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Social Dimensions of Antimicrobial Resistance and an Anthropological Approach: Analytic Review

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Abstract

Purpose: The objective of this paper is to devise a comprehensive and layered framework to tackle antimicrobial resistance (AMR). It aims to weave together the strands of ethnomedicine, healthcare system analysis, and anthropological perspectives on illness, aligning with universal healthcare principles to encourage community participation and address the societal roots of health inequalities. The framework seeks to address AMR through a lens that views health disparities not merely as medical issues, but as complex phenomena shaped by cultural, social, and structural factors.

Methodology: The research employs a single-case study design to synthesize and analyse interdisciplinary insights into AMR. This approach facilitates an in-depth understanding of how various elements, such as cultural beliefs, healthcare practices, and community dynamics, interact and influence the spread and management of AMR. By focusing on a single case, the study intends to meticulously document and interpret the nuanced interactions between these factors, providing a detailed narrative that captures the essence of the AMR challenge in a global health context. The study utilizes 66 varied references, such as journal articles, book excerpts, theses, reports, and websites, sourced from academic venues and the internet, published between 1946 and 2023.

Findings: Through its investigation, the study presents a healthcare approach that marries the traditional wisdom of ethnomedicine with the precision of biomedicine, underscoring the significance of cultural competence in formulating AMR mitigation strategies. It dissects the intricate relationship between the three primary health sectors—popular, professional, and folk—and disentangles the sociocultural concepts of 'disease' and 'illness' as distinguished by medical anthropologists. The research calls for a reconceptualization of healthcare systems that goes beyond the biomedical model, advocating for an integration of the sociocultural, economic, and political dimensions that influence health and illness manifestations.

Unique contribution to theory: This study's unique theoretical contribution lies in its interdisciplinary approach to health disparities and AMR. It proposes a model that balances the rigor of scientific research with the insights gleaned from traditional health practices, placing a premium on the dynamics of community involvement and the myriad influences on health. By doing so, it offers a more equitable, sustainable, and contextually relevant paradigm for health practices and policies. This paradigm shift is intended to provide actionable insights for policymakers and health practitioners, enabling them to devise strategies that are not only scientifically sound but also culturally sensitive and broadly applicable. The framework envisages a future where health interventions are tailored to the lived experiences of diverse populations, potentially transforming the landscape of global health and AMR strategy.

Keywords: *Antimicrobial Resistance, Biomedical, Global Health, Medical Anthropology.*

INTRODUCTION

Antimicrobial resistance (AMR) poses a significant and complex obstacle within the realm of global health, necessitating a more holistic strategy that extends past the traditional biomedical approach.[1] While biomedicine has a proven track record in combating infectious diseases and reducing mortality, it encounters considerable difficulties when confronted with the complexities of AMR.[2] It is within this context that an anthropological approach becomes relevant and indispensable.[3] This approach posits that an exhaustive understanding of AMR involves integrating socio-cultural determinants,[4] local health practices,[5] and structural inequalities into existing health strategies.[6]

The current discourse on AMR is enriched by recognizing the value of ethnomedicine and medical anthropology,[3] extends the understanding of health to encompass the cultural, social, and structural determinants that critically influence health outcomes. Through the lens of medical anthropology, AMR is revealed as a complex challenge that interweaves biological factors with socio-cultural practices.[3] As antimicrobial drugs face reduced effectiveness against evolving pathogens, comprehending the cultural, social, and behavioural dimensions surrounding their use is emphasised.[3] This paper argues for a patient-centred care paradigm that acknowledges the cultural context in treatment practices, the impact of societal structures on health behaviours, and the need to recognize the lived experiences of individuals within diverse health landscapes. Therefore, the following question is raised: What is the impact of integrating cultural, social, and structural determinants of health, as informed by ethnomedicine and medical anthropology, on the mitigation of antimicrobial resistance (AMR)?

This paper bridges the gap between recognising these factors and their practical application within health interventions. It charts a course incorporating anthropological insights into AMR strategies, scrutinizing their operationalization within policy-making, healthcare delivery, and community engagement. Moreover, societal determinants of health are instrumental in shaping the presence and progression of illness and wellness. A profound comprehension of the societal roots of these health concepts is crucial in addressing the multifaceted nature of health disparities. An in-depth exploration of how societal factors interact with health is vital, as these factors contribute to an uneven distribution of illness, thus potentially exacerbating the challenges of AMR. The subsequent sections will dissect the intricate connections between societal constructs and health outcomes, emphasizing how inequality can lead to disparities in wellness and illness.

THEORETICAL FRAMEWORK

This study utilizes three fundamental theories to explore the multifaceted issue of antimicrobial resistance (AMR) within global health contexts. Grounded in Social Constructionism,[7] the research examines how societal beliefs and interactions define and manage the concepts of health, illness, and treatment.[7] This perspective recognizes that perceptions of AMR are not static but are shaped by cultural norms and practices. Medical Anthropology theory[8] is pivotal in analysing how

individual and collective health behaviours, deeply rooted in cultural and social structures, influence the spread and containment of AMR. It also provides insight into the acceptance and efficacy of medical interventions across different societies. Lastly, Systems Theory [9] is applied to healthcare to understand how various components of healthcare systems interact dynamically, affecting the evolution and response to AMR. This theory underscores the complexity of healthcare as an interconnected network where changes in one part can significantly impact the whole. By integrating these theories, the study offers a comprehensive approach to developing strategies for AMR management, emphasizing the need for culturally aware, systemic health interventions that can be adapted to diverse global health landscapes. The research is driven by a theoretical framework that informs the analysis and guides the synthesis of recommendations for enhancing global health practices and policies in the fight against AMR.

METHDOLOGY

The study adopts a single-case study design to construct an interdisciplinary framework for combating antimicrobial resistance (AMR).[10] It will systematically synthesize insights from anthropology, healthcare systems analysis, and community engagement strategies, alongside the examination of societal determinants that influence illness and wellness. This design is chosen for its ability to deeply explore and integrate these complex, interrelated components into a cohesive understanding of AMR. The case study will center on AMR as a global health challenge, drawing from a range of ethnomedical practices, health disparities, and anthropological perspectives on disease dynamics. The research will critically engage with existing scholarly discourse on these topics to uncover underlying patterns and principles that inform AMR proliferation and resistance. Acknowledging the critique often directed at single-case studies for their limited scope in generalization, this study aims to transcend this limitation by extracting and applying universal elements from the case to broader contexts. This approach will facilitate a nuanced exploration of AMR, offering valuable insights for policy-making and health interventions aimed at mitigating disparities and enhancing healthcare outcomes worldwide. The research uses the 66 different types of sources, whether it is a peer-reviewed journal article, a book chapter, a thesis, a report, or a website. These sources would have been accessed through various means, such as academic libraries, online databases, journal subscriptions, or directly from the internet. The years of publication for these references range from 1946 to 2023.

LITERATURE REVIEW

Ethnomedical Systems

“Nature is not all that is visible to the eye... also includes the inner pictures of the soul.”

Edvard Munch (1863)

[11.p.35]

For over a century, humanity has delved into the secrets of nature, constantly marvelling at its myriad revelations. Nature provides an abundance of resources, including food, shelter, and medicine, which are essential for human sustenance, growth, and survival.[11] One particular area of interest is the study of traditional natural remedies across diverse cultures, a field known as "Ethnomedicine."[11] This discipline explores the time-honoured medicinal practices of ethnic communities that have been developed over thousands of years and are deeply ingrained in cultural traditions. [11,12,13]

Ethnomedicine, diverging from biomedicine, delves into a culture's healing traditions and beliefs, centring on individual experiences, conversational exchanges, collective knowledge, and customary health practices.[13] It also considers the broader ecological and interpretative health and illness contexts. Such medical systems, particularly those of the indigenous Americas, are characterized by their divergence from the reliance on biomedicine and scientific materialism.[14] The field of ethnomedicine has been traditionally associated with medical anthropology and was pioneered by Rivers in 1924.[15] He treated medical systems as societal constructs and suggested that even the most seemingly irrational healing practices are logical within a culture's perception of illness. Rivers' approach underscored the notion that ethnomedical healing practices are closely tied to religious or magical beliefs. As stated,

> "They have not seen biomedicine as susceptible to the same cultural analysis to which they readily subject other medical systems….They have defined 'ethnomedicine' …to exclude 'scientific' medicine….and medical anthropology texts… [15, p. 4].

Ethnomedical healing practices, In Islamic communities, there is a profound belief in the Qur'an as a source of healing and guidance. In Al Qur'**an,** AL Karim said, "And We send down from the Qur'an that which is a healing and a mercy for the believers," Verse 82 of Al-Isra encapsulates this sentiment.[16] It is understood not as an indication of separation but as an affirmation that the entire Qur'**an** is a remedy. This remedy is a means to dispel doubts and confusions, providing clarity and guidance and removing the ailments of ignorance from the heart. Also, the concept of illness within these communities is seen through a spiritual lens, as highlighted in "And when I am sick, He will heal me." Surat Al Imran: Verse 49.[17] Illness is perceived as both a test of patience and faith and a reminder of humanity's dependence on Allah. It serves to awaken the soul from preoccupation with worldly matters, drawing attention to the need for God and the importance of seeking His aid and expressing gratitude for His blessings. Also, mentioned in Al Qur'**an** about the Prophet of Jesus, peace be upon him, as he assured people that all his great miracles are from his Lord and Creator, "And I heal the blind and the lepers, and I bring the dead to life by God's leave, and I inform you of what you shall eat and what you shall store in your houses." Surat Al Imran: Verse 49.[18] These narratives resonate deeply with Islamic communities, affirming their faith in the divine power of the Qur'**an** not just as a holy text but as a source of mercy, guidance, and recovery for believers.

Ackerhnecht's understanding of indigenous healing practices appeared to weaken when analysing biomedicine.[19] He asserted that while "primitive medicine" heavily relies on magical or religious elements with a few rational aspects, biomedicine is predominantly sensible and scientific but includes some supernatural elements. Moreover, he contended that, unlike indigenous healing, biomedicine has discarded its sacred character, social control function, and moral significance.[12] Despite Ackerknecht's delves insights into the cultural context of healing beliefs and their correlation with broader societal conditions, he seemed unaware of how biomedical concepts shaped his comprehension of indigenous healing, the political dynamics within biomedicine, medicine's societal role in capitalist contexts, and the societal construction of contemporary medical issues. Hughes adopted a medico-centric viewpoint when defining ethnomedicine as indigenous healing practices "not explicitly linked to the conceptual framework of modern medicine"[20. p,78] within the International Encyclopedia of the Social Sciences.[17] There has been uncertainty within the discipline regarding the degree to which biomedical restrictedness is shaped by social construction rather than proven effectiveness.[21]The prominence of Western biomedicine globally is less due to its clinical successes and more because of its political effectiveness.[17] It became the leading medical system alongside the rise of industrial capitalism, often aligning with and advancing the interests of the industrial bourgeoisie.[21] The term "bourgeois medicine"[21, p. 37], characterizes the prevailing medical system and highlights its role in reinforcing the dominance of bourgeois societal structures and classes across both the developed and the dependent capitalist world. This characterization by critical medical anthropology (CMA) advocates assigns a different meaning to "bourgeois medicine" than Konner's interpretation, placing critical emphasis on the socio-economic influences that shape biomedicine's global domination. The term in question denotes the pervasive influence of the primary medical system that upholds and perpetuates the societal and class structures prevalent not only in the United States but also internationally, across both developed and interdependent capitalist markets, Konner said,

> Identifies a key attribute of the so-called Western or scientific health care system, namely its role in the promotion of the hegemony of capitalist society generally and the capitalist class specifically. Capitalist medicine is not a 'thing' or a set of procedures and treatments so much as it is a particular set of social relationship and an ideology that legitimize them.[8, p.37]

CMA has analysed the impact of implementing a medical system rooted in bourgeois principles within socialist-oriented nations, scrutinizing its broad ideological reach, exemplified by the Soviet healthcare model's categorization by Navarro as 'bourgeois.'[8] The adoption of biomedical methods and technology in such countries does not necessarily align with the classist underpinnings of biomedicine found in capitalist contexts.[8] Acknowledging the success of certain biomedical interventions, Critical Medical Anthropology strives to investigate how these methods can be influenced by factors that extend beyond the realm of therapeutic care.[8] This leads CMA advocates to champion an evolved form of medical anthropology that rectifies the limitations of past

approaches by adopting a perspective that is both progressive and comprehensive. This is aligned with ethnomedicine, which explores medical practices and beliefs within specific cultural contexts, including those that diverge from Western biomedical models.[8] The critical medical anthropologists' focus on the influence of socio-political factors on biomedical practices resonates with ethnomedicine's approach to understanding health within a cultural framework.[21, 8] Both perspectives challenge the conventional biomedical narrative by integrating a broader view of health that encompasses cultural, social, and ideological dimensions, thus offering a more holistic understanding of healthcare practices.[22] While other professional medical systems like homoeopathy, Ayurveda, Unani, and Chinese medicine are practised worldwide, the alignment of biomedicine with the capitalist economy's growth has led to its domination.[22] However, biomedicine's prominence is largely due to its association with the growth of the capitalist economy, which has facilitated its widespread adoption and influence, often at the expense of these traditional and culturally rooted medical practices.[8] While biomedicine has become the dominant healthcare model globally, there is a need to recognize and integrate the value of various traditional medical systems to achieve a more holistic and culturally sensitive approach to health and healing.

Historically, biomedicine has been depicted as fundamentally distinct from other medical systems due to its adherence to naturalistic causation.[21] This distinction has often hindered a comprehensive understanding of ethnomedicine within medical anthropology.[8] Religious healing systems, much like religious groups, often reflect societal dynamics related to class, race, and gender.[22] For example, in some native American tribes, women held esteemed roles as healers and religious figures. They embarked on spiritual quests, including fasting and solitude, especially during menstruation, when they were considered highly powerful.[22] This time was likely seen as a chance for spiritual and personal growth, enhancing solidarity among women. Their healing roles were vital to the community's harmony and cohesion.[22, 23] Additionally, many Christian Science healers, particularly women, do not receive substantial financial compensation for their spiritually-focused healing services. This is often mitigated by the fact that many are part of dual-income households and are not solely dependent on healing for their livelihood.[8, 24]

Similarly, Anglo-American Spiritualism, which emphasizes metaphysical healing, tends to serve the lower-middle classes and provides opportunities for women to act as healers.[8] Evangelical faith healing, rooted in the Holiness and Pentecostal traditions, has traditionally catered to the socio-economic and spiritual needs of working-class white and African American communities.[8] Mainstream biomedicine in the U.S. often operates within a framework that does not fully accommodate the cultural beliefs and practices of its diverse population, whereas alternative methods are more inclusive of these varied cultural perspectives. Moreover, the high costs and inaccessibility of conventional healthcare often marginalize lower-income and underinsured groups. In response, alternative practices have emerged as more accessible and affordable options, offering a crucial counterbalance to the economic barriers within the healthcare system.

Ethnomedicine, with its diverse range of practices deeply embedded in cultural traditions, serves as a bridge between the healthcare sector and complex societies.

Ethnomedicine, which encompasses culturally ingrained health practices, has a significant role in addressing Antimicrobial Resistance (AMR).[3] Such traditional practices present substitutes to conventional antibiotic treatments, which is particularly beneficial in areas battling rising AMR. The cultural alignment of ethnomedicine enhances community engagement and commitment to treatment alternatives that do not rely on antibiotics. Integrating such traditional health practices within the larger healthcare framework could lead to reduced overuse of antibiotics, providing a diverse range of treatments for conditions that do not necessarily demand antibiotic usage. Incorporating ethnomedicine into the wider healthcare sector can be a strategic approach to combating Antimicrobial Resistance (AMR).

Sectors in Health Care

Medical systems in complex societies can be categorized into three main sectors: popular, professional, and folk.[9] Understanding these sectors is crucial for comprehending how different societies approach health and illness. They each play a role in how individuals within a society understand their health, seek treatment, and heal, reflecting the broader cultural, social, and economic factors that define a community's approach to well-being.

The popular industry, which is informal and nonprofessional, encompasses personal networks and community-based care, initiating the recognition and response to illness.[25] It includes a range of treatments, from home remedies to lifestyle changes and is where most initial healthcare actions occur.[9] Despite its less structured nature and lack of formalized training and payment for caregivers, this sector plays a crucial role in health maintenance. It reflects the core beliefs about disease within a society.[9] It also serves as the foundation for seeking medical attention in the more formalized professional and folk sectors.[21] The popular sector forms the most extensive part of any ethnomedical system, comprising non-professional, everyday individuals who often take the first steps in health maintenance and illness identification. This sector has multiple layers, from personal and community health practices to broader social networks.[9] This sector is influenced by collective cultural values prioritising group well-being and social harmony. Pauline's writings, in several instances, illustrate how individual health issues are interpreted through a collective lens, implicating the community in dealing with illness. Individuals navigate through different healthcare options based on their conditions.[9] They often use home-based remedies and community knowledge for common, minor health issues. Many recovers with these methods, showcasing the body's inherent healing abilities. They seek formal medical attention for advanced care and possible pharmaceutical intervention if conditions worsen.[9] Alongside this, some might pursue spiritual or alternative treatments for additional support.[8] This multi-faceted approach to health care is personal, with individuals managing their journey across various health sectors.

In ancient times, the professional sector of healing was comprised of trained and credentialed practitioners. Historical figures like Ben Sira acknowledged the skill of physicians while maintaining that ultimate healing came from the divine.[9] This dual recognition of professional medicine and divine intervention reflects a broader cultural understanding of health and healing. Historical texts from a wide temporal span reflect the knowledge of plants and natural remedies used for healing, which were often linked to rituals and worship in places such as shelters.[9] The interplay between traditional healing practices and religious worship was evident, with patients offering votive pieces in thanks for their healing. Throughout these societies, the concept of health care was multifaceted, blending professional medical approaches with broader social and religious practices, which collectively informed the ethos of healing during that era.

The folk sector encompasses the realm of non-professional, non-bureaucratic specialists in ethnomedical systems, often drawing from and akin to the popular sector.[24] In the ancient world, unlike in contemporary Western medicine, there was no sharp division between the sacred and the secular, as religion and healthcare were closely connected.[24] Folk medicine typically involves elements of magic and spirituality, with local healers being key figures.[24] These healers usually share their clients' worldviews, live within their communities, treat patients in non-institutional settings, and accept the patients' descriptions of symptoms, treating the entirety of reported ailments as part of a syndrome. In the early Christian communities, many of the healing practices could be categorized within this folk sector, as they were embedded in the community and shared the cultural and religious beliefs of the people.[24]

Healthcare is approached differently by patients who may choose to use one or multiple sectors of care—popular, professional, or folk—in various combinations or successions.[9] Often, there is no coordination between different healthcare providers, which can lead to complications when additional treatments are used without full disclosure. In Western cultures, many patients using complementary and alternative medicine (CAM) do not inform their primary care doctors, posing risks due to the potential interactions with other treatments.[24] Healthcare paths are highly individualized, as patients independently navigate and coordinate care across different health sectors.

Grasping the multilateral structure of medical systems, which includes the popular, professional, and folk sectors, is crucial for a comprehensive approach to Antimicrobial Resistance (AMR), particularly in field research or thematic studies.[25] In the popular sector, community norms and practices take centre stage, often being the first line of response to health issues. This sector's understanding is essential to uncover local practices that may contribute to AMR, such as the unsupervised use of antibiotics. It also provides insights into community education and the potential barriers to effective communication about AMR. The professional sector offers a vantage point into the formal healthcare system, revealing prescribing patterns and the application of antibiotic stewardship. Knowledge of this sector is pivotal for designing and implementing surveillance systems to monitor AMR trends and crafting targeted interventions. Meanwhile, with

its tapestry of traditional and non-conventional healing modalities, the folk sector opens avenues to alternative treatment pathways. This sector can potentially offer supplementary treatment options that reduce the burden on antibiotics, thereby diminishing the likelihood of resistance development. In fieldwork focussed on AMR, a detailed examination of these sectors facilitates a nuanced understanding of antibiotic utilization across different cultural and social landscapes. It aids in crafting interventions tailored to fit the unique fabric of each community, engages with local belief systems to foster better antibiotic practices, and investigates non-antibiotic therapies that align with traditional healthcare methods. This multifaceted perspective ensures that strategies to combat AMR are not only grounded in medical evidence but are also resonant with the cultural and social realities of the populations they are intended to serve.

Understanding the popular, professional, and folk sectors of medical systems is integral to addressing AMR, particularly from an anthropological perspective on disease and illness. Medical anthropologists distinguish between "disease," a term used within the medical realm, and "illness," which refers to the personal experiences and perceptions of health conditions. This distinction is central when exploring AMR within diverse cultural contexts.

ANTHROPOLOGY (DISEASE AND ILLNESS)

Medical anthropologists have often defined "disease" as the realm of medicine, focusing their study on "illness"—the firth and experiences of individuals—an area deemed more appropriate for anthropological exploration.[26]

Anthropologists define "health" as a comprehensive concept encompassing physical, mental, and social well-being, including an individual's functional roles.[27] This broader definition of health holds greater applicability across different cultures than a definition that narrowly associates health solely with "disease," which, in technical terms, refers to biomedically measurable anatomical or physiological irregularities.[27] Disease is perceived as a condition that can either be cured or not. Identifying a disease is not merely a factual accumulation based on scientific observations of the physical realm, including microorganisms and tissues. Instead, it involves the abstraction from various individual cases, unifying them linguistically despite their diverse physical forms.[9] This perception does not dismiss biology but acknowledges a distinction between the biological reality, which is not directly observable, and its cultural interpretations, including the perspective of biomedicine.[28] It emphasizes that disease, not just illness, is shaped by social and political constructs as much as by its physical reality.[8] This perception does not dismiss biology but acknowledges a distinction between the biological reality, which is not directly observable, and its cultural interpretations, including the perspective of biomedicine.[28] Political policies determine the distribution of and access to healthcare services, influencing who gets treated, how, and when. This can result in disparities in health outcomes across different populations. For example, political decisions on funding can significantly impact the development and accessibility of new antibiotics.[29] In countries where investment in antibiotic research is low, this can slow the

development of effective treatments for resistant bacteria, leaving populations vulnerable to infections that were once easily treatable.

Meanwhile, "illness" (the sufferer's experiences) drives people to seek medical care.[8] "Illness" refers to the culturally influenced personal sense of being unwell and includes the subjective experience of suffering. The primary motivation behind seeking medical help for most individuals is to alleviate this suffering. Therefore, illness forms the foundation of the entire medical system.[30, p. 17] Rivers' research in medical anthropology suggests that seemingly "primitive" ethnomedical practices form a cohesive structure of cultural beliefs concerning the roots of illness.[8]

"Illness" encompasses diverse conditions across different cultures. In certain cultures, it is confined to physical experiences; in others, it incorporates mental imbalances. Additionally, some cultures recognize it as the suffering caused by misfortunes.[29] Specific medical systems address various human struggles related to emotional, social, and cognitive aspects, often intertwining and merging these different dimensions without distinct separation.[8] Critics who are suspicious of medicalization within medical anthropology express deeper concerns regarding the increasing medical dominance over various aspects of contemporary life.[31] There is apprehension about a situation where medical oversight extends to all areas of life, a viewpoint that resonates with Ivan Illich's idea of societal harm caused by excessive medical intervention.[31] Ivan Illich posited that Western healthcare, or biomedicine, could inadvertently inflict societal harm, a phenomenon he termed 'iatrogenesis.' It will be interceptive in unfolding in several forms. Firstly, clinical iatrogenesis is the unintended consequence where medical interventions do more harm than good, such as adverse drug reactions, surgical mishaps, or hospital-acquired infections. Secondly, social iatrogenesis emerges when healthcare overreaches, pathologizing everyday life experiences like childbirth and ageing, thus creating an over-reliance on medical procedures and treatments. Lastly, cultural iatrogenesis occurs when the healthcare system's dominance disrupts traditional and personal means of managing life's events, eroding innate coping strategies and leaving individuals less capable of handling the natural processes of suffering, living, and dying without medical support. This discomfort emphasizes the transformation of healing power into controlling authority, seen as an exploitation of social relationships by medical professionals.

This critique suggests a move away from acknowledging the subjective experiences of illness, suffering, and healing towards neglecting the lived experiences of individuals. It advocates for a shift towards understanding suffering phenomenologically and identifying with patients as active participants rather than being solely within the domain of physicians. Traditional medical anthropologists often emphasize the difference between 'disease,' which refers to the biological abnormality detected clinically, and 'illness,' which refers to the individual's experience and comprehension of their health condition.[29] Through the lens of Critical Medical Anthropology, the distinction between disease and illness suggests a withdrawal from a domain with social and biological relevance.[31] These systems are based on theories of disease relationships that inform how communities understand, treat, and prevent health conditions.

The Universal Foundations of Health Care Systems

Medical systems share a set of essential components. Each system has a disease causation theory explaining why people become ill.[24] These causal theories provide the rationales for treating and preventing illness and disease. Thus, all medical systems have both preventive and curative strategies. They also have healthcare practitioners with specialized knowledge, skills, and training who are recognized as healers through certification, examination, initiation, or public recognition.[24] In some medical systems, training is codified (licensing); in others, it is an informal apprenticeship, a self-taught gift from higher powers.[27] Theories of disease causation can range from elaborate, text-based canons to oral traditions and folk narratives.[27] Healers in all medical systems believe in their ability to heal, as do the people they treat.[29] However, attitudes toward healers are often ambivalent because the power to cure implies its converse, the power to harm. Thus, healers often play potent roles in their communities.[29] Medical systems also provide an organizational system of caring for the ill that usually includes unique places people go when they are sick, rules for interacting with healers, and defined roles for both patient and healer.

Community Engagement

Integrating biomedical priorities with anthropological insights can sometimes conflict with international health development.[31] With their deep understanding of cultural health determinants, anthropologists often find themselves on the sidelines, especially when their findings challenge medical norms. Carl Kendall observed that although the project was praised for its integration of anthropological insights into a significant health development initiative, the medical staff leading the project largely overlooked the ethnographic data.[31] Particularly in cases where "anthropological evidence clashed with the viewpoint of medical authorities and with evidence collected from other sources", the contributions of anthropologists " were not considered to be of sufficient weight to change the implementation strategy."[31, p.25] In situations where anthropological findings conflicted with the perspectives of medical professionals or differed from other collected data, the insights of anthropologists were typically undervalued and did not significantly influence changes in the strategy of implementation. Despite the international public health movement's initial goal to shift focus from a biomedical to a community health model and its active engagement of medical anthropologists for this purpose, it frequently ended up reinforcing conventional biomedical objectives. However, a paradigm shift that formally integrates anthropological expertise throughout project phases should encompass culturally informed training for medical staff and the adoption of community-centric intervention models and simultaneously, anthropology is transforming.[32]

Traditionally passive, ethnographic subjects are now asserting their voices, prompting a re-evaluation of anthropological roles.[27] The postmodern approach introduces experimental ethnographic texts as one way of adapting.[31] However, community-centred research stands out as the more robust response, effectively adapting to the active participation of subjects in

anthropology.[32] The goal is to collaborate with the community to support their self-determination efforts.[33] Community-centered research is distinguished by its commitment to empowering communities, enabling them to guide their own health initiatives.[34] This approach is grounded in the concept of self-determination, which asserts that communities should have the autonomy to make decisions that reflect their unique cultural and social landscapes. Such empowerment ensures that health strategies are not only relevant and effectively tailored to the community's needs but also that they resonate with the community's values and expectations.[35] Engagement is heightened when communities actively shape their health policies and programs, leading to greater investment in the outcomes and improved sustainability of interventions. Honouring self-determination fosters trust, which is crucial for the success of public health endeavours. Moreover, it addresses health inequities by providing a platform for often-overlooked voices to influence health decisions and actions. Self-determination forms the cornerstone of community-centred research, ensuring that the direction and solutions of healthcare research are co-created with those it aims to serve. Community-centred research and self-determination are crucial for effectively addressing AMR in developing countries.[36] They ensure AMR strategies are culturally relevant, enhance local engagement, build trust in public health initiatives, address healthcare inequities, and foster sustainable solutions by incorporating these communities' unique perspectives and needs into global health policies.

Moving towards postmodernism means more than changing language; it is a fundamental challenge to the essence of the discipline. Anthropologists are rethinking their methods and portrayals, shifting from broad narratives to fragmented, localized stories.[35] Appadurai suggests that as groups become self-determining, they ought to take the lead in research pertaining to them. In his work titled ‘Voice and Place in Anthropological Theory,’ he expands the critique beyond the language used in ethnographic texts to the representation of ethnographic regions themselves, examining how certain locations have been characterized over time through dominant themes and representations.[35] Global South scholars call for a pause in Western-dominated research to develop local theories, resisting Western academic hegemony as a subtle form of neo-colonialism. Postmodern anthropology, often seen as academically detached, has overlooked a key trend: indigenous communities hiring anthropologists to assist in project design, grant writing, and research.[36,37] This collaborative effort views anthropological expertise as a resource for self-directed development, adhering to principles prioritizing community needs and endorsing their right to self-determination. In this model, anthropologists support initiatives that empower communities through democratic self-determination.

Berliner argues that early 19th-century American society had two distinct "medical modes of production."[38] The "home-based approach" relates to healthcare services generated and provided within household settings. In contrast, the "petty commodity mode" turned medical care into an exchangeable commodity. Within the home-based mode were various folk medical systems, which often intersected and merged into a syncretic approach to healing. Medications were typically

herbal, reflecting the rural lifestyle.[38] In the early stages of American medical history, two main types of medical practice prevailed as part of the petty commodity mode: conventional or allopathic medicine and homoeopathic medicine. These practices were distinct because trained physicians provided and charged for their services.[31] Allopathic medicine was practically the only professionalized form known for aggressive treatments like bloodletting, leech applications, and potent medications during the eighteenth century. Homeopathy, on the other hand, was introduced to the United States from Europe around the 1820s and was initially adopted by the lower social strata due to its highly conservative approach to medicine.[31] However, it quickly gained popularity among the upper classes, becoming a trendy medical choice. The discourse on macro-level upheavals has led to a crisis of confidence and national unease, with declining trust in grand theories once believed to underpin societal order.[36] This scepticism towards great paradigms is now evident in community engagement. This approach values the insights of individual communities, integrating their experiential knowledge into broader development paradigms. It challenges the hegemony of universal narratives, advocating for a pluralistic perspective that embraces local responses to global phenomena.

The move towards valuing localized responses in community engagement directly impacts AMR policy.[3] AMR is a complex global health challenge, and broad theoretical models have struggled to address it due to the diverse nature of antibiotic use.[3] Community engagement in AMR policy development allows for sensitive policies considering cultural, economic, and social determinants.[37] Such collaboration can identify effective practices, promote responsible antibiotic use, and enhance AMR surveillance. The postmodern critique of Western epistemology supports the idea that AMR policy should not rely solely on Western medical practices.[38] It should incorporate a variety of medical traditions and practices to combat AMR effectively. The scholarly conversation emphasizes the need for AMR policies that are flexible, inclusive, and culturally aware, aiming for solid and enduring methods that are true to the lived experiences of the communities affected.[38] Traditionally, global health policy and governance have not given due attention to anthropological research. However, recent shifts have carved out a space for anthropology to shed light on the power dynamics and procedures that underpin these areas.[38] Anthropological tools, primarily ethnographic studies, can provide critical insights into the community-level interpretation and execution of policies.[3] This can significantly enhance our understanding of governance, particularly for smaller entities grappling with substantial issues like AMR. Recognizing that policy challenges like AMR are dynamic and influenced by the differing beliefs of the involved parties is a fundamental part of this anthropological analysis. Investigating these dynamics through field research with pharmacists and consumers is essential to this study. Understanding that AMR is not just a clinical issue but also a societal one requires acknowledging how collective beliefs, practices, and social structures impact health behaviours and policies.

THE SOCIETAL ROOTS OF ILLNES AND WELLNESS

The section argues that health and illness must be understood through a lens that recognizes the interplay between biological factors and the social, economic, and political contexts that shape them. It suggests that diseases are not merely medical conditions but are also deeply embedded in cultural narratives and power structures. This section navigates through the complexities of disease recognition, emphasizing the social construction of diseases. Also, it addresses the interplay between social, economic, and political factors in shaping health challenges and their management within society.

Initially, there is a focus on understanding how a disease is recognized and utilized within medical practices and broader society.[39] In understanding disease, it is vital to realise that its identification and utilization within medicine and culture are not solely about collecting scientific data on the physical aspects like microorganisms or tissues.[40,41] Discovering a disease involves more than just objective facts; it is a process that abstracts from individual cases and then imposes a unified language on diverse physical traits.[40] Uncovering a disease is both a creative and a discovery process, recognizing that while biology is a tangible reality, it is not directly observable.[42] This viewpoint does not disregard biology but highlights the difference between its objective reality and its cultural interpretations, emphasizing that disease, beyond illness, is as much a product of social construction as it is a physical reality.[27] Linder suggests that within the confines of medical diagnosis, practitioners often observe specific symptoms or elements and rather than evaluating them objectively, they tend to categorize and label them to fit within predefined conditions or diagnoses.[8] Instead of viewing the symptoms as a collective set that could be interpreted differently, they assign a specific diagnosis to the patient.[41] The extract implies that this process might prioritize categorization over a more nuanced understanding, denying the individual complexity of the symptoms. It suggests that this approach provides a sense of stability to the practitioner, reinforcing the belief in a structured and predictable world, even if it might oversimplify the patient's condition.

Clatts and Mutchler stress that science and medicine are not independent of social or cultural contexts.[8, p.91] The occurrence and disappearance of diseases are historically contingent, and closely tied to the specific time periods in which they manifest. Therefore, diseases represent the social connections and production methods of their time. Just like other social elements, diseases are influenced by their social origins.[8] Symptoms like weight issues, the presence of blood, headaches, or fatigue carry different meanings across various historical periods and among different social classes. Diseases, like other social aspects, bear the influence of their origins within society.

> Fatness, thinness, blood in one's urine, …..blurred vision, dizziness….acquire vastly different meaning and significance at other times in history, in various classes of society, and so on.[8,, p.92]

This implies the reasons behind selecting particular symptoms to define diseases, the causes of discrepancies in discussing these conditions, and the broader factors shaping how illnesses are perceived and classified in social settings. It has comprehended how societal elements construct disease definitions and discussions. For example, the social and cultural interpretations surrounding COVID-19 have been diverse and influenced by various factors. The pandemic has spurred different beliefs, responses, and narratives across communities worldwide, shaping how individuals perceive and respond to the disease based on cultural, political, and social contexts.[43]

Millard stresses that the relationship between violations of dignity and infectious diseases is bidirectional.[44] Common risk factors contribute to both: instances that compromise dignity increase the risk of infectious diseases, while contagious diseases, in turn, heighten the likelihood of experiencing dignity violations.[44] This circular relationship emphasizes the interconnectedness of these issues, each influencing and exacerbating the other, WHO report,

> There are strong associations between social status, self-esteem and health…. There are many ways in which dignity interacts with infectious diseases. There are common risk factors for violations of dignity and contagious diseases, for example lack of access to safe toilets contributes to loss of dignity, gender-based violence, and the transmission of infectious diseases….. Some infectious diseases, particularly those that are difficult to treat, such as antibiotic resistant increase the risk that the dignity of adults will be violated.[47,48]

This implies that social factors such as status and self-respect are closely linked to health outcomes. Dignity, which is intertwined with these social factors, can be compromised in various ways through the interaction with infectious diseases. Moreover, infectious diseases that are hard to treat, especially those resistant to antibiotics, pose a heightened risk of undermining the dignity of those affected, as they often lead to prolonged illness, stigma, and a loss of autonomy. The statement underscores the interconnectedness of social conditions, disease transmission, and the preservation of human dignity.

Critical Medical Anthropology (CMA) endeavours to grasp the societal underpinnings of all diseases. It delves into not just how diseases emerge socially but also how they materialize within specific social contexts. There is a concern regarding how diseases are identified and utilized within both medical circles and society. Lock and Scheper-Hughes criticize medical anthropology for succumbing to the "biological fallacy," which aligns with the biomedical paradigm.[47,48] According to them, this tendency leads to a transformation of social aspects into purely biological ones. They support unmasking the social dimensions of illnesses like madness, emphasizing their roots in cumulative experiences of rejection, exclusion, and stigmatization rather than strictly medical definitions.[49,50] Additionally, the advocates of the opposing viewpoint acknowledged the political economy of health viewpoint as a valuable correction to traditional medical anthropology analyses, yet they argued that it "tended to depersonalize the subject matter and the content of medical anthropology by focusing on the analysis of social systems and things, and by neglecting

the particular, the existential, the subjective content of illness, suffering, and healing and lived events and experiences."[8, 51, p. 44] Singer stresses that the investigation of sufferer involvement, positioned in relative to "socially constituted categories of meaning and political -economic forces that shape the contexts of daily life."[8, p. 184] This perspective advocates for "freedom is therapy, "[8, p.31] suggesting that medical anthropologists should prioritize endorsing approaches like "benevolent anarchy."[8, p.32] Promoting methods for self-care, nurturing social inclusivity and acceptance of those who are ill and suffering instead of centring efforts solely on reforming biomedicine. Opponents of this attitude suggest that medical anthropologists, in striving to emulate the practices of biomedicine or health sciences, tend to identify strongly with the medical field. This close connection has given rise to clinical anthropology and similar initiatives seeking a therapeutic role for anthropologists.[49] Critics observe that some anthropologists working in medical contexts tend to become excessively involved, assuming roles akin to doctors or psychiatrists, preferring active participation over maintaining a detached, scientific stance.[48] By advocating for a critical medical anthropology approach, it challenges the biomedical focus that often reduces illnesses to their biological components, overlooking the societal factors that contribute to health disparities. It empowers individuals and communities, promotes self-care, and emphasizes social inclusion, arguing that true healing and wellness extend far beyond the scope of conventional biomedicine.

Critics of medical anthropology express apprehension about the extensive influence of medicine, raising concerns about its overarching control over diverse conditions, experiences, and societal roles in contemporary life.[49] Their fundamental fear revolves around the potential scenario where medicine gains pervasive dominance, dictating and overseeing virtually all facets of existence. The concern centres on the potential for medicine to wield excessive control, encompassing various aspects of contemporary life and imposing its influence over a wide array of conditions, experiences, and societal roles, "medical control of everything."[8, 50 p. 77] The concerns regarding the overarching control exerted by medicine have shifted its healing influence into a form of pervasive dominance over social relationships. Critics of conventional medical anthropology worry that it might overlook the personal and subjective elements of illness, suffering, and healing. Instead of aligning more closely with the authoritative structure of biomedicine, it advocates for a focus on understanding suffering phenomenologically, emphasizing the patient's experience and perception, in contrast to the dominance of medical professionals.

Engels' observations underscore how disease recognition and acknowledgement are shaped by social, economic, and power dynamics rather than solely by medical or biological understanding.[52,53] His study showed the link between poverty and disease, highlighting the tangible, historical, and economic conditions that lead to illness, the conflicting social factors that hinder preventive measures, and the responsibility of researchers to push for change. Similarly, the discussion on antibiotic resistance highlights the broader societal impact of health challenges, revealing how political, economic, and social factors intersect and influence the recognition, management, and

cost of diseases like AMR. Antibiotic resistance is not just a challenge for politics and economies and burdens financially constrained households and communities. Treating AMR in the US costs between $10,000 to $40,000 presently, with predictions of higher costs unless addressed.[54] Studies reveal concerns that new AMR policies might worsen existing political and economic obstacles, limiting affected communities' influence. The idea of health and medical social struggle examines healthcare within biomedicine, placing it in a larger political-economic agenda. It highlights that physicians and patients are part of a broader societal dynamic involving inequality, dominance, and ongoing societal conflicts. This perspective acknowledges that the roles of physicians and patients are entwined with larger societal issues of inequality and power dynamics.

HEALTH DISPARITIES

The section argues that detailed ethnographic studies reveal that local and historical factors profoundly shape social relationships and health outcomes, demonstrating the need to understand health disparities within their specific sociocultural and economic contexts. The section will first explore the link between inequality and illness and then analyze the intersection of social factors.

Anthropological insights challenge the direct link between high socioeconomic inequality and poor health outcomes in societies.[55] Social scientists have deliberated on the complexity of factors such as social structure, psychobiological pathways, and material conditions, highlighting that these are contextually specific and not universally applicable.[56] Anthropologists have challenged these mechanisms, highlighting that detailed ethnographic analyses demonstrate how social interrelation is shaped within specific local and historical contexts.[57] They have also pointed out that psychobiological pathways involve intricate, long-term biosocial dynamics, indicating that relationships cannot be simplistically explained in purely biological terms.

The concept of social capital has undergone notable transformations used to understand what contributes to a healthy society.[58] It is "the social capital concept extending well beyond the meso-level of traditional communities and personally known social networks into the generalized 'habits of life', or national and regional culture, that make it possible for people to get along."[59, p. (ix)] It ranges from trust to the density of social connections. The concept of social capital, when analyzed in relation to health inequality and disease, raises concerns about circular reasoning where healthy societies are seen as such due to high trust levels, which in turn are attributed to their healthiness.[60] The confusion is partly due to economists and sociologists using the term differently. However, simply clarifying the concept is not enough. Investigations into social capital should be grounded in the distinct historical and cultural narratives that form the basis for trust and interpersonal connections within a society. It is essential to understand social connections as products of historical and cultural conditions, often formed within networks of reciprocity and exchange influenced by power hierarchies or rooted in routine social practices. However, achieving conceptual clarity might not be enough without research contextualizing social capital in homegrown histories and perceptions of belief.

Cultural values are dynamic and contested, not uniform or fixed, often entangled in power dynamics and the perpetuation of inequalities. With the complexities of the global economy, traditional cultural boundaries are becoming more fluid, characterized by a disordered overlap.[60]Arjun Appadurai highlights the contemporary challenge of balancing the forces of cultural standardization, often seen as Westernization, against the diversity of local cultural expressions.[60] He notes the overlooked process of 'indigenization,' where global influences are adapted to fit local cultural contexts. This adaptability demonstrates that technologies and ideas, including biomedical ones, can be integrated into new environments without necessarily carrying their original usage logic. The resulting new meanings and social roles that arise from these transferred items emphasize their diverse nature as social entities. Nations with modern society often craft an identity based on a collective narrative that portrays a unique and shared history, along with a set of "traditional" values that are upheld as a moral framework for their populace. This collective narrative, which anthropologist Daniel Valentine terms "mythohistory," serves to forge a common identity and legitimize certain societal norms and behaviors.[60] The term "mythohistory" is significant because it highlights the often constructed and idealized versions of history that nations use to bind their people to a unified set of principles and ideals.[60] Such a term is not just a benign cultural expression but has tangible implications, particularly in how technological advancements are adopted, utilized, and regulated.[60] The invocation of a shared historical past can shape policies and public opinion, influencing everything from educational curricula to healthcare delivery systems, national defense strategies, and environmental conservation efforts.

In Western healthcare settings, there is a push for "ethnically sensitive health care" or "cultural competence," urging medical professionals to consider how culture and ethnicity influence patient knowledge and actions.[58] This trend could be seen as the "medicalization of culture."[60, p.8.] However, this approach does not adequately account for the diversity within language groups, differences in generation, education, and values among immigrants, or ingrained gender inequalities that significantly impact women's and children's health. Actual cultural competence goes beyond surface-level stereotypes and requires in-depth, context-aware analysis rather than treating cultural background as another checkbox in patient assessments.

Culturalism often blames the targeted communities for difficulties in healthcare changes while also denying them the right to their unique perspectives on health and illness. Fassin criticizes this implicit violence in culturalism but acknowledges that culture can be a helpful concept if used cautiously and as a politicized term to analyze values within a group, particularly when it becomes entangled with nationalism in the face of modernization.[60] Moreover, it is critical to recognize that inequities, discrimination, and injustice are primarily responsible for the unequal health burdens across societies.[60] As people globally are exposed to different ideas and lifestyles, they increasingly question their circumstances and seek change, sometimes despite living under repressive regimes.

Furthermore, anthropologists stress the importance of placing material factors in healthcare within a comprehensive geopolitical analysis.[59] Anthropologists argue that health disparities reflect social hierarchy and violence, affecting certain groups more than others.[59] The marginalization of less affluent communities from the worldwide economic system continues to sustain a recurring pattern of diseases linked to poverty.[59] For example, the trade-in bio-commodities and bio-markets disproportionately impact less privileged individuals, sacrificing long-term health for short-term gains, and can exacerbate inequalities. The broader discussion of how social hierarchies and economic marginalization contribute to the pattern of diseases prevalent in impoverished communities. It illustrates the point that health disparities are not only social and medical issues but also economic, with the health of less affluent individuals being compromised by market dynamics that favour immediate financial returns over the well-being of vulnerable populations.[58] Advancements in biomedical technologies increasingly lead to the commercialization of human health, intensifying existing disparities.[61] As such, these advancements, while potentially beneficial, can also deepen the divide between those who can afford cutting-edge treatments and those who cannot. To fully understand the relationship between inequality and illness, it is essential to consider these broader health disparities and social factors.

Health Disparities and Social Factors

Anthropological insights challenge the direct link between high socioeconomic inequality and poor health outcomes in societies.[60] Anthropologists, employing the notion of expression, have approached the understanding of how inequality impacts health in multifaceted ways. Exploring the lived experiences and bodily manifestations within various social contexts, they seek to unravel the intricate connections between social disparities and health outcomes. This approach sheds light on the complex interplay between societal structures, individual experiences, and health disparities, offering more profound insights into the multifaceted nature of health inequalities within diverse cultural landscapes.

The relationship between health and inequality is profoundly influenced by cultural, political, and historical factors that shape the human body.[60] The connection between inequality and disease is perceived as a form of violence manifesting within cultural and rational frameworks. Anthropologists have observed that in some social contexts, the violence of inequality is ritualized, leaving discernible effects on the body, while in others, it materializes as biological differences labelled as "risk" managed through governance methods.[60] In various societal settings, the manner in which inequality inflicts harm is often institutionalized, leaving tangible impacts on individuals' physical well-being. In other scenarios, this harm is perceived as biological vulnerabilities, categorized as "risks", and regulated through a range of policy-making and administrative actions. These governance methods encompass the suite of health policies determining the allocation and provision of healthcare resources, the regulatory frameworks aimed at disease control and prevention, and the legal and social guidelines that shape health behaviours within communities. The strategies involve not only the structuring of healthcare systems to manage conditions that

disproportionately affect the underprivileged but also the execution of public health programs specifically designed to alleviate the health discrepancies that stem from entrenched social inequalities. This distinction highlights three spheres: modern health spaces using specialized institutions, pre-modern therapy spaces with traditions like magic, and a-modern zones where boundaries between therapeutic and political authority shape the experiences of health and illness.[60]

Anthropological research on health and disease is shedding light on a significant shift in the therapeutic landscape, where there is a marked trend toward modernization. This evolution points to the adoption of more advanced technologies, innovative treatment methods, and new healthcare delivery models.[61] However, the significant reduction in public health funding due to neoliberal economic policies, coupled with the effects of globalization, has exacerbated the health consequences of international disparities.[58] This new political landscape for health, navigated by NGOs and humanitarian approaches, is drawing more attention to the exacerbation of health inequalities as a form of structural violence.[62] The current health paradigm, steered by NGOs and humanitarian strategies, is increasingly recognizing these disparities as a form of structural violence—a systematic way through which social structures harm or otherwise disadvantage individuals. This recognition is a call to consider the political and economic dimensions of health and illness and acknowledge the role of international policy and economic systems in mitigating or exacerbating health inequalities.

Poverty and ill health are closely linked. Less affluent nations typically exhibit worse health outcomes than wealthier ones. The World Bank estimated that approximately 700 million individuals worldwide survive on less than $2.15 per day, marking extreme poverty.[63] The recent COVID-19 crisis disrupted the steady decline in global poverty, resulting in around three years of setbacks from 2020 to 2022, with global headline inflation to decline to 3.8% in 2022 and 3.1% in 2023. The ways poverty leads to illness are well-established.[64] They involve weakened immune systems and hindered neurological development due to malnutrition, increased susceptibility to diseases due to unsanitary living conditions, and the instability of social support systems.[65] Additionally, recent insights highlight the heightened exposure to environmental pollutants among the impoverished, potentially worsening their health conditions.

Increasingly, epidemiology studies show that social disparities have a considerable effect on health outcomes, regardless of individuals' earnings. This suggests hierarchical effects extend beyond specific groups and widely influence larger populations. Critics dismissing the association between socioeconomic inequality and health as a statistical anomaly have been proven wrong. The observation of a link between inequality and health is robust and significant. It suggests that societies can be deemed "unhealthy" due to the disparities in health outcomes based on their level of inequality.

RESULTS

The findings of the study advocate for a healthcare model that is both integrative and attuned to cultural contexts. It recognizes the critical role of ethnomedicine as a fundamental component of global health practices and underscores its potential to complement biomedicine, especially in addressing antimicrobial resistance (AMR). The investigation unpacks the complexities found within the three broad health sectors—popular (lay or community), professional (formal medical), and folk (traditional healers)—and articulates the intricate relationship between the cultural and social constructs of 'disease' and 'illness' as understood in medical anthropology. The study also critically evaluates the need for healthcare systems to engage comprehensively with the sociocultural, economic, and political frameworks that fundamentally shape the presentation and treatment of health conditions. It challenges the notion that disease can be understood solely through a biomedical lens, arguing that health issues are deeply embedded within cultural stories and the fabric of societal power structures. This insight calls for a more sophisticated approach to understanding health disparities, one that goes beyond the biological aspects of disease to include the impact of cultural beliefs and practices.

Furthermore, the research posits a forward-thinking health framework that aligns the accuracy and objectivity of scientific research with the rich knowledge base found in traditional health practices. It emphasizes the importance of engaging with communities and taking into account the various factors that influence health, advocating for a health paradigm that is equitable, sustainable, and closely aligned with the real-world experiences of different groups. This proposed health framework is designed to be adaptable, allowing for the nuances of individual and community health experiences to guide and improve the efficacy and responsiveness of healthcare interventions.

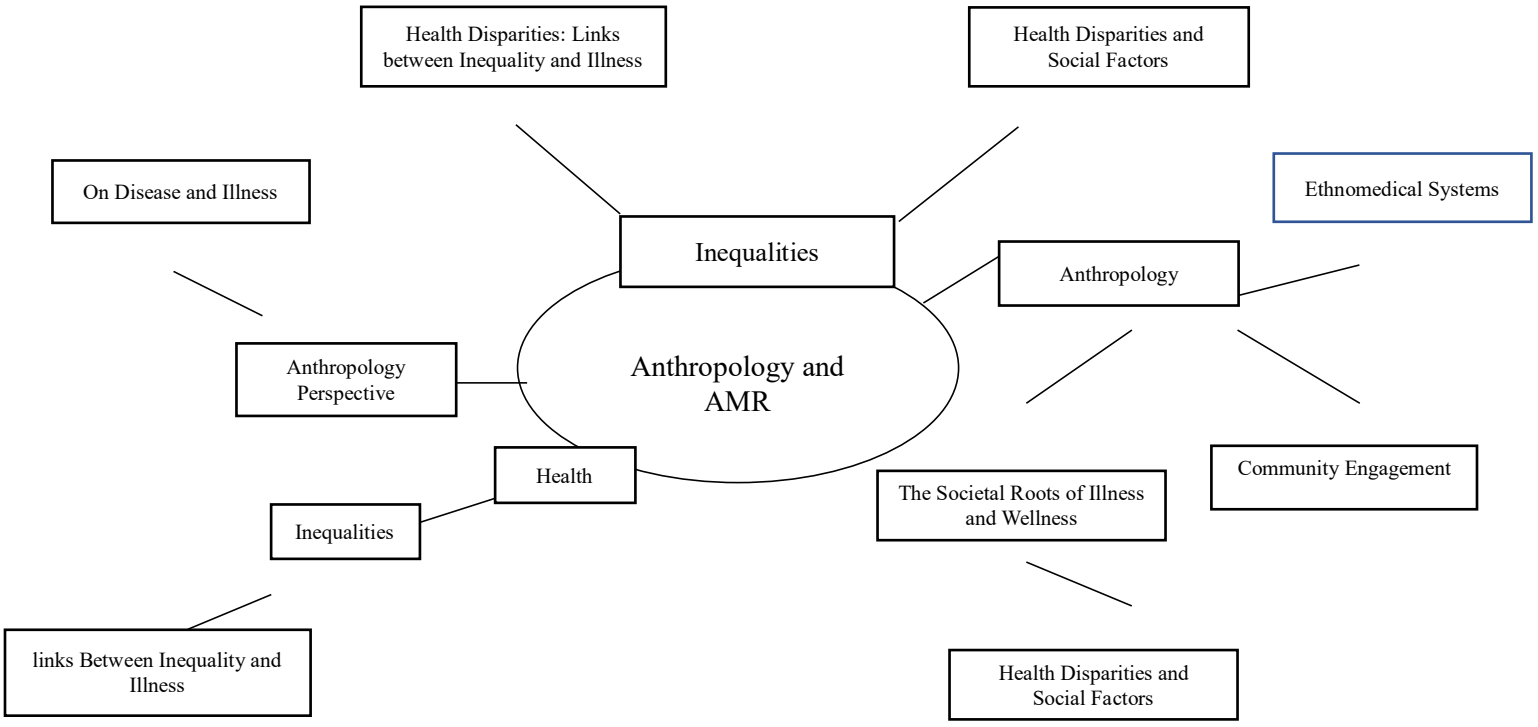
In essence, the results of this study call for a reimagining of health systems and policies. The aim is to foster a more just and practical approach to healthcare that not only addresses current disparities but also paves the way for more resilient and culturally sensitive health practices in the future. This re-envisioned paradigm is expected to contribute significantly to the global management of AMR and to the overall improvement of health outcomes for diverse populations around the world.

CONCLUSION AND FRAMEWORK

This study sheds light on the significant role of ethnomedicine in global health and its potential to complement biomedicine. Ethnomedicine is not just an alternative practice but a culturally rich tradition with spiritual roots, nurturing health across generations. Integrating ethnomedical practices into global healthcare, especially in combating AMR, is proposed. This integration aligns with community beliefs and addresses disparities caused by the dominance of Western biomedicine. The study recognizes the multifaceted nature of health systems, comprising popular, professional, and folk sectors. Each sector plays a vital role in healthcare, and understanding them is crucial, particularly in the context of AMR. A key distinction is made between 'disease'

(biologically measurable) and 'illness' (culturally influenced experiences). Socio-political factors affect healthcare distribution and access, raising concerns about excessive medical intervention. Universal elements in healthcare systems are identified, underlining global commonalities. Community-centred research is advocated to empower communities and develop culturally relevant solutions. The study emphasizes that health disparities are influenced by socio-cultural, economic, and political factors, calling for a holistic healthcare approach that considers diverse medical traditions, cultural experiences, and social determinants. The framework posited from theoretical analysis calls for an integrative model of health that transcends the traditional biomedical approach will be test in future research with field study. It advocates for incorporating sociocultural dimensions into the understanding and managing AMR, asserting that health is not merely a biological phenomenon. Deeply rooted in cultural, social, and behavioural contexts, this holistic model aims to synthesize individual experiences, address structural inequalities, and respect cultural practices in health and illness, which will be considered in actual live study. Ultimately, it urges a fundamental reorientation of the medical paradigm towards a patient-centric and culturally adjusted approach that fully appreciates the multifaceted socio-cultural determinants of health.

Anthropology and AMR Framework



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RECOMMENDATION

The role of ethnomedicine in global health and its integration with biomedicine, here are some recommendations that could be derived:

- Healthcare systems should incorporate ethnomedical practices that are aligned with community beliefs, particularly in areas where these practices are a significant part of cultural heritage.
- Health professionals should receive training in cultural sensitivity to better understand and respect the ethnomedical practices of the communities they serve.
- Develop healthcare policies that support the integration of ethnomedicine and biomedicine, ensuring that such practices are recognized, regulated, and standardized where appropriate.
- Encourage collaborative research between biomedical and ethnomedical practitioners to explore synergies and enhance the effectiveness of health interventions.
- Engage communities in the research process to ensure that health interventions are culturally relevant and empower local populations.
- Implement strategies to address disparities in healthcare access and distribution, acknowledging the socio-political factors that contribute to these issues.
- Adopt holistic health models that consider biological, cultural, social, and behavioural contexts in treatment and care.
- Increase awareness about the distinction between 'disease' and 'illness' to improve the understanding of health and wellness from a cultural perspective.
- Address antimicrobial resistance (AMR) with strategies that include sociocultural understanding and management practices.
- Reorient the medical paradigm towards a patient-centric approach that acknowledges the socio-cultural determinants of health.
- Recognize and utilize universal elements in healthcare systems to underpin global health initiatives.
- Conduct field studies to test the proposed integrative model of health, focusing on the effectiveness of combining biomedical and ethnomedical approaches.
- Consider economic and political factors in health strategy development, aiming to reduce inequalities and ensure equitable healthcare for all.

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