



**RESEARCH PAPER**

**Association between Disease-Related Stigma and Depression among Advanced Stage Cancer Patients: The Moderating Role of Positive Religious Coping**

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<b>PAPER INFO</b>	<b>ABSTRACT</b>
<b>Received:</b> March 23, 2022 <b>Accepted:</b> June 19, 2022 <b>Online:</b> June 21, 2022	This study examines the impact of disease-related stigma (DRS) on depression (DP) among advanced stage / symptomatic Cancer patients in the local context. Mitigating role of positive religious coping (PRC) in the said relationship was also investigated. Considering the adverse impact of disease-related stigma on depression among advanced stage Cancer patients. This study was conducted to find out whether positive religious coping moderates DRS-DP link. Data for this study were collected through cross-sectional surveys from 300 Advanced stage Cancer patients in the inpatient and outpatient settings. Using purposive convenient sampling technique information on socio-demographic questionnaires and study variables (disease-related discrimination, depression and positive religious coping) was obtained. Psychometric properties of the questionnaires were ascertained. Evidence for Convergent, discriminant and criterion validity was also obtained. Andrew Hayes' Process Macro with SPSS was used for hypothesis testing. Results indicated that disease-related discrimination (DRS) was positively related to depression (DP), whereas positive religious coping (PRC) weakens the DRS-DP link. In the light of current findings doctors and Psychologists are required to assess disease-related stigma and depression level among cancer patients undergoing medical treatment. Psychologist need to educate/counsel Cancer patients for using positive religious coping strategy to reduce level of depression.
<b>Keywords:</b> Bio-Psychosocial Model, Depression (DP), Disease-Related Stigmatization (DRS), Positive Religious Coping (PRC), Transactional Model of Stress and Coping	
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**Introduction**

Prevalence of depression has been identified among cancer population (Centre for Disease Control and Prevention, 2019). Psychological problems such as depression and anxiety interfere with treatment process among cancer population (Ahmed, 2019; Centre for Disease Control and Prevention, 2019; Walker et al., 2013). Due to the negative impact of distress and depression on medical adherence and immuno-suppression (Herbert & Cohen, 1993), National Comprehensive Cancer

Network (2010) highlighted the requirement for screening as well as treatment of psychological disturbance among cancer patients. In the same vein importance of physical as well as psychological and spiritual issues was given due consideration, and it was recommended to identify, assess and treat issues reported by patient population (WHO, 2002). Proponents of biopsychosocial model (e.g., Breitbart et al., 2009, Heckman, 2003; Heckman & Anderson, 2002; Schmitz & Crystal, 2000; Wilson & Cleary, 1995) have been suggesting to attend psychological health while treating physical conditions of chronically-ill patients. However, contrary to these recommendations psychological health of the patients is neglected during medical treatment. Rydahl-Hansen, (2005) attributed this neglect to the limited expertise of the doctors in understanding psychosocial stressors and importance of Psychological coping strategies.

Moreover, Psycho-oncology also gives value to social, emotional and spiritual needs of the patients that cause additional distress if unmet. Psycho-oncological interventions focus on facilitating the patients during course of their treatment, by helping them improve their feelings of loneliness, isolation, to address hopelessness and helplessness, overcoming psychological symptomatology and to restructure and reinterpret the irrational thoughts and perceptions (Arranz & Cancio, 2014).

Considering the adverse impact of depression on the mental health and treatment processes, it has been considered important to identify the antecedents of depression especially disease-related stigma in the Cancer patients to further plan strategies to control factors leading to depression in this population. "Stigma is the situation of the individual who is disqualified from full social acceptance" (Goffman, as cited in Phelan, Link, & Dovidio, 2008, p. 358), due to stigmatization, "One's identity is not only spoiled, it is spoiled beyond repair, even if there is effective treatment for the stigmatizing condition" (Lubkin & Larsen, 2006, p. 50).

In the face of disease stressors, positive religious coping is a frequently used coping strategy among patient population (Ano & Vasconcelles, 2005; Folkman & Moskowitz, 2000; McClain et al., 2003; Pargament, 1997; Spilka & Schmidt, 1983) after having experienced the traumatic experience (Halstead & Hull, 2001). Jenkins and Pargament, (1995) and Pargament, (1997) also emphasized on the effectiveness of religious coping in the time of extreme stress. Spilka and Schmidt, (1983) found in their study that patients at advanced stage of their disease, unsure about the future of their health status are likely rely on religious coping. As to why patients at later stage of their disease get connected with God, Lin & Bauer-Wu, (2003) conducted empirical study, findings of their study highlighted that religious coping and spirituality improves one's quality of life and mental health status through increase in the awareness about one's self, perception about the stressor in a positive manner, staying hopeful, internal locus of control, confidence in one self and link with Almighty God. Jenkins, (1995) highlighted that at advanced stage of disease patients facing disease stressors including issues related to care givers prefer using religious coping strategy for addressing their distress level. Researchers have emphasized importance of religious coping, integration of religious beliefs in psychological therapies, and mindfulness-based approaches in the context of patient population (Heckman, 2003; Naser et al 2021; Sperry & Shafranske, 2005). Considering the negative consequences of stigmatization on mental health of advanced stage cancer patients (Ahmed, 2019; Walker et al., 2013), it was hypothesized in the present study that PRC can possibly lead to lower depression among this population.

Drawing on Goffman (1963) theory on 'stigma' and Lazarus and Folkman (1984) Transactional Model of 'Stress and Coping', present study investigates the link between disease-related stigma (DRS) and depression (DP) among a sample of advanced stage cancer patients. Further moderating role of positive religious coping in the DRS and DP link was also examined. This study offers theoretical, and contextual contributions. On the theoretical angle, the conceptual model employed in present study would enrich the literature on stigmatization and positive religious coping among advanced /symptomatic stage cancer patients in South Asian context, especially in Pakistani Context. Our research model may be used to study moderating role of positive religious coping for improving mental health status of advanced stage patients of other chronic illnesses.

## Literature Review

### Hypotheses Development

#### Disease-related stigma and depression

Chronically-ill patients in general and Cancer patients with visible symptoms in particular report having experienced stigma (Solikhah et al 2020 ; Yeung et al 2019, as cited in Larkin et al., 2022) anxiety, depression, fear, and the loss of meaning (Guyer, et al., 2020) explicit and implicit prejudicial treatment (Sriram, et al., 2015), and disease-related discrimination that affects their thinking, emotions and behavior (Major & O'Brien, 2005; Jacoby, 2005). According to Goffman, (as cited in Phelan, et al., 2008, p. 358) "Stigma is the situation of the individual who is disqualified from full social acceptance", those individuals who are stigmatized are "reduced in our minds from a whole and usual person to a tainted, discounted one". The normal identity of the Stigmatized individual is damaged. According to Kurzban & Leary, (as cited in Lubkin & Larsen, 2006, p. 52) "Whenever a stigma is present, the devaluing characteristic is so powerful that it overshadows other traits and becomes the focus of one's personal evaluation".

Heatherton et al., (2000) relates stigmatization to limited cognitive abilities, limitations of the social information as well as experiences in their life. Researchers expounded that cultures approve of some particular personality characteristics, and moral conduct, deviations from those cultural norms are stigmatized followed by discriminatory treatment (Archer et al, as cited in Heatherton, et al, 2000; Chang et al., 2016; Lien et al., 2015; Mascayano et al., 2020). Chronically-ill patients are stigmatized as they are considered responsible for contracting their illness (Jones et al., 1984), society treats them as if they have themselves 'achieved the stigma' (Falk, 2001), due to their weak moral character (Goffman, 1963), or weakness in their personality (Campbell & Deacon, 2006).

Stigmatized individuals are generally found in distress (Jacoby, 2005; Major & O'Brien, 2005). As stigmatized individuals learn to stigmatize themselves they consider themselves a deviant from social norms (Falk, 2001). According to Goffman, (1963) patients who are stigmatized on account of their illness start criticizing, labelling and stigmatizing themselves on account of their poor body image. Moreover, such patients anticipate prejudicial treatment from others (Major & O'Brien, 2005), they tend to hate themselves and their body image on account of their ill-health (Esser et al. 2017, Heatherton et al., 2000), instead of rejecting stereotypical

thinking they accept and apply such thinking on themselves (Taft & Keefer 2016). Illness stigma has been shown to have negative association with QoL and mental health (Wood et al. 2019). We therefore hypothesized that:

H1: DRS positively relates to DP among advanced stage Cancer patients.

### **Positive religious coping and depression**

Positive Coping strategies have been found reducing negative emotions (Bravin, et al., 2019). According to Tarakeshwar, et al (2006) Cancer patients who used positive religious coping strategy reported improvement in QoL, they also expressed connectedness with God. Patients suffering from different illnesses have reported using positive religious coping in the face of critical/traumatic situations (Koenig, et al, 2001). Positive coping strategies including positive religious coping has been found helpful in addressing physical as well as psychological stressors among patient population (Abraído-Lanza et al 2004; Koenig et al., 2001; Pargament, et al., 2001; Powell, et al., 2003). PRC increases psychological well-being and quality of life among chronically-ill patients (Kaplar, Wachholtz, & O'Brien, 2004) ; Pargament, 1997 ; Pargament et al., 1994). Individuals using positive religious coping do not attribute their ill-health to Gods' negative intention , instead they report QoL and Psychological well-being (McCullough, Pargament, & Thoresen, 2000). Based on the above mentioned literature review, this study extends the following hypothesis.

H2: PRC inversely relates to DP among advanced stage Cancer patients.

### **Moderating role of Positive religious coping and depression**

Depression and perception of loss of control over the disease and life are found related to immunosuppression (Herbert & Cohen, 1993). Hopelessness and uncontrollability go side by side (Limandri & Boyle, 1978). Hopelessness is followed by traumatic situations (Rydahl-Hansen, 2005). Chronically ill patients in general and Cancer patients in particular perceive their disease as an intolerable experience (Carrico, 2010), that adversely affects their hope for recovery, deteriorates physical and psychological well-being, and increases distress level that in turn leads to poor QoL (Ferrans et al., 2005).

Although, theoretically, stigmatized discrimination adversely affects one's quality of life and mental health. However, human beings have been found staying resilient and adapt in critical situations. (Frankl, 1992; Walsh, 2020). PRC is often reported after having experienced traumatic situations (Halstead & Hull, 2001; Jenkins & Pargament, 1995; Pargament, 1997) or after the decline in one's health status (Zuckerman, Kasl, & Ostfeld, 1984). Reserchers (Balboni et al., 2007; Phelps et al., 2009; Tarakeshwar et al., 2006; Wilson et al., 2007) have investigated mitigating role of positive religious coping among sample of Cancer patients. Relegious coping as well as spiritual support improves QoL and reduces distress level by increasing awareness about one self, positive perception and coping , connection with other individuals, confidence in oneself, increase in hope and perception of control over life stressors (Lin & Bauer-Wu, 2003). Under critical situations and poor health conditions patients have been found praying for the miracles (Shinall, et al., 2018). Based on the discussion above, it is hypothesized that:

H3: PRC moderates the relationship between DRS and DP

## Material and Methods

### Population and Sample

Participants of this study were informed about the objectives of present research, confidentiality and anonymity. They were explained that data collected from them will be used only for research purpose. They were informed about their right to quit this research at any stage. Information about expected time duration for answering the study questionnaires and nature of questions was provided to them. Afterwards written informed consent was obtained from the participants who shared their interest in this research. Participants were given sociodemographic sheet along with the questionnaires, they were asked to read each item carefully and give the response according to given response format.

Data for this study was gathered from 390 Advanced stage Cancer patients undergoing treatment. Following the data cleaning process, the number of valid responses were 300, The total response rate was 76.92 %. Of 300 patients 180 were males and 120 females, with an age between 35 and 85 years old. The average age of this group was 44 years. Majority of the patients were from low to middle socio-economic status, were from urban areas, they could not easily understand English therefore Urdu translated scales were administered to them. Information about gender, age, education, religion, marital status, and nature of treatment taken was also obtained. All patients in this study were Muslims.

### Measures

**Disease-related stigma (DRS)** was measured by 12-items Disease-related stigma scale (originally developed by Heckman et al. 1998) on a rating scale that ranged from 1-4, 1= Never 4=Often. High scores on DRS demonstrates high level of disease-related stigma whereas low scores indicate low level of disease-related stigma. For measuring **Positive religious coping (PRS)** in this study, the sub scale of Brief Religious Coping Scale (RCOPE), developed by Pargament et al. (1998), was used to measure use of positive religious coping among the sample. Seven items of Positive religious coping measured use of positive religious coping on a 1-4 rating scale, from Not at all to A great deal. High scores on PRS demonstrates high level of positive religious coping used by the patient in face of distress and vice versa. Beck Depression inventory (BDI) developed by Beck and Steer, (1993) was used to measure **Depression** in this study. This inventory consists of 21-items rated on 0-3 (4-point ratio scale), 0 = minimum to 3 = maximum. High scores on BDI demonstrates high level of depression whereas low scores indicate low level of depression. Urdu translated version of scales was used in this study.

### Results and Discussion

**Table 1**  
**Descriptive Statistics, Correlation and reliability coefficients**

variables	Mean	SD	1	2	3	4	5
1 DRS	2.59	.56	(.88)	-.25**	.28**	.38**	-.24**

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2	PRC	2.71	.88	<b>(.92)</b>	-.63**	-.28**	.63**
3	DP	1.09	.51		<b>(.93)</b>	.23**	-.51**
4	BC	2.77	.52			<b>(.89)</b>	-.21**
5	EC	2.49	.81				<b>(.90)</b>

Note: DRS; Disease-related discrimination, PRC; positive Religious Coping DP; Depression, BC; barriers to Care EC; Engagement Coping \*\* $p < .01$

Descriptive statistics were used to describe scales mean, standard deviation, and alpha reliability coefficients. Before collecting data, reliability and validity of the scales was ascertained. The alpha coefficients of the scales ranged from 0.88 to 0.93, indicating reliability of the scales, the values exceeding the minimum of 0.70 as suggested by Nunnally, (1978). Moreover, correlations were also computed to test the relationship between study variables, the results indicated that study variables DRS, PRC are related to DP.

For testing discriminant and convergent validity two additional scales were used namely engagement coping and barriers to care. Patterns of inter-correlations were examined among computed variables; .21 to .28 correlation coefficient was noted between instruments that were measuring conceptually different constructs, whereas, .38 to .63 coefficient was observed between the scales that were measuring constructs that were conceptually similar, thus providing evidence for convergent and discriminant validity. Criterion validity of the scales was also obtained in this study. Predictor variables (DRS and PRC) scores were correlated with the criterion variable (DP). The coefficients of predictor variables (DRS and PRC) correlated significantly with the criterion variable (DP) hence providing the evidence of criterion validity.

### Interaction Effects

Using Andrew Hayes' Process macro with SPSS moderated multiple regression was conducted. As per Long and Ervin's (2000) recommendation a heteroskedasticity-consistent estimator HC3 was used as a test for heteroskedasticity in order to assure model adequacy, and model assumptions (as cited in Hayes & CAI (2007). Following are Heteroskedasticity-Consistent Regression Results.

**Table 2**  
**Moderated Multiple Regression analysis of PRC and DRS as predictors of DP among Advanced Stage Cancer patients (N = 300)**

Model	b	SE	t	p	LLCI	ULCI
(Constant)	22.74	.53	42.65	.000	21.69	23.79
DRS (centered)	1.56	.56	2.76	.006	.448	2.67
PRC (centered)	-6.08	.55	-11.05	.000	-7.16	-4.99
DRS x PRC	-1.89	.56	-3.07	.001	-2.85	-.62

Note. DRS = Disease related stigma and PRC = Positive religious coping

In table 2 significant b values for DRS ( $b = 1.56, p = .006$ ) and PRC ( $b = -6.08, p = .000$ ) are supporting H1 and H2. Moreover, the interaction between disease-related discrimination and positive religious coping improved the model ( $R^2 = 0.024, p = .001$ ). Disease-related discrimination x positive religious coping interaction term was also significantly and negatively associated with depression ( $b = -1.89, p = .001$ ), supporting hypothesis 3 that assumed moderating role of PRC in the relationship

between DRS and DP among advanced stage Cancer patients. Moreover, the analysis of Simple slope indicated that when positive religious coping was higher, the association between DRS and DP became weaker. The magnitude of the impact of disease-related stigma on depression was not the same for groups with low and high positive religious coping.

## Discussion

Present study investigated the mitigating role of positive religious coping in the DRS and DP link among advanced / symptomatic stage cancer patients. H1 has been supported that demonstrates DRS positively related to DP. Our finding is in line with the previous empirical findings that suggest the effect of stigmatization on depression in advanced stage cancer patients (Esser et al. 2017; Major & O'Brien, 2005; Wood et al. 2019). At the symptomatic stage, patients report experiencing stigmatization and distress due to their visible symptoms / disabilities that become obvious with the passage of time, disfigurement and abnormalities such as an amputated limb, use of gadgets in daily life, or due to the diagnosis itself ( Jones et al., 1984; Scandlyn, 2000). Fitzgerald and Paterson, (1995) illustrated that due to disease progression when disease symptoms become obvious patients anticipate discriminatory treatment from others. Their anticipation of prejudicial treatment and experience of 'status loss and generates distress (Jacoby, 2005), they tend to stigmatize themselves instead of rejecting negative attitudes as false (Taft & Keefer 2016), view themselves with hatred, and experience distress (Heatherton et al., 2000). Present study investigated substantial inverse impact of PRC on DP as well as role of PRC in mitigating the association between DRS and DP link. Present findings are in line with previous empirical findings that has explored positive religious coping associated with low distress level (Pargament et al., 2001). Positive religious coping and spiritual support has been found improving QoL and mental health status among cancer patients at symptomatic disease stage. According to Koenig et al., (2001), Lin & Bauer-Wu, (2003) religious coping tend to improve one's awareness about oneself, they tend to modify their appraisal about the stressor, they engage themselves in positive coping strategies with the hope and expectations about positive change in their life due to their connection with the almighty God. Moreover religious coping also gives sense of control over the stressor. Effectiveness of positive copings have been found related to joy, increased self-worth and stamina to tolerate traumatic experiences despite one's stigmatized attributes (Heatherton et al., 2000). It also gives confidence on oneself for handling the stressor that was initially perceived as uncontrollable (Folkman & Moskowitz, 2004). McClain et al., (2003) illustrated religious coping and spiritual support effective for individuals suffering from chronic illnesses / terminal disease stage. in the same vein, Ano & Vasconcelles, (2005), investigated effectiveness of religious coping for dealing with traumatic stressors as well as health issues on account of terminal illnesses (Folkman & Moskowitz, 2000; Pargament, 1997). Spilka and Schmidt, (1983) found in their study positive religious coping preferred by the patients experiencing disease progression, who are unsure about their disease course or their future.

## Conclusion

Findings of this study showed that positive religious coping moderates the DR-DP link among advanced stage/symptomatic Cancer patients. In the context of disease-related stigmatization positive religious coping is a best coping strategy by

virtue of its power in giving sense of control (through power of prayer) and in instilling hope (the possibility of miracles with the Will of Allah (God) and thereby decreasing level of depression among advanced stage cancer patients. This research adds to the present literature in the field of Psycho-oncology by developing a study framework, that captures moderating impact of PRC in the DRS-DP link.

### **Implications**

In the present study the protective action of the positive religious coping was found significantly stronger thus highlighting the importance of using religious coping among cancer patients. In the light of current findings medical doctors and Psychologists in the health settings need to give importance to spiritual support/spiritual needs of the patient as part of their treatment. Patients may be suggested/counselled to use positive religious coping for alleviating their distress level. Patients experiencing distress on account of having experienced discriminatory treatment or/and anticipating such treatment may be benefitted by positive religious coping strategies, namely, the strategies of cognitive restructuring, looking at the occurrences from a bigger perspective, praying for God's mercy and engaging oneself in spiritual activities. Restructuring and reinterpretation of the stressor follows positive appraisal of the stressor. Use of religious coping in dealing with the stressor initially perceived as 'uncontrollable' may bring change in the perception of the stressor. Connectedness with the Almighty Allah (God) increases one's resilience in the face of health related stressors as well as discriminatory treatment from social groups. Families of the patients may also be educated on the importance of connectedness with Allah (God) in the face of uncontrollable/traumatic situations /health-related stressors.

Masses need to be sensitized to the impact of discriminatory treatment (given to the advanced stage cancer patients) on the psychological health of the said population. For bringing awareness among general public psycho-drama, commercial movies, theatrical performance, documentaries, and talk shows may be widely used. Moreover, social media may also promote the awareness about adverse impact of stigmatization and discriminatory treatment on the mental health of cancer patients.

### **Limitations and future studies**

The results of this study are promising however, some limitations need to be mentioned as they might affect internal validity as well as external validity. Our study sample was less educated and from lower middle class, therefore these findings may not be generalized to patients from different SES groups. Moreover, cross-sectional survey was used to gather data on study variables therefore from the present findings causal inferences can not be drawn. As the sample of this study participated in this study on voluntary basis therefore, the possibility of selection bias might have operated among study participants, which could cause their responses to differ from those who chose not to participate. In future research studies may be conducted to investigate the role of negative religious coping as well as engagement coping among cancer patients as well as other chronically-ill patients.



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