

Coping with Cancer: What Illness Perceptions Do?

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| Received: 25.09.2020 | Accepted: 05.10.2020 | Published: 17.10.2020|

Abstract: Cancer has all the potentials to affect nearly each aspect of a person's life. In fact, the complex treatment procedures of the diagnosed individual itself can create distress which can have a long term damaging impact on patients' mental health and healing progress in itself. Hence, an understanding of cancer patients' current experiences and the way they perceive their condition could be very helpful for both patients and health professionals. In that way, the present piece of work attempt to explore the varied illness perceptions of cancer patients to know whether it explain changes in the application of different coping strategies. Self-reported illness perception and coping strategies were investigated using revised illness perception questionnaire and Coping Operation Preference Enquiry (COPE-28). The sample comprised of 80 cancer patients (40 male, 40 female). The results of multiple stepwise regression analysis demonstrated that illness perception dimensions accounted a greater percentage of the variance in the coping strategies used by the participants to manage their illness. Cure/control perception over illness, attributing internal factors to illness causation and having better understanding about the illness encourages adaptive coping strategy which might be important in improving psychological and physical health too. The potential role of varied illness perceptions in the management of cancer is discussed in the light of Leventhal's self-regulation model (1984).

Keywords: Cancer, Illness Perception, Coping Strategies.

INTRODUCTION

Being diagnosed with and treated for cancer is a traumatic experience. Since, cancer, a life threatening disease that involves continuing management over the years, does not resolve spontaneously and very rarely cured completely. Due to this life-limiting illness, cancer patients face physical, mental and emotional challenges. Therefore, many patients undergoing advanced treatment manifest psychological distress and physical impairment. These patients not only deal with a terminal diagnosis but often experience a high symptom burden and encounter a variety of difficult decisions regarding medications and advance treatments [1-3]. Furthermore, cancer also affects people financially, socially, emotionally and even with regard to important life choices like job, career decisions, autonomy, mobility and relocating to another places. Cancer is a kind of chronic disease which is caused by mutations that might be hereditary, induced by environmental factors, or probably developed from DNA replication errors [4].

As per the prevalence data, cancer incidence in India is estimated at 1.15 million new patients in 2018 and is predicted to almost double by 2040. Further, it is evident from the facts, [5, 6] that cancer disease is ranked as the first or second leading cause of death in at

least 91 of 172 countries of the globe and it is on third or fourth rank in other 22 countries. In India, the mortality rate due to cancer has doubled from 1990 to 2016 [7]. Some previous researchers [8, 9] demonstrated that in India cancer is now become the leading cause of disastrous health spending, distress financing, and increasing disbursement before death.

Psychological researches in this potentially emerging area have been now focusing on extending the previous findings to health conditions of patients' populations and health professionals. Patients' subjective experiences and beliefs about disease and its psychosocial consequences are central to these researches. In addition, researches in the area documented that the cognitive and emotional aspects of illness representations have been significantly associated with coping behaviors and various illness outcomes [10] including treatment adherence [11] psychological distress [12, 13], and quality of life [14] in cancer patients. Furthermore, previous findings [15] underlined that the relationship between illness perceptions and distress were mediated by coping. Dempster *et al.* [15] and Corter, Findlay *et al.* [16] suggested that the perceived timeline chronicity, perceived symptoms identities, severe impacts, and greater emotional representations of illness significantly related with increased level of anxiety, depression, and

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fear of symptoms reappearance in cancer patients. Thus, the trend of investigating role of illness perception in researches on people's medical conditions has grown rapidly in recent years. But still there is a lack of awareness and clarity regarding illness perception of patients among healthcare professionals and disease experts. However, the present piece of investigation tried to explore the pattern of illness perception in people diagnosed and treated for cancer in hospitals or cancer care settings.

The term illness perception is described as the organized mental representations or certain ideas that patients have about their illness. These mental representations or beliefs about one's own physical condition have been found to be important determinants of health behavior and have been related with a number of important health outcomes, for instances psychological well-being, treatment adherence and functional recovery [17, 18]. Some important aspects of illness perception are worth mentioning that patients' beliefs about their condition are often different from those who are treating them. Indeed, health care professionals and hospital's medical staffs are generally unaware of patients' ideas and feelings about their current condition, as medical staffs rarely ask patients about their own beliefs and ideas in medical consultations. Whereas, the other noticeable aspect of illness perception, which is similarly important is that patients' illness perception vary widely from each other. Even many a time patients diagnosed with the same chronic illness can hold very contrasting views of their medical condition. In this paper, however, efforts have been made to focus more on the way patients perceive their illness status, as well as, the different aspects of subjective experience of patients with the help of revised illness perception questionnaire.

The self-regulation model of Leventhal *et al.* [19] proposed that patients' illness perceptions are based around distinct components which, in turn, determine coping [19, 20]. Thus, this model maintains that each patient have his/her own ideas about the illness identity, cause, timeline, and consequences of illness. Lau *et al.* [21] have indicated that this model also incorporates beliefs about the cure and controllability of the disease condition. Leventhal, Meyer, and Nerenz [22] have defined illness representations as patients' own implicit, common-sense beliefs about their illnesses. These cognitive representations give personal meaning to the disease symptoms which patients experience and act as a framework for guiding and evaluating the coping efforts in dealing with the illness. The way patients observe their illness might also influences the strategies they use to cope with their illness. Since, it has been mentioned [23, 24] that illness perceptions are mental constructs that are open to change. So, it would be possible that with positive illness perception cancer patients learn to adopt appropriate coping strategies through intervention programs. Petrie, Cameron, *et al.*

[23] and Moss-Morris, *et al.* [24] also reported that illness perception of patients can be successfully altered by implementing short interventions that pay structural attention, and thereby enabling them to cope with their illness more adequately. In parallel with this illness perception there is an emotional response which helps to initiate better coping from the critical health condition. Based on the cognitive and emotional representation of the illness, a coping response is shaped and carried out [19]. The common sense model proposed by Leventhal, Meyer, & Nerenz, [22] focuses on how implicit illness beliefs shape coping and adjustment. The self-regulation theory and the common sense model of illness representations provide a structure for understanding individual variance in representations to illness.

In an endeavor to self-regulate, patients can get motivated to find ways to deal with these cognitions and emotions through different coping strategies. Since coping strategies include a number of cognitive and behavioral responses to deal with the potential threat posed by an illness [25, 26]. The kind of coping strategy patients select is somehow considered to be related to their illness perception. Consequently, it can be assumed that the effectiveness of coping strategies help them to reconsider outcomes in the form of cognitive, emotional representations and future selection of coping strategies. Performing studies on patients' coping strategies has also helped to explain why individuals adapt differently to the same disease episode, with some patients far less disabled and distressed than others. Despite the increasing needs to investigate the illness perception of cancer patients, studies on its role in coping strategies of this specific population are limited in Indian settings. Therefore, the present initiative has been done with following objectives: (1) to examine the illness perception of cancer patients in relation to the timeline, causal attribution, consequences, cure/control, illness coherence and emotional representation of their illness and (2) to find out the contribution of illness perception in application of coping strategies among cancer patients.

METHOD

Sample

The sample comprised of 80 cancer patients 40 female and 40 male cancer patients. Ages ranged from 18 and above. The patients were recruited from the out-patient department (OPD) of radiology department of BRD medical college located in Gorakhpur city of the state Uttar Pradesh, India. Patients from both rural and urban areas were represented in the sample. The radiologist/medical staffs were specifically asked to check the following inclusion criteria and to inform the researcher. The inclusion criteria for the participants were: 1) Clinically diagnosed cancer (Breast, Oral, Uterus, Lungs, and Prostate Cancer) patients who were between 1st to 3rd stages of cancer without metastasis, 2)

Diagnosed with the disease at least 6 month before the data collection.

Measures

Revised Illness Perception Questionnaire (IPQ-R)

The Hindi version of original revised illness perception questionnaire (IPQ-R) developed by Moss-Morris, Weinman, Petrie, Horne, Cameron and Buick [23] adapted by Srivastava and Kumar was used. It consisted of 56 items that assessed timeline (10 items), consequences (6 items), internal attribution (9 items) external attribution (7 items), cure/control (11 items), illness coherence (5 items), and emotional representation (8 items) dimensions of illness perception. The participants were asked to rate each item on a 5-point scale ("extremely agree" = 5, "extremely disagree" = 1). All subscales have demonstrated good internal reliability with Cronbach's alpha ranging from 0.57 to 0.85.

Coping Operation Preference Enquiry (COPE-28)

The short version of the scale was developed by Carver, Scheier and Weintraub. Hindi adaptation of Brief Cope scale [27] comprised of 28 items designed to measure three different aspects of coping: (1) active coping (8 items), (2) adaptive coping (8 items) and (3) maladaptive coping strategies (12 items) have been used. The responses were made on a four point scale ranged from (1) I haven't been doing this at all, (2) I have been doing this a little bit, (3) I have been doing this a medium amount, (4) I have been doing this a lot.

The cope's items have moderately high test-retest reliability [28]. The Cronbach alpha was found for the subscales from 0.54 to 0.90.

Procedure

The researcher explained the purpose of the study to the participants and asked them to partake in the study. The participants who wish to participate were asked to sign an informed consent form. Then they were given a set of questionnaires and it took around 35 to 50 minutes to complete, according to their preference. And once they were done it was taken back from them and thanks were given to them for their cooperation. After collecting the entire data, it was scored with the help of respective manual of each measuring tool and obtained quantitative data was analyzed using SPSS software version 21.0.

RESULTS

Since it was intended to find out the role of illness perception in coping strategies of cancer patients, stepwise multiple regression analyses was computed using illness perception dimensions as predictor variables and coping strategies as the criterion variables.

Findings revealed that none of the dimensions of illness perception has emerged as significant predictors of active coping strategy in cancer patients.

Table-1: Adaptive coping strategy as predicted by illness perception

Predictors	Criterion variable = Adaptive coping					
	R	R ²	R ² Change	β	t	F
Illness Coherence	.384	.148	.148	.387	3.82**	13.35**
Internal Attribution	.440	.193	.045	.241	2.37**	9.10**
Timeline	.493	.243	.050	-.226	-2.22**	8.02**

Note: P<.01** P<.05*

Table 1 indicates that a set of three illness perception dimensions predicted adaptive coping strategy in cancer patients, namely, illness coherence, internal attribution and timeline. These three predictors together explicated 24.3% variance in the criterion variable adaptive coping strategy. Illness coherence has been found to be the best predictor which independently explained 14.8% variance, followed by internal attribution of illness which explained 4.5% variance,

followed by timeline which accounted 5% variance. Furthermore, Beta weights showed that both illness coherence ($\beta = .387$) and internal attribution ($\beta = .241$) had positive contribution in the criterion variable. In addition, beta value also suggests that timeline ($\beta = -.226$) had negative contribution in the criterion variable. Findings clearly indicated that increase in these illness perception dimensions may potentially influence patients' probability to use of adaptive coping strategy.

Table-2: Maladaptive coping strategy as predicted by illness perception

Predictors	Criterion variable = Adaptive coping					
	R	R ²	R ² Change	β	t	F
Illness Coherence	.289	.083	.083	.261	2.44**	7.01**
Cure/Control	.363	.132	.048	-.299	-2.71**	5.75**
Emotional Representation	.432	.187	.055	-.253	-2.25**	5.73**

Note: P<.01** P<.05*

Table 2 showed that illness coherence, cure/control and emotional representation dimensions of illness perception have been emerged as significant predictors of maladaptive coping strategy in cancer patients. Illness coherence has been found to be the strongest predictor of maladaptive coping strategy as it elucidated 8.3% variance alone. The cure/control had explicated 4.8% variance, followed by emotional representation which accounted 5.5% variance. However, these three variables together explained 18.7% variance in the criterion variable maladaptive coping. The beta weights reported that illness coherence ($\beta = .261$) positively predicted maladaptive coping strategy whereas cure/control ($\beta = -.299$) and emotional representation ($\beta = -.253$) negatively predicted the criterion variable. This indicated that the dimensions of illness perception had strongest influence on the utilization of maladaptive coping strategy. As findings revealed that high level of illness coherence, cure/control and emotional representation significantly contributed in the expression of maladaptive coping strategy in cancer patients.

DISCUSSION

These findings confirmed the previously found reports [29] that in cancer patient's illness perception is significantly associated with coping strategies. All illness perception dimensions (i.e. timeline, internal attribution, cure/control, illness coherence and emotional representation of illness) except consequences and external attribution significantly related to coping strategies. These findings explained that the formation of varied illness perceptions contribute in shaping and opting different coping strategies by cancer patients. Further, the pattern of applying two different coping strategies i.e. adaptive coping, and maladaptive coping strategies by cancer patients had been emerged.

Three of the seven chosen illness perception dimensions namely, internal attribution, timeline, and illness coherence succeed to significantly predict adaptive coping strategy. Patients perceive their previous actions and deeds as the cause of the present illness [30]. A significant positive association between internal attribution of illness and adaptive coping strategy suggests that cancer patients attributed their condition to internal factors like stress, diet, mental attitudes (negative thinking about life), obesity, weak immunity, emotional states (sadness, loneliness, emptiness), overwork etc. An explanation could be that ascribing an illness to internal factors provokes feelings

of regret, frustration, or sadness of past actions on one hand but also produce a thinking to make lifestyle adjustments to adapt to new situations. Moreover, adaptation in new situations confronts cancer patients with a collection of tasks necessary for physical and psychological adjustment like, involvement in religious thoughts, prayers, having a good sense of humor, and seeking emotional and instrumental support from family members and close ones. Thus, patients' adjustment may involve acceptance of a certain amount of loss of function which may possibly require the acquisition of new insights to change daily routines in order to manage the illness or to cope with the demands of treatment.

Findings demonstrated that the timeline chronicity belief was negatively but significantly related with adaptive coping strategy. One possible reason might be the uncertainty regarding effectiveness of medical treatment and course of illness which prevent them to use more adaptive coping strategy. This is understandable because these patients have to go for advanced treatments and regular medical checkups without any guarantee of complete recovery. Resultantly, patients who have been treated for cancer perceive their illness as something that will persist for a longer duration with repetitive cycles. Smith, *et al.* [31] suggested that fear and uncertainty of the long duration of the treatment caused by cancer constitute a risk factor in terms of depression and hopelessness. Furthermore, the fact that cancer is chronic, mortal and fatal generates negative feelings in patients. These feelings destroy patients' hopes of achieving complete recovery and prepare them to face the existence of an uncertain future. It has been reported [32] that longer timeline perceptions are related with perceiving poor personal control over the illness with negative thoughts of ever returning back to a normal life. Ravindran, Shankar, and Murthy [33] found that perception of cure/control over the illness remains significantly low which complicates the coping strategies among cancer patients.

Moreover, present findings also revealed that cure/control negatively but significantly related with maladaptive coping strategy. This is partially consistent with our previous results [27] and findings from a prior study [34] where it has been reported that the personal control dimension tends to be positively associated with adaptive outcomes while negatively related to maladaptive outcomes. These findings explained that patients who believed that they have less cure/control over the illness seemed to use maladaptive coping

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strategy, like self-distraction, denial, substance use, behavioral disengagement, self-blame and venting of emotions, which may permit a patient to maximize the behaviors and responses that make them feel better in the short-term without being overwhelmed by distress. While in a long-run, it could be interpreted as the most detrimental coping strategy because it precludes the patients' ability to face the reality of their life and to develop more adaptive coping strategy. So, the negative association of cure/control and maladaptive coping might be a reflection of the fact that cancer patients held a belief that their disease is not much curable/controllable which potentially affect their preference to opt adequate coping strategy and shift to more reliance on maladaptive coping strategy.

Further, findings also revealed that maladaptive coping has significant negative association with emotional representation of illness. The emotional representation of illness is a process of releasing intense emotional reactions by patients which is a simple but effective way that helps them to cope with difficult situations. However, mental and emotional pressure with physical pain of being in a chronic condition generates negative and distressing emotions (e.g. fear, anger, sadness, stress, anxiety, and depression) among cancer patients. The emotional releases are linked to a need to relieve patients' unconscious conflicts which could be beneficial to bring them a sense of peace and helps to move on from the situation. Thus, rather than behaving and reacting inappropriately, these patients instead expressing their intense emotions that brings some form of positive changes in their life which further contributes to less utilization of maladaptive coping strategy.

Findings, hereafter, elucidated that illness coherence was found to be the strongest predictor for adaptive coping as well as maladaptive coping strategy. Illness coherence was positively and significantly associated with engagement in both adaptive coping and maladaptive coping strategy. It suggested that sometimes more clear and coherent understanding of one's illness may help patients to involve in adaptive coping. This is consistent with research findings of De Weerd *et al.* [35] who mentioned that adequate degree of understanding was the prerequisites for managing the self-care. Further, the positive association between illness coherence and maladaptive coping strategies among cancer patients implies that when the patients become fully aware of their illness and get a better understanding of their disease, then they automatically develop stress, anxiety, depression and so many types of negative emotions like fear, anger etc. And consequently, they start using more maladaptive coping strategy to cope with the situation. This is in line with those of the past studies that found patients' poor perception of illness leads to maladaptive outcomes of experiencing psychological distress [36, 37]. Therefore, in some cases perceiving better illness understanding

also increase the propensity to use maladaptive coping which leads to poor health.

Conversely, however, results showed that none of the dimensions of illness perception has predicted active coping strategy. DeRidder and Schreurs [38] reported that cancer patients essentially use inactive emotion focused strategies, for instance escape, avoidance, wishful thinking etc. one explanation might be that the preference to apply active coping strategy for this specific patients group would be limited by their way of perception, natural reactions and convenience of their chronic conditions. Moreover, the lack of predictive value of illness perceptions suggests that this coping strategy is not as applicable as the other coping strategies, and for that reason it should be consider in the primary aim of intervention to improve patients' chronic condition. Overall, this finding suggests that from the moment when patients perceived that their illness cannot be brought under control by treatment or personal behavioral changes, they also felt that active coping strategy might not be an effective way to deal with their condition.

In spite of the fact that this paper has highlighted the importance of illness perceptions and its predictive values in relation to coping strategies of cancer patients, there are some limitations. First, convenience sampling was used which limits the generalizability for patients suffering from different types of cancer. Other limitations include small sample size and lack of comparison between male and female cancer patients. Furthermore, cross-cultural differences, family type (joint/nuclear), socio-economic status and comorbid conditions of the cancer patients were also not explored in this study.

CONCLUSION

Present findings make it very clear that patients' perception towards their illness is a major constituent that is important in determining which coping strategies they opt. Hence, interventions for such patients must focus on various illness perceptions emphasized in this paper. Perceived chronic timeline, targeting internal factors for causing the illness and better understanding of one's own condition provide support in coping well via application of adaptive coping strategy. Since, coping includes cognitive and behavioral efforts to reduce hectic circumstances [39, 40] and having resourceful coping strategies might be very helpful in managing and controlling cancer disease across the lifetime. Based on the findings we conclude that for the better management of cancer it is necessary to inspect that cancer patient what actually experiences about their illness. Therefore, the importance of recognizing illness perception among patients and the differences in their way of coping should be primarily recognized by medical staffs to achieve the goals of better health management and increased recovery rate. Thus, implication of the present piece of work is

important for the health care professionals working for patients in dealing their health threats.

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