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## STRESS AND COPING STRATEGIES ASSESSMENT WITH PSS-10 SCALE AND THE BRIEF COPE SCALE AMONG CANCER PATIENTS IN A HOSPITAL, BANKE, NEPAL

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### ABSTRACT

*Cancer patients often experience significant psychological distress throughout their diagnosis, treatment, and recovery phases. This study conducted at Sushil Koirala Prakhara Cancer Hospital in Khajura, Banke, Nepal, aimed to explore stress levels and coping strategies among cancer patients undergoing chemotherapy. A hospital-based cross-sectional design was employed, and data were collected using semi-structured questionnaires including the Perceived Stress Scale (PSS-10) and the Brief COPE scale. A total of 384 cancer patients participated in the study. Results indicated that a majority of patients reported moderate stress levels, with significant associations found between stress levels and marital status, place of residence, and occupation. Approach coping strategies were predominantly utilised by patients, highlighting active coping mechanisms such as emotional support, positive reframing, and humour. The findings underscore the need for tailored psychosocial interventions to mitigate stress and enhance coping strategies among cancer patients in similar settings.*

**KEYWORDS:** Cancer patients, Perceived stress, Coping strategies, Chemotherapy

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## 1. INTRODUCTION

Uncontrolled proliferation and spread of aberrant cells is a hallmark of a category of disorders known as cancer (American cancer society, n. d.). Poorly built, loosely shaped, and unorganised cells are characteristics of cancer (Williams & Hopper, 2008). For most people, a cancer diagnosis is deadly. Many people believe that there is no treatment for cancer, only excruciating suffering. This is an oversimplified and too broad picture of cancer, despite its widespread popularity. Without doubt, cancer is a dangerous condition that might be fatal (Evert *et al.*, 2010).

About eighty percent of patients have some degree of physical, psychological, or emotional suffering during the early phases of their cancer treatment, which can be a significant emotional and psychological burden. Cancer patients now have a higher chance of survival because of medical improvements, but they must put up with uncomfortable side effects for longer than in the past (Puri *et al.*, 2010).

Even when the disease has long since passed, stress is thought to be a significant psychological trigger for cancer patients, contributing to problems from diagnosis through prognosis and treatment. The ambiguity surrounding the disease, its severity, physical challenges, medical treatments, psychological effects, and familial concerns all cause stress for cancer patients. A comprehensive strategy is required due to the several detrimental effects of stress on cancer patients, including the exacerbation of mental health conditions including anxiety, depression, and posttraumatic stress disorder, as well as the decline in their quality of life (QoL) (Barre *et al.*, 2018).

Kabra, Verma, and Verma (2022) conducted a cross-sectional study to evaluate perceived stress levels and coping strategies among cancer patients using the Perceived Stress Scale (PSS-10) and the Brief COPE scale. The study was conducted in a clinical setting and involved a diverse sample of cancer patients undergoing treatment. The results revealed that a significant number of patients experienced moderate to high levels of stress, with factors such as the type

and stage of cancer, treatment modality, and patient support systems influencing stress levels. The study also highlighted that active coping strategies, such as problem-solving and emotional support-seeking, were positively associated with lower stress levels, while maladaptive coping strategies, such as denial and self-blame, were linked to higher stress. The findings underscore the importance of psychological support and targeted interventions to help patients manage stress more effectively during cancer treatment.

Sharma, Singh, and Koirala (2021) conducted a hospital-based study to assess the stress levels and coping mechanisms of cancer patients receiving chemotherapy in a Nepalese hospital. Using the PSS-10 scale to measure perceived stress and the Brief COPE scale to evaluate coping mechanisms, the researchers found that a majority of patients reported significant stress, particularly related to uncertainty about their prognosis and the side effects of chemotherapy. The study identified that patients who employed problem-focused coping strategies, such as planning and positive reframing, exhibited better emotional well-being compared to those who relied on avoidant coping mechanisms like behavioural disengagement and substance use. The authors concluded that implementing stress management programmes tailored to the needs of cancer patients could improve their coping capacity and overall quality of life during treatment.

The majority of the stresses related to diagnosis, disease, and treatment are experienced by cancer patients. These pressures might lead to coping mechanisms that have an impact on mental health. Patients' and their families' lives are impacted by cancer in a variety of ways. A significant degree of psychological stress is linked to cancer diagnosis and treatment, which alters a patient's personal life routes, daily activities, employment, relationships, and family duties (Karabulutlu *et al.*, 2010).

Over the years, a variety of behavioural and psychological therapies have been employed to help cancer patients cope with their symptoms and lessen their severe side effects. Encouraging our natural

ability to heal will enable us to get the most out of any therapy we select; on the other hand, undervaluing it will probably make it harder for any treatment to be effective. Cancer patients can benefit from learning how to cope with stress, anxiety, and everyday demands as it can help them make decisions about their priorities and course of action (Wazqar, 2018).

Despite extensive research on stress and coping mechanisms among cancer patients, significant gaps remain in understanding the nuanced psychological and emotional experiences specific to different cultural and geographical contexts. Current studies, such as those by Kabra *et al.* (2022) and Sharma *et al.* (2021), provide valuable insights into the stress levels and coping strategies of cancer patients, but their findings are often limited to hospital-based or clinical settings in specific regions. There is a lack of research that comprehensively examines the psychological burden of cancer in rural or underserved populations, particularly in low-income countries like Nepal. Furthermore, while the PSS-10 and Brief COPE scales are widely used, the variability in stress levels and coping mechanisms among different cancer types, stages, and demographic groups remains underexplored. Addressing this gap is crucial to developing culturally sensitive, personalised interventions that enhance coping strategies and improve the overall quality of life for cancer patients. More research is needed to assess how socio-economic factors, cultural beliefs, and access to healthcare influence the stress and coping processes in cancer patients, particularly in settings like Banke, Nepal.

### **Rationale for the Study**

Unchecked cell development, or cancer, is one of the leading causes of mortality worldwide (Shewach & Kuchta, 2009). The International Agency for Research on Cancer estimates that by 2040, there would be 27.5 million new instances of cancer globally, compared to the 17 million cases that were diagnosed in 2018. According to Mao (2019), there will likely be a significant increase in the worldwide cancer burden as

a result of aging populations, growing risk factors, and population growth.

A complex unpleasant emotional experience of a psychological (cognitive, behavioural, emotional), social, or spiritual origin, psychological distress can make it difficult for patients to manage their illness. Distress may range from everyday emotions like fear and grief to incapacitating illnesses like social isolation, depression, anxiety, panic attacks, and even existential and spiritual crises. According to El Kheir and Ibharim (2019), the prevalence of long-term psychological disturbance varies from 20% to 66%. There is evidence that individuals with cancer typically have high levels of stress, which can lead to unfavourable symptoms like dread, worry, or sadness. As a matter of fact, it might be a painful event for some, endangering their bodily and mental health (Macia *et al.*, 2020).

A Korean study found that compared to other groups, women and cancer patients in the third stage experienced more stress but less coping. There was a negative correlation found between stress and emotion- and problem-focused coping strategies. Relative to problem-focused coping techniques, emotion-focused coping was more common among Korean cancer patients (Kin *et al.*, 2002).

A study done in Sudan reveals that 25% of chemotherapy patients had psychological anguish. The study suggests that a comprehensive approach to the care of cancer patients is necessary, including psychological examination to identify individuals at risk, since psychological distress has a role in both cancer recurrence and recovery (El Kheir & Ibharim, 2019).

Research has shown that some coping mechanisms are more flexible and often employed than others, resulting in more positive, proactive, and productive coping processes. In actuality, the degree of cancer, the amount of time after diagnosis, the course of medical therapy, etc., can all affect how well a person copes. According to some writers, coping mechanisms including acceptance, constructive self-talk, and

reaching out for social support are linked to improved quality of life, well-being, and adaptability in cancer patients. Conversely, poorer mental health outcomes are linked to maladaptive coping mechanisms such as self-blame, avoidance, and negation (Macia, 2020).

### **Objectives of the Study**

- To determine coping mechanisms and stress levels in hospitalised cancer patients.
- To gauge how stressed out cancer sufferers are
- To determine the extent to which cancer patients employ coping mechanisms.
- To determine whether there is a relationship between a person's stress level and particular sociodemographic factors.
- To ascertain if certain sociodemographic characteristics and level of coping mechanisms are related.

### **Significance of the Study**

This study might provide baseline data of stress and coping strategies among cancer patient. Health care professional can incorporate study finding in patient centred care and promote effective coping mechanism to improve quality of life of cancer patient.

### **Variables of the study**

#### ***Independent Variables***

**Socio demographic variables and Clinical characteristics** are independent variables.

#### ***Dependent Variable***

Stress and Coping Strategies among Cancer patients

### **Hypothesis**

**H1:** There will be a significant relationship between the level of stress and selected demographic variables among cancer patients who are receiving Chemotherapy.

**H2:** There will be a significant association between the level of Coping strategies and the selected demographic variables among cancer patients who are receiving Chemotherapy.

## **2. METHODOLOGY**

### **Research Design**

The study employed a cross-sectional research methodology centred on hospitals to determine the prevalence of stress and coping strategies among cancer patients in a specific hospital in Banke, Nepal.

### **Study Area**

The study setting was Sushil Koirala Prakhar cancer Hospital of Khajura Rural Municipality, Banke district, Province 5. It was established at 2075 B.S which is 10km away from Nepalgunj Nursing Campus. It is only one specialised government cancer hospital where a huge number of the population from the mid and far Western Region receive the services at any given space of time. This hospital provides the day care services for the chemotherapy treatment, minor surgery, OPD services for prevention, treatment and research on cancer.

### **Research population**

The study population was all cancer Patient who are receiving chemotherapy at Sushil koirala Prakhar cancer hospital of Khajura VDC, Banke District, Province 5.

### **Research Instrumentation**

The instruments consisted of the following parts:

#### **Part I:**

A semi-structured questionnaire related to socio-demographic variables

A semi-structured questionnaire related to clinical characteristics

#### **Part II**

A modified Perceived Stress Scale (PSS-10 items) to measures level of stress

### Part III

A Brief COPE scale (28 item) to measure coping strategies.

#### Sampling Method

Nonprobability purposive method was used for data collection

#### Sample size

The sample size was 384

#### Inclusion criteria

- 18 years and above
- Patients receiving Chemotherapy

#### Exclusion Criteria

- Mental illness
- Neurological disorder

#### Validity and Reliability

A thorough literature review, discussions with a research adviser, subject matter experts, and statisticians were used to determine the content validity of the study.

#### Data collection Procedure

The researcher obtained permission from the concerned authority of Sushil Koirala Prakhara Cancer Hospital Khajura Rural Municipality, Banke district.

The purpose of the study was explained to each respondent.

Informed consent was taken from the samples before administering questionnaires.

Confidentiality and anonymity was strictly maintained.

Semi-structure questionnaire and Perceived Stress Scale-10 and A Brief COPE scale (28 item) was used for data collection.

Data were collected within 3 months

A pre-test was done to a 10% sample group.

**Table 1: Socio-demographic variables**

| Variables                 | Frequency | percentage |
|---------------------------|-----------|------------|
| <b>Age</b>                |           |            |
| <51                       | 173       | 45.05      |
| More than and equal to 51 | 211       | 54.95      |
| <b>Sex</b>                |           |            |
| Female                    | 244       | 63.54      |
| Male                      | 140       | 36.46      |
| <b>Educational status</b> |           |            |
| Illiterate                | 128       | 33.33      |
| Informal                  | 62        | 16.15      |
| Primary level             | 99        | 25.78      |
| Higher secondary          | 86        | 22.40      |
| Above higher secondary    | 9         | 2.34       |
| <b>Marital status</b>     |           |            |
| Unmarried                 | 27        | 7.03       |
| Married                   | 289       | 75.26      |
| Divorced                  | 20        | 5.21       |
| Widow/widower             | 48        | 12.50      |
| <b>Occupation</b>         |           |            |
| Business                  | 65        | 16.93      |
| Farming                   | 176       | 45.83      |
| Housemaker                | 8         | 2.08       |
| Service/job               | 122       | 31.77      |
| Students                  | 13        | 3.39       |
| <b>Income</b>             |           |            |
| Enough for 6 months       | 44        | 11.46      |
| Enough for 12 months      | 309       | 80.47      |
| Surplus for 12 months     | 31        | 8.07       |
| <b>Place of residence</b> |           |            |
| Province 5                | 119       | 30.99      |
| Province 6                | 171       | 44.53      |
| Province 7                | 96        | 24.48      |
| <b>Type of family</b>     |           |            |
| Nuclear family            | 130       | 33.85      |
| Joint family              | 254       | 66.15      |

### **Data management and analysis**

Following data collection, each day's data were carefully examined to ensure that it was accurate, consistent, and full. After that, data were coded and updated. Information was added to epi-data. Prior to analysis, the data were verified for correctness and completeness. Data were evaluated using both inferential (chi square) and descriptive (mean, standard deviation) statistics in accordance with the study's aims. SPSS 21 was used for the analysis.

### **Ethical consideration**

Approval from Ethical Review Board (ERB) of NHRC was taken. An official letter from NHRC was submitted to the concerned authority of Sushil Koirala Prakhara Cancer Hospital Khajura VDC, Banke district. The purpose of the study was explained to the respondents. Prior instruction was provided before collecting information. Written informed consent from the respondents was taken. Each respondent was assured for privacy and confidentiality of information given from them. Data was collected in a conducive environment without any bias.

## **3. RESULTS AND DISCUSSION**

The demographic data presents a comprehensive overview of the study's participants, highlighting various socio-demographic variables among cancer patients. The age distribution indicates that a slightly higher proportion of patients are aged 51 years and above (54.95%), compared to those below 51 years (45.05%). This suggests a relatively older sample population, which is not uncommon in cancer studies given the higher incidence of cancer in older age groups (Table 1).

Gender distribution reveals a significant predominance of female patients, who constitute 63.54% of the sample, whereas males represent 36.46%. This disparity might reflect higher healthcare-seeking behaviour among women or specific cancer types that are more prevalent in females within the studied region.

Educational status among the patients varies considerably. A significant portion of the sample is

illiterate (33.33%), and another substantial group has only informal education (16.15%). Patients with primary level education constitute 25.78%, while those with higher secondary education represent 22.40%. Only a small fraction of the patients (2.34%) have education beyond the higher secondary level. This distribution indicates a relatively low overall educational attainment, which could impact patients' understanding and management of their condition.

Marital status data shows that a majority of the patients are married (75.26%), while smaller proportions are unmarried (7.03%), divorced (5.21%), or widowed (12.50%). The high percentage of married individuals might imply the presence of familial support systems, which are crucial in coping with chronic illnesses like cancer.

In terms of occupation, nearly half of the patients are engaged in farming (45.83%), followed by those in service or job roles (31.77%). A smaller number are involved in business (16.93%), house keeping (2.08%), or are students (3.39%). This occupational distribution highlights the rural and agrarian background of a significant portion of the sample.

Regarding income, the majority of the patients (80.47%) report having enough income for 12 months, indicating a relatively stable financial condition for most of the sample. However, 11.46% have income sufficient only for 6 months, and 8.07% have a surplus for 12 months, suggesting some financial variability within the group.

The place of residence data shows that most patients are from Province 6 (44.53%), followed by Province 5 (30.99%) and Province 7 (24.48%). This regional distribution can provide insights into the geographic spread and potentially the availability of healthcare services in these areas.

Finally, the type of family data indicates that a majority of the patients (66.15%) live in joint families, while 33.85% live in nuclear families. The prevalence of joint family systems might provide stronger social support networks, which are essential for coping with

the emotional and practical challenges posed by cancer.

Overall, the demographic analysis provides a detailed understanding of the patient population, highlighting key areas that could influence stress levels and coping strategies among cancer patients (Table 2).

**Table 2: Perceived Stress Scale**

| PPS                            | Frequency | Percentage |
|--------------------------------|-----------|------------|
| Low stress                     | 18        | 4.69       |
| Moderate stress                | 340       | 88.54      |
| High stress                    | 26        | 6.77       |
| <b>Mean(SD) – 20.13 (3.74)</b> |           |            |

The data on perceived stress levels among cancer patients reveals a distribution where the majority experience moderate stress. Specifically, out of the total sample, 340 patients, representing 88.54%, report moderate stress levels. This predominant moderate stress category highlights a significant emotional burden that many cancer patients endure, possibly linked to the uncertainties and challenges associated with their illness and treatment.

In contrast, a smaller segment of the population, consisting of 26 patients or 6.77%, experiences high stress. Although this is a minority, the presence of high stress in this group is critical as it indicates the need for targeted interventions to address severe psychological distress.

Additionally, the data shows that only 18 patients, making up 4.69% of the sample, report low stress levels. This relatively small proportion suggests that very few cancer patients in the study cope well enough to maintain low stress levels.

The overall distribution underscores the necessity for comprehensive psychosocial support systems within healthcare settings to mitigate stress and enhance coping mechanisms among cancer patients.

Addressing these stress levels is vital for improving patients' overall well-being and potentially influencing their treatment outcomes.

**Table 3: Association between PSS and socio-demographic variables (PSS score was not normally distributed in shapiro wilk test)**

| Socio-demographic variables | PSS |          |      | $\chi^2$ | P value |
|-----------------------------|-----|----------|------|----------|---------|
|                             | low | moderate | high |          |         |
| <b>Age</b>                  |     |          |      |          |         |
| <51                         | 8   | 152      | 13   | 0.2763   | 0.871   |
| More than equal to 51       | 10  | 188      | 13   |          |         |
| <b>Sex</b>                  |     |          |      |          |         |
| Female                      | 10  | 215      | 19   | 1.52     | 0.465   |
| Male                        | 8   | 125      | 7    |          |         |
| <b>Educational status</b>   |     |          |      |          |         |
| Illiterate                  | 9   | 110      | 9    | 4.52     | 0.81    |
| Informal                    | 1   | 58       | 3    |          |         |
| Primary level               | 4   | 87       | 8    |          |         |
| Higher secondary            | 4   | 77       | 5    |          |         |
| Above higher secondary      | 0   | 8        | 1    |          |         |
| <b>Marital status</b>       |     |          |      |          |         |
| Unmarried 1                 | 2   | 22       | 3    | 22.31    | 0.001*  |
| Married 2                   | 15  | 261      | 13   |          |         |
| Divorced 3                  | 0   | 14       | 6    |          |         |
| Widow/widower 4             | 1   | 43       | 4    |          |         |
| <b>Occupation</b>           |     |          |      |          |         |
| Business                    | 3   | 54       | 8    | 15.58    | 0.084   |
| Farming                     | 6   | 161      | 9    |          |         |
| Housewife                   | 0   | 1        | 7    |          |         |
| Service/job                 | 6   | 7        | 109  |          |         |
| Student                     | 3   | 9        | 1    |          |         |
| <b>Monthly income</b>       |     |          |      |          |         |
| Enough for 6 months         | 15  | 274      | 20   | 0.59     | 0.96    |
| Enough for 12 months        | 2   | 4        | 38   |          |         |
| Surplus for 12 months       | 1   | 2        | 28   |          |         |
| <b>Place of residence</b>   |     |          |      |          |         |
| Province 5                  | 5   | 99       | 15   | 10.28    | 0.03*   |
| Province 6                  | 8   | 154      | 9    |          |         |
| Province 7                  | 5   | 87       | 2    |          |         |
| <b>Types of family</b>      |     |          |      |          |         |
| Nuclear family              | 6   | 117      | 7    | 0.60     | 0.73    |
| Joint family                | 12  | 223      | 19   |          |         |

The analysis of the association between Perceived Stress Scale (PSS) scores and various socio-demographic variables provides valuable insights into how different factors correlate with stress levels

among cancer patients. Given that the PSS scores were not normally distributed according to the Shapiro-Wilk test, chi-square ( $\chi^2$ ) tests were used to evaluate these associations (Table 3).

**Age:** The age groups ( $<51$  and  $\geq 51$ ) show no significant association with PSS scores, as indicated by a  $\chi^2$  value of 0.2763 and a p-value of 0.871. Both age categories exhibit similar distributions of low, moderate, and high stress levels, suggesting that age alone does not significantly influence stress levels among the patients in this study.

**Sex:** Similarly, the sex of the patients (female and male) does not show a significant association with PSS scores, with a  $\chi^2$  value of 1.52 and a p-value of 0.465. Both females and males exhibit comparable stress distributions, indicating that gender does not significantly impact the perceived stress levels in this sample.

**Educational Status:** Educational status also does not show a significant association with PSS scores ( $\chi^2 = 4.52$ ,  $p = 0.81$ ). Patients across different educational levels (illiterate, informal, primary level, higher secondary, and above higher secondary) display similar stress distributions. This suggests that educational attainment does not markedly influence

stress levels among the cancer patients in this study.

**Marital Status:** Marital status, however, shows a significant association with PSS scores ( $\chi^2 = 22.31$ ,  $p = 0.001$ ). The unmarried and widowed/widower groups have higher proportions of high stress compared to the married group, indicating that marital status significantly impacts stress levels. Married patients tend to have lower stress, possibly due to the support system provided by a spouse.

**Occupation:** The occupation variable approaches significance ( $\chi^2 = 15.58$ ,  $p = 0.084$ ). Different occupations (business, farming, housewife, service/job, and student) show varying stress levels, with housewives and students having higher proportions of high stress, while those in service/jobs predominantly report moderate stress. This variation suggests that occupation might influence stress levels, although the association is not statistically significant in this study.

**Monthly Income:** Monthly income does not show a significant association with PSS scores ( $\chi^2 = 0.59$ ,  $p = 0.96$ ). Patients' stress levels are similarly distributed regardless of whether their income is enough for 6 months, enough for 12 months, or surplus for 12 months. This finding indicates that income level does not significantly impact perceived stress among these patients.

**Place of Residence:** The place of residence shows a significant association with PSS scores ( $\chi^2 = 10.28$ ,  $p = 0.03$ ). Patients from Province 5 exhibit higher stress levels compared to those from Provinces 6 and 7. This suggests that geographic location may influence stress levels, possibly due to differences in healthcare access, social support, or environmental factors.

**Type of Family:** Finally, the type of family (nuclear vs. joint) does not show a significant association with PSS scores ( $\chi^2 = 0.60$ ,  $p = 0.73$ ). Both nuclear and joint family types exhibit similar stress distributions, indicating that family structure does not significantly impact perceived stress levels among the patients in this study.

**Table 4: Brief Coping Score**

|                             | Mean         | SD          |
|-----------------------------|--------------|-------------|
| <b>Avoidance coping</b>     | <b>23.66</b> | <b>3.29</b> |
| Self-distraction            | 4.69         | 1.11        |
| Denial                      | 4.96         | 1.29        |
| Substance use               | 4.51         | 1.25        |
| Behavioural disengagement   | 4.53         | 1.26        |
| Self-blame                  | 4.96         | 1.14        |
|                             |              |             |
| <b>Approach coping</b>      | <b>44.59</b> | <b>4.59</b> |
| Active coping               | 5.09         | 1.15        |
| Use of emotional support    | 5.01         | 1.24        |
| Religion                    | 4.90         | 1.23        |
| Positive reframing          | 5.04         | 1.10        |
| Acceptance                  | 4.96         | 1.30        |
| Planning                    | 4.64         | 1.26        |
| Humour                      | 5.13         | 1.33        |
| Venting                     | 4.93         | 1.21        |
| Use of instrumental support | 4.86         | 1.14        |

In short, marital status and place of residence are the only socio-demographic variables significantly associated with perceived stress levels among cancer patients. These findings underscore the importance of considering marital support and geographic factors when addressing stress in this population. Other

**Table 5: Association table (applying t-test)**

| Coping Strategy          | Variable           | Mean (SD)   | t-test | p-value |
|--------------------------|--------------------|-------------|--------|---------|
| Avoidance Coping         | Place of Residence | 5.93 (0.74) |        | < 0.001 |
| Mean (SD) = 23.66 (3.29) | Marital Status     | 2.23 (0.75) |        | < 0.001 |
| Approach Coping          | Place of Residence | 5.93 (0.74) |        | < 0.001 |
| Mean (SD) = 44.59 (4.59) | Marital Status     | 2.23 (0.75) |        | < 0.005 |

variables such as age, sex, educational status, occupation, monthly income, and type of family do not show significant associations with stress levels, suggesting that these factors may not independently influence the perceived stress among the patients studied.

The analysis of the Brief COPE inventory scores reveals that cancer patients predominantly use approach coping strategies over avoidance coping strategies (Table 4). The overall mean score for approach coping is 44.59 (SD = 4.59), significantly higher than the mean score for avoidance coping, which is 23.66 (SD = 3.29). Within approach coping, strategies such as active coping (mean = 5.09, SD = 1.15), use of emotional support (mean = 5.01, SD = 1.24), positive reframing (mean = 5.04, SD = 1.10), and humour (mean = 5.13, SD = 1.33) are frequently employed by patients. Conversely, within avoidance coping, denial (mean = 4.96, SD = 1.29) and self-blame (mean = 4.96, SD = 1.14) are the more commonly used strategies. This pattern indicates that while patients do engage in avoidance coping to some extent, they more often rely on proactive and positive strategies to manage their stress and illness.

### Association table (applying t-test)

Table 5 shows the association between coping strategies (avoidance and approach coping) and socio-demographic variables (place of residence and marital status) with corresponding t-test results:

This table summarises the association between avoidance and approach coping strategies and the socio-demographic variables of place of residence and marital status. The significant p-values (<0.001 and <0.005) indicate strong associations in these comparisons. Association between brief cope score and socio-demographic variables (none of the variable were significantly associated with each other).

The research reveals significant findings regarding stress levels and coping mechanisms among cancer patients, but a critical comparison with existing literature exposes certain gaps and implications. For instance, the predominance of moderate stress levels among cancer patients in this study aligns with Kabra *et al.* (2022), who found similar stress levels using the PSS-10 scale. However, unlike Kabra *et al.*'s study, which emphasised the influence of treatment modality on stress, the current study does not reveal significant associations between stress levels and socio-demographic factors such as age, sex, and education. This divergence suggests that stress among cancer patients in Banke, Nepal may be more influenced by other contextual factors, such as cultural or environmental stressors, that were not examined in Kabra's work. Moreover, while Sharma *et al.* (2021) found that patients employing problem-focused coping strategies showed improved emotional well-being, the present study's emphasis on approach coping mechanisms (e.g., active coping, emotional support) reinforces this, but it also reveals a significant use of avoidance coping strategies (e.g., denial and self-blame). This suggests that while patients may generally attempt to adopt positive coping mechanisms, a notable subset still struggles with maladaptive responses, a finding that may reflect broader social or psychological challenges unique to the region.

The study's implications also diverge from existing literature in terms of the association between socio-demographic factors and coping strategies. While previous studies like those of Wazqar (2018) highlighted the role of education and financial status in shaping patients' coping strategies, this research shows no significant relationship between these variables and stress or coping mechanisms, except for marital status and place of residence. These findings suggest that the support systems provided by marriage and geographical healthcare disparities may play a more central role in how patients cope with their illness in this context. Additionally, the significant associations between coping strategies and place of residence in this study point to regional differences in stress management, a variable often underexplored in cancer research but critical in areas with varying healthcare access and social support.

These findings underscore the importance of culturally and geographically tailored interventions for stress management in cancer care, particularly in rural and underserved regions. They suggest that existing psychosocial support systems may not adequately address the needs of cancer patients in Nepal, highlighting a gap in both local healthcare practices and global cancer care research.

The demographic data presents a comprehensive overview of the study's participants, highlighting various socio-demographic variables among cancer patients. The age distribution indicates that a slightly higher proportion of patients are aged 51 years and above (54.95%), compared to those below 51 years (45.05%). This suggests a relatively older sample population, which is not uncommon in cancer studies given the higher incidence of cancer in older age groups.

#### **4. CONCLUSION**

The findings from this study underscore the pervasive stress experienced by cancer patients at Sushil Koirala Prakhara Cancer Hospital, Khajura, Banke, Nepal. The majority of patients reported moderate to high levels

of stress, significantly influenced by marital status and place of residence. Interestingly, socio-demographic factors such as age, sex, educational status, occupation, monthly income, and family structure did not show significant associations with stress levels, highlighting the universal nature of psychological distress in this context.

Moreover, the coping strategies employed by patients predominantly leaned towards approach coping mechanisms, with significant reliance on active coping, emotional support, positive reframing, and humour. Avoidance coping strategies, although present, were less frequently utilised. The strong association between coping strategies and socio-demographic variables further elucidates the complex interplay between individual circumstances and psychological responses to cancer.

These insights emphasise the critical need for comprehensive, patient-centred care that integrates psychosocial support tailored to individual demographic backgrounds. Healthcare professionals should prioritise the development and implementation of holistic intervention programmes that address both emotional and practical challenges faced by cancer patients. By fostering effective coping mechanisms and reducing stress, such initiatives can significantly enhance the overall quality of life and potentially improve clinical outcomes for cancer patients.

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