Chapter

Perspective Chapter: Pedagogical Approaches and Access to Education Among Early Childhood Education Learners with Disabilities in Africa During the COVID-19 Pandemic - Review of Available Literature

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Abstract

The COVID 19 pandemic suddenly hit the world disrupting access to education especially in Sub-Saharan Africa, threatening the future of millions of learners. This chapter discusses the effects of COVID-19 on early childhood education (ECE) for learners with disabilities in Africa, focusing on three questions: (1) What pedagogical approaches were used to enable access to education among ECE learners with disabilities during the COVID 19 pandemic? (2) How was access to education for ECE learners with disabilities, and what challenges and opportunities were experienced? (3) How can access to quality and equitable learning for ECE learners with disabilities during the crisis be improved? Literature revealed that the pandemic aggravated the hardships in accessing learning programs among learners with disabilities widening the gap between them and their counterparts. Countries resorted to remote and digital pedagogical approaches to enable continuity of learning; however, many did not cater for learners with disabilities. Where disabilities were catered for, the reach and utilization were limited by lack of resources and capacity. Concerted efforts promoting effective inclusive learning are critical for the current and future pandemics. Barriers to provision of equitable education, and long-term effects of COVID 19 on in ECE learners with disabilities should be investigated.

Keywords: COVID-19, pedagogical, education, access, learners, children, disabilities

1. Introduction

The COVID-19 pandemic rapidly swept through the world's population affecting over 200 million people and causing over 5 million deaths. Clearly, the unprecedented global pandemic has affected every aspect of people's lives [1] resulting in severe

disruptions in livelihoods and access to social services for populations across the globe. Sub-Saharan Africa and similar low-income countries were severely hit by the pandemic disrupting the delivery of health, education, and other essential services as these countries were ill-prepared to deal with the effects of such a sudden major disaster [2].

The pandemic resulted in closure of schools in over 188 countries worldwide, affecting the learning, and threatening the future of over 1.5 billion learners, that is, 91% of all learners [3]. In Africa, about 250 million students were affected. Learning completely stopped for most of them, and millions of students were at risk for permanently dropping out of school, adding to the 100 million out-of-school children before the pandemic [4].

In Uganda, for example, during the 2020 wave, to control the rapidly transmissible infection, 51,000 learning institutions were closed between March and October, meaning that approximately 15 million children missed school for half a year. This was shortly followed by a second wave that resulted in a total lockdown and closure of schools from March 2021 for the rest of the year, amounting to almost 2 years of school closure, the longest on record. During the school closures, children not only lost substantial time of their learning, but they were also prone to several risks including abuse, neglect, teenage pregnancy, child labor, mental health disorders, and suicide, among others.

While all learners were affected, children with disabilities are believed to have been disproportionately disadvantaged by the pandemic since they were already grappling with challenges of access to education services due to disability. People with disabilities (PWD) are often overlooked, their capacities underestimated, and their needs given a low priority [5]. It is likely that as a result of COVID-19, preexisting learning challenges for learners with disabilities were complicated while new ones emerged, further widening the gap in access and learning between these learners with disabilities and their normal functioning counterparts. To date, there is little consolidated information on how the pandemic impacted the learning of early childhood education (ECE) learners with disabilities in sub-Saharan Africa, what approaches were used to tackle the challenges, and what lessons can be drawn for future improvement. In this chapter, we examine available evidence on the impact of COVID-19 pandemic on access to education/learning for early learners with disabilities in the context of sub-Saharan Africa, the challenges, and opportunities and possible strategies for bridging the gaps. We focus on three key questions:

1. What pedagogical approaches were used to enable access to education among ECE learners with disabilities during the COVID 19 pandemic?

2. How was access to education for ECE learners with disabilities, and what challenges and opportunities were experienced?

3. How can access to quality and equitable learning for ECE learners with disabilities during the current crisis be improved, and what can we learn for future crises?

Effective planning and institution of appropriate interventions to optimize learning for children with disabilities during the current and future crises will depend on a good understanding of these issues.

2. Methods

This chapter is based on review of literature on the topics above that was available between September 2021 and February 2022 when the chapter was written.

We conducted literature review on the subject focusing on the sub-Saharan African context. We retrieved and included peer-reviewed and gray literature that reported on any of the areas listed above.

2.1 Literature search

Literature search was guided by the three research questions. Search terms were generated and used in the search across different databases including PUBMED, and Google scholar, and Google search for gray literature including reports, blogs, webinars etc. Key search terms included (COVID-19 OR SARS-VIRUS) AND (disabilities OR "special needs" OR "vulnerable populations") AND (education OR learning OR schooling OR "pedagogical approaches") AND ("early childhood" OR children) AND (Africa OR "sub-Saharan Africa" OR Africa OR "developing countries") AND (barriers OR challenges) AND (access OR opportunities OR support). After the search was completed, the articles were compiled and screened for relevance and eligibility using the titles, abstracts, and/or on full texts. The selected articles were summarized in a table describing the type of literature, source, focus/objectives, geographical representation, and key findings.

2.2 Data extraction and synthesis

Full texts of the eligible articles were reviewed by the three reviewers working independently and focusing on our questions of interest, collaborating evidence from the diverse contexts within the continent, and key lessons for policy and practice but also identifying the important evidence gaps for future research, and any emerging perspectives related to our objectives. Based on this extraction approach, a narrative synthesis was used to describe and discuss the information as organized under the different headings below.

3. Results

A total of 41 articles including peer-reviewed and gray literature (reports, blogs, and other gray literature) were reviewed and discussed concisely, starting with a flashback on the status of ECE for children with disability before the emergence of COVID-19; followed by the pedagogical approaches that were adopted by educators in response to the pandemic; how ECE learners with disabilities accessed education during the pandemic, the challenges and opportunities they experienced; strategies through which access to quality and equitable learning for ECE learners with disabilities during the crisis can be improved; and a discussion of these perspectives bringing together the different experiences and highlighting key lessons in a local and global perspective and their implications for the current situation and future crises, in terms of policy, service provision, and research. We wind up the chapter with a conclusion highlighting the take-home message and future direction, along with the limitations of the review.

4. Early childhood education and learning for children with disabilities before the pandemic

Learners with disabilities include those who have sensory impairments, cognitive differences, physical difficulties, emotional and behavioral difficulties,

communication disorders, and those with multiple disabilities [6]. Whereas some learners with disability may follow regular curriculum with adaptation or modification of the pedagogical approaches used, there are those who may need specialized syllabuses and intervention programs to access meaningful education. A majority of learners who follow regular curriculum with modification include children with visual impairment, hearing impairment, physical handicap, mild cerebral palsy, mild learning disabilities, mild autism, mild emotional and behavioral difficulties, communication disorders, and the gifted and talented [7]. They require additional support and care services such as therapy, assistive devices, and technology to access education. Leaners with disabilities who need special syllabus include those with mental handicap, deaf blindness, severe autism, severe cerebral palsy, multiple handicaps, and those with profound disabilities [8]. They learn social, communication, and activities of daily living skills at school [9]. In this chapter, we focus on reviewing literature on the pedagogical methods that were employed to enhance continuity of learning among millions of African children after the schools closed and how they favored or did not favor early childhood education (ECE) learners with disabilities.

Child-centered teaching approaches have been found to effectively enhance learning of children in early childhood education. This is predominantly learning by doing through imitation of teachers and their peers [10]. The approach has also been found to be crucial for learners with disabilities who have various challenges and need extra support [11]. Education for all children in their early years supports their development of social, communication, problem-solving, cognitive, and emotional skills [10]. This also applies to children with disabilities in early childhood education. According to Davis [9], the pedagogical approaches used for effective learning of these foundational skills among children with disabilities include: formulating clear expectations based on learning needs of the child, stimulating learning activities that enhances learners' participation in classroom, use of audio-visual material, real objects, or simulations to make the learning process concrete, break tasks into less complex tasks and build on already acquired skills and knowledge, peer learning, sharing the learning objectives and process with parents so they can help with homework. Other strategies include carrying out every day routines consistently and aiding active learning by use of immediate reward for good behavior, completing work on time, and participating in class activities. In addition, individualized education plans where lessons are modified to meet each learner's needs are also critical for children with disabilities [12]. Much as the approaches to support learning of these children are well articulated, they are often not practiced because of various reasons including lack of teacher skills, resources, and poor attitude of teachers among others [13, 14]. Moreover, children with disabilities are often stigmatized and discriminated against by teachers and pupils, further hindering them from full participation in learning.

Before the era of COVID-19 pandemic, access to education and other services was a major challenge for people with disabilities (PWD) including children in many low- and middle-income settings. There have been increasing efforts toward inclusive education, which recommends that children with special needs are accommodated within the mainstream teaching; however, implementation of this has been slow. Education for people with disability has been characterized by exclusion, stigma, discrimination, non-supportive attitudes of parents and community members, long distance to school, school environments that are not supportive (access, materials, equipment), and limited training for teachers on special needs education, limited involvement in planning and allocation of resources for learners with special needs as well as lack of enforcement and financing of the inclusive education

policies [5, 15, 16]. As a result, there was a major gap in education access for children with disabilities in many countries in Africa prior to the pandemic. Clearly, as we will lean from subsequent sections, the pandemic and resulting school closures worsened the challenges for ECE learners with disabilities especially those in LMICs where governments were least prepared to deal with these challenges. In the section that follows, we take a critical look at the pedagogical approaches that were used to support continued learning for ECE learners with disabilities in Africa.

5. Pedagogical approaches for learners with disabilities during COVID-19 lockdown in African countries

COVID-19 severely affected education systems across the world [17], and the most affected were learners in pre-primary and primary level who have little experience of learning outside the classrooms, without support of their teachers, and could not be provided with adequate resources for learning at home (EdTech [18]). The situation was more difficult for learners with disabilities living in middle- and low-income African countries who for a long time have struggled to access quality education [7, 17]. Studies indicate that during the period when schools were closed (as a result of the pandemic), over 30% of learners with disabilities in Africa were not able to read by themselves or be read to by their parents [19]. This could have been due to the mismatch between the learners' needs and the pedagogical approaches that were used to support them access education while at home. Learners with disabilities have unique learning styles such as visual, auditory, and kinesthetic styles that require teachers to employ different teaching strategies in the learning process to achieve effective learning. Apart from Benin, Burundi, Cote d'voire, Congo, Ethiopia, Madagascar, Malawi, Niger, and Togo that lacked remote learning readiness, most of the other African countries responded to the school closure due to COVID-19 in innovative ways by offering distance remote learning [20]. The strategies that were used combined high tech and low-cost solutions that included digital teaching and learning approaches as well as the use of paper-based take-home learning materials [21]. These pedagogical approaches were either audio-based where radios were the most common mode of audio learning, or audio-visual based where the television was the most popular form of instruction. A study established that almost all the countries in Middle East and North Africa (MENA) used television programs and print materials to deliver education content while 65% of countries in Eastern and Southern Africa (ESA) and 81% of countries in Western and Central Africa (WCA) used the television to deliver content [17]. The Ubongo Kids, Edu entertainment, and Akili Kids were the most common televised learning programs. It is estimated that over 25 million children across 40 African countries accessed Ubongo TV program that is broadcast in nine African languages including sign language [22]. The assumption of remote learning was that the intervention would meet the educational needs of all children including those in early childhood and with disability, whose schooling had also been disrupted by the pandemic [21]. However, this notion was biased because the learning platforms could not meet the diverse learning styles of children with different abilities in the early years of education. For example, whereas the deaf could benefit from sign language lessons on TV, they could not gain much from the radio lessons. Children with specific learning difficulties as well as those with mental challenges needed some extra individualized support to be able to follow the remote mode lessons.

Learning management systems using digital devices were the other pedagogical approach that was used in some African countries during the COVID-19 school closure to enhance continuity of learning. This included zoom, Google meet as well

as WhatsApp and Facebook platforms [7]. Countries such as Kenya and Rwanda partnered with their telecommunication companies to lower cost of access to ICT devices and Internet connectivity alongside developing and implementing digital literacy programs. All these efforts were made to enhance innovative teaching and learning to achieve the child-centered learning. It was assumed that remote learning would meet the educational needs of all children including those in early childhood and with disability; however, this was not the case [21], as revealed by survey in 52 African countries that showed that early childhood and primary level learners could not access or effectively utilize these methods (EdTech [18]). The situation was worse for learners in early years of education with various disabilities. They not only needed support to migrate the digitalized learning but also needed the approaches to be customized to their needs. However, this support was only available in few countries. In Morocco, for example, Internet was used to aid learning. In rural areas, lessons were recorded and broadcast on Moroccan Television. The government through the Ministry of Education took steps to minimize learning loss for children with disabilities particularly the deaf by producing the educational content in sign language. Further, language teachers were recruited and trained on multisensory structured teaching and learning and later were provided with tablets to enable them deliver the content to the children through digital platforms [19]. These approaches may have achieved a certain degree of teaching; however, lack of child-centered pedagogical practices such as free-choice and small group activities, supportive and reciprocal interaction between teachers and children meant that the online approaches could not achieve optimum effectiveness [23].

In Uganda, children with disabilities were to access the learning materials that were provided by the Ministry of Education on radio and television. Home schooling was encouraged by the government, and parents were expected to support their children study using their school text books. Schools also sent learning materials on the phones or in form of printed booklets [24] but as mentioned above, there were no special considerations for children with disabilities. Moreover, as reported by Mbazzi et al. [25], the majority of the parents of children with disabilities in Uganda do not know how best to manage their children's behavior and teach them at the same time.

In Malawi, the National COVID-19 preparedness and response plan was developed to ensure that teaching and learning continued during the lockdowns. Like in other countries, radio and televised lessons were used to reach out to learners at home and communities were mobilized to support home learning for children with disabilities. As revealed by a survey by Singal and colleagues, in addition to radio and TV lessons, learning materials were sent by the Ministry of Education in the form of ordinary print and could not be read by those who have visual impairment. Where Braille materials were provided, parents were unable to help their children read them since they lacked the skills to do so Singal et al. [24]. The survey showed that there were very few cases where parents of children with disabilities received home-based support on therapy, the absence of which must have further affected learning.

In Kenya, during the COVID-19 instigated school closures, distance learning solutions (DLS)/digital learning, also referred to as education technologies (EdTechs) [26], were adopted. The Teachers Service Commission (TSC) developed a teacher training manual through the collaborative efforts of various agencies in the education sector on remote learning. The aim was to engage learners in a variety of online environments using appropriate devices. The Kenya Institute of Curriculum Development (KICD) introduced programs on Edu channel TV and lessons from early childhood level. There was an increase in content on digital sites that was to be accessed by the learners. The television learning programs were supported with sign language interpreter as an adaptation to cater for learners who had hearing difficulties. This must have enriched the approach in terms of inclusivity;

however, as mentioned earlier, delivery of content on television lacked the component of teacher-child interaction that is critical for ECE learners particularly those with special needs.

Moreover, a study indicated that the majority of teachers and parents were not sufficiently familiar with digital technologies that were used to deliver content to the learners at home [23]. Teachers noted that they lacked directions on how to support learners at home while parents indicated that they could not afford internet bundles required to download the learning materials that were sent online. It was reported in some cases that there was no sign language translator for those who had hearing impairments and that the lessons were too fast for those with learning impairments. Moreover, while learning gadgets such as braille and writing material were present at school, they were not provided at home, making home learning for children with visual impairments impossible. In the same way, deaf children were not able to communicate or get interpreter's support at home, making it hard for them to utilize the teaching that was provided on these platforms [27].

In Ghana, the prolonged school closures placed children with disabilities at a risk of dropping out. Like in other countries, distance learning was rolled out by the Ministry of Education using television, mobile devices, and Internet. Remote learning materials were also sent to learners through postal mail. However, using this mode of teaching and learning, children with disabilities were still at risk of being left out [28].

The Zambian government strengthened radio-based learning programs by distributing solar radios and training of teachers to engage with learners through distance learning and radio programs. In Sierra Leone, the government made it a priority to leverage the radio learning programs that had been started even before the pandemic. However, these too did not provide specific support for children with different needs.

Overall, several pedagogical approaches were adopted in the different countries to enable learning continuation during the pandemic. It is imperative to note that ECE learners with disabilities were often not catered for in many of these strategies. Where special facilities were provided to cater for ECE learners with disabilities, they lacked real-time teacher-learner interaction and the additional individualized support that is critical for effective learning for children with different needs. This is because remote learning is more of teacher-directed rather than an interactive learning process that requires face-to-face presence. Effective teaching and learning of children with disabilities in their early years of education require individualized instructional practices tailored to their different educational needs. However, this was not possible since face-to-face engagements were strongly discouraged during the pandemic, putting the learners with special needs at a greater disadvantage than their normal counterparts.

6. Access to education, challenges and opportunities experienced by ECE learners with disabilities during the COVID-19 pandemic

Before the first case of COVID-19 was reported in Uganda in March 2020, a new school term for learners at all levels had just begun. In order to prevent the spread of the COVID 19 infection, the Government of Uganda decided to close all education institutions including those for early childhood learning. The closure of education institutions locked about 15 million Ugandan learners at home for a period of 2 years including young learners aged 1–8 years with disabilities. This was one of the longest lockdown of educational institutions globally. With the emergence of the pandemic, access to education for early childhood education (1–8 years) learners with disabilities faced a number of challenges but also some opportunities were experienced.

First of all, the closure of schools led school leaders to shift from physical contact with learners to online-based mode of instruction [29]. This necessitated use of technologies and digital platforms to deliver distance teaching and learning including computers, radios, and television sets to learners and distribution of printed materials to learners in their communities.

Although this development of technologies that could be used for distance learning was a very good innovation to keep learners engaged during the COVID-19 lockdown, it also created challenges to learners with disabilities. For example, the government of Uganda introduced long-distance teaching through the media, especially radio and television. These methods of teaching are not appropriate for young learners with disabilities especially those who are deaf and those who have visual impairments [30–32]. It is obvious that those with hearing impairments or visual impairments will not hear what is being taught on radio and television and will not see what is being taught on television respectively. Therefore, such platforms only benefited learners without disabilities.

Transitioning to a virtual setting required many educators to learn new technologies and skills and caused stress among both teachers and students [33]. However, both the teachers and learners were not given sufficient time to learn the new methods. In addition to moving to online learning platforms during the COVID-19 pandemic, special educators were faced with multiple challenges ranging from equity issues for learners, providing instruction in a virtual environment, and providing special education services as determined by the learner's individual education plan. On equity, we know that the majority of the early childhood learners with disabilities in the Uganda and similar LMICs come from very poor families [34] and who therefore could not afford paying for online classes or teaching did not have televisions or radio sets in their households to access the content. There were attempts by governments to provide radio and television sets to rural communities; however, these were overtaken by other competing national priorities during the crisis.

Since these online and other distance learning technologies have been developed, education providers and the government must use this opportunity to continue developing these technologies to ensure that they remain prepared for other epidemics/and pandemics that may lead to school closure in future. This should also create an opportunity, for training and to continue delivering special education services for students with disabilities.

At a more global level, the UN guidelines for COVID-19 response recommended mainstreaming of disabilities in the planning and provision of any support and services [35–38]. UNICEF provided guidance for staff and partners on supporting the learning of children in areas of school closures, which included making learning accessible to children with disabilities [39]. These also included provision of learning devices/equipment and connectivity, accessibility of instruction, individualized education plans, caregiver involvement, and the Build Back Better strategy among others. However, in many African countries, people with disabilities were neither involved in the development nor provided for during the implementation of COVID-19 response interventions [25], and as explained above, implementation of inclusive education policies was crippled by several systems' challenges that were present before the pandemic.

7. How can access to quality and equitable learning for ECE learners with disabilities during the crisis be improved?

Several strategies have been proposed to support education of learners with disabilities in low- and middle-income countries, and this merits consideration by all stakeholders involved in education. General recommendations addressing

pre-COVID-19 challenges are re-emphasized since these challenges have not gone away; they have actually become aggravated. At the global level, the Inclusive Education Initiative recommends first, strengthening teachers' capacity (through training) and motivation to manage children with diverse needs and imparting into them the humane aspect for these children; secondly, constantly involving families in the initiatives that support inclusion since families play a critical role in leading and influencing communities and schools to embrace these innovations as well as making the voices of learners and generally PWD be heard at the local level; thirdly, executing inclusion as early as the planning stage of any initiative and at all subsequent stages and reflecting upon key aspects including curriculum, class sizes, teaching, and learning materials during the design and implementation; fourthly, to ensure that the innovations for inclusive education developed for LMICs are based on locally generated evidence and therefore which address local challenges to policy and practice [40].

The UN and UNICEF have provided guidelines to ensure access to education and other services for people with disabilities. In particular, the UNICEF's Build Back Better guideline is based on the fact that many vulnerable children may not have been accessing quality and inclusive learning opportunities pre-COVID-19, and therefore, resumption of schooling presents an opportunity to "build back better" and capitalize on the strategies and resources being put in place during this crisis to increase access and improve learning opportunities for all children. "This includes ensuring that learning spaces are accessible to those experiencing physical disabilities, that all children – in particular girls- can access school safely, that there are gender-segregated latrines to encourage girls' attendance, that schools are equipped for children experiencing learning impairments, that teachers are prepared to teach students of all abilities, and that communities and caregivers/parents are actively engaged and participate in the local education system and are well-informed of how to support their children" [39].

At the country level, several other strategies have been proposed. In Malawi, for example [41], parents proposed that there was need to prioritize continued learning for children with disabilities and for governments to make educational programs accessible for children with disabilities and actually provide the necessary equipment (e.g. TV, radio, parent training) for these children to access the learning. Intermittent physical access to school facilities, e.g., twice a week and permitting children to take scholastic materials home (e.g., books in Braille) as well as regular follow-up and support on home learning by teachers were also proposed by parents.

Providing parents of children with disabilities with the basic skills such a sign language and Braille to enable them to fully support their children's learning at home, as well as financial support (loans) to enable them provide basic needs for their children was proposed. Furthermore, the need to invest in educational digital technological innovations for children with disabilities and developing teacher, parent, and learners' capacity to use them as well as provide the necessary equipment, e.g., phones and computers to the teachers and learners was highlighted [41].

In summary, access and utilization of education services for children with disabilities during the COVID-19 pandemic have been difficult resulting in an escalation of the preexisting challenges and increasing the demands at the family, teacher, and policy levels, for which different stakeholders were not prepared. Concerted support and commitment through the several recommendations including policy improvements, and teacher, student, and learner-centered interventions, and further evidence generation could provide practical solutions to providing inclusive education services during and after the crisis to enable children with disabilities achieve their educational goals.

8. Discussion

COVID-19 pandemic has been a challenge for everyone; however, people with disability have experienced greater difficulties. The current chapter aimed at exploring the pedagogical approaches that were adopted to support continued learning for children with disabilities during the COVID-19 pandemic and the challenges experiences as well as key lessons to note.

The findings from the reviewed studies and reports suggest that COVID-19 significantly exacerbated the inequality to access to essential services particularly education for people with disabilities during the lockdown. Parent's reports indicated that they had difficulties including children with disability in livelihood programs, yet they did this with ease to children without disability. The parents reported that the children were lonely further indicating the difficult parents had in socially including these children. Because of the physical, visual, hearing, or cognitive impairments, there is a communication barrier between the children and family members who are normal functioning jeopardizing interaction and socially isolating the child from the rest of the family. This was the case before COVID-19 but which became more evident when children were now spending the whole day at home. Moreover, it appears that parents have limited skills in sign language, let alone more advanced skills such as reading Braille that children with visual impairment need to read.

It is also imperative to note from the reviewed studies that active learning of children with disabilities mainly takes place at school. This finding indicates that parents are less involved in the actual training or learning activities of their children with disability. This could be partly attributed to lack of skills or poor attitude toward disability and education on the part of parents as revealed by the surveys. Furthermore, parents of children with disabilities usually have very low expectations from these children, and this bias down plays their motivation to support their learning in academic and everyday life activities. Consequently, the children have little contact with parents and other family members, and gradually the gap widens and further reducing the opportunity for the parents and siblings to learn how to interact with the child. This family exclusion and inability to support learning became apparent during the pandemic when all children were grounded at home and had to be supported by their parents to continue schooling. Appropriate steps should be taken to promote inclusion at family level through increased awareness and empowering families with skills to supporting learning for their children with different disabilities.

It is clear from the literature that learners with disabilities and their families struggled to access or utilize the education resources provided because they were provided in formats that were not appropriate for them or because the families lacked the necessary skills and technology to support the learner with disability with specialized material. However, in many cases, these resources were not provided at all. This was evidenced in their outcry of lack of contact between children and teachers, and the concern that a lot of the disability support services, e.g. physiotherapy, were school-based. This reveals a gap and a need for a continuum of care and support for learners with disabilities from home to school and within the wider community.

It is also important to note that disability and poverty have a synergistic relationship where disability causes poverty, and poverty aggravates effects of disability, and the two continuously enhance each other if no intervention is introduced [42]. The parents of children with disability decried their challenges in purchasing devices such as Braille machine and books, as well as voice-embedded computers for those with visual impairments to benefit from e-learning that emphasized during

lockdown. Because of extreme poverty, these gadgets were not affordable by most parents from low- and middle-income countries. Financial support including cash transfers to families such as those that that were administered in African countries [4] could enable such parent to access these and other needs including electricity, which is needed for the equipment to work.

Notably, remote learning was academic-oriented with an aim of imparting knowledge for the purpose of mastering concepts and recall, whereas education for a majority of children with disability aims at making them self-reliant and emphasize acquisition of social skills, communication skills, and activities of daily living. Practically, learning for children with disability is individualized, targeting the strength of each individual learner. It is therefore implemented using an Individualized Education Plan (IEP) that could not be implemented using remote learning that replaced face-to-face learning as a result of COVID-19 school closure.

Lastly, we aimed to identify potential strategies and recommendations that could be undertaken to improve the status of learning for children with disabilities during the crisis. Our review indicates that parents need to be empowered through training and active engagements in helping their children with disability with home schooling. They need to be taught skills such as sign language, therapies, and Braille, but also be involved in interventions that aimed at bringing about attitudinal change toward disability and education. Furthermore, homes with children with disability need to be made safe against abusers, and children need to be taught how to protect themselves against abusers and where to seek support in case of abuse. Of note, the extreme poverty levels further incapacitated parents from providing the equipment needed for their children's home schooling should be addressed. Indeed, in contexts where families of vulnerable children received cash transfers, it was clear that these had a significant impact on addressing some of the hardships that they were facing during the pandemic. Such financial supports should be considered by governments.

Importantly, there is need for proper disaster preparedness by governments to guard against adverse effects emerging from future eventualities that would necessitate closure of schools. Practically, this will include allocating sufficient budgets to support necessary response programs, but also involving people with disabilities and their families in making policies, in planning and implementation of the interventions. At the global level, funds such as the Marshall investment [4] should be dedicated to supporting children living in vulnerability including those with disabilities and to enable them recover from the adverse effects caused by the pandemic. However, this can only be achieved if there are sufficient data to enable evidence-informed policies, programs, and budgeting, as well as a deliberate commitment by government to support continued learning for children with disabilities in times of crisis. The immense data challenges on key issues were evident in this review and highlight the need for more research to generate local data on specific indicators of the burden of COVID-19 on education access and well-being of children with disabilities and PWD at large in the African context.

9. Summary and conclusion

It is evident from the above literature that the COVID-19 pandemic made learning for ECE learners with disabilities in Africa extremely difficult and hence widened the disparities between these children and typically developing children and brought to the forefront the inequity and exclusion that prevail in planning, allocation, and utilization of education resources for people with disabilities. The literature highlights the difficulties in accessing and utilizing disability-specific

pedagogical learning opportunities that early learners with disabilities experienced. It must be noted that these issues not only relate to young learners but to all learners with disabilities in Africa and similar LMICs, making the proposed recommendations relevant to a wider population. In line with the Sustainable Development Goal 4 (ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and leaving no one behind, deliberate efforts should be invested in addressing the gaps and challenges at all levels (system, school, and household) to enable children with disabilities achieve their educational goals. Concerted efforts through policy improvements, political will, and change of attitude of all stakeholders including decision-makers, teachers, and communities to promote inclusion and learner-centered interventions for learners with disabilities are likely to make significant impact in enabling these learners access education during the current and future crises.

Key lessons from this literature are that across Africa, children with disabilities still grapple with difficulty in accessing quality education due to exclusion, stigma, lack of specialized skills among teachers and parents, and weak government enforcement, and low financing, among other causes. COVID-19 clearly aggravated these challenges and brought about new ones, e.g., the lack of physical interaction between learners and educators and widened the gap. Nevertheless, all is not lost, and a lot can be done to improve the status quo.

It is important to recognize the urgent need for building the education system back better, through concerted efforts, at all levels, and combining the preexisting and new approaches to address the access and utilization gap for children with disabilities. Political will in terms of committing more government funds and enforcement into policies and their implementation, effective inclusive planning, capacity building, and skills strengthening as well as utilizing local evidence to develop the interventions are critical for rolling back the challenges affecting learning of children with disabilities in the pre and post COVID-19 era. Of note, contextual and system barriers particularly household poverty, and limited government resources, and the negative community attitude toward PLD in general, which act as substrates, the inequity must be addressed. Furthermore, innovations and technologies must take into account the diverse needs of all learners particularly those with disabilities, and they should be suited to the local context, for them to yield maximum benefit for all learners.

It is apparent that African governments were ill-prepared to deal with the sudden disruptions COVID-19 caused in the education system, and indeed these countries were hard hit. This is an eye opener for governments to invest in disaster preparedness not only for education but for all sectors. Our experience from this review reveals the fact that there is limited information on the impact COVID-19 had on education, how learners navigated the challenges but also to what extent education policies were aligned with inclusion of children with disabilities, and challenges that were encountered. More post-pandemic surveys are recommended to fully understand the impact in order to institute appropriate measures to roll back the effects, but also plan better pedagogical approaches that optimize learning for all learners today and in future crises.

9.1 Limitations

The evidence discussed above is based on literature currently available in the African countries on the impact of COVID-19 on education access for learners with disability, including gray literature, which may be subject to reporting bias. The findings are majorly obtained from qualitative self-reported experiences of learners with disabilities or their families and hence a risk for reporting or social desirability

bias and subjectivity particularly exaggeration of the difficulties reported with expectation of some kind of support to be provided. To date, there are generally scanty data from the education service providers (teachers) perspective and policy, and hence, a knowledge gap that calls for more research.

Authors' contribution

MN, LA, and RN contributed to the conceptualization of the idea, generation, and review of the literature; MN led the writing and revision of the chapter; all authors reviewed and edited the final version of the chapter.

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