries provides a less constraining concept[64,73].

- What the pandemic induces for Children

How COVID-19 could reach children in the most impoverished areas of Africa would be to further alter their entire living environment. In the settings described above, the various patterns of vulnerability, as well as the fragility of child protection systems, are sufficient to lead to the emergence of child abuse and neglect. The Director of Africa's Centre for Disease Control and Prevention (Africa CDC), John Nkengasong, highlighted the threat posed by the COVID-19 pandemic to Africa in the following terms:

> *"This disease is a serious threat to the social dynamics, economic growth, and security of Africa (...) If we do not detect and contain disease outbreaks early, we cannot achieve our developmental goals"*[2].

Building on our earlier developments and to encompass the variety of vulnerability profiles affecting children, in this section, we will primarily use OVC terminology to refer to children. This is not to assume that only orphaned and vulnerable children live in impoverished areas of Africa, but to make it clear that only this child's profile is the focus of our considerations in this section. Alternatively, we could simply use the term "children" for the sake of the fluidity of the discussion, which also refers to orphaned and vulnerable children. One of the most distressing effects the pandemic could have on OVCs is the loss of biological parents, grandparents or other guardians of family members. It should be remembered that one of the recent changes to the extended family as a safety net for vulnerable children is the increased use of grandparents. Indeed, grandparents have been called upon to take on more and longer-term child-rearing responsibilities to cope with the growing number of orphans or work-related migration of parents[62,65]. Thus, cases of OVCs in rural or urban areas under the guardianship of grandparents constitute a profile that is exposed to a sudden

deterioration in their living conditions depending on the degree to which the extended family has already been stretched and the extent to which the disease will hit the guardian. Besides, the formulation of OVC with the possibility of losing a biological parent, as expressed above, may be logically disturbing. Here we favor the broad sense of the concept as it is used in some African localities and according to which the orphan is not necessarily the child whose parent(s) have died. Nevertheless, concerning vulnerable children, it may be appropriate to distinguish between the experience of the child in situations of absence of a living but destitute parent and the experience of the child in cases of a deceased parent.

For what can be expected from extended family safety net mechanisms, the use of grandparents could be indicative of an ultimate step in the system's strategy. Beyond this level, without further intervention by the institution or another family acquaintance, the child is likely to leave the system[62]. In this case, these children may find themselves in a variety of stressful situations, they may become head of households with associated difficulties, or they may become street children or domestic workers. These experiences may be psychologically, socially and emotionally noxious as they subject them to a range of violence, abuse and neglect. In addition, studies have already shown, independently of the pandemic, that even in a situation where there is no deterioration in health, the treatment of OVCs by their grandparents is very often fraught with psychological consequences for the latter[61,74]. It also puts OVCs at increased risk of abuse and neglect, particularly in stressful conditions for grandparents, who are turn forced to assume full rather than auxiliary parental functions[61,65].

Radical measures that were inappropriate to the contexts taken at least in the early stages of the pandemic (quarantine, curfews, states of emergency, the establishment of security cordons, etc.) seemed painful to the less privileged classes, who were dependent on informal trade[58,75]. Cross-border trade areas were closed. Protests from the population pointed to the fact that the application of these measures condemned families and their children to starvation. In some respects, the WHO recommendations on social distancing measures and regular hand washing practices sound like cruel jokes in Africa; so much so, especially in the gloomy economic climate, was the need to ensure the daily bread before any health considerations[75,76]:

> *"I cannot afford to stay at home and not feed my children. I know it is risky to be out here, but if I don't come out to look for what to feed my family, we will die of hunger faster than being killed by the virus"*, answered a saleswoman to a media outlet in Abuja (Nigeria)[75].

In addition to the flaws in the health systems of most African countries that undermine their ability to respond effectively to the pandemic, this comment by a trader points to two major social perils that could affect the well-being of children in our context of interest. It is not possible for guardians to protect children through the long-term measures required to restrain the pandemic, but the logic guiding their behavior in the face of a new sanitarian risk is that they run the new health risk rather than risk seeing their children starve to death. Putting it in another way, it is as if the saleswoman uttered: "Well! I wouldn't be able to protect my children from this new disease, but you know what? I'd rather take the risk of passing on the new virus to my children by trying to feed them than watch them starve to death in quarantine". Above all, the commentary is instructive in the way it shows the gap in appreciation of the same peril, within a common humanity, to which populations may end up according to their socio-economic environments. Simplifying a little, one could say that on the one hand, the danger to humanity is a virus that is still unknown, but on the other hand, whatever the relevance of the message; it presents itself as being ineffective. It is rendered ineffective because, with regard to the supposedly human and common peril, there are communities for which, however dangerous the virus might be, it is not the virus but hunger that kills. This terrible message received from a woman trader in Nigeria is a warning to Africa and the whole world: "*if, faced with a health hazard, we cannot assess priorities in the same way; we are not from the same world and therefore cannot fight the battle the same way"*. But the sad truth here is that whatever the

socio-economic contexts that determine our different assessments of priorities, from a virus, and as long as it is more virulent, Chinese or Nigerian, it will attack the same humanity.

Rather than listing several cases where the disruptions induced by COVID-19 in various areas of interactions (professional, within households, from individuals to institutions, etc.) will affect the lives of OVCs, generating harmful climates for them, we have preferred, in the first instance, to describe the difficulties of grandparents in coping with the care of their grandchildren, for them and the grandchildren themselves. New institutional and social solutions must be found, rather than continuing to rely, especially in rural areas, on the age-old elasticity of traditional security networks with the extended family system on the front line. We heard a comment from an African food seller woman from Nigeria on her assessment of the problem of the virus in relation to the well-being of her children, and we stressed how her assessment of the danger in its context differs radically from that recommended by international health institutions. But more than simply differing from it, it is quite right and understandable in the socio-economic context from which she makes her comment: "*the so-called peril of humanity is not my priority when I think of my children!"* A gulf between two socio-economic environments that divides the same humanity facing a global health peril is the loophole that the COVID-19 pandemic must make us aware of while there is still time.

Now a few brief remarks to close this section, setting out points for discussion on the above-mentioned complexity of understanding and addressing neglect of children in relation to the specifics of contexts; Could it be thought that, in her context, the food seller woman discussed here behaves negligently towards her children in the sense of Straus and Kantor[55]? Beyond the behavior, is there child neglect here? Is it individual or parental? Social? Community? Institutional? ...This is a set of questions that it would be good to address on the opportunity of this crisis if, beyond the issue of abuse, we should also be concerned about the issue of child neglect in Africa.

Long term victims; COVID-19 pandemic and young's people diets

In this review, we have developed many questions about the immediate and indirect impacts that the COVID-19 pandemic could have on African children. The indirect impacts can be considered to be of two types. We have approached some of these impacts by considering them as collateral effects of the pandemic on children, i.e. affecting them by affecting some of their close and important relatives (grandparents or parents and other guardians as usual in extended family education systems), or by disrupting the course of essential practices that support the sustainable ecology of their environment (rural businesses, parents' professional climate, etc.). But another type of indirect impact of the pandemic on children's health may appear to have a very long-term effect. A few articles draw attention to the long-term collateral effects that the COVID-19 crisis could have on children's health via the lockdowns put in place to limit the spread of the virus. The initial finding was that children and adolescents gain more weight during the summer holidays than during the structured school year[77,78]. This has led to the hypothesis, particularly in the United States and Italy, that the lockdown measures introduced to combat the COVID-19 pandemic will lead to adverse changes in the lifestyle behaviors of obese young people in their homes[10,79].

There seems to be very little concern about the issues of overweight and obesity of children in Africa. However, there are studies that do address the issue and focus on the African specificities of the problem[80,81]. Although they exist in very limited quantities, these studies underline the fact that the problem affects both developing and developed countries, albeit at different rates. In 2016, approximately 41 million children under age 5 years were overweight or had obesity globally, about 25% of them in Africa alone[81]. Thus, Africa is not spared, but could, through certain cultural provisions, provide a favorable framework for the spread of this challenge. African populations, which are also

increasingly urbanized, are undergoing a gradual transition in their eating habits and opportunities for daily physical activities. From a dietary point of view, the habits of children who have access to the manufactured products of mass distribution lead them to rather prefer foods rich in calories: crackers, chips, ramen noodles, soda, sweetened cereals. In Africa, the trend, if children have access to cheaper manufactured products, maybe aggravated by socio-cultural beliefs in which obesity and overweight are admired traits and considered a sign of wealth, prestige and "good life"[80]. A study by Von Hippel and colleagues documented the prevalence of obesity and overweight over three school years, with the increase in obesity and overweight prevalence occurring only during the summer holidays[10,82]; more importantly, the data showed that weight gained during the summer months is maintained throughout the school year and accumulates from summer to summer. In other words, unhealthy weight gain in childhood is a long-term concern and obesity experienced in childhood is associated with significant weight gain in adulthood[10,83].

Although none of the results presented above and linked to the COVID-19 crisis relate to studies carried out in African settings, they merit attention in terms of the extent to which problems of overweight and obesity in children are present and likely to be a public health issue in some African countries[81]. Furthermore, the subject deserves greater attention in the context of the disruptive effects of the COVID-19 crisis. Indeed, although to a lesser extent, some African countries have instituted lockdowns[8,58,76], which has induced unfavorable trends in life behavior, with regard to the health of young people suffering from excess adiposity. The simple and primary mechanism by which the problem arises is the abrupt termination of school programs for children and adolescents who, by obligation, must remain at home during the containment to mitigate the spread of the COVID-19 virus. The results of the above studies support the hypothesis that negative changes in eating, sleeping and activity behaviors occur in obese children and adolescents during a period of confinement and the resulting cessation of schooling[10,79]. School settings provide structure and regularity around mealtimes, physical activity and sleep, the three main lifestyle factors involved in the risk of obesity. The COVID-19 pandemic, by keeping children out of school, will exacerbate the risk factors associated with weight gain during summer holidays. In addition, keeping these children at home will give them the opportunity to consume highly processed, high-calorie foods[79].

Possible stopgap strategies

By focusing on the problems of overweight and obesity among children and adolescents in Africa, we have chosen to highlight a particular aspect of the issue of food security that is rarely addressed in African contexts. According to the Committee on World Food Security, food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life[84]. By considering this definition of food security in a more attentive way, it is obvious that conceptually, the definition declines several dimensions of a problem for which it would be advisable to review almost all the aspects on the African ground and within the framework of the current COVID-19 pandemic crisis. Indeed, the African countries affected by the COVID-19 pandemic are increasingly faced with the decline in raw materials and the fall in international trade. Local agri-food supply chains are already experiencing disruptions. There is reduced access to inputs and services, limitations on the labour movement, transport and road blockages, as well as difficulties in accessing credit or liquidity[85]. These disruptions come on top of global supply chain disruptions such as export bans that affect the food security of food-importing African countries. All these issues relate to the physical and material, as well as the demographic and socio-economic aspects of food security. But the most visible and worrying aspects of food security in Africa are the quantitative aspects of the difficulties of access of populations to sufficient and regular food rations.
This means that several aspects of the food security issue, such as availability and access to sufficient food for populations, will be at the forefront of decision-makers' concerns rather than qualitative concerns of the appropriate use of food.

It is clear that in the current moment of urgency to find solutions to the problems posed by the pandemic; many decision-making choices will have to be made in difficult rather than ideal conditions. Strategies will have to be revised; choices will prove to be mediocre with hindsight; which will be made possible by the accumulation of more and more knowledge on the modus operandi of a plight that initially had to be fought in some opacity. At this level, the flaws in the decisions of African decision-makers, no less than those known to international decision-makers, could only be considered with a certain level of leniency. But beyond the errors linked to the new reality of the health challenge, others are more difficult to admit when they are linked to a lack of preparation for a reality of which we can see the warning signs. Our choice to focus on a dimension of the food security issue, let us say "qualitative" rather than quantitative, during this crisis can be understood in this spirit; not to ignore the availability and accessibility dimensions of the food security issue known to Africa, but to focus on the food security dimension in relation to the use of food which is equally likely to entail long-term public health consequences[85].

The issue of overweight and obesity among children and adolescents in Africa is the kind of public health problem that is emerging and on which further research and public health measures still need to be taken[80]. Some findings have been above displayed from studies carried out in affluent countries and related to the pandemic context[10,79], although such studies remain to be undertaken in Africa context, other studies on the topic but not related to the specific context of the COVID-19 pandemic have been undertaken too and they provided some possible strategies which might help in preventing the child obesity and physical inactivity threat. It is on the presentation of some of these strategies that we will close this paper.

According to Onywera[80] for example, and in line with WHO recommendations, efforts to address the problem of childhood obesity could be implemented through two main avenues: strategies to promote an active lifestyle among African children and strategies to promote healthy eating at school and home. Some of the strategies involved in the practice of physical activities include the following:

- *Measures to encourage physical activity as an essential component of a lifestyle for young people.*
- *Inclusion and promotion of this principle within the various educational structures by common and strong agreement.*
- *Establishment of effective partnerships for collection and publication of data relating to obesity and physical activity in children.*
- *Implementation of clear information campaigns to promote physical activity and raise awareness of the problems of overweight and obesity among young people.*
- *Promotion of activities that are feasible and adapted to local socio-cultural realities and that are effective in achieving optimal physical results.*
- *Promotion of opportunities for social interaction, enjoyment and mutual support among the most at-risk segments of the population.*
- *Really offer young people the opportunity to become physically active.*

The strategies involved in the promotion of healthy eating at school and home include the following others.

- *School management should ensure that only foods and beverages that contribute to the nutritional well-being of children are served.*
- *Parents and guardians should be part of the healthy diet plan of their children.*
- *Schools should discourage the consumption of foods high in sugar and fat and regularly encourage the consumption of fruit and vegetables for the health and well-being of children.*
- *Awareness campaigns should be implemented to inform people about healthy eating and its benefits.*
- *Schools should adopt a healthy eating policy to be followed at school and at home.*

While the COVID-19 crisis has challenged Africa's public health structures and revealed many gaps in socio-economic development, significant changes are also expected in the area of

food security[85]. The strategies presented here can provide a starting point for current work. Focusing more research now on the health risks associated with overweight and obesity in children and on the best ways to prevent them would be a step forward, a money-saving measure and certainly an anticipated victory in future health crises. This issue also deserves attention in a context where the health crisis easily threatens to turn into a socio-economic crisis[24,58]..

Conclusion

This review has provided insights into the vulnerabilities of African children in the context of COVID-19 which appears to be a singular sanitarian crisis in contemporary times. Its implications refer not only to alarming morbidities but also to human mortality and the economic survival of the entire planet[15]. The results of this analysis indicate that Africa has not been among the best-prepared places in the world to deal with a pandemic of this magnitude[6,24].

What is striking is that the recommendations of social distancing, quarantines and regular hand washing with soap have proved to be unworkable or painful for many governments and people in Africa[17,18,75]. More timely consideration of the damage that the pandemic may have caused in the world[16] leads us to review the areas where there are gaps to be filled and where Africa needs to be better prepared to effectively fight this pandemic and future pandemics[24]. The COVID-19 has been found to be only exceptionally severe and harmful to children[29,31]. However, the vulnerability of children in low-income African countries is particularly acute and exposes them to its rare or indirect effects. In this regard, this review suggests that the rather limited capacity of health care structures, the habits and customs of the users of health services, the limited economic means invested in the training of health professionals and medical research, would particularly expose children in Africa, especially in rural areas, to the severe consequences of COVID-19[9,37].

In cases where children do not directly experience infections or complications related to the virus, its long-lasting effects on traditional social security mechanisms together with the plurality and complexity of the vulnerability profiles of children in Africa (OVCs), suffice to establish contexts and potentials for children at risk of child neglect and abuse[64,70,73]. In discussing the multiple forms of vulnerability profiles, we explained the complex structures of "African families", the source of their resilience, as well as the limits of their specific functions and capacities should they continue to be called upon without additional institutional support[63,64,72]. Furthermore, institutional or international support to provide relief to "orphans" cannot be adequately provided without examining local conceptions of the category. This work, based on sociological and anthropological studies carried out in Africa, shows that operationalizing meanings that are not situated in the contexts of intervention undermines traditional conceptions of vulnerable profiles. The contexts of poverty examined here, generate flexible shared solidarity strategies and concepts and then vulnerability profiles that are often not superimposable on those in use in international contexts[63,64].

Another important point that emerges from this discourse refers to food safety. While the problem of food security is not new in Africa, we believe that this is the time to be proactive in addressing the issue of obesity among children, which is becoming a public health concern in Africa[80,81]. Linking this public health issue to the current pandemic is a good way to show how little research has been done on this aspect of childhood vulnerability in Africa and to draw valid conclusions based on the few studies already done that pave ways for strategies to combat the phenomenon. Seizing the opportunity of this crisis to address the problem now is both possible and desirable in order to be better prepared to deal with future pandemics.

Conflict of Interest

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