

# The Interplay of Health Behaviour Within Social, Cultural, and Political Contexts: An Integrative Review

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## Abstract:

This integrative review examines the multifaceted interplay of health behaviour within social, cultural, and political frameworks, emphasising the transition from a reductionistic to a holistic paradigm in understanding health dynamics. Recognising health as more than the absence of disease, the paper underscores the significance of lifestyle factors in modern morbidity and mortality, advocating for health promotion strategies that include lifestyle modifications and legislative measures. Delving into systems research, it highlights the importance of socio-political and ecological factors in shaping health behaviours, exploring the evolution of the concept of a healthy lifestyle as a dynamic and interconnected phenomenon. The review further discusses the implications of social determinants, technological advances in gathering longitudinal health data, and the impact of social discrimination and interpersonal dynamics on health behaviours. Innovative research concepts integrating social and behavioural sciences, such as complex systems, social genomics, and epigenetics, are explored. The paper culminates by drawing parallels between the health behavioural approaches to HIV and COVID-19, illustrating the necessity of a multidisciplinary, multi-level approach to health behaviour research and policymaking. This comprehensive review emphasises the need for an integrated understanding of health behaviours, considering individual, community, and societal influences to inform effective health promotion and disease prevention strategies.

**Keywords:** Health Behaviour, Social context, Systems biology, Embodiment, Biological embedding, Social genomics, Social Determinants.

## Introduction

Good health and a long life are the most important aspirations of human being. The modern increase in life expectancy and the decline in the mortality due to infectious diseases happened in the industrialised societies with improvements in the conditions of life. Solutions for controlling malnutrition, improvement in water supply and sanitation were the major causes for declining mortality in western countries. This was the common conclusion reached by McKeown thesis and McKinlay (Colgrove, 2002).

Today the major cause of mortality and morbidity are caused by lifestyle disorders like heart disease and cancer. Despite the advancement in the medical field, the death due to cancer have increased in most industrialised countries of which lung cancer constitute one fourth of all cancer death. Later it was found

that with the reduction of smoking, nearly 40 percent reduction death from lung cancer occurred. For long years, health was considered as mere absence of disease. Later the institutions started emphasising the positive aspect of health. This change in perception about health got reflected in the renewed definition of health by WHO, as “complete physical, mental, and social well-being and not merely the absence of disease and infirmity” (WHO 1948). So, with the growing interest in implementing intervention for preventing diseases leads to the idea of health promotion. So, the main strategies of health promotion were targeted towards life-style modifications, through health education and legislative measures. The health education provides individuals knowledge about the consequences of certain lifestyle, and skill to change their behaviour. Legislative measures like increasing tax for tobacco and seat-belt regulations influenced the behaviour indirectly.

It was found that more than 40 percent of premature death were due to life-style factors such as smoking, unhealthy diet, sedentary lifestyle, drug abuse etc. So, the responsibility of health doesn't rest with medical profession alone. Each of us have a major impact on our own health. People started engaging in healthy lifestyle not merely to lengthen their lives, but also to stay fit and lead an active life right up to the old age by delaying the onset of chronic diseases. Low probability of chronic diseases and disability and high cognitive and physical functional capacity at old age are two components of successful ageing. Stressful life events also have negative impact on health. Stress indirectly results in risky behaviours like alcoholism and drug abuse. So, there is shift in bio-medical model of disease to bio-psycho- social model which explore the truth about health and disease in its full extend.

Health behaviour (Short, 2015)

Health behaviour or health seeking behaviour are the action taken by the individual that can directly affect his health and those around him. In public health perspective, as the health behaviour affects the wellbeing of the individuals and community, it needs intervention at the policy making levels. Action that are categorised under health seeking behaviour are smoking, diet, exercises, alcoholism, health care seeking behaviour, complying to the medical treatment etc. Though the health behaviour is the individual choice or decision, it can be studied at a group, or community level. What policy needed to be implemented to manipulate the psychology of the individual groups for taking positive health behaviour needed to be studied through ‘systems research methodology’.

### **Importance of systems research in studying health behaviour**

The focus of research related to the health behaviours was towards the individual personal chooses based on the biomedical modal by educating the individual. Recently the research strategy has moved towards systems approach by studying multiple facets of factors that determine the behaviour of the community (Cockerham, 2005).

The sociological aspects like role of inequality, social structure, agent, social norms which can affect the health seeking behaviour of the community is gaining more attention in recent years. The change in the behaviour over time is studied by considering the dynamic nature of the system. So integrative and dynamic analysis of the human behaviour will explore the full potentiate to give maximum output during policy implementation. (Jessor and Turbin, 2014)

### **Reductionist paradigm to holistic paradigm**

The world of science has been confined to the linear world for centuries. Mathematicians and physicists have overlooked dynamical systems as random and unpredictable. Since the renaissance, science, including medicine, has taken a distinct path following Newtonian view, in analytical evaluation of the natural world. This approach can be described as one of “divide and conquer,” and it is based on the assumption that complex problems can be solvable by dividing them into smaller, simpler, and thus more tractable units. Because the processes are “reduced” into more basic units, this approach has been termed “reductionism” and has been the predominant paradigm of science over the past two centuries (Ahn et al., 2006). While it has been responsible for tremendous successes in modern medicine, there are limits to reductionism, and alternative research directing towards a more humanistic/ holistic attitude is advancing. The concepts of complex systems, nonlinear dynamics and biopsychosocial models are the new cutting-edge research area that is rapidly progressing. The holistic paradigm explores study of human behaviour integrating with the ecological aspects.

### **The evolution of the concept of healthy lifestyle**

In the last decade the idea of Healthy Lifestyle has evolved and gained more attention. Instead of seeing behaviour as an individual choice, healthy lifestyle is seen as a complex dynamic aspect, where it is viewed as occurring in sets and influencing each other. The dynamic behaviour is influenced by deeply rooted identities and social norms, of the culture where the member belongs to (Williams, 1995). Thus, though healthy lifestyles are enacting at an individual level, but the meso and macro level social norms and politics have as influence on the micro level behaviour. So, understanding of the micro, meso and macro level inter-connections which can dynamically influence the behaviour over the course of time is fundamentally used successfully during policy implementation. When researching the intergeneration aspect, it is found that implementing healthy lifestyle in the childhood have more impact on the compliance of the healthy behaviours rather than implementing is the late adult life (Mollborn et al., 2014). Hence the idea of primordial prevention is implemented as it has more successful rate with respect to compliance, effective in preventing the risk factor and reducing the economic burden. (Lloyd and Wyatt, 2014).

### **Longitudinal data using technology**

Longitudinal data are used to follow-up and to know change in behaviour dynamics over time. (Browning et al., 2015). Technology is used to collect frequent data about the health behaviours with respect to spatial and social dimension (Cagney et al., 2013). Location based survey are now used with the help of mobile application and, Google survey and WhatsApp messages to know the social structure and spatial aspect that influence the behaviour (Goldberg et al., 2014). Personally tailored text messages as reminders, and monitoring and recording of the information can provide real time data about the health behaviour (Dallery et al., 2014; Mulvaney et al., 2012)

### **Social deterrents of health behaviour**

Interdisciplinary approach is needed to understand the social factors that affect health behaviour. Recent research approaches tire to link individual health behaviour at the micro level to the socio-political structure at the macro level (Lorenc et al., 2013). Medical and psychological research’s expose the micro aspect of health behaviour, while sociological and political aspects expose the macro level influence. The link inter-connecting macro and micro which is the meso level that is related to the immediate

surroundings of the person. Meso level aspect is studied through the qualitative and quantitative data about the neighbourhood, families, workplace etc. The study of the meso level is the most important aspect that predominantly affects the development of intention toward a health behaviour (Schnittker and McLeod, 2005) For example, by studying the social norm of the locality, and family dynamics one can derive the possibility of doing physical exercise by women. The family, which is orthodox, where the women are not educated and are unemployed have the least chance to go for physical exercise in the public place. Likewise, the economic status, kinship in the family can influence the risk of HIV vulnerable groups (Harrison,2014). Therefore, the research surrounding meso level are gaining tremendous attention in the meso level. The spatial features of neighbourhood environment have a great influence on the disunion making of a person at the micro level. Now statistical models are created to study the spread of health behaviour across the social networks. Study on the benefits and dark side of social relationship are gaining importance in the recent years. Studies have shown that dynamic social network of the peer groups have more influence on the initiation of cigarette smoking, at the same time it has negligible influence on the cessation of cigarette smoking.

### **Influence of social discrimination in health behaviour.**

Social discrimination based on caste and religion transcends across macro meso and micro level influencing health behaviour. The federal system of caste in the society which is at the macro level can affect the institutional practice which directly or indirectly result in bias. Bias at the meso level, in turn at the micro level negatively affects the self -perception of the individual. So, religion, caste ethnicity, gender, economic status etc influence the health behaviour in micro, meso and macro level. For example, in India social stratification based on caste and adherence to orthodox practices and stereotyping is directly linked to the health behaviour. Similarly, gender conceptualisation of a woman about her own body can lead to restriction to certain behaviour, which later manifested in the biological variation.

### **Research concepts integrating social and behavioural aspects.**

The conceptualisation of ecological aspect of biology is advancing day by day. Human is considered and studied as part of ecology and should not be considered as isolated closed system using reductionist principle. There is a continuous exchange of biological psychological and social information between human being and the surrounding. Therefore, social and ecological factors are needed to be explored in order to understand the biology in its depth. The bio-psycho-social aspect is gaining more attention in the recent years. The following are the concepts that evolve as a result of social and medical integration.

#### **1. System thinking.**

##### **A. Complex systems**

##### **B. Non-linear dynamics**

#### **2. Bio-psycho-social model**

#### **3. Social genomics.**

#### **4. Epigenetics**

#### **5. Metagenomics and microbiota**

#### **6. Embodiment.**

#### **7. Biological embedding.**

**Systems thinking.**

Systems thinking gives importance to interplay and integration within the environment. The interconnection between the subunits is given more importance than the sum total of the subunits. Therefore, the whole is considered more than the additive results of the subunits. This idea of systems thinking originated from the concept of complex systems which has been evolved from modern physics, which is far different from the Newtonian understanding. So, for example, when studying about child obesity, an integrative understanding of health behaviour, genetic make-up, psychology, local food environment and economic status needed to be investigated. Another study found that, manipulation of social norm has more effect on dietary behaviour rather than regulating the price of local food outlets (Zhang et al., 2014).

**Complex systems**

A system is simply a set of interacting components that form a larger whole. A complex adaptive system has been defined as “a collection of individual agents with freedom to act in ways that are not always totally predictable, and whose actions are interconnected so that one agent's actions change the context for other agents” (Plsek and Greenhalgh, 2001). In complex systems there is network of multiple cross interacting elements. Three major properties of complex systems are their non-linearity, their self-organisation capability, and the dynamicity. The analysis of complexity theory may reveal the multilevel interaction of human and eco-system.

**Non linear dynamics**

Dynamic means the system changes over time based on its current state. The magnitude of linear dynamics responses proportionately to the strength of the stimuli. Further, linear systems can be fully understood and predicted by dissecting out their components. When the subunits of a linear system add up there is no anomalous behaviours. By contrast, for nonlinear means the multiplicative effects between the components, will be something greater than the mere sum of its individual parts and it cannot be understood by analysing their components individually. Rather than dividing a complex problem into its component parts, the systems perspective appreciates the holistic and composite characteristics of a problem.

**Bio-psych-social model (Fava and Sonino, 2007)**

George L. Engel highlighted the inadequacies and limitations of the traditional biomedical model and advocated the endorsement of a bio-psycho-social approach (Engel, 1977). The bio-psycho-social model allows illness to be viewed as a result of interacting mechanisms at the cellular, tissue, organismic, interpersonal and environmental levels. Accordingly, the study of every disease must include the individual, his/her body and his/her surrounding environment as essential components of the total system (Engel, 1982). So health behaviour and its social determinants should study in order to know the biology of the disease.

**Social genomics.**

Recent research has explored that influence of social factors and human behaviour can influence the genetic makeup of human that can be transmitted to next generation. The focus of human genome project has now shifted to study of the differences of genetic makeup across the race which in turn is related to

development of susceptibility towards certain diseases. Another example is that smoking or physical activity is associated with change in telomere length at the genetic level.

### **Epigenetics**

The cutting-edge research on epigenetics have explored the impact of environmental pollution in the expression of the genes. Therefore, it is found that acquired factor from the environment and behaviour can make the person susceptible to certain diseases which can be transgenerational.

### **Metagenomics and microbiota**

This is another cutting-edge research area found that, profile of the micro-organism in the bowel flora can affect the innate immunity. The genetic study of micro-organism which are normal commensal in the bowel flora, can integrate with the genetic material of human being, which in-turn result in influencing the susceptibility towards certain chronic diseases. So the dietary behaviours and drug history can directly influence the change in profile of the microbial flora which can later lead to development of chronic diseases.

### **Embodiment**

The concept of embodiment is central to eco-social theory which influence the biology. This recognise the fact that humans are simultaneously social and biological organism. The core construct of embodiment is:

1. Bodies tell stories about the ecological factors of past and present.
2. The psychological conceptualisation of a person about himself can be manifested in the biology.

So, our living body tells information about our lives even if we do not express them consciously. This hypothesis is relevant in the study of inequality of health that later leads to development of high-risk group which evolved across time. The study also finds that inequality towards black race in America lead to development of high risk towards cardiovascular diseases in black population, due to generations of neglect from health care services. Thus, it can be seen that cultural norms regarding gender and diet can be manifested in the physical characteristics such as born development and body size which in turn determine the health behaviours.

### **Biological embedding**

Concept of embedding says that introduction of risk factor in the early life of an individual during the brain and biological development are potential in shaping life-long consequences which cross generations. The study shows that parental exposure to alcoholism can cause its effects in the sperm which is manifested in the next generation. It is constructed on the multidisciplinary evidence that social environment and experience during childhood affect the life course. Therefore, it is very important in understanding the origin of disease and how it is related to the past histories.

### **Individualisation**

The idea individualisation emphasises that not every individual reacts similarly to the same stimuli or environment. It is found that genetic susceptibility also determines how an individual react to a stressful environment. The study on postpartum depression shows that some women are genetically susceptible to stress environment. Thus, complexity is a real-world phenomenon because of the interplay of genetic, environmental and psychological factors which determine the development of disease. Though social

discrimination and cultural racism are associated with psycho-social stress and specific health behaviour, their relationship varies with individual variation.

### **Challenges in finding the causal factors.**

Since multiple factors like genetic, social factors like discrimination and psychological factors like emotion and distress that determines the discussion making of a health behaviour; it is difficult to find the relative significance of these factors. For example, an analysis of alcoholism and exercise in the first-year students at a college is made, and it was found that both genetic and peer pressure of the peer environment both play a significant role towards the development of that specific behaviour.

### **Time-space variation in the health behaviour.**

The health behaviour changes over the course of life. Certain health behaviours have a tendency to develop in the early age and some in the adult life. People of similar social location exhibit similar health behaviour throughout their life even though that can change across the age.

### **Inter- generational aspects in the health behaviour.**

Human behaviours are shaped since the historic times. The discussions made by the ancestors have an impact on the genetic information and this in turn affects the development of intension towards a specific health behaviour. The timing of the life events or stimuli has an influence on individual's later life course. Epigenetic study shows that an individual's lives are linked within and across generations ie parent's discussions and behaviour shape the children's health. When analysing within generation young people are more influenced by their peer groups. Thus, integrating genetic information, social aspect and psychological construct can accurately predict people's health behaviours. Individuals' health behaviour can change when he migrates from one place to another due to 'acculturation'. Health of an individual is a dynamic process. It is determined by timing of introduction of a stimulus, co- occurrences of two different stimuli and frequent fluctuations due to interplay of multiple factors, which leads to unpredictable non-linear outcomes.

### **Health behavioural approaches towards covid- 19; what we learned from HIV prevention strategy.**

As a novel virus without pre-existing immunity against it, we cannot rely on herd immunity to halt the Covid-19 transmission. The current state of covid-19 transmission has forced our public health approaches to be heavily depended on social and behavioural dynamics to control disease transmission. Strategies to prevent Covid19 shall be adapted from of our pre-existing knowledge and experiences that we learned from HIV control methods (Eaton and Kalichman, 2020). Multiple level of interventions like intrapersonal, inter-personal, community and social factors; each of which provide a reference about what we learned from HIV prevention and treatment research. Since the origin of HIV till now, there is neither any treatment for complete cure nor vaccination for complete prevention. Therefore, we have to rely on behavioural modification for disease control.

### **Intrapersonal approach:**

A long term and sustainable individual level, behavioural changes are challenging to achieve. Intervention targeting individual level behavioural change have been the core of HIV prevention. Intervention that can modify the behaviour of the individual result is substantial risk reduction and disease control, though it

cannot result in disease eradication. In the similar way the covid19 prevention also demands behavioural alternations at the individual level like social distancing, hand washing, mask wearing to an unprecedented scale. The sustenance of these behaviour over a long time is challenging to maintain.

The mistrust and conspiracy theories surrounding covid19 and HIV and spreading of rumours is one of the major obstructing factors that prevent the individual from sticking to the health behaviour. The major reason for the distrust in government policies and public health intervention are due to the long history of abuse of vulnerable population like social stratification and racial discrimination within the health care infrastructure. Similar kinds of conspiracy theories surrounding HIV have also been recorded in the social science research. So, these conspiracy theories and rumours are the major risk factor that prevent the health seeking behaviour at the micro level; and these theories and superstitions have resulted in loss of life of many humans. Covid19 and HIV are examples that have gone out of control due to such behaviours.

### **Inter-personal factors**

Social stigma and ostracisation are the major issues that come across the preventive management of the HIV. Psychological shock of the patients was neglected in the initial stages of HIV control programme, instead creating fear about future anticipation of dangerous disease was consider as the primary strategy for stimulating the population to follow the protective behavioural adaptation. The fear factor that is created in the community has resulted in hampering the interpersonal relationship of those affected with the disease. Social isolation, job loss has led to more psychological distress among the HIV patients rather than HIV infection itself. Categorising a group of people like sex workers and truck drivers, as high-risk group and implementing control programme strategy targeting them have again stigmatised the disease even more. At the same time if we take the example of country like Sudan, each individual takes the social responsibility of preventing the spread of disease by adapting to healthy behaviour.

In country like India, the long history of cultural background itself have a huge protective effect because the institution of marriage is considered as lifelong commitment and therefore the risk of getting HIV is inherently very less as far as culture is concerned. So, government should have worked to promote and protect the already existing healthy behaviour in Indian population rather than adapting the strategies of promoting the behaviour of using condom, which are the strategy in developing countries. So misplaced understanding and implementing relatively foreign strategies can even more hamper the protective behaviour already existing in the society and will only favour market. Likewise implementing sudden lockdown without considering the masses of migrant works, resulted in more problems in social distancing during Covid 19.

Like HIV stigmatisation covid-19 also went through the same path of interpersonal disruption. In order to force the population to follow the covid19 appropriate behaviour, the first strategy that the government adapted was to create fear and terror about the disease. The consequence of creating fear about anticipatory outcome of disease in-turn, result in stigmatisation and social isolation of health care workers and people who arrived from foreign countries. So, the fear factor created as a strategy to control the disease has affected the interpersonal relationship of individuals. Elderly people who have co-morbid conditions have high chance of increased morbidity and mortality and is conceded as high-risk population. In this way division within the community as within the group of high risk and outside the group of high risk has again



created interpersonal interruption among people, and selective implementation of behavioural modification of a specific group of risk population also created stigma in the society.

### **Community.**

HIV infection should not be considered as isolated and unit dimensional disease, but multiple community level interactions should be taken into consideration in its preventive strategies. HIV is actually co-occurrence of intersection of several epidemics, so it is more a syndromic than a pandemic. Mental health, substance abuse, working conditions of migrant workers, food and housing insecurities, social marginalisation's are the multiple factors that made the population vulnerable towards the HIV infection. Similarly, poverty, high density of population, barriers for physical distancing financial constraints of poor people are the factors which force them, not comply to the social distancing strategies of covid19. The housing insecurity of the migrant workers have forced them to move to rural areas in masses at the midst of the covid19 pandemic. As a consequence of high rates of job loss, financial constraints, the mental health of people got hampered, resulting in substance abuse which again worsen the condition. So, dealing a disease in a un-dimensional way, will leads to multiple high-risk behaviours. So multi-level community intervention is needed for imparting a sustainable health behavioural change in the society. Individual behaviour is influenced by larger social and structural factors like poverty, un-employment social discrimination etc. A multi-level intervention should be adapted to address multiple systems which influence the behaviour of the people. In covid19 prevention if government would have efficiently considered the housing condition of migrant workers, arrange provision for telemedicine, arrange strong public health system in the periphery, financial and food security of poor people; then the possibility of compliance toward COVID appropriate behaviour would have even better that what actually happened in India. Though multi-level intervention is associated with multiple assessments we will have to come across implementation related challenges. The possibility of bringing positive outcome in controlling the course of disease is high only through sustainable health seeking behaviour of the population.

### **Society**

Multi-sectoral co-ordination is the core of social mobilisation for the control of disease. Shared concerns, organisational structure, institutional leadership, collective shared activities and social cohesion are the factors which plays major role in the macro level policy implementation. Sustainable effort to change the federal level response using inter disciplinary approach can bring efficiency in disease management and behaviour modification at a population level. National level response and policy implementation targeting multiple dimensions of the society is the real solution for bringing a sustained behavioural and social modification.

### **Conclusion**

This integrative review underscores the complexity of health behaviour, situating it within a web of social, cultural, and political factors. It stresses that health is not merely the absence of disease but a holistic state influenced by lifestyle choices and systemic forces. The evolution from reductionist to holistic paradigms in health research, embracing complex systems and the bio-psycho-social model, highlights the necessity of interdisciplinary approaches. The paper advocates for system research methodologies to address the multi-layered nature of health behaviour, emphasising the need for interventions that consider individual, community, and societal levels. It also recognises the dynamic nature of health behaviour, influenced by

historical, socio-political, and personal factors. The conclusion calls for policy-making that integrates these diverse aspects to manage current health crises effectively, like HIV and COVID-19, and to foster sustainable, health-positive behaviours.

### Author's Biography

Shary Krishna B. S. is currently a Ph.D. Scholar at the Centre of Social Medicine and Community Health, Jawaharlal Nehru University, New Delhi. In this role, Shary engages in advanced research, contributing to the field of social medicine and community health. This position at one of India's premier universities reflects a commitment to the study of health behaviors within the broader context of social and community factors. Shary's academic pursuits are driven by a deep interest in understanding how health intersects with social and community dynamics, particularly in the Indian context.

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