

Health Issues and Psychological Dispositions: Some Highlights and Explanations

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Human beings are complex systems and their illness may be caused by a multitude of factors, as just not a single factor such as a virus or bacterium. Health has to be seen not only from medical model but must include the significant and integral aspects of human psychology. We cannot treat mind and body as two entities. There is an assumption that 50 percent of mortality from the ten leading causes of death can be ascribed to behaviour. If this is so, then behaviour and lifestyle have a potentially major effect on longevity. Health psychology attempts to move away from a simple linear model of health and



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examines the combination of factors involved in illness – biological (e.g. a virus), psychological (e.g. behaviours, beliefs) and social (e.g. employment, socio economic status, etc.). The *bio psychosocial* model of health and illness that was developed by Engel (1977, 1980) asserts and establishes this understanding.

In this model, illness is regarded as the result of a combination of factors and an individual is no longer simply perceived as a passive recipient and victim of some external force, such as a virus. For example, Doll and Peto (1981) estimated that tobacco consumption accounts for 30 percent of all cancer deaths, alcohol 3 percent, diet 35 percent and reproductive and sexual behaviour 7 percent. Approximately 75 percent of all deaths due to cancer are caused by behavioural patterns. More specifically the most common form, lung cancer accounts for 36 percent of all cancer deaths in men and 15 percent in women in the UK only. It has been found that 90 percent of all lung cancer mortality is attributable to cigarette smoking, which is also linked to other illnesses such as cancers of the bladder, pancreas, mouth, larynx and oesophagus, and to coronary heart disease. And bowel cancer, which accounts for 11 percent of all cancer deaths in men and 14 percent in women, are associated with diets high in total fat, meat and low in fibre.

The aims of health psychology can be basically divided into two main aspects:

1. Understanding, explaining, developing and testing theory (for example: what is the role of behaviour in the aetiology of illness? Can we predict unhealthy behaviour by studying beliefs?).
2. Converting theory into practice (for example: if we understand the role of behaviour in illness, can unhealthy behaviours be targeted and studied for intervention? If we change beliefs and behaviour, can we prevent illness onset?)

Health psychologists study the role of psychology in all areas of health and illness, including:

- what people think about health and illness;
- the role of beliefs and behaviours in becoming ill;
- the experience of being ill in terms of adaption to illness;
- contact with health professionals;
- coping with illness;
- compliance with a range of interventions;
- the role of psychology in recovery from illness, and
- the role of quality of life and its impact on longevity.

To expand our understanding of the above we may consider the views of Weinstein (1987) who suggested that one of the reasons we continue to practice unhealthy behaviours is our faulty perceptions of risk and susceptibility. He provided the participants with a list of health problems to examine and then asked: ‘Compared to other people of your age and sex, are your chances of getting [the problem] greater than, about the same as, or less than theirs?’ Most participants believed that they were less likely to experience the health problem. Clearly though, this would not be applicable for everyone. Weinstein called this phenomenon unrealistic optimism (findings based on a countrywide sample) and described four cognitive factors that contribute to this unrealistic optimism:

- lack of personal experience with the problem;
- the belief that the problem is preventable by individual action;
- the belief that if the problem has not yet appeared, it will not appear in the future; and
- the belief that the problem is infrequent

Health psychology thus, is “the scientific study of psychological and behavioural processes in health, illness and healthcare” (Johnston, 1994). The aim of health psychology is to understand that there are relationships between mental processes, bodily processes, behaviour and health, and the nature and components of these relationships and how they are to be examined scientifically.

Since 1948, the World Health Organization has defined health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” This reflects that merely a medical model in understanding health issues and challenges is not going to be extremely adequate and effective in the long run. Salient and dominant lines of inquiry within health psychology investigates a broad range of behavioural patterns, including smoking, exercise, diet, cancer screening, and safer sex.

Initially, it may be reasonable to assume that humans should have an evolved motivation to be healthy. It is acknowledged by all that individuals in good health would be expected to live longer and reproduce more compared to individuals in poor health. Such assumptions require general psychological mechanisms that function to avoid disease and death or remain healthy (the process of natural selection) and they implicitly or explicitly refer to existing theoretical perspectives within health psychology (Goldenberg and Arndt, 2008; Rosenstock, 1974). However, we also must acknowledge that natural selection is not expected to favour traits that optimize healthy survival. In fact, under several conditions, selection may favour phenotypes (composite of the organism’s

observable characteristics or traits.) that are uncorrelated with or even *negatively* correlated with longevity and health (Getty, 2002). Life history theory has developed to explain and conceptualize the manner in which organisms put into use the finite energetic resources and time to fitness-relevant systems such as somatic development and maintenance, intersexual competition, courtship, child-rearing, etc. These are sometimes categorized into domains of “somatic” and “reproductive” efforts; (Charnov, 1993; Stearns, 1989).

Over the past several decades, there has been an explosion of unlimited interest in the area of health psychology, fuelled by mounting evidence that psychological factors have important implications for health. The data from this line of work have been sufficiently compelling that a sizeable number of biomedical researchers—who were initially and rightfully sceptical of the idea—now believe that factors such as chronic stress, depression, hostility, and social isolation influence and enhance vulnerability to certain diseases (Cohen et al. 2007, Kiecolt-Glaser et al. 2002). Consensus opinion has come to support role of psychosocial factors in influencing physical health.

Acknowledging the role of behaviours such as smoking, diet and alcohol, for example, means that the individual and their behaviour and thinking may be accountable for their health status and illness. According to health psychology, the person in totality should be treated, not just the physical symptoms or changes that occur due to ill health. This will include behaviour change, encouraging changes in beliefs and coping strategies/mechanisms, and compliance with medical recommendations. Because the whole person is treated, the patient also becomes partly responsible for their treatment. For example, the person may have a responsibility to take proper medication, and to change beliefs and behaviour. No longer is the patient seen as a victim. This perspective emphasizes that health and illness exist on a continuum. Rather than being either healthy or ill, individuals advance along a continuum from healthiness to illness and back again. Health psychology also maintains that the mind and body interact all the times even during sleep. It considers psychological factors as not only possible consequences of illness (after all, being ill can be depressing), but as contributing to all the stages of health, from full healthiness to illness.

We must be able to answer such questions as:

- What causes illness?
- Who is responsible for it?
- How should illness be treated?
- Who is responsible for treatment?

- What is the relationship between health and illness, and between the mind and body?
- What is the role of psychology in health and illness?

We will try to understand these issues and challenges with the help of few theories and models in a brief manner.

Life History Theory and Health

Life history theory aims towards understanding the way in which organisms allocate finite energy resources toward different fitness-relevant systems. It is based on environmental and phenotypic conditions; individuals may follow different life history strategies—that is, different strategic resource allocations. This approach may be helpful in understanding, predicting, and modifying a number of health oriented behaviours. Here, one takes physical activity (exercise), a health behaviour that directly addresses strategic uses of energy. In modern societies, which are largely sedentary, physical activity is connected to a variety of positive health outcomes (Warburton, Nicol, and Bredin, 2006). In the present calorie-limited environments in which the psychological systems influencing exercise evolved, however, rigorous or sustained physical activity entailed substantial direct energetic costs, as well as costs related to the development and maintenance of metabolically expensive muscle tissue. As a consequence the psychology of physical activity, it should lead humans to be *selectively* active, with activity varying as a function of ecological and phenotypic conditions. One of the major costs of exertion is increased vulnerability to long-term calorie deficit. When individuals develop in environments indicative of relatively high risk of calorie deficit, they may conserve energy by reducing activity. Human and non-human animal literature is consistent with this perspective. For example, in a meta-analysis of 13 Scandinavian birth cohorts, lower than normal birth weight—potentially a cue to caloric stress in adulthood—was related to lower leisure time physical activity later in life (Andersen, 2009).

Conceptualising Links between the Social World and Biology

In many cases, the starting point for studies of health and its various links in human life is a link between an individual-level psychosocial characteristic (e.g., chronic stress) and a specific clinical outcome (e.g., respiratory infection). As researchers develop more complete psychobiological theories of disease, it is become significant to create rich and comprehensive models of the social context of disease by considering factors at multiple social levels (e.g., individual, peer, community, culture). Investigations starting with distal social environment factors such as socio-economic state, the challenges are to find out the more

proximal psychosocial mechanisms that facilitate the larger social environment down to the level of the individual. For researchers starting with individual psychological characteristics such as stress, the challenge is to gain a richer understanding of the broader social forces that result in stress, and this is possible by studying factors beyond the individual level. Thus, these integrative approaches will provide a comprehensive understanding of the social context of disease as well as novel insights into developmental structure and even indicate potential interventions targeting specific psychosocial risk factors.

Psychosocial Factors and Biological Intermediaries

Once a powerful linkage between a psychosocial factor and a clinical health outcome has been identified, the next step will be to determine what biological processes convey those effects into the physical environment of disease pathogenesis (i.e., what biological mediators encourage psychosocial influences “under the skin”). Significant progress has been made in understanding the biological correlates of stress, depression, social support, and SES. These data provide new powerful understanding and establish a conceptual approach for future investigations covering relationships between extra individual social risk factors and their intra individual impact on physiology and illness.

Psychological Stress

We are all aware of Selye’s (1956) general adaptation syndrome (GAS) which talked about alarm resistance and exhaustion which are mental phenomenon but result in physical ailments. Since that time a lot of research has been conducted in this area and stress has been found to be a major reason for death and disability throughout the mankind. Recent findings have confirmed very clearly the psychological antecedents stimulate human neuroendocrine responses. An influential meta-analysis by (Dickerson & Kemeny (2004) indicates that human cortisol responses to acute laboratory stressors which are most pronounced in situations that pose a social threat to the individual. Increased secretion of cortisol is also seen in persons facing real-life stressors that are highly chronic in nature. However, meta-analysis also shows that these dynamics change as time passes (Miller et al. 2008). Early in the course of a chronic stressor, there is robust activation of the HPA (hypothalamic pituitary adrenocortical) axis, which gets expressed in elevated concentrations of adrenocorticotrophic hormone and cortisol and the person suffers. Even though the psychological tolerance may increase, the physiological damage may continue. Research on stress has been most influential indicator for establishing that psychological factors and physiological factors both influence human health and we need to pay attention to these domains.

Stress and Asthma

Psychological stress has been linked to poorer clinical asthma outcomes, such as an increased risk of asthma exacerbations (Sandberg et al. 2000, 2004). In a study on stress and asthma (Rietveld et al. 1999) stress was induced by a frustrating computer task in 30 adolescents with asthma and 20 normal controls aged 14-19 years. Stress measures were self-reported emotions, heart rate and blood pressure. Respiratory measures were (RR) end tidal CO₂. Asthma measures were cough, breathlessness. The mean breathlessness was higher during induction of actual airways obstruction with provocative agents in previous studies. It was concluded that stress can be sufficient to induce breathlessness in patients with asthma.

Depression

Depressed individuals also exhibit patterns of immune alteration similar to those found in chronic stress; e.g., impairments in some cellular immune parameters, delayed healing of experimentally administered wounds, and blunted antibody responses to vaccination, along with increased systemic inflammatory activity (e.g., Bosch et al. 2007; Glaser et al. 2003; Irwin et al. 1998; Kop et al. 2002).

Social Support

Some data suggest that people who are socially isolated are inclined to show higher circulating levels of cortisol, epinephrine, and norepinephrine (Seeman & McEwen 1996, Uchino et al. 1996), although other studies find no substantial differences (e.g., Cole 2008, Cole et al. 2007). However, recent data suggest that alterations in glucocorticoid receptor (GR) signalling associated with subjective social isolation may result in impaired physiologic control of inflammation by the HPA axis, despite normal circulating cortisol levels (e.g., Cole et al. 2007). These alterations in hormonal receptor sensitivity result in altered gene expression profiles in immune cells (Cole et al. 2007).

Socioeconomic Status

Several studies have also linked low socioeconomic status to higher levels of cortisol and epinephrine during daily life (Cohen et al. 2006a, Evans & English 2002; Janicki-Deverts et al. 2007; Lupien et al. 2000, 2001). It has been generally observed that people of poor economic background suffer more health related problems than people from relatively better socioeconomic status. But, this cannot be taken as an absolute truth as the lower economic status people are more affected by finance related worries and suffer from stress and depression

due to their learned helplessness in most cases. However, we also find the rich suffering from other factors related to obesity, excessive indulgence in junk food and other uncertainties of life like unpredictable life pressures and competitions with their equal or richer cohorts.

One could also view the success of these efforts from a glass-half-empty perspective. Current efforts to change health behaviour are, in most domains, unsuccessful. An obesity epidemic continues in Western countries and is rapidly expanding across the globe (James, 2008). This, combined with sedentary lifestyle—another epidemic—contributes to extensive morbidity and mortality from cancer (Calle et al., 2003), heart disease (Manson et al., 1990), and type II diabetes (Dandona et al., 2004). HIV/AIDS continues to decimate young people's lives around the world, and more common sexually transmitted infections increase the risk of sterility and other negative health outcomes (Hillis et al., 1997). Despite public health efforts, approximately 25 percent of Americans still smoke cigarettes, and only 5 percent of Americans achieve recommended levels of physical activity. And America is one of the topmost countries among economically developed.

The Role of Health Beliefs

Attribution Theory

The origins of attribution theory lie in the work of Heider (1958), who argued that individuals are motivated to understand the causes of events as a means to make the world seem more predictable and controllable. Attribution theory has been applied to the study of health and health behaviour. For example, (Bradley (1994) examined patients' attributions of responsibility for their diabetes and found that perceived control over their illness (is the diabetes controllable by me or a powerful other?) influenced their choice of treatment. Patients could either choose an insulin pump intense conventional treatment or a continuation of daily injections. The results indicated that the patients who chose an insulin pump showed decreased control over their diabetes and increased control attributed to doctors. In other words, an individual who attributed their illness externally and felt that they personally were not responsible for it was more likely to choose the insulin pump and to hand over responsibility to doctors. A further study by King (1982) examined the relationship between attributions for an illness and attendance at a screening clinic for hypertension. The results demonstrated that if the hypertension was seen as external but controllable, the individual was more likely to attend the screening clinic ('I am not responsible for my hypertension but I can control it').

Health Locus of Control

The issue of controllability emphasized in attribution theory has been specifically applied to health in terms of the *health locus of control*. Individuals differ in their tendency to regard events as controllable by them (an internal locus of control) or uncontrollable by them (an external locus of control). Wallston and Wallston (1982) developed a measure to evaluate whether an individual regards their health as controllable by them (e.g. 'I am directly responsible for my health'); not controllable by them and in the hands of fate (e.g. 'Whether I am well or not is a matter of luck'); or under the control of powerful others (e.g. 'I can only do what my doctor tells me to do'). It has been suggested that health locus of control relates to whether we change our behaviour (by giving up smoking or changing our diet, for instance), and also to our *adherence* to recommendations by a health professional. For example, if a doctor encourages someone who generally has an external locus of control to change his or her lifestyle, that person is unlikely to comply if she/he does not deem oneself to be responsible for own health. However, although some studies support the link between health locus of control and behaviour (e.g. Rosen & Shipley, 1983) more studies are required to substantiate this claim.

Early-Life Environments and Health

Findings from a number of studies suggest that early-life social environments can have long-lasting impacts on health that continue into adulthood (Barker 1997, Keating and Hertzman 1999, Repetti et al. 2002). One psychosocial model explaining this phenomenon refers to the fact that exposure to risky family environments early in life (Repetti et al. 2002) has an adverse effect on health behaviour. Risky families are cold, full of conflict and aggression, and rarely show nurturing behaviours. The model states that these types of families engage in more harsh, inconsistent parenting, which in turn leads children to have greater difficulty regulating their emotions. As a result, biological stress response systems become unregulated leading to risk for a variety of health problems over time (Repetti et al. 2002). Studies provide support for a psychosocial model linking early-life environments to adult biological profiles (Taylor et al. 2004). The larger social environment is able to affect biological responses in an individual via the ways they perceive their social environment.

Parental Influence

Health behaviours are personal, conscious actions that directly or indirectly influence the state of one's health. They are related to one's lifestyle and daily habits (e.g. amount of sleep, eating habits, physical activity, amount of consumed alcohol, and also using psychoactive substances). These behaviours may either

be positive or negative (Woynarowska, 2010). Decisions regarding health behaviours depend on both objective and subjective knowledge and beliefs about them and determine consequential health or disease (Sêk, 2000). For example, attitudes towards health behaviours may depend on one's gender and differential gender socialisation processes, for girls and boys (El Ansari, Suominen, & Samara, 2015; Wardle et al., 2004).

There is no doubt that, parents are important agents in acquiring and shaping health behaviours. They apply different health practices while caring for a child (e.g. regarding quality and frequency of meals, sleep duration and sleep habits, amount of time spent watching TV etc.), and when a child's cognitive and motor development progress, they provide instruction and training on health practices (Ray, Kalland, Lehto, & Roos, 2013). This is exceptionally applicable in the Indian context. Subsequently, adolescence is a critical moment to consolidate the habits and attitudes towards health activities (Woynarowska, 2010; Wojtczak, 2009). In the period of emerging adulthood, when young people achieve considerable autonomy (Shanahan, 2000), they gradually assume full responsibility for their life, including their own health and also the health of others, e.g. of aging parents (Weiner, Roloff, & Pusateri, 2014). They begin to use diverse health practices on their own, including possibly those demonstrated and/or promoted by their parents. Therefore, the behaviour and attitudes of parents can act as great influence for the quality of health of emerging adults (Kanter-Agliata & Renk, 2009; Niemeier, Duan, Shang, & Yang, 2017).

The impact of positive parental health practices on favourable health behaviours of the child is strengthened by parental attitudes of warmth and responsiveness (Ray et al., 2013). Parental attitudes determine the way in which parents build relationships with their children, and how they react in certain parenting situations (Lipowska, Lipowski, & Pawlicka, 2016). Parental attitudes definitely influence the psychological development of children and adolescents and their ability to adapt and function properly. Parents are the first and most important agent of emotional support, along with self-knowledge and self-acceptance. Positive parental attitudes shape children's self-esteem, positive self-image, and self-competence (Lord, Eccles, & McCarthy, 1994; Wissink, Dekovic, & Meijer, 2006), which affect both mental and physical health (Donnelly et al., 2013; Trzesniewski et al., 2006). Thus, parenting becomes a major challenge in the development of health related behaviour.

Jankowska, et.al (2018) found that the female participants exhibited healthier eating habits but lower self-efficacy than male participants did. Accepting and autonomy granting maternal and paternal parental attitudes predicted a positive

health attitude (of both male and female participants), preventive behaviours (of male participants), and healthy eating habits (of male participants). As predicted, emerging adults' self-efficacy mediated the relationship between their health behaviours and perceived parental attitudes. However, the mediation patterns varied for female and male participants. The quality of perceived parental attitudes and self-efficacy are important for health-related lifestyle choices among emerging adults. Mothers and fathers may play different roles in the formation of health behaviours.

Social Context of Emotions and Health

It is important to understand the broader context that underlies the development of these individual characteristics. For example, the proposal by Dickerson & Kemeny (2004) that the social evaluative nature of a threat—the extent to which a person could potentially be judged negatively by others—plays a significant role in determining the intensity of cortisol response to a fixed challenge. The subjective experience of shame represents a key psychological driver of the stress response and thereby serves as a portal between external conditions and the biology of the body. Dickerson and Kemeny (2004) theorized that just as humans have evolved a physical response system designed to protect the self from harm, by eliciting emotions (e.g., fear) and biological responses (e.g., fight-or flight response) in the face of danger, they have also evolved a parallel social self-preservation system that mobilises emotions (e.g. shame) and biological responses (cortisol secretion and systemic inflammation) in the face of threats to one's social standing within a group.

The Indian Scenario

The Indian scenario in one word is dismal. Not only there is a paucity of medical practitioners, but also a picture of helplessness among the needy. In the author's experience with working in health area, especially among the poor it was experienced that there are either inadequate medical facilities or they are out of bounds for the common man. The recently launched Ayushman Bharat Yojna is wonderful at the conceptual level only. Its benefits are not reaching the majority. By getting the chance for close association with ASHA workers and conducting a number of FGDs with them, it was observed that they not only get inadequately financially rewarded for their work, but face many difficulties in getting the medical facilities for their patients. The health issues especially connecting the mind set with physical ailments is not getting the required attention or remains an unexplored arena. It is a great challenge for the country. Despite the Alma Ata declaration by WHO in 1978, the health challenges have a long way to go in India.

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