

An interpretive literature review of the *Karuho* phenomenon in eastern Democratic Republic of the Congo: A socio-anthropological analysis of cultural constructions of illness in conflict settings

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ABSTRACT

Introduction

In eastern Democratic Republic of the Congo (DRC), prolonged armed conflict, structural violence, and the weakening of health systems have contributed to the emergence of culturally grounded explanatory models of illness. Among these, *Karuho*—commonly understood as a form of intentional poisoning or culturally mediated harm—has become a dominant framework through which many chronic and unexplained illnesses are interpreted.

Purpose

This study examines how *Karuho* functions as a socio-cultural construct that reshapes biomedical illness into socially meaningful narratives of interpersonal aggression and moral causation.

Methods

This study employed an interpretive literature review of scholarly publications on *Karuho*, therapeutic pluralism, and illness representations in eastern DRC and the Great Lakes region. Literature published between 2009 and 2026 was retrieved from electronic databases including Google Scholar, PubMed, MEDLINE, JSTOR, EBSCOhost, and Cairn.info from 7 April to 20 November 2025 and 6 to 16 June 2026. The analysis was guided by an integrated theoretical framework combining Arthur Kleinman's explanatory model of illness and Critical Medical Anthropology, particularly the political ecology of health. The review focused on empirical and conceptual studies conducted in North Kivu, South Kivu, and Ituri that addressed illness interpretation, poisoning narratives, and therapeutic care-seeking pathways.

Results

Findings indicate that *Karuho* operates at the intersection of biomedical uncertainty, social mistrust, and cultural meaning-making. First, it provides a culturally intelligible explanation for chronic and stigmatising illnesses that are often difficult to diagnose biomedically. Second, it serves as a coping and stigma-management strategy by allowing individuals to reframe socially discrediting conditions such as HIV/AIDS and tuberculosis as externally induced harm. Third, the belief system surrounding *Karuho* sustains a pluralistic and increasingly commercialised therapeutic landscape in which neo-traditional practitioners mediate between biomedical and cultural logics. Finally, the phenomenon reflects broader processes of social fragmentation and mistrust associated with prolonged armed conflict, contributing to accusations of poisoning and altered therapeutic itineraries.

Conclusion

The *Karuho* phenomenon reflects a culturally embedded explanatory system shaped by structural violence, insecurity, and weakened health institutions. Rather than representing irrational belief, it constitutes a meaningful response to biomedical uncertainty and social fragility. Its persistence underscores the need for health systems to integrate culturally informed explanatory models into clinical practice. A transdisciplinary approach involving clinicians, psychologists, and cultural mediators is essential to improve diagnostic uptake, reduce therapeutic delays, and strengthen trust in biomedical care in conflict-affected settings.

INTRODUCTION

The eastern provinces of the Democratic Republic of the Congo (DRC)—North Kivu, South Kivu, and Ituri—have been affected for more than three decades by structural violence, intermittent armed conflict, and chronic political instability. These conditions have severely disrupted socioeconomic systems, weakened public health infrastructure, and fragmented community trust. Within this context of protracted insecurity and institutional fragility, culturally grounded explanatory models of illness have become increasingly prominent in shaping how health and suffering are understood.

One such explanatory construct is *Karuho*, a locally recognised concept commonly described in popular ethnopharmacological discourse as an intentionally prepared toxic substance, allegedly derived from combinations of heavy metals, organic materials, and other harmful agents (Kyolo et al., 2019; Nassenstein, 2019). Beyond its material interpretation as poison, however, *Karuho* functions as a socially embedded explanatory framework that structures perceptions of illness, misfortune, and interpersonal harm. It may therefore be understood as a culturally constructed “total social fact” that extends beyond biomedical categorisation to shape social relations, moral interpretation, and therapeutic behaviour.

From a medical anthropological perspective, the experience of chronic and life-threatening illnesses—including HIV/AIDS, tuberculosis, malaria, cancer, Ebola virus disease, COVID-19, and other persistent or poorly understood conditions—often generates a profound crisis of meaning for affected individuals and communities (Nawa Mwengu et al., 2021; Onyeneho et al., 2023). While biomedicine offers causal explanations grounded in physiological and pathological mechanisms, it tends to prioritise the question of *how* disease occurs, while paying less attention to the question of *why* a particular individual is affected at a particular time. This gap in meaning-making creates space for alternative explanatory models rooted in social relations, morality, and cultural belief systems.

In eastern DRC, illness is therefore frequently reinterpreted not as a random biological event but as the

outcome of intentional human action, often involving malice, envy, or occult aggression (Onyeneho et al., 2023). Within this interpretive framework, invisible biological agents are displaced by socially intelligible actors, particularly the figure of the poisoner (*mulozi*). This process reflects a broader cultural effort to rationalise uncertainty and restore moral order in contexts marked by insecurity and suffering.

Understanding these dynamics is not only of anthropological relevance but also of critical public health importance. Misattribution of illness causation may influence healthcare-seeking behaviour, delay biomedical diagnosis, and contribute to preventable morbidity and mortality. Consequently, examining *Karuho* as a socio-cultural explanatory model is essential for improving health system responsiveness and therapeutic engagement in conflict-affected regions.

Against this background, this study undertakes an interpretive literature review of the *Karuho* phenomenon, aiming to explore how cultural, social, and structural factors interact to shape illness interpretation and therapeutic pathways in eastern DRC.

Objectives

General Objective

To examine, through the lens of medical anthropology, the socio-cultural and historical processes that shape the construction of *Karuho* as a culturally mediated explanation of illness in conflict-affected communities of eastern Democratic Republic of the Congo (DRC).

Specific Objectives

This review aims to:

1. Examine the *Karuho* phenomenon using Kleinman's Disease-Illness-Sickness framework to understand how biomedical disease, lived illness experiences, and socially constructed meanings interact in the interpretation of illness.
2. Explore how prolonged armed conflict, structural violence, and the erosion of interpersonal trust contribute to the emergence and persistence of *Karuho* as a culturally meaningful explanatory model of illness.

3. Analyse the influence of *Karuho*-related beliefs on therapeutic pluralism, health-seeking behaviour, and therapeutic itineraries in eastern DRC.
4. Examine the role of traditional and neo-traditional practitioners in shaping therapeutic responses and the organisation of healthcare pathways within a pluralistic health system.
5. Identify the implications of the *Karuho* phenomenon for culturally responsive clinical practice, public health interventions, and health policy in conflict-affected settings.

METHODS

This study employed an interpretive literature review design to examine the socio-anthropological construction and implications of the *Karuho* phenomenon in eastern Democratic Republic of the Congo (DRC). The interpretive review approach was selected because it enables the synthesis and critical analysis of heterogeneous evidence drawn from anthropology, public health, ethnopharmacology, and health systems research, particularly in contexts where empirical primary data are limited or fragmented.

Unlike a systematic review, this study did not aim to exhaustively quantify or statistically aggregate findings. Rather, it focused on identifying, interpreting, and synthesising conceptual patterns related to illness representations, therapeutic pluralism, and poisoning narratives within conflict-affected settings.

Data Sources and Search Strategy

A comprehensive search of the literature was conducted using major electronic databases and academic repositories, including Google Scholar, PubMed, MEDLINE, JSTOR, EBSCOhost, and Cairn.info. Additional sources were identified through citation tracking of relevant articles.

The search covered publications between 2009 and 2026, a period selected to capture contemporary and post-conflict health system dynamics in eastern DRC. The search period was 7 April to 20 November 2025 and 6 to 16 June 2026.

Search terms were developed using combinations of key concepts related to the study phenomenon and were

combined using Boolean operators (AND, OR). The principal search strings included:

1. (*Karuho* OR poisoning OR “intentional poisoning”) AND (“medical anthropology” OR “cultural representations” OR “illness beliefs”) AND (“Democratic Republic of the Congo” OR DRC)
2. (*Karuho* OR poisoning) AND (“chronic diseases” OR HIV OR tuberculosis OR malaria) AND (“therapeutic pathways” OR “health-seeking behaviour” OR “medical pluralism”) AND (“armed conflict” OR “eastern Congo”)

Study Selection

Studies were included if they:

- addressed *Karuho*, poisoning beliefs, or related explanatory models of illness;
- focused on eastern DRC (North Kivu, South Kivu, or Ituri) or comparable Great Lakes contexts;
- examined therapeutic pathways, health-seeking behaviour, or medical pluralism;
- were published in English or French between 2009 and 2026;
- included empirical qualitative, quantitative, or mixed-methods evidence, as well as relevant theoretical or conceptual analyses.

Studies were excluded if they:

- were not relevant to illness interpretation or poisoning narratives;
- lacked contextual relevance to sub-Saharan Africa or the Great Lakes region;
- were purely biomedical toxicology studies without socio-cultural analysis.

Theoretical Framework

The analysis was guided by an integrated theoretical framework combining:

1. Arthur Kleinman’s Explanatory Model of Illness, which distinguishes between:
 - Disease (biomedical pathology),
 - Illness (lived experience of suffering),
 - Sickness (social meaning and stigma).
2. Critical Medical Anthropology and Political Ecology of Health, which emphasise the influence of structural violence, political instability, and

socioeconomic inequality on health perceptions and behaviours (Bonventre et al., 2020; Kaboru, 2013).

This dual framework enabled the analysis of *Karuho* both as a culturally constructed illness experience and as a product of broader structural and political conditions shaping health systems in conflict-affected settings.

Data Extraction and Analysis

The sources mobilized included scientific articles, works on medical anthropology, studies on therapeutic itineraries, publications on armed conflict and health, as well as documents concerning *Karuho*, poisoning, stigmatizing diseases, and medical pluralism. 19 studies identified and retained. Relevant information was extracted thematically from selected studies. The analysis focused on:

- cultural interpretations of poisoning and illness causation;
- therapeutic itineraries and healthcare-seeking behaviour;
- stigma management strategies;
- the role of traditional and neo-traditional practitioners;
- interactions between biomedical and non-biomedical systems of care.

A thematic synthesis approach was used to identify recurring conceptual patterns across studies. These themes were iteratively refined to develop an integrated interpretation of the *Karuho* phenomenon within its socio-political and health system context.

Quality appraisal of included studies

Given the interpretive nature of this review and the heterogeneity of the available literature, no formal methodological quality assessment or risk-of-bias appraisal of the included studies was undertaken. The review focused on synthesising conceptual, anthropological, and public health evidence to develop an interpretive understanding of the *Karuho* phenomenon.

Ethical Considerations

As this study is based exclusively on published literature, no primary data involving human participants were collected. Therefore, formal ethical approval was not

required. However, all sources were appropriately cited to ensure academic integrity and intellectual transparency.

Conceptual Framework

The conceptual framework of this study is grounded in an integrated socio-anthropological perspective that combines Arthur Kleinman's Explanatory Model of Illness with Critical Medical Anthropology and the Political Ecology of Health. This combined framework is used to analyse how illness is socially constructed, interpreted, and acted upon in contexts of chronic conflict, structural violence, and weakened health systems, particularly in eastern Democratic Republic of the Congo (DRC).

This framework is particularly appropriate for understanding the *Karuho* phenomenon as it enables a multi-level interpretation of illness that links individual experience, cultural meaning systems, and broader socio-political structures.

Kleinman's Explanatory Model of Illness

Kleinman's model distinguishes illness experience into three interrelated dimensions:

- **Disease:** the biomedical pathology or organic dysfunction identified through clinical diagnosis.
- **Illness:** the subjective and cultural experience of suffering as interpreted by the patient.
- **Sickness:** the social meaning of illness, including stigma, labelling, and collective representation.

Applied to the *Karuho* phenomenon:

- Disease corresponds to biomedical conditions such as tuberculosis, HIV/AIDS, malaria, cancer, or other chronic and infectious diseases that present with non-specific or overlapping symptoms.
- Illness refers to the culturally constructed experience of suffering, in which symptoms are interpreted as consequences of intentional poisoning, envy, or mystical aggression, commonly labelled as *Karuho*.
- Sickness reflects the social negotiation of illness identity, including stigma management, attribution of blame, and the social reclassification of illness as externally induced harm.

This model also highlights the existence of three overlapping healthcare sectors:

- the popular sector (family, community interpretation, rumours),
- the folk/traditional sector (traditional and neo-traditional healers),
- the professional sector (biomedical institutions).

In the context of eastern DRC, these sectors interact dynamically and often competitively, shaping therapeutic pathways and decision-making processes.

Critical Medical Anthropology and Political Ecology of Health
Critical Medical Anthropology (CMA) and Political Ecology of Health extend the analysis beyond individual and cultural interpretations to include the role of structural forces such as poverty, conflict, and institutional fragility.

From this perspective, health and illness are shaped by:

- prolonged armed conflict,
- economic deprivation,
- weakened governance structures,
- erosion of trust within communities,
- and limited access to reliable biomedical services.

In eastern DRC, these conditions produce what can be described as a “culture of suspicion”, in which illness is frequently interpreted through lenses of interpersonal harm, social rivalry, and hidden aggression.

Within this framework, *Karuho* is understood not merely as a belief in poisoning but as a symbolic expression of structural violence, where social instability is internalised and reinterpreted as bodily vulnerability. In this sense, accusations of poisoning and the attribution of illness to malicious actors reflect broader failures of formal institutions to provide justice, security, and accessible healthcare.

Integrative Analytical Model

By combining Kleinman’s clinical-cultural model with Critical Medical Anthropology, this study conceptualises *Karuho* as a multi-layered explanatory system operating across three interconnected levels:

1. **Biological level (Disease):**
Underlying biomedical conditions presenting with ambiguous or chronic symptoms.
2. **Experiential level (Illness):**
The lived experience of suffering interpreted through culturally meaningful categories such as poisoning, witchcraft, or envy.
3. **Structural level (Sickness and Political Ecology):**
The broader socio-political environment characterised by conflict, mistrust, weak institutions, and therapeutic pluralism.

Therapeutic Pluralism and Neo-Traditional Mediation

Within this framework, therapeutic pluralism is a central analytic dimension. The coexistence of biomedical services, traditional healers, and neo-traditional practitioners reflects not only cultural diversity but also systemic gaps in healthcare delivery.

Neo-traditional practitioners—locally referred to in some contexts as *tradimodernes*—occupy a hybrid space in which biomedical symbols and traditional healing logics are combined. Their practices reflect both cultural adaptation and the commodification of illness interpretation, particularly in relation to *Karuho*-related anxiety.

Conceptual Summary

Overall, this study conceptualises *Karuho* as a socially constructed illness narrative embedded within structural violence and therapeutic pluralism. It functions simultaneously as:

- a culturally meaningful explanation of unexplained illness,
- a stigma-management strategy,
- a reflection of weakened trust in institutions,
- and a driver of complex therapeutic itineraries.

This integrated framework enables a holistic understanding of how illness is produced, interpreted, and managed in conflict-affected settings.

RESULTS

The literature reviewed indicates that the *Karuho* phenomenon is best understood as a multidimensional socio-cultural construct that extends beyond the notion of poisoning to encompass culturally mediated explanations of illness, suffering, and social adversity in eastern

Democratic Republic of the Congo (DRC). Guided by Kleinman's explanatory model and the political ecology of health, the findings are synthesised into five interrelated themes: (1) *illness* as the lived and culturally interpreted experience of disease; (2) *disease* as the biomedical dimension of illness; (3) *sickness* as the social construction and negotiation of illness; (4) patients' explanatory models and therapeutic decision-making; and (5) the interaction of the popular, traditional, and professional sectors within a pluralistic healthcare system. Collectively, these themes illustrate how prolonged conflict, structural fragility, and cultural beliefs shape illness perceptions, therapeutic pathways, and health-seeking behaviours in the region.

The synthesis of the reviewed literature indicates that the *Karuho* phenomenon operates as a complex socio-cultural explanatory system that reorganises biomedical uncertainty into socially meaningful interpretations of illness, particularly in eastern Democratic Republic of the Congo (DRC). The findings are presented in line with Kleinman's triadic model of disease, illness, and sickness, while also incorporating ethnolinguistic and therapeutic pluralism perspectives.

Illness: The Cultural Construction of Karuho

At the level of illness, *Karuho* represents the culturally mediated experience of suffering as interpreted by affected individuals and communities. Rather than being understood solely as a biomedical condition, illness is frequently framed as the result of intentional harm, poisoning, or mystical aggression.

Within this interpretive system, *Karuho* functions as a broad semantic category encompassing both physical and metaphysical dimensions of harm. It is often described as a "small destructive entity" that exists between material toxicity and supernatural causation, reflecting an overlap between natural and moral worlds.

Linguistically, the term is associated with the Kinyarwanda root *karuha*, meaning "to become weak" or "to experience fatigue," which symbolically links bodily decline with external interference. In several local contexts, related terms such as *akaruho* are used to denote poisoning, particularly among the Banande communities of North Kivu (Nassenstein, 2019).

Comparative linguistic evidence from the Great Lakes region indicates that similar concepts exist in neighbouring Rwanda, where the term *uburozi* may simultaneously refer to both poisoning and witchcraft (Tan et al., 2021). Although poisoning and witchcraft represent analytically distinct categories—one material and the other spiritual—local epistemologies often merge them under a unified logic of harm, whose central defining feature is intentionality and the disruption of well-being.

In this sense, *Karuho* should be understood not as a singular toxic substance but as a culturally embedded explanatory category that bridges biomedical ambiguity and moral interpretation of illness.

Disease: Biomedical Correlates of Karuho Narratives

At the disease level, many conditions attributed to *Karuho* correspond clinically to recognised biomedical diseases. These include HIV/AIDS, tuberculosis, malaria, typhoid fever, diabetes, *Helicobacter pylori* infection, cancers, and other chronic or infectious diseases characterised by non-specific or overlapping symptom profiles.

Commonly reported symptoms such as chronic fatigue, weight loss, fever, chest pain, and gastrointestinal disturbances often lack immediate diagnostic clarity in resource-constrained settings. In such contexts, limited diagnostic capacity, weak laboratory infrastructure, and delayed access to care contribute to diagnostic uncertainty, which in turn reinforces culturally grounded interpretations of illness causation (Kyolo et al., 2018; Nsapu, 2014).

This diagnostic ambiguity creates a narrative vacuum that is frequently filled by the *Karuho* explanatory model, particularly in settings where biomedical explanations fail to provide immediate or satisfactory answers to patients and families.

Sickness: Social Meaning, Stigma, and Identity Negotiation

At the sickness level, *Karuho* functions as a socially negotiated category that shapes identity, stigma, and moral interpretation of illness. In contexts where diseases such as HIV/AIDS and tuberculosis are heavily stigmatised, the attribution of illness to *Karuho* serves as a protective social strategy.

By reframing illness as externally induced harm—often attributed to envy, interpersonal conflict, or malicious intent—individuals are able to preserve social dignity and avoid moral judgement. This constitutes a form of stigma management that transforms biomedical diagnosis into socially acceptable narratives of victimhood.

Evidence from studies in eastern DRC suggests that some patients diagnosed with HIV or tuberculosis may publicly attribute their illness to *Karuho* in order to avoid discrimination and social exclusion (Kaboru, 2013). This highlights the role of illness narratives as tools for negotiating social identity in contexts of moral vulnerability.

In addition, *Karuho* discourse may also intersect with broader regional narratives of mistrust and ethnic tension. Some studies suggest that poisoning narratives are occasionally embedded within xenophobic or politically charged interpretations of social relations, particularly in the Great Lakes region. However, these interpretations vary significantly across contexts and should be understood as situational rather than universal (Byamungu & Mushombanyi, 2022).

Explanatory Model of Illness and Therapeutic Interpretation

Kleinman's explanatory model further suggests that individuals construct illness understanding along five dimensions: causation, symptom perception, pathophysiology, severity, and treatment.

Karuho narratives:

- Etiology is commonly attributed to interpersonal conflict, envy, witchcraft, or covert social aggression.
- Symptoms are interpreted as manifestations of poisoning or mystical interference.
- Mechanism is often conceptualised as ingestion or exposure to toxic substances or supernatural forces.
- Severity is perceived as high due to the assumed intentionality of harm.
- Treatment is oriented toward specialised antidotes or traditional interventions believed to neutralise the poison.

This explanatory model strongly influences health-seeking behaviour and contributes to complex, non-linear therapeutic itineraries.

Summary of Key Findings

Overall, the *Karuho* phenomenon reflects a multi-layered interpretive system in which:

- biomedical diseases are reclassified into culturally meaningful categories of harm,
- illness is socially reframed as intentional poisoning or mystical aggression,
- and sickness is used as a strategy for stigma negotiation and identity protection.

This triadic structure demonstrates that *Karuho* is not merely a belief in poisoning but a comprehensive socio-cultural framework that organises biomedical uncertainty, social relations, and therapeutic decision-making in conflict-affected settings.

Sickness: Social Construction, Stigma, and Structural Meaning of Karuho

At the level of sickness, the *Karuho* phenomenon reflects the socially constructed meanings attributed to illness, including labelling processes, stigma formation, and collective moral interpretations of suffering. In Kleinman's framework, sickness refers to the ways in which societies define, respond to, and socially organise illness beyond its biomedical or experiential dimensions.

In eastern Democratic Republic of the Congo (DRC), diseases such as HIV/AIDS and tuberculosis are often associated with significant stigma, fear, and moral judgement. Within this context, attributing illness to *Karuho* functions as a culturally available stigma-management strategy. By reframing illness as externally induced harm—often attributed to jealousy, envy, or interpersonal conflict—affected individuals are able to displace moral blame and protect their social identity.

This explanatory shift transforms clinically diagnosed conditions into socially intelligible narratives of victimisation. Rather than being perceived as responsible for their condition, individuals are repositioned as victims of intentional harm, thereby reducing social exclusion and preserving dignity within the community.

Empirical evidence from eastern DRC indicates that some individuals diagnosed with HIV or tuberculosis may attribute their condition to *Karuho* in public discourse as a means of avoiding discrimination and social marginalisation (Kaboru, 2013). This illustrates how sickness narratives function as tools for negotiating social survival in contexts where biomedical diagnoses carry moral consequences.

Beyond individual coping, *Karuho* narratives also reflect broader patterns of social fragmentation and mistrust, particularly in conflict-affected environments. In such settings, illness is frequently interpreted through a moral lens, where bodily suffering is linked to hidden interpersonal hostility or perceived social betrayal. This contributes to a wider “culture of suspicion,” in which health events are embedded within interpretations of intentional harm.

Some studies further suggest that poisoning narratives, including *Karuho*, may intersect with ethnopolitical interpretations of social relations in the Great Lakes region (Byamungu & Mushombanyi, 2022). However, these associations are context-specific and should not be generalised across populations or settings.

Overall, the sickness dimension of *Karuho* underscores that illness is not only a biological or experiential condition but also a deeply social process shaped by cultural norms, moral expectations, and structural conditions. In this sense, sickness reflects the intersection of health, identity, and social order in contexts of fragility and conflict.

Summary of Key Sickness-Level Findings

At the sickness level, the *Karuho* phenomenon demonstrates that:

- illness meanings are socially constructed and culturally negotiated;
- stigma associated with diseases such as HIV/AIDS and tuberculosis drives alternative illness attributions;
- *Karuho* serves as a protective narrative that mitigates blame and social exclusion;
- conflict-affected environments intensify mistrust and shape illness interpretation;

- and sickness representations are embedded within broader socio-political dynamics, including historical and regional tensions.

Explanatory Model of Illness and Therapeutic Interpretation of Karuho

Arthur Kleinman’s explanatory model of illness posits that individuals and communities construct culturally grounded understandings of illness along several key dimensions, including perceived cause, symptom interpretation, mechanism of illness, severity, and appropriate treatment. These dimensions shape how illness is experienced, interpreted, and acted upon within specific socio-cultural contexts.

Applied to the *Karuho* phenomenon in eastern Democratic Republic of the Congo (DRC), this model reveals how biomedical uncertainty is reorganised into culturally coherent explanatory frameworks that guide therapeutic decision-making and health-seeking behaviour.

Etiology (Perceived Cause)

The perceived causes of *Karuho* are predominantly relational and moral rather than biological. Illness is frequently attributed to interpersonal conflict, envy, jealousy, revenge, or deliberate harm within social networks such as family members, neighbours, colleagues, or community members. In some cases, illness is also interpreted as a form of covert aggression linked to broader patterns of social tension and insecurity.

Within this framework, illness is rarely viewed as random or natural. Instead, it is understood as the outcome of intentional human action, often framed as poisoning or mystical interference.

Symptom Interpretation

Symptoms associated with biomedical conditions—such as chronic fatigue, weight loss, chest pain, fever, or gastrointestinal disturbances—are interpreted as evidence of poisoning or external manipulation. The presence of multiple, persistent, or unexplained symptoms reinforces the belief that the illness originates from *Karuho*, particularly when biomedical diagnostics fail to provide immediate clarity.

Mechanism (Pathophysiological Interpretation)

The mechanism of illness is commonly conceptualised as the introduction of toxic substances into the body through ingestion, exposure, or mystical transmission. These substances are believed to disrupt bodily functioning and produce progressive deterioration. In some narratives, both material toxins and non-material forces (such as witchcraft) are integrated into a unified explanatory logic of harm, in which intentionality is the defining feature.

Perceived Severity

Karuho is generally perceived as a severe and potentially fatal condition due to its assumed intentional nature and perceived resistance to biomedical treatment. The belief that the illness is deliberately induced contributes to heightened anxiety, urgency in seeking care, and frequent movement between multiple therapeutic systems.

Treatment Expectations

Treatment is primarily oriented toward the identification and neutralisation of the supposed toxic agent. This often involves seeking specialised antidotes from traditional or neo-traditional practitioners. In many cases, patients expect rapid and definitive cures through targeted interventions that directly counteract the perceived poison. Biomedical treatments are often considered insufficient unless they align with the culturally accepted explanatory model.

Therapeutic Implications of the Explanatory Model

Kleinman's model also highlights that health systems are composed of three interacting sectors: the popular sector (family and community interpretations), the folk/traditional sector (traditional and neo-traditional practitioners), and the professional biomedical sector.

In the context of *Karuho*, these sectors interact in complex and often fragmented ways. The popular sector generates initial interpretations and rumours of poisoning, which strongly influence early illness narratives. The traditional and neo-traditional sector often validates these interpretations while offering culturally congruent treatment options. In contrast, the biomedical sector primarily focuses on diagnosing and treating biological disease entities, which may not align with patient expectations rooted in the *Karuho* explanatory model.

This misalignment between explanatory systems contributes to delayed presentation at biomedical facilities, fragmented therapeutic itineraries, and frequent transitions between care providers.

Summary

The explanatory model of illness demonstrates that *Karuho* is not merely a belief in poisoning but a structured interpretive system that organises:

- perceived causation (social and moral relations),
- symptom interpretation (biomedical signs reclassified culturally),
- mechanisms of illness (toxic and mystical logics),
- severity perceptions (heightened due to intentionality), and
- treatment expectations (antidote-centred therapeutic logic).

Together, these dimensions shape health-seeking behaviour and reinforce therapeutic pluralism in conflict-affected settings of eastern DRC.

Health System Sectors and Therapeutic Pathways in the Context of Karuho

Kleinman's model conceptualises health systems as comprising three interacting sectors through which illness is interpreted and managed: the popular sector, the folk (traditional) sector, and the professional biomedical sector. In eastern Democratic Republic of the Congo (DRC), these sectors do not function independently but are dynamically interconnected, often in ways that reflect social mistrust, therapeutic pluralism, and structural fragility.

The Popular Sector: Emergence of Illness Narratives

The popular sector constitutes the primary context in which illness is first recognised, interpreted, and discussed. It includes the family unit, close social networks, and the broader community.

In the context of *Karuho*, this sector plays a critical role in the early construction of illness narratives. Symptoms are frequently interpreted through collective discussion, rumours, and experiential comparisons with previous cases. Within this space, suspicion of poisoning or intentional harm is often generated and socially validated before any biomedical consultation occurs.

As a result, the popular sector acts as a key site for the social production of *Karuho* as an explanatory category, shaping initial therapeutic decisions and influencing subsequent care pathways.

The Folk/Traditional Sector: Neo-Traditional Mediation and Therapeutic Pluralism

The folk or traditional sector consists of traditional healers and neo-traditional practitioners who provide culturally embedded therapeutic services. In the context of *Karuho*, this sector occupies a central intermediary position between popular interpretations and biomedical systems.

Neo-traditional practitioners—often described locally as *tradimodernes*—frequently adopt biomedical symbols such as white coats, stethoscopes, diagnostic claims, and pharmaceutical-like preparations. This symbolic hybridisation allows them to simultaneously affirm cultural beliefs in poisoning while projecting an image of biomedical legitimacy.

Studies from eastern DRC indicate that this sector has become increasingly commercialised, with practitioners offering “antidotes” for *Karuho* at varying costs and with claims of rapid effectiveness. However, concerns have been raised regarding the safety, efficacy, and regulation of such interventions, particularly where delayed referral to biomedical care may occur (Kavira Luneghe, 2019; Kyolo et al., 2018).

In some cases, the same actors who provide antidotal treatments are also suspected of participating in the preparation or distribution of substances believed to cause poisoning, reflecting a complex and often contradictory therapeutic economy.

The Professional (Biomedical) Sector: Structural Constraints and Therapeutic Disconnect

The professional biomedical sector includes formal health facilities, trained health personnel, and institutional diagnostic and treatment systems. In principle, this sector is responsible for diagnosing and managing disease based on biomedical evidence.

However, in the context of *Karuho*, this sector often experiences limited uptake due to a mismatch between biomedical explanatory models and patient illness narratives. While biomedical practitioners focus on

identifying and treating disease (*disease*), patients frequently present with illness interpretations centred on intentional harm, poisoning, or social conflict (*illness*).

This epistemological divergence contributes to delays in care-seeking, incomplete adherence to treatment, and frequent movement between multiple therapeutic systems. Furthermore, structural constraints such as limited diagnostic capacity, inadequate laboratory infrastructure, and weak health system coverage further reduce the perceived effectiveness of biomedical services. As a result, the biomedical sector is often bypassed or engaged late in the therapeutic process, particularly in cases initially attributed to *Karuho*.

Interaction Between Sectors: Fragmentation and Therapeutic Itineraries

The three sectors do not operate in isolation but interact in fluid and often fragmented therapeutic pathways. Individuals commonly move between sectors in a non-linear manner, beginning in the popular sector, transitioning to traditional or neo-traditional care, and eventually seeking biomedical services—often at advanced stages of illness.

This fragmented pathway reflects both therapeutic pluralism and structural distrust, as patients attempt to reconcile competing explanatory models of illness. In many cases, the validation of *Karuho* within the popular and traditional sectors reinforces delayed engagement with biomedical care, thereby contributing to worsened health outcomes.

Summary

In the context of *Karuho*, the three health system sectors function as interconnected but epistemologically distinct domains of care:

- The popular sector generates and legitimises initial illness interpretations, particularly poisoning narratives.
- The folk/traditional sector provides culturally congruent and increasingly commercialised therapeutic responses.
- The professional biomedical sector offers biomedical diagnosis and treatment but is often

limited by explanatory misalignment and structural constraints.

Together, these sectors shape a complex and fragmented therapeutic landscape characterised by pluralism, mistrust, and adaptive health-seeking behaviour in conflict-affected eastern DRC.

Fundamental Lessons from the Karuho Phenomenon

The analysis of the *Karuho* phenomenon in eastern Democratic Republic of the Congo (DRC) yields several key lessons for health systems strengthening, clinical practice, and public health policy in conflict-affected settings. These lessons emerge from the interaction between therapeutic pluralism, structural violence, and culturally embedded illness interpretations.

Therapeutic pluralism is structured by culturally defined illness causation

Therapeutic choice is not random but guided by culturally constructed explanations of illness. Individuals select healthcare providers based on how symptoms are interpreted within their explanatory frameworks. When symptoms such as chronic cough, chest pain, epigastric discomfort, or persistent fatigue are interpreted as indicators of *Karuho*, individuals are more likely to seek care outside the biomedical system (Mbeva et al., 2021).

In this context, therapeutic pluralism in the DRC reflects not only economic accessibility but also culturally grounded decision-making processes. Where illness is attributed to mystical or interpersonal causation, biomedical facilities may be perceived as inappropriate or ineffective for addressing the perceived source of harm (Abdoulaye Benon Monra et al., 2025).

Karuho contributes to fragmented care pathways and delayed biomedical intervention

The attribution of illness to *Karuho* often leads to non-linear and fragmented therapeutic itineraries. Patients may circulate between multiple care providers before accessing biomedical services, resulting in significant delays in diagnosis and treatment. Such delays are particularly critical in conditions such as HIV/AIDS, tuberculosis, and other chronic or infectious diseases where early intervention is essential (Kavira Luneghe, 2019).

These fragmented pathways reflect the tension between competing explanatory models of illness and contribute to increased morbidity and preventable mortality in conflict-affected regions.

Neo-traditional practitioners occupy a central but ambivalent therapeutic role

Neo-traditional practitioners (*tradimodernes*) play a central role in mediating between biomedical and cultural interpretations of illness. By incorporating biomedical symbols—such as white coats, capsules, and clinical paraphernalia—they construct an appearance of scientific legitimacy while simultaneously affirming culturally rooted explanations of *Karuho*.

This dual positioning allows them to respond effectively to patients' psychological and cultural expectations while also expanding their therapeutic market. However, this sector may also contribute to diagnostic delays, over-commercialisation of illness, and, in some cases, unsafe therapeutic practices (Didier, 2019; Kuwekita et al., 2014; Mbeva et al., 2021).

The biomedical system requires culturally informed clinical engagement

The biomedical sector remains structurally focused on diagnosing and treating biological disease (*disease*) but often fails to address the culturally embedded meanings of illness (*illness*) and its social consequences (*sickness*). This creates an explanatory gap that weakens trust between patients and healthcare providers.

Effective clinical engagement therefore requires healthcare professionals to recognise and interpret *Karuho*-related narratives as meaningful expressions of distress rather than dismissing them as superstition. Incorporating culturally sensitive communication strategies and anthropological understanding into clinical practice is essential for improving patient retention and adherence to care (Ndjeko Kalume et al., 2021).

Need for regulatory and collaborative health system frameworks

The current lack of regulatory oversight over informal and traditional therapeutic markets contributes to fragmented care and potential patient harm. The absence of formal referral systems between neo-traditional practitioners and biomedical institutions allows critically ill patients to

remain in non-biomedical care pathways for prolonged periods.

There is a clear need for structured collaboration between health authorities and traditional practitioners, including training in early referral practices, ethical standards, and basic biomedical literacy. Additionally, selected elements of traditional pharmacopoeia may benefit from scientific evaluation to ensure safety and efficacy (Alain Ntamutudu Masumbuko et al., 2025).

Summary

The *Karuho* phenomenon highlights several critical lessons for health systems in conflict-affected settings:

- therapeutic choices are culturally structured rather than purely biomedical or economic;
- *Karuho* contributes to delayed diagnosis and fragmented care pathways;
- neo-traditional practitioners play a complex role in both care provision and commercialisation;
- biomedical systems require stronger cultural competence and interpretive engagement;
- and regulatory frameworks are necessary to improve safety, coordination, and referral systems.

CONCLUSION

The socio-anthropological analysis of the *Karuho* phenomenon in eastern Democratic Republic of the Congo (DRC) suggests that illness interpretation in this context extends beyond biomedical explanations to encompass culturally embedded, socially negotiated, and structurally shaped meaning systems. Rather than functioning solely as a reference to toxic exposure or poisoning, *Karuho* operates as a complex explanatory framework through which individuals and communities interpret chronic illness, suffering, and social disruption.

Within this framework, illness is not experienced as a purely biological event but is reconfigured into a moral and relational narrative that assigns causality to interpersonal relations, social tensions, and perceived intentional harm. In this sense, *Karuho* provides a culturally intelligible means of restoring meaning to otherwise ambiguous or unexplained health conditions in settings characterised by limited diagnostic capacity and prolonged insecurity.

The proliferation of neo-traditional therapeutic centres and the expansion of antidote markets in urban areas reflect not irrationality, but adaptive responses to structural fragility, biomedical uncertainty, and weakened trust in formal health institutions. These therapeutic systems fill an important explanatory and relational gap, even as they contribute to fragmented care pathways and delayed biomedical intervention in some cases.

From a public health perspective, the persistence of *Karuho*-related explanatory models underscores the importance of integrating socio-cultural understanding into health system design and clinical practice. Effective responses to delayed diagnosis and preventable mortality associated with conditions such as HIV/AIDS, tuberculosis, diabetes, and Ebola virus disease in eastern DRC require a shift towards culturally informed, patient-centred, and interdisciplinary care approaches.

Such approaches should prioritise the incorporation of anthropological insight, clinical communication skills, and community-based mediation into healthcare delivery systems, particularly at the point of triage and early diagnosis. Rather than dismissing local explanatory models, health systems may achieve greater effectiveness by engaging with them as meaningful expressions of lived experience shaped by structural and historical conditions. Overall, the *Karuho* phenomenon illustrates how health, illness, and healing in conflict-affected settings are co-produced through the interaction of biological realities, cultural interpretations, and structural forces. Understanding this interaction is essential for developing more responsive, equitable, and effective health systems in eastern DRC and similar contexts globally.

Limitations

This study has several limitations that should be considered when interpreting its findings.

First, as an interpretive systematic literature review, the study relies exclusively on published literature and does not include primary empirical data. Consequently, the conclusions are dependent on the quality, methodological rigour, and contextual scope of the available studies.

Second, the literature on *Karuho* remains relatively limited and heterogeneous. Existing evidence is derived from

diverse disciplines—including medical anthropology, public health, toxicology, ethnopharmacology, and conflict studies—and employs varying methodological approaches, which may affect the comparability of findings.

Third, most of the available studies were conducted in urban or peri-urban settings, particularly in Goma, Bukavu, Bunia, and surrounding areas. Evidence from remote rural communities and territories directly affected by armed conflict remains scarce, limiting the generalisability of the findings across eastern Democratic Republic of the Congo (DRC).

Fourth, the absence of adequately equipped toxicological laboratories and poison control centres in the DRC constrains the biomedical verification of alleged poisoning cases. Consequently, the distinction between confirmed toxic exposures and culturally interpreted poisoning narratives cannot always be established in the existing literature.

Fifth, because this review synthesises predominantly observational and qualitative studies, the findings should be interpreted as explanatory rather than causal. They are intended to illuminate socio-cultural processes underlying the *Karuho* phenomenon rather than establish causal relationships between beliefs, health-seeking behaviours, and clinical outcomes.

Finally, this review did not include a formal methodological quality assessment of the included studies. Consequently, the findings should be interpreted as an interpretive synthesis of the available evidence rather than a weighted assessment based on study quality.

Implications of the Study

Theoretical Implications

This review contributes to the field of medical anthropology by demonstrating how illness interpretations are shaped through the interaction of biological, cultural, social, and political processes in conflict-affected settings. By integrating Kleinman's explanatory model with perspectives from the political ecology of health, the study provides a comprehensive framework for understanding *Karuho* as a culturally

mediated response to uncertainty, chronic illness, and structural violence.

Clinical and Health Systems Implications

The findings highlight the importance of culturally responsive healthcare delivery in eastern DRC. Healthcare professionals should recognise *Karuho*-related narratives as meaningful expressions of patients' illness experiences rather than dismissing them as superstition. Incorporating culturally sensitive communication into clinical consultations may strengthen patient-provider relationships, improve trust in biomedical services, facilitate earlier diagnosis, and enhance adherence to appropriate treatment.

The study also underscores the need to strengthen diagnostic capacity, referral systems, and multidisciplinary collaboration between clinicians, psychologists, social scientists, and community health workers to improve the management of patients presenting with culturally interpreted illnesses.

Public Health and Policy Implications

From a public health perspective, interventions should acknowledge local explanatory models while promoting evidence-based healthcare. Community engagement and culturally appropriate health education strategies are likely to be more effective than approaches that simply reject local beliefs.

Policy-makers should also strengthen regulatory oversight of traditional and neo-traditional therapeutic practices while promoting constructive collaboration with recognised traditional practitioners. Developing referral mechanisms between traditional and biomedical healthcare providers, together with scientific evaluation of traditional remedies where appropriate, may improve patient safety and reduce delays in accessing effective biomedical care.

Finally, investment in laboratory infrastructure, toxicology services, and poison surveillance systems would improve the investigation and management of suspected poisoning cases while strengthening public confidence in the formal health system.

Data Availability Statement: All data supporting the findings of this study are contained within the published literature cited in this article.

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