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Evaluation of Mental Health of Chemotherapy-Treated Cancer Nurses

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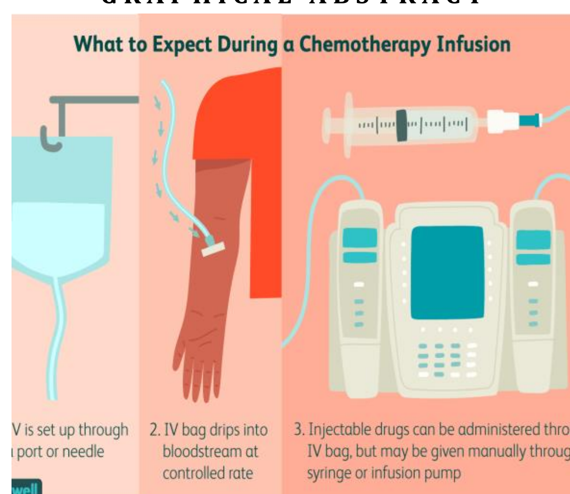
ABSTRACT

Cancer is a disease that changes the way one thinks about life, threatens to impair one's performance, and also change one's appearance. Being diagnosed with cancer causes a buzz in a person's life. Patient nurses should try to control their level of emotional distress while making vital decisions about treatment. The patient's main concerns include fears of death, dependence, malformation, disability, rejection and severance, and financial issues. Patient reactions are modulated by psychological and interpersonal factors. Medical factors include tumor location, symptoms, and course of the disease. Psychological factors include temperament, ability to adapt, ego power and the evolutionary stage of life, and the effects and meaning of cancer at that stage. Interpersonal factors are related to family and social support. Patients may experience anxiety, sadness, fear, and anger, or may become numb. Sin and the common mechanisms play a major role in it. Cognitively, patients may be aggressively seeking information, or may be confused or paralyzed or unable to concentrate. Physical complaints may increase and daily activities, appetite and sleep may be disturbed. Acute stress reactions may be severe but are usually variable and transient. When the disorder lasts for more than 10-14 days, Baciti evaluates the patient for psychiatric status.

GRAPHICAL ABSTRACT



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Introduction

Undoubtedly, the health of people in the community is very important. Human societies cannot survive without maintaining health and hygiene. Illness and disability disrupt human relationships and thus deprive human beings of a sense of security and solidarity. Therefore, it is natural that medicine always strives to maintain and improve the health of society with the aim of gaining new information. Maintaining the physical health of individuals in a community means preventing the spread or eradication of diseases that cause disability or extinction [1] (Figure 1). As health as a duty of medicine and in the field of medical sciences is of great importance and maintaining the physical health of individuals depends on it, the health and mental health of individuals in society has also received special attention from experts and practitioners. What is now known as mental health in various societies is in fact a specialized field in the field of psychiatry. But what should be noted at the outset is that given the major differences between mental illness and physical illness, mental health has many difficulties in achieving its goals. Behavioral, emotional, and cognitive symptoms may occur in respond to stressful events one or more stressors can lead to psychiatric illness and disorders [2]. The number and severity of stressors do not always predict the severity of symptoms and psychiatric disorders. The stressors may be single, multiple, or persistent. Physical illness is one of the stressors that can be considered a risk to mental health if it becomes chronic. Community and specialists in various fields of medicine, such as psychiatrists, play an important role in the mental health of patients with physical illnesses. For example, the family and the community can improve mental health or at least improve mental health by observing the case of preventing physical illnesses and providing emotional and social support to patients after suffering from physical illnesses and accepting the illness instead of rejecting them [3].

Research Background

Mental health concepts

The World Health Organization (WHO) defines mental health as "mental health within the general concept of health, and health means the full ability to play social, mental, physical, and health roles, not just the absence of disease or retardation." In this definition, as it was observed, adaptation to the environment is very important, according to which a person who can adapt well to his environment, family, colleagues, neighbors and society in general, will be normal in terms of mental health. This person will move forward with a satisfactory mental balance and will resolve their conflicts with the outside and inside world and will resist the inevitable failures of life [5-8].

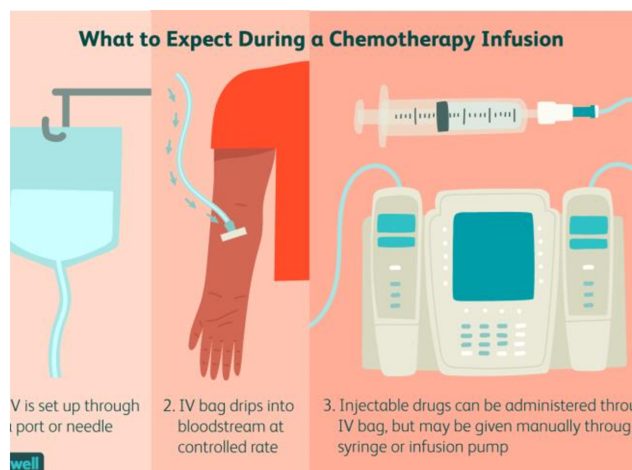

Figure 1: Chemotherapy Infusion for Breast Cancer: Procedure and Side Effects [1]

Inappropriate and unexpected treatment will make the patient be mentally ill. Because he will face the risk that he will show his unresolved conflicts as a neurotic person. Therefore, people's mental health is very important and for this reason, different communities have been mobilized today to organize sites related to mental health and mental illness prediction. These sites, which can have high human and economic values, require that mental health needs be recognized above all else. Mental health needs are to know the factors that guarantee it,

especially in children, to understand the causes of the disorder and to learn how to treat mental illness. In 1948, the Preparatory Commission of the Third World Mental Health Congress proposed a two-part definition of mental health:

1- Mental health is a state that physically, mentally and emotionally to the extent that it is compatible with the mental health of others, facilitating the most desirable growth for the individual.

2- A good society is the one that provides such growth for its members and at the same time guarantees its own growth and shows tolerance towards other societies.

The WHO defines mental health in terms of biological and social aspects. According to this organization, mental health for a person has the ability to create balanced relationships with others and the ability to participate in changes in social and material environment or the ability to help change in a constructive way. Mental health also requires coordination between instinctual desires. This harmony contributes to the unity of the individual, not to some instinctual tendencies to oppose and suppress other tendencies. In recent years, the Canadian Mental Health Association has defined it in three parts:

Part One: Attitudes towards Self,

Part Two: Attitudes toward Others (Comfort with Others), and

Part Three: Attitudes toward Life (Meeting Requirements) life). According to this association, there are signs that inform us of psychological difficulties, especially in self-absorption, aggression, abstinence, insomnia, anxiety, daydreaming, hypochondria, mood swings.

In addition to having good mental health, there are conditions including: Facing reality, adapting to change, having room for anxiety, low expectations, respecting others, and helping people (Figure 2) [9].

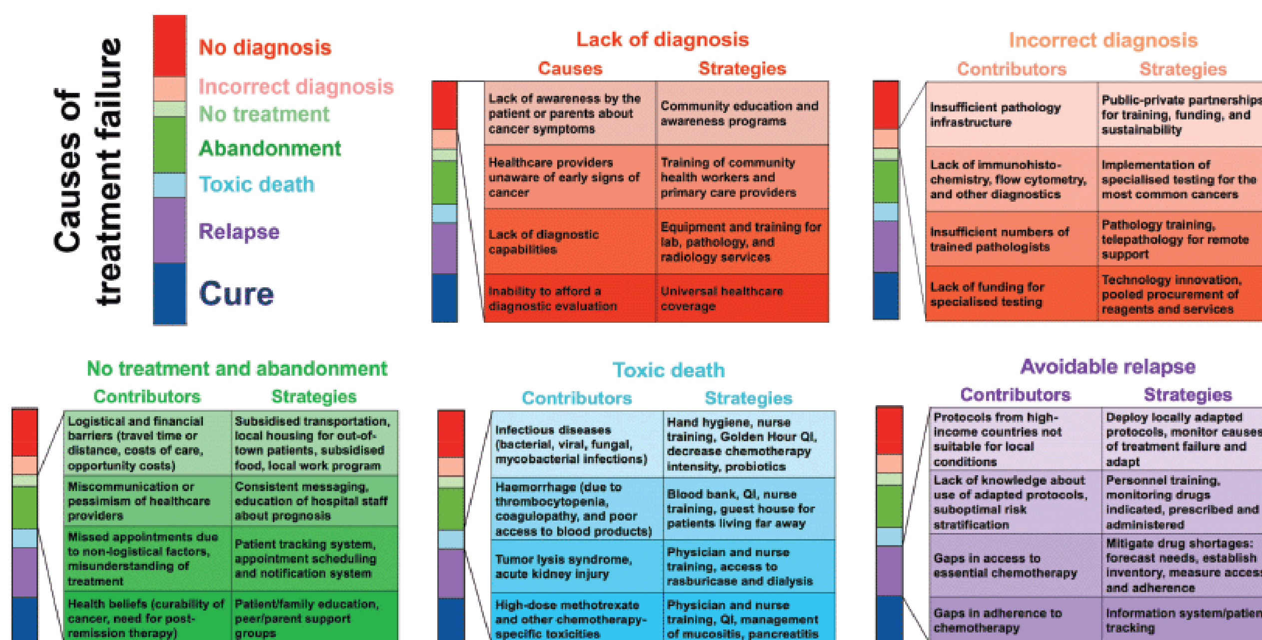

Figure 2: Highlights from the 13th African Continental Meeting of the International Society [4]

Prevention in mental health

In mental health in general, the goal is to reduce illness and its complications. To achieve this goal, three issues must be pursued: prevention of disease, i.e. primary prevention, treatment of the disease before it leaves lasting effects, namely secondary prevention, and reduction of disabilities resulting from the disease or rehabilitation of patients, i.e. tertiary [10].

1- Primary prevention: In the 1960s and 1950s, the world hoped to prevent basic mental illness. It was believed that if children were properly raised and the principles of psycho-social development were applied to them, and a strong

self were developed in them, they could be prevented from developing any mental illness. For this reason, a mental health program to educate any individual or group that has an impact on a child's development, including obstetricians, pediatricians, and education officials, i.e. school and family, was challenged, and it was later emphasized that children at risk that their parents with special educational and environmental conditions are not able to develop enough in them. Such group needs more attention and mental health planning. For this reason, centers were set up for adoption, assistance, and charitable activities for special educators. In the following decades, the above movements to prevent mental illness failed. Because the theories of etiology of mental illness, considered more as psycho-social, were not appropriate.
After that, the more the genetic and biological meaning of mental illness was discovered, the more the reason for the failure of disease prevention methods became understandable, then new methods of disease prevention were introduced [11]. Genetic counseling was considered for those diseases in which the family plan was proposed. On the other hand, the involvement of psychological stressors in igniting psychological differences caused the necessary training to help people to reduce the effects of these stressors in life for the initial prevention of diseases. Many medical conditions, including infectious and cardiovascular diseases and vitamin deficiencies that have neuropsychological consequences, can also be prevented, as well as the use of calcium and substances such as cocaine and drugs during pregnancy that have psychological effects on the baby. These and similar issues constitute the scope of primary prevention in mental health.

2- Secondary prevention: Early recognition and immediate treatment of neuropsychiatric disorders that lead to the prevention of permanent destruction of diseases is the field of secondary prevention. In the United States, the National Institute of Mental Health (NIMH) and the Child and Adolescent Program (CACSP) are responsible for this prevention. In this system, all facilities are used for the rapid and timely diagnosis and treatment of behavioral diseases in children and adolescents and assistance to their families. Psychiatrists and other mental health professionals are part of the treatment team. Crisis intervention mechanisms and training in how to treat patients in the family are among the mental health tasks associated with secondary prevention [12].

3- Tertiary prevention: Reducing the functional destruction of the individual in the community due to mental illness is called tertiary prevention. According to this definition, treatment methods in resistant mental illnesses are proposed in this prevention. In other words, reducing the residual effects of the disease on the individual in tertiary prevention is emphasized. The primary goal in this type of prevention is actually rehabilitation of the mentally ill. Because most severe mental illnesses have recurrent recurrences. Patients' rehabilitation cannot be delayed until complete cure of the disease.

On the other hand, in psychiatry, secondary and tertiary prevention should be done together and with the current knowledge, it is sometimes difficult to correctly determine the symptoms such as anorexia, indifference (astonishment), how many symptoms of the disease and how much of the remaining symptoms of the disease. Tertiary prevention and rehabilitation in psychiatry is often discussed with patients suffering from severe and debilitating mental illness. Schizophrenia and most severe mood disorders and some debilitating personality disorders are among these diseases. All of these conditions, especially schizophrenia occur in late adolescence and early adolescence. Naturally, the academic and career advancement that occurs most at this age greatly affects the individual. After the period of illness, most patients suffer from occupational, social and interpersonal disabilities. For this reason, its rehabilitation will be a complex process that will meet the psychological, social and medical needs.
Psychiatry is now trying to reduce the length of

hospital stay, even in acute cases, so that the patient can be more present in the community and rehabilitate as soon as possible [13]. Recently, terms such as general prevention, aimed at the attention of society and everyone, and selective prevention aimed at people who are most at risk of mental illness, and case prevention aimed at people at high risk of mental illness with strong biological symptoms have been introduced, but this division has not been addressed in the new American Psychiatric Classification.

Cancer

Cancer is a disease in which the cells of the body grow uncontrollably due to damage to their natural regulatory mechanisms. In most cancers, solid glands in certain parts of the body are commonly found in the skin, breast, lungs, intestines, or prostate glands are formed. The disease may spread through the blood and lymphatic system. As our understanding of cancer has increased over the past 20 years, lifestyle changes, effective screening programs, and new types of treatment have led to advances in the prevention and treatment of cancer. The term cancer is derived from the Greek word crab. The ancient Greek physician Hippocrates likened a diffuse cancer to a crab. However, our understanding of the disease has improved since then. But this explanation still seems appropriate. An important feature of a cancerous gland is its ability to spread throughout the body [14].

Genetic basis of Cancer

The discovery, which shows genetic damage, could lead to cancer. One of the most important advances in cancer research was in the late 1970s. Each cell contains genetic information in the form of more than 90,000 pairs of genes that control its activities. A cell becomes cancerous when certain genes responsible for controlling its vital processes, such as cell division, are damaged. These defective genes may have been inherited, or caused by carcinogens such as sunlight, tobacco smoke, etc. Cells are constantly exposed to carcinogens, but for a variety of reasons they rarely become cancerous. One is that cells can usually repair their damaged genes, and the other is that more than one gene must be damaged to cause cancer, and the other is that the immune system often abnormally produces cells before they can reproduce enough, and they destroy the cancerous gland [15] (Figure 3).

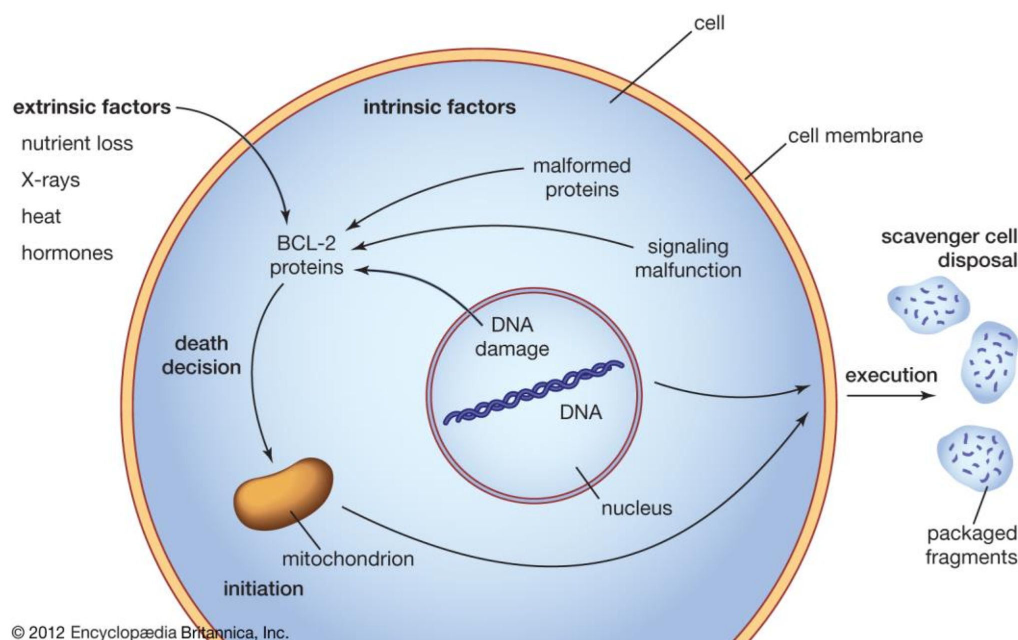

Figure 3: Cancer - Causes of cancer [3]

How cancer starts

Cells are constantly bombarded with carcinogens that damage specific genes, parts of DNA that control specific function, called oncogenes that regulate vital processes such as cell division. Most damaged genes may cause the cell to function abnormally and eventually become cancerous [16] (Figure 4).

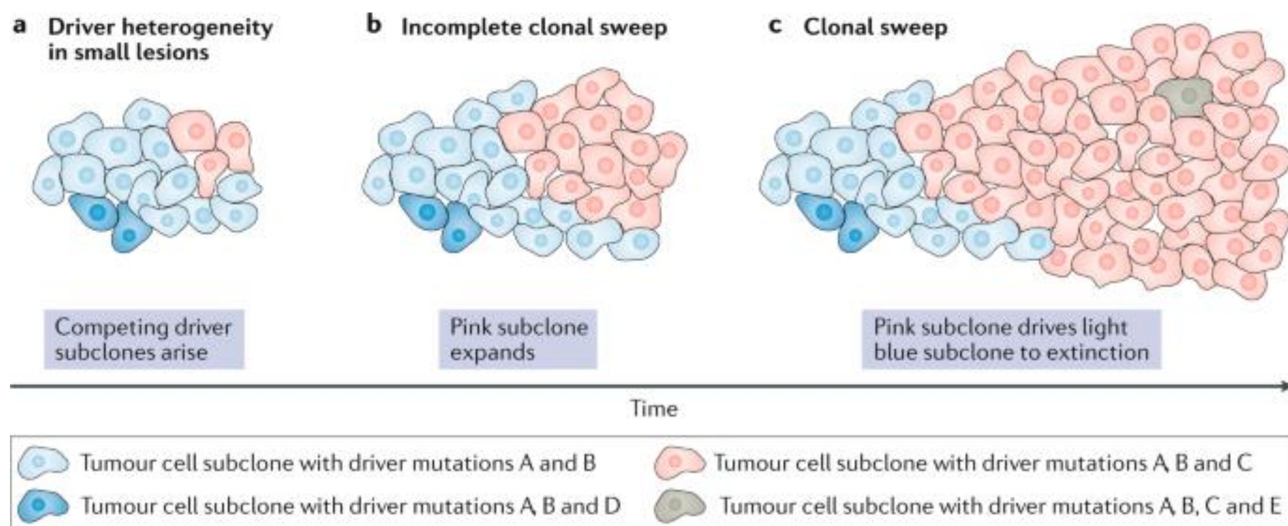

Figure 4: An analysis of genetic heterogeneity in untreated cancers | Nature Reviews Cancer [8]

Psychological factors affecting the incidence of cancer

1- Psychosocial factors

In its primitive state, human beings were less prone to new diseases, especially malignant diseases. But with the change of psychological and social environment, vulnerability to cancer has increased. According to Hee (1925), the study of the distribution of cancer in all races of the world shows that the proportion of cancer is almost proportional to the extent of civilization's dominance over life. So obviously something is inherited in the habits of civilization that is responsible for the difference between the incidence of cancer versus the wild and the civilized. Climate has no role in this difference. Evidence shows that tribes that live normally will not develop cancer at all unless they have lived with a more civilized human being who destroys natural habits. It should be noted that cancer may be another natural and moderate process. We should look for its source in our environment and lifestyle. Each of us lives in fear of dying from cancer because we cannot adapt to the conditions of a good life.

2- Emotional factors

Telling the role of genetic factors is not the whole story. Mason (2019) found that level Hormone 17 - Hydroxy - Corticosteroids for mothers with leukemic children are higher than normal. He discovered the phenomenon in the urine of all new US military recruits who have lost their mothers. Apparently, disapproval, failure, and depression can have a bad effect on the adrenal glands and the ability to produce hormones in those who have weak immunological defenses and cannot have a successful fight against cancerous tissues. This is not a new discovery. In the early 1870s, endocrinologist James Paget stated that cramps, failure, and depression were often associated with an increase in cancerous tissue [17].

Several contemporary studies have attributed cancer to psychological factors such as lack of intimacy with parents, inability to exist or difficulty expressing negative emotions, and unconscious conflicts. Endocrine and immune processes and other physiological pathological mechanisms are linked to psychological problems

and the etiology of cancer. According to Krantz (1984), depression and feelings of helplessness are associated with a reduced likelihood of surviving cancer, while feelings of hostility and anger are associated with longevity. Cancer vulnerability seems to depend on genetic and psychological factors. Children need care, they are born helpless and have no chance of surviving without help. Fear of leaving is the most common fear in childhood. Inadequate care and fear of rejection give the child a sense of insecurity and helplessness. Often, these feelings persist throughout life. In many cases, feelings of loneliness and helplessness can reduce the biochemical resistance of the immune system and convince the organism that it cannot fight cancer. There is also evidence that environmental psychological factors can increase vulnerability to cancer, and in particular, constant exposure to stress can reduce a person's resilience [18].

Pre-disease background

The loss of a loved one, the feeling of loneliness and indifference, the feeling of rejection and the consequent pessimistic view of his life are characteristics of people who are at risk for cancer. Green (1966) studied 109 male and female infants and found that Lucy or lympho occurs in the mother of individuals who had experienced separation or injury or felt anxious and frustrated. Leshan (1977) studied cancer with more than 400 patients for 12 years. Of these, 72% endured the painful pain of losing a loved one. The accident of losing a loved one occurred at various intervals from a few months to 8 years, before the onset of cancer [19-21].

The Course of the Disease

The role of the immune system and its vulnerability to emotional stress provide at least a brief prognostic indication. Emotional factors include the patient's own mental structure and the support system of his environment. Single people are more concerned about their health; the patient himself seems to have an anxious tendency. Men and women may only be trained to grow cancerous fungal tissues. People who have lost the desire to live, those who have a purposeless life, those who have no one to rely on or care for, and those who have no plan for life compared with someone who is socially engaged and purposeful, are less likely to fight the disease.

Passivity and loneliness lead to depression, and depression strikes at the root of the body's immune system. Active communication with people and a very active life, pursuing a profession, strengthens the immune system's ability to survive cancer [19]. Emotional support from family and friends plays an important role in the patient's mood and risk-taking. Negative attitudes of relatives and friends, expressions of impatience and pessimism, and lack of attention and care, greatly affect the patient's ability to cope with cancer. Bard (2018) studied 100 critically ill cancer patients and reported that cancer patients should be considered as people who are under special and severe stress. They expect severe pain and a life of fear of disability and death, so they are constantly depressed and weak.

Greer and Morris (2018) divided women with breast cancer into four groups: a) Women who deny the disease, b) those who do not take the disease seriously but fight the disease well, c) those who patiently accept the disease, and d) Those who feel helpless.

A follow-up study after 5 years showed that the first two groups had better clinical outcome than the other two groups. However, there were no medically significant differences between these groups in the condition and prognosis of the disease. Patients with metastatic breast cancer harness feelings of anger and hostility live longer than those who respond to feelings of helplessness. Vetickover and Dadak (2019) report several studies showing that people with cancer use repulsion and rejection mechanisms. These patients have been described as having "a dual life, a socially adequate but empty and absurd manifestation. On the other hand, their subconscious self is sad, tormented and explosive" [22-25].

Other studies emphasize the fact that cancer patients who survived for a long time were

confident and that short-lived patients were unable to express their anger and social impulses. Apparently, self-expressive attitude increases one's suffering from the disease. An extensive study of cancer patients in a population of inpatients and outpatients reported 51% of psychiatric disorders. The largest groups of diagnoses were adaptive disorders (68%), major post-depression (13%) and delirium (8%) [21]. Other studies based on hospitalized population alone reported a high incidence of major depressive disorder, up to 24%. As for occurrence of similar cases, 25% of the patients agreed with gynecological surgery and 40-35% of patients with head and neck cancer were found. Pancreatic cancer has been reported to be associated with a high incidence of depression [22].

Material and methods

Statistical population

The group of cancer patients in this study was considered as the statistical population.

Sample

Out of the total number of cancer nurses in the hospital, only those who were receiving chemotherapy were selected as a simple random sample. Both sexes were studied and their age conditions were considered to be between 20-50 years old and their education level was between junior high school and higher. Nationality and religion were not considered.

Number of Samples:	20 People	10 Women	10 Men
Assessment tool: MMPI test			

MMPI was reduced to 71 questions by Canon in 2017. He claimed that these materials could have the same power as the original test (long form). In 2020, Brotherhood, Braheni, Shamloo, and altruists formed this test on male and female students. This test consists of 11 items, having 3 validity scales and 8 clinical scales.

A) Narrative scales

They include: (L) Lying test, indicating the simplicity of the subject's petrification or lying; (F) Dissatisfaction, which is mostly a diagram of confusion, thinking and self-deprecation; and (K) Defensive resistance, showing the defensive aspects of the subject.

B) Clinical scales

This category includes (Hs) Hypochondriasis, (D) Depression, (Hy) Hysteria, (Pd) Psychopathic deriation, (Pa) Paranoia, (Pt) Psychasthenia, (Sc) Schizophrenia, and (Ma) Hypomania.

Of course, it should be noted that in Form 3 scale the omission of the Mf (masculinity-femininity) scale from the Iranian form was due to the huge cultural differences between the characteristics of Iranian and Western men and women. The omission of the (Si) scale (social introversion) was also due to the fact that this scale, even in the original form of MMPI, did not have satisfactory stability and validity. Therefore, the use of this scale cannot have diagnostic value.

The questionnaire was also removed due to the small number of questions in the short form, so when conducting the questionnaire, the respondent should be asked to answer all questions. The test has a mean of 50 and a standard deviation of 10 on all scales. This means that those who get a balanced score of 50 have a score equal to the average of the (healthy) control group. In addition, the validity of the Iranian (short) form is also acceptable.

Scoring

The subject determines the answer to the questions by ticking the × mark in the relevant option (yes or no). After completing the key test of different scales, a separate key for each scale is matched with the answer and raw scores are obtained. In the next neighborhood, raw scores are marked on the psychological profile and standardized (final) scores are obtained. This questionnaire can be administered both individually and in groups. The various forms of this questionnaire can be used in age groups over

16 years or people who have at least 8 degrees of education [23-25].

L rate

This rate indicates the simplicity of the subject's petrification, or lying. 5 questions are considered for this rate. The high score is for people who have tried to introduce faces other than what they are. A high score in the lower classes of society is quite normal. In educated people, it indicates a defect in the way of judging or perfectionism.

F

F is a graph of chaos and self-deprecation. In the short form, 15 questions are provided for this amount. The common high score of the subject is wrong, lack of understanding of questions or lack of cooperation of the subject. People who have unusual thoughts or are isolated and run away from people and participate less in social activities or have sensitivities get a high score in this rate. The high score also indicates extreme anxiety, antisociality, restlessness, having specific thoughts and ideas, petrification and frequent changes. A low score indicates the level of intimacy, calmness, simplicity and reliability of the subject.

Level K

This level shows the defensive aspects of the subject and is also used to correct some clinical scores; in test scores, the values of k are added to some clinical scores and then the subject's psychological profile is plotted. In the short form, there are 15 questions for this amount. High scores are related to insecure people with many problems in social relationships, their interactions with others, the lives of these people lack a clear order and routine. They do not tolerate the disorder of others and do not accept suggestions for correction. A low score is for people who are cautious, cautious, and peaceful, who exaggerate their discomfort. Rational and creative people with acceptable social behaviors have average scores.

Hs level

It is related to the organism and the subject's perception of his physical condition and health. In the short form, 13 questions are assigned to this amount. There is a high score in people who are dissatisfied with their physical condition and are hostile to environmental phenomena and try to attract the attention of others through physical pain and control their environment through this. They are resilient and self-centered in the psychotherapy process. The average score is seen in people who are not ambitious and at the same time are stubborn and selfish, ready to tend to paranoid thoughts. A low score indicates a person's sense of responsibility and high power to adapt to the environment [25-27].

Rate D

It indicates depression and deterioration of the person's condition in this regard. Silence, isolation, inattention to the discussions and conversations of others and restraint, difficulty in the tools of their desires are the characteristics of these people. A high score is seen in the profile of all psychotic individuals. A low score indicates the freshness and activity of the person and his ability to adapt to the environment.

Hy level

It indicates physical discomfort and conditions in which a person refuses to communicate with others. 24 questions in short form are assigned to it. A high score indicates excessive self-attention and the expectation of extreme support and affection. Sexual behavior is aggressive. One does not have enough insight into one's discomforts and has high expectations of the therapist and psychotherapist behavior and process.

Pd rate

It is related to social incompatibility, lack of good life experiences and complaints and dissatisfaction with the situation and family environment. The high score belongs to people who consider themselves victims of their family,

so they are rebellious, unable to plan for their future, behave impulsively, and influence people in the initial encounter. But in general, their relationship is superficial and they rarely have loyalty and honesty in friendships. Psychotherapy is very difficult with them. Pd is high in the profile of delinquent juveniles. In the short form, 19 questions are assigned to it.

Pa

The content of the questions reflects the feelings, morals, pessimism and complaints of others and points out their shortcomings. High scores are related to people who express their self-harm tendencies and make others aware of them. People who have strong suspicions and pessimism about others and are very dry and inflexible in psychotherapy.

PT rate

Symptoms of anxiety, worry, and unreasonable and worthless fears and anxieties are the content of the questions in this rate. There are 16 questions in short form. A high score indicates obsession and fear of phenomena and inability to make decisions and lack of concentration. A low PT score indicates confidence and a sense of security.

Sc

20 questions in short form are assigned to this amount to recognize isolation, strange thoughts, complaining about the family situation and how to take oneself. A high score indicates a feeling of being a stranger, being alone, not belonging to a community or people, doubts about one's identity, worthlessness or being of great value, and so on. This rate is valuable not only in diagnosing psychosis, but also in diagnosing people prone to psychosis.

Amount Ma

11 questions in short form are assigned to it. Manic states show the mafia in the person. High scores are seen in people who have a wide range of activities that improve and are contrary to social traditions. It also indicates a lack of recording and controlling behavior, acting impulsively, having abusive behavior, lack of self-confidence while having irrational optimism about the future, indefatigability, sensitivity, irritability, hostility towards others, as well as lack of inhibitions. It should be noted that a) high score in Sc, pa shows diagnosis of schizophrenia of paranoid type; b) high scores on Pa and Hy shows the clinical picture of a person with a paranoid personality denies his or her abnormal tendencies, and especially his or her abnormal perception of others; c) high scores in Pt and Sc indicate the presence of schizophrenia in advanced stages; and d) MMPI points to interpretation Methods.

Result and Dissection

Interpretation based on T score

The score of each item, whether narrative or clinical, is placed on the profile sheet and based on the position of each item, we set the scales in the profile and apply the results. If its score is 50 or 2 standard deviations high or low, it is considered as a morbid score and the scores that are in the range of 2 standard deviations above and below 50 are considered as normal scores.

Interpretation based on the overall shape of the profile

In this method, the results of the implementation of MMPI that are implemented on the profile are interpreted based on the overall shape of the profile or the slope of the line and clinical and narrative scales are interpreted separately. For example, in validity scales, it is to make yourself look better. The first pattern in patients is already seen in conflict and the second pattern in patients is already seen in narcissistic and histrionic personality disorder. On clinical scales, if the overall shape of the profile is downward, it indicates possible neurotic disorders, and conversely, if the overall shape is upward, it indicates that the subject is psychotic [23]. If the general shape of the profile is in a straight line with many protrusions and depressions, it can indicate a personality disorder.

Statistical Analysis

Table of Ma

The table above shows that among 20 selected samples in item Ma, with a degree of freedom of 19 and an average of 6.45, the amount of T obtained is equal to 3.454. This value was investigated at the level of 0.05 and because the resulting T was observed to be larger than the table digit. The null hypothesis is therefore rejected and as a result, the opposite hypothesis is accepted.

Sc Scale

The table above shows that among the sample items in item Sc with a degree of freedom of 19 and an average of 9.95, the amount of T obtained is equal to 4.398, which was observed at the level of 0.05 greater than the figure in the table. And the opposite hypothesis (third hypothesis) is confirmed.

PT rate table

The table above shows that among the sample items in the PT item, with grade 19 and mean 9.65, the amount of T obtained is equal to 7.080, which was evaluated at the level of 0.05, and because the resulting T is larger than the observed table. The null hypothesis is rejected and the opposite hypothesis (the eighth hypothesis) is confirmed.

Pa table

The above table shows that among the sample individuals in item Pa with a degree of freedom of 19 and an average of 6.85, the obtained T is equal to 4.524 and this amount was evaluated at the level of 0.05 and because the T obtained at this level is greater than the table number was observed, so the null hypothesis is rejected and the opposite hypothesis is confirmed.

Pd table

Findings show that among the sample items in item Pa with a degree of freedom of 19 and an average of 8.20, the obtained T is equal to 3.773; this value was evaluated at the level of 0.05 and because the amount of T obtained at the level of 05 / 0 is larger than the table digit, so the null hypothesis is rejected and the opposite hypothesis (seventh hypothesis) is confirmed.

Hy rate table

Findings show that among the sample items, in item Hy with a degree of freedom of 19 and an average of 10.30, the amount of T obtained is equal to 0.431. This value was checked at the level of 0.05 and because the value of T obtained at this level was smaller than the table digit, so the null hypothesis is confirmed and the opposite hypothesis (sixth hypothesis) is rejected.

Hs table

Findings show that among the sample individuals with a degree of freedom of 19 and an average of 5.95, the amount of T obtained is equal to -3.210. This value was checked at the level of 0.05 and because the obtained T is negative, the null hypothesis is confirmed and the opposite hypothesis (fifth hypothesis) is rejected.

Also Findings show that in item D among the sample individuals with a degree of freedom of 19 and an average of 9.80, the amount of T obtained is equal to -0.053. This value was checked at the level of 0.05 and because the obtained T is negative, the null hypothesis is confirmed and the opposite hypothesis (second hypothesis) is rejected.

Analysis of the Group statistics table

1- In Ma (Maina), the average score of men is higher than women.

2. In Sc (schizophrenia), the average score of women is higher than men.

3- In Pt (symptoms of mental weakness), the average score of men is higher than women.

4. In Pa (paranoia symptoms), the average score of women is higher than men.

5 - In the amount of pd (signs of social deviation), the average score of women is higher than men.

6- In Hy (hysteria symptoms), the average score of men is higher than women.

7- In D (depressive symptoms), the average score of women is higher than men.
8- In Hs (symptoms of hypochondria), the average score of men is higher than women.
9- In K, L, F levels, the average score of men is higher than women.
Considering that in 7 scales (whether narrative or clinical) the mean scores of men seem to be higher than women, it can be concluded that the symptoms of behavioral disorders mentioned in males are higher than females in this study.

Conclusion

One third of people get cancer. Nearly two million Britons are currently being treated for cancer, making up more than one-twenty-fifth of the population. Most of these people have a long life. Today, the way people think about cancer has changed and cancer is not a forbidden subject. People can easily talk about their diagnosis of cancer as well as other diseases. In addition, advances in medical science have had a major impact on the future of people with cancer. Although the news is not always promising, when we enter the new age, we see that cancer patients are more hopeful than others, whose disease does not seem more frightening than cancer. Today, it is well known what happens in the cell that causes it to become cancerous, and the discovery of these cases will surely lead to the development of new therapies and, as a rule, the prevention of behavioral problems in the near future.
On the other hand, we need to know that psychological factors are not only effective in the development of cancer, but may also be effective in the treatment of this disorder. According to the statistical analysis table, it is clear that chemotherapy of a cancer patient can lead to behavioral symptoms of paranoia, symptoms such as severe suspicion and suspicion of everyone, a tendency to scrutinize the environment, in the person. And this relationship is significant. Also, according to the statistical analysis table, chemotherapy for cancer patients can lead to symptoms of schizophrenia, such as hallucinations and severe delusions, in the patient. And the mentioned relationship is significant.

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Authors' contributions

All authors contributed toward data analysis, drafting and revising the paper and agreed to be responsible for all the aspects of this work.

Conflict of Interest

We have no conflicts of interest to disclose.

References

[1]. Raziani Y., Raziani S., *J. Chem. Rev.,* 2020, **3**:83 [Crossref], [Google scholar], [Publisher]
[2]. Dolisgan K.K., Razisni Y., *J. Crit. Rev.,* 2020, **7**:9899 [Crossref], [Google scholar], [Publisher]
[3]. Mohamadi G., Kavosi A., Raziani Y., Parvinian Nasab A.M., *J. Neyshabur. Univ. Med. Sci.*, 2014, **2**:10 [Google scholar], [Publisher]
[4]. Raziani Y., Raziani S., *Inter. J. Adv. Stud. Human. Soc. Sci*., 2020, **9**:262 [Crossref], [Google scholar], [Publisher]
[5]. Zolfaghari M., Parsayekta Z., Bahramnejad F., Kazemnejad A., Monjamed Z., *J. Iran. Ins. Heal. Sci. Res.,* 2010, **9**:317 [Google scholar]
[6]. Zaider T.I., Kissane D.W., Schofield E., Li Y., Masterson M., *Psycho-Oncology*, 2010, **29**:373 [Crossref], [Google scholar], [Publisher]
[7]. Hagedoorn M., Kreicbergs U., Appel C., *Acta Oncologica.* 2011, **50**:205 [Crossref], [Google scholar], [Publisher]
[8]. Stanhope M., Lancaster J., *Community & public health nursing* (pp. 612-613). St. Louis: Mosby. 2004 [PDF], [Google scholar]
[9]. Panganiban-Corales A.T., Medina M.F., *Asia Pac. Fam. Med.,* 2011, **10**:14 [Crossref], [Google scholar], [Publisher]

[10]. Northouse L.L., Katapodi M.C., Song L., Zhang L., DMood.W., *CA: Cancer J. Clin.*, 2010, **60**:317 [Crossref], [Google scholar], [Publisher]

[11]. Ghajarzadeh K., Fard M.M., Alizadeh Otaghvar H., Faiz S.H.R., Dabbagh A., Mohseni M., Kashani S.S., Fard A.M.M., Alebouyeh M.R., *Ann. Romanian Soc. Cell Biol.*, 2021, **25**:2457 [Crossref], [Google Scholar], [Publisher]

[12]. Schmitt F., Piha J., Helenius H., Baldus C., Kienbacher, B. Steck, M. Thastum, M. Watson, G. Romer C., *J. Clin. Oncol.*, 2018, **26**:5877 [Crossref], [Google scholar], [Publisher]

[13]. Mohammadnazar D., Samimi A., *J. Chem. Rev.*, 2019, **1**:252 [Crossref], [Google scholar], [Publisher]

[14]. Carlson L.E., Bultz B.D., Speca M., *J. Psychosoc. Oncol.*, 2000, **18**:33 [Crossref], [Google scholar], [Publisher]

[15]. Nies, M.A., McEwen M., *Community/Public Health Nursing-E-Book: Promoting the Health of Populations.* Elsevier Health Sciences. 2014 [Google scholar], [Publisher]

[16]. Fotokian Z., Alikhani M., Yazdi N., Jamshidi R., *Iran J. Nurs*. 2004, **17**:42 [Google scholar], [Publisher]

[17]. Siegel R., Naishadham D., Jemal A. *J. Can. Statis.* 2012 [PDF], [Google scholar],

[18]. Samimi A., *Prog. Chem. Biochem. Res.*, 2020, **3**:140 [Crossref], [Google scholar], [Publisher]

[19]. Zebrack B.J., *Canc Pract.* 2000, **8**:238 [Crossref], [Google scholar], [Publisher]

[20]. Fletcher K.A., Lewis F.M., Haberman M.R., *Psycho Oncology*. 2010, **19**:1094 [Crossref], [Google scholar], [Publisher]

[21]. Manne S., Badr H., *Cancer*, 2008, **112**:2541 [Crossref], [Google scholar], [Publisher]

[22]. Ghajarzadeh K., Fard M.M., Alebouyeh M.R., Alizadeh Otaghvar H., Dabbagh A., Mohseni M., Kashani S.S., Fard A.M.M., Faiz S.H.R., *Ann. Romanian Soc. Cell Biol.*, 2021, 25:2466 [Crossref], [Google Scholar], [Publisher]

[23]. Cooney D.O., *AlchE J.*, 1972, **18**:446 [Crossref], [Google Scholar], [Publisher]

[24]. Ghajarzadeh K., Fard M.M., Alizadeh Otaghvar H., Faiz S.H.R., Dabbagh A., Mohseni M., Kashani S.S., Fard A.M.M., Alebouyeh M.R., *Ann. Romanian Soc. Cell Biol.*, 2021, **25**:2449 [Crossref], [Google Scholar], [Publisher]

[25]. Sadr F.E., Abadi Z., Sadr N.E., Fard M.M., *Ann. Romanian Soc. Cell Biol.*, 2021, **25**:6839 [Crossref], [Google Scholar], [Publisher]

[26]. Sangy S., Miryousefiata F., Bahaoddini A., Dimiati H., *Budapest Int. Res. Exact Sci., (BirEx) J.*, 2020, **2**:458 [Crossref], [Google Scholar], [Publisher]

[27]. Miryousefiata F., Sangy S., *J. Med. Chem. Sci.*, 2021, **4**:60 [Crossref], [Google Scholar], [Publisher]

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