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Relationship between Psychological Distress and Emotional Regulation among Cancer Patients

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ABSTRACT

The study aimed to investigate the relationship between psychological distress, and emotional regulation among cancer patients. Survey research design was used to examine the interrelationship between the variables. Sample of study consist of 110 cancer patients, for this purpose data was collected from different hospitals. Hospital anxiety and depression scale (HADS), and emotional regulation questionnaire (ERQ) were used to collect the data for the study. The analysis was conducted through different statistical techniques on SPSS-21 Software. For the analysis Pearson product momentum correlation was used. Result shows that there is a negative relationship between psychological distress and cognitive reappraisal and positive relationship between psychological distress and expressive suppression among cancer patients. Cognitive reappraisal decreases psychological distress and expressive suppression increases psychological distresses among cancer patients. The result of descriptive studies indicated that Cronbach's alpha of all the scales is in acceptable range.

Keywords: *Cancer patients, Psychological distress and Emotional regulation.*

INTRODUCTION

Cancer is globally recognized as a major health challenge, being a leading cause of death and a profound life-altering diagnosis. According to the World Health Organization (WHO), cancer refers to the uncontrolled growth and spread of abnormal cells which can affect almost any part of the body (Stewart & Kleihues, 2003). This malignant process often invades surrounding tissues and can metastasize to distant sites. Among the major cancer types are carcinoma, melanoma, lymphoma, sarcoma, and leukemia (Fidler et al., 2017). Cancer diagnoses deeply impact patients' lifestyles and psychological well-being (Butow et al., 1996; Stanton & Snider, 1993).

Overall, cancer still kills millions of people around the world every year. In 2018, it caused around 9.6 million deaths just-year (Bray et al., 2018). Cancer is not contagious per se, although certain strains of viral infections are associated with cancers, like cervical cancer with Human Papilloma Virus (HPV) (Zechmeister et al., 2009). Analogous to that in the human cancers, tumors are commonly categorized into benign and cancerous, the latter of which is harmful due to potential spread all over the body (Mazur et al., 1990). Breast, lung and colorectal cancers are still considered as the most prevalent diseases,

generally,according to global statistics (Torre et al., 2016) and though there are increasingly sophisticated medical treatments, mortality and psychological damage – taking into account mainly women – still stand as a thorny problem (Clegg-lamptey et al., 2019; Key et al., 2001).

In addition to physical effects, cancer is also based on existential distress consisting of anxiety, depression, and distressing emotions that interfere with daily life (Nieuwenhuys & Oudejans, 2017). Such distress can impact on patients' adjustment to illness, immune function and disease progression (Brandão et al., 2017). Studies have consistently found that the general population of cancer patient suffer from much higher levels of anxiety and depression compared to the general population (Maass et al., 2015; Sklenarova et al., 2015). Distress is enhanced, especially in the phases of diagnosis and treatment, and in some cases, provoking complications and prolonged hospitalization (Godara et al., 2019). This means that patients still suffer from psychological and emotional difficulties, including anxiety, depression, and somatization, years after treatment (Admiraal et al., 2016; Morrison et al., 2017).

The ways people cope with these psychological difficulties, however, lie in emotion regulation. ER is the ability to modulate what emotions one has and when they have them, as well as how they experience and express them (Gross, 1998). Two of the most commonly studied strategies for regulating emotion are cognitive reappraisal, in which an individual attempts to reinterpret an emotionally evocative situation, and expressive suppression, in which an individual tries to hide an aroused emotional response (Gross & John, 2003). Cognitive reappraisal has been found to serve an adaptive function, which reduces psychological distress and promotes well-being (Wang et al., 2014), whereas expressive suppression is often associated with greater depressive symptoms and worse social functioning (Lu et al., 2018).

In the context of a disease such as cancer, however, where patients may deal with far greater emotional and existential issues, emotion regulation might be more important. Indeed, research has shown that healthy emotion regulation appears to be associated with greater levels of psychological wellbeing, resilience, and quality of life (Babore et al., 2019; Guimond et al., 2019). On the other hand, coping with maladaptive strategies can increase distress and impede rehabilitation and well-being (Tsai, & Lu, 2018). Additional influences, such as self-efficacy, optimism, and coping style, also contribute to variations in how patients respond to their diagnosis and treatment (Sumpio et al., 2017; Carver & Scheier, 2017).

Because of the great emotional distress that occurs at the sudden discovery of the cancer and the individual difference in coping with it psychosocially, it is important to clarify the relation between psychological distress and emotion regulation of cancer patients. This study aims to investigate this association, mainly the questions of whether cognitive reappraisal can alleviate emotional distress and whether expressive suppression augments emotional distress. Through an examination of these associations, data will be generated that may inform psychological intervention efforts, patient care, and the emerging literature on coping and mental health in oncology.

Objectives

1. To study the relationship between psychological distress and emotional regulation amongcancer patients.

2. To explore the gender differences on psychological distress and emotional regulationamong cancer patients.

LITERATURE REVIEW

According to (M. Miller 1995)to deal with cancer there are two psychological coping styles are common, Monitoring (attending to) and Blunting (avoiding).It has seen that patient those who have monitoring coping style they are more concerned and distressed about their diseases and they have more knowledge about their diseases and their side effects then blunting coping style. Researcher focused on the monitoring and blunting coping styles in cancer patients and sees their effects on distress and health behavior.

Cancer is a chronic illness which brings a permanent change in a person's way of living life. The main focus of the study was to find out how young adults coped with cancer and what kind of strategies they used. Data was collected from young adults by interviewing in a hospital. Different coping strategies were used by cancer patients. The main coping strategies were emotion focused, social support and appraisal focused strategies (Folkman & Lazarus, 1988). An emotional focused strategy focused on that how people show their emotion by acting and thinking (Sundeen et al., 1990). Problem focused strategy focused mainly on the problem and they try to manage with the situation. Appraisal focused strategies focused on cognitive process and making choice about coping. All three strategies are important during coping but appraisal in continuously needed (Hanson et al., 1988). Family plays an important role in emotional support. Subject discuss about their diseases and coping strategies with health care provider. Will power, belief in GOD, positive attitude toward life is a main source of coping withcancer (Kygnas et al., 2008).

Breast cancer is common now a days and it is challenging for a women and their family. The main concern of the study was to describe the coping strategies used by the cancer patient and what was its impact on the quality of life. Results showed that emotional support and positive reframing is important for coping with cancer (Kershaw et al.,2007).

The main aim of the study was to examine the actual and imagined interaction of cancer patient with health care professionals. The result of this study showed communication satisfaction is based on the information about the diseases how much the information person has about the diseases and it's bring a communication satisfaction (Micheal&Edward,2009).

Study was conducted about spiritual coping strategies among believers and non- believers' onset of the illness. Cancer is painful for individual being a believer or non-believer and individual realized that he/she has lack of control over the life but spiritual coping strategies help out the person to find out the meaning of life, self-empowerment and purpose of illness.

In this exploration, researcher examined how different types of cancer bring different stressors. The main concerned of this study was to examine different coping strategies across different stressors. Problem focused and emotional focused strategies used for coping possess large difference between them. Emotional focused strategies are less frequently used for physicalstressors. Different stressors can be deal with different ways. There is no particular pattern of coping.

An examination directed on cognitive appraisal and coping among adolescents, children and young adults whose parents was diagnosed with cancer. These groups have used little problem focused coping and they have low personal control and high external control on parents illness. Result has shown that adolescents and adults focused on emotional focused strategies than preadolescents (Compas et al., 1996).

In cancer patient psychological distress is common and most of the time it is untreated. The main focus of this study was to identify the psychological distress and find the strategies to manage the psychological distress in cancer patient .Sometime patients verbally and non-verbally provide information about their

emotional state but at the same time they believe that it is doctor's responsibility to deal with their emotion. Open ended questions pay attention to client properly, emotional words showing empathy can be helpful for a doctor to identify emotional concern of a client. Result of this study shows that basic communication techniques can be usefulfor identification of client's emotional concern (Cockburan et al., 2005).

(Love MP., 1989) uncovers that there is a different side effects of chemotherapy and emotional distress. Patient practitioner communication is seen in different way. During the first six cycle of therapy, interview was taken from different participants at five points and it has beenseen that nausea, hair loss is common in 80% of the patients and 46% of patients wants to quitting therapy. This study also explores the patient practitioner communication. Effective communication is helpful for the patients to overcome the burden of emotional distress and alsoa good source to communicate about coping, treatment plane and their side effects. Emotional distress is not directly assessable and it has seen that there is a less communication between patients and practitioner.

Cancer is still the main causes for death although different kind of treatment and coping strategies are available (Lin & Bauer-Wu, 2003).Cancer divide into three domains the physical, the psycho-social and the philosophical-existential domain (Knight & Emanuel, 2007). Each of the dimensions has different weight according to the clients coping strategies, cognition or interpretation about the diseases (Block, 2001).

(Linden et al., 2012) demonstrated that anxiety and depression is present in cancer patients after diagnosis, the prevalence of anxiety and depression depends on the type of cancer, gender and age. It had been seen that 19% of patients shows hospital anxiety and depression. Patients with the mean age of 59% and 45% of them were men showed anxiety and depression. Ithad been seen that there is a significant difference in different types of cancer such as lung cancer, breast cancer, etc. at the time of diagnosis.

Research has shown that music therapy was used to decrease the client's anxiety level and treatment related distress in medical setting. Experiment was conducted during RT and it hasseen that patients who listened self-selected music they reported the low anxiety level and treatment related stress. These findings provide a support to reduce distress during RT and also concluded that physical symptoms remain same they are not affected by music during RT (Clark et al., 2006).

There is a relationship between cognitive appraisal and adjustment .Primary appraisal about life is negative and it is negatively correlated with adjustment. Secondary appraisal is correlated with adjustment and perceived that its personal control and GOD control. Cognitive appraisal helps out in adjustment.

The main purpose of the research study is increase mortality rate of cancer. It's not easy job to collect sample as limited data is available for this study. Painful treatment is another cause of this research study as psychological distress is associated with painful treatment. In painful treatment there are more chances of psychological distress. Under such conditions patients emotional regulation strategies play a very important role in managing of negative emotions to overcome this misery. Individuals who use positive cognitive appraisal often experiences more positive emotions compared to that of individuals who use expressive suppression.

Hypotheses

- There is a negative relationship between psychological distress and cognitive reappraisalamong

cancer patients
- There is a positive relationship between psychological distress and expressivesuppression among cancer patients
- Cognitive reappraisal decreases psychological distress among cancer patients
- Expressive suppression increases psychological distresses among cancer patients

METHODOLOGY

This study employed a cross-sectional, correlational research design to explore the relationship between psychological distress and emotion regulation strategies among cancer patients. Participants were recruited from oncology departments of two major hospitals in [e.g., Lahore, Pakistan]. A purposive sampling technique was used to select individuals aged 18 and above, currently undergoing treatment or follow-up care, and capable of understanding the study's purpose. After obtaining informed consent, data were collected through self-administered questionnaires distributed in waiting areas or wards, ensuring participants' comfort and privacy. The study adhered to ethical standards outlined in the Declaration of Helsinki, with prior approval obtained from the relevant institutional ethics committee.

To measure variables of interest, the Depression Anxiety Stress Scales (DASS-21) was used to assess psychological distress, while the Emotion Regulation Questionnaire (ERQ) measured the use of cognitive reappraisal and expressive suppression strategies. Data were analyzed using SPSS (version 27). Descriptive statistics described sample demographics and mean scores, while Pearson correlation coefficients tested associations between distress and emotion regulation strategies. Additionally, multiple regression analyses explored the predictive role of cognitive reappraisal and expressive suppression on levels of psychological distress. This methodological approach was designed to offer a quantitative understanding of how specific emotional regulation strategies relate to mental health outcomes among cancer patients.

RESULTS

First of all correlation between psychological distress and emotional regulation were calculated, and then descriptive statistics of the variable were calculated to observe the statistical trend in our data. Another focus of the study was to determine the role of anxiety and depression in predicting cognitive reappraisal and expressive suppression among cancer patients. For this purpose multiple regression were run and are being reported. All the analysis was done by using SPSS 21 software.

Table 1: Inter-scale correlation, alpha coefficients, and descriptive statistics of the study variables (N=110)

	1	**2**	**3**	**4**
1. HADS-A	-	.59**	-.94**	-.14
2. HADSS-D	-	-	-.71**	-.88
3. ERQ- CR	-	-	-	-.17
4. ERQ-ES	-	-	-	-
A	.82	.64	.84	.71
M(SD)	10.35(5.02)	10.46(4.16)	9.47(4.37)	11.15(5.26)
Skewness	-.39	-.045	-.39	.66
Kurtosis	-.82	-.40	-.99	-.25

**p<.01

Note: HADS-A = Hospital Anxiety and Depression Scale-Anxiety; HADS-D = Hospital Anxiety and

Depression Scale-Depression; ERQ-CR = Emotion Regulation Questionnaire-Cognitive Reappraisal; ERQ-ES = Emotion Regulation Questionnaire-Expressive Suppression.

Table 1 illustrates that there is a positively significant relationship between anxiety and depression and there is a negatively significant relationship between anxiety and cognitive reappraisal but anxiety has negatively non-significant relationship with expressive suppression.

Moreover depression has negatively significant relationship with cognitive reappraisal and expressive suppression. Cognitive reappraisal has negatively non-significant relationship with expressive suppression. Cronbach's alpha reliability estimates of HADS (Anxiety, depression) and ERQ (Cognitive reappraisal and expressive suppression) ranged from .64 to .82 which is acceptable as per criteria specified by Cohen (2005), George and Mallery (2010). Moreover, values of skewness show that data is normally distributed. The values of skewness and kurtosis ranged between -1 to +1 and they are statistically acceptable (George & Mallery, 2010).

Table 2: Multiple Regression Analysis on Cancer Patients by Emotion Regulation Questionnaire-Cognitive Reappraisal (N=110)

Anxiety						**95% CI**	
	B	***SE B***	***β***	***t***	***P***	***LL***	***UL***
ERQ-CR	-.82	.03	-.94	-28.36	.00	-.76	-.87
R=.94, R^2=.88 (F=804.52)							

**p<.001, *p<.05

In table 2 the value of R^2 shows 88% of total variability in cognitive reappraisal isexplained by anxiety.

Table 3:

Depression						**95% CI**	
	B	***SEB***	***B***	***t***	***P***	***LL***	***UL***
ERQ-CR	-.67	.06	*-.71*	-10.42	.00	-.55	-.80
R=.71, R^2= .50 (F=108.72)							

Note: ERQ-CR = Emotion Regulation Questionnaire- Cognitive Reappraisal

In table 3 R^2 shows that 50% of total variability in cognitive reappraisal is explained by depression. In this study cognitive reappraisal act as positive coping strategy that decreases the anxiety and depression.

Table 4: Gender differences on Psychological Distress and Emotional Regulation among Cancer Patients(N=110)

Variables	**Males (n = 55)**		**Females (n = 55)**					**95%CI**		**Cohen's d**
	M	**SD**	**M**	**SD**	**T**	**Df**	**p**	**LL**	**UL**	
HADS-A	11.04	5.38	9.67	4.56	1.43	108	.16	-.52	3.25	_____
HADS-D	11.04	4.41	9.89	3.85	1.45	108	.15	-.42	2.71	_____
ERQ-CR	10.54	4.46	8.40	4.04	2.65	108	.009	.54	3.75	.58
ERQ-ES	10.89	5.13	11.42	5.42	-.52	108	.60	-2.52	1.47	_____

***p<.001, ** p<.01

Table 4 indicates that that there are no significant differences in terms of anxiety and depression among male and female cancer patients. Whereas men do more cognitive reappraisal (M = 10.54, $S.D$ = 4.46, t = 2.65, p< .01) then females. We can be 95% confident that the true difference between these means is [.54, 3.75]. Cohen's d isalso calculated to measureeffect sizeof mean differences among males and females. Cohen's d value of cognitive reappraisal is 0.58 which shows medium effect size.

DISCUSSION

The present study was conducted to study the relationship between psychological distressand emotional regulation among cancer patients. The sample of 110 patients of different hospitals of Islamabad was selected, survey design technique was used for data collection and correlational study was conducted to find the relationship between variables. The scales that were used to measure the relationship between variables among cancer patients in that study include Hospital Anxiety and Depression Scale (HADS) and Emotion Regulation Questionnaire (ERQ). Data was computed through SPSS 21 software. Pearson product momentum correlation is conducted to study the relationship between selected variables and the result was supported to hypothesis. The aim of the current study was to established the psychometric property of translated version of the HADS (Bjelland, Dahl, Haug& Necklmann, 2002; Snaith ,2003) and ERQ (Gross, J.J.& John, O.P. 2003). Scales had further dimension, HADS had two dimension i.e. anxiety and depression, and ERQ also had two dimensions i.e. cognitive reappraisal and expressive suppression. So the current research established the reliability and the value of Cronbach's alpha reliability is 0.82 for HADS-Anxiety,0.64 for HADS-Depression, 0.83for ERQ-Cognitive reappraisal and 0.71 for ERQ-Expressive suppression.

Another purpose of the study was to find the negative relationship between the psychological distress and cognitive reappraisal among cancer patients, and second aim was to find that there is a positive relationship between psychological distress and expressive suppression among cancer patients.

Also find the role of Cognitive reappraisal that decreases psychological distress among cancer patients and Expressive suppression that increases psychological distresses among cancer patients. Result proves some hypothesis which was made for current research and prior researches also support current research. In current research it was hypothesized there would be negative relationship between the psychological distress and cognitive reappraisal among cancer patients. Result of study supported the hypothesis; result shows that psychological distress shows negative relationship with cognitive reappraisal. In past studies there was a research that measurepsychological distress and emotion regulation and the hypothesis of this research was there is a negative relationship between psychological distress and emotion regulation.

Result revealed that cognitive reappraisal decreases psychological distresses on the other hand expressive suppression increases the psychological distress among cancer patients. This outcome is supported by (Lu et al., 2018)emotional regulation strategies (e.g., reappraisal) causesa reduction of stress-elicited emotions and leading to physical disorders and emotional regulation strategies (suppression) leads to depression and psychological disorder. According to Gratz and Roemer individual those who have difficulty in regulating their emotions have problem in understanding the situation, difficulty in recognizing the problem and have difficulty in coping with problem and experience more negative emotions. Individual may start avoidance and as negative experiences increases with the passage of time that lead to wide range of psychological problem.

The result of current research shows there is a positive relationship between psychological distress and expressive suppression. This study was conducted to find the relationship between emotional suppression and psychological distress among breast cancer patients the result of the study shows that emotional

suppression produces more negative emotions and psychological distress as compared emotional expression which support our hypothesis (Brandão, Tavares, Schulz, & Matos, 2019).

Result indicates that there are no significant differences in terms of anxiety and depression among male and female cancer patients. Whereas men do more cognitive reappraisal (M=10.54, S.D=4.46, t=2.65, p & lt; .01) then females. Men used more positive coping strategies to overcome the psychological distress while females used negative coping strategies e.g. suppression. Different studies has shown that female tend to use coping strategies most of the times that are aimed at changing their emotional responses to a stressful situation in which they are present, whereas men tends towards more problem focused techniques to handle and resolve the situation (Endler andParker,199;Matud ,2004;Ptacek et al.,1994). Numerous literature has found that women who adopt more emotion-focused coping styles in response to the stressed situation are more depressive and bear anxiety-related symptoms compared to the women who adapt these methods rarely Bennette et al.,2005;Cohen 2002. Women who respond to the stress with negative cognitive thoughts have higher levels of depressive and anxiety symptoms as compared with men who tends to use the same cognitive styles Blalock and joiner,2000; Mazure andMaciejewski,2003. Women who used self-blame techniques have more anxiety than men with similar level of self-blame.

Female used less levels of positive reframing the situation and higher levels of self-blame to deal with the same situation. In previous studies, the use of positive reframing or reappraisal was shown to be significantly interrelated to reduced levels of depression Garnefski et al., 2004; Martin and Dahlen,2005.To understand the differences in women behaviours, one has to look at their native caste and class, nationality, gender, culture, race, sexuality, and religion which play an important role. Women express more feelings of fear and tears than men due to changes in expressed emotionality Anderson and Manuel (1994).

We must understand the strengths and capability of girls and women in various situations. While media and researchers have portrayed females as weak and helpless, gender scholars are highly concerned that by emphasizing solely on female weaknesses we have ignored the inherent capabilities of women and female for being resilient, steadfast and strong in the wake of a disaster.

LIMITATIONS

Prior researches was in foreign culture; context which is different from Pakistani culture and scales were translated into Urdu therefore it is necessary to establish the construct validity ofscale before using it .at the present study validity is not established due to limited time.

Role of type of cancer, duration of treatment, severity level, socio economics status and age differences were not explored. As well as in current research the data was only collected from limited areas i.e. two hospitals of Islamabad, due to shortage of time as well as unavailability of permission from multiple hospitals.

SUGGESTIONS

As we mentioned earlier that our research sample include multiple type of cancer patientswith variability in severity level as well has in this research results were not concluded according to all the demographics which we collect during survey method, so for increasing the reliabilityand validity of finds all the above issues should be address carefully.

Secondly should be collected from different cities and try to mix the different research designs tomake the

findings generalized.

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