Impact of Health Communication on Fatalism and Treatment Decisions among Individuals with Cancer: Mediating Role of Cognitive Appraisal of Health

Research Proposal

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Research Guide

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Research Scholar Research Guide

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1.1 Overview

An essential component of psycho-oncology is communication. In order to facilitate the flow of information, emotions, and supportive interpersonal behaviour, the healthcare professionals involved must have sufficient levels of knowledge, adequate communication skills, and an open attitude (Surbone, 2008). As cancer is frequently linked to suffering, aggressive treatment, bodily harm, pain and stigma, the communication at times may become complex.

The trauma associated while dealing with cancer is huge both for the individuals with cancer and for their families. As the treatments to cure cancer have significantly increased the survival rate of the individuals with cancers, the inability to cope with the psychological problems has still remained a question and little ignored phenomenon in dealing with the disease. The importance of individuals with cancer experience is no longer limited to the biological consequences of the disease or the healing process but also applies to their functioning in a psychological and social context. The moment the individuals are advised for the cancer screening, it may be marked as the beginning of a psychological crisis starting with anxiety. After being positive for the cancer, the psychological crisis remains during the complete cancer lifecycle. Even after complete cure, the individual with cancer lives with the anxiety and fear of recurrence. It threatens their overall personal integrity eventually affecting their spiritual, moral, biological, social and psychological well-being. At times the individuals with cancer may strongly believe that there is no cure and disease is beyond their control and will ultimately result in death.

Anxiety, depression and post-traumatic stress disorder are commonly observed in the individuals with cancers as they are more worried about not only the future outcome of the disease but also for their immediate relationships. The beliefs and way the individual perceives the disease and evaluates the outcomes also influences the treatment decision making process. Thus, understanding the attitudes of individuals with cancers towards different cancer-related issues is very important for the health care professionals in order to deliver an optimal care. Bray et al, (2012) predicted that there will 22.2 million new cases of cancer by 2030. Every

member of the individuals with cancer's family is impacted when cancer is diagnosed, in addition to the individuals with cancer.

Cancer is a leading cause of death worldwide, accounting for nearly 10 million deaths in 2020, or nearly one in six deaths. As per World Health Organisation, the most common cancers are breast, lung, colon and rectum and prostate cancers. The estimated number of incident cases of cancer in India for the year 2020 according to National cancer registry programme was found to be around 2.7 million where every year 13.9 lakhs new cancer patients are registered. In India, one in nine people are likely to develop cancer in his/her lifetime. The estimated number of incident cases of cancer in India for the year 2022 was found to be 14,61,427. Lung and breast cancers were the leading sites of cancer in males and females, respectively (Kumar *et.al* ,2022). Lifestyle behaviour and diet can play a contributing factor in cancer. Around one-third of deaths from cancer are due to tobacco use, high body mass index, alcohol consumption, low fruit and vegetable intake, and lack of physical activity.

In order for individuals with cancers and carers to effectively deal with cancer as a dyad, open communication is crucial throughout the cancer trajectory. The physical and mental health of both individuals with cancers and carers can be improved by open and constructive communication, which also helps to lessen the burden on cancer carers. Lewis *et al*., (2008) reported that communication between individuals with cancers and family caregivers including listening, talking, being respectful, and decision-making within the family was an important part of managing family tensions and regulating coping mechanisms. Effective health communication behaviours are needed to ensure that individuals with cancers make informed and shared decisions about treatment, enable them to adhere to advice about managing their diseases, and help them adjust and adapt to the fact that they have a life-threatening disease.

Delivering a prognosis to individuals with cancers, for example, is a situation in which health-care professionals may have a difficult time communicating with them. Good communication skills are essential at each and every instance of the cancer life cycle starting from breaking the bad news till the end of life. Therefore, communication is a central element in cancer care. Thus, the aim of the present study is to determine the role of cognitive appraisal of health in mediating the effect of health communication on fatalism and treatment decision making in individuals with cancer.

1.2 Introduction of the Variables:

1.2.1 Health Communication:

Health communication in the present context refers to imparting the basic knowledge of cancer and related procedures, and its impact and exchange of information and messages

related to health and healthcare between individuals, family members and carers. According to WHO the goal of health communication is to provide information and guidance to decision makers to prompt action that will protect the health of individual, families, communities and nation. This will lessen the burden of disease, help in effective decision making, adopt and adjust to the emotional and behavioural pattern.

Client-Health Care Professional relationship and communication are important factors as it develops the trust which supports and facilitate their ability to cope with cancer in everyday life. The relationship and the trust from healthy communication leads to sincere implementation of the treatment guidelines and treatment adherence. It can affect their experience of satisfaction of care in the outpatient clinic. Individuals with cancers now a days gets actively involved in decisions regarding their treatment and wish to be viewed as competent partners. According to Boykins (2014) effective communication is a two-way dialogue between individuals with cancers and care providers. In that dialogue, both parties speak and are listened to without interrupting; they ask questions for clarity, express their opinions, exchange information, and grasp entirely and understand what the others mean.

Throughout the continuum of cancer care, health communication has the power to improve quality of life while lowering cancer risks, incidence, morbidity, and mortality (prevention, detection, diagnosis, treatment, survivorship, and end-of-life care). Client-centered communication is an essential component of high-quality medical care. By providing trustworthy information that is attentive, responsive, and tailored according to the need of an individual with cancer, clinicians can improve satisfaction, health-related quality of life, and other important health outcomes.

Patient-Centered Communication (PCC) encompasses three core values:

1. Considering individuals with cancers' needs, perspectives, and experiences
2. Providing opportunities for individuals with cancers to take part in their care
3. Strengthening the individuals with cancer-clinician relationship.

In the cancer care setting, a PCC approach can help individuals with cancers to improve how they deal with difficult news, handle the emotional impact of a serious illness, understand complex medical information, communicate with multiple clinicians, manage uncertainty, make decisions about their care and adopt healthy behaviors. The goals of Patient-Centered Communication in Cancer Care are exchanging information, making decisions, fostering healing relationships, enabling individuals with cancer self-management, managing uncertainty, responding to emotions.

1.2.2 Cognitive Appraisal of Health:

Appraisal is a process whereby individuals decide whether stressful situations are threats to their wellbeing or not and determine whether they have the resources to deal with the stressor if it is viewed as a threat. Through cognitive and perceptual appraisal, the degree of anticipated or present threat or challenge is determined by the individual.

Thoughts about illness and what one can do about it can inform health-related behaviors. Cognitive appraisal has been studied for its impact on coping and health outcomes. It also has been used to explain the process of how emotions differ for different individuals. As Lazarus and Folkman (1984, p. 31) stated: "Cognitive appraisal can be understood as the process of categorizing an encounter, and its various facets, with respect to its significance for well-being". Frijda (1993) assumed that the process of appraisal mediates between events and emotions and is the clue to why a particular event evokes an emotion in one individual and not in another or evokes an emotion at one moment and no emotion, or a weaker or stronger one, at another moment. To identify the two main evaluative issues of appraisal, distinctions have been made between primary and secondary appraisal. In primary appraisal, the person evaluates whether he or she has anything at stake in the encounter. For example, is there potential harm or benefit with respect to commitments, values, or goals? Is the health or well-being of a loved one at risk? Is there potential harm or benefit to self-esteem? (Folkman et al., 1986). Secondary appraisal is a judgment concerning what might and can be done. It includes an evaluation about whether a given coping option will accomplish what it is supposed to or whether one can apply a particular strategy or set of strategies effectively and evaluate the consequences of using a particular strategy in the context of other internal or external demands and constraints (Lazarus & Folkman, 1984).

There are three types of stress-related appraisals (Lazarus & Folkman, 1984):

1. Harm or loss which refers to the damage that has already occurred, such as illness or damage to self or social esteem
2. Threat which refers to harm or loss that has not yet occurred but is anticipated
3. Challenge which provides an opportunity for growth, mastery or gain

When an event is appraised as benign-positive or irrelevant- no coping response is stimulated. However, when an event is appraised as stressful, resources are mobilized to cope with the situation. For individuals with cancers, appraisal allows for evaluating one's diagnosis and the possible consequences of treatment, and the initiation of coping responses.

1.2.3 Fatalism:

Individual's beliefs about illness can influence how they choose to prevent or cope with the illness. Fatalism is a philosophical belief that holds that future events and results are predetermined and unchangeable and that human actions and decisions have no influence over them. According to this philosophy, everything including human behavior is predetermined by fate, destiny, or another uncontrollable force. Fatalism frequently results in passive acceptance of events rather than active efforts to change them. Cancer fatalism is the belief that death is inevitable when cancer is present (Powe & Finnie, 2003). Characteristics of cancer fatalistic attitudes include helplessness, pessimism, powerlessness, and the belief that almost everything causes cancer. Individual with fatalistic attitudes may, therefore, avoid information seeking, healthy behaviors, cancer screening and adhering to treatment (Powe, 1995; Powe & Finnie 2003).

Fatalism is identified as a doctrine of fate, a philosophical doctrine held by individuals who believe that all events are fated to happen and that human beings have no control over their futures and are unable to change their outcomes (Talbert, 2008). The experiences and outcomes of individuals with cancer can be negatively impacted by fatalism. Those who view their condition as fatalistic may be less likely to actively seek treatment and care for themselves, as well as to have diminished hope and a lower quality of life. The prognosis may also suffer if they don't comply with their treatments due to fatalistic attitudes.

1.2.4 Treatment Decisions:

When individuals with cancers feel most vulnerable and least equipped to cope, the diagnosis triggers a series of difficult choices. They have to decide where to go for support and treatment. Healthcare professionals and individual with cancer work together to understand about the type and stage of cancer, potential treatment options, risks and benefits to determine the best course of treatment. The array of choices brings both hope and anxiety, as the stress of having to make a treatment decision is added to the stress of the diagnosis itself.

The decision-making process in the clinical interaction is influenced by its inherent uncertainty and by the reaction of physicians and individuals with cancers to this uncertainty. Due to this uncertainty, decisional conflict is one of the key elements in the process of making the decision and experiencing satisfaction with the decision. There will be satisfaction with the decision only if there is an open communication with the healthcare professional and clear understanding of their options and believe that their chosen treatment aligns with their personal values and goals. Thus, involving the individual with cancer in the decision-making process,

providing clear and accurate information and supporting open communication can help reduce decisional conflict and increase satisfaction with the decision.

1.2.5 Cancer:

Hippocrates, a Greek physician, coined the term "cancer" to characterise distinct tumour kinds. Greek terminology like carcinos and carcinoma relate to a crab and were originally used to describe tumours that were likely caused by finger-like projections from a malignancy that resembles a crab. (Weiner *et al.,* 2003). Cancer is a set of complicated diseases that can develop in different ways depending on the body system impacted and the type of cancer cells involved. Any age, gender, ethnicity, or geographical location can be affected by cancer, which can also affect any body site or tissue. (Park, 2015). Cancer diagnosis and treatment trauma has a significant impact on psychosocial functioning, including home care management, health and welfare services, cost, employment, relationship, recreation, sexuality, and body image. (Wright, Kiely, Lynch, Cull, & Selby, 2002). Lung, stomach, liver, colorectal, and breast cancer are the most common types of the disease. In low- and middle-income nations, cancer deaths accounted for almost 70% of all fatalities. According to projections, there will be over 11 million cancer-related deaths worldwide by 2030. (WHO, 2010a). One characteristic of cancer is the quick development of aberrant cells that expand beyond of their normal borders, infiltrate other bodily components, and spread to other organs. The term "metastasis" refers to this process. The primary factor in cancer deaths is metastasis. (WHO, 2010b). Cancer arises from one single cell transformation from a normal cell pre-cancerous lesion to malignant tumours (WHO, 2008).

The number of cancer types is far over 100. The cell from which a cancer develops determines the sort of cancer that develops. The word "tumour" is frequently used interchangeably with the word "cancer," yet not all tumours are malignant. A tumour, also known as a neoplasm, is an uncontrolled, abnormal cell development that has no discernible purpose and may impair the normal functioning of surrounding healthy tissue. In many cases, the cause of cellular growth is unknown. Benign (noncancerous) tumours are possible. Benign tumours typically grow slowly, do not infiltrate nearby tissue, remain localised, and do not recur, despite the fact that they may impair bodily function by placing pressure on nearby tissues and preventing nearby organs from receiving enough blood flow. Tumours that can grow destructively, infiltrate nearby tissues, and spread to other areas of the body are considered malignant. Tumours with cancer are said to be malignant. When the DNA of the

normal cell has changed (mutated), cancer might arise. This results in the loss of the control system that governs cell division. Cancer cells multiply at a rate that is faster than the rate at which healthy tissue cells are dying because their reproduction is unchecked.

Anaplastic refers to cancer cells that have aberrant appearances and are less differentiated than the normal cells from which they are descended. Some of the more virulent cancer cells fall under this category. The primary site, often known as the primary tumour, is where cancer cells initially began to reproduce. As they multiply, cancer cells spread and invade nearby tissues rather than staying in the original spot. Additionally, cancer cells are less adherent than healthy cells. Selected cancer cells have the potential to separate from the initial cluster, pass via the circulation or lymphatic system, and go to different regions of the body where they start a new, abnormal pattern of reproduction. The term "metastasis" refers to the spread of cancer cells from their primary location to another area of the body. The formation of cancer cells at this new location is referred to as a secondary tumour, which denotes that metastasis has taken place and that the secondary tumour is not the original site of cancer growth. For nutrition, healthy cells compete with cancer cells. Cancer cell reproduction is not well controlled, and some cancer cells can multiply more quickly than healthy ones. Over time, the cancer cells eventually receive the nutrition they need from the healthy cells. (Falvo, 2005).

1.2.5.1 Types of Cancer:

Cancer can develop from every kind of cell in the body. The type of tissue from which they developed is used to name cancers. Typical malignancies and the related tissues from which they develop include the following:

1. Carcinoma: cancer of the epithelial cells
2. Sarcoma: cancer of the bone, muscle, or other connective tissue
3. Lymphoma: cancer of the lymphatic system
4. Leukemia: cancer of blood cells or blood precursor cells
5. Melanoma: cancer of the pigment producing cells, usually of the skin.

There can be no generalisations regarding cancer because the specific conduct of cancer cells depends on the type of cell from which they originated. Each type of cancer may develop at a different rate and may react differently to various treatments. As a result, the classification of cancer is crucial for defining both treatment and prognosis. (Falvo, 2005).

1.2.5.2 Staging and Grading of Cancer:

When cancer is detected, it's critical to identify not just the type of cancer but also how widely the cancer cells have spread. Staging is the name of this procedure. The staging of all malignancies aids doctors in determining the best course of treatment as well as the prognosis (prediction of the course and outcome of the disease process). The TNM approach, which categorises cancer according to tumour size, nodal involvement, and metastasis, is the most popular staging method. The words "tumour," "node," and "metastasis" are all represented by the letter T. The stage is referred to as T0 when there is no sign of a primary tumour.

The stage is referred to as Tis (formerly called in situ) if there are cancer cells present but they have not spread to the nearby lymph nodes. Depending on the size and involvement of the tumour, the stage can range from T1 to T4 as the tumour grows. N0 is the N staging when there are no lymph nodes involved. The stage is N1, N2, or N3 (formerly called regional involvement), based on the extent of involvement and the abnormalities of the nodes, if cancer cells spread beyond the primary tissue site and engage the lymph nodes in the vicinity. Although the surrounding tissues and lymph nodes are affected, the cancer cells must still be present at the primary site for the M staging to be M0. However, depending on the extent of the metastasis, staging for cancer cells that have spread to another part of the body is M1, M2, or M3.

The type and structure of cancer cells are identified microscopically through histologic examinations and grading, laboratory processes. The morphology of the cells and the level of differentiation serve as the basis for histological grading. This is how cells are graded:

1. Grade I: mild dysplagia (cells are slightly different from normal)
2. Grade II: moderate dysplagia (cells are more abnormal)
3. Grade III: severe dysplasia (cells are very abnormal and poorly differentiated)
4. Grade IV: anaplasia (cells are immature and undifferentiated; cells of origin are difficult to determine) (Falvo, 2005).

1.2.5.3 Causes of Cancer:

From a single cell, cancer develops. It usually involves a progression from a precancerous lesion to malignant tumours for a normal cell to undergo the multistage process of becoming a tumour cell. These alterations are the result of the interaction of a person's genetic factors and three categories of external agents, including physical carcinogens like

ultraviolet and ionising radiation; chemical carcinogens like asbestos, tobacco smoke, aflatoxin (a food contaminant), and arsenic (a drinking water contaminant) and biological carcinogens like parasite, bacterial or viral infections.

Another key element in the development of cancer is getting older. Age-related increases in the risks for particular malignancies are probably to blame for the sharp rise in cancer incidence. The overall risk accumulation is coupled with the aging-related propensity for cellular repair processes to become less efficient. (WHO, 2014). It is recognised that some factors, such as radiation, some chemicals and pollutants, tobacco use, smoking, some viruses, prolonged physical irritation to a bodily part, ultraviolet rays, and hereditary predisposition, enhance the risk of developing cancer. Carcinogens are substances or chemicals that are suspected to be cancer-causing. While not always obvious, several carcinogens may exist in the environment. Before developing cancer, people may be exposed to carcinogens for many years in the environment or at work. Some compounds may not be cancer-causing in and of themselves but may act as co-carcinogens, encouraging tumour development when combined with other cancer-causing factors. Stress, food, and hormone secretion have all been linked to a higher risk of or contribution to the development of cancer. (Falvo, 2005).

1.3 Personal significance:

Cancer and its management result in several psychological, physical & psycho-somatic problems among individuals with cancers as they are affected by psychological issues in all stages of cancer. Emotional response can influence both morbidity and mortality. The present research is aimed at investigating the role of Cognitive Appraisal of Health in mediating the effect of health communication on fatalism and treatment decision making in Individuals with Cancer.

As a medical and mental health practitioner, I have worked closely with a wide range of cancer individuals with cancers on a daily basis, and through my hands-on experience, I witnessed areas which I believe could be changed to improve the quality of the care that individuals with cancers receive. Fear, shame and guilt are the prominent emotions attached to cancer. Ignorance, perception and fatalistic beliefs can affect the treatment decision. In particular, I believe that the circumstances and complexities of each individual with cancer should be considered. These practical experiences demonstrate the benefits of patient centeredness as a means to help remove barriers to top-quality care and to empower individuals with cancers through the process of diagnosis and treatment care. Thus, health communication

is a challenging process that requires significant attention and focus in order to treat individuals with cancers effectively.

The value of patient-centeredness, however, must be recognised before it can be effectively implemented and have a positive impact on healthcare quality. Consequently, there is need for further research in the field to expand the knowledge base and to interpret the relationship between individuals with cancer perception, beliefs, treatment decision and communication between a doctor and individuals with cancer. These personal perspectives and experiences have been a driving force in motivating this research.

1.4 National Significance:

The estimated n umber of incident cases of cancer in India for the year 2022 was found to be 14,61,427. Lung and breast cancers were the leading sites of cancer in males and females, respectively (Kumar *et.al,* 2022). It was found that there is limited research on health communication, fatalism, cognitive appraisal and treatment decision making in individuals with cancer. The knowledge from the current study would assist in further research to develop health policies and decision aids programs to enhance communication skills. India has over 2000 oncologist for 10 million patients. (Mehrotra & Yadav 2022). Thus, increasing the ability of healthcare professional to identify individuals with cancers who take passive roles in decision making and to develop interventions to enhance their cognitive thinking and beliefs to understand the risks and benefits of treatment options and help in overall well being. Understanding the factors that influence fatalistic attitudes towards healthcare and treatment decision-making is essential in addressing healthcare disparities. Studies have shown that certain populations, such as those from low-income or minority backgrounds, may be more likely to hold fatalistic attitudes towards healthcare and exhibit lower levels of engagement in healthcare decision-making. By exploring the role of cognitive appraisal in mediating the effects of health communication on fatalism and treatment decision-making, this research topic can help identify strategies to reduce disparities in healthcare outcomes.

1.5 Global Significance:

In 21st century, unhealth lifestyle has emerged as leading of cancer. The moment the individuals with cancer receives a diagnosis of cancer, it may mark the beginning of a traumatic crisis, threatening their overall personal integrity eventually affecting their spiritual, moral, biological, social and psychological well-being. A lot of research has been done highlighting the different coping mechanism (Joseph & Linley, 2008; Park & Lechner, 2006; O'Rouke, Tallman, & Altmaier, 2008) and positive growth (Linley & Joseph, 2004; Park & Cohen, 1993;

Park et al., 1996; Sears et al., 2003) in individuals with cancer but there is limited research that measures the role of cognitive appraisal in mediating the effect of health communication on fatalism and treatment decision making.

It is estimated that by 2040 cancer cases may rise to 29.4 million and 16.3 million due to the growth and aging of the population. The current study will help in improving health outcomes, informing policy and practice, and addressing their beliefs that influence healthcare and treatment decision-making globally. Understanding how health communication can influence fatalistic attitudes and treatment decision-making through cognitive appraisal can help healthcare providers to develop effective health communication strategies and interventions that can mitigate the negative effects of fatalistic attitudes towards healthcare and improve treatment decision-making. This practice-related measure might also positively affect the wellbeing of individuals with cancer.

1.6 Statement of the problem:

To study the role of cognitive appraisal in mediating the impact of health communication on fatalism and treatment decisions among individuals with cancer.

1.7 Research Questions:

1. To what extent do different components of cognitive appraisal of health mediate the relationship between various domains of health communication and fatalistic beliefs among individuals with cancer?
2. To what extent do different components of cognitive appraisal of health mediate the relationship between various domains of health communication and satisfaction with decision among individuals with cancer?
3. To what extent do different components of cognitive appraisal of health mediate the relationship between various domains of health communication and decisional conflict among individuals with cancer?

1.8 Objectives:

1. To examine the strength and nature of the relationship between different domains of health communication and the components of Cognitive Appraisal of Health, fatalistic beliefs, decisional conflict and satisfaction with decisions among individuals with cancer
2. To examine the role of ‘threat’ in mediating the relationship of health communication domains with ‘fatalistic beliefs’ among individuals with cancer.

3. To examine the role of ‘threat’ in mediating the relationship of health communication domains with ‘decisional conflict’ among individuals with cancer.
4. To examine the role of ‘threat’ in mediating the relationship of health communication domains with ‘satisfaction with decisions’ among individuals with cancer.
5. To examine the role of ‘challenge’ in mediating the relationship of health communication domains with ‘fatalistic beliefs’ among individuals with cancer.
6. To examine the role of ‘challenge’ in mediating the relationship of health communication domains with ‘decisional conflict’ among individuals with cancer.
7. To examine the role of ‘challenge’ in mediating the relationship of health communication domains with ‘satisfaction with decisions’ among individuals with cancer.
8. To examine the role of ‘loss’ in mediating the relationship of health communication domains with ‘fatalistic beliefs’ among individuals with cancer.
9. To examine the role of ‘loss’ in mediating the relationship of health communication domains with ‘decisional conflict’ among individuals with cancer.
10. To examine the role of ‘loss’ in mediating the relationship of health communication domains with ‘satisfaction with decisions’ among individuals with cancer.

2. Literature of Review

Silvia, Jennifer and Kathy (2012) examined the relationship between cognitive appraisals, coping strategies and depressive symptoms in a group of 65 women with mostly advanced-stage breast cancer using Cognitive Appraisals of Illness Scale, the Ways of Coping Questionnaire and the Center for Epidemiological Studies Depression Scale. They found that higher appraisals of harm/loss and greater use of escape–avoidance coping predicted higher depressive symptoms. These findings enhance the prediction of depression among breast cancer individuals with cancers and suggest the need to examine cognitive appraisals when attempting to understand depressive symptoms.

Kobayashi and Smith (2015) examine the relationship between cancer fatalism, health literacy and cancer information seeking in the American public. It was found that many participants agreed with the fatalistic beliefs that it seems like everything causes cancer (66%), that one cannot do much to lower his or her chances of getting cancer (29%), and that thinking about cancer makes one automatically think about death (58%). And more than half of the population had “ever” sought information about cancer (53%). In analyses adjusted for sociodemographic characteristics and family cancer history, people with limited health literacy

were less likely to have ever sought cancer information and more frequently endorsed the belief that nothing much can be done. This fatalistic belief partially explained the relationship between health literacy and information seeking in the mediation model (14% mediation)

Shield *et.al* (2004) examined the preferences of individual with cancer for involvement in treatment decision making. They administered a questionnaire to 1014 individuals with cancer diagnosed with breast, lung, prostrate, hematologic, gastrointestinal or head and neck cancer before their initial treatment or at the time of their first visit with a medical or radiation oncologist. The study included two distinct contrast codes that were independent from each other. The first code distinguished between breast or prostate cancer versus all other type of cancer. The results of their study indicated that 35.7% of individuals with cancer preferred passive roles and 43.7% preferred shared roles. 20.3% preferred active role. Those who had higher educational level or held professional/managerial jobs had a greater preference for actively participating in decision regarding their treatment as compared to other patients. It was also found that women diagnosed with breast cancer or men with prostate cancer were more inclined towards being involved in decision making process than patients with other types of cancer. Age was not found to be associated with decision making role.

It was found that avoidant and fatalistic behaviour were associated with passive decision-making role. Individuals with cancer with higher scores on the mental adjustment to Cancer fatalism scale tended to have less interest in shared or active roles compared to patients who had a less fatalistic outlook. The preference for a specific decision-making role was impacted by various factors. Education, coping, type of cancer and prognosis were related to patients related to patients' preferences for involvement in decision-making with their oncologists. A diagnosis of certain types of cancers that have less-positive prognoses may result in patients preferring a passive role in decision-making. The majority of patients expressed a desire for a shared or active role in deciding their treatment. The study findings indicate that certain patients may need motivation or support to adopt a more collaborative approach in decision-making.

Trobaugh *et.al* (2022) conducted a cross-sectional survey of individuals with cancers who underwent pancreatic surgery using modified satisfaction with decision scale (SWD), Shared Decision-Making Questionnaire (SDM-Q-9), modified decisional regret scale (DRS), Functional Assessment of Cancer Therapy-Hepatobiliary Symptom Index (FHSI-8), and Patient Reactions Assessment (Patient Affective Index (PAI) The study showed significant positive relationships between the SDM measure and responses to questions regarding how

well the individuals with cancer's actual recovery matched their expectations before treatment . The quality of the physician–individuals with cancer relationship correlated with how well recovery matched expectations. SDM measure scores were significant predictors of the decision evaluation measure and recovery expectations. Thus, improved SDM in pancreatic surgery is associated with more realistic recovery expectations, decreased decisional regret, and improved quality of life.

Palmer-Wackerly *et.al* (2017) conducted a cross sectional study to investigate the influence of health care providers and partners on cancer patients' decision-making satisfaction. a cross-sectional study using an online Qualtrics panel. They surveyed 479 individuals with cancer who reported having a spouse or romantic partner when making cancer treatment decisions. The decisional support was measured using 5-point, single-item scales for emotional support, informational support, informational-advice support, and appraisal support. Decision-making satisfaction was measured using the Satisfaction with Decision Scale developed by Holmes-Rovner et al. (1996). The study found that partner support played a significant and partial mediating role in the relationship between health care provider support and patients decision making satisfaction and this relationship did not differ between patients enrolled in a clinical trial and those who were not. The results suggest that partner support is an essential factor that influences cancer patients' satisfaction with their treatment decisions and their communication with healthcare providers. Thus, the study highlights the importance of including family members in the decision-making process and its implications have significant relevance for healthcare providers and researcher.

Lei *et.al*, (2021) examined the relationship between patient centered communication (PCC) and cancer risk information avoidance (CRIA) and estimated the mediating role of self-efficacy in this relationship using nationally representative cross-sectional data from the U.S. Health Information National Trends Survey of 2033 individuals. The study aimed to provide a comprehensive understanding of the relationship between patient centered communication and cancer risk information avoidance via correlation analysis, stepwise regression models, and mediation analysis. This study investigated the association between PCC and CRIA and the path of its impact. And it was found that patient centered communication was significantly negatively associated with cancer risk information avoidance after controlling for gender, income, education, and cancer risk perception. The study revealed four significant findings.

The first finding was that individuals with lower levels of education tended to avoid seeking cancer risk information more often, which was consistent with earlier research. This

tendency could be due to their fatalistic beliefs about cancer. Secondly, people who had a stronger emotional response to cancer, in terms of its severity and susceptibility were less likely to search for cancer risk information to avoid negative feelings which was in line with the Health Belief Model (HBM) and previous studies. Thirdly the study found that patient centered communication (PCC) was negatively associated with cancer risk information avoidance. The result supported the idea that cancer patients who received PCC were more likely to follow the recommended health related behaviours as suggested by their doctors which had been previously observed. Over all the study highlighted the importance of PCC for successful health interventions. Lastly the study found that self-efficacy played a mediating role between PCC and cancer risk information avoidance, which was consistent with the social cognitive theory (SCT). The result indicated that the trust between the physician and the patient as well as the patient's confidence in their ability to take action, influenced their behaviour when seeking cancer risk information

Aminaie *et al*, (2019) explored perceptions about barriers to decision-making in Iranian patients with cancer about their care using the qualitative approach where semi-structured interviews were conducted with 15 cancer patients. Data analysis revealed four central categories reflecting patient perceptions about barriers that included medical dominance in the form uninformed decision-making, perceived inability to disagree secondary to despair, and patient objectification, healthcare system mistrust in physician, nurse, and medical centre facility and equipment, healthcare system characteristics like services and facilities' limitations, poor communication, healthcare setting compulsion, and cultural barriers which disrupted

In 2006, Powe, *et al*., published a descriptive study comparing the perceptions of cancer fatalism and cancer knowledge between African American women. One group consisted of college students (n=353) and the second one of women from primary care centres (PCC) (n=361). College women had a lower score in cancer fatalism compared to women from PCC however age was not significantly related to fatalism scores. Instead, for women at PCC, higher cancer fatalism scores were associated with lower levels of formal education and knowledge of cervical cancer. In the conclusions, it was stated that while overall cancer fatalism scores were lower than those previously reported for older African American women, these scores were still linked with lower levels of cancer knowledge.

Fatalism has been identified as a potential barrier to cancer prevention and early detection efforts. Racial and ethnic differences in fatalism have been identified. Fatalistic

beliefs and attitudes towards health being more common among Latinos and African-Americans compared to non-Latino whites (Espinoza de los Monteros & Gallo, 2011).

In 2011, Drew and Schoenberg studied the construct of fatalism in the context of women's decision making about hysterectomy in rural Eastern Kentucky. In the US, poor, less educated women are more likely to receive hysterectomies than wealthier, more educated women. In depth semi-structured interviews with 26 White Appalachian women were conducted. Women's narratives about the decision revealed complex factors including fears about cancer, competing demands for time and resources, perceived lack of need, concern about privacy and suboptimal treatment, undermining the speculation that fatalism is at the heart of not obtaining Pap tests. However, when describing the challenges women face in obtaining Pap tests, many informants did indeed make references to influences and outcomes beyond their control.

3. Research Method:

3.1 Hypotheses:

Ha1: Health communication domains will be significantly associated with fatalistic beliefs, decisional conflict and satisfaction with decisions among individuals with cancer.

Ha2: Health communication domains will be significantly associated with cognitive appraisal of health components among individuals with cancer.

Ha3: Components of cognitive appraisal of health will be significantly associated with fatalistic beliefs, decisional conflict and satisfaction with decisions among individuals with cancer.

Ha4: The 'threat' will mediate the relationships of health communication components with 'fatalistic beliefs' among individuals with Cancer.

Ha5: The 'threat' will mediate the relationships of health communication components with 'decisional conflict' among individuals with Cancer.

Ha6: The 'threat' will mediate the relationships of health communication components with 'satisfaction with decisions' among individuals with Cancer.

Ha7: The 'challenge' will mediate the relationships of health communication components with 'fatalistic beliefs' among individuals with Cancer.

Ha8: The 'challenge' will mediate the relationships of health communication components with 'decisional conflict' among individuals with Cancer.

Ha9: The 'challenge' will mediate the relationships of health communication components with 'satisfaction with decisions' among individuals with Cancer.

Ha10: The ‘loss’ will mediate the relationships of health communication components with ‘fatalistic beliefs’ among individuals with Cancer.

Ha11; The ‘loss’ will mediate the relationships of health communication components with ‘decisional conflict’ among individuals with Cancer.

Ha12: The ‘loss’ will mediate the relationships of health communication components with ‘satisfaction with decisions’ among individuals with Cancer.

3.2 Operational Definitions of variables:

3.2.1 Predicting variable:

1) **Health Communication:** It is defined as a process that invites and encourages individuals with cancers and their families to actively participate and negotiate in decision-making about their care needs. It involves exchanging information, making Decisions, fostering healing relationships, enabling individuals with cancer self-management and managing Uncertainty (RTI International and the University of North Carolina at Chapel Hill, 2016)
    a) Exchanging Information is communication to assess and understand individuals with cancer information needs, to facilitate reciprocal sharing of information, and to achieve a shared understanding.
    b) Making Decisions is communication to understand individuals with cancer’s preferences for involvement in decision-making, to let individuals with cancers know when there is a decision to be made, and to engage individuals with cancers so that decisions are based on the best scientific evidence and reflect the individuals with cancer’s values and preferences.
    c) Fostering Healing Relationships is communication that builds trust, rapport, commitment, and mutual understanding about roles and responsibilities.
    d) Enabling Individuals with cancer Self-Management is communication to help individuals with cancers manage their symptoms and side effects and to navigate the healthcare system.
    e) Managing Uncertainty is communication that acknowledges uncertainties and recognizes that some uncertainties are not reducible and that helps individuals with cancers manage uncertainty by providing information, support, and strategies.
    f) Responding to Emotions is communication to elicit, acknowledge, and understand individuals with cancers’ emotions and to respond with legitimation, validation, empathy, and support.

3.2.2 Criterion Variables:

1. **Fatalism:** Shen *et al.,* (2009) conceptualized fatalism as a set of health beliefs that encompasses such dimensions as predetermination, pessimism and attribution of one's health (life events) to luck.
    a. **Pre-determination:** It is the belief that all events, including human actions, are established or decided in advance.
    b. **Luck:** It is the belief that acquisition of disease, life expectancy, and health status are a matter of chance.
    c. **Pessimism**: It is a tendency to believe that the worse will happen.
2. **Treatment decisions:**

    Two aspects of health-related treatment decisions are covered in this research.

    a. The Satisfaction with Decision: It measures satisfaction with health care decisions. (Rovner et al., 1996)

    b. The Decisional Conflict: It measures personal perceptions of: a) uncertainty in choosing options; b) modifiable factors contributing to uncertainty such as feeling uninformed, unclear about personal values and unsupported in decision making; and c) effective decision making such as feeling the choice is informed, values-based, likely to be implemented and expressing satisfaction with the choice. (O'Connor 1995)

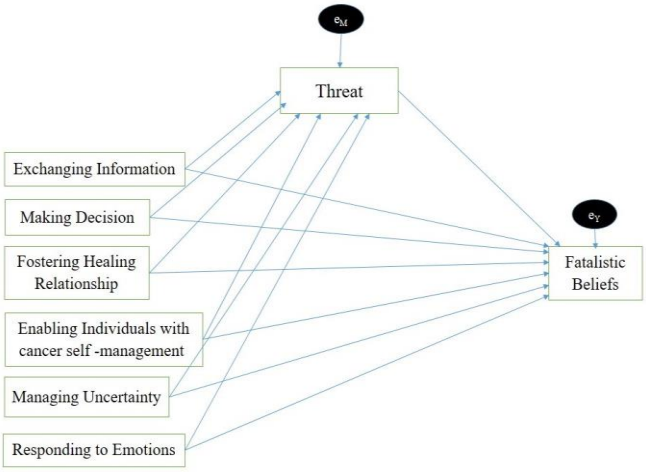
3.2.3 Mediating variables:

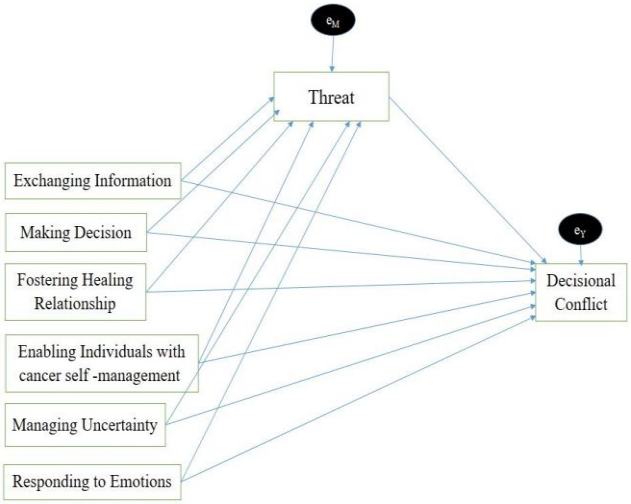
1) **Cognitive Appraisal of Health:** Cognitive appraisal is defined as the process by which person evaluates or judges a potentially stressful event for meaning and significance to one's own well-being (Lazarus & Folkman, 1984). Cognitive appraisal refers to the primary and secondary appraisals of a potentially stressful event related to health status (Kessler, 1998). It includes appraisal as loss, threat and/or challenge.
    a) **Loss**: Perceptions that prior harm or damage from illness has already occurred.
    b) **Threat**: Expected Injury/harm or loss as a result of inadequate coping mechanisms brought on by illness.
    c) **Challenge**: Refers to the opportunity for success or mastery in spite of the obstacles and demands that poor health places on one's well-being.

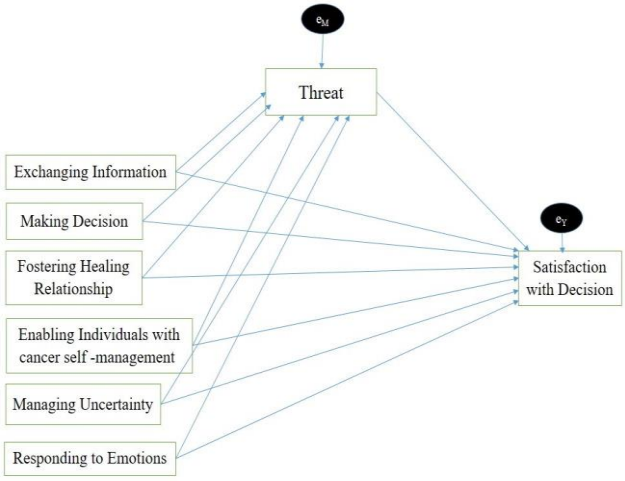
3.3 Research design:

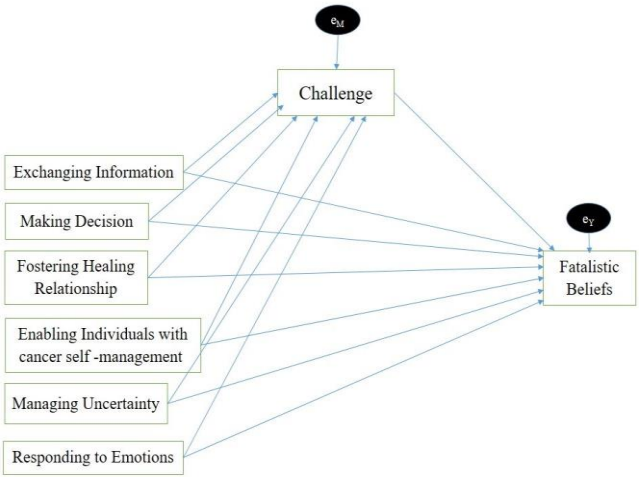
The relationship between predicting, mediating and criterion variables, as stated in the hypotheses, will be studied by using correlational research design.

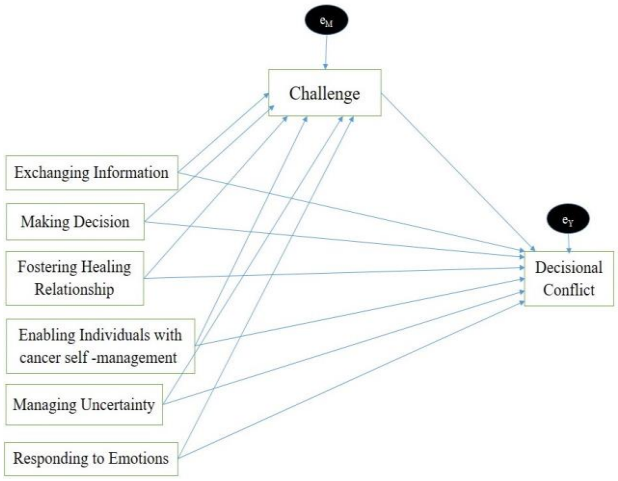
Research Framework:

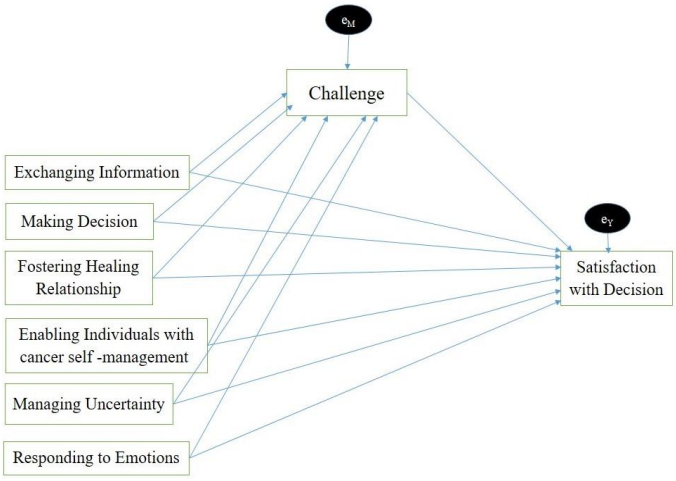


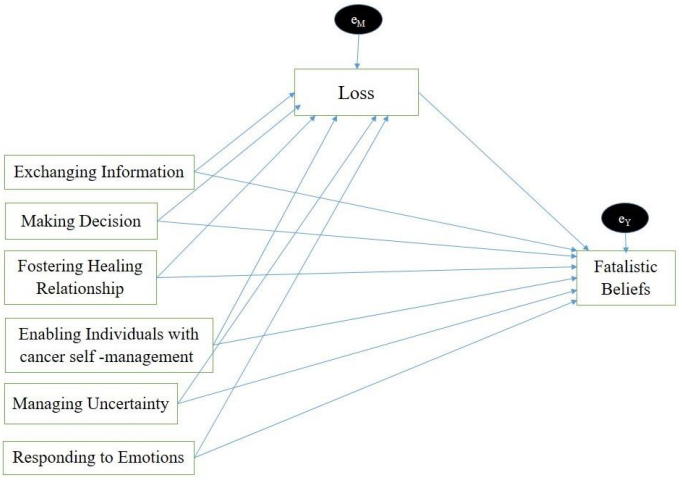


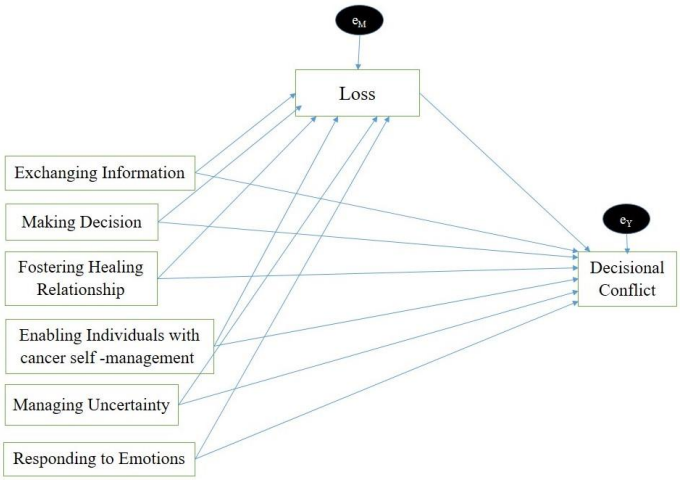


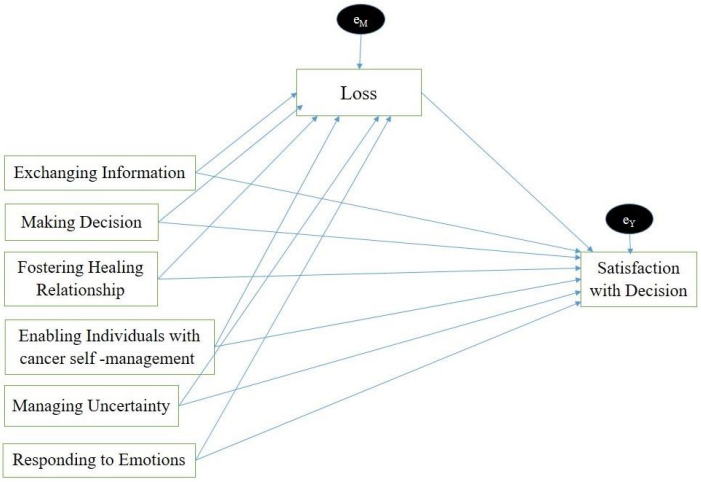












3.4 Sample Selection:

3.4.1 Target Population:

Indian adults with gastro-intestinal and head and neck cancer from lower- and middle-class families, aged 45 to 70 years and seeking treatment in cancer hospitals and oncology clinics in Pune, Ahmednagar and Nashik district.

3.4.2 Sampling Method:

A purposive sampling method will be used.

3.4.3 Sample:

For this study, 400 individuals who are newly diagnosed (within six months before the date of data collection) with gastro-intestinal and head and neck cancer will be selected from both the hospital and community settings located in Pune, Ahmednagar and Nashik district.

Inclusive criteria:

1. **Schooling:** Individuals with 10^{th} grade and above education

2. **Language Competency:** Those who can read and comprehend Marathi and/or English
3. **Age:** Those who are aged between 45 -70 years
4. **Stage of cancer:** Stage II, III and IV
5. **Nationality:** Individuals with Indian nationality residing in Maharashtra.

Exclusive criteria:

1. Individuals with cancers who have comorbidity of psychiatric and neurological illnesses (Schizophrenia, Mania, Dementia, Alzheimer, Parkinson, Epilepsy, & Stroke)

3.5 Tools:

3.5.1 The Patient-Centered Communication in Cancer Care (PCC-Ca-36) - RTI International and the University of North Carolina at Chapel Hill (2016)

The Patient-Centered Communication in Cancer Care (PCC-Ca) measure is based on the conceptual framework of PCC developed by National Cancer Institute. RTI International and the University of North Carolina at Chapel Hill (UNC) developed the PCC-Ca as part of PCORI's Improving Methods for Conducting Patient-Centered Outcomes Research program. The measure assesses the quality of communication across 6 core functions of PCC: 1) exchanging information, (2) making decisions, (3) fostering healing relationships, (4) enabling individuals with cancer self-management, (5) managing uncertainty, and (6) responding to emotions and captures aspects of communication salient to individuals with cancers. The instrument consists of 36 items and is easy to score.

The PCC-Ca was validated on individuals with colorectal cancer. Each item included in the PCC-Ca instrument consists of a question stem and five response options. The most of the items response options are scored from '1 = Never' to '5 = Always' and for some items have a sixth "does not apply" option. There are no reverse scored items. Higher scores representing better communication. Reliability for sub-scales ranged from 0.90 to 0.96 and for overall scale it is 0.94.

In present study, this scale will be used to measure health communication.

3.5.2 Satisfaction with Decision Scale (SWD)- Rovner et al., (1996)

The Satisfaction with Decision Scale (1996) is a 6-item questionnaire that measures individuals with cancer satisfaction with a decision at the time the decision has been made. It was originally developed and validated in the context of decisions regarding hormone

replacement therapy. The scale asks respondents to consider the healthcare decision that they have just made, and indicate on a 5-point Likert scale (strongly agree to strongly disagree) the extent to which six statements about the decision are true. The scale has good reliability (α = 0.86). The scale score was strongly correlated with decisional confidence (r = 0.64) and modestly correlated with the DCS (r = –0.54).

3.5.3 The Decisional Conflict Scale (DCS)- O'Connor (1995)

The individuals with cancer's version O'Connor (1995) was first to propose a measure to assess decisional conflict in individuals with cancers. The Decisional Conflict Scale (DCS) is a self-administered questionnaire that can be used to 1) diagnose a individual with cancer's decisional conflict; 2) identify the individuals with cancer's decision support needs (knowledge, values clarification, support); 3) determine the quality of the decision process; and 4) evaluate the impact of decision support interventions. There are four versions of the scale: one for clinical practice and three for research. For present study, 10-items decision conflict scale will be used as it requires low level of literacy on a part of test taker. In this scale there are three response categories 'Yes', 'Unsure' and 'No' for each item. The scale scores are grouped into four categories namely; uncertainty, informed, values clarity and support. The scale has been tested with 63 women considering breast cancer options and it has alpha coefficient of 0.86.

3.5.4 The Cognitive Appraisal of Health Scale (CAHS) - Revised by Muayyad Ahmad (2005):

The Cognitive Appraisal of Health Scale (CAHS) was originally developed by Kessler (1998). The scale consisted of 27-items designed to measure the cognitive appraisal of health among women diagnosed with breast cancer. The scale measures three dimensions of health appraisals, i.e., problem-threat, challenge and harm or loss. In this study, revised version of Cognitive Appraisal of Health Scale by Muayyad Ahmad will be used. This revised version includes 13-items. All the items are scored on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Item number seven and twelve are reverse scored. Higher scores indicate more agreement with the appraisal item or scale. The reliability of the scale is based on the study of individuals with prostate cancer. The Cronbach's alphas for harm/ loss appraisal is 0.79, for threat appraisal is 0.74, for challenge is 0.70. The reliability of internal consistency for the overall scale is 0.70.

3.5.5 Fatalism scale- Shen, Condit and Wright (2009):

The fatalism scale was developed by Shen et al., (2009) and was utilized to measure fatalistic

beliefs of the population. This instrument was built upon the work of Powe and other researchers (1995). The instrument consists of 20 items with Likert scale items (1= strongly agree, 2= Disagree, 3= No opinion, 4= Agree, and 5= strongly disagree) and was developed in three subscales to measure fatalism conceptualized as the combination of predetermination, pessimism, and luck. As part of this development, the fatalism scale was presented to a multi-cultural Community Advisory Board consisting of a sample of Chinese-American, Hispanic-American, African-Americans, and White-Americans to review items for level of clarity (including readability), cultural appropriateness and cultural inclusion. Confirmatory factor analyses were performed to test the dimensionality of the scale. Three external variables (i.e., genetic determinism, perceived benefits of lifestyle change and intention to engage in healthy behaviour) were used as reference variables to test the construct validity of the scale. Data from a web-based national survey N=1218) showed that the scale was unidimensional on the second order, and with good reliability (a=0.88). The coefficient alpha reliability estimates of the fatalism scale obtained from a sample n=1145 was 0.88 for the whole scale (Shen *et al*., 2009).

The translation will be done with the help of language experts and experienced psychologist or psychometricians. The scale will be translated in Marathi language using forward-backward translation method.

3.6 Procedure:

For this study, sample will be selected from the sampling frame as per the inclusive and exclusive criteria mentioned earlier. The data will be collected using the tools mentioned above both in original English language and native language as well. Prior to administration the tools will be translated into native Marathi language using forward-backward translation method. The translation will be done with the help of language experts and experienced psychologist or psychometricians.

The test will be individually administered after seeking permission of hospital and consent from the individual with cancer.

3.6.1 Test translation: The tests will be translated by forward-backward method with the help of language and subject matter experts. The translated tests and the original tests will be used for the data collection.

3.6.2 Administration condition: Data collection will be done from cancer hospitals, oncology clinics and community setting after clearance from the ethical committee.

The data will be collected individually in conducive environment after developing rapport.

3.6.3 Compliance with ethical guidelines for data collection: All participants in the study will be educated about the purpose and significance of the study and will be allowed to withdraw from, or leave, the study at any point without feeling an obligation to continue. They will be no harm in any form subjected to participant. The result of the test will be shared on request. Confidentiality will be assured and informed consent in writing will be obtained prior to initiating the study process. No monetary benefits will be given except for the counselling session.

3.6.4 Test Administration Sequence:

1. Participants Information Sheet
2. Consent Form
3. Preliminary Data Sheet
4. The Patient-Centered Communication in Cancer Care
5. The Cognitive Appraisal of Health Scale
6. Fatalism scale
7. Satisfaction with Decision Scale
8. The Decisional Conflict Scale

3.7 Statistical Analysis:

The data will be tested for normality with Box Plot test, descriptive statistics (M, SD, Skewness, & Kurtosis), and histogram with normal distribution curve.

Hypotheses will be tested using Regression analysis, Path analysis or structural equation modelling through IBM-SPPS version 27 and AMOS or Process Macro. Findings will be described and discussed in the light of existing results and recommendation will be provided for future research.

3.8 Expected Results:

1. Health communication will affect the cognitive appraisal of health, fatalistic beliefs and treatment decision making
2. Cognitive appraisal of health will mediate the effect of health communication on fatalistic beliefs and treatment decision making
3. Cognitive appraisal of health will affect fatalistic beliefs and treatment decision making

3.9 Expected Timeline:

Activities	**1-6 Months**	**7-12 Months**	**13-18 Months**	**19-24 Months**	**25-30 Months**	**31-36 Months**
Proposal Preparation and Ethics Committee Review						
Clearance from Hospital Ethical Committee						
Review of Literature						
Writing the introductory part of research						
Selection of sample from sampling frame						
Test Translation from English to Marathi						
Data Collection						
Data entry & cleaning						
Data analysis & interpretation						
Final draft of thesis						

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Research Guide

Preliminary Data /प्राथमिक माहिती

Demographic Information
(लोकसंख्याशास्त्रीय माहिती)

Name: _____ **Date:** _____
(नाव) (दिनांक)

Address: _____
(पत्ता)

Home Phone: _____ _____
(द्वरध्वनीक्रमांक)

Email: _____
(ई – मेलआयडी)

Date of Birth: _____ **Age:** _____
(जन्मतारीख) (वय)

Gender: ☐ **Male** ☐ **Female** ☐ **Other**
(लिंग) (पुरुष) (स्त्री) (इतर)

Marital Status: ☐ **Never Married** ☐ **Domestic Partnership** ☐ **Married** ☐ **Separated**
(वैवाहिकस्थिती) (अविवाहित) (घरगुती भागीदारी) (विवाहित) (वेगळे झालेले)

☐ **Divorced** ☐ **Widowed**
(घटस्फोटित) (विधवा)

Educational Qualifications: _____
(शिक्षण)

Blood Group: _____
(रक्त गट)

Caregiver Name: _____ **Contact no.** _____
(काळजीवाहू चे नाव) (मोबाईल क्रमांक)

Emergency Contact Name:_____ **Contact No:**_____
(आपत्कालीन संपर्क नाव) (मोबाईल क्रमांक)

Occupational Information:
(व्यावसायिक माहिती)

Occupation:_____
(व्यवसाय)

Annual Income:_____
(वार्षिकउत्पन्न)

Are you currently employed? **Yes** **No**
(आपण सध्या नोकरी करत आहात का) **(होय)** **(नाही)**

Disease/Illness Information:
(रोग/आजार माहिती)

Date of being diagnosed: _____
(निदान झाल्याची तारीख)

Name of the hospital: _____
(रुग्णालयाचेनाव)

Type of cancer:
(कर्करोगाचा प्रकार)

Duration of illness:
(आजारपणाचा कालावधी)

Mode of Treatment: ☐ **Chemotherapy** ☐**Radiation** ☐ **Surgery**
(उपचार पद्धती) **(केमोथेरपी)** **(रेडिएशन)** **(शस्त्रक्रिया)**

☐ **Medicines** ☐ **Alternative medicines**
(औषधे) **(पर्यायी औषधे)**

Last date of Treatment: _____
(उपचाराची अंतिम तारीख)

Date of Surgery: _____
(शस्त्रक्रियेची तारीख)

Diagnosed Other Diseases: ☐ **Diabetes** ☐ **Cardiac** ☐ **HT** ☐ **Neurological** ☐ **Stroke**
(इतर रोगांचे निदान केले) **(मधुमेह)** **(हृदयरोग)** **(एच)** **(न्यूरोलॉजिकल)**
(स्ट्रोक)

☐ **Psychiatric Illness** ☐ **Other** **Please specify: _____**
(मानसिक आजार) **(इतर)** **(कृपया निर्दिष्ट करा)**

Consent Form

This research is being conducted as a requirement for a Doctor of Philosophy degree in Psychology offered by Savitri Bai Phule Pune University, Pune. Its objective is to explore the role of cognitive appraisal in moderating the impact of health communication on fatalism and treatment decision-making.

Your participation in this research is completely voluntary and you can withdraw at any time. Rest assured that the information you provide will be kept confidential and used only for research purposes. You will not face any direct or indirect harm as a participant. Your confidentiality will be maintained throughout the study.

However as a participant you will get better understanding of your beliefs about cancer and its treatment options which could help you make more informed decision. Additionally, your participation may contribute to the development of new policies and effective communication strategies, potentially leading to improvements in patient care and outcomes.

If you have any questions or concerns about this research, please do not hesitate to contact me via email.

Please indicate with your signature on the space below that you understand your rights and agree to participate in this study.

_____

Signature of Participant with date

We appreciate your participation in our Research. Thank you!

Dr. Tahreen Syed
Research Scholar
Department of Psychology
Ahmednagar College,
Affiliated to Savitribai Phule University,
Pune

Dr. Ezaz Shaikh
Research Guide
Department of Psychology
Ahmednagar College
Affiliated to Savitribai Phule University,
Pune

SHREE NARSIMHA SARASWATI MEDICAL FOUNDATION
INDRAYANI HOSPITAL & CANCER INSTITUTE

To,

Dr. Tahreen Syed
Research Scholar
Department of Psychology
Ahmednagar College, Ahmednagar
Affiliated to Savitribai Phule Pune University,
Pune, Maharashtra.

Date: 20-03-2023

Subject: Provisional approval letter to collect research data from Indrayani Hospital And Cancer Institute for pilot study

Dear Dr. Tahreen,

With reference to your email, seeking permission to collect data from Indrayani Hospital And Cancer Institute' to study psychological attributes of cancer patients for your proposed PhD research, I would like to inform you that you are allowed to collect the required information from patients and their relatives by adhering to the following Conditions.

1) Your research proposal is accepted by the University authorities.
2) Your research work should not cause any disturbance in the functioning of hospital and treatment of patients.
3) Participants will be informed about the purpose and procedures involved in the research.
4) Written consent will be obtained from the participants.
5) Research procedure should not be causing any physical, emotional or psychological harm to the participants.
6) Participants are allowed to withdraw their participation at any point of study.
7) Debriefing will be done at the end of the data collection.
8) You will obtain approval from the Institutional Ethics Committee of Indrayani Hospital and Cancer Institute (Narsimha Saraswati Medical Foundation Ethics Committee) before beginning your final study.

Dr. Sanjay Deshmukh
Managing Trustee
Indrayani Hospital and Cancer Institute
Alandi-Chakan Road, Alandi,
Pune, Maharashtra.