

Coping with Surgery and Accompanying Environmental Changes

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This study endeavoured to investigate the role of some psycho-social factors in coping with surgery and environmental changes. The present study was carried out on 75 surgical patients and 75 non-patients group of respondents. The psychosocial variables were age, education, income of respondents and their future orientation. Optimism, anxiety and perceived personal control were used in successful coping with surgical intervention and it was assessed by a negative and positive indicator of health. Negative indicator was the negative mental state of the patient after surgery and quality of life after surgery was the positive indicator of health. Result shows that the psychological variables are negatively correlated with dependent variable of negative mental state. Anxiety was found to be positively correlated with negative mental state. On the basis of correlational analysis multiple regression was also used which shows that future orientation and optimism of patients are negatively predicted by negative mental state of patients but education was a positive predictor in the non-patient group of respondents. Negative mental state was positively and significantly predicted by anxiety, whereas perceived personal control was negatively predicted the criterion variable. The study highlights the fact that in spite of the environmental change, which accompanies any surgical intervention like hospital environment physical and psychological constraints etc., the psychosocial characteristics of future orientation, optimism and personal control can help people in coping with this environmental change.

Surgical intervention necessitates hospital stay which in itself involves environmental changes. A number of studies have shown that patients are upset not only with their physical problems, but also with living in a hospital room with no windows, hospital noise (Reizenstein & Grant, 1981), lack of acoustical privacy when visitors are visiting them. Lighting is another environmental feature that can lead to visitor's discomfort. Glare can be of particular problem when lighting is reflected by a shining floor or when it shines through a window and cannot be controlled by shades or curtains (Flynn & Segil, 1970; Hayward & Brenham, 1980; Lam 1977). Along with their economic hardships due to surgical expenses, the physical problem of pain, all put constraint on the patient. One aspect of hospital settings

that have received attention is the low control or low choice forced upon patients and visitors. Hospitals typically have a great number of rules and allow patients only minimal control over the small space that they use. It was therefore thought that it will be pertinent to investigate those factors which help the patient to deal with physical pain, health problem on one hand and behavioral constraint and environmental changes on the other hand.

One of the most important aspects of hospital settings is low control or low choice forced upon patient which gives the feeling of behavioral constraint; behavioral constraint means the loss of perceived control over the situation, which has been derived from the model of environmental stimulation (Proshansky, Ittison, & Rudin 1970; Rudin &

Baum, 1978; Stokols 1978, 1979; and Zlutnick & Altman 1972). In other words the term constraint means that something about the environment is limiting or interfering with things we wish to do. Olsen (1978) pointed out that provision of greater spatial complexity or providing more options or variations in design can improve the situation and lead to more positive emotional responses. The another important issue which provides better coping strategies is social interaction among patients (Devling, 1992), specifically the designs that protect privacy yet encourage appropriate social interaction would seem to be most therapeutic. Topf (1992) mentioned that uncontrollable noise in the hospital is a problem for patients and staff, which directly influence well being of patients. Windows with natural view are particularly therapeutic. Patients in rooms with a natural view have more favorable outcomes. (Ulrich, 1984; see also Verderber, 1986)

Against this backdrop, present study was undertaken to investigate the role of some psychosocial variables in dealing with these physical health related and environmental problems while maintaining good quality of life and well-being. The demographic variables which were selected for the study were age, education and income. The psychosocial variables were optimism, future orientation, personal control, anxiety and negative mental state.

It was observed that in majority of the individuals health parameters were primarily determined by their socioeconomic development and their financial conditions. There are empirical evidences that the people who are higher in their social hierarchy enjoy better health as compared to those who are lower in social hierarchy. According to Dutton and Levine (1989), "socioeconomic status is a composite measure that typically incorporates economic status measured by income, social status measured by education and work status measured by occupation"

Murphy (1991) found that the major depressions and depressive symptoms were inversely related with socioeconomic status. According to Barefoot, Dodge Peterson, Dahistrom and Williams (1989) SES and disease risk both are related with antagonistic behaviour.

Education is also one of the important factors which influence health status. There are several studies which indicate that education reduces the bad effects of poverty on health to some extent irrespective of the availability of health facilities.

One of the psychosocial variables is optimism. The optimists focus on the brighter aspects of life events whereas pessimists expect bad outcomes. In the study of Scheier and Carver (1985); Scheier, Weintraub and Carver (1986); found that optimism is associated with problem focused coping active seeking of social support. They also lay emphasis on positive aspects of the illness, as well as greater acceptance of uncontrollable outcomes. Taylor (1992), suggest that positive attitudes tendencies to plan for recovery, seek information was predicted by optimism. They did not dwell on negative aspects of the situation and is not indulge in self blame and escapism, or suppress their thoughts about their symptoms. In the face of unchangeable situation optimists appeared to handle it as a challenge rather than trying to escape.

Next psychological variable is future orientation which refers to the hopes, fears and possibilities of future prospects. People who have better future orientation endeavors to make things better from the available resources. Lewin (1948) opines that future orientation is a part of person's time perspective and it determines the actions. Future orientation is referred to the process of setting future goals and planning for them and being more concerned for future than past and present. Cognitive representation and the processing of needs involves goal setting and

planning for the future. It was also found to be relevant for understanding many cognitive motivational and behavioral processes.

In this series the next psychosocial variable is anxiety which is characterized by diffused, unpleasant, vague sense of apprehension, often accompanied by autonomic symptoms. Tyler (1982) and Markland (1993) recognized that "Surgical procedures do induce anxiety and can have adverse effects on the course and outcome of surgery." One important factor which influences anxiety is the unexpected event of illness which a patient cannot foresee and most patients have high rate of anxiety and poor tolerance of stress when they first learn that they have to undergo surgery. A recent study conducted by David (1992), shows one month rebalance as 7.3% of anxiety which indicates that anxiety states are remarkably common but in some other cases they are comparatively mild.

And then comes personal control, the basic concept of perceived control in evolutionary framework refers to the controllable desired emotion, cognition and also social behaviors guided by the based motivation. The process of evolutionally pressures makes a person efficient to drive psychological benefits from a sense of control. Frankle (1963), reports in an autobiographical account the relationship between sense and meaning and control in life. He found that those prisoners who had a sense of personal control over circumstances were more likely to survive the harsh prison environment. The ability of self assessment of the person to exert control is called perceived control. The role of perceived control in coping with stress has been evinced in many studies. Tripathi (2006) found that students having high perceived control were found more competent to cope with crowding stress in school setting. In another study, perceived control was found positively linked with good health status. (Pandey, 2003).

Review of studies reveals that numerous socio-demographic and psychological

variables have direct link with health and well-being of people. However very few studies have been conducted to identify the role of Social-Psychological factors in coping with surgery and negative mental state. Against this backdrop present study was carried out with following objectives.

i. To examine the relationship between Psycho-social variables and negative mental state of respondents

ii. To determine the contributing role of psycho-social factors in predicting health and well-being of patient and non-patient group of respondents.

Hypotheses:

i. Age, education and socio-economic status would be found exclusively related with negative mental state.

ii. Optimism, future-orientation and personal control would be found inversely correlated with negative mental state whereas, anxiety would be found positively correlated with negative mental state.

iii. The negative mental state of respondents would be inversely predicted by psycho-social factors i.e.; optimism, future-orientation, personal control, state-anxiety, education, age and socio-economic status of respondents.

Method

Sample:

The present study was conducted on a sample of 150 subjects selecting 75 subjects for the patient group and 75 subjects for the non-patient group. In the patient group the data was collected on patients who had been admitted for operational procedures, from civil hospital, railway hospital and private nursing homes of Gorakhpur city. The age group of subjects were in between 20 to 45 years. Both males and females were included. 75% of patients were from low SES, 30% of them were from lower middle and 5% from higher middle SES. The sample of non-patient group was also from Gorakhpur city they are mostly

house wives, students, professionals' s businessmen etc. On the non-patient group the study was conducted in only one session.

Materials:

Life orientation test (LOT) developed by Schierer and Carver (1985). LOT consists of 13 items it assesses favorable expectation. Regarding life outcome. 13 items only 9 items are concerned with dispositional optimism and 4 items are filler item. Amongst the items related with optimism, five items were score positively (item no. 1,4,5, 11 and 13) four were scored negatively (item no 3,8,9 and 12) and the filler items were (item no. 2,6,7 and 10). Respondents indicating the degree of the agreement on five point scale ranging from (1) Strongly disagree, (2) Disagree, (3) Neutral, (4) Agree and (5) Strongly agree.

Future Orientation: It was measured by the technique, which was first developed by Meade (1972), and successfully adopted by Agarwal & Tripathi (1983). In this technique there were six sentences, each of these are written in present tense on the top of a paper. In two the only 4 sentences were used to measure the future orientation of respondents. Cue sentences were used in this technique. On the basis of these cue sentences subjects were asked to write a series of events which might have occurred during or after the incident described in the cue sentence. 1-5 point rating scale was used to score the story,

Self Regulatory Processes or Personal Control : It was measured by personal control of respondents which was developed by Agarwal, Dalal, Agarwal and Agarwal (1995). This scale measures perceived personal control over person's life. The scale consists of 8 item concerning family happiness and peace, occupational success, own health, mental peace, future events financial security, fulfillment of goals, and future peace and happiness. 5 point scale was used for giving answers to questions, ranging from (1) no control, (2) less control, (3) general

control (4) much control, and (5) complete control.

State Anxiety: it was measured by the Hindi short version of the test which was first developed by Spielberger (1970), and successfully used by Tripathi & Agarwal. The scale consists of five items rated on 4 point scale ranging from (1) not at all, (2) somewhat (3) moderately so, and (4) very much. Item No. '1' and '5' are scored in positive direction and item no. '2', '3' and '4' are scored in reverse direction.

Negative Mental State: A scale was used to measure the negative mental state and strain experienced by the patient. This measure is a short version of the health scale constructed by Caplan, Naidu and Tripathi (1984). This original scale has 46 item out of which only 10 items were culled out of the measure reaction to strain in terms of feeling of anger, loneliness, irritability, being ignored, inferiority, lack of satisfaction Happiness. Health, self confidence and ability to make quick decisions. The scores are rated on 4 point ranging from (i) "did not happen at all" (ii) happen on few occasions, (iii) 'happen many times' and (iv) continued for almost all the time'.

Results

In order to examine the role of demographic and psychosocial characteristics in coping after surgery, intercorrelations and regression analysis has been computed. Intercorrelational analysis was computed for different groups' namely patient non-patient and total group of respondent separately. Correlations were computed between psychosocial variables and negative mental state. Regression analysis demographic and psychological characteristics of the respondents were taken as predictors. Optimism, future orientation, personal control anxiety, age and education were entered as predictors. Negative mental state of the patients were selected as the criterion variables. The criterion variables were the

same for all the three groups namely, patient, non-patient and total group of respondents. Selection of predictor variables were based on simple correlations.

Result in table-1 revealed that in the patient group of respondents optimism, ($r = -0.302$, $df = 48$, $p < .01$) and future orientation, ($r = -0.361$, $df = 48$, $p < .01$) were negatively

correlated with negative mental state of patients. Whereas, in the non-patients group of respondents (Table-1) education ($r = 0.25$, $df = 73$, $p < .05$) and state anxiety ($r = 0.35$, $df = 73$, $p < .01$) were found positively correlated with negative mental state but personal control was found inversely related with negative mental state ($r = .25$, $df = 73$, $p < .05$).

Table 1: Relationship of Psycho-social variables with negative mental state in patient, non-patient and total group of respondents.

No. Group	Patient	Non-Patient	Total group
1 Age	0.096	-0.174	0.163
2 Education	0.218	.255 **	0.009
3 Income	0.085	0.147	-0.007
4 Optimism	-.302**	-0.076	-.290 ***
5 Future orientation	-.361 ***	-0.196	-.391 ***
6 State Anxiety	-0.062	.345 ***	.439 ***
7 Personal control	-0.096	-.251*	-.309 ***

** $p < .01$ * $p < .05$

In the total group of respondents (Table-1) age of respondents has positive and significant correlations with negative mental state ($r = -0.290$, $df = 148$, $p < .05$). however optimism, ($r = -0.290$, $df = 148$, $p < .01$). future orientation ($r = -0.391$, $df = 148$, $p < .01$). and personal control, ($r = 0.309$, $df = 148$, $p < .01$) were found negatively related with negative mental state. State anxiety ($r = 0.4339$, $df = 148$, $p < .01$) has positive coefficients of correlations with negative mental state.

Based on the perusal of correlation results, it was relevant to go for stepwise multiple regression analysis to determine the contributing role of psycho-social factors in criterion variables. Results are displayed in

Table 2 which shows that negative mental state of the patient after surgery was negatively and significantly predicted by patients future orientation and optimism and negatively and significantly predicted by education, $F(3,71) = 7.96$. These three variables together explained 25% variance in the criterion variable. Patient's future orientation explained 11% variance in this criterion variable independently. Optimism predicted 7% of variance. Education predicted 7% of variance negatively. So it may be noted that higher education levels predicted more negative mental state whereas future orientation and optimism predicted reduction in negative feelings.

Table 2 : Stepwise multiple regression analysis for Negative mental state predicted by Future Orientation, Optimism and Education in Patient s Group.

Predictor Variables	B	SEB	Beta	T	R ²	R ² change
Future Orientation	-3.66	1.20	-.334	-3.031	.11	.11
Optimism	-.346	.139	-.265	-2.489	.18	.070
Education	.449	.174	2.572	2.572	.25	.070

** $p < .01$ * $p < .05$

Square = .25, Adjusted R = .22, Multiple R = .50, Standard Error = 5.4701, $F(3,71) = 7.96$ $P > .000$

Table 3 shows that negative mental state in the non patient group of respondents was predicated by, their state anxiety and personal control $F(2, 72) = 9, 322$. $P < .000$. Anxiety predicted 15% of variance positively, significantly and independently. The

contribution of personal control was found to be 0 .05% in explaining the variance in the criterion variable which predicts negatively and significantly. The joint prediction by these two variables was 20% of variance.

Table 3: Stepwise multiple regression analysis for Negative mental state predicated by Anxiety and Personal Control in Non patient Group .

Predictor variables	B	SEB	Beta	T	R ²	R change
Anxiety	.472	.131	.389	3.60	.151	.151
Personal Control	-.168	.076	-.233	-2.218	.206	.054

R square = .206, Adjusted R = .184, Multiple R = .454, $F(2,72) = 9.322$ $P < .000$

** $p < .01$ * $p < .05$

Table 4: Stepwise multiple regression analysis for Negative mental state predicated by Anxiety and Optimism in Total Group.

Predictor variables	B	SEB	Beta	t	R ²	R change
Anxiety	.606	.107	.423	.568	.18	.18
Optimism	-.271	.095	-.210	-2.84	.22	.04

R square = .206, Adjusted R = .184, Multiple R = .454, $F(2,72) = 9.322$ $P < .000$

** $p < .01$ * $p < .05$

Table 4, in total group of respondents, the table also shows that negative mental state was significantly predicted by anxiety and optimism (LOT), $F(2,147) = 20.95$, $P < .000$. These two variables predicted 22% of variance in the criterion variable jointly . Anxiety was found to be a best predictor of negative mental state, which positively predicted 18% variance in this variable independently. Optimism also explained 4% variance negatively in this criterion variable. This criterion was negatively predicted by optimism.

Discussion

The present study was undertaken to investigate the role of some psychosocial variables in coping with surgery and the environmental changes. In the non- patient group of respondents negative mental state of respondents had negative correlations with activity in future and personal control however positive correlation with education and state anxiety (Table-1) was found. Present result

shows that in the total group of respondents, negative mental state was negatively correlated with optimism, future orientation and personal control of respondents. Here it also had positive correlation with age and state anxiety of respondents. Those respondents who were high in negativemood become poor tempered, easily upset, felt inferior and also had a pessimistic attitude towards their future and did not foresee much activity in future. Generally they looked at the darker aspects of their life events. They made less future plans. They envisaged inactive future life and felt that they did not have control over different aspects of their life they were found more anxious also.

Clinical, social and medical researchers adopted various types of health models. Most of these models assume that psychosocial stressors adversely affect physical health as well as psychological well being. Researchers have studied a number stressor of healthy,

including major life changes i.e. chronic stressors of role strains, Eckenrode (1984); Pearlin, Liberman, Menaghan and Muttan (1981), minor daily stressors or hassles DeLongis, Coyne, Dakof, Folkman and Lazarus, (1982), depression and helplessness Ludenslager, D. Ryan, Drugan, Hyson & Maier (1983), results definitely show that in the patient group of respondents outlook of future orientation and optimism were negatively and significantly correlated with negative mental state. It is therefore, clear that optimism, future orientation agreeableness and personal control exercise impact on negative thoughts and affectivity on the one hand and promote recovery on the other hand.

Present results Table 1 shows that in patient group of respondents future orientation and optimism are negatively predicting their negative mental state. Education, however is positively predicting negative mental state of patients. The reason may be that educated people know a little more about diseases and therefore, worry more about probable problems, and may imagine all the negative things which may happen to them. In non-patient group anxiety predicted negative mental state positively which is understandable. Personal control predicted it negatively which is also logical (Table 2)

These findings are as expected. A future oriented optimistic outlook wards off negative thoughts and worries effectively, whereas anxiety and worry promote it. In the non-patient group of respondents anxiety is positively contributing to negative mental state. Hence, an anxious person may also have more negative mental state. Emmons and Kings (1988), had noted that past fulfillments of goals is negatively associated with negative mental state. As we all know that negative affect is a general dimension of subjective distress. In the negative affects broad range of aversive mood state are subsumed, with greater satisfaction and if people's aspirations are more coherently organized they are happier,

so having future goals and believing that they are important contributes to satisfaction (Prmearntz, Saxon & Distin, 1998). Present findings show that this greater satisfaction arises of lesser negative thought affects and expectations.

A sizeable number of researchers (Brielt Brief, Broke, George & Webster, 1990; Watson & Clark, 1984) report that those individuals with high negative affectivity express distress discomfort and dissatisfaction across a wide range of situation. Negativity also appears to be related to poor health. In several Studies it was found that those individuals who have high negative mental state or were experiencing high degree of stress were more likely to consult health services than individuals low in negative affectivity and not under stress. In several decades of research, it has been demonstrated that prolonged exposure to stress and negative effects, on health and well-being and these effects may be permanent, in some special cases long term results may even cause death Seligman (1975).

Affleck, Tennen, Pfeifler and Fild (1987), explained that most of the motivational theories suggest that general negative emotions of an individual have severe consequences for physical and mental health. The findings of the present research clearly establish that future oriented optimistic outlook about life and sense of personal control may help a person to cope with surgical interventions and ensuing stressful environmental changes and also rid the person of negative mental states, which are augmented by anxiety. Carr (2004) has given a prescription for happiness he has proposed. In this book three recommendations would one of them is, 'cultivate an optimistic future oriented perspective on life in which you expect the best and value the future more than the present', and our findings in Indian setting have also established the value of this recommendation to the fullest extent.

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