

Chapter 4

Role of Causal and Recovery Beliefs in the Psychological Adjustment to a Chronic Disease

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The main objective of this study was to establish linkages of beliefs about the factors responsible for the disease (causal beliefs) and for recovery from the disease (recovery beliefs) with perceived control and psychological adjustment to a chronic disease. Seventy hospitalized male, Hindu, chest tuberculosis patients were interviewed. The mean ratings on causal factors (God's will and Karma) and on recovery factors (doctor and God) were found to be high. In general, attribution to external causes (other's carelessness and family conditions) and beliefs in cosmic recovery factors (God and fate) had negative correlations with the psychological adjustment. Again, perceived control over the disease was linked with better adjustment. A cultural difference hypothesis was proposed to explain coping with a chronic disease.

Putting up with a long term disease not only involves physical discomfort but also creates many psychological problems for the patients. How people psychologically adjust to a chronic illness has been of interest in many recent studies (Burish and Bradley, 1983; Felton and Revenson, 1984; Reid, 1984; Taylor *et al.*, 1984). The findings suggest that causal beliefs of the patients play an important role in coping and adjusting to a large variety of illnesses. Beliefs about what caused the disease help patients in deciding whether they should seek control or relinquish control to their health-care providers. Nicassio *et al.* (1985), for example, found in the case of arthritis patients that those who believed in personal control over the illness were less depressed and anxious, and exhibited less impairment in daily living.

The present study extends this line of investigation in two directions in the Indian cultural setting. First, along with causal, recovery beliefs were also examined. Recovery beliefs are the beliefs about the factors which would contribute to physical recovery from the disease. Brickman *et al.* (1982) postulated that people do make a distinction between attribution of responsibility for the problem and responsibility for its solution. For example, one may consider one-self responsible for an illness but may consider doctor as responsible for recovery (or non-recovery) from the illness. Though the role of recovery beliefs had not been directly investigated in the earlier work, Affleck *et al.* (1987) found that negative mood was associated with the belief that health-care providers have greater control over the patient's daily symptoms. Since hospitalized patients are primarily concerned with the physical recovery, in the present study we hypothesized that their recovery beliefs would be more closely associated with perceived control and adaptational outcomes, than the causal beliefs. Secondly, we categorized causal and recovery factors as internal, external and cosmic in this study. In earlier investigations, cosmic factors (e.g., God, fate, Karma) had either not been considered, or were not treated as a separate category. In the Indian cultural setting, cosmic beliefs are presumed to be important determinants of all happenings in life, including sickness and suffering. The present study explored the role of cosmic beliefs in the psychological adjustment to a chronic disease.

A number of studies suggest that people do search for the causes of negative and unexpected outcomes (Weiner, 1985; Wong and Weiner, 1981). In a study by Greenberg *et al.* (1984), diabetic patients rated the causes of the illness as one of the most critical pieces of information from their physician at the time of diagnosis. Most of the patients reported perceived causes of their illness when questioned at any time point following their diagnosis. However, the frequency of the causes reported varied with the nature and severity of the disease. For example, lung cancer patients less frequently reported the causes of their illness than myocardial infarction patients (Mumma and McCorkle, 1982). Bulman and Wortman (1977) found that, in general, those paraplegic patients who

had causal explanations for their accidents were better adjusted than those who had none. Patients gave varied causal explanations but the causal categories most frequently considered in those studies were: others, self, situation and chance.

The question as to which of these causal beliefs would influence psychological adjustment, has been investigated in many western studies. Abramson *et al.* (1978) and Miller and Norman (1979) postulated that helplessness would occur when people perceive the undesirable event as uncontrollable and attribute it to stable-internal causes (e.g., weak constitution). In a study of breast cancer patients, Taylor *et al.* (1984) found that blaming one-self (e.g., own-carelessness) was positively associated with superior coping. Self-blame implies taking personal responsibility for the illness, and could be indicative of regaining some sense of personal control. Consistent with this reasoning, attribution of blame to another person was associated with poor adjustment (Taylor *et al.*, 1984). With arthritis patients, Affleck *et al.* (1987) found that perceiving greater personal control over one's medical care and treatment was associated with positive mood and psychosocial adjustment. There are, however, studies which did not find a positive relationship between dispositional self-blame and adjustment (Janoff-Bulman and Lang-Gunn, 1986; Major *et al.*, 1985). These health beliefs prevalent in the west have their basis in modern scientific medicine, where professional clinicians are the major source of explanations meaningful to the patients and their families. Whereas western explanatory models focus on curing the disease, most of the health beliefs in eastern cultures are concerned with healing, i.e., attending to psycho-social needs of the patients (Carstairs and Kapur, 1976; Kleinman *et al.*, 1978). The indigenous healing practices of the east emphasize supernatural causality, including punishment from sorcery, spirit or God (Joshi, 1988; Weiss *et al.*, 1986). Folk religions in traditional societies of Asia structure beliefs about illness, choice of treatment alternatives and expectations from health practitioners. God's will (or deity) is presumed to play an important role in the recovery process. Many temples and shrines acquire great reputations for healing. In Buddha and Hindu traditions, another cosmic belief, the belief in Karma is widely accepted as a causal explanation for all major happenings in life. This concept implies that good and bad deeds accumulate over all previous lives and if people are suffering, they must have done bad deeds in this or in previous births (Gokhale, 1961; Paranjpe, 1984). Thus, when misfortune occurs, people attribute it to their own Karma, viewing themselves as causal agents in the metaphysical sense, as opposed to attribution to God's will and fate which impute no causal responsibility to the victim. In Ayurveda (the traditional Indian system of medicine) cosmic beliefs are interwoven in the scientific content. "The *Carak Samhita* (one of the main texts for Ayurveda) . . . talks of diseases resulting from the action of previous lives and the futility of curative efforts till the effects of individual Karma have been exhausted after taking their own predetermined course" (Kakar, 1982, p. 225). Though Kakar argued that these cosmic principles are superimposed, they do constitute an Indian world-view of the causes of illness.

Dalai and Pande (1988) studied the role of causal beliefs in the psychological recovery of hospitalized accident victims with temporary and permanent disability. Patients were interviewed one week and three weeks after the accident. It was found that attribution to Karma and one's own-carelessness significantly correlated with psychological recovery of permanently disabled individuals on both the time points, whereas only on the second time point in the case of the temporarily disabled. God's will correlated with the psychological recovery only in the case of permanently disabled patients. Other attributional categories did not correlate with psychological recovery. It was suggested that when the outcome is not modifiable, belief in Karma and God's will moderate the feeling of bitterness and restores one's faith in the just world. Curiously, attribution to one's own-carelessness (which implies personal control) also augmented the recovery process. The

present study tested the veracity of these findings in the case of a chronic disease, where the outcome is modifiable.

Control related beliefs were also studied, in which a distinction was made between control over self and control over situation, as suggested by Rothbaum *et al.* (1982). According to Rothbaum *et al.*, people often attempt to gain control by shaping existing physical, social and behavioral realities (termed as primary control). But on many occasions people resort to secondary control by leaving the existing undesirable realities unchanged by exerting control over their psychological consequences. This was termed as control over self by Rothbaum *et al.* Thus, whereas Rotter's theory of locus of control (Rotter, 1966) refers to general expectancies about life outcomes, Rothbaum *et al.* emphasize whether control efforts are directed to change self or to change the situation. It is still open to investigation as to how such control related beliefs are associated with psychological adjustment. Reid (1984) suggested that while facing serious chronic illnesses, patients try to balance their need to maintain a sense of mastery over their lives with their need to surrender the treatment of their disease to their health-care providers.

The present study was conducted on tuberculosis patients. Tuberculosis is one of the least studied chronic diseases in terms of psychological adjustment, though it is one of the most frequently reported diseases in India. Statistics reveal that around 2% of the Indian population (about 15 million people) suffer from this disease at some stage in their life (Gill, 1977). According to the national survey (Health Information India, 1988), the mortality rate among hospitalized patients was 1.03% in 1987. There are no data as to how many patients die outside government hospitals. As a contagious, chronic disease tuberculosis creates several adjustment problems for patients. It is thus important to examine how far the existing knowledge about the factors contributing to psychological adjustment is generalizable to tuberculosis patients.

METHOD

Sample

Seventy Hindu male patients, hospitalized with a diagnosis of chest tuberculosis participated in the study. These patients were receiving treatment at two Government hospitals affiliated with the Department of Chest Diseases and Tuberculosis of the M.L.N. Medical College, Allahabad. The sample constituted roughly 10% of the total in-patients, randomly selected from the hospital records. Of these patients, 38, 20 and 12 were from a rural, urban and semi-urban background, respectively, as noted from the records. The semi-urban individuals were those who had their house and family in the village but were working in a city. These patients were predominantly from lower castes and belonged to lower and lower-middle socio-economic strata, engaged in jobs such as office attendant, labour, agriculture, primary school teacher and small trader. As far as their education was concerned, 36 patients were illiterate, 12 were semi-literate (less than five years of formal education) and 22 were literate. The age of these patients varied from 16 to 70 years, with a mean age about 36 years. The average duration of their disease was about three years; it was less than one year for 32 patients, whereas for remaining 38 patients the duration of disease varied from 1 to 12 years. The mean severity ratings (on a 5-point scale) of the disease as reported by the patients and the doctors were 3.60 and 3.47, respectively, implying that the condition of the patients was perceived as moderately severe.

Questionnaire

A questionnaire in Hindi contained items from three domains: (a) information about the history of illness and treatment, (b) measures of causal and recovery beliefs, and (c) measures of perceived control and psychological adjustment.

The first few items were related to the disease itself: history and nature of the disease, frequency of complaints, remedial steps taken and progress of the treatment.

The next set of questions were about causal attributions. The first item was an open-ended question asking patients to mention factors that they thought were responsible for their disease. The patients were then asked to rate six different causes to indicate the extent to which these were responsible for the illness. These causes were rated on a five-point scale, having anchor points as "least responsible" (1) and "most responsible" (5). The other two items measured control over mind and disease, which refer to control over self and situation, respectively, according to Rothbaum *et al.*'s (1982) categorization. These items were: "How much control do you have over your mind?" and "To what extent it would have been possible for you to avert this disease?" (English translation). These items were rated on a five-point scale, on which one implied "very little" and five implied "very much." Questions next in order were about the factors which might contribute to the recovery from the illness. Eight factors were rated by the patients for their possible contribution to their recovery, along a five-point scale with end-anchors as "very high contribution" (5) and "very low contribution" (1).

The last set of questions were related to the psychological adjustment. Based on the review of various indices of good adjustment by Silver and Wortman (1980), three indices taken in this study were: feeling of distress, hope and perceived severity of the illness. These were single-item measures on a five-point scale and the overall good adjustment implied low distress, high hope of recovery and low rating of severity.

Procedure

The patients were contacted individually during their hospitalization. They were told about the purpose of the study and were assured that their answers would in no way influence their treatment in the hospital. The patients were asked questions in a pre-assigned order, in a face-to-face interview. The responses were recorded verbatim. As a large number of patients were illiterate, care was taken to make them understand the rating scales. The interview took about 30 to 40 minutes per patient. Finally, the doctors attending the patients were contacted and were asked to rate the severity of the illness of the patient on a five-point scale, and also to assess expected recovery period.

RESULTS

Causal Beliefs about the Disease

When asked to state the possible causes of their disease, 56 patients (80%) mentioned causes, though very few of them stated more than one cause. Content analysis of these causal descriptions revealed that own carelessness was mentioned by 16% of the patients. Other frequently reported causes were: inadequate diet (11%), strenuous work routine (9%), unhygienic practices (7%), addiction (6%), and poverty (6%). The remaining causes were very specific and could not be categorized. Some such causes were: loss of blood, punishment from the family deity, free-mixing with untouchables (lower caste) and getting injuries in an accident.

The patients also rated six given causes for the extent of responsibility for their disease. A one-way repeated measure analysis of variance across six causal factors was found significant ($F(5, 345) = 4.78, p < 0.01$). The mean ratings on six causal factors (fate; own carelessness; other's carelessness; family conditions; God's will; Karma) were 2.61; 2.69; 1.30; 2.31; 3.60 and 2.87, respectively. Mean comparisons using the Neuman-Keuls method (Winer, 1971) further showed that patients attributed maximum responsibility to God's will for their disease. Next in order were attributions to Karma, own-carelessness and fate, which did not differ significantly among themselves. Other's carelessness was regarded least responsible for their disease.

While comparing responses to open-ended items and rating-type items, discrepancies were found. Whereas cosmic factors were not frequently mentioned in response to an open-ended item, their mean ratings on a five-point scale were high. To check whether or not the patients understood the attribution measure correctly, attribution to own-carelessness was correlated with the measure of self-blame, also included in the questionnaire. The correlation was found to be very high ($r = 0.63$, $df = 68$, $p < 0.01$), which indicates the validity of the attribution measure, particularly on the own-carelessness factor. In a post-hoc inquiry, many patients stated that they did not mention cosmic factors in the first instance, as they thought such causes to be too obvious to the researcher to inquire about. Some patients were hesitant to mention cosmic factors to an urban, educated researcher, particularly in the hospital setting.

To compare causal attributions for the disease across the three educational groups, we computed a one-way analysis of variance on rating scores. For none of the six causal factors was the F ratio significant, suggesting that education did not affect causal beliefs in this case.

Recovery Beliefs

Mean ratings on the eight recovery factors (self; God; family; doctor; fate; worship; money; Karma) were 2.59; 4.07; 2.43; 4.59; 3.29; 2.59; 3.21; 2.49, respectively. One-way repeated measure ANOVA was found significant ($F(7, 483) = 5.73$; $p < 0.01$). Mean comparisons further revealed that doctor and then God were regarded as the most important factors for recovery. Self, family, worship and Karma were considered as less important. Correlational analysis showed that only God, as a contributing factor, was associated with the severity judgement of the doctor ($r = 0.27$, $df = 68$, $p < 0.05$), i.e., when the disease was more severe, God was believed as contributing more to the recovery.

To examine the effect of duration of illness on causal and recovery beliefs, patients were divided in two groups: those who had been ill for less than one year ($n = 32$) and those who had been ill for more than one year ($n = 38$). Differences were observed only in attributing the disease to other's carelessness ($F(1, 68) = 10.27$; $p < 0.01$). In this, patients who had been ill for less than one year, attributed the disease more to others ($M = 1.60$) than those who had been ill for more than one year ($M = 1.05$). Among the recovery beliefs, fate was less frequently considered to contribute by patients who had been ill for less than one year ($M = 2.91$) as compared with those who had been ill for more than one year ($F(1, 68) = 8.47$, $p < 0.01$). For other causal and recovery beliefs duration of illness was not an important factor.

Beliefs and Psychological Adjustment

The overall psychological adjustment score was obtained combining the scores along three indices, namely perceived severity, hope and distress. The Cronbach α for the combined score was 0.67. Since this a value is just moderately high, analysis was done by taking these three indices separately, as well as taking a combined score. *Table 1* shows the correlation of causal and recovery beliefs with perceived control and psychological adjustment.

Table 1 shows that none of the causal categories correlated with perceived control over mind, whereas only attribution to fate and own-carelessness correlated with perceived control over the disease. These correlations indicate that when the disease was attributed less to fate and more to one's own-carelessness, the perceived control over the disease was higher. Recovery beliefs appeared to be more closely associated with perceived control over mind than the causal beliefs. When the recovery was considered as contingent on God, worship and Karma, then less control over mind was perceived. The recovery belief in self had a positive correlation with perceived control over the disease.

Insert table 1 here

As far as the overall psychological adjustment is concerned, causal attribution to external factors (other's carelessness and family conditions) negatively correlated with adjustment. In particular, attribution to other's carelessness correlated negatively with perceived severity. Again, when the cosmic factors (God and fate) were perceived as responsible for the recovery, psychological adjustment was poor. Specifically, the recovery factor God, correlated negatively with perceived severity and distress, whereas recovery factor fate correlated only with distress. No other causal and recovery factors were significantly associated with the psychological adjustment.

As regards control related beliefs, overall psychological adjustment had a significant association with perceived control over the disease ($r(68) = 0.24; p < 0.05$), but not with perceived control over mind. This suggests that when patients perceived more control over their disease, their psychological adjustment was better. Taken separately, indices of psychological recovery did not correlate with perceived control.

The doctor's report of the severity of the disease did not correlate with perceived control but was negatively correlated with overall psychological adjustment, particularly with perceived severity. The doctor's assessment of expected recovery correlated with the severity judgement ($r(68) = -0.41, p < 0.01$) but not with the patient's ratings of control and adjustment.

DISCUSSION

The mean ratings of beliefs about causal and recovery factors revealed that patients attributed the causes of tuberculosis to God's will and Karma, whereas recovery was attributed to the doctor and God. In earlier work, Dalai and Pande (1988) also found that the accident victims attributed their misfortune more to God's wishes than to any other factor. Attributing disease to God's will and Karma makes sense in a culture where religion pervades all life domains. Whenever people are in crisis, even the care-givers (e.g., family members) refer to these beliefs to explain the suffering, and subsequently, any recovery is attributed to God. Studies in other cultural settings have found supportive, as well as, non-supportive data on this causal category. For example, Meyerowitz's (1980) catholic working class sample frequently attributed cancer to God's will, whereas Taylor *et al.*'s (1984) predominantly Jewish upper-middle class sample rarely did. A cultural difference hypothesis may thus be proposed in causal beliefs about undesirable happenings.

In many traditional Asian countries such as China and India, beliefs in the contribution of cosmic factors to recovery are shared by folk practitioners and patients. Thus, for many chronic problems, patients reported greater improvement after consulting folk practitioners than modern physicians (Kakar, 1982; Kleinman and Sung, 1979). In India, for example, the Ayurvedic theory of epidemics affirms that many epidemics are inflicted by deities angered by the improper behaviour of local leaders (Weiss *et al.*, 1986). In their study of an Indian village, Carstairs and Kapur (1976) noted that the traditional healers work on the principle that all problems of the patients are the results of misdeeds of the previous lives, committed by the suffering persons or their close kins. Many patients in the present study admitted in an informal chat that they did approach traditional healers (like Ojha, Holyman, Tantric, Pir), beside consulting a medical doctor. There was a general reluctance to admit this fact in a formal interview since such practices were thought to be incongruous with western style hospital setting.

It may be pointed out that in the present study Karma was considered as an important causal, but not a recovery factor by the patients. Such beliefs are consistent with the principle of Karma. This principle is supposed to explain what has already happened or is happening, but not what is going to happen (Gokhale, 1961). According to this principle, future events are supposed to be contingent upon several factors, including the individual's own efforts, besides Karma. The patients believed "doctors" to be one of such important factors. It is quite likely that the hospital setting in which the

patients were interviewed strengthened this belief. As noted by Krantz (1980) and Kornfeld (1972), hospitalization in itself constitutes a stressful event for most people, and many hospital procedures, viewed as routine by the staff, are anxiety provoking experiences for most patients. Thus, in a hospital setting, doctors are likely to be viewed by patients as the most powerful people, on whom they are totally dependent for recovery from the disease.

Interestingly, God's will and Karma as causal factors did not correlate with psychological adjustment. It appears that though such cosmic beliefs about the chronic illness are more frequently expressed in a particular cultural context, they do not necessarily (or directly) relate to the psychological adjustment. This finding is consistent with the one obtained in an earlier study (Dalai and Pande, 1988) on temporarily disabled patients. Thus, when the outcome is modifiable, as in the case of tuberculosis also, attributions to cosmic factors have little relevance, as far as psychological adjustment is concerned.

In general, it was found that the belief in external causal factors (other's carelessness and family conditions) were associated with low adjustment. Blaming other people and family conditions for the disease have implications in terms of the social support which a person needs in crisis. Such social support can protect the person against the stresses emanating from the illness, both physical and psychological, and creates a positive emotional state (Cobb, 1976). The findings of the present study do not support the inference of Taylor *et al.* (1984), in a study of breast cancer patients, that self-blame (own-carelessness) was positively associated with superior coping. However, this inconsistency in the finding could be of little consequence as the correlation value just missed the level of significance.

The recovery beliefs of a cosmic nature (God and fate) were associated with poor adjustment. This finding was somewhat unexpected, as religious people are generally thought to show better adjustment in a crisis situation. People experiencing tragic outcomes are frequently told by a support group to have greater faith in God (Dalai, 1989). In fact, the correlational nature of the data renders the task of interpreting the present finding a difficult one. A tentative explanation could be that those who believed that their recovery depended on cosmic factors saw little meaning in the hospital regimen and found the hospital environment as anxiety provoking. This explanation is consistent with Kleinman *et al.*'s (1978) observation that folk practitioners are more effective as far as healing is concerned. Again as stated by Bulman and Wortman (1977), chronic disease victims often experience a gradual process of breakdown, unlike accident victims who are normal one moment and injured the next. Fighting against a disease for a long period without success might induce a feeling of helplessness and a cynical view that the hospitalization and treatment is not going to work. However, before any attempt is made to fit the present finding in any theoretical framework, more empirical support is needed. In sum, though the hypothesis that recovery beliefs are more closely associated with psychological adjustment was not supported in a hospital setting, it did justify the distinction between causal and recovery beliefs as maintained in this study.

It was found that perceived control over the disease, but not over the mind, correlated with psychological adjustment. This finding is consistent with those obtained in studies of other chronic illness such as arthritis (Affleck *et al.*, 1987) and coronary heart disease (Bar-On, 1984). The findings support the hypothesis that recovery beliefs have a closer relationship with perceived control than the causal beliefs. In fact, only one causal factor (i.e., own-carelessness) had a significant and positive relation with perceived control over the disease. In the case of beliefs about the recovery factors, cosmic factors (God, worship and Karma) were linked with low perceived control over mind, whereas external factors (family and money) were associated with low perceived control over the situation. In a number of earlier studies (e.g., Bulman and Wortman, 1977), self-blame was found to be associated with a high sense of control over one's surroundings. A causal path may be hypothesized in which cosmic recovery beliefs lead to a low sense of personal control which

in turn results in poor psychological adjustment. Future work should focus on testing this causal model in other cultural settings.

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