International Journal of Medicine
pISSN 1468-3814 | eISSN 2667-7008
https://theinternationalmedicine.com/

Original Researcher Article *DOI: 10.61336/im/26-2-12*

Social determinants of health, cultural distress, and transgenerational trauma in Indian context: a hermeneutic review of embodied health, somato-cognitive pathways, and role of Indic lineage based healing systems.

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Received: 06-04-2026
Revised: 20-04-2026
Accepted: 07-05-2026
Published: 21-05-2026

Abstract

Background: Social determinants, lifestyle disruption, and transgenerational trauma significantly influence physical, mental, and psychological health outcomes among Indian youth and the wider productive population. These factors contribute to metabolic disorders, non-communicable diseases, hypertension, obesity, diet-related illnesses, distress, anxiety, depression, somatization, and reduced social functioning. This narrative hermeneutic review explores the interrelationship between cultural distress, inherited trauma, and health experiences within the Indian socio-cultural context. ***Materials and Methods:M***This study employed a narrative review with a hermeneutic and phenomenological approach, supported by field-based qualitative research. The review interpreted symptomatology and socio-cultural determinants through life course theory, fundamental cause theory, social capital theory, and health-lifestyle theory. Fieldwork was conducted over six months using qualitative techniques, including key informant interviews (KII) with patients and subject matter experts from Indic healing systems. Data collection included counselling discussions, external observations, transcription, inductive and deductive coding, thematic development, analysis, and interpretative synthesis. ***Results:N***Findings revealed that transgenerational trauma and cultural disorientation are closely associated with psychosomatic, somato-physiological, and somato-cognitive manifestations across age groups. Commonly observed patterns included altered stress regulation, affective instability, anxiety, depressive symptoms, cognitive fog, addictive tendencies, somatization, and impaired meaning-making. The review identified that narrow biomedical and counselling-based approaches may inadequately address culturally embedded suffering and inherited psychosocial distress. The thematic analysis highlighted the importance of socio-cultural memory, lived experiences, and collective trauma in shaping health outcomes and participatory functioning in society. ***Conclusion:*** The review demonstrates that health, disease, illness, and sickness are distinct yet interconnected concepts influenced by cultural, social, and transgenerational factors. Conventional biomedical models alone may be insufficient in addressing complex psychosocial and culturally rooted distress. The study advocates for culturally grounded, trauma-sensitive, and whole-person interventions integrating social and preventive medicine, lifestyle medicine, ethnomedicine, and lineage-based Indic healing practices to improve holistic health outcomes and social functioning.

Keywords: transgenerational trauma; indic healing systems; psychosomatic health; somatophysiological patterns; somato-cognitive patterns; medical anthropology; ethnomedicine; social determinants of health; culture; hermeneutic analysis.

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BACKGROUND

Health-related suffering cannot be comprehensively understood solely through the lens of biomedical pathology, as disease, illness, and sickness constitute distinct yet interconnected dimensions of human experience, diagnosis, suffering, and social

recognition [1]. Medical sociology further elucidates that health and illness are influenced by biological, psychological, social, economic, cultural, and spiritual contexts, rendering them valuable conceptual tools for interpreting complex human diseases [2]. The social determinants of health elucidate how living conditions, poverty, work environments, neighborhoods, stress, discrimination, and social structures impact chronic diseases and illness experiences [3].

Medical anthropology and ethnomedicine contribute to the perspective that each society develops culturally embedded explanations and interventions for diseases, shaped by ecology, tradition, belief, and inherited knowledge systems [4]. Recent hermeneutic approaches contend that biomedical, patient-experiential, and cultural-ethnographic domains should be considered collectively rather than reduced to a singular explanatory framework [5].

Within this broader framework, life course theory, fundamental cause theory, social capital theory, and health lifestyle theory elucidate how early exposures, unequal resources, social networks, and patterned lifestyles influence health trajectories [6], [7], [8], [9]. Life course epidemiology further facilitates the interpretation of adverse exposures across gestation, childhood, adolescence, adulthood, and even across generations [10]. While lifestyle medicine and community medicine offer intervention-oriented approaches, they may remain incomplete if cultural distress, inherited trauma, and meaning disruption are not examined [11], [12], [13], [14].

Indian public health literature has explored non-communicable disease prevention, social determinants, health promotion, and social-needs interventions; however, these domains are seldom integrated with transgenerational trauma, cultural dissonance, cross-cultural imposition, and Indian healing systems within a single interpretive framework [15], [16], [17], [18]. Consequently, this review investigates how social determinants, lifestyle disruption, cultural dislocation, and transgenerational trauma may shape psychosomatic, somato-physiological, and somato-cognitive health among Indian youth and the broader population, while exploring culturally grounded intervention possibilities beyond narrow biomedical and counseling-based models [19].

Aim:
To conduct a hermeneutic analysis of the interplay between social determinants of health, lifestyle, transgenerational trauma, socio-cultural disruptions on health, and their impact on psychosomatic, somato-physiological, and somato-cognitive health among Indian youth in specific, and the country's general population.

Objectives:
- To clarify the conceptual relationship between health, disease, illness, and sickness through medical sociology, philosophy of medicine, and empirical ethics.
- To review how social determinants, lifestyle disruption, and health lifestyle patterns influence psychosomatic, somato-physiological, and somato-cognitive health among Indian youth and the general public.
- To hermeneutically interprete transgenerational trauma, cultural dislocation, meaning collapse, and philosophical romanticism as interlinked psychosocial influences on contemporary Indian youth health.
- To critically identify culturally grounded intervention possibilities beyond narrow biomedical, counseling-based, and Delphi-derived models, including social and preventive medicine, lifestyle medicine, functional whole-person care, community-based approaches, and Indic healing systems.

MATERIALS AND METHODS

This study utilised a qualitative research design characterised by multiple triangulations, integrating hermeneutic phenomenological fieldwork with domain-led narrative literature synthesis. The design incorporated investigator triangulation, involving three independent analysts conducting convergence analysis; data source triangulation, which included key informant interviews, external observations, and perspectives from subject matter experts; and methodological triangulation, combining both inductive and deductive coding approaches with a thematic analysis.

The fieldwork component employed an exploratory qualitative phenomenological design, utilising thematic analysis to investigate lived psychosomatic experiences within sociocultural and Indic healing contexts. The study's rigor was further enhanced by reviewers' fieldwork, which incorporated qualitative research methodologies, including key informant interviews (KII) with both patients and subject matter experts in Indic healing systems. This process involved discussions and counselling over a six-month period, as well as external observations. The collected data were transcribed and subjected to inductive and deductive coding, thematic development, analysis, and interpretation.

The subsequent sections delineate the specific roles of subject matter experts, external observers, and reviewers in the context of fieldwork.

Subject Matter Experts (SMEs): Soumya Tripathy (ST),Senior Researcher and Subject Matter Expert on Indic Traditional Knowledge Systems, Lineage Based Ethnoculturally embedded knowledge traditions, and Healing Models and Intangible Oral Traditions. Prakash Chandra Panda (PCP) is informed by thirty years of research spanning Somato-cognitive sciences, embodied and cultural consciousness studies, indigenous ethno-healing, and martial arts traditions (TIKS). PCP engages in interdisciplinary research aimed at developing a unified framework of self, unveiled through unusual non-ordinary states of consciousness (NOSCs), such as near-death experiences (NDEs) and out-of-body experiences (OBEs). This work has implications for transformative learning, distance healing intentional therapy (DHIT) research, and contemplative science. Both ST and PCP trained in the lineage based healing systems, Yoga & Acupuncture Therapy , Acupressure Therapy among othershave been offering healing and wellness counselling, for at least three decades as well as lineage-based embedded healing techniques, to individualswho volunteered to experiment with such systems. For external observation and key informant interviews (KII), individuals who had received counselling and guidance for at least three years were selected, and 13 agreed to participate. As this is an ongoing process, external observation was conducted over a period of six months only to facilitate subsequent domain analysis.

Ethical approval was not required for this hermeneutic analysis and narrative review; however, written informed consent was obtained from 13 participants during fieldwork.

Swarnalata Sahoo (SS) conducted the external observation of the sessions, while Kartik Chandra Parida (KCP) was responsible for conducting the key informant interviews (KIIs)withparticipants and SMEs and transcribing the collected data. Pratyush Mishra (PM) applied both inductive and deductive coding to the transcribed data. The thematic analysis and interpretation were conducted independently and repeatedly by PM, SS, and KCP.

Thirteen individuals provided written informed consent to participate in the 12 sessions with the aforementioned team. The purpose of these sessions was to understand, contextualise, and interpret their experiences of psychosomatic symptoms, as well as to explore psychosomatic manifestations and their associated sociocultural meanings over six months.

The research team developed a semi-structured key informant interview (KII) guide inspired by the study's objectives, ongoing field observations, and experiences with psychosomatic symptoms, sociocultural lifestyle patterns, and interactions with Indic healing practitioners. This interview framework was crafted to be flexible and iterative, enabling emerging themes and participant narratives to shape future discussions in accordance with qualitative interpretive methodologies.

Participants were recruited through purposive sampling based on the presence of chronic psychosomatic complaints, prior engagement with Indian healing systems, and willingness to participate in longitudinal discussions.

Key informant interviews (KIIs) were conducted to obtain rich contextual data after ensuring confidentiality and privacy. Specifically, the lived experiences and symptomatology were captured in the participants' own words by an external observer and subsequently underwent transcription. Subsequently, it underwent inductive and deductive coding by an independent team member to help uncover both preexisting and assigned codes from the data excerpts. Common ailments, diagnosed disease conditions,and recurring themes related to the participants' experience of daily life, as well as key areas of confusion and conflicts in socio-cultural and lifestyle patternings, were also recorded. Reflexive discussions were periodically conducted among the reviewers to minimise interpretive bias and maintain analytical consistency during thematic development. Thematic saturation was achieved when no substantially new themes emerged across subsequent interviews.

Of the 13 individuals, seven were male and six were female participants aged between 21 and 45 years. Participants represented heterogeneous psychosomatic and chronic disease backgrounds, including hypertension, anxiety-spectrum conditions, depressive manifestations, polycystic ovarian syndrome (PCOS), irritable bowel syndrome (IBS), type 2 diabetes mellitus, and seronegative arthritis. Across participant narratives, recurrent psychosomatic and sociocultural themes included emotional overwhelm, interpersonal conflict, affective fluctuation, recurrent thought patterns, communication difficulties, financial stress, and uncertainty regarding identity and social belonging, and difficulty sustaining health-related lifestyle modifications.

Subject matter experts contributed interpretive perspectives concerning Indic healing systems, sociocultural understandings of illness, behavioural patterning, lifestyle-related distress, and broader explanatory frameworks associated with psychosomatic manifestations. Their observations were utilised as contextual and interpretive inputs during the thematic synthesis and hermeneutic analysis.

RESULTS

A preliminary narrative literature search was undertaken to identify sources relevant to conceptual, clinical, sociological, anthropological, trauma-related, and India-specific domains.

Domain analysis was independently performed by ST, PM, and SS to delineate the conceptual boundaries of the review prior to thematic analysis and evidence synthesis. Following this independent exercise, the domain checklists prepared by ST, PM, and SS were compared and analysed by KCP to identify areas of convergence, divergence, and conceptual overlap, and to arrive at the final review domains.

Prior fieldwork had revealed that psychosomatic suffering among participants extended beyond discrete biomedical diagnoses, encompassing lifestyle disruption, interpersonal strain, cultural disorientation, inherited distress, and altered meaning-making. Consequently, the review domains were structured around (i) health and illness concepts, (ii) social determinants, (iii) lifestyle, (iv) non-communicable disease risk, (v) cultural concepts of distress, relief, and resultant behaviour, (vi) categories of intervention, (vii) trauma transmission, (viii) ethnomedicine, (ix) Indic healing systems, and (x) youth mental health. The literature identified during preliminary searches was utilised deductively, while field narratives, key informant interview material, and observer notes informed the inductive refinement of domains and iterative interpretive linkages across cases.Subsequently, the search strategy was determined by the reviewers.

Search Strategy:

Following the domain analysis, a domain-led narrative search strategy was undertaken independently by each reviewer to identify literature relevant to the conceptual and interpretive scope of the review. Searches were performed across PubMed, PMC, Google Scholar, Crossref, and other journal platforms using combinations of terms related to health and illness concepts, social determinants, lifestyle medicine, non-communicable disease risk, cultural distress, trauma transmission, ethnomedicine, Indian healing systems, and youth mental health.

Search terms included “health illness sickness disease,” “social determinants of health,” “life course theory,” “fundamental cause theory,” “social capital and health,” “health lifestyle theory,” “cultural concepts of distress,” “transgenerational trauma,” “historical trauma,” “India youth mental health,” “psychosomatic symptoms,” “non-communicable diseases India,” “ethnomedicine,” “Indic healing systems,” “Delphi method health sciences,” and “lifestyle medicine.”

The recent open-access literature was prioritised where available, while older landmark theoretical and historical sources were retained where they provided necessary conceptual grounding. Books were included because they contributed directly to ethnomedicine, indigenous knowledge systems, and historical-cultural interpretation and dimensions of transgenerational trauma and their concepts in research and practice. The search was purposive, iterative, and interpretively guided rather than exhaustive, consistent with the design of a narrative hermeneutic review.

A total of 1,051 references were initially identified, of which 226 were duplicates and were subsequently removed. The remaining 825 unique references were evaluated according to the inclusion and exclusion criteria, resulting in the selection of 45 references for hermeneutic analysis, which were subsequently subjected to thematic analysis.

Eligibility Criteria of Literature:

References were eligible if they directly informed the review's aim, objectives, or domains from the preliminary domain analysis. The sources examined encompassed the following areas: (i) health, disease, illness, and sickness; (ii) social determinants of health; (iii) lifestyle disruption and the risk of non-communicable diseases; (iv) cultural concepts of distress, relief, and behaviour; (v) trauma transmission and historical trauma; (vi) ethnomedicine, indigenous knowledge, and Indic healing systems; and (vii) mental health patterns among Indian youth, including psychosomatic, somato-physiological, or somato-cognitive aspects.

Empirical studies, reviews, conceptual papers, theoretical literature, working papers, and selected books were retained when they provided conceptual clarity, India-specific relevance, methodological value, or interpretive utility for hermeneutic synthesis.

Sources were excluded if they did not correspond to any review domains, lacked relevance to health, illness experience, psychosocial suffering, or sociocultural interpretation, or addressed biomedical, psychological, or behavioural processes in isolation without linking them to social determinants, lifestyle disruption, cultural context, trauma transmission, ethnomedical interpretation, or Indian population relevance. Additionally, sources were excluded when they were purely opinion-based without conceptual utility, duplicated more relevant material, lacked sufficient methodological or interpretive detail, or did not contribute meaningfully to the hermeneutic synthesis and thematic development of the review.

Thematic Analysis:

Table 1: Thematic Analysis of the included literature/studies prior to evidence synthesis

Theme	Core interpretive function in hermeneutic analysis	Reference numbers of the included studies/literature
Health, disease, illness, sickness, and hermeneutic framing	Delineates the conceptual distinctions among disease, illness, sickness, clinical reasoning, and interpretive medicine.	1, 2, 5, 39
Social determinants and health theory	Provides the sociological foundation for linking social position, inequality, life course exposure, social capital, and health lifestyle patterns with chronic disease and distress.	3, 6, 7, 8, 9, 10, 18
Community medicine, lifestyle medicine, and NCD prevention in India	supports the domains of public health, lifestyle, preventive medicine, and approaches to controlling non-communicable diseases (NCDs).	11, 14, 15, 16, 17
Cultural distress, ethnomedicine, and Indic healing systems	Contextualizes the experience of symptoms through cultural concepts of distress, indigenous knowledge, ethnomedicine, and culturally embedded healing traditions.	4, 12, 42
Trauma, historical trauma, and transgenerational transmission	Characterizes trauma as a complex construct involving memory, attachment, public narrative, intergenerational effects, and its somatic integration.	19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29
Colonial, historical, and civilizational disruption	Provides background sources, notes and claims for historical disruption, economic decline, sacred monument and cultural desecration, cross cultural impositions and colonial-era trauma.	30, 31, 32, 33, 34
Indian youth mental health, addiction, social media, and psychosocial stress	Addresses concerns of contemporary Indian youth such as anxiety, depression, social media effects, substance use, internet addiction, ACEs, and health-risk behaviour.	35, 36, 37, 38, 41, 43
Somato-physiological and stress-linked clinical patterns	Connects psychosocial stress and adverse experience with somato-physiological risk states such as stress response, PCOS, hypertension, and psychosomatic disease expression.	13, 40, 44, 45

Following the thematic analysis, the hermeneutical analysis and evidence synthesis was done and presented in the findings and discussion sections ahead

DISCUSSION

Definitions of Disease, Sickness and Illness

The interpretation of disease, illness, and sickness significantly impacts healthcare and social life[1]. The assignment of a disease is complicated by constantly changing medical thresholds. Illness, influenced by patients' experiences, affects health behaviour, adherence, and cooperation with healthcare personnel, as psychological research shows. Patients' illness experiences are accompanied by subjective explanatory models, such as causes and modifying factors.

Disease is mainly viewed from a medical and professional perspective, referring to pathology, diagnosis, and bodily malfunction [1]. Twaddle in 1968 defined disease as a "physiological malfunction" that is "independent of subjective experience and social conventions" [1]. Amzat and Razum similarly described disease as a "malfunction of a part of the body system" or the "intrusion of harmful organisms" [2].

In contrast, **illness** refers to the patient's lived and subjective experience of being unwell. It is a "subjectively interpreted undesirable state of health" and includes suffering, symptoms, meanings, fears, expectations, and personal interpretations [1].

Sickness refers to the social dimension of an ailment [1]. It is "a social identity" defined by others with reference to the person's social activity [1]. Thus, disease is diagnosed, illness is experienced, and sickness is socially recognised or

assigned [1].A person may have disease without feeling ill, feel ill without a clear disease label, or be treated as sick because society recognizes functional limitation or social role change [1,2].

Thus, "illness" includes both immediate and reflected patient perspectives. Patients' engagement with professional views on disease may shape their perceptions and models. The "sickness dimension" highlights that medical conditions are not just biomedical or biostatistical or subjective feelings but are embedded in social practices, ethics, and legal systems. The practical implications of disease, illness, and sickness for individuals and social practice are generally uncontested. However, the scope and normative impact of health-related concepts remain debated. Recent debates in the philosophy of medicine focus on the concept of disease, its theoretical basis, and normative implication[1,2].

Empirical ethics and its link with illness, disease, and sickness

Empirical ethics is crucial because of the “normative-ethical implications” of illness, as Seidlein and Salloch noted, while there is extensive literature on patient perspectives on illness, its connection tothe prevalent philosophy of medicine remains unclear. Physicians identify diseases using biomedical criteria, whereas patients perceive illness through suffering, uncertainty, and cultural beliefs. However, illness is a socially accepted construct. Empiricism asks clinicians to respect patients’ lived experience of illness while still grounding decisions in biomedical evidence. It also cautions that empirical findings about what patients believe or prefer cannot automatically become ethical rules because ethical judgment requires additional reflection on safety, fairness, autonomy, and professional responsibility.Empirical ethics integrates theoretical analysis, ethical reflection, and empirical research on patients’ views, thereby linking illness as a lived experience, disease as a biomedical diagnosis, and sickness as social recognition in healthcare [1].

Health, its definitions and the inherent ambiguity

The concept of health is inherently ambiguous because of its multifaceted, complex, and occasionally elusive characteristics. Nonetheless, numerous scholars have challenged the definition of health provided by the World Health Organization (WHO), contending that it is insufficient. In 1948, the WHO characterised health as a state of complete physical, mental, and social well-being, rather than simply the absence of illness and infirmity[2].

This definition is comprehensive, highlighting three interconnected aspects of health. Physically, it suggests maintaining homeostasis, meaning that one's biological systems must function properly for good health. This also encompasses the behavioural dimension of human health. Larson (1999) noted that since the WHO's definition, medicine has regarded individuals as social beings whose health is influenced by social behaviour and interactions. The social aspect also includes a spiritual dimension, reflecting the psychological, emotional, and mental state of a person. The social aspect also includes a spiritual dimension, reflecting the psychological, emotional, and mental state of a person. Emotional indifference, fixation, and maladjusted personalities are manifestations of illness. Huber et al. (2011) identified the mental component of health as encompassing a "sense of coherence," which includes the subjective capacities that facilitate the comprehension, management, and meaningfulness of various situations[2].

Awofeso (2012) pointed out that the definition is rigid and impractical. He argued that the word "complete" in the definition makes it improbable for anyone to maintain health for a significant duration. Similarly, Godlee (2011) remarked that the definition is absolute and thus unattainable for the majority of people globally[2]. By integrating the three facets of human life, the definition sets an idealised scenario. Achieving complete satisfaction in all these areas is often challenging, if not impossible.

The World Health Organization’s (WHO) definition has been heavily criticised since it was conceived in 1946 after the Second World WarbyCallahan (1973); Bice (1976); Pannenborg (1979);Wood (1986); Simmons (1989); Saracci (1997); Jadad and O’Grady (2008); Huber et al. (2011); Godlee (2011); Awofeso(2012)[2].

It is important to recognise that healthcare systems alone do not prioritise health as their sole objective. Health is ethnoculturally embedded at various levels within both individuals and communities, resulting in a multitude of stakeholders. Bhattacharjee and Banerjee, in their work "Significance of Indigenous Knowledge and Ethno-medicine in Health Care Practices: A Cross-Cultural Comparison," asserted by quoting Medhi (1980) that “ medical history of a man can only be understood through an in-depth study of different sociocultural systems of human beings” [4]. Consequently, considering the observations made by scholars worldwide, it can be concluded that a universally applicable and achievable definition of health remains elusive, and we continue to progress toward this goal.

Health, disease, and illness as conceptual tools

Despite the fact that there is “not an absolute consensus” on these definitions, health, disease, and illness are conceptual tools that remain centraltomedicine, medical sociology, health psychology, and medical demography, as they include physical, mental, social, economic, political, and spiritual components[2].It provides both a platform and challenges,

incorporates methodological tools and lenses to organise, interpret, and engage with the complex realities of human ailments, despite the description of health being "multidimensional, complex, and sometimes elusive."

By adopting this approach, one perspective, as articulated by Fleischman, effectively "removes the patient from the pathology" [1]. While this is a singular Hegelian perspective, it introduces complexity into the ongoing discourse within the philosophy of medicine, which has traditionally adhered to the dialectic model up to contemporary medical practices. A recent conceptual contribution by Mishra et al. (2026) advances this critique by proposing a trialectic "Third Space" model as an alternative to the Hegelian dialectical synthesis in medical epistemology. The authors argued that across three conceptual domains - the conceived (biomedical), the perceived (patient experience), and the lived (cultural-ethnographic) - plural healing systems can coexist within clinical practice without necessitating the subordination of ethnomedical knowledge to biomedical standards of validation[5]. This approach is both philosophically coherent and normatively compelling, engaging with the hermeneutics and phenomenology of health. However, further research needs to be done pertaining to this.

Disease, as a conceptual tool, identifies biological malfunction, pathology, intrusion of harmful organisms, and clinically detectable abnormality [2]. Illness, as a conceptual tool, captures subjective experience, emotional state, behavioural manifestation, and meaning-making around health problems [1,2].

Sickness adds the social and role-based interpretation of being unwell [1]. These tools prevent a narrow biomedical reduction of suffering [2]. They allow researchers and clinicians to distinguish bodily abnormality, personal suffering, and social recognition [1,2,3].

Social Health Determinants and their effects on health, disease and illness

Cockerham et al. explored the idea of social determinants of health (SDH), various theories, and their application in chronic disease research in their paper. Social determinants, once overlooked or considered as minor or indirect factors affecting health and illness, are now increasingly recognised as primary causes of health issues. The authors reviewed four prominent SDH theories – [a] life course, [b] fundamental cause, [c]social capital, and [d] health lifestyle theory-along with supporting studies[3].

Cockerham et al. conceptualised social determinants of health in accordance with the World Health Organization (WHO) framework as "the conditions in which people are born, grow, work, live, and age" and the "forces and systems shaping the conditions of daily life" [3].One approach to examining social determinants of health (SDH) is to focus on variables directly pertinent to chronic diseases. These variables include lifestyle factors, living and working conditions, neighbourhood characteristics, poverty, environmental pollution, socioeconomic status, stressful circumstances, racial discrimination, and economic, political, and religious influences. The central point is that these factors can affect individuals, groups, and communities "either positively or negatively,""have "a causal role in fostering illness and disability" while also promoting disease prevention and health maintenance [3].

The theoretical basis of SDH rests on four psychosocial models in medical sociology: "life course, fundamental cause, social capital, and health lifestyle theory" [3]. **Life course theory** posits that individuals progress through "age-based stages and social roles" within social structures, suggesting that early socioeconomic disadvantage may accumulate and adversely affect health in later life. **Fundamental cause theory** asserts that a social variable becomes a fundamental cause when it can "influence multiple diseases," operate through "multiple pathways of risk," be "reproduced over time," and involve access to protective resources. **Social capital** pertains to the advantages derived from "cohesive groups or social networks," encompassing belonging, reciprocity, trust, support, and access to community resources. **Health lifestyle theory** contends that lifestyles cluster in group-specific patterns influenced by socioeconomic status (SES), gender, social structure, living conditions, choices, and life chances [3].

Causation cannot be attributed solely to biological anomalies, as social behaviour and conditions may explain how an individual initially acquires a disease. Social factors can precipitate the onset of health problems and serve as direct causes of various diseases. This effect is not confined to infections. It extends to chronic diseases, such as cardiovascular disease, type 2 diabetes, stroke, cancer, pulmonary disease, kidney disease, and numerous other ailments. Thus, evidence shows that society can contribute to illness or promote health [3].

Psychosocial models in medical sociology:

Psychosocial theories are essential because social determinants of health are pathways linking social order, power, stress, networks, identity, behaviour, and biology to disease.

Social determinants, once regarded as peripheral or secondary influences, are now increasingly recognised as fundamental causes of health conditions, offering etiological clarity. The distribution of disease is not solely contingent upon factors, such as smoking, diet, exercise, or adherence. It also involves the availability of resources to mitigate risk, access to treatment, control environments, and benefit from advancements in public health, thereby providing an explanation rooted in social structures and the factors influencing these structures.

Table 2. Origins and key domains of four psychosocial models in medical sociology

Theory	Origins	Key domains and concepts
Life course theory	Draws from "developmental and structural perspectives" and explains health through exposures across "different stages of human development" [6].	"Critical and sensitive periods,""cumulative and interactive exposures,""socialidentity,""socioeconomic position,""racialization," and "transgenerational transmission" [6].
Fundamental cause theory	Associated with Link and Phelan's idea that "social conditions such as socioeconomic status and social support"are "fundamental causes" [7].	"Relative income, wealth and power,""stigma,""racism,""flexible resources," and "money, knowledge, prestige, power, and beneficial social connections" [7].
Social capital theory	Rooted in Durkheim, Bourdieu, Coleman, Putnam, Szreter, and Woolcock; social capital concerns "social networks,""reciprocities," and their value for goals [8].	"Bonding, bridging, and linking,""trust,""solidarity,""reciprocity,""collective action," and "community action" [8].
Health lifestyle theory	Builds on Weber, Bourdieu, Giddens, Simmel, and Cockerham; Weber saw lifestyles as "visible everyday manifestations of social inequalities" [9].	"Collective patterns of health-related behavior,""life chances,""habitus,""group-level identities,""norms," and "understandings of health" [9].

Table 3. Propositions of each theory, health contribution, and evidence gaps

Theory	**Core proposition**	**Contribution to understanding health**	**Evidence gaps**
Life course theory	Current health is shaped by earlier "physical, environmental, and psychosocial factors" and by exposures acting "within and across generations" [6].	Moves SDH analysis from adult risk factors to "origins, persistence, and transmission across generations of health disparities" [6].	Needs better measures for "multiple exposures and their interactions,""critical and sensitive periods," reversibility, and "dynamic and complex models" [6].
Fundamental cause theory	Health inequalities persist despite disease control because better placed groups access the "means of avoidance or treatment" [7].	Explains why inequalities remain despite medical progress and why power must be used to challenge the "roots of health inequalities" [7].	Needs clearer operationalisation because "power" is "contested," sometimes "invisible," and the proposed framework is "context-specific and unavoidably incomplete" [7].
Social capital theory	Health is shaped by social ties because networks may provide	Extends health promotion toward "social network	Risks "social exclusion,""unequal distribution of investments

	support, information, resources, norms, and access to institutions [8].	interventions,”“health supporting environments,” and “community action for health promotion” [8].	and returns,” and may downplay “material factors” or become structurally blind [8].
Health lifestyle theory	Health behaviours are not isolated choices but patterned lifestyles shaped by social structure, agency, identity, and group norms [9].	Shows how lifestyle links “racism, sexism, and other interlocking systems of oppression” to health and mortality disparities [9].	Measurement is difficult because lifestyles are both “group-level” and “individual-level,” and include both behaviours and underlying norms or identities [9].

Life course theory (LCT) and life course exposure state that health is influenced by exposures throughout gestation, childhood, adolescence, adulthood, and later life. This perspective allows trauma and deprivation to be understood as cumulative rather than episodic [6,10].

Regarding transgenerational transmission, social disadvantage can engender health risks in one generation and be transmitted across subsequent generations through epigenetic, cultural, psychosocial, behavioural, and socioeconomic pathways [6]. Transgenerational disparities related to material hardship, historical discrimination, geographic residence, and major traumatic events are linked to historical discrimination and material hardship [6].

Concerning structural inequality as a determinant of health, structural inequalities manifest through employment, income, housing, education, power, stigma, and racism, leading to unequal health outcomes even when medical care improves [7]. Health inequalities are conceptualised as products of broader regimes of inequality, power, domination, resistance, and empowerment, supporting a colonial or systemic oppression lens, albeit as an interpretive extension [7].

The social determinants of health (SDH) encompass poverty, stressful circumstances, racial discrimination, living and working conditions, neighbourhood characteristics, socioeconomic status (SES), and political factors, all of which directly affect chronic diseases. Perceived discrimination is a predictor of hypertension, heart disease, self-reported ill health, and other chronic conditions through chronically elevated stress and dysregulation of body systems [3].

Fear, crime, lack of safety, poor amenities, concentrated poverty, and inadequate housing function as social mechanisms detrimental to physical and mental health [3]. While social networks may support health, some networks are more influential than others and may perpetuate unequal access to care, information, and protection [3,8].

Life course theory links early and cumulative exposure to later health outcomes through "biological, behavioural, and psychosocial processes," and further allows disadvantage to be interpreted across generations through "epigenetic, cultural, psychosocial, behavioural, or socioeconomic pathways" [6,10]. Fundamental cause theory situates these inequalities in persistent disparities in "income, wealth, and power" and unequal access to "money, knowledge, prestige, power, and beneficial social connections" [7].
Psychosocial theories constitute fundamental components, as they integrate social exposure, power dynamics, behaviour, community resources, intergenerational disadvantage, and chronic disease into a coherent causal explanatory chain for diseases affecting any community, at least [3,6-10].

Lifestyle as psychosocial, sociological and health construct:
Lifestyle has emerged as a sociological and psychosocial construct rather than a narrow behavioural label. Cockerham et al. positioned lifestyles within the social determinants of health (SDH) variables, such as living and work situations, neighbourhood characteristics, poverty, socioeconomic status (SES), stressful circumstances, and discrimination [3]. Mollborn et al. further defined health lifestyles as "constellations of health behaviours underpinned by group-level identities and norms" and as "collective patterns of health-related behavior" shaped by life chances [9]. This indicates that lifestyle is not merely diet, exercise, sleep, or substance use; it is a patterned form of living shaped by class, gender, ethnicity, social networks, neighbourhoods, habitus, identity, and structural opportunity.
Diseases and ailments that adversely affect physical, mental and psychological health due to social causes, community affliction and ailments arise from lifestyle.

Table 4: Lifestyle-linked diseases, ailments, and identified pathways

Disease / ailment group	Conditions	Lifestyle-linked pathway described by different authors
Chronic disease field addressed by Lifestyle Medicine	"chronic conditions including, but not limited to, cardiovascular diseases, type 2 diabetes, and obesity" [11]	Therapeutic lifestyle intervention; whole-person care; prescriptive lifestyle change; plant-predominant diet; physical activity; restorative sleep; stress management; substance avoidance; social connection.
Major NCD cluster in India	"noncommunicable diseases (NCDs)" including "cardiovascular diseases (CVDs), diabetes, stroke, cancers, and chronic obstructive pulmonary disease (COPD)" [16]	Unhealthy diet; sedentary life; tobacco use; alcohol use; behavioural risk clustering; modifiable risk factors.
Biological risk states linked to NCDs	"high blood pressure,""overweight and obesity,""diabetes," and "abnormal blood cholesterol" [16]	Blood pressure pathway; adiposity pathway; glycaemic risk; lipid abnormality; behavioural-to-biological risk conversion.
Diet-related diseases	"diet-related diseases (diabetes, obesity, and hypertension)" [11]	Healthy eating; food security; hunger reduction; physical activity; diet-related disease prevention.
Urban metabolic and biochemical risk profile	"obesity, hypertension, and diabetes"; "hypercholesterolemia"; "raised blood sugar"; "overweight" [17]	Urbanization; sedentary lifestyle; processed food exposure; psychosocial stress; physical inactivity; overweight; hypertension; raised blood sugar
Rural behavioural risk profile	Higher risk burden linked to "tobacco use" and "alcohol consumption" [17]	Tobacco use; alcohol use; low dietary diversity; poor preventive access; rural behavioural risk; health access gap.
Physical inactivity linked disease field	"CVDs, diabetes, obesity, and certain cancers" [17]	Physical inactivity; sedentary behaviour; urban sedentary transition; modifiable NCD risk.
Unhealthy diet linked disease field	"CVD, diabetes, and certain cancers" [17]	Unhealthy diet; low fruit-vegetable intake; whole grains; legumes; nuts; high salt; free sugars; unhealthy fats; dietary transition.
Chronic pain and functioning-related ailment	"chronic low back pain (CLBP),""chronic pain,""persistent back pain,""chronic	Work-family imbalance; job insecurity; psychosocial stress;

	musculoskeletal pain,”“disability,”“less sick-leave,” and altered “function and work status” [13]	biological factors; psychological factors; socioeconomic factors; biopsychosocial pathway.
Functioning and participation limitation	“functioning,”“disability,”“activities/participation,” and reduced ability to “participate in society” [13]	Multimodal rehabilitation; person-centered care; collaborative care; capacity building; contextual factors; participation; functioning optimization.
Mental health and distress-related conditions	“mental disorders,”“mental health disorders,”“psychological distress,”“anxiety,”“depression,”“PTSD,” and “somatization” [12], [15]	Cultural distress; suffering communication; behavioural problems; troubling emotions; social factors; psychological factors; biological factors; cultural interpretation.
Alcohol-related harms	“alcoholism,”“lifetime risk of alcohol abuse,”“hazardous and dependant drinking patterns,”“alcohol caused deaths,” and “hospital admissions for non-road injuries” [16]	Alcohol use; early initiation; affordability; availability; pricing policy; coordinated prevention; regulatory control.
Tobacco-related disease burden	“tobacco use” as a major behavioural risk factor for NCDs; “1.35 million deaths annually” and “economic costs attributed to tobacco use from all diseases” [17]	Smoked tobacco; smokeless tobacco; rural-urban differential; affordability; availability; regulatory enforcement; tobacco control.
Social-needs-linked health outcomes	“health outcomes,”“clinical outcomes,”“health care cost and utilization,” and “social needs” [18]	Social needs screening; social prescription; referral pathway; community resources; social services; care coordination; SDOH intervention.

Exploring origins of Interventions as adaptive strategies and their prevalent categories

Bhattacharjee and Banerjee explored the idea that both disease and health are universal experiences, a concept strongly endorsed by medical anthropology. In fact, health and illness are two opposing concepts.As our ancestors evolved from basic forms and early communal living to more complex social structures, they not only carried diseases and inherent risk factors with them but also continued to acquire new ones. Over time, these elements became embedded as cultural facts and influenced states of health and illness. This process is undoubtedly an "adaptive strategy" to combat disease, which sparked the pursuit of a vast array of knowledge, beliefs, techniques, roles, norms, values, ideologies, attitudes, customs, and rituals that "interlock to form a mutually reinforcing and supporting system," as noted by the authors quoting Das (2004)[4].

Medical anthropology and ethnomedicine offer insights into cultural elements and lifestyles as an organic intertwining, from which health interventions emerge as a subset. These "deliberate actions," known as interventions, continue to be enacted across generations. This concept is further explored through an examination of fundamental sociological principles and pragmatic evidence related to medical systems across different cultures, as discussed by Bhattacharjee and Banerjee [4]. Their work provides an interpretative association of these interventions, examining their fundamental needs and the natural progression of their structures in theory and practice. It also explores how interventions became a unique category,

serving as a valuable tool to connect ethnography, sociocultural perspectives, and the connection to or severance from one's ethno-cultural roots, along with the observable ailments, as discussed in Table 3.

Drawing from this framework, the following foundational principles emerge:[a] every culture, irrespective of its simplicity and complexity, has its own practices concerning disease(Chaudhuri, 2003); [b] every culture evolves its own system of medicine to treat diseases in its own way (Chaudhuri, 2003); [c] health and treatment are closely connected with the environment, particularly forest ecology; hence, the healthcare system's origins and evolution models lie in "deep observations and understanding of nature and environment"(Chaudhuri, 2003);[d]when we consider the environmental factors of diseases, cultural traits become more evident(Medhi, 1995); [e]every society has a theory of disease, it is a continuum within itself to provide an efficacious approach or methodology for treatment(Medhi, 1995); [f]the medical system prevalent in a society is a combination of tradition, beliefs,techniques, and ecological adaptation (Medhi, 1995); and [g] this system is an integral part of the culture of a society(Medhi, 1995).

The foundational sociological principles and empirical evidence related to medical systems across diverse cultures, as presented by Bhattacharjee and Banerjee [4], underscore the essential need for and natural evolution of these structures in both theoretical and practical contexts. This work elucidates how interventions have emerged as a distinct category, serving as a critical tool to bridge ethnography, sociocultural perspectives, and the connection to or disconnection from one's ethno-cultural roots, along with their observable manifestations of ailments, as detailed in Table 4.

Thus, an intervention in healthcare refers to an "adaptive strategy" that translates into a "deliberate action" aimed at altering a disease's life course, risk exposure, behaviour, biological marker, social condition, or functional outcome. Its objectives include disease prevention, early risk detection, illness treatment or reversal, functional restoration, and quality of life enhancement, owing to its origins and evolutions from the above foundational sociological principles and empirical evidence of Chaudhuri and Medhi [4].

Broadly, healthcare interventions may be grouped into four categories. Clinical or biomedical interventions include screening, early detection, evidence-based care, secondary prevention, and quality improvement [16].Social and preventive medicine interventionsinclude health promotion, population-based action, school- and worksite-based programs, policy changes, environmental modification, and multisectoral action [15, 16].Lifestyle medicine interventions use "therapeutic lifestyle interventions" and "whole-person, prescriptive lifestyle change" through nutrition, physical activity, sleep, stress management, substance avoidance, and social connections [11]. Functional or integrative person-centred interventions are adjacent but distinct, as they may include complementary therapies, individualised assessment, supplementation, and broader whole-person care when used responsibly with evidence-based medicine [11].

However, going hermeneutically as per the axioms of Das, Chaudhuri, and Medhi, and tracing it to the modern medicine based on biomedicine and its influences of dialectics, from reasoning philosophy back to Eisenberg(1977) and Hahn(1995) observations, "biomedicine is linked to allopathic school of medicine, which sees maladies primarily as disease, which is understood as biological abnormalities in structure, chemistry, or function of the body." Thus, being based on biology, it inherently ignores cross-cultural problems[4], which had been an implicit weakness that subsequently crept and cemented itself as a component in the current philosophy of medicine[5], possible to identify primarily through heterogeneous and hermeneutic analysis of evidence.

Table 5. Types of healthcare interventions identified across reviewed literature

Intervention category	Specific intervention types
Clinical lifestyle interventions	Therapeutic lifestyle intervention; Lifestyle Medicine pillar-based intervention [11]
Behaviour-change and health promotion interventions	Health promotion intervention; life-skills education; public education; school-based health intervention [15], [16]
Community and social-network interventions	Community-based intervention; social support intervention; social capital intervention; community action intervention [8], [16]
Workplace interventions	Worksite wellness intervention; multicomponent workplace health promotion intervention [15], [16]
Population and high-risk interventions	Population-based intervention; high-risk intervention; primary prevention; secondary prevention [16]
Policy and regulatory interventions	Policy intervention; regulatory intervention; multisectoral intervention; whole-of-government intervention [15], [16], [17]
Environmental interventions	Environmental modification; built-environment intervention; indoor air pollution reduction intervention [16], [17]

Screening and early-detection interventions	NCD screening; cancer screening; early-detection intervention; social-needs screening [16], [18]
Quality improvement interventions	Hospital quality improvement; service-delivery improvement; formal education-linked quality improvement [16]
Biopsychosocial rehabilitation interventions	Biopsychosocial rehabilitation; self-management intervention; pain-management intervention; person-centred rehabilitation [13]
Social-needs and social-prescription interventions	Social prescription; community-resource referral; social-service referral; care coordination [18]
Culturally informed interventions	Culturally informed mental-health intervention; patient-perspective communication intervention; explanatory-model-based communication [1], [12]
Equity-oriented differentiated interventions	Geographically differentiated intervention; gender-sensitive intervention; digital intervention [17]
Community medicine bridge interventions	Public-health and clinical-care bridge intervention; community medicine-based intervention [14]

Because each community has its own ethno-cultural moorings, ecological adaptation, a set of traditions, customs, and practices that become cultural facts, and the observation of this principal driver of healthcare and related behaviours– " medical history of a man can only be understood through an in-depth study of different socio-cultural systems of human beings" (Medhi, 1980)–the most fundamental categories of intervention, preceding biomedicine, fall under two categories of intervention: social and preventive medicine, and functional medicine. In the former, societies prevent illness, and in the latter, food and lifestyles are supplemented to enable the management of any illness.

In the interviews and fieldwork findings of the reviewers, while assessing the trends toward health and wellness, modern medical science as an intervener,utilises two primary modalities: the administration of pharmaceuticals and molecular interventions, alongside the implementation of talk therapy or psychotherapy and counselling.

Indic healing systems have not been tapped and documented comprehensively. Given our current lack of comprehensive understanding, Indic healing systems have been limited in their contributions beyond the fields of ethnopharmacology and ethnomedicine, and studiedutilisation has been limited to a very selective capacity. Consequently, we have yet to acknowledge, study, and fully utilise their deeper contributions.

Numerous techniques and embedded healing systems within communities, along with their traditional knowledge systems remain undocumented. These systems could provide a framework for the principles and interventions utilized and significantly contribute to the domains of social, preventive, and functional medicine, as well as advance a step closer towards integrative medicine.

The preceding findings and theories show that health cannot be reduced to pathology, behaviour, or individual choice alone. Youth health, influenced by chronic diseases, is particularly sensitive to broader contextual factors due to processes of identity formation, educational transitions, and exposure to risks.

** According to life course theory, early exposures can significantly alter health trajectories later in life, with implications that may extend across generations [6]. Life course epidemiology examines the connections between health and biological, behavioural, and psychosocial processes from gestation through the lifespan [10]. The social determinants of health establish the conditions that contribute to vulnerability, resilience, opportunities, and the manifestation of illnesses. Factors such as poverty, discrimination, neighbourhood insecurity, family instability, disrupted education, migration, stigma, and unequal access to healthcare constitute exposures affecting youth health [7], [15], [16]. Health lifestyle theory posits that youth behaviour represents a patterned form of living, influenced by social class, identity, norms, networks, and opportunities [9]. Social capital theory indicates that networks can safeguard health but may also perpetuate exclusion when resources are distributed unequally [8].

Sociological flux through colonial disruption, migration, economic precarity, family fragmentation, violence, or cultural change makes youth health a site where social injury, inherited disadvantage, cultural continuum disruption and illness experiences, categories of interventions converge, preparing for examining trauma as a transgenerational and socially embedded health determinant.

Effects of trauma, social structures flux on health and illness:

Trauma, which refers to a "wound" or exposure to violence, represents a personal state of being overwhelmed, in which one cannot fully process violent experiences. These violent experiences might not be directly experienced by an individual but could occur within specific social contexts or as part of a collective imagination. The shared understanding of trauma's various interpretations does not extend much further, as illustrated in "Trauma concepts in research and practice: an overview" (2023) by Langer, Dymczyk, Brehm, and Ronel (pg 2) [19].

Unlike the discourse of trauma, the development of which as a scientific concept since the 1860s is closely linked to the consequences of modernisation (p.3)[19],the phenomenology of trauma in social structure disruption is far older. Since the 19th century, beginning with the work of Erichsen and Charcot, the psychological concept of trauma has evolved from models of traumatic neurosis. These models posited that mental trauma could have pathogenic effects.

Hermann Oppenheim later introduced the term "traumatic neurosis," initially attributing its cause to the brain while acknowledging the significance of an individual's nervous system disposition. Further contributions were made by Freud through his psychodynamic theory, which emphasised the embedding of potentially traumatic experiences as crucial for the development of subsequent traumas. Pierre Janet attributed trauma as a reaction, which was an “overwhelming affective experience” that causes a loss of the “integrating function of consciousness”–this continues to be a core of trauma discourse (p.4)[19]. The American biologist and physician Walter Cannon approached the phenomenon of trauma-associated disorders from a physiological perspective and stress research.

Traumatic events can be categorised into two types: short-term or Type 1 traumas and repeated or long-term, also known as Type 2 traumas. Traumas may occur accidentally, as in natural disasters, or they may be of an interpersonal nature, referred to as human-made disasters. Although traumatic events are necessary but not sufficient conditions for the development of trauma-related disorders such as PTSD, at least in a clinical sense, human-made disasters, in particular, have a significantly higher potential for the development of such disorders (p 8)[19].

Theoretical foundations and empirical findings that inform the psychosocial understanding of trauma and its effects on health concur that trauma is both an individual and social phenomenon [19] (p 15). Psychosocial suffering cannot be understood or treated independently of the social context; rather, a "conscious reflection" of the social context is required to grasp the "complicated dialectic between individual suffering and extreme sociopolitical processes" [19] (p 16).
Psychosocial approaches to trauma emphasise human-made disasters as violent conditions produced by human beings, further endorsed and expanded by the work of Ignacio Martín-Baró, who insisted on the development of a critical consciousness and the empowerment of people by freeing them from oppression and socially traumatogenic structures and acknowledging their social roots.

Hans Keilson (1992) developed his concept of sequential traumatisation based on three differentiated traumatic sequences: (i) enemy occupation of the Netherlands and incipient terror against the Jewish minority, (ii) direct persecution, deportation, and confinement in concentration camps, and (iii) the postwar period marked by a debate on whether children should remain in Dutch families or be placed in a Jewish environment. Keilson's study found that the third sequence, linked to the postwar period and the placement of children, was to be assessed most intensively in terms of outcomes and massive cumulative traumatisation events(p 17) [19]. In practice, psychosocial understandings of trauma are closely aligned with interdisciplinary and multiprofessional approaches to intervention(p 18) [19]. The authors reflect on the importance of narratives in trauma-related research or therapy methods, although they also note that the modern Western view of trauma and its health consequences has primarily focused on the dimensions of individual suffering, largely omitting important sociocultural contexts(p 20) [19].

The theoretical foundations and empirical findings thatinvestigate whether and how trauma is transmitted across generations encompass the "conscious or unconscious transmission of symptoms through interpersonal relationships" in both psychological and psychodynamic contexts. Additionally, they address the transmission of trauma within the family system through communication, described as "systematically and communicatively," the transmission of social norms and beliefs from one generation to the next in a sociocultural manner, as well as the "genetic and epigenetic aspects biologically" (page 23) [19].

The concepts of collective traumatisation remain a scientifically debated field in which collective trauma can be perceived from at least two different perspectives. It may affect a group of victims abruptly, or there may be a cultural collectivisation of trauma, which could be better explained through familial transmission, indicating the transgenerational nature of trauma (page 29)[19].

The types of collective traumatisation can be classified as follows: [a] **Chosen trauma**, as described by VamikVolkan (2001), is linked to historical events that a collective chooses in relation to its identity, entering collective memory as trauma. [b] **Genocidal trauma**, as discussed by Andreas Hamburger (2017), addresses the collective dimension of the experience of violence reflected on a social and socio-interactive level, acknowledging that genocidal or social trauma is always directed at a collective and, through the intention of the perpetrators, is inscribed into collective memory. [c] **Cultural Trauma**, as stated by Jeffrey Alexander (2004), suggests that more than the specific traumatic event, it is the subsequent interpretation and its public narrative that a fundamental violation has occurred, and its development depends on social power relations. [d] **Historical Trauma**, a term used by Maria Yellow Horse Brave Heart in the 1980s, describes the collective aftereffects of colonialism and slavery as a leading phenomenon, where "Historical trauma is a cumulative emotional and psychological wounding over the lifespan and across generations, emanating from massive group trauma experiences." Here, the event understood traumatically has a historical scale. [e] **Symbol-mediated trauma**, proposed by Angela Kuhner (2008), approaches trauma that is indirectly experienced or culturally appropriated, mediated symbolically through the media, and inscribed in cultural representation (pages 30 & 31)[19].

Transgenerational Trauma and its effect on lifestyle and health :

Transgenerational trauma is trauma that extends beyond the directly exposed individual, continuing through family, social, biological, and historical pathways.

Kaur and Jaggi described it as trauma that can be passed on to future generations of survivors [20]. Rebecka defined it as “the transmission of trauma-related effects from one generation to the next through psychological, relational, social, and biological pathways” [21]. Sotero stated that populations historically subjected to mass trauma, such as colonialism or genocide, show higher disease prevalence even generations later [22]. Mohatt et al. defined historical trauma as “a complex and collective trauma experienced over time and across generations by a group of people who share an identity, affiliation, or circumstance,” including three elements: “a ‘trauma’ or wounding,” trauma “shared by a group of people,” and trauma that “spans multiple generations” [24].

Kostova and Matanova added that intergenerational trauma, also known as transgenerational or inherited trauma, involves the transmission of trauma across generations [28]. Thus, transgenerational trauma should be viewed as a family, group, and population-level health construct, not just an individual psychiatric category.

The Biological, Genetic, and Epigenetic Mechanismsdiscussed illustrate the link between trauma and altered health and disease susceptibility. Sotero posited PTSD-related chronic stress affects the nervous system, HPA axis, and cardiovascular, metabolic, and immune systems [22]. These dysfunctions contribute to chronic diseases, such as diabetes, hypertension, and cardiovascular disease [22]. Sotero’s framework included "nutritional stress," "compromised immune system," and "gene impairment/expression," leading to diseases such as diabetes and cancer [22].

Trauma's physical effects may be inherited through "genetic mutation" and "gene expression impairments" [22]. Rebecka noted that trauma impacts "memory, emotion, gene expression, and cellular regulation" [21], explaining epigenetic inheritance as trauma affecting genes without a DNA sequence change [21]. Yehuda and Lehrner identified epigenetic pathways, including offspring adaptation to early life exposures and "preconception parental trauma" affecting offspring development [25]. Zhou and Ryan described epigenetic mechanisms as "environmentally sensitive and potentially reversible genome modifications," acknowledging that stress and trauma can become "biologically embedded" [27].

However, Yehuda and Lehrner cautioned that epigenetic transmission of trauma in humans has not been conclusively demonstrated [25]. Yehuda, Lehrner, and Bierer advised against prematurely attributing specific epigenetic mechanisms in studies of trauma survivors' offspring [26]. Current biological arguments consider stress, immune, endocrine, metabolic, and epigenetic pathways; however, caution against claiming that trauma causes fixed inherited diseases, leaving room for further research.

The public narrative explains how historical trauma is remembered, reactivated, and embodied. Mohatt et al. argued that it functions as a public narrative for specific groups, linking the historical past to current circumstances [24]. These narratives are collectively told and retold, shaping memories of trauma [24]. Public reminders include events, symbols, and structures that recall trauma narratives, such as media stereotypes, resource scarcity, and poverty [24].

Trauma operates through memory, social identity, context, discrimination, and symbolic activation. Kostova and Matanova noted that trauma language, or 'primary language,' is expressed non-verbally, linking attachment trauma to physical and mental health symptoms, including anxiety, depression, and dissociative symptoms [28]. Sotero’s model includes PTSD, depression, anxiety, substance abuse, domestic violence, unemployment, family breakdown, social isolation, malnutrition, diabetes, infectious disease, heart disease, hypertension, and cancer [22]. The public narrative may shape illness by converting historical injury into remembered loss, social reminders, family transmission, bodily distress, and chronic disease pathways.

Transgenerational trauma constitutes a multifaceted process whereby extreme familial, collective, or historical trauma is conveyed through "psychological, relational, social, and biological pathways" [21]. The health implications of this phenomenon encompass dysregulation of the HPA-axis, disturbances in immune and metabolic functions, alterations in gene expression, and potential epigenetic pathways [22], [24], [25], [27], [28]. Documented or modelled manifestations of transgenerational trauma include PTSD, depression, anxiety, dissociation, medically unexplained symptoms, eating disorders, substance abuse, social dysfunction, diabetes, hypertension, cardiovascular disease, infectious diseases, cancer, and broader disruptions in immune, endocrine, metabolic, and stress systems [22], [28]. However, to avoid biological determinism, as the epigenetic studies reviewed consistently caution that human evidence remains incomplete, mechanism-specific attribution is premature, and epigenetically influenced effects may be modifiable under changing environmental conditions [25], [26], [27]. It is prudent to interpret that trauma can be narrated, embodied, socially reproduced, and epigenetically marked; furthermore, its effects remain historically situated, mediated by environment , and potential for modifiability.

What transgenerational trauma means for the Indian population including youth:

In this section, the reviewers have integrated their observations from interviews, inferences, and fieldwork into significant perspectives concerning current symptoms and complaints in relation to lifestyle, transgenerational trauma, and medical anthropology.

Indian Youth, among other things, are afflicted and affected by two major problems/difficulties in addition to what we see as diseases and ailments in social and functional medicine:

01. **Meaning Collapse, Structural/ Social Disruption, and Inherited Trauma:** Generation after generation, the people of India have witnessed and experienced sudden changes in meaning [24], [29]. The previous meanings of life and living gotreplaced with new meanings repeatedly [24], [29]. This meantlike an overnight collapse of all values, life stance, lifestyle, and meaning making [24], [29]. The void generated from the difficulty in adopting new meanings of life, living, societal security, and values has affected generations, leading to what we call transgenerational trauma [20], [21], [22], [24], [28], [29]. Present-day generations suffer from this transgenerational trauma because of the regular shifts that occur repeatedly [20], [21], [22], [24], [29]. Even a single instance of collapse can have lasting effects [20], [22], [24], [25], [27], [29]. The people of India have faced this many times [29].Transgenerational trauma in Indian society is a complex phenomenon rooted in centuries of foreign invasions, colonial exploitation, systemic oppression, and violent partitioning of the subcontinent [22], [24], [29]. This trauma has been passed down through generations, manifesting as fear, suppressed grief, structural inequality, and cultural insecurity [20], [21], [22], [24], [28], [29].

The cumulative impact of foreign invasions and onslaughts resulted in the thorough disruption of the sacred geography of India (page 2). A corollary to this hypothesis is that sacred monuments, such as temples, emerged as centres of resistance against invading forces (pages 2, 3, 4). Muslim invasions, which began in the 7th century CE, significantly influenced the history of India (page 26). As early as 712 CE, military raids on the urban centre of Vallabhi, Gujarat, are documented by historians. These accounts describe the use of "recycled architectural components," such as carved stone columns, which downplay the act of recycling (page 60). This recycling involved salvaging elements from earlier Indic architecture and, through power tactics, transforming them into something perceived as discarded. Additionally, records indicate the branding of sacred monuments with reports of undesirable educational activities in schools and places of worship, which served as socio-cultural centres (page 112). This led to ongoing "group grief and lamentation" (page 115) and "restraint and impositions on the celebration of festivals," which are expressions of joy and adherence to one's traditions and culture (page 118). This "inverted legitimation" by invading powers, persisting from the 7th century CE to the late medieval periods, sought to "mirror the acts of previous invaders." It involved the "symbolic capturing" of the legitimacy to rule through cross-cultural imposition, disrupting the ongoing cultural continuum, decimating existing socio-cultural practices, and, by extension, all knowledge linked to these constructs. This resulted in a loss of happiness and dignity (page 197), which are essential components for an approach to the health and well-being of the populace at large. In the consciousness of countless inhabitants of the subcontinent, the Islamic advent became synonymous with the destruction of sacred monuments, as evidenced by the 12th-century CE Etawah, Uttar Pradesh, inscription of Ajayasimha. Even the burial of bronze images housed within these sacred monuments occurred on a considerable scale in South India, as noted by Nagaswamy (1987). On a later date, at least 200 bronzes were discovered in Tamil Nadu, unearthed by villagers, which had been interred with deep reverence and extreme care since these invasions (page 5)[32].

The period from approximately 900 CE onwards in India reflects a transition from a self-sufficient society to one conditioned by long periods of subjugation, ultimately leading to a modern era that is grappling with the psychological, social, and economic consequences of these accumulated and unresolved traumas [22], [24], [29], [30], [31].

The destruction of countless monuments and structures holding ethnocultural and religious significance by invaders caused deep damage to the cultural, social, and educational life of Hindu society. This period, described by some as the "bloodiest story in history," involved widespread genocide, sexual violence, and enslavement, leaving deep-seated psychological wounds. The inability to build grand temples in North India for nearly 1000 years is cited as a manifestation of this enduring fear [32,33].

Apart from the Portuguese and French colonisers who ruled over a few regions in the Indian subcontinent, the British colonial period acted as a "period of trauma" that changed India from one of the world's wealthiest regions to one of the poorest [29], [30], [31][34]. The destruction of local industries, forced agricultural shifts causing massive famines (killing millions), and cultural marginalisation contributed to a collective sense of inferiority, often termed as "psychological warfare" waged against the entire population [29], [30], [31].

The Partition of India is considered one of the most intense modern traumas, causing a deep, unresolved wound [20], [29]. It triggered the largest forced migration in history, with widespread ethnic cleansing, sexualviolence, and loss of life (up to two million people were killed) [20], [29]. The memories of this violence are passed down, creating "partition families" whose identity is shaped by loss [20], [24], [29].

Traumatic events are often not directly discussed but are known across generations, creating a "festering wound" [20], [21], [23], [24], [28], [29].Survivors of historical traumas, such as partition, often pass on trauma to their children through disrupted parenting, leading to higher rates of mental health issues within the diaspora and in India [20], [21], [22], [24], [28], [29]. Preliminary studies suggest that maladaptive coping responses, such as substance abuse, are sometimes used to deal with unresolved intergenerational trauma [22], [24], [29].

02. **Philosophical Romanticism and the Glorified Imagination of an Unlived Past:** The second factor concerns reminiscing about the golden era of India's civilisation, which is ancient and filled with glory, virtues, values, ethics, social norms,customs, rich cultural ethos, and traditions, knowledge, and wisdom. When we ponder the great civilizational standing of ancient Bharat, we create a picture that neither the current generation nor many previous generations have ever experienced. But there remains a longing in this generation and many generations before this generation towards those ancient glories. At least, we can describe this longing as "philosophical romanticism with the past," which remains as glorified imagery in the mind. It never crosses beyond the threshold of imagination because many generations, including this generation, have not experienced the majority of it; only have heard about it.

Another perspective emerges, linked to the intersection of sociological perspectives and health and the manifestation as a phenomenon among current Indian youth: an unguided, never-ending longing for past glories triggers emptiness turning into a kind of very infected and depleting state. Ceaselesslypersistent and depleting imaginations that lead to continuous sluggishness in which the majority of thoughts occur and vanish without clarity, not directed at any particular productive purpose or avenue, which is extremely important from the perspective of mental health as well as overall health. The absence of a clear value system, the meaning making of life, and a concrete life stance are lost in chronic fogginess.
An unguided and perpetual longing can evolve into a profoundly detrimental and exhausting condition [21], [22], [28]. Unguided longing such as philosophical romanticism with the past can be interpreted as unresolved "wounding" that "spans multiple generations" [24], or as the effects of trauma transmitted through "psychological, relational, social, and biological pathways" [21]. It may manifest as "social isolation," "depression," "panic/anxiety disorders" [22], and "bodily symptoms concerning physical and mental health" [28]. This incessant and depleting state of imagination results in persistent lethargy, wherein most thoughts emerge and dissipate without clarity or direction toward any specific productive purpose, which is crucial for maintaining sound mental health [21], [27], [28]

Chronic ambiguity may undermine an individual's ability to establish a stable value system, coherent life meaning, and a grounded life stance. In the context of transgenerational trauma, such ambiguity may manifest as wounds that remain "embodied, inherited, and enacted" [21], perpetuated through "public narrative" and meaning-making within communities [24]. Additionally, it may present through disrupted attachment, altered self-regulation, and "bodily symptoms concerning physical and mental health" [28].

Transgenerational trauma coupled with chronic non-clarity adds to the impact of prevailing frustration, social disharmony, loss of identity, disenchantments, and desensitisation, creating more complexity in both physical and mental health. All these are deeper, penetrating, and blending with the present-day reality of herenow and here-ness. The results and effects are mental health concerns and issues, such as lack of confidence, confusion, and a sense of inevitability/unavoidability.
Presently, the leisure economy, also referred to as the pleasure economy, is experiencing significant growth. Within this framework, individuals engage in travel for either learning experience, or for the pursuit of pleasure, or as a means to

escape the realities of their mental state or circumstances [42][35], [37], [38].This phenomenon has gradually evolved into a trend in which younger generations seek solace [35], [38]. However, an impact is already felt as a spinoff of this gateway – addiction and substance abuse [22], [29], [35], [37], [38]. In addition to this are extremist ideas, social disparity, disharmony [7], [15], [16], [17], [22], [24], [29], [35].Collectively, these have become increasingly challenging to sustain mental health and engage in meaning-making [21], [22], [24], [28], [29], [35], [38]. This phenomenon is particularly evident among young individuals [7], [9], [15], [16], [17], [18], [29], [38].

Transgenerational trauma may reasonably affect psychosomatic, somatophysiological, and somato-cognitive pathways, as the repercussions of trauma can extend through "psychological, relational, social, and biological pathways" [21]. Historical trauma has the potential to disrupt the hypothalamic-pituitary-adrenal (HPA) axis, as well as the immune, cardiovascular, metabolic, and endocrine systems [22], whereas stress may become "biologically embedded" [27].

The main approachpresently adopted to alleviate mental health issues is alternative psychiatry, in which focus is on counselling and talk therapy. However, this looks insufficient and inadequate as functional blueprints for this approachhave been mostly developed from models like Delphi,NGT, RAND/UCLA Appropriateness Method, and other consensus methods.A consensus of experts-derived counselling model may be insufficient because it is mainly for expert agreement, not for understanding the patient's inner world [39]. It often emphasizes formal agreement over lived experiences, tacit knowledge, cultural meanings, and explanatory frameworks [39].

Counselling requires attention to distress, memory, values, family meanings, silence, shame, and cultural idioms; thus, a method focusing on expert agreement may miss the patient's suffering. The issue is not the uselessness of Delphi, but that consensus does not equal healing insight. In mental health, patient experiences are "complex, ambiguous, and emotionally laden," requiring "detailed examinations of personal lived experience" [39]. The Delphi method can define service models and priorities but cannot "describe the essence of a phenomenon" from those who experienced it, and it applies both to Indic healing systems as well as self-awareness and lifestance [39]. Thus, therapy based solely on Delphi blueprints may become procedural and expert-heavy, lacking subjective grief, cultural shame, or a collapse of meaning. A therapeutic model requires interpretive depth, not just expert convergence.

Current challenges in healthcare are shifting the discourse on transgenerational trauma from a predominantly conceptual and historical perspective to one that emphasises embodied, behavioural, and intervention-oriented health pathways. It is established that maternal nutrition and exposure to intrauterine stress can influence the stress responsiveness of offspring through the HPA-axis and cardiovascular, autonomic nervous system and sympathetic pathways, thereby linking early-life vulnerability with an increased risk of non-communicable diseases later in life [40]. Evidence from India regarding adverse childhood experiences further indicates that adversities at childhood, family, and collective levels are associated with substance misuse and risky health behaviours among adolescents and young adults [41], [43]. These findings suggest that inherited or accumulated distress may manifest not only as memory or narrative but also as altered coping mechanisms, addiction vulnerability, sex-specific behavioural risks, suicidal ideation, and impaired social functioning. Stress-related clinical patterns are also evident in somato-physiological domains, as demonstrated by higher perceived stress, cortisol, and DHEA levels among Indian women with PCOS [44], and the association of psychosocial stressors with hypertension through sympathetic, HPA-axis, and immune dysregulation [45].

Indic healing systems have the potential to make significant contributions in this context. As detailed in the Methods section, the reviewers and subject matter experts, during their sessions with participants, observed that the lineage-based healing systems such as Abhyanga, Marma, Sabari Stambhana Bipasa, and Sharira Soukhyam etc can provide substantial relief and long-lasting effects in addressing psycho-somatic, somato-physiological, and somato-cognitive disorders.

These above lineage-based healing systems originate from interventions rooted in the embedded knowledge systems of communities, which have endured by virtue of these techniques being effective despite cross-cultural impositions and the depletion of knowledge workers in India since centuries, as previously evidenced in the review.

Culturally grounded in lineage-based somato-cognitive interventions, these systems are well-positioned to offer assistance by directly modulating the sympathetic–parasympathetic balance that underlies the somatic expression of distress. They also provide frameworks for personalised nutritional and metabolic pathways that offer a biological foundation, allowing for the interplay of cognitive interventions that repair meaning making by integrating self-awareness in relation to social determinants of health.

By addressing maladaptive meaning structures, which manifest as cultural dissonance due to centuries of cross-cultural imposition, these systems work by reorganising the interpretive framework around symptoms and repairing how individuals

relate to sociocultural dynamics, thereby enhancing functioning and promoting improved health and wellness. These contribute positively towards addressing the effects of transgenerational trauma, which is notably manifesting within the Indian population at large, and particularly among the youth.

Recommendations:

i. With the review's findings indicating that suffering manifests through psychosomatic, somatophysiological, and somatocognitive pathways rather than solely through discrete biomedical disease labels, the following approaches ought to be taken:

a. Developing a culturally informed screening framework for Indian youth and adults with psychosomatic complaints is advantageous.

b. Screening should encompass more than diagnosis. It is recommended to document (i) illness experience, (ii) social determinants, (iii) lifestyle disruption, (iv) childhood or family adversity, (v) cultural distress, (vi) collapse of meaning making, and (vii) functional impairment.

ii. Transgenerational trauma should be considered a significant modifier of health risks from sociocultural and cross-cultural imposition perspectives. It is essential to focus on the relationship socio cultural dynamics and their relation between inherited distress, childhood adversity, family instability, and cultural disorientation leading to somato-cognitive and psychosomatic disorders , and their measurable outcomes, such as anxiety, depression, substance use, hypertension, stress markers associated with polycystic ovary syndrome (PCOS), obesity, sleep disturbances, and reduced social functioning.

iii. Further research is warranted to explore the reasons and pathways of cultural disorientation among youth and its impact on health and wellness. Such studies should encompass various health domains, including the social determinants of health and connections to cultural groundedness.

iv. Medical ethnography and anthropology, including research on ethnomedicine, should be prioritised in academic institutions as well as continuing medical education to contribute to healthcare and enable a dialogue and discourse approach in existing practices and the philosophy of medicine for different practitioners of different medicinal systems (including modern medicine, Ayurveda, Unani,Homoeopathy, and Siddha) to be more aware of these cultural distresses and lifestyle disruptions pertaining to transgenerational trauma in specific and other contributing factors in general. This will allow the exploration of numerous culturally embedded healing systems to benefit all stakeholders of healthcare, as common sense states that one size never fits all, and also to impede the influence of biological reductionism as well as quantitative data based or statistical evidence, which may not adequately represent the cultural aspects of health and wellness.

Lineage-based healing techniques, such as Abhyanga, Marma, Sabari Stambhana Bipasa, Sharira Soukhyam, Kaya Nidana should be examined further as interventions for stress regulation, embodied distress, affective instability, cognitive fog, and meaning restoration, as adjunctsto social medicine, lifestyle medicine, and appropriate biomedical care, through different study designs and methodologies in the future to generatefurtherquantitative and qualitative evidence.

CONCLUSION

Health, disease, illness, and sickness cannot be understood through biomedical pathology alone. Disease refers to diagnosis and malfunction, illness to suffering and meaning, and sickness reflects social recognition and role change. This distinction is essential when studying health in Indian youth and the public, as their distress is biological, behavioural, social, cultural, historical, and existential.

Social determinants, life course exposure, fundamental causes, social capital, and health lifestyle theory indicate that disease pathways are shaped by poverty, discrimination, family disruption, insecurity, unequal resources, lifestyle clustering, and accumulated disadvantage. Trauma deepens this framework. Transgenerational trauma may pass through psychological, relational, social, cultural, and biological pathways, manifesting as anxiety, depression, dissociation, substance abuse, psychosomatic distress, metabolic risk, cardiovascular risk, immune disruption, and altered stress regulation.

In the Bharat’s context, colonial disruption, partition memory, cultural dislocation, migration, economic instability, and weakened meaning systems have produced inherited wounds and chronic non-clarity. Among youth, this may manifest as value collapse, fragmented identity, restless imagination, lethargy, escapist pleasure-seeking, addiction vulnerability, and difficulty in creating meaning. The leisure or pleasure economy may temporarily offer an escape, but it can also intensify addictive and disoriented patterns when not integrated with purpose, community, and inner discipline.

Counselling, talk therapy, and consensus-derived models may be insufficient. They structure services but cannot fully capture lived grief, cultural shame, silence, memory, or life stance collapse. A better framework should combine social and

preventive medicine, lifestyle medicine, whole-person care, medical anthropology, ethics, and Indian healing systems. This approach should be culturally grounded, evidence-aware, trauma-sensitive, and adaptable.

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