



# INVESTIGATION OF DISPOSITIONAL OPTIMISM, PSYCHOLOGICAL RESILIENCE, COPING STRATEGIES AND QUALITY OF LIFE AMONG BURN SURVIVORS

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## ABSTRACT

**OBJECTIVE:** To investigate the relationship among dispositional optimism, psychological resilience, coping strategies and quality of life (QoL) among burn survivors. To find out the impact of dispositional optimism and coping on QoL among burn survivors.

**METHODS:** This cross-sectional study was conducted at Burn Unit of Pakistan Institute of Medical sciences (PIMS) Islamabad, Pakistan. Two hundred and thirty post-burn survivors, ranging in age from 18 to 64 years were selected using purposive sampling technique. Dispositional optimism scale, psychological resilience scale, QoL scale and coping strategies scales were used to measure variables.

**RESULTS:** Out of 230 patients 123 (53.5%) were males and 107 (46.5%) were females. About 54.3% (n=125) were married. Majority (n=126; 54.8%) had flame burn. Duration of burns was up to two months in 70.9% (n=163) cases. Results revealed highly significant positive correlations between psychological resilience and dispositional optimism ( $r=0.807$ ), problem-focused coping ( $r=0.724$ ) and supportive coping ( $r=0.598$ ) but significantly negative correlation with emotion focused coping ( $r=-0.559$ ) while emotion focused coping is negatively correlated with mental QoL ( $r=-0.378$ ) and supportive coping ( $r=-0.138$ ). Multiple regression analysis revealed that dispositional optimism, problem-focused and supportive coping have significant impact upon the QoL ( $p<0.01$ ).

**CONCLUSION:** A significant positive relationship come out among dispositional optimism, psychological resilience and QoL in burns survivors. Dispositional optimism and coping strategies like “problem-focused” and “supportive coping” have an impact on QoL, and it could enhance the QoL in burn survivors.

**KEY WORDS:** Optimism (MeSH); Dispositional optimism (Non-MeSH); Psychological Resilience (MeSH); Quality of Life (MeSH); Coping Strategies (MeSH); Burn survivors (Non-MeSH).

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## INTRODUCTION

Post burn survivors are at high risk to suffer from different psychological problems which may remain for long time. Emotional instability, depression, acute stress disorder, post-traumatic stress disorder and sleep disturbances are very common among burn patients.<sup>1</sup> Dispositional optimism referred as an ability to expect positive consequences, a hope for the future refers to dispositional optimism.<sup>2</sup> A research on

dispositional optimism demonstrates that whenever faced with misfortune, behavioural, social and mental coping is related with optimism.<sup>3</sup> Regardless of broad investigation into risk and protective components related with post-burn mental well-being; it is as yet not totally comprehended why numerous survivors will recoup from clinically relevant stress while others will have high traumatic stress levels. It also stays harder to anticipate who will show which pattern or example of

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mental recovery after some time.<sup>1</sup> Several researches demonstrated that confident and optimistic people frequently move their concentration from affliction to the more constructive highlights of the circumstances particularly when it is hard to manage and difficulty is out of their control.<sup>4</sup>

Dispositional optimism, characterized as the generalized desire that goodwill happen as opposed to awful things in one's life with better mental and physical prosperity, especially during times of elevated pressure.<sup>5</sup> Optimism has link with reduced cardiovascular mortality. Optimistic people showed effective physical and emotional adaptation after acute coronary syndrome and their optimism buffer the impact of persistent depressive symptoms.<sup>6</sup> Improved survival rates in patients with HIV and with lower dimensions of pain slower sickness movement.<sup>7</sup> Optimistic people have a fundamentally decreased danger of future cardiovascular problems.<sup>8</sup>

The process towards adapting to or defeating exposure to affliction or stress refers to psychological resilience. With respect to emotional well-being interventions, psychological resilience is a procedure including connection among a person, his life experiences, and current life setting and not only one's personality trait. For instance, resilience can apply to settings applicable either to counteractive

**TABLE I: DEMOGRAPHIC DETAILS OF THE STUDY PARTICIPANTS**

Variables		Frequency (n=230)	Percentage
Gender	Male	123	53.5
	Female	107	46.5
Marital Status	Married	125	54.3
	Unmarried	105	45.7
Education	Primary	52	22.6
	Middle	66	28.7
	Matric	112	48.7
Type of Burn	Acid Burn	29	12.6
	Flame Burn	126	54.8
	Electric Burn	17	7.4
	Hot Milk or Water Burn	58	25.2
Duration	0-2 month	163	70.9
	3-5 months	67	29.1

**TABLE II: CORRELATION AMONG STUDY VARIABLES**

Variables	PR	DO	PFC	EFC	SC	MQL	PQL
Psychological Resilience	-						
Dispositional Optimism	.807**	-					
Problem-focused Coping	.724**	.795**	-				
Emotion-focused Coping	-.559**	-.339*	-.218**	-			
Supportive Coping	.598**	.612**	.657**	-.138*	-		
Mental Quality of Life	.455*	.466**	.689**	-.378*	.589**	-	
Physical Quality of Life	.305*	.436*	.407*	.315	.284*	.296**	-

PR: Psychological Resilience, DO: Dispositional Optimism, PFC: Problem-focused Coping, EFC: Emotion-focused Coping, SC: Supportive Coping, MQL: Mental Quality of Life, PQL: Physical Quality of Life, \* Correlation is significant at 0.05 level (2-tailed), \*\* Correlation is significant at 0.01 level (2-tailed)

**TABLE III: REGRESSION ANALYSIS DEMONSTRATING IMPACT OF DISPOSITIONAL OPTIMISM AND PROBLEM-FOCUSED COPING ON QUALITY OF LIFE (QOL)**

Variables	Quality of life				
	B	Std. Error	Beta	T	p-value
(Constant)	20.01	2.467		8.110	.000
Dispositional Optimism	4.8653	1.520	.534**	.202	.004
Problem-focused Coping	.763	.133	.665**	5.742	.000
Supportive Coping	.489	.137	.327**	3.581	.001

\*\*Significant at 0.01 level. Note: R2 = 0.54, Adjusted R2 = 0.49, (F= 46.69, p< = 0.01)

action (before exposure to stress) or to treatment (when recuperating from the hurtful impacts of such pressure).<sup>9</sup> Investigations reported many biological, emotional, and psychological procedures integrated by psychological resilience.<sup>10</sup>

How a disease influences the lives of patients could be related to health-related quality of life (QoL). Stress and anxiety of death could influence the QoL deeply among liver and renal transplant recipients.<sup>11</sup> The evaluative research concentrates more on QoL and how the fulfilment or

disappointment is detected in a few aspects of lives. QoL is depicted by joy and fulfilment, an impression of mental prosperity, feeling of fulfilment or disappointment and acknowledgment of bliss or despondency.<sup>12</sup> Exploration of relationship between mental health and QoL suggested that general characteristics, mental health, osteoarthritis, and niacin intake were associated with the health related QoL.<sup>13</sup>

Coping has been characterized as a reaction went for decreasing the physical, emotional and mental burden

that is connected to upsetting life occasions and subjective well-being.<sup>14</sup> Basically, coping strategies are emotion and problem focused, emotion-focused strategy accentuates that patients attempt to process their feelings by acting and thinking whereas when patients utilize a problem-focused strategy, they accept that they can influence the circumstance that was brought about by their disease or influence their resources to deal with the circumstance, and this kind of procedure is critical to keep up QoL. Emotion-focused and problem-focused coping might be utilized all the while or alternatively. That's why it's hard to differentiate them in coping process.<sup>15</sup>

Response behavior on life threatening events led most of the researchers to investigate on the variable psychological resilience. The strands of research that focus on coping have not been well integrated with research on resilience and the development of psychopathology.<sup>16</sup> Psychological resilience helps efficiently in diminishing the negative impacts of stressful occasions. Researchers have focused on the relationship of coping strategies and QoL in the patients of major depressive disorder.<sup>17</sup> Investigations on effects of perceived social support with dispositional optimism on depressive burn patients has been reported.<sup>18</sup>

An important question emerges as to whether coping, optimism and resilience could be predictors of healing and good QoL when assessed in the post burn phase when healing and recovery process takes unpredictable twist and turns. In closer context, particularly in Pakistan, the literature on psychological resilience, QoL, coping strategies and dispositional optimism combined is scarce. On all these variables particularly among burn survivors, very few researches have been reported in literature. This study will check the relationship of dispositional optimism, QoL, psychological resilience and coping strategies among post- bur survivors. So, this study will be an addition in the existing literature.

## METHODS

This is a descriptive, cross-sectional study carried out in Pakistan Institute of Medical sciences (PIMS), Islamabad, Pakistan. Ethical approval was granted from departmental ethical committee prior to data collection. Firstly, the informed consent for their participation was taken. Data was collected in 6 months-time period (12<sup>th</sup> November to 26<sup>th</sup> April 2019). Questionnaires were filled inside the hospital from the indoor patients and some of the Outpatient Department patients who used to come for follow ups. The sample was of 230 post-burn survivors. The age range was from 18 to 64 years. Age range for Burn Survivors was decided after visiting the burn unit. The sampling strategy was purposive sampling. The post burn survivors of Flame burn, Acid burn, Electric burn & others (chemical burn, hot milk/hot water burn) which were in condition to respond and were under treatment in PIMS was the inclusion criteria for this study and all patients in other burn institutes, centres, patients with other diseases, and victims of severe burn (which were not in the condition to answer) were excluded. Post-traumatic stress and depression can work as confounding variables but in this study these variables were not explored but future researchers can explore these variables. A two-part form was given to the participants in first part; they had to fill in their demographic details and then they were given other part which consists following questionnaires to collect data.

Brief Resilience Scale by Smith, Dalen, Wiggins, Tooley, Christopher, & Bernard was used for the assessment of recuperation and recovery after an encounter with any stressful situation. Brief Resilience Scale (BRS) consists upon 6 items. Item no 1, 3 and 5 are formulated as positive phrases while 2, 4 and 6 are negative sentences and consist of 5-point Likert scale strongly disagree to strongly agree. Cronbach's alpha for Brief Resilience (BRS) scale was 0.745 for Brief Resilience (BRS).<sup>19</sup>

Life Orientation Test-Revised (LOT-R) by Scheier, Carver and Bridges has 6-item which consist 4 filler items and

assesses the individual differences in dispositional optimism and pessimism. The reverse items are 3, 7 and 9 (pessimism measure), item no. 2, 5, 6 and 8 are filler items. Cronbach's alpha for Life Orientation Test (LOT-R) Revised was 0.752.<sup>20</sup>

Brief Cope Inventory by Carver is a short version of the COPE (Coping Orientation to Problems Experienced) inventory. Scale has following subscales: Items 1 and 19 (self-diversion/self-distraction), 2 and 7 (Active coping), 3 and 8 (denial), 4 and 11 (substance use), 5 and 15 (emotional support), 10 and 23 (instrumental support), 6 and 16 (behavioural disengagement), 9 and 21 (venting), 12 and 17 (positive reframing), 14 and 25 (Planning), 18 and 28 (humour), 20 and 24 (Acceptance), 22 and 27 (religion), 13 and 26 (self-blame). Cronbach's alpha for Brief Cope Inventory was 0.801.<sup>21</sup>

The Stark QoL scale by Hardt measures the health-related QoL. The use of words is at minimum level because it is a pictorial questionnaire. It includes a physical health & a mental health component and is entailed with 6 items. Cronbach's alpha for Stark QoL scale was 0.824.22 SPSS version 22 was used to do statistical analyses. To find out relationship Pearson correlation and to investigate impact linear regression analysis was done.

## RESULTS

Out of 230 patients 123 (53.5%) were males and 107 (46.5%) were females. About 54.3% (n=125) were married. Majority (n=126; 54.8%) had flame burn. Duration of burns was up to two months in 70.9% (n=163) cases (Table I).

Table II shows that Psychological Resilience has significant positive relationship with Dispositional Optimism, Problem Focused Coping, Supportive Coping, Mental QoL, Physical Component of QoL and negatively correlated with the Emotion-focused Coping. Dispositional Optimism has significant correlation with problem focused coping, supportive coping, Mental QoL, physical QoL and negatively correlated

with emotion-focused coping. Problem-focused coping has significant positive relationship with supportive coping, mental component of QoL, and physical component of QoL and negatively correlated with emotion-focused coping. Emotion-focused coping is negatively significantly correlated with supportive coping and mental QoL, but emotional coping has no significant relationship with physical QoL. Supportive coping has significant correlation with the mental QoL and physical QoL. Mental and physical QoL are significantly positively correlated. Table III shows the results of multiple regression analysis of independent variables dispositional optimism, problem focused and supportive coping on the QoL. This model was found to be positively significant at { $F(3, 226) = 46.69, p < 0.01$ } and shows that dispositional optimism, problem-focused and supportive coping explain 54 percent of the dependent variable as indicated by ( $R^2 = 0.54$ ). According to the results, dispositional optimism ( $\beta = .534, p < .01$ ), Problem-focused coping ( $\beta = .665, p < .01$ ) and supportive coping ( $\beta = .327, p < .01$ ) are positive predictors of QoL.

## DISCUSSION

The aim of this study was to explore the relationship between psychological resilience, dispositional optimism, physical and mental components of QoL and problem-focused, emotion-focused and supportive coping strategies. It was predicted that dispositional optimism would have a significant impact on the components of QoL and problem-focused coping would predict better QoL. It was hypothesized that dispositional optimism (DO) will have a significant correlation with psychological resilience among post-burn survivors. Dispositional Optimism is considered a positive psychological quality and has been discussed widely in positive psychology. Results of the current study revealed a significant positive relationship between Psychological Resilience (PR) and Dispositional Optimism. It means that those who have higher level of psychological resilience, also have good level of dispositional optimism. To bounce back from stressful event or is the ability to cope with a crisis. Person can use mental

or emotional abilities to return to pre-crisis situation. According to the literature, ones specific mental processes and behaviours are used to promote personal assets and protect one from the potential negative impact of trauma, tragedy, threats, or significant sources of stress. Dispositional optimism and psychological resilience are positive predictors of subjective well-being, and literature support that an optimistic person also has high psychological resilience. To think positive always bring energy to fight or cope with the challenging and difficult circumstances. Existing literature has already provided evidence regarding relationship between different personality traits. These results are in line with the past literature on correlation of dispositional optimism with other positive characteristics like self-esteem.<sup>23</sup>

Research on dispositional optimism specifically among burn patients demonstrated a significant impact of dispositional optimism on subjective well-being with the mediating role of psychological resilience.<sup>24</sup> Illness is a trauma for patient and to cope in traumatic situation of after trauma, psychological health or strength is very important. Recovery is better among those patients who have positive attitude towards life, previous researchers found that post-burn survivors with high optimism recover from any threatening and stressful event very likely and dominate a high level of subjective well-being. The studies have reported a positive relationship between optimism and self-esteem and determined negative relation with depression.<sup>25</sup> Those who have high self-esteem will have high optimism and it enable them to cope with their depression. The same is the case with resilience study supported the previous literature which suggested that victims of any traumatic situation if have high psychological resilience can cope up with the environment.<sup>26</sup>

It was hypothesized that dispositional optimism, problem-focused and supportive coping will have a significant impact on QoL. Those who have dispositional optimism will have greater chance to get better QoL. Coping strategies especially problem-focused and supportive coping also contribute to improve life quality of burn survivor. The findings showed that there is significant impact on QoL. Regression analysis revealed that dispositional optimism has

an impact on QoL among burn survivors. If psychiatrists or family support enable patients to get dispositional optimism it will work for his rapid recovery and improved QoL. This study is consistent with the previous investigation which worked on the dispositional optimism as a predictor of health-related QoL among neck and head cancer patients.<sup>27</sup>

## CONCLUSION

This study shows a significant positive relationship come out among dispositional optimism, psychological resilience and QoL in burn patients. Patients with dispositional optimism and psychological resilience have better QoL. Dispositional optimism and coping strategies like "problem-focused" and "supportive coping" have an impact on QoL, and it could enhance the QoL in burn patients. According to this study recovery is better among those patients who have positive attitude towards life thus coping and optimism could positively affect the QoL in burn patients.

## LIMITATIONS

Further researchers should take large sample and patients with other diseases and conditions could be investigated to enhance the generalizability of the research. In this study, survey method was used. It is recommended to explore these phenomena in detail by using the in-depth interview method. Many confounding variables and co-morbidities can be explored. Findings could be used by therapists to work on psychological resilience and coping strategies of patients to improve their life quality.

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### AUTHORS' CONTRIBUTIONS

Following authors have made substantial contributions to the manuscript as under:

**IB:** Conception & Study design, analysis and interpretation of data, drafting the manuscript, approval of the final version to be published

**GM & IM:** Analysis and interpretation of data, drafting the manuscript, approval of the final version to be published

**SF:** Acquisition of data, drafting the manuscript, critical revision, approval of the final version to be published

*Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.*

#### CONFLICT OF INTEREST

Authors declared no conflict of interest

#### GRANT SUPPORT AND FINANCIAL DISCLOSURE

NIL

#### DATA SHARING STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.



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