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Guinea Pigs of Global Health: A Historical Analysis of Medical Experimentation and African Agency in East Africa (1900-2024)

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ABSTRACT

The interaction between Africa and the world of medical research has been marked by centuries-long exploitative dynamics. Since colonial medical expeditions through modern philanthropic health projects, the African people have been used as test subjects in medical experiments whose primary goal has been to benefit non-African populations, making Africa the world's living laboratory. This paper traces the historical path of medical experimentation in East Africa between 1900 and 2024, arguing against accounts that blame African involvement in potentially exploitative medical trials on gullibility and exploring the structural conditions that permit further exploitation. It was thoroughly researched through a desk-based historical examination of peer-reviewed literature, institutional reports, and contemporary documentation during colonial and post-colonial times. The research utilized a chronological method to follow the changing trends of medical research relations in East Africa. The study identifies three different yet related times of medical exploitation. The colonial period (1900-1960) made Africa a testing ground, with expeditions of sleeping sickness and permanent research facilities, and interventions like arsenic-based trypanosomiasis treatments that killed or blinded 10-20% of subjects. Post-independence (1960-1990) saw the persistence of extractive research relations via inherited colonial infrastructures and Cold War medical diplomacies. The modern period (1990-2024) has witnessed an escalation of exploitation by philanthropic organizations, especially the Bill and Melinda Gates Foundation which has funded over 32 billion health programs that tend to target African populations to test experimental interventions. These patterns were evident in the COVID-19 pandemic, where Africa received only 6 percent of the total number of vaccines, yet it has 17 percent of the global population and has been heavily involved in vaccine trials. Involvement of Africans in medical research is not a sign of gullibility but rational reactions to structural vulnerabilities such as poverty, inadequate healthcare access, and poor health systems. The fact that exploitative practices persist illustrates the perpetuation of colonial-era power structures in modern global health. To resolve these inequities, radical reforms to research governance frameworks are necessary, such as increased African control over research agendas, fair benefit-sharing practices, and more effective accountability mechanisms of external research actors. Africa will remain a continent serving foreign medical interests instead of being a beneficiary of the research done on its populations without such structural reforms.

Keywords:
Medical experimentation, Africa, colonial medicine, global health equity, pharmaceutical trials, structural violence

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INTRODUCTION

On March 6, 2020, the COVID-19 pandemic was spreading worldwide, and two French doctors were featured on French television station LCI discussing possible vaccine trials. Dr. Casually, Jean-Paul Mira, the director of intensive care at Cochin Hospital in Paris, proposed that a tuberculosis vaccine should be tested in Africa, since there are no masks, no treatment, no intensive care, a bit like in some AIDS studies or with prostitutes (Busari & Wojazer, 2020; Euronews, 2020; Singh, 2020). Although the doctors subsequently expressed regret over their words, the scandal they created highlighted an colonial age-old trend that has characterized medical research in Africa: the continents long-standing use as a guinea pig on which future treatments can be tested, which will ultimately be applied to more affluent groups in other regions (Gerlard, 2025; Hoffman & Lee, 2020; Noko, 2020).

The harsh truth of global health inequity became unmistakably evident three years later. When wealthy countries were rolling out third and fourth COVID-19 vaccine boosters, Africa was devastatingly under-vaccinated. By December 2022, 28 percent of the African population had been fully vaccinated against COVID-19, although the continent represented 17 percent of the global population (Kunyenje et al., 2023). This was one of the most dramatic instances of what has since been called vaccine apartheid a system in which Africans are used as test subjects in medical research but are systematically denied fair access to the fruits of that research (Sidibé, 2022).

The COVID-19 pandemic is therefore not only the most recent expression but also the most salient instance of a historical trend which has defined the interaction between Africa and global medical research over the last century. This trend is what postcolonial theorists have described as the guinea pig phenomenon, in which African bodies and communities have been repeatedly used as test subjects in medical interventions that are largely aimed at benefiting non-African communities (Spigner, 2007). Since the first colonial medical missions to modern-day charity health programs, Africa has been what one scholar called the living laboratory of the world (Tilley, 2011).

The portrayal of Africans as eternally "gullible" objects of medical experimentation reflects not only a basic misconception of African agency but also a convenient packaging of structural inequalities that enable such exploitation (Abdulwahab et al., 2024; Oke & Sibomana, 2025). Instead of being a manifestation of a state of innocent naivety, African involvement in medical trials is, in many cases, a rational choice in response to a lack of medical care, financial limitations, and the prospect of receiving medical treatment that would otherwise be inaccessible (Geissler & Molyneux, 2017; Graboyes, 2015; Kelly, 2014). African gullibility does not explain why medical research practices are exploitative in Africa, but rather because of systematic power dynamics, economic dependency, and the colonial medical institutions that still influence modern global health interventions.

This article explores the historical development of medical experimentation in East Africa since the beginning of the colonial era up to the present, and how structural vulnerabilities have been systematically exploited by foreign actors involved in medical research. This paper presents the thesis that although the participants and the rationales underpinning medical research in Africa have changed over the last century, with the colonial rulers giving way to modern philanthropic groups, the underlying power structures that facilitate exploitation have stayed strikingly similar. The paper criticizes accounts that blame African involvement in potentially exploitative medical experiments on gullibility or ignorance, showing instead that rational actors negotiate within systems that seek to harvest value out of African bodies and offer little in return.

East Africa offers a particularly powerful prism through which to consider these dynamics because of its distinctive role as a key recipient of international health assistance and a key site of medical research activity (Graboyes, 2015;

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Headrick, 2014). Medical trials and health interventions of high profile have been conducted in countries like Kenya, Uganda, Tanzania, and Rwanda, including colonial-era malaria research and modern vaccine trials funded by institutions like the Bill and Melinda Gates Foundation (Alt Africa Review, 2025; Bill & Melinda Gates Foundation, 2025). This concentration of research activity, combined with the region's well-documented health challenges and relatively stable political environment, has made East Africa a preferred destination for international medical researchers seeking to conduct trials on tropical diseases, reproductive health interventions, and vaccines.

The modern era has seen an escalation in medical research efforts in East Africa, especially in the field of reproductive health. An example is the Bill and Melinda Gates Foundation, which has funded family planning efforts in the region, such as the introduction of long-acting contraceptives and increased community-based distribution efforts (Bill & Melinda Gates Foundation, 2025; Spooner, 2015; UNFPA Kenya, 2016). Although such initiatives are framed as empowering women and enhancing maternal health outcomes, critics have expressed concerns regarding the targeting of African women to experimental contraceptive methods that have not been broadly tested in developed countries, which follows historical patterns of using African bodies to test interventions that are to be used worldwide (Alt Africa Review, 2025; Kasianenko et al., 2025; Spooner, 2015).

The COVID-19 pandemic was a watershed event that demonstrated the full scope of global health inequities. Although African countries were involved in many COVID-19 vaccine trials, the continent received just 6% of all vaccines in the world, yet it has 17% of the global population (Sidibé, 2022). High-income nations bought vaccines in quantities that would be enough to vaccinate their populations several times, whereas African nations could barely reach minimal vaccination levels. This allocation pattern was indicative of what researchers have described as vaccine nationalism, where rich nations prioritized access to vaccines by their own populations over international fairness (Kunyenje et al., 2023).

The notion of African gullibility in medical experimentation should be framed against this larger context of structural inequality and constrained options. African communities that undergo medical trials do not necessarily do so in innocence of the risks they may face, but because medical trials are the only avenue through which they can access medical care (Kelly, 2014). The gullibility characterization of such participation is used to obscure the systemic forces that generate these limited options and at the same time blame African communities in their exploitation.

This discussion is especially timely considering the ongoing rise in medical research in Africa and the increasing presence of philanthropic organizations in global health policy-making. The Bill and Melinda Gates Foundation has emerged as a key stakeholder in the African healthcare systems, with the foundation alone spending over 32.9 billion dollars of its 43.5 billion endowment on health programs, most of which are implemented in African contexts (Ahmed, 2017; Gates Foundation, 2025; Kasianenko et al., 2025). The ability of such organizations to influence research priorities, policy decisions, and even which health interventions are funded raises significant questions of accountability, consent, and to what degree African communities are benefiting through research on their populations.

The article continues with a chronological analysis of medical experimentation in East Africa, starting with research projects during the colonial era and continuing with modern-day philanthropic interventions. The historical periods are examined to shed light on the continuities and shifts in the external actors approach to medical research in African contexts, and how African communities have reacted to and negotiated such interventions. The analysis questions simplistic accounts of African involvement in medical research and traces the structural forces that have facilitated the presence of exploitative practices across various historical contexts.

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By documenting the historical trajectory of medical experimentation in East Africa, this paper seeks to contribute to broader discussions about equity in global health research, the ethics of conducting medical trials in resource-constrained settings, and the need for accountability mechanisms that ensure African communities receive meaningful benefits from research conducted on their populations. The analysis demonstrates that addressing current inequities in global health requires not only increased funding or improved access to medical technologies, but also fundamental changes to the power structures that have historically governed medical research in Africa.

A Question of Ethics and Human Rights Concerns

Morality is a building block of life and medical research. Every aspect of human life and interaction between people regardless of religious, science nor whatsoever background are grounded on the extent by which people perceive and act in a manner viewed by many as moral. According to the normative ethics, morality is premised on the what people ought to do in the context of what is right or wrong. The subject of medical research experimentation in Africa has remained an elusive ethical and moral question emanating aggressive human rights concerns from the entire continent and even the global community. In a world marred with diseases and ever degrading human life, medical science has proved to be a panacea to promoting and saving human life. Medical research from time from the time of its commencement has solved many cases threatening the existence of life from the yellow fever pandemic, malaria, HIV/AIDS and currently the coronavirus pandemic. Scientific evidence and even common sense dictate that medical research is paramount for the continuity of human race; however, this important field is also characterized by unending moral and ethical questions (Avasthi et al., 2013; DeStefano et al., 2022; Kruk et al., 2018; Salah, 2024). With a keen interest to African which has often been termed and branded as 'lab rat' for many medical research calls for a need to revisit the ethics and human rights concerns on the medical research and experimentations in the continent.

The need and interest in critically debunking and intersecting the historical and contemporary views medical research and experimentation practices and ethical processes more so in African and other third world countries has been immeasurable. First and of great importance, Vere (2001) points out that interventions of helping the sick and a population nearly to the verge of extinction does not happen by accident, an inspiration of mere guesses not does it happen due to hit-or-miss trials. This clearly outlines the vitality of medical research. Vere (2001) further notes that at the base of the medical and scientific testing are human volunteers who are a center stage for finding new or better treatment and interventions options as well as discovery of how diseases work. Having mentioned the value of human volunteers, the discussions in this paper are limited to experimentation on humans as laboratory specimens. The genesis of medical and scientific research and experimentations if majorly on animal primally rats and Guinea pigs then advanced to human subjects, the paper on animals besides humans would be discussed in a different context and paper.

Medical research and ethics are inseparable entities. Medical and related scientific research and experiments ought and must be undertaken in an ethical manner paying ultimate respect to the human participants and specimens. This necessitated the need for formulation and institutionalization of national, regional and international codes and protocols to regulate medical research and experimentations. The codes and protocols are not stand-alone directive more they are majorly drawn of reflected upon on the biblical comprehension of the value and most importantly the intrinsic dignity of human life. Herein, as the codes and protocols lay foundation to ethical medical and scientific research on humans, religious bodies and the entire social and/or political institutions such as interest groups are key watchdogs in ensuring the said and required respectful and dignified researches are

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adhered to and protected. Vere (2001, p. 1) argues that:

> *The advantage of experiment-based research is that the results are often clearer to understand. In controlling the situation, however, the experimenters may alter it so that the results are less applicable to real life. Human experiments must be performed ethically. The work should be governed by safeguards that establish high levels of safety and create a system of honesty between the doctors and the volunteers. These demanding standards reflect a philosophy of the high value of individual human life that has its roots in biblical thought.*

Reflecting on the above statement and view from Vere, medical researches and trials conducted in Africa have been and remain attracting vehement ethical questions and concerns on the extent at which the said international codes and protocols for protecting human life when experimentation is adhered to.

African countries continue to be centerpiece specimen for medical experimentations and clinical trials by large global pharmaceutical companies. Historical evidence elucidates a myriad of unethical medical experiments despite the many international, regional and national codes of ethics for conducting the experiments and trials. For every human and animal related scientific studies, detailed experiment and trial protocols are developed and approved by the relevant ethical bodies, an assurance of integrity and safety of the trials. As the trend of unethical experiments and trials remain persistent with many unresolved historical cases, questions are raised whether the protocols and code of ethics are sufficient. Consequently, questions arise to whether the narrative of the incidents is due to longstanding misconceptions on the relevance of scientific medicine by the participants, researchers and the pharmaceutical companies. For instance, in 2015, the Catholic Bishops issued as boycott call for polio vaccination in Kenya, only a study by (Njeru et al., 2016) on the effect of the boycott to find only 1% decline in the national vaccination coverage, that is 93% compared to the 94% coverage in 2014. The search for the vaccine of coronavirus pandemic has ensued a myriad of ethical question more with the statement by French doctors that the vaccines should be tested in Africa (BBC, 2020; DW, 2020; Okwonga, 2020).

This alarmingly raises further concerns to blame those experimented on or the experimenters. Was the call for boycott as an aspect of Catholic belief towards human dignity? What role can religion play is resolving the persistence of unethical medical experimentation and clinical trials in Africa? In addition, could be the persistence of unethical medical experimentation as an aspect of negative beliefs and perceptions towards Africa or it is due to the 'naivety' of the continent.

COLONIAL MEDICAL EXPERIMENTATION AND THE ESTABLISHMENT OF AFRICAN "LABORATORIES" (1900-1960)

The Sleeping Sickness Expeditions: Early Patterns of Extraction

The turn of the twentieth century saw one of the most catastrophic health disasters in East Africa, with sleeping sickness (human African trypanosomiasis) epidemics ravaging the Lake Victoria area. The disease claimed over 250,000 lives in Uganda and over half a million in the Congo basin between 1900 and 1910, attracting immediate attention on the part of colonial powers who perceived the crisis as a humanitarian catastrophe and an economic danger to their imperial ambitions (Headrick, 2014).

The colonial approach to sleeping sickness set precedents of medical intervention that would continue throughout the century. During the period between 1900 and 1914, at least 17 medical expeditions were sent by Britain, France, Germany, Portugal, and Belgium to their African colonies to study and fight the disease (Ehlers, 2022; Graboyes, 2015). These expeditions marked the initial large-scale application of European medical knowledge in Africa, yet they also created Africa as a laboratory instead of a hospital.

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The Sleeping Sickness Commission of the British Royal Society, formed in 1902, was a prime example of the extractive character of early colonial medical research. Under the leadership of Aldo Castellani, and subsequently David Bruce, the commission was tasked with determining the causative agent and transmission route of the disease- knowledge that would serve the interests of the imperial administration and European scientific prestige, not the African communities (Berrang-Ford et al., 2006; Boyd, 1973; Fèvre et al., 2004). The efforts of the commission resulted in the discovery of Trypanosoma brucei as the causative parasite, a finding that increased European knowledge of tropical diseases but did little to improve treatment regimens of afflicted African populations.

The experimental treatments used in this era reflected a disconcerting eagerness to expose African people to risky interventions whose consequences were not well understood. Initial treatment methods involved the use of arsenic-based drugs like atoxyl and tryparsamide, which was known to induce blindness and death in 10-20% of users (Steverding, 2008). In the 1920s, Louise Pearce of the Rockefeller Institute conducted trials of tryparsamide on "millions of people" in the Belgian Congo, setting a precedent of mass human experimentation that would define medical research in Africa over the next decades (Brun et al., 2010; P. G. Kennedy, 2013; P. G. E. Kennedy & Rodgers, 2019; Steverding, 2008).

The Laboratory State: Infrastructure for Experimentation

The colonial era also saw the creation of fixed research facilities that turned whole African regions into de facto medical laboratories. This pattern was typified by the creation of laboratories in The Gambia in the 1940s by the Medical Research Council, which as one observer termed it, turned the small country into the research laboratory of Africa (Kelly, 2014). The institutions were not meant to cater to the needs of African health, but to produce scientific knowledge that could be consumed internationally.

Several important features defined the colonial medical research infrastructure as conducive to exploitation. First, the introduction of demographic surveillance systems that viewed African populations not as patients but as research subjects. The MRC thirty-year demographic survey of four Gambian villages, though scientifically significant, demonstrated the degradation of African societies to objects of research (Kelly, 2014). Second, the establishment of legal and administrative structures that favored research over treatment, where colonial authorities offered researchers unprecedented access to African bodies and communities.

Another aspect of colonialism was the rise of what Tilley (2011) has referred to as Africa as a living laboratory- the methodical use of the continent as a trial site to experiment with interventions that would be implemented in other locations. The rationale of this practice was clearly expressed by the colonial administrator Raymond Firth, who stated that Africa provided a microcosm of conditions which in fact were quite common elsewhere in larger and less controllable regions (Tilley, 2011, p. 209). This notion of Africa as an oversimplified form of more complex issues elsewhere justified the use of African populations as experimental subjects whose misery could be used to create knowledge that would apply to global health problems.

African Responses and Resistance

Although colonial medical relations were characterized by power imbalances, African communities were not inactive receivers of medical interventions. Historical data indicate that Africans responded to colonial medical inquiry in a sophisticated manner, including selective collaboration and resistance. The terms of medical interventions were frequently negotiated with communities, requiring compensation, care access, or adjustments to research procedures (Webel, 2019). The political aspects of disease management were especially pronounced in colonial reactions to sleeping sickness, when African populations occasionally opposed measures like forced migration and compulsory medical testing. These reactions were not

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indicative of ignorance or gullibility but rather logical evaluations of the expenses and advantages of colonial medical treatment. African societies tended to have highly developed knowledge of disease processes and treatment, which was often ignored or stolen by colonial health workers without any credit (Doyle, 2023; Feierman, 1985; Tilley, 2011).

POST-INDEPENDENCE CONTINUITIES: THE PERSISTENCE OF EXTRACTIVE RESEARCH (1960-1990)

Inherited Infrastructure and New Dependencies

With the termination of colonial rule in East Africa, the region ceased to serve as a location of medical experimentation. Rather, the new states of independence inherited medical research infrastructure that was structured to fulfil foreign, but not local, interests, establishing new types of dependency that sustained extractive research relationships. The persistence of institutions like the MRC laboratories in The Gambia during the post-independence governments reflected how the colonial research infrastructure was embedded within African healthcare systems (Kelly, 2014). The Cold War era introduced new participants into African medical research, with both sides of the Cold War attempting to increase their influence by intervening in health (Kruk et al., 2018; Kunyenje et al., 2023; Steverding, 2008). Nonetheless, the basic dynamics of the research relationship did not change: African populations had remained the subject of research to be tested in interventions that were primarily aimed at benefiting populations in other countries with little in return in terms of the benefits of research done on their bodies.

The Rise of Global Health and Vertical Interventions

The 1970s and 1980s saw the rise of the concept of global health as an independent discipline, where specific diseases received targeted interventions instead of universal healthcare systems. This practice, as seen in smallpox eradication campaigns and immunization programs, was a new model of medical intervention in Africa that preserved the extractive logic of colonial research but took up the rhetoric of humanitarian aid (Bump, 2025; Weisz, 2025). The emphasis on vertical interventions was beneficial to international organizations and donors because it offered quantifiable results and straightforward measures of success, but it also contributed to the disorientation of African health systems. Instead of developing local medical research and health delivery capabilities, these programs formed dependency relations where African states depended on foreign expertise and resources to perform basic health tasks.

New Actors, Persistent Patterns (1990-2024) Contemporary Medical Experimentation

The Gates Foundation and Philanthropic Colonialism

The rise of the Bill and Melinda Gates Foundation as a significant force in the world health sector has led to an unparalleled influx of resources into African medical care, yet it has also fueled the debate around philanthropic colonialism and the perpetuation of exploitative research methods. The foundation has allocated $32.9 billion of its 43.5-billion endowment to health programs since 1999, much of which is undertaken in African contexts (Ahmed, 2017).

The example of reproductive health in Africa by the Gates Foundation shows how modernity reflects historical exploitation patterns. The family planning programs funded by the foundation in East Africa, such as the launch of long-acting contraceptives and community-based distribution schemes, have been contextualized as empowering women and enhancing maternal health care outcomes (Gates Foundation, 2025; Kasianenko et al., 2025; Spooner, 2015; UNFPA Kenya, 2016). The experimental contraceptive procedures being targeted at African women, however, with little prior research in advanced nations, brings back alarming resonances of historical trends in medical experimentation.

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The foundation's recent announcement of an 8-year hormonal intrauterine device specifically designed for African countries and parts of South Asia has attracted particular criticism. Critics have questioned why such devices are not first being trialed in wealthier Western nations, noting that the intervention raises "long-standing fears about who gets to decide the size of a population" (Alt Africa Review, 2025). The geographic targeting of such interventions reflects the continued treatment of African bodies as appropriate subjects for experimental interventions that would be controversial if deployed in developed countries.

HPV Vaccine Trials and the Targeting of African Adolescents

The introduction of Human Papillomavirus (HPV) vaccine trials in East Africa furnishes a modern instance of how African populations remain exploited as research subjects in interventions aimed at universal, but not local good (Adeyanju et al., 2024; Karanja-Chege, 2022; Mukthar & Chirchir, 2025). Even though cervical cancer is a major health issue in the area, the concept of the HPV vaccine trials design and implementation provokes significant concerns regarding consent, benefit-sharing, and the targeting of vulnerable communities.

Gates-funded studies like the DoRIS trial in Tanzania or the KEN SHE study in Kenya have already enrolled thousands of African adolescent girls to test reduced-dose HPV vaccination schedules (Baisley et al., 2022). Although they are packaged as a response to the needs of African populations, these trials are more so aimed at creating evidence to lower the costs of vaccination around the world instead of enhancing access to cervical cancer prevention among African women.

The fact that African adolescents were targeted in HPV research is of particular concern due to the vulnerability of this group and the historical exploitation of African children in medical research. Research reporting very high rates of HPV infection in African adolescents following sexual initiation (Baisley et al., 2022; Houlihan et al., 2016) has been employed to support intensive research interventions, yet it is not well understood how such research would benefit African populations.

COVID-19: The Final Reckoning of Global Health Inequality

The COVID-19 pandemic was the culmination of the historical trends of medical exploitation in Africa, with the peoples of the continent being extensively involved in vaccine trials and consistently deprived of equitable access to the resulting vaccines (Kunyenje et al., 2023; Makoni, 2020; Singh, 2020). This inclusion-exclusion dynamic in research but non-benefit status in practice was an illustration of what critics would describe as the phenomenon of vaccine apartheid and served as a reminder of colonial-era exploitation dynamics in modern global health.

South Africa conducted trials of both the Oxford/AstraZeneca and Novavax vaccines, and many African countries were involved in global trials of the COVID-19 vaccine (Makoni, 2020). Nevertheless, even with such research participation, Africa obtained only 6 percent of the world vaccine supply and took up 17 percent of the global population (Sidibé, 2022). The stark contrast between research enrollment and access to benefits demonstrated how African populations were still viewed as research participants and not as intended recipients of medical research.

The COVID-19 response also emphasized how quickly global health inequities can arise. As high-income countries procured vaccines in sufficient quantities to vaccinate their populations more than once, African nations could barely reach low levels of vaccination coverage. Examples include Canada, which ordered sufficient vaccines to vaccinate the population five times, and 25 African countries that did not order any vaccines at all (Development Reimagined, 2021).

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Challenging the "Gullibility" Narrative: African Agency and Rational Response

Structural Vulnerabilities and Constrained Choices

The simplification of African involvement in potentially exploitative medical research as gullibility is a misconception about the structural conditions that inform such involvement. Instead of being perceived as naive or ignorant, African participation in medical studies is often logical reactions to limited healthcare access and financial hardships that leave communities with few choices. African participation in medical research can be better explained through the concept of structural violence, as described by the medical anthropologist Paul Farmer. This paradigm acknowledges that the limitations of African communities such as poverty, inadequate healthcare services, and poor health systems make conditions in which medical research participation might be the sole avenue to medical services (Farmer, 2004).

The example of the 2015 polio vaccination campaign in Kenya has shown the intricacies of African reactions to medical interventions. Although the Catholic Church called for boycott, 93 percent of targeted children were vaccinated, which showed that communities were making rational decisions regarding risks and benefits of participation instead of merely adhering to religious or traditional authorities (Njeru et al., 2016). This minimal rise in refusal rates of 6 to 12 percentage points relative to the earlier campaigns was indicative of careful consideration of the controversy as opposed to wholesale acceptance or dismissal of the intervention.

African Resistance and Negotiation Forms

Historical and modern accounts demonstrate complex African reactions to medical studies that subvert accounts of passive reception or credulity. Such reactions culminate in selective engagement and negotiation, to open opposition, which illustrates the agency of African communities in determining how they interact with medical researchers. The religious opposition to medical procedures, such as the Catholic bishops opposing polio vaccination in Kenya, is one aspect of African agency in medical research relations (Coleman, 2014; Njeru et al., 2016). Although frequently described as irrational or retrogressive, such resistance is often a valid expression of legitimate concerns regarding the motives and responsibilities of external medical action. The worries of the bishops regarding the safety of vaccines and the secrecy surrounding vaccine testing were indicative of larger concerns regarding the exploitation of African people in medical trials.

Even African communities have proved to be able to negotiate terms of medical research participation, requiring compensation, care access, or alterations to research protocols. The effectiveness of community engagement strategies employed in projects like the Larval Control Project in The Gambia proves that African communities can be effective lobbyists of their interests when given the right platforms to participate (Kelly, 2014).

Young African Research Leadership

The modern era has seen the rise of African research leadership and capacity, which have challenged the historical trends of external domination in medical research practiced on the continent. The formation of institutions like the Africa Centres of Disease Control and Prevention (Africa CDC) and the rising presence of African researchers in international health are examples of African agency in determining research agendas and priorities (Ger et al., 2024; Nash, 2023; Okereke, 2024). Nonetheless, African autonomy in medical research remains constrained by the existence of funding dependencies and capacity limitations. COVID-19 exposed these constraints, with African nations continuing to rely on external agencies like COVAX to access vaccines despite having been central to vaccine research and development.

Contemporary Challenges and Future Directions

Accountability and Benefit-Sharing

The ongoing exploitative medical research practices in Africa provokes deep concerns

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regarding accountability and benefit-sharing in global health research. Existing global guidelines on research ethics, although highlighting aspects of informed consent and risk-benefit evaluation, have been insufficient to mitigate the structural imbalances that facilitate exploitation. The necessity of new strategies of research governance is illustrated by examples like the Gates Foundation reproductive health programs, in which the size and power of philanthropic organizations beg the question of democratic accountability and community involvement in the setting of research priorities. The capacity of the foundation to influence research agendas and policy decisions in several African countries is an indication of concentration of power that is beyond the scope of many national governments.

African Research Capacity

The historical patterns of exploitation cannot be addressed without long-term investment in African research capacity and infrastructure. This is not only technical capacity to conduct research, but also institutional capacity to set research priorities, negotiate research partnerships, and ensure that research benefits local populations. The COVID-19 pandemic demonstrated the significance of local research capacity and the impact of its lack. The inability of African nations to produce vaccines, oversee clinical trials, and obtain regulatory approval made them ineligible to receive equitable vaccine access. Developing this capacity is one of the most important actions in making Africans less vulnerable to exploitative research relationships.

CONCLUSION

The history of medical experimentation in East Africa can be seen as a history of persistent exploitation that has responded to shifting political and institutional conditions without altering its core nature. Since colonial sleeping sickness expeditions, through modern philanthropic health programs, African populations have remained research subjects of interventions aimed at benefiting non-African populations.

The description of African involvement in such research as a sign of gullibility is a root misconception of the structural contexts within which such involvement is framed. Instead of naivety or ignorance, African participation in medical research is often a rational reaction to constrained options that poverty, lack of access to health care, and poor health systems have produced. The ongoing nature of exploitative research practices is indicative of the legacy of colonial-era power structures instead of the innate vulnerability of Africans to manipulation.

The COVID-19 pandemic acted as a vivid reminder of these long-standing inequalities, with African involvement in vaccine research being accompanied by systematic vaccine benefit exclusion. The persistence of these trends in the twenty-first century indicates the insufficiency of the existing strategies regarding the ethics of research and global health governance.

To tackle these historical trends, it is not just about better funding or access to medical technologies. It requires basic shifts in the power dynamics that guide medical research in Africa, such as enhanced African control of research priority-setting, fairer benefit-sharing practices, and more robust accountability mechanisms of external research players. It is only through these structural transformations that the historical trend of African exploitation in medical research can be broken, making future medical interventions productive to African communities and not merely exploitative of them.

The challenge facing the global health community is whether it will acknowledge and address these historical patterns of exploitation or continue to perpetuate them under new justifications and through new institutions. The answer to this question will determine whether the twenty-first century witnesses the emergence of truly equitable global health relationships or the continued subjugation of African communities to external medical agendas.

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