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## **INVESTIGATION OF MENTAL HEALTH IN PATIENTS WITH BLOOD CANCER AND ITS RELATION TO LIFE EXPECTANCY AND QUALITY OF LIFE**

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### **ABSTRACT**

The aim of this study was to determine the health status of patients with leukemia and its relation to life expectancy and quality of life. The method used in this research is descriptive and correlational. The sample in this study included blood cancer patients referred to hospitals in Zahedan city in period of 3 months, the number of 100 people. Sampling method is convenience method. Measuring Quality of Life Questionnaire and War & Sherbon (1992), life expectancy questionnaire of Hallajian (2009) and General Health Questionnaire (Goldberg, 1989). In order to analyze SPSS 18 by using Pearson correlation and stepwise regression were used. The results of this study show that patients with blood cancers in general health subscales of physical symptoms and social dysfunction is trouble between the mental health and life expectancy of patients with cancer and there is significant relationship mental health of unique predictor of life expectancy in patients with cancer. The results showed that between mental health and quality of life in patients with cancer, there is a significant relationship between mental health and quality of life in patients with a unique predictor of cancer. So the mental health of the patient can be indicators such as life expectancy and quality of life increased the response rate to treatment were also higher.

**Keywords:** *Public Health, Life Expectancy, Quality of Life, Blood Cancer*

### **INTRODUCTION**

The body is made of numerous cells. Big and bad cells divide to advance towards health. But in some cases causes the cells to be diverted. The cells continue to divide, if you do not need new cell. The mass of extra cells to form tumors will turn out. Because some cells are more prone than growth of other cells. Malignant tumors are cancer. Cancerous cells in tumors are abnormal and divide without control and destroy the tissue around them. Cancer cells can get into the bloodstream or lymph system from a malignant tumor and from there to all parts of body (Kianoush, 2000). Today, cancer is one of the most important health problems worldwide and if its prevalence increased similarly. Cancer is different pressures on the lives of patients and their families. Events such as patient's response to cancer and of psychological, family and social environment, disability and deformity depends created and can affect all levels of patient activity (Bijari *et al.*, 2002).

Iran as developing country, experience of the spread of contagious diseases and chronic non-communicable diseases now, the pattern of morbidity and mortality of the disease has changed. According to the latest statistical and epidemiological studies in Iran, after cancer and cardiovascular disease events, is the third leading cause of death (Ghobadi *et al.*, 2013).

One of the most common cancers is blood cancers. Blood cancer is progressive disease and malignant hematopoietic organs of body. The disease is caused by the proliferation of white blood cells and precursor's incomplete development of blood and bone marrow is created. The word leukemia means white blood. It seems that both genetic and environmental factors involved in development of this disease. Like any other cancer, and the leading risk factor in the development of leukemia to the disorder of cell division.

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Some psychologists believe that ability of environment, flexibility, fair and reasonable in the face of deprivation and psychological pressure, the criteria for mental health and mental illness treatment the aim of enabling them to family life, social and so-called compromise with the environment. Note that those who have no symptoms of mental disorders are not necessarily mentally healthy people do not count, just like those who do not have any symptoms, but are not considered healthy (Esfahani, 2002).

Regardless of the type of disease, mental disorders in most patients, is one of the important aspects that should be evaluated and treated, if possible. Mental disorders in chronic patients, effectiveness of treatment and reduce long-ins leads to hospitalization and is associated with survival and survival (quoted by Moghani lankarani, Tavalae, Najafi and Naderi, 2005).

Chronic diseases such as cancer are associated with stress, and the person is more susceptible to the negative effects of psychological and physiological stressors caused by the greater will be his causes the immune system function is reduced and will have difficulty in coping effectively with patients. Therefore, in patients with cancer, high levels of stress, not reduce number of killer cells, but these cells less impact and stress in person's white blood cells interfere with the activity of the immune system is weak (Rous, Bosnia, Dalton and Johnson, 2002).

Psychological stress is caused by the cancer, causing anxiety and depression in these patients and reduction and treatment responses, the longer duration of hospitalization, medical treatment and reducing the risk of disruption and is alive. Many of the concerns and depression in cancer patients due to loss of limb or body part or organ function, dependency on others and lose its role in community or family. Anxiety and depression, the most common psychological reactions in cancer patients that are dealing with diagnosis, prognosis and treatment options for patients afflicted patients and treatments can be anxiety-provoking. On the other hand, the impact on general quality of life in patients with cancer pain affects the patient's physical and psychological aspects (Kahrzaei *et al.*, 2012).

Cancer challenge looking at life as regular and continuous process, a challenge that can lead to significant psychological consequences. Patients with serious illness, chronic and uncontrollable they are passive report more disability, social functioning and mental health problems are weaker (Kahrzaei *et al.*, 2102). In other words we can say that this type of disease can have a significant impact on the life expectancy of cancer patients and therefore patients have blood cancer.

The concepts of hope, spiritual health and quality of life for patients and nurses are meaningful and relevant fields. However, few studies have found connections between these concepts in hospitalized patients (Pipe *et al.*, 2008). Hope life force, dynamic, multi-dimensional and orbital process by ensuring at same time along with uncertainty for future well defined, with emphasis on the fact that this is good for one's future hopes, really is possible and important considered. Hope to work and interpersonal communication applications. Hopefully, not single act but combination of feelings and actions that varies over time (Martoschiou & Doufalt, 1985 quoted by Mohammadi Shahbolaghi & Abbas Zadeh, 1999).

Hope adaptation mechanisms in chronic diseases such as cancer and as complicating factor in recovery and potentially powerful multi-dimensional and effective adaptation are defined (Hurt, 2000).

In Benzein & Berg's view, Hope physiologically and emotionally helps patients to tolerate disease crisis (Benzein & Berg, 2005).

Other sources of hope as factor in predicting the course of the disease is serious (Herth & Cutcliffe, 2002). Conversely disappointment as defined tolerance insuperable situation where not expected to achieve any goal, depression, death and suicide linked (Faran *et al.*, 1995). Hope involves imagination and attention to the future and makes an effort with notion that positive results could be achieved any sense of hope, multidimensional, dynamic, forward-looking and reflects its review process (Mc Clementa & Chochinob, 2008).

Because cancer is type of blood cancer patients end their lives, usually have little hope of life and become frustrated and depressed. The prolonged duration of their disease, they will be disappointed. Quality of life is another factor that could be affected by mental health. Factors related to quality of life of cancer

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patients could be an important point in evaluating the effectiveness of treatment and disease process in these patients (Slevin *et al.*, 1988).

To satisfy basic human needs and improve their quality of life and health need to have access to health facilities. Perhaps the physical welfare, mental and social well understood by the person or group of persons (such as happiness, satisfaction, pride, health, economic status, educational opportunities, creativity) the definition of quality of life. Trying to measure quality of life of 1940s with the introduction of Karnofski's index classification for patients with cancer and heart function was launched by New York Heart Association (Eftekhar, 2002).

Quality of life is multidimensional concept and complex and includes objective and subjective factors and is often perceived as certain in life satisfaction, physical health, social health and family, hope, etiquette and mental health of patient. In cancer patients, like other chronic diseases, to maximize quality of life, care is primary objective and goal in treating patients with health care team to maximize job potential and quality of life is improved performance (Hassanpour and Azeri, 2006).

One of the main factors that affect people's quality of life is physical and mental health. When someone is diagnosed with cancer damaged her body, but the traumatized person against physical damage he could be much larger because when patients have a defect in their physical health status experienced by mental adjustment more difficult. Usually patients, especially those patients with blood cancer, because of the fear and anxiety of their illness; they are of lower quality of life. Current treatments are for leukemia although an important impact on the control and prevention of disease but there are also psychological problems caused by this disease (Kahrzaei *et al.*, 2012).

So, we can only treat a cancer patient to clinical aspects summarized. Cancer and its treatment have different dimensions, so it is important that these issues be considered along with clinical issues. It seems that psychological assessment of patients, the discovery of common reactions and psychological symptoms to prevention and treatment quickly is essential. Cancer patients need to adapt their work and life with a chronic disease.

These people will need to learn new coping skills, this goal can only be achieved by confronting their reaction to the disease and its attendant problems are well known. The positive effects of psychological interventions in improving chronic disease have been confirmed and the expansion of health psychology, psychologists assumed a more active role in the treatment of these diseases. Including the approach is cognitive-behavioral approach to psychology researchers and psychologists in recent decades has attracted. This approach can help patients to negative psychological impact to a minimum their illness. Strong empirical support on the use of cognitive-behavioral therapy for common mental health problems, physical illness, with modern health care delivery and treatment with emphasis on empirical support fully synchronized. Cognitive behavioral therapy model and it has been for many mental disorders and chronic medical diseases have been developed and many of them are effective in clinical studies (Kahrzaei *et al.*, 2012).

Given the above, it can be said that the crisis caused by the cancer may be a change in attitude on life expectancy and mental health but the greatest state in the course of the patient's sense of despair. This reaction may start immediately after illness or sometime after it has occurred. Depression for cancer patients is very harmful, because it requires the submission to disease. They do not attempt to survive and better opportunities to live the rest of his life will lose. Given the importance of life expectancy, quality of life, mental health and related factors in patients with leukemia and noting that studies in this field in our country is not complete, so the importance of mental health in cancer patients blood and its relation to life expectancy and quality of life is important and necessary.

## **MATERIALS AND METHODS**

### **Method**

This research method is descriptive and co relational.

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### Statistical Population

The population of this study included all patients with blood cancer who referred in treatment centers in Zahedan City in 2013-2014.

### Sample Size and Sampling

Among patients with blood cancer in treatment center at Zahedan City by convenience method 100 patients were selected for the sample of this research.

### Measures

1. *General Health Questionnaire (28\_GHQ)*: This test has 28 items in this questionnaire will be given to two groups of phenomena: a) The inability of people to enjoy a healthy, productive action, b) New phenomena of with disabilities. This questionnaire has four subscales: (Physical symptoms, symptoms of anxiety and insomnia, social dysfunction, symptoms of depression). This scale has been run on normal group consisted of 80 subjects were randomly assigned in 2013 in Mashhad and Tehran. and Cranach's alpha was calculated at  $p = 0.05$  was significant and reliability of Mental Health questionnaire %0.91.

2. *World Health Organization Quality of Life Questionnaire Short Form*: Consists of 26 questions that measures quality of life in four domains: physical health, psychological health, social relationships and Social environment (World Health Organization, 1998). Questions are 5-choices, and their Scoring is between 1 and 5 points. Since 1996, validity and reliability of the questionnaire has been done in countries and different cultures by the World Health Organization. Bonomi *et al.*, in the internal reliability of this test reported coefficient 0.83 to 0.95. Also Natalie in the chronic group, reported that reliability of this test is 0.90 and in group of normal individuals is 0.86 (Williams, 2000). In Iran, Rahimi (2003) estimated its reliability coefficient 0.89.

3. *Life Expectancy Questionnaire*: Questionnaire life expectancy in 209 was made by Hallajian. The questionnaire included 33 female subjects is based on the Likert scale (totally, almost never) to respond. The maximum score is 99 or anything in the questionnaire a higher score represents greater life expectancy. Considering that the standard of reliability and validity of the questionnaire is acceptable, in addition, the questionnaire was approved by the Supervisor and Cronbach's alpha coefficient obtained in the study's Hallajian (2009) calculated that the 0.84 showed acceptable reliability.

In this study, the Pearson correlation coefficient and stepwise regression methods were used.

## RESULTS AND DISCUSSION

### Findings

Table 1 show the prevalence of subjects studied in each of the subscales of general health questionnaire is based on the presence or absence of symptoms.

**Table 1: Frequency and the Scale of the Public Health of the Presence or Absence of Signal Separation**

Scores		Frequency	Frequency Percentage
Somatic Symptoms	Checked	45	45%
	Asymptomatic	55	55%
Anxiety	Checked	53	53%
	Asymptomatic	47	47%
Social Dysfunction	Checked	24	24%
	Asymptomatic	76	76%
Depression	Checked	58	58%
	Asymptomatic	42	42%
Total	100	100	100%

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As can be seen most frequently is on the scale of depression (58%) and the lowest frequency of the scale of social dysfunction (24%).

**Table 2: Correlation Between the Scale of Public Health with Life Expectancy**

Scales	Life Expectancy	
	r	Sig
Physical Symptoms	-0.423	0.001
Anxiety	-0.093	0.359
Social Dysfunction	-0.269	0.007
Depression	-0.196	0.051
The General Health	-0.036	0.718

Results Table 2 shows that apart from the scale of anxiety, depression and general public health, the public health subscales including physical symptoms and social dysfunction has a significant relationship with their life expectancy.

**Table 3: Regression Results the Life Expectancy of the General Health**

Variable	R	R <sup>2</sup>	R <sup>2</sup> Change	B	SD	Beta	T	F	Sig.
Physical Symptoms	0.423	0.179	0.179	-6.95	1.55	-0.4	-4.5	21.32	0.001
Social Dysfunction	0.481	0.231	0.052	3.46	1.35	-0.23	2.57	14.57	0.012

The results (Table 3) to predict the life expectancy of the scale of the public health level (somatic symptoms, anxiety, social dysfunction, depression and general health) of stepwise regression were used and the results showed that only the scale of physical symptoms and social dysfunction were able to arrange for scores of 17.91 and 2.5% of the variance in life expectancy explain life. Other components of public health (somatic symptoms, anxiety, and social dysfunction) were removed from the equation because the situation did not enter the equation. Thus, the overall level of public health and significant negative correlation with life expectancy scores and negative predictor for it and significant negative relationship with depression subscale scores and predicted life expectancy was negative.

**Table 4: Correlation Between the Scale of the Public Health and Quality of Life**

Sub-Scales	Life Expectancy	
	r	Sig.
Physical Symptoms	-0.451	0.01
Anxiety	-0.011	0.914
Social Dysfunction	-0.226	0.06
Depression	-0.228	0.024
The General Health	-0.064	0.530



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Results Table 4 shows that the scale of physical symptoms, social dysfunction and depression and quality of life are a significant relationship.

**Table 5: The Regression Results on the Quality of Life of Public Health**

Variable	R	R <sup>2</sup>	R <sup>2</sup> Change	B	SD	Beta	T	F	Sig
Physical Symptoms	0.451	0.203	0.203	-10.27	2.12	-0.433	-4.9	25.002	0.001
Social Dysfunction	0.486	0.236	0.033	3.77	1.83	-0.183	2.05	15.02	0.043

Based on the results presented in Table 5, to predict the quality of life of the different components of public health (somatic symptoms, anxiety, social dysfunction, depression and general health) of the stepwise regression was used. The results showed that only the scale of somatic symptoms and social dysfunction were 3.20 and 3.3%, respectively, in the amount of variance explained life to quality of life scores. Other factors, such as Haas general health conditions were excluded from the equation did not enter the equation. The physical symptoms of the disorder subscale significant negative correlation with quality of life scores and negative predictor for the social dysfunction and significant negative correlation with quality of life scores and negative predictor for it.

## Discussion and Conclusion

In the past years we have seen the spread of deadly diseases. However, with the increasing medical advances, many of these diseases, the prevention, treatment and slowed the disease have been found. But a major problem is that the treatments can have a great role in improving patient is a patient spirit. Good mood and change the look of the causes of this disease, which is called a blessing rather than a curse to know and despite many difficulties to live many years with hope and love, along with their loved ones. Research and various observations suggest that having good mental health and hope to people with chronic diseases, as well as treatments based on them in improvement impact and thus increases the quality of life in them (Shoa Kezemi and Momeni Javid, 2009).

Unfortunately, the epidemiology of positive thinking and hope in the community so that we still have not universal and many people still hear the word cancer, land and destroyed over their heads time and they closed all the doors and a lot of sadness, disappointment and negative energy into life and the people around them. Negative thoughts and their disappointment caused that the impact of the disease will be very shortly overcome. Perhaps they are unaware of the sentence or perhaps indifferent to it, but "studies have demonstrated that positive attitude and hopeful, and to mental health, cancer treatment is the most effective way.

Several studies a variety of factors for the incidence and prevalence of cancer have introduced but regardless of the causes from the perspective of psychology, the most important thing in dealing with the disease and how to cope with it is to look at it and determine health and response to therapy (Kahrzaei *et al.*, 2011).

For the purpose of this study was to evaluate the mental health status of patients with blood cancer and its relation to life expectancy and quality of life, the results showed that among the different scales of public health, physical symptoms and social dysfunction life expectancy in patients with blood cancer showed significant relationship. The results showed that the predicted life expectancy only by the scale of physical symptoms and social dysfunction and other general health subscales (anxiety, depression) life expectancy in patients with blood cancer could predict.

The results of these research findings Taheri and Amiri (2010) Kazmi and Javed (2009); Shahbolaghi and colleagues (1999), Benson (2006), Snyder (2006) and Jackson-Weiss and Landquist (2003) Taheri and

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Amir (2010) Vicky Note (2006); Fring *et al.*, (1997); Baljani *et al.*, (2011); Kourdila and Poani, (2014); Proshotam *et al.*, (2013); Panto and Ternzo, (2011) are consistent.

In reviewing studies of hope, the hope of higher levels of physical and psychological health, high self-worth, positive thinking and positive relationship is a wonderful social relationship (Benson, 2006), the findings are consistent with the findings of the current study. That mental health and hope and self-esteem in social relationships helps to increase physical health of patients. Snyder (2006), a study concluded that health and hope down or low, symptoms of depression and quality of life to predict. Patients who have spirit of hope way of coping with disease learn faster than others, and through the course of treatment can act as a source of support and awareness for other diseases.

Taheri and Amiri (2010) noted that quality of life in patients with depression, anxiety and more stress was significantly lower than patients with levels of depression, anxiety and stress less. Of course, this case not only in relation to patients with specific diseases such as cancer, but in other cases it is. Wiki Writing (2006) showed that patients who had good life and good spirits after surgery are less likely to become infected and other immune diseases they are at relatively high levels and vice versa patients desperate for treatment they also suffer from high stress, the slightest sign of foot to come in and file their lives faster than others will be closed while the injured have been far less than other patients.

Fring and colleagues (1997) showed a positive correlation in high spirits and hope to have mental health symptoms. Jafari and colleagues indicated positive correlation between spiritual health and hope to sign the adoption of appropriate coping mechanisms to deal with patients in life-threatening events are known. Also as before, the importance of hope in coping with life threatening diseases like cancer and the role of hope in improving the quality of life of cancer patients have been found.

The hope role for cancer patients, showed positive results in lives of cancer patients is felt. Relying on faith and conviction of Providence of God in many cancer patients, can pass the most difficult stages of treatment, and thus overcome the impact of cancer.

Because hope and confidence in future add love and inner faith and also they carry out to strong bright. When there is a person full of joy that his creative force to work and thought put into practice (Baljani *et al.*, 2011).

Hopefully the spirit of the important factors in cancer patients is an essential element in many of compliance with their conditions, especially in the therapeutic process (Kordila and Powani, 2014). The researchers believe that the person is initially frustrated and depressed. Disappointment on health and psychological dimensions of people have a negative effect on the dimensions of the disorder is a risk factor for. In diseases such as cancer patients hope for efforts to confront and fight the disease and continuation of treatment increase (Proshotam *et al.*, 2013).

Cancer and its treatment of physical problems of people with mental health problems can also cause symptoms of depression is evident that in the meantime, because many of them are depressed and thinking in the hope that the reduction of (Panto and Ternzo, 2011). Jessica and colleagues (2013), also expressed the hope that the symbol of mental health and the ability to believe to feel better in the future. But despair, depression is the opposite of hope and of the characteristics and manifestations. Health and psychological despair people have a negative effect on this dimension is a risk factor for the disorder (Anmika *et al.*, 2014).

The results of Faljork and colleagues (2012) showed that there was a significant linear relationship between hope and mental health.

Because in this study were confirmed positive and significant relationship between mental health and hope, therefore, to adopt counseling and psychology as an important priority in health centers should be of interest to authorities and health managers and in this way to solve many psychological problems caused by disappointment that engages its clients and reduces their quality of life play an effective role. The establishment and strengthening support institutions for compatibility with a variety of mental health problems appears necessary for these patients.

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The results showed that scale of offenders through general health, physical symptoms, social dysfunction and depression has a significant relationship with quality of life and the scale of physical symptoms and social dysfunction could explain the variance for scores of quality of life.

The results of the study, teachers and colleagues (2013) as "anticipate psychology and mental health and quality of life after surgery: a review of recent research" in one direction. The researchers found that pre-operative psychological factors such as psychological symptoms, body image and self-esteem may affect mental health after surgery. Predictors of HRQOL after surgery seem to be the character, severe mental disorder symptoms of depression at baseline and during treatment. In addition, psychological symptoms that persist after surgery in eating behavior is likely to contribute to poor health-related quality of life score. The results of a single study *et al.*, (2013) under the heading "health-related quality of life and its influencing factors in women with breast cancer" which showed that the quality of life in the field of mental health from other areas were lower. Also factors associated with quality of life in patients with breast cancer, including marital status, occupation and type of surgery. The consideration of these factors and take steps to investigate the psychological and psychiatric counseling can be effective in improving the quality of life of these patients, with results in line but it is in the opposite direction.

Psychological or mental health of patients with cancer is another important element that should be taken seriously in this context, the. And try to be the last in terms of mental patients to live better. So it can be done through psychological counseling to cancer patients increased confidence. This effort is also hoping to be bold in their lives and they come back to life this important factor. Cancer patients have their vision and sense of self, others and all of life changes and have good feelings and attitudes in positive form.

Changing attitudes about cancer and the knowledge is how to deal with a patient with cancer is one of the most important principles of coping with the disease. Keep hidden disease patient worst misconduct in dealing with cancer; because the knowledge of the patient's condition if it is to happen, patient's own unfinished work to do for the rest of his life decision. There are researches that about hat patients are aware of their disease to end-stage disease even more hope to patients who are unaware of their infection (Heidari *et al.*, 2015).

Unfortunately, when the patient realizes that disease is cancer, would prefer to have different name on his illness, because cancer in our country is label. When someone tells me I have cancer, people think that this person committed the cardinal sin of which are punished and thus people prefer not to talk about their illness with others and this causes the patient gradually isolated and sought isolation, hope and social support to lose. While that kind of attitude to cancer patients in our country change, and the disease to be considered as cold conditions. Even if in some cases, principles of treatment for some patients there, told him not to lose hope. On the other hand, based on a series of indicators of life trying to remain patient medically are at the highest level of quality of life. There is always the possibility of a miracle.

Friends and relatives of the patient's role is another influential factor in the increasing spirit of hope in patients with cancer. Early diagnosis of this disease should be the medical team in partnership with the patient's family members. After informing the patient of their disease may be aggressive individual or isolated; at this point, the need to support palliative care becomes more and more evident and in addition to the patient, family members should also benefit from this support, because in some cases the problems of the families of the sick person more. The emphasis on the presence of certain family members of patients in the counseling office said.

Trained support person or a member of his family, as well as support in the recovery of the patient or the patient is improved. They despair at times, are harbingers of change and progress.

#### **Limitations of this Study are to generalize the Results to Influence the Range Include:**

1. According to research facilities research, the subject of this study, only patients with leukemia of Zahedan city that this cannot be generalized to the entire cancer patients should be considered.
2. Due to methodological limitations, this study sample included patients with a form of leukemia, which is threat to external validity of the study.



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3. The tools used in this study can be confirmed in terms of psychometric properties, different cultural foundations to take advantage of scale that affects the internal validity of the study.

Based on the experiences and limitations faced by researchers in the process of this study, the research-based proposals that can help researchers answer:

1. Since this study was conducted on patients with blood cancer is suggested, research with this theme on other cancer patients may also be performed to determine if the results are what distinguish this or similar groups have, as well as the study despite the gender variable, there are considerable benefits.
2. The implementation of other studies on different populations in terms of age, geographic, given effectiveness of the recall gives way.
3. Examine relationship between variables (spirituality, defense mechanisms and attitude to life) in patients with cancer.

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