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Explaining the Factors Shaping Two Different Beliefs about Cancer in Iran Based on Causal Layer Analysis "CLA"

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ABSTRACT

20 million people currently have cancer worldwide, and by 2020 this number will exceed 30 million. Chronic illnesses including cancer make challenges and threats such as destruction of body, soul, insecurity, loneliness, and hopelessness leading many patients to lose their hope for their disease. On the contrary, some people defend themselves against internal and external stress by learning, organizing, and adapting to health, happiness, and meaningful life. They can overcome their stress due to cancer, and also will have full hope of a cured follow-up and regain their health. This article aimed to explain the factors behind the formation of such different beliefs that people with/without cancer have in their lives. The method of causal layered analysis (CLA) is considered a critique of the dominant beliefs and at the same time contradictory about cancer in Iran. For this purpose, existing scientific texts, documents, journals, articles, and literary sources that were available on the factors underlying the formation of different beliefs about cancer were studied and complemented the constituents of the lithium layers to metaphors. Cancer as a disease and as an endpoint of life are two dominant beliefs that constitute the most superficial layer in society. There are different layers underlying these two beliefs. Changes in traumatic beliefs that lead to harm to the patient and reduce the efficiency and effectiveness of health services to the extent that they lead to developmental beliefs require special attention to their constituents in various substrates. It has ideological and even metaphors of community.

Keywords: Cancer, Causal layer analysis, Objective factors, Systemic factors, Worldview, Metaphor

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INTRODUCTION

Cancer is one of the deadliest diseases in the world after cardiovascular disease. These diseases are the second leading cause of death in developed countries and the third leading cause of death in less developed countries [1, 2]. There are currently about 20 million people living with cancer worldwide, and by 2020 this number is likely to exceed 30 million [3]. More importantly, cancer will be an important factor in the global morbidity and mortality rate of diseases over the next decade [4]. Cancer currently accounts for about 13% of all deaths worldwide, and of all cancer cases, about 60% of people die regardless of their gender. Cancer is the third leading cause of death in Iran after cardiovascular disease and accidents [5]. It is estimated that about 70,000 new cases of cancer occur in Iran annually, on the other hand, given

the increased life expectancy and increased percentage of aging in the population, the incidence of cancer will increase over the next decade [5]. According to the GLOBACAN 2012 report, that number will grow to 12,9700 by 2025 (35 percent increase). There are now more than 30,000 cases of cancer deaths in the country each year. According to the GLOBACAN 2012 report, the number of cancer deaths in Iran in 2025 will reach 83140 [6]. There is a wide range of diseases, each with its own etiology, treatment, and prognosis.

Most people with cancer experience a period of psychological stress. In some patients, this stress is controlled and does not lead to late-onset mental problems and can be considered a natural adaptation reaction, but some patients experience severe psychological problems that cause their quality of life and their daily functioning decrease [7, 8]. The importance and impact of cancer on the individual and society are to such an extent that it provides a complex network of physical, mental, familial, and social and economic problems in the human and social dimensions [9]. The experience of cancer as a difficult situation creates feelings of vulnerability in the patient that affects his or her coping mechanism [10]. Cancer crises cause a lack of balance and coordination, thought, body and spirit [11]. Cancer patients who are suppressing their feelings about the disease become strangers day-to-day to their existence and are less likely to allow new experiences to enter their minds as a result of pessimistic thoughts, the overwhelming state of being tired of life, feeling lonely and fearing death [7]. At this time, these people feel that their life is over and that no escape from illness except death in which they are desperately seeking neither treatment nor enjoyment of their lives. But others, given the beliefs and values that have been institutionalized over many years, are struggling with the difficulties of living even when suffering from a serious illness such as cancer with appropriate procedures to address them. These people are hopefully following the cure for cancer as a disease that anyone can have in their lives and hopefully benefit from this approach in the enjoyment of physical, mental, family, and social benefits of their lives [7, 12].

To this end, the Casual Layer Analysis (CLA) method was used to explain the factors that make up the dominant beliefs about cancer; it is one of the methods that help researchers identify the various factors that trigger a phenomenon at different levels. Causal Layered Analysis is a method that seeks out the superficial and superficial underpinnings of a subject to discover the underlying systemic, structural, and worldview of the subject [13, 14]. It thus allows for a range of meanings related to the subject to be identified and placed within a broader social structure within which it is felt and experienced [15]. The layered analysis examines the causes of the issue in four levels, as shown below **(Figure 1).**

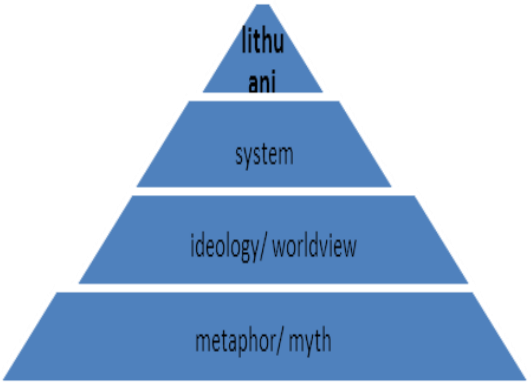

Figure 1. CLA layers.

The layer of objective or litany of issues looks at the most objective level of the future and requires no particular analytical skill to understand it. In this layer, the future will be widely accepted by the masses of data and information that is disseminated in the mass media. The layer of social causes looks at economic, cultural, political, and historical factors. Lithuanian data and information is described and questioned at the second level. ee: At layer three, deeper assumptions, reasoning, worldviews, and ideological unconscious are identified. It seeks to understand structure, worldview, and discourse, which not only support the epistemic claims of the future, but also legitimize these claims and form the root causes of the objective issue, the first layer. Layer four expresses the emotional dimension of the unconsciousness and seeks to understand the signs and metaphors that are subconsciously shaped, forming the worldview and dominant discourse that generate social causes and the objective question.

It can also be acknowledged that the formation of such contradictory beliefs among individuals in society is due to the more fundamental factors that the purpose of this essay is to explain, which can ultimately deepen the views of managers and health planners should be used especially in the cancer sector of the country.

MATERIALS AND METHODS

What we were looking for in this article was to express the constituent cases of two opposing approaches to cancer as a disease and cancer as the end-of-life (catastrophic disease) under the systemic, ideological, and mythological-metaphorical layers by the method of casual layer analysis.

Here we examined the available scientific texts, documents, journals, articles, and written sources that were relevant to the factors that shaped different beliefs about cancer and the factors that constituted the Lithuanian layers to metaphors after that the CLA was completed.

RESULTS AND DISCUSSTION

According to studies conducted in different sources, and as shown in **Table 1** there are two main beliefs about cancer that can be described as two scenarios at the level of the Lithuanian layer: 1- Cancer scenario as a disease 2- Cancer scenario as endpoint or disaster.

Table 1. Cancer from two perspectives

Scenarios	
The first scenario	Second scenario
Lithuanian level	
Cancer as a disease	Cancer as an endpoint (disaster)
System-level	
- Medical and technological advances in cancer treatment - Better treatment of patients in recent years -Increased treatment facilities - Perform screening programs	- Failure of treatment in affected people - High mortality rate in patients -Low survival rates in some types of cancer - High cost of cancer care - Lack of fair treatment support -Cancer side effects
Ideological level and worldview	
- Faith, Belief, and Spirituality	-Disease (cancer) acts as the appeal of actions - Being impatient of cancer
Metaphor - Myth	
- «There is so much hope in despair» -« The end of the night is white» - «You have to live as long as until Anemones»	- Any stone in front of the cranky

Source: Author's findings

Scenario One: Cancer as a disease

Lithuanian level

Many people, given the beliefs and values that have been institutionalized over many years, face the difficulties of life while accepting that they are trying to take appropriate steps to fix them. Among these difficulties is a variety of diseases and boredom, of which cancer has long been recognized as the most serious of these. However, these people in the event of a serious illness such as cancer, still take their previous practice and view it as a disease that may affect anyone in their lives and, of course, with the attention to the progressive approach they seek to healing and the psychological, physical, family and social benefits of this approach. There are several reasons for adopting such thinking and beliefs.

System level

In the past, cancer was considered an incurable disease, but with recent advances in treatment, it has been cured in many cases and can be considered a chronic disease in which the patient needs self-management of his/her own life [12, 16]. Various therapies are used in cancer management including chemotherapy, radiotherapy, surgery, hormone therapy, immunotherapy, biological therapies, and cryotherapy [17].

Radiotherapy is an important part of cancer treatment today, with almost two-thirds of cancer patients being treated with radiation.

One of the most important strategies in the treatment of cancer in the era of "precision medicine" is the improvement of photon-therapy technology as well as in the treatment of pregnant particles to increase the "radiation dose adjustment" to the target volume.

Other advances in photon-therapy are 3-D advanced therapy, which incorporates various IMRT "intensity-modulated radiotherapy techniques" [18]. The personal medicine horizon is a new chapter in medicine that makes use of one's genetic profile to make decisions that will guide the specialist in the prevention, diagnosis, and treatment of the disease. Traditional standard treatment "a proper pattern and consistent model for all" has not been fully effective in achieving clinical treatment. Over 75% of cancer patients have not responded appropriately to this drug therapy [19].

Other medical advances made by cancer specialists over the years include the use of IncRNA in the treatment of cancer, which can help to develop a cancer treatment. This treatment specifically targets the cancerous tissue in addition to being specific to the patient and therefore their application is to avoid damaging the healthy tissues associated with the cancerous tissue. Manipulation of the expression of these components of the gene function of these molecules can play a key role in the treatment of cancer [20].

Another advancement in treating cancer is the use of immuno-toxins. Immunotoxins selectively target cancer cells and have the potential to identify and target their antigens [21].

The extraction of antitumor or toxic compounds from other marine organisms is another development that has taken place over the years. Between 1996 and 2007, more than 590 antitumor compounds from these marine organisms have been extracted that had a lot of positive effects to treat cancer [22, 23].

Concerning better treatment for patients, it should be noted that mortality rates of all cancers decreased by 1.8 in men and 1.6 in women, and this trend continues. Studies in Iran have also achieved a 5-year survival rate of between 47% and 50%, indicating that half of the patients have been treated and survived for more than 5 years [1]. The mortality rate per 100,000 indicates that the rate of death from pancreatic cancer has decreased from 1.16 in 1999 to 0.73 in 2004 and has been declining. However, among gastrointestinal cancers, pancreatic cancer is one of the deadliest cancers [24]. Today, nearly two-thirds of cancer patients are treated with radiotherapy, with more than 80% being exposed to X-rays and about 8.8% being exposed to high-energy pregnant particles [18]. In the past, however, these patients were devoid of this treatment and eventually died. Progressive prostate cancer is treated in a significant number of patients with chemotherapy and hormone therapy or androgen deprivation [21].

What is most important in the better treatment of patients is increased facilities. In the late 1950s, there were 558 treatment facilities with 57,927 beds nationwide which was inadequate according to the country's population. About 40 years later, PHC has been associated with a 100% coverage increase in the urban and over 94% of the country's rural population. In those years, only 37% of cities in the country had hospitals while that figure has now reached more than 94 percent. At present, the number of active hospitals in the country is 910 and the number of hospital beds is 148,000, compared to 558 and 56,000 in 1978, respectively. The number of physicians in the country, including general practitioners and specialists in various fields in 1978, was about 14,000, and with a population of about 36 Million, there were about 9/3 physicians for every 10,000 people. According to the World Bank, the physician index has improved sixfold in the post-revolutionary period [25, 26].

This qualitative and quantitative growth in health facilities has led to improved diagnostic, therapeutic and supportive indicators of a variety of diseases and, consequently, to the types of cancers, leading to increased services, remediation, increased hope and resilience, and ultimately cancer acceptance as a treatable disease among patients and other members of society. In this regard, what has been accepted as a slogan and a belief by the general public and health policymakers is the slogan of prevention better than cure; secondary prevention (screening) involves measures based on early detection of cancer in individuals with no symptoms that are at the first stage of the disease. The fecal occult blood test (FOBT), flexible sigmoidoscopy, colonoscopy, and

several other tests and examinations are the main tests for cancer screening nowadays processing with reasonable costs in health centers [1]. Performing such screenings will lead to early identification and treatment of patients in the early stages of the disease.

Ideological level

Spirituality can provide supportive resources for the individual as well as indirectly through the influence of hope, leading to greater psychological adjustment. Spirituality teaches self-control, and high levels of self-control help to increase resilience and reduce the effects of stressors on life. According to patients express, spirituality in them creates a feeling of support from the transcendent force. As a result, spirituality, by affecting a person's emotion regulation, leads to his or her adjustment to the disease [12]. Religious teachings have seen many cases of the need for people to follow current treatments for illness on the one hand and the belief in healing the essence of God as the cause. A hadith from the Prophet Muhammad (peace be upon him) says:

«إِنَّ اللَّهَ أَنْزَلَ الدَّاءَ وَ الدَّوَاءَ وَ جَعَلَ لِكُلِّ دَاءٍ دَوَاءً و...».

God sent down pain and medicine and prescribed medicine for every disease "(Bihar al-Anwar, vol. 59, p. 76). Therefore, in these teachings, while there is a firm belief in the healing of God, there is also a recommendation for medicine, but medicine is regarded as the conduit of God's grace, not independently of effect. Many cancer patients due to this issue have followed this cure and have accepted the disease without fear or worry, seeking routine remedies while hoping for God to heal. Without the spiritual health of one's biological, psychological, and social aspects, one cannot function properly and cannot attain maximum potential [12].

Another area of belief in this is the beliefs of Bruno Groenick (1959-1906) and the like. He believed that God was the main healer, not man, and that there was no incurable, and impossible for God. He always said, "Believe, trust me, heal the divine power." He had many fans in his day and there are still many who, with a tendency to believe in him, have a positive approach to treating their serious illnesses like cancer.

Level of myth-metaphor

"There is so much hope in despair
The end of the night is white"

In this proverb lies the spirit of expectation and always gives hope to the future. Hope keeps every human being alive. As long as there is hope in every human being, one has the power of life. A person who is ill, even though suffering from a serious illness such as cancer, would be better off if he hoped to receive treatment in various physical, psychological, social, and familial respects, even if they were better treated in terms of medication and medicine. This leads to more positive results in the treatment of these people.

"You have to live as long as anemone exists". This is a small piece of poetry by the famous contemporary Iranian poet "Sohrab Sepehri" that has become a proverb because of its widespread use in the public and is aimed at those who make the smallest assets are well used and happy with them. They look at the events around them positively and use their possessions with hope.

Second Cancer Scenario as EndPoint (Disaster)

Lithuanian level

Some people in the community for a variety of reasons, as soon as they experience a disaster in their lives, are completely frustrated even if they are small and accept failure at the very early stages. If this unfortunate event is one of a variety of cancers, the conditions are much worse, especially because spontaneous cancer is a worrying issue in people's minds due to its historical background. These people feel that their life is over and that there is no escape from the disease except death. In these conditions, they are neither desperately seeking treatment nor enjoying their lives. For example, in one study of cancer patients undergoing chemotherapy, 33% of patients had lower than average expectations of treatment outcome. There was also a statistically significant difference in hope rates between men and women, indicating lower levels of hope in women.

System level

Cancer is a life-threatening disease that causes more than 7.6 million deaths annually [12]. Cancer in Iran is the third leading cause of death after cardiovascular disease and accidents, with

more than 30,000 annually [18]. For example, about 700,000 deaths from gastric cancer are reported worldwide each year, making it the third leading cause of death among Iranians and the first leading cause of cancer deaths among men and the second-highest among Iranian women [19]. The survival rate of this cancer after 5 years is estimated at 50%. Pancreatic cancer, which is deadly cancer that has a very low survival rate and only about 4 percent of patients experience more than 5 years of survival, and 5 years of survival happens only 25 to 30 percent after surgery [24]. Prostate cancer is treated at different stages, depending on the grade of the tumor and the estimated life expectancy. However, the ideal treatment for this disease has not yet been found and the efficacy of treatments varies depending on the rate of cancer progression. Progressive prostate cancer is treated with chemotherapy or hormone therapy or androgen deprivation, but after the initial response to these therapies in many patients, it causes androgen resistance, which is termed androgen-independent prostate cancer (AIPC), and it is said to have no effective treatment at present [21]. The development of refractory cancers and the failure of treatment in many other cancers are also expected.

This high number of deaths and low survival in some types of cancers as well as the failure to treat some types of cancers reinforce the intellectual background of cancer being incurable or untreatable. As soon as they are aware of the disease, they feel they are getting closer to the end of their lives.

On the other hand, cancer treatment is costly so that it can not only endanger one's life and well-being but also endanger the patient's financial security [10]. Global cancer costs in 2008 were about $ 895 billion (1.5% of GDP) and shortly in 2010 reached $ 1.16 trillion (2% of GDP) [6]. The cost of cancer is 19 percent higher than the economic cost of cardiovascular disease (GLOBOCAN2012). Cancer patients are covered by their own out-of-pocket, health insurance, or social support. Cancer in the world, regardless of its type, costs about $ 2,000 to $ 3,000 per month [10, 27-30]. Given that the minimum salaries of public and non-governmental employees in Iran are less than $ 300 per month, these costs are very significant but also catastrophic. This frustrates patients to receive appropriate medical care and prevents them from continuing treatment. In this condition, the patient can only wait for the last moment with complete frustration.

Although basic insurance services and NGOs in Iran have reduced patients' costs of treatment, their actions do not cover other indirect and non-medical costs and psychological costs of cancer. While these costs can even equal treatment costs [10, 27-30].

Another important issue in this regard is the lack of access to fair treatment and support; in Iran, one of the major causes of death and other adverse consequences of breast cancer is due to late access to women [31]. Researchers attribute the high rate of cancer deaths to women due to the late diagnosis of the disease. Studies in the UK show that meeting with a primary care physician is the first step in diagnosing a symptom for the majority (80%) of cancer patients [31].

Studies on equitable access to specialized health services indicate an imbalance in the distribution of these facilities. For example, 67.4% of people have reported access to health care facilities as a reason for their migration from the villages around Yazd to Yazd, and only 3/7% did not consider access to health care to be their cause of migration [32].

There is a positive relationship between the availability of health services and the use of services. In a survey of Kermanshah city, 51.49% of the population and 50.75% of total households lack proper access to health care facilities [33]. The findings of this study were in line with the findings of other studies in Iran regarding the spatial distribution pattern of hospital centers was coincidental with organic and unplanned growth [33].

The unfair distribution will prevent citizens from availing themselves of health care facilities tailored to their needs. This case is much more sensitive to cancer because the less access to specialized treatment centers, the less likely they are to use, which reduces timely diagnoses and reduces treatment success and survival rates, and the death rate will increase; in that case, the old thinking of cancer incompatibility is reinforced.

Another factor affecting the development of the second scenario is the drug side effects of cancer. In general, drug side effects account for

about 10 percent of hospitalizations and cause about 100,000 deaths a year; 6 percent of hospitalized patients show side effects [17].

There are many therapies used in the management of cancer, including chemotherapy, etc. The use of chemotherapy drugs is generally associated with various serious and non-serious side effects. The most common of these are nausea with or without vomiting, diarrhea, loss of consciousness, skin and nail darkening, bone marrow suppression, mucositis, ovarian failure, hyper Orisemia, neuropathy, cardiomyopathy, hemorrhagic cystitis, renal problems, and electrolyte [17].

One study has shown that 22 anticancer drugs have been associated with 25 serious complications after the FDA approval between 2000 and 2002 [34]. A total of 431 adverse events were observed in the study of the side effects of chemotherapy in gastric cancer patients in Mashhad medical centers [17].

Radiation therapy is another treatment that is sometimes used alone and sometimes in combination with other therapies, this treatment also damages normal cells despite invasion and elimination of cancer cells [34].

In radiotherapy cases of the oral cavity and salivary glands complications such as destruction of taste bud cells, decrease in salivary gland secretion, oral mucositis and peripheral neuropathy are unavoidable, so these patients often have dry mouth, change in taste sensation (discosia), experiencing mouth opening (Trismus) and dysphagia [34]. Cardiovascular disease is the largest late-onset complication after radiotherapy in breast cancer patients [19].

The side effects of cancer are due to changes in the appearance and function of the patient's organs, which is a strange and frightening event for both the patients and those around them. In these cases, it is difficult to dispel the belief that cancer is equal to death because the patient and those around him or her are experiencing physical and functional changes in the patient that are only reminiscent of humans exposed to death.

Ideology and worldview

Uncurable cancer is a belief that has its roots in the past. This belief was formed when cancer was showing its face to human society during the years. It was slowly becoming popular among human societies due to the high mortality and morbidity of cancer, and became stronger over time with the deaths of patients. Even today, despite many advances in this area, many still die unfortunately despite receiving medical care. Many related issues have already been addressed in this article.

On the other hand, some consider cancer as an "Appeal of actions". Some have described pain and illness as a sin, or some have described pain and illness as a way to cook and others as a way to approach God.

In return, there are some who see the disease as cruelty to others, and others have considered it merely a consequence of human negligence, and some have considered it a part of life. The notion that human diseases and suffering are caused by their sins and misconceptions has been shaped in ancient times and has been endorsed in social and even religious dimensions. This is precisely why in ancient medicine, a practitioner or religious expert accompanied the physician to the patient's bedside and worked together to treat the patient. There are still many people today who consider the disease to be the result of their actions and behavior or to commit sins and believe that cancer was the result of their sins and that God would punish them and ultimately cause them death. Others believe that by removing the disease, they are free from the sins they have committed in their lifetime and leave the world in a relaxed way.

On the other hand, when our sensual-rational desires are not fulfilled, we constantly growl and excuse ourselves from the ground and time and blame ourselves or others the proverb "every stone in the cranky" the flock of a bad person is lucky and in a sense means that whatever calamity comes upon the helpless and aggravated person becomes more and more difficult. People with cancer see themselves as unlucky people who find cancer to be unbearable and imagine it as a disaster in their lives.

CONCLUSION

As stated in the previous pages of the findings of this study in the formulation of two dominant cancer scenarios, this points out to all health policymakers that not only the different

phenomena do not occur instantaneously, but their formation has numerous underpinnings and layers that may be rooted in past ages and even earlier generations, thus changes in the beliefs and attitudes of individuals in a way that leads to the effectiveness of health services require consideration of all its constitutive dimensions. Focus solely on one part of the factors that shape a phenomenon, or focusing on one part of the planning process, and therefore spending huge costs will not guarantee success and achieve the goals of the health system.

Cancer is also one of the phenomena that contribute to the formation of different beliefs about it, while those beliefs are very effective in the success or even failure of treatment. It should be noted that ignoring the systemic, ideological, and metaphorical factors contributes to the reinforcement of the catastrophic cancer scenario and will thus challenge the success of comprehensive cancer control programs. On the other hand in this same layer, there are several factors that reinforce the first scenario. It has been instrumental in the effectiveness of control programs at all levels of administration and has been a synergist with the forces driving these programs and ultimately enhancing the chances of achieving the goals.

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