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PREDICTIVE ASSOCIATION OF COPING STRATEGIES WITH CAREGIVER BURDEN AND PSYCHOLOGICAL DISTRESS AMONG CAREGIVERS OF PATIENTS WITH CANCER

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ABSTRACT

Objectives: *To explore the relationship between coping strategies, caregiver burden, and psychological distress among caregivers of patients with cancer.*
Design of the study: *The present study utilized cross-sectional research design to examine the relationships among the studied variables.*
Place and duration of the study*: Current research was conducted at SZABIST University, Karachi from October 2024 to July 2025 from the departments of Oncology of various hospitals and from the community in Karachi Pakistan.*
Sample and Method: *The sample comprised of caregivers of patients with cancer (N=54), age range between 30 to 50 years (mean=40.0). Participants were recruited through purposive sampling technique. Participants were requested to complete the Consent Form, Socio-demographic information form, Kessler Psychological Distress Scale (Urdu translated version), Zarit Burden Interview, and the Brief COPE scale.*
Results and conclusion*: Results of the study showed a significant positive predictive association between Emotion Focused Coping and Caregiver Burden. A significant positive predictive relationship was also found between Avoidant Coping and Caregiver Burden. Similarly findings reflect a significant positive predictive association between Avoidant Coping and Psychological Distress. These results have implications for developing specific interventions for caregivers in managing their coping strategies and reducing negative outcomes.*

Keywords*: Cancer patients: Caregivers; Psychological Distress; Coping strategies*

INTRODUCTION

Cancer is a chronic disease in which abnormal or malignant cells grow rapidly and affects other parts of organ and tissues, this stage of spreading disease to other organ, known as metastasizing, which is consider as a major cause of death due to cancer. Cancer is also known as a neoplasm or malignant tumor these changes are due to the interaction of genetic factors and environmental factors. Three types of environmental factors contribute to cancer such as physical carcinogens, chemical carcinogens, and biological carcinogens (WHO, 2025). Evidence reported that in 2020, cancer is one of the leading causes of death worldwide (Ferlay et al., 2020). Breast, lung, colorectal, prostate, stomach, liver, cervix uteri, esophagus, thyroid, bladder, non-Hodgkin lymphoma, pancreas, and leukemia are the most common types of cancer (WHO, 2022).

As outlined by the Centers for Disease Control and Prevention (2014) the diagnosis of Cancer invokes repercussions including physical, psychosocial, emotional, and economical constraint on the patient that begins with the diagnosis and persist throughout treatment and beyond. These consequences range from post-treatment follow-up, treatment-related side effects, the potential risk of cancer recurrence, and overall quality of life. The engagement of significant others including family members, friends, and caregivers has a major impact on individual‘s life experiences, it further emphasizing the collective impact on individuals beyond the direct effects of the disease. Consequently, a comprehensive assault by cancer surely disrupts the normal functioning and well-being of patients, and it also significantly nagatively their Quality of life (Singh et al., 2014). The Global Cancer Observatory estimates that between 2020 and 2040, the new cases reported worldwide for both sexes and people aged 0 to 85 and older will rise from 19.3 million to 30.2 million. In terms of new instances, the most prevalent cancer forms in 2020 were skin non-melanoma cancer (1.20 million cases), prostate cancer (1.41 million cases), colon and rectum cancer (1.41 million cases), lung cancer (2.21 million cases), breast cancer (2.26 million cases), and prostate cancer. Every year, almost 400,000 youngsters are affected by cancer. Some of the risk factors for cancer are tobacco use, alcohol use, consumption of unhealthy food, lack of physical activity, and air pollution (WHO, 2025). Some other risk factors include chronic infections which are mostly related to underdeveloped countries. Carcinogens were found in approximately 13% of patients with cancer diagnoses in 2018. These carcinogens

include Helicobacter pylori, human papillomavirus (HPV), hepatitis B virus, hepatitis C virus, and Epstein-Barr virus (de Martal, et al., 2020).

In Pakistan, the prevalence of cancer is on the rise; the statistics from the International Agency for Research on Cancer (2020) reveal 178,388 new cancer cases reported in 2020. This includes 88,015 cases in males and 90,373 cases in females. Additionally, 117,149 cancer-related deaths were reported in the same year while the number of prevalent cases for 5 Years was 329547. Among the male population the Top 5 most frequently reported cancers excluding non-melanoma skin cancer include cancer of the Lip, Oral cavity, Lung, Esophagus, Colo-rectal, and Leukemia among the female population, it consists the cancer of the Breast, Lip, and Oral cavity, Cervix uteri, Esophagus and Ovary. An anticipated surge in the number of new cancer cases in Pakistan, encompassing both sexes and age groups from age 0 to 85 is projected to rise from 178,000 to 319,000 between 2020 and 2040. This represents a notable change of 79.0% in terms of the total number of cases, according to WHO. Some risk factors contributing to this alarming trend are dietary and lifestyle choices including food adulteration, consumption of gutkha and paan, and some other nutritional deficiencies. These factors interact with the pathogenesis of cancer increasing the incidence of cancer diagnosis in the Pakistani population (Ali et al., 2022).

Zarit and Zarit (1980) operationalized the phrase caregiver burden for the first time in the 1980s. It is a multifaceted idea with elements from the societal, familial, and personal domains that are both objective and subjective. "Perceptions of the interplay between the care recipient's relationship and its impact on the caregivers' own health and psychological well-being" are what define caregiver burden (Zarit et al., 1980).

It is frequently the degree of complicated stress that the caregiver faced as consequences of provision of delivering care for long period of time for their closed ones including family (Stucki & Mulvey, 2000). On the other hand, providing care can be taxing and demanding, which adds to the caregiver load. These caregivers frequently give cancer patients essential care and support, including financial, economic, physical, and psychological. As time goes on, home care settings are becoming more and more responsible for providing supportive care to patients who are chronically sick, replacing the traditional health system. Because of this, these people often referred to as informal caregivers in the study literature are heavily expected to take up caregiver duties earlier provided by trained professionals (Yven et al., 2021)

As stated by Lazarus and Folkman (1984) Psychological stress is results of particular interaction between person and their environment in which these person perceived their surrounding draining or results in exhaustion or limits their resources and have negative consequences to their well-being. As a result, it is not surprising that caregivers' stated levels of load are strongly connected with feelings of psychological distress, such as anxiety, overwhelm, and frustration. These relationships most likely results from the difficulty caregivers have managing the heavy weight of caregiving responsibilities, which heightens psychological discomfort.

According to Lazarus and Folkman's approach, cognitive evaluation and a variety of coping strategies are important because, they affect the type and degree of a person's reaction to stressors in life. Therefore, one's assessment of the circumstance as it unfolds determines the degree of psychological anguish. A person's interpretation or perception of the stressful circumstance they are facing with greatly influences their reaction to it. Two fundamental kinds of coping were identified by Lazarus and Folkman (1984) as responses targeted at controlling emotional reactions to the problem and managing or changing the problem that is generating the discomfort. These categories are known as emotion-focused and problem-focused coping, respectively. Stressful situation can be handled by two basic method including problem-focused coping, which is the practical approach may help to solve the problem, and emotion-focused is how you manage your emotions when confronted with stress. The Ways of Coping Questionnaire (WCQ) was created by them. This focuses on the difference between being problem- and emotion-focused and measures how the mind and body reacts to stress within a given time frame.

Their findings led to the descriptions of several coping mechanisms, such as "planned issue solving as an intentional problem- focused attempt to modify the circumstances, Wishful-thinking and actions taken in an attempt to flee or avoid, to accept responsibility, one must first acknowledge their part in the issue and then work to make things right. Positive reappraisal is the process of giving a situation a positive meaning to the situation by emphasizing personal development; confrontation coping is the aggressive attempt to change the situation; distancing is the process of separating oneself from the situation and adopting a positive perspective; self-control is the process of managing one's own emotions and behavior; and seeking social support is the process of seeking out emotional and informational support (Folkman et al., 1986).

Hypotheses for this study are as follows:

1. There will be a significant predictive association between problem- focused coping strategies and Caregiver burden in Caregivers of patients with Cancer.
2. There will be a significant predictive association between emotion- focused coping strategies and Caregiver burden in Caregivers of patients with Cancer.
3. There would be a significant predictive association between avoidant coping strategies and Caregiver burden in Caregivers of patients with Cancer.
4. There will be a significant predictive association between problem- focused coping strategies and the Psychological Distress of Caregivers of patients with Cancer.
5. There will be a significant predictive association between emotion- focused coping strategies and the Psychological Distress of Caregivers of patients with Cancer.
6. There would be a significant predictive association between avoidant coping strategies and Psychological Distress of Caregivers of patients with Cancer.

METHOD

Participants

The study sample consisted of 54 caregivers of patients with cancer, aged 30 to 50, who were selected using a purposive sampling method. Participants were drawn from two sources: caregivers associated with the Oncology department of different Hospitals in Karachi, as well as caregivers from the general public. Purposive sampling was selected to ensure diverse representation of caregivers involved in those patients' care who were diagnosed with cancer disease and undergoing treatment. A cross-sectional research design was used in the study

Inclusion criteria

The criteria for inclusion of the research comprised of caregivers of patients with cancer (any type/stage of cancer diagnosed by their respective consultant) aged between 30 and 50 years from oncology departments of hospitals and the community population in Karachi, Pakistan. It was confirmed that only primary caregivers were participated in the study.

Exclusion criteria

Those individuals with history of any psychological or neurological condition or with any chronic physical illness like heart patients, diabetes etc were not included in the study. Secondary Caregiver such as caregiver who were paid or not permanent were excluded.

Measures

Demographics Form:

Respondents were requested to fill consent form and demographic information form included information regarding age, gender role, marital status, job status, and academic qualification level.

Coping Orientation Problems Experience Inventory (Brief COPE) (Carver, 1997):

The self-rated Brief COPE scale is used to measure coping strategies. In this study it helps to assess the coping strategies employed by caregiver of cancer patients. It originally designed by Carver (1997), then translated and linguistically adopted in Urdu language by Akhtar (2005). This scale is consist of 28 statements comprised of 14 sub-scales, measuring several coping techniques such as planning, humor, acceptance, religion, self-blame, behavioral disengagement, positive re-framing, active coping, denial, substance abuse, use of emotional support, use of instrumental support, and venting. Each statement is evaluated on a 5-point Likert scale ranging from one=Never to four = A Lot). The reliability coefficient of the Urdu version scale is 0.87 (Akhtar, 2005) while the English version is 0.84.

The Zarit Burden Interview (Zarit et al., 1980):

A self-administered scale of Zarit Burden Interview questionnaire originally developed by Zarit et al. (1980) was used to measure psychological, physical, social, and financial burdens experiences by caregivers. The scale comprised 22 statements rated on 5-point Likert scale ranging from 0 = Never to 4 =Nearly Consistently. Total score ranges from 0 to 88, (where 0–20 range shows little or no, 21–40 shows moderate, and 61–88 severe range of burden. The higher number of scores shows a high level of perceived burden. The reliability coefficient of the Urdu version scale is 0.87(Akhtar, 2005), while the English version is 0.92 (Kuen et al., 2024).

Kessler Psychological Distress Scale (Kessler et al., 2002):

A self-administered measure developed by "The Kessler Psychological Distress Scale" (K10- Kessler et al., 2002) was used to measures psychological distress within past month. It has two sub-scales of depression and anxiety. The scale comprised of 10 statements that help to assess several affective experiences like anxiety, sadness, and restlessness. Each statement is assessed on a 5-point Likert scale ranging from one=Never to five=Always, with total possible scores ranging from 10 to 50. Increased scores reflect higher level of psychological distress. However, study suggests 24 is a cut score for detecting any possible psychiatric or psychological conditions (Cornelius et al., 2013). The reliability coefficient of the Urdu version scale is 0.86 (Kausar & Hussain, 2010), while the English version is 0.93 (Fassaert et al., 2009).

Procedure

Initially the permission from ethical board of the University was taken after this the researcher approached the participants for data collection. Firstly, responded were briefed about the purpose of the study and their voluntaries participation as they have right to withdraw at any point in the study when they want. After taking the informed consent, participants were assured about confidentiality. After developing rapport participant first complete their demographic sheet then three scales including The Brief COPE, Kessler Psychological Distress Scale (K-10), and Zarit Burden Interview (ZBI) were administered. Urdu translated version was used for all three measures for cultural and linguistic relevance. During the administration, strict attention was given to maintaining confidentiality, privacy, and ethical considerations. After

the completion of all tests, session is organized to address participant's questions/queries and also to address if any one of them felt any discomfort or concern during participation.

Statistical Analysis

Descriptive statistics and inferential statistics were done. The linear regression analysis was applied to interpret the relationship and study the predictive relationship between of coping strategies with caregiver burden level and the psychological distress among caregivers.

RESULTS

Table 1
Demographic Information of Participants N (n= 54)

Sample Characteristics	*F*	*%*
Age		
30-35	11	20.37
36-40	17	31.48
41-45	18	33.33
45-50	8	41.81
Gender		
Male	21	38.8
Female	33	61.11
Marital Status		
Married	37	68.51
Unmarried	16	29.62
Divorced	1	1.85
Occupation		
Employed	33	61.1
Unemployed	21	38.99
Education Status		
Up to high school	6	11.11
Up to College	6	11.11
Higher Education	42	77.77

Table 2

Descriptive statistics on Psychological Distress, Caregiver Burden and Coping strategies in Caregivers of patients with Cancer (N=54)

Variable	*M*	*SD*	*Skewness*	*Kurtosis*
Psychological Distress	23.87	9.68	.55	-.34
Depression	14.59	5.74	.61	-.14
Anxiety	9.27	4.51	.49	-.87
Caregiver Burden	22.48	12.56	.76	.70
Problem Focused Coping	24.66	5.00	-1.07	1.41
Emotional Focused Coping	28.55	5.14	-.28	1.16
Avoidance Coping	13.01	3.25	.10	-.61

Table 3

Problem Focused Coping as predictors of Psychological distress in caregivers of patients with cancer(N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	29.23	6.70	4.36	.66	.00
Problem Focused Coping	-.11	2.66	-.81		.41
R	.11				
R^2	.01				

p> .05

Table 3 indicated an insignificant relationship between problem focused coping and psychological distress, β =-.11, t = -.81, p > .05.

Table 4
Emotion Focused Coping as predictors of Psychological distress in caregivers of patients with cancer (N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	18.54	7.52	2.46		.01
Emotional Focused Coping	.09	.26	.71	.51	.47
R	.09				
R^2	.01				

p> .05

Table 4 indicated an insignificant relationship between emotion focused coping and psychological distress, β =.09, t = .71, p > .05.

Table 5
Avoidance coping as predictors of Psychological distress in caregivers of patients with cancer (N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	13.022	5.305	2.455		.017
Avoidance Coping	.280			4.439	.040*
R	.280				
R^2	.079				

**p< .05

Table 5 indicated a significant relationship between avoidance coping and psychological distress, β =.280, t = 2.45, p < .05. This suggests that greater use of avoidance coping is associated with higher levels of psychological distress. The model accounted for approximately 7.9 % of the variance in caregiver burden (R^2 = 7.9).

Table 6
Problem Focused Coping as predictors of Caregiver Burden in caregiver of patients with cancer (N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	21.41	8.75	2.44		.01
Problem Focused Coping	.017	.34	.125	0.16	.90
R	0.17				
R^2	0.00				

p> .05

Table 6 indicated an insignificant relationship between approach focused coping and caregiver burden, β =.01, t = .125, p >.05.

Table 7
Emotion Focused Coping as predictors of Caregiver Burden in caregiver of patients with cancer (N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	1.80	9.37	.19		.84
Emotional Focused Coping	.29	.32	2.24	5.01	.02*
R	.29				
R^2	.080				

**p< .05

Table 7 indicated a significant relationship between emotional focused coping and care giver burden β =.29, t =2.24, p < .05. This suggests that greater use of emotional focused coping is associated with higher levels of care giver burden. The model accounted for approximately 8 % of the variance in caregiver burden (R^2 = .080).

Table 8
Avoidance Focused Coping as predictors of Caregiver Burden in caregiver of patients with cancer (N=54)

Variables	*β*	*SE*	*t*	*F*	*P*
Constant	7.83	6.86	1.14		.25
Avoidance Coping	.29	.51	2.20	4.84	.03*
R	.29				
R^2	.08				

**p< .05

Table 8 indicated a significant relationship between avoidance coping and psychological distress, β =.29, t = 2.20, p < .05. This suggests that greater use of avoidance coping is associated with higher levels of care giver burden. The model accounted for approximately 8.0 % of the variance in caregiver burden (R^2 = .08).

DISCUSSION

The current research investigates the predictive relationship of coping strategies with caregiver burden and psychological distress among caregivers of cancer patients. Study's finding revealed a significant predictive association between Emotion focused Coping and Caregiver burden (p<.05). Significant predictive relationship was also found between Avoidant Coping and Caregiver burden (p<.05) and psychological wellbeing. However, the relationship of problem focused coping strategies with psychological distress and care giver burden is not significant (p<.05).

This is supported by previous literature with the same findings as Van Hof et al. (2022) found that caregiver burden among informal caregivers is associated with distress and quality of life (QoL). Similarly, caretakers of patients who diagnosed cancer, have a high level of burden and significant distress (Bhatla, 2024). Predictors significantly associated with the caregiver's burden are; female as a caregiver, hours of caring, history of hospitalization, and sleeping hours (Ali et al., 2023), low income, unable to fulfill needs, being

female, socially withdrawn, married, and decreased physical activity (Badger et al., 2023). In continuity to this abnormal anxiety levels and borderline depression can be seen in other studies.

Meanwhile, active coping and self-distraction were most commonly employed coping strategies. Further, it is also observed that self-blame, acceptance, and planning are substantial coping strategies for anxiety whereas self-blame, planning, and religion are significant for depression (Joshi, 2025). The level of distress among caregivers of patients differs according to the intensity of caregiving. Caregiver burden with high intensity is related with caregiver depression, anxiety, caring for the patient alone, perception of patient symptom distress, patient religion, and worse patient Quality of Life (Soto-Guerrero, 2024). Problem-focused coping is categorized by the features of active coping, the use of informational support, planning, and positive reframing. Higher scores on these facets show that the purpose of these coping strategies is to change situations highly stressful. It also reflects the high strength of individual psychological aspects, determination, and problem-solving through a practical approach and results into positive consequences. Emotion-focused coping is described by the expressing their feelings, the use of emotional support, humor, acceptance, self-blame, and religion. Higher scores on these facets show that the purpose of these coping strategies is the regulation of the emotions that are related to the stressful situation. Greater scores on this coping strategy do not equally connect with psychological health or poor health, however, can interpret the coping styles of the respondent to a greater extent. Avoidant Coping is categorized by the features of self-distraction, denial, substance use, and behavioral disengagement. Higher scores on these facets show that the purpose of these coping strategies is putting physical and cognitive efforts to disengage the individual himself from the stressful situation (Carver, 1997).

Problem-focus, emotion-focus and emotional avoidance to navigate their difficult circumstances seem to support the idea that multiple coping strategies in conjunction often take precedence over a singular one, stating participants most commonly used active coping, acceptance and positive re-framing while infrequent employed strategy was substance. Social support was positively associated with the utilization of coping strategy. Use of healthy coping strategy and experiencing high level of social support helps caregivers to lessen their caregiving burden, increase situational control, and improve their quality of life (Long et al., 2020). Further, findings seem to posit that problem-focused coping

has a weaker co-relational relationship with Caregiver Burden and Psychological Distress while emotion-focused and avoidant coping, by comparison, have stronger correlations with certain variables like Anxiety and Depression scores. This may have something to do with the understanding that person depend on problem-focused coping seem to display healthier distress levels as a result of the long-term effectiveness of the coping style. In comparison, individuals who cope through emotional means or by avoiding their emotions altogether, generally struggle to moderate their levels of distress. This may explain why avoidant individuals generally experience strongly correlated anxiety levels. There are other coping strategies that can be seen as dominant among these caregivers. In caregivers of patients with cancer disease, most used coping strategies are religious coping and acceptance-based coping strategies whereas there is less use of behavioral disengagement and self-blame. A few of the factors associated with these coping mechanisms are educational level, duration of the disease, and dependency of the patient on the caregiver (Eze, et al., 2025).

There can be help for the caregivers to improve in adaptive and healthy coping strategies. Benson's Relaxation Techniques is a cost-effective and non-pharmacological intervention that has an effect on coping strategies. It has been observed that Banson’s Relaxation Techniques (BRT) resulted in an increase in problem-oriented coping strategies with a decrease in the emotional-oriented and avoidant-oriented coping strategies (Barghbani et al., 2024).

Upon concluding that problem-focused coping is least associated with negative metrics for a participant's mental well-being, it is important to compare the latter two coping styles. This comparison demonstrates that while both styles seem to be predictors for depression, avoidant individuals struggle to manage their levels of burden, distress, and anxiety by comparison, making it by far the least effective coping method. This makes intuitive sense, of course, since these repressed feelings of hopelessness, distress, and concern for the future manifest themselves across various aspects of the lives of caregivers. Furthermore, findings also shows that these coping styles are correlated with depression, which indicates that depressive feelings are perhaps the hardest aspect of caregiving to modulate and that individuals given these roles must transition to more active, problem-focused coping mechanisms to curtail these negative emotions. The most commonly used and associated negative consequences of avoidant coping strategies throughout the collected data may be explained in the light of cultural context of Pakistan. In Pakistani culture where societal taboos and shamefulness are naturally are associated with emotional vulnerability,

especially among men. As a result, most often religion or emotional suppression were the strategy they use to cope with their difficult situations

Conclusion

The result of the present study highlights the significance of coping for caregivers in Pakistani sample. Moreover, the study shows that these coping techniques are strongly linked with psychological distress, i.e anxiety, and depression, evidently because they are ineffective. It indicates a strong need for discourse to be created and normalized around the subject of mental health. Support groups and institutions that target caregivers' mental well-being specifically, may aid this group of people in switching away from emotional avoidance and onto healthier coping strategies, which may in turn moderate the levels of caregiver burden and other psychological disorders experienced by them.

Limitations and Recommendations

Due to the use of valid and reliable scales and contemporary statistical techniques, the study does not pose a significant problem with regard to its application and accuracy. However, the data collection process was hindered by certain external variables. Firstly, the size of the dataset (54) poses a problem when making generalized conclusions, as the study results may vary when extrapolated across thousands of individuals as well as international contexts. Due to the hesitation of medical institutions to allow data collection and interviews, gathering responses became a time-consuming process that is very context-specific. This study faced several limitations, including environmental challenges like time constraints, and limited resources, which prevented us from reaching the target sample size of 100 participants. In addition, the participant's answers might be influenced by self-report bias. E.g., respondents may not willing to disclose to drug use because of the concern that they might face legal issues or minimize the intensity their psychological distress due to cultural taboos. Hence, because of these factors the reliability of some responses and the applicability of the research finding to others population are compromised. The research further confirms existing scholarly finding that Emotional and avoidance Focused Coping are significantly associated depression and anxiety whereas Problem Focused Coping is helps caregivers in effective emotional regulation.

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