

## The Relationship between Psychological Disorders and Psychological Well-being in Cancer with the Diagnosis of COVID-19

### Abstract

The objective of this research is to examine the connection between mental health disorders and psychological well-being in cancer patients who have been diagnosed with COVID-19 and are receiving treatment at Ali Ibn Abi Talib (AS) Hospital in Zahedan city. This study is descriptive and correlational. The target population for this research includes all cancer patients who were hospitalized with a COVID-19 diagnosis at Ali Ibn Abi Talib (AS) Zahedan Hospital in the year 1400. A sample of 127 individuals was selected from the target population using an available sampling method. The overall mean score for psychological well-being in cancer patients is 35.06, with a standard deviation of 7.74. Based on the normalized mean score of the questionnaire, this indicates a moderate to low level of psychological well-being among the participants. The overall mean score for psychological disorders in cancer patients is 200.58, with a standard deviation of 51.12. According to the questionnaire's norms, this suggests a high level of psychological disorders among the participating cancer patients. Among the subscales of psychological disorders, psychotic disorder shows the strongest negative and significant correlation with psychological well-being at a significance level of 0.01. Additionally, phobia, second to psychosis, demonstrates a negative and significant correlation with psychological well-being at a significance level of 0.01. No significant relationship was found between aggression and psychological well-being in cancer patients. Psychological disorders in cancer patients with a COVID-19 diagnosis have a substantial impact on the treatment process, as well as the vulnerability and severity of the disease.

**Keywords:** Cancer, Psychological, COVID-19

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### Introduction

Towards the end of December 2019, news emerged from the Chinese city of Wuhan about the outbreak of a novel infectious disease caused by a new strain of coronavirus. This disease was officially named Covid-19 by the World Health Organization (WHO). What made the spread of COVID-19 particularly notable was its rapid transmission, leading to a global health emergency within a matter of months. This disease not only raised concerns about public health, but also gave rise to various psychological conditions such as anxiety, fear, depression, stigmatization, avoidance behaviors, irritability, sleep disturbances, and post-traumatic stress disorder (1). The coronavirus belongs to a large family of viruses that have been recognized as a public health crisis, presenting significant health challenges (1). There are different types of coronaviruses, some cause a mild illness similar to the common cold, while others tend to be more serious and disturb the respiratory system. As a result, for most individuals, this virus does not pose serious problems, but for some, it can lead to severe complications (2). The COVID-19 pandemic has had a profound impact on various aspects of people's lives, including employment, finances, health risks, and social opportunities, all of which can influence mental health. COVID-19 patients have experienced serious psychological consequences that have affected their overall mental well-being (3). The epidemic and pandemic nature of COVID-19

was a global threat, affecting over 200 countries and regions at both the human and economic levels (4). The spread of the coronavirus began in December 2019 in Wuhan, China, and has since infected nearly every country worldwide (1). In Iran, this disease has become widespread, posing risks to people's physical and psychological health (5). Initial studies have demonstrated a wide range of psychological and social impacts at the individual, community, and international levels during the outbreak. At the individual level, people may develop a fear of falling ill or feelings of helplessness, leading to significant psychological stress that can negatively affect learning and mental health (6). The COVID-19 pandemic has affected cancer patients globally, which resulted in delays in diagnosis, disturbances in treatment and follow-up care, high infection rates, and higher premature mortality rates (7).

COVID-19 has a disproportionate impact on older individuals and those who have multiple concurrent diseases (8). It appears that individuals with a current or previous cancer diagnosis are particularly vulnerable to the virus. Compared to the general population, cancer patients face a higher risk of mental health issues (9). A study conducted in China on 6,213 cancer patients who contracted COVID-19 revealed that 23.4% experienced depression, 17.7% experienced anxiety, and 9.3% experienced stress following the incident (10). Individuals with cancer grapple with uncertainty about their future and are currently concerned about the risk of contracting COVID-19, potentially

jeopardizing their recommended cancer treatment. This exacerbates their condition and gradually diminishes their psychological well-being (10). In line with this, Chobin et al. (2021) conducted a study exploring the cognitive and emotional vulnerability of Iranian women with breast cancer during the COVID-19 outbreak. The findings indicated that the spread of COVID-19 had a significant impact on the emotional and psychological well-being of women with breast cancer, with many experiencing high levels of depression and anxiety. Furthermore, COVID-19 disrupted the cognitive performance of patients, necessitating psychological interventions (11). Psychological well-being relates to the condition of emotional vitality and the experience of positive emotions, as well as behaviors that foster psychological health and sound psychosocial functioning. Numerous definitions, conceptualizations, and classifications have been put forth about psychological well-being (12). In a straightforward definition, psychological well-being is said to encompass the presence of favorable and satisfying circumstances, alongside health, happiness, and achievement. One theory proposing a multidimensional conceptualization of psychological well-being is Reif's (2008) six-component model, which emerged from his research (12). These six components include autonomy, self-acceptance, positive relationships with others, environmental mastery, purposeful life, and personal growth (13). Desi and Ryan (2008) regard well-being as a product of environmental factors and individuals' level of self-determination. Conversely, research studies indicate a decline in psychological health and a widespread presence of psychological disorders among cancer patients diagnosed with COVID-19 (14). Studies have shown that between 50% and 85% of cancer patients simultaneously experience psychological disorders such as depression and anxiety (15). Cancer patients often show a lot of psychological reactions, encompassing a wide range of issues, from depression and apathy to anger and memory problems (16). With the increase in COVID-19 cases and its significant psychological complications, particularly among cancer patients diagnosed with the virus, it is crucial to investigate the occurrence of psychological disorders and their role in diminishing the psychological well-being of individuals. Given the lack of comprehensive and integrated research on this topic and the need to address existing research gaps to meet the needs of medical institutions and organizations such as hospitals and healthcare centers, it is essential to examine the psychological effects of cancer and the psychological ramifications of the COVID-19 pandemic. Therefore, this research aims to investigate the types of psychological disorders in cancer patients diagnosed with COVID-19, followed by an examination of their well-being status. Finally, the relationship between psychological disorders and psychological well-being

in cancer patients with a COVID-19 diagnosis, specifically those admitted to Ali Ibn Abi Talib (AS) Hospital in Zahedan city, will be explored.

### **Method:**

This research follows a descriptive-correlational design. The target population comprises all cancer patients with hospital records (including gastrointestinal tract cancer, blood tract cancer, genital-urinary tract cancer, respiratory tract cancer, neuro-skeletal tract cancer, breast cancer, lymphoma cancer, central nervous system cancer, and skin cancer) who were diagnosed with COVID-19 (confirmed by a positive PCR test) at Ali Ibn Abi Talib (AS) Zahedan Hospital in 2021. The total number of cancer patients diagnosed with COVID-19 at the hospital was 350, and a comprehensive sample of 200 individuals was selected. From this sample, 127 participants were chosen using the Krejcie and Morgan table and the available and voluntary sampling method, taking into account the inclusion and exclusion criteria, as well as demographic information. The participants completed the psychological disorders questionnaire (Dragotis et al., 1976) and the psychological well-being questionnaire (Reif, 2002) (17, 18). The inclusion criteria encompassed having a primary education, providing informed consent for questionnaire completion, having stable conditions to respond to the questionnaire, possessing a hospital record, a positive PCR test, and no upper lung involvement or ICU hospitalization. Exclusion criteria included unwillingness to participate in the research, use of psychiatric medications, and a history of hospitalization in neuropsychiatric facilities.

### **Tool:**

The collected data was acquired from patient records, including demographic details such as age group, age, gender, and educational status, as well as standardized psychological well-being questionnaires developed by Rif (2002) and the psychological disorders questionnaire SCL-25 (18).

### **Reif psychological well-being questionnaire (2002)**

The abbreviated version of the Rief scale (2002) consists of 18 questions, encompassing six factors: autonomy, environmental mastery, personal growth, positive relationships with others, purposefulness in life, and self-acceptance. The total scores for these six factors are combined to yield an overall score for psychological well-being. Respondents answer the test on a 6-point scale ranging from "completely agree" to "completely disagree" (rated one to six). The possible score range is from 18 to 108, with higher scores indicating higher levels of psychological well-being. In Desi and Ryan's (2008) research, the questionnaire demonstrated satisfactory reliability, with Cronbach's alpha coefficients of 0.73, 0.79, 0.75, 0.81, 0.80, 0.83 for the six subscales, and 0.79 for the entire scale. Correlation coefficients between subscales ranged from 0.37 to 0.81 (13). Suri and Ajei (2012) examined the validity and

reliability of the test in a sample of 321 individuals, reporting internal consistency coefficients between 0.86 and 0.93 for the subscales and test-retest reliability coefficients ranging from 0.81 to 0.86 after a six-week interval (19). The correlation between subscales varied from 0.32 to 0.76, with the highest correlation observed between self-acceptance and environmental mastery, and the lowest correlation between autonomy and positive relationships with others. In another study by Sabri, Safarian, and Hosseini (2016), the internal consistency of the test results was assessed. Cronbach's alpha coefficients were found to be 0.68 for the autonomy subscale, 0.59 for environmental mastery, 0.74 for personal growth, 0.70 for positive relationships with others, 0.79 for purposefulness in life, 0.64 for self-acceptance, and 0.79 for the entire scale (20).

**Psychological disorders questionnaire (SCL-25)**

The SCL 90 questionnaire was initially developed by Dragotis and colleagues in 1973. Through clinical experiences and psychometric analyses, it underwent revisions and was finalized in 1976 (17). The SCL 25 questionnaire is a condensed version of the SCL 90 questionnaire, which consists of 90 symptom checklist items for mental disorders. The SCL 25 questionnaire uses a 5-point scale ranging from "none" to "severe" to indicate the level of discomfort experienced for each item. The 25 items cover nine dimensions, including physical complaints, obsessions and compulsions, sensitivity in relationships, depression, anxiety, aggression, phobia, paranoid thoughts, and psychosis. The scoring and interpretation of the test are based on three indicators: the overall coefficient of phobia, the discomfort quotient, and the sum of phobia. For the reliability assessment of the nine dimensions of the SCL 25 questionnaire, two methods of reliability calculation were employed, including the retest method. Internal consistency was measured using alpha and Richardson coefficients based on data collected from 219 individuals in the United States to assess the stability and consistency of the questionnaire items. The obtained coefficients for all nine dimensions were found to be highly satisfactory. Various studies have been conducted to determine the validity of the SCL 25 questionnaire. In terms of concurrent

validity, Dragotis and Wiklezorak (1976) administered the test together with the MMPI to 19 volunteer subjects. The correlation with the depression criterion was 0.73, while the lowest correlation was observed with phobia at 0.366 (17).

**Procedure:**

Initially, the research objectives were established. Subsequently, a project proposal, including the supervisor's input, was prepared. After obtaining the necessary permissions and coordinating with the officials from Ali Ibn Abi Talib (AS) Zahedan Hospital (medical departments, assistant, hospital director) in the month of Mehr 1400, explanations were presented to the hospital officials and cancer patients diagnosed with COVID-19. The target sample was selected based on predetermined inclusion and exclusion criteria using an available and voluntary sampling method. Participants were asked to complete two questionnaires: the psychological disorders questionnaire (Dragotis et al., 1976), and the psychological well-being questionnaire (Reif, 2002), and provide demographic information. The project received an ethics code with the number IR.IAU.ZAH.REC.1400.056. Gratitude was expressed by the research participants after collecting the information. Incomplete questionnaires and those filled out randomly or with a consistent pattern were excluded from the study. The obtained data were analyzed at two levels: descriptive analysis (calculating mean, standard deviation, frequency, percentage, minimum, and maximum) and inferential analysis (using Pearson's correlation coefficient and step-by-step regression analysis). SPSS-22 software was utilized to perform the data analysis.

**Results:**

The research findings revealed the gender distribution of the participants, with 37.8% being male and 62.2% being female. In terms of educational attainment, 55.9% held a high school diploma, 27.6% had an associate's degree, 12.6% had a bachelor's degree, and 3.9% possessed a master's degree or higher. The mean age of the respondents was 46.67 years, ranging from a minimum of 22 to a maximum of 59 years (Table 1).

Table 1. Frequency of respondents by demographic variables

	Frequency	Percentage	Frequency percentage	Cumulative frequency percentage
Demographic variable Gender	Female	79	62.2	62.2
	Male	48	37.8	100.0
	Total	127	100.0	100.0
Level of education	Under diploma	71	55.9	55.9
	Diploma	35	27.6	83.5
	Undergraduate	16	12.6	96.1

	Graduate and higher	5	3.9	3.9	100.0
	Total	127	100.0	100.0	
Age	Mean	46.67	Standard deviation	Minimum	Maximum
		46.67	8.34	22.00	59.00

According to Table 2, the mean score for psychological well-being among cancer patients is 35.06, with a standard deviation of 7.74. The normalized mean score suggests a medium to low level, indicating a relatively low level of psychological well-being among the participants in the research. Among the various indicators of psychological well-being, the mean score

for positive relationships with others is higher compared to the other indicators. On the other hand, the component of self-acceptance has the lowest mean score, indicating a lower level of self-acceptance among the cancer patients included in the study (Table 2).

Table 2. Mean and standard deviation of psychological well-being variable in cancer patients referred to Imam Ali (AS) hospital in Zahedan city

Variable	Number	Mean	SD	Minimum	Maximum
Autonomy	127	6.96	2.99	3	12
Mastery of the environment	127	5.59	1.84	3	9
Personal growth	127	8.01	3.57	3	14
Positive communication with others	127	8.19	4.03	3	15
Purposefulness	127	5.94	2.26	3	10
Self-acceptance	127	5.01	1.78	3	8
Total	127	35.06	7.74	18	53

According to the findings of Table 3, the mean score for the variable of psychological disorders among cancer patients is 200.58, with a standard deviation of 51.12. Based on the questionnaire's norm, these results indicate a high prevalence of psychological disorders in the participating cancer patients. Among the different types of psychological disorders, self-

harm demonstrates the highest mean score at 32.69, with a standard deviation of 10.63. Following that, depression exhibits the next highest mean score of 30.38, with a standard deviation of 12.19. Conversely, paranoid displays the lowest mean score for psychological disorders, with a mean of 12.48 and a standard deviation of 5.16 (Table 3).

Table 3. The mean and standard deviation of psychological disorders in participating cancer patients

Variable	Number	Mean	SD	Minimum	Maximum
Depression	127	30.38	12.19	13	54
Anxiety	127	24.99	10.20	10	42
Hypochondriasis	127	32.69	10.63	13	52
Obsession and compulsion	127	25.84	9.59	10	42
Interpersonal sensitivity	127	26.22	9.50	10	40
Aggression	127	14.27	5.00	6	27
Paranoid	127	12.48	5.16	6	24
Phobia	127	16.39	7.24	7	32
Psychosis	127	18.38	8.05	10	39
Total score	127	200.58	51.12	92	321

The findings from Table 4 reveal a significant and negative correlation between psychological disorders and psychological well-being ( $p < 0.001$ ,  $r = -0.504$ ) at the 0.01 level. The table

demonstrates that as psychological disorders increase among cancer patients, their psychological well-being decreases accordingly (Table 4).

Table 4. Correlation matrix of the relationship between psychological disorders and psychological well-being of cancer patients participating in the research

Variable	Psychological disorders		Psychological well-being
Psychological disorders	R	1	-0.504"
	Sig	-	0.001
	N	127	127

\*\* Significant correlation at the 0.01 level

\*Significant correlation at the 0.05 level

The findings in Table 5 indicate that among the subscales of psychological disorders, psychotic disorder exhibits the strongest negative and significant correlation with psychological well-being ( $r=-0.527$ ,  $p<0.001$ ) at the 0.01 level. Furthermore, among the subscales of psychological disorders, phobia demonstrates a negative and significant relationship

with psychological well-being ( $r=-0.452$ ,  $p<0.001$ ) at the 0.01 level, following psychosis. On the other hand, no significant correlation was observed between aggression and psychological well-being in cancer patients ( $p<0.50$ ,  $r=-0.060$ ) (Table 5).

Table 5. Correlation matrix of the relationship between subscales of psychological disorders and psychological well-being of cancer patients participating in the research

Variable	Depression	Anxiety	Hypochondriasis	Obsession	Interpersonal sensitivity	Aggression	Paranoid	Phobia	Psychosis	
Psychological well-being	R	-	-	-0.279**	0.303**	-0.300**	-0.060	-	-	-0.527**
		0.446**	0.358**					0.399**	0.452**	
	Sig	0.001	0.001	0.001	0.001	0.001	0.503	0.001	0.001	0.001
	N	127	127	127	127	127	127	127	127	127

\*\* Significant correlation at the 0.01 level

\*Significant correlation at the 0.05 level

According to the findings presented in Table 6, psychological disorders were found to account for 0.254 of the variance in psychological well-being. The summary of the regression model revealed a correlation coefficient ( $R=-0.504$ ) and a coefficient of determination ( $R^2=0.249$ ). Additionally, based on

the variance results ( $F=42.66$ ), it was determined that the regression coefficients indicated that psychological disorders can significantly predict the variability in the psychological well-being variable at a significance level of 0.001 (Table 6).

Table 6. Regression analysis of predicting psychological well-being based on psychological disorders

Criterion variable	Step	predictor variable	R	R2	Adjusted R2	F	P	B	Beta	T	P
Psychological well-being	1	Psychological disorders	-0.504	0.254	0.249	42.666	0.001	-0.076	-0.504	-0.653	0.001

a= Predictor: (fixed), psychological disorders

According to Table 7, initially, all psychological disorders including depression, anxiety, hypochondriasis, obsession and compulsion, interpersonal sensitivity, aggression, paranoia, phobia, and psychosis were included as predictor variables in the regression equation. Following this, among the psychological disorders, only psychosis and depression remained in the regression model, while the rest were excluded. In model 1, where psychopathy was entered as a constant predictive factor into the model, it accounted for

0.278% of the variance in psychological well-being ( $R^2=0.278$ ). In model 2, the inclusion of the depression factor in addition to psychopathy explained 0.306% of the variance in psychological well-being ( $R^2=0.306$ ). The variance results ( $F=27.37$ ) indicated that the observed significance level was less than 0.001, allowing us to reject the hypothesis of no linear relationship between psychological well-being and psychological disorders, and affirm that the regression coefficients were not zero. Furthermore, the regression

coefficients demonstrated that the components of psychosis and depression could predict the variability in the

psychological well-being variable at a significance level of 0.001 (Table 7).

Table 7. Regression analysis of psychological disorders (its subscales) about psychological well-being

Criterion variable	Step	predictor variable	R	R2	Adjusted R2	F	P	B	Beta	T	P
Psychological well-being	1	Psychosis	-0.527	0.278	0.272	48.147	0.001	-0.507	-0.527	-9.939	0.001
	2	Depression-psychosis	-0.553	0.306	0.295	27.37	0.001	-0.132	-0.208	-2.246	0.026

## Discussion

In recent years, the COVID-19 pandemic has had devastating impacts on various aspects of people's lives worldwide, including physical, mental, social, and economic dimensions. As the outbreak began, public health priorities shifted towards directing healthcare resources to combat the disease and preventing the exposure of medical professionals and patients. Consequently, all facets of cancer care, such as screening, diagnosis, treatment, and supportive care, were affected (American Cancer Society, 2021). In many countries, cancer has emerged as one of the leading causes of death, competing with heart diseases, particularly as the risk of contracting cancer increases with age (15). Research studies have also revealed that cancer patients often experience various psychiatric disorders, with depression, anxiety, somatization syndrome, obsessive-compulsive disorder, and phobia being the most common (21).

In a study conducted at Imam Ali Hospital in Zahedan City in 2021, among cancer patients diagnosed with COVID-19, a significant relationship was observed between different components of psychological disorders (physical complaints, obsessions, and compulsions, sensitivity in interpersonal relationships, depression, anxiety, aggression, phobia, paranoid thoughts, psychosis) and psychological well-being. The findings demonstrated a negative and significant correlation between psychological disorders and psychological well-being, indicating that an increase in psychological disorders among cancer patients was associated with a decrease in their psychological well-being. Among the subscales of psychological disorders, psychotic disorder exhibited the strongest negative and significant relationship with psychological well-being. Additionally, phobia, following psychosis, displayed a negative and significant relationship with psychological well-being. However, no significant relationship was found between aggression and psychological well-being in cancer patients. Based on these results, it can be concluded that psychological disorders can predict changes related to psychological well-being. Furthermore, the variance in the regression coefficients suggests that psychological disorders can predict the variability in the psychological well-being variable.

The results obtained from the present study are aligned with those of Karbalai, Yazdanbakhsh, and Karimi (2021); Azadi, Ahadi, and Hatami (2019); (24) Nik Bakhsh, Moadi, Amiri, Niazi Far, and Bijani (2018); Seyyed Tabatabai, Rahmatinejad and Sehat (2014) (21); Mardani Hamouleh and Shahraki Vahad (2013) (25), Pirkhaifi and Salehi (2013) (26); Tapa and Bista (2010) (16); Kissan, Mudge and Sartoris, (2011) (27); Wintberger, Brook, Roth, Breitbart and Nelson, (2011) (15). Seyyed Tabatabai, Rahmatinejad, and Sehat (2014) conducted a study to examine the occurrence of mental disorders among individuals diagnosed with cancer. The study included a sample of 109 cancer patients who were receiving chemotherapy at Qom City's chemotherapy department. The highest prevalence rate was found for somatization and depression syndromes, affecting 54.54% of the participants, while the lowest prevalence rate was observed for phobia syndromes, affecting only 0.30% of the participants. Furthermore, it was noted that the prevalence of OCD symptoms was higher among patients who underwent evaluation six months after receiving chemotherapy (21). Mardani Hamuleh and Shahraki Vahede (2008) conducted a study to explore mental health issues and quality of life in individuals with cancer. The findings revealed that cancer patients experienced psychological distress in three areas: anxiety, depression, and pseudo-physical symptoms. These psychological disorders were found to decrease their overall quality of life (25). It is commonly recognized that depression and anxiety are frequent responses to psychological disorders among cancer patients (28, 29). Additionally, several studies have demonstrated a high prevalence of six mental disorders in cancer patients, necessitating careful evaluation and clinical interventions. Three categories of these disorders are directly associated with the disease and include adjustment disorder with depression/anxiety, major depression, and delirium. Other disorders such as primary anxiety disorder, personality disorder, and major depressive disorder often existed before the disease and frequently worsened with its onset (16). Rodney, Gaynor, and Jolly (2005) also found in their research that women recently diagnosed with ovarian cancer exhibit symptoms of anxiety-phobia, depression, obsessive-compulsive disorder, and somatization (30). Pirkhaifi and Salehi (2013) reported a prevalence of 25.9% for anxiety

disorders and 39.5% for depressive disorders among women diagnosed with breast cancer. Their study also revealed that many Iranian women with breast cancer experience moderate to severe emotional problems including sadness, depression, anxiety, irritability, anger, fear, and withdrawal behaviors (26). Identifying and treating psychological disorders in cancer patients is crucial because these disorders hurt psychological well-being and overall quality of life. Moreover, cancer patients with psychiatric disorders are more likely to experience metastases, pain, and a higher rate of progression of cancer symptoms (15). There is a reciprocal relationship between psychological disorders and psychological well-being. On one hand, the disease itself, often accompanied by pain and discomfort, directly affects the psychological well-being of cancer patients and imposes functional limitations, hindering positive impact and life satisfaction (31). On the other hand, high levels of psychological well-being can act as a protective factor against psychological disorders (32). Ahoyi, Faramarzi, and Hassanzadeh (2016) examined the psychological well-being of breast cancer patients and found that cancer brings about profound emotional and psychological challenges. With the increase in survival rates, cancer patients live with the disease, its complications, and stress for extended periods, which can significantly impact their psychological well-being (33). This study specifically investigated the psychological well-being of women with breast cancer and revealed significant impairment in their psychological well-being (33). Therefore, considering the coexistence of chronic cancer and the COVID-19 pandemic, patients are susceptible to mental distress and a decline in mental well-being (11).

In this context, Chobin et al. (2021) conducted a study to examine the cognitive and emotional vulnerability of Iranian women with breast cancer during the COVID-19 outbreak. The research revealed that the spread of Covid-19 resulted in emotional challenges and psychological problems among women with breast cancer, leading to high levels of depression and anxiety. Furthermore, COVID-19 had an impact on the cognitive functioning of the patients, highlighting the need for psychological interventions (11). Additionally, research studies have indicated a decline in psychological well-being and a higher prevalence of psychological disorders in cancer patients who were diagnosed with COVID-19 (14). The findings of this study are significant because they shed light on the occurrence of psychological disorders and their detrimental effects on the psychological well-being of individuals, particularly cancer patients diagnosed with COVID-19. Furthermore, there is a lack of comprehensive and integrated research on this topic, highlighting the need to bridge the existing research gap and address the needs of institutions and organizations such as hospitals and medical centers. Considering the psychological impacts of cancer and the

COVID-19 pandemic, investigating psychological disorders and their effects on the health of these patients becomes crucial.

## **Conclusion**

Among the subscales of psychological disorders, psychotic disorder shows the strongest negative and significant correlation with psychological well-being at a significance level of 0.01. Additionally, phobia, second to psychosis, demonstrates a negative and significant correlation with psychological well-being at a significance level of 0.01. No significant relationship was found between aggression and psychological well-being in cancer patients. Psychological disorders in cancer patients with a COVID-19 diagnosis have a substantial impact on the treatment process, as well as the vulnerability and severity of the disease.

## **Research limitations**

Like any other research, this study encountered limitations and challenges that should be considered when applying the findings. These limitations include the absence of examination of specific groups of cancer patients and a lack of investigation into emotional issues and related disorders in cancer patients. Furthermore, the use of a descriptive-correlational study design limits the possibility of drawing cause-and-effect conclusions from the results. Additionally, the study focused on cancer patients diagnosed with COVID-19 in a specific hospital (Ali Ibn Abi Talib (AS)), which may restrict the generalizability of the findings. Lastly, the survey did not account for the segregation of data based on demographic characteristics.

## **Research suggestions**

Taking into account the weaknesses and limitations discussed in the preceding section, the following recommendations are proposed to address the deficiencies and shortcomings of the present study in future research endeavors. To enhance the generalizability of the findings, it is advisable to conduct separate investigations for each subgroup of cancer patients. Additionally, conducting research specifically focused on the emotional challenges faced by cancer patients diagnosed with COVID-19 is recommended. Furthermore, studies exploring the efficacy of psychological interventions in mitigating psychological disorders and promoting the psychological well-being of cancer patients with a COVID-19 diagnosis are suggested.

## **Practical suggestions**

To determine the most efficient approaches for enhancing the mental well-being of cancer patients, it is recommended to conduct experimental research specifically targeting these groups. Furthermore, teaching fundamental life skills to patients is proposed as a means of reducing the occurrence of psychological disorders and establishing a foundation for psychological well-being. In addition, it is advised that the

findings of this research be utilized by counselors and psychologists working in public hospital centers and clinics. Lastly, it is suggested that hospital administrators place greater emphasis on addressing the psychological concerns of individuals with chronic physical conditions.

#### **Acknowledgments:**

The content of this article is derived from a master's thesis that has been approved by Islamic Azad University, Zahedan branch, under the ethical code IR.ZAUMS.REC.1400.096. We express our utmost gratitude to the entire staff of Ali Ibn Abi Talib (AS) Zahedan Hospital for their invaluable assistance in the successful execution of this project.

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