



**Cambridge**  
International

**Professional Research Thesis**

**Titled**

**THE EFFECT OF HEALTHY NUTRITION ON CANCER  
PREVENTION.**

**Researcher**

**.Maha Sobhy Abd El Khalek El GOZAYAR**

**Supervisor signature**

**DR.HEBA AMER**

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# SUMMARY

*Nutrition plays a crucial role in cancer prevention, treatment, and overall well-being. A balanced diet rich in fruits, vegetables, whole grains, and lean proteins can help reduce the risk of certain cancers. Conversely, diets high in processed meats, sugary beverages, and unhealthy fats may increase cancer risk. Specific nutrients like antioxidants, vitamins, and minerals found in foods can support the body's defenses against cancerous cells. However, it's essential to consult healthcare professionals for personalized dietary recommendations tailored to individual needs and cancer types.*

## Introduction:

*Imagine being able to reduce your risk of cancer through simple everyday choices like the food you eat. Today, we're delving into the fascinating and critical connection between nutrition and cancer".*

## Statistics :

*"Cancer is a leading cause of death worldwide, with millions of lives affected each year. In fact, according to the World Health Organization, cancer is responsible for over 9 million deaths annually. However, amidst these sobering statistics lies a ray of hope: research suggests that up to*

*one-third of cancer cases may be preventable through lifestyle factors, including diet ".*

### **Purpose of Presentation:**

*"In this presentation, we'll explore how the foods we consume can influence our risk of developing cancer, as well as the progression and management of the disease. From epidemiological evidence to clinical trials and practical recommendations, we'll journey through the complex interplay between nutrition and cancer".*

### **The study Problem:**

*Does the nutrition plays a role in the incidence and treatment of cancer ?*

### **The importance of studying:**

*It is a solution to malnutrition problems before and after cancer.*

### **Objectives of the study:**

*The goal of this presentation is to present a summary of the scientific studies currently available. These studies strongly suggest that certain types of cancers can be prevented by modifying our dietary habits to include foods with the power to fight tumors at the source and thus prevent their growth. Nature supplies us with an abundance of foods rich in molecules with very powerful anticancer properties, capable of engaging with the disease without causing any harmful side effects. In*

*many respects, these foods possess therapeutic properties on par with those of synthetic drugs; we propose calling them nutraceuticals to better illustrate these properties. We have the possibility of deploying a veritable arsenal of anticancer components occurring naturally in many foods as a complement to the therapies now in use. We can seize this occasion to change the probabilities in our favor, since a diet based on a regular intake of nutraceuticals may indeed prevent the appearance of many types of cancers.*

### **Study hypotheses and questions**

*Hypotheses & Questions:*

*1\*Higher consumption of fruits and vegetables is associated with a lower risk of developing certain types of cancer.*

*2\*Diets rich in processed meats and sugars increase the likelihood of cancer occurrence .*

*3\*Specific nutrients, such as antioxidants found in certain foods, may play a protective role against cancer development.*

*4\*Dietary patterns with high intake of saturated fats are positively correlated with cancer incidence.*

*5\*The gut microbiome, influenced by dietary factors, may modulate cancer risk through inflammation and immune response .*

*6\*How does the Mediterranean diet, known for its emphasis on fruits, vegetables, and whole grains, impact cancer risk compared to other dietary patterns?*

*7\*What role do lifestyle factors, such as physical activity and stress management, play in conjunction with nutrition in cancer prevention?*

*8\*Can personalized nutrition plans tailored to an individual's genetic predisposition to cancer help reduce their risk?*

*9\*What are the potential mechanisms through which certain dietary components, like phytochemicals and polyphenols, exert their anti-cancer effects?*

*10\*Are there specific dietary interventions that can aid in cancer treatment and improve outcomes for patients undergoing therapy?*

*11\*How do cultural and socioeconomic factors impact access to nutritious foods and contribute to disparities in cancer incidence and outcomes?*

*12\*What are the implications of emerging research on fasting-mimicking diets and intermittent fasting for cancer prevention and treatment?*

*13\*Can dietary modifications, such as reducing sugar intake or adopting a plant-based diet, help in cancer survivorship and reduce the risk of cancer recurrence?*

*14\*What are the challenges and opportunities in translating research findings on nutrition and cancer into public health policies and recommendations?*

## Study Approach.

*1\*Research: Dive into reputable sources to understand the latest findings on how nutrition impacts cancer risk, treatment, and prevention .*

*2\*Audience Analysis: Tailor your content to your audience's knowledge level and interests. Are they medical professionals, patients, or the general public?*

*3\*Organization: Structure your presentation logically, perhaps starting with an overview of cancer types, then discussing how various nutrients affect cancer risk and progression.*

*4\*Visual Aids: Utilize graphs, charts, and images to illustrate key points and make complex information more digestible .*

*5\*Engagement: Incorporate interactive elements like polls, Q&A sessions, or case studies to keep your audience engaged and encourage participation .*

*6\*Clarity: Use clear and concise language, avoiding jargon whenever possible. Ensure that your audience can easily understand the information you're presenting.*

*7\*Actionable Tips: Provide practical tips for incorporating healthy eating habits into daily life to reduce cancer risk or support treatment.*

*8\* Credible Sources: Always cite reputable sources for the information you present to establish credibility and build trust with your audience.*

### **The limits of the study.**

Studies on nutrition and cancer have made significant strides, but they do have limitations. Some common limitations include:

#### **1\*Correlation vs. Causation**

Many studies show associations between certain dietary patterns or nutrients and cancer risk, but establishing causation can be challenging .

2\*Self-reporting Bias: Much of the data relies on self-reported dietary intake, which can be unreliable due to memory lapses or social desirability bias.

#### **3\*Confounding Factors**

It's difficult to isolate the effects of specific dietary factors from other lifestyle and environmental variables that could also influence cancer risk .

#### **4\*Population Differences\***

Studies may not fully account for genetic, cultural, or regional variations that could impact how diet influences cancer risk.

#### **. 5\*Long-term Effects**

Many studies are observational and may not capture the long-term effects of dietary patterns on cancer development. Despite these limitations, research in this field is ongoing, aiming to provide clearer insights into the relationship between nutrition and cancer prevention or treatment

Spatial when discussing nutrition and cancer in a presentation, spatial boundaries can help organize information effectively. Consider dividing your presentation into sections such as:

- 1\*Introduction: Overview of the link between nutrition and cancer.
- 2\*Nutritional Factors: Discuss specific nutrients and their impact on cancer risk, such as antioxidants, fiber, and certain vitamins.
- 3\*Dietary Patterns: Explore different dietary patterns like Mediterranean diet or plant-based diets and their effects on cancer prevention or treatment. .
- 4\*Food Groups: Break down foods into categories like fruits, vegetables, whole grains, lean proteins, and fats, discussing their roles in cancer prevention.
- 5\*Lifestyle Factors: Include sections on exercise, alcohol consumption, and smoking, as they relate to nutrition and cancer.

6\*Case Studies or Research Findings: Share relevant studies or real-life examples demonstrating the impact of nutrition on cancer outcomes.

7\*Practical Tips: Offer actionable advice for incorporating healthy eating habits into daily life to reduce cancer risk or support treatment.

8\*Conclusion: Summarize key points and encourage audience engagement through Q&A. By structuring your presentation with clear spatial boundaries, you can guide your audience through complex information in a logical and digestible manner.

### **Study plan.**

1\*Introduction to Nutrition and Cancer: Define cancer and its prevalence worldwide. - Introduce the concept of nutrition's role in cancer prevention, treatment, and survivorship.

2\*Understanding Cancer Development: Provide an overview of how cancer develops, including genetic and environmental factors. - Explain the role of nutrition in influencing cancer development and progression.

3\*Epidemiological Evidence: Review key epidemiological studies investigating the relationship between diet and cancer risk. - Highlight findings from large-scale studies such as EPIC and the WCRF/AICR Continuous Update Project.

4\*Nutritional Factors in Cancer Risk: Discuss specific dietary components associated with increased or decreased cancer risk, such as: - Fruits and vegetables - Whole grains - Red and processed meats - Sugary beverages - Healthy fats vs. unhealthy fats - Present evidence supporting these associations from scientific studies.

5\*Mechanisms of Action: Explore the biological mechanisms through which nutrition influences cancer risk and progression. - Discuss concepts like oxidative stress, inflammation, DNA damage, and hormonal pathways.

6\*Clinical Trials and Intervention Studies: Summarize findings from clinical trials and intervention studies evaluating the impact of dietary interventions on cancer outcomes. - Highlight significant trials like the Polyp Prevention Trial and lifestyle intervention studies.

7\*Recommendations and Guidelines: Present current dietary recommendations for cancer prevention and management from organizations like the WCRF, AICR, and ACS. - Discuss practical dietary strategies individuals can adopt to reduce cancer risk.

8\*Challenges and Future Directions: Address challenges and limitations in studying nutrition and cancer, such as dietary assessment methods and

confounding factors. – Discuss future research directions and emerging areas of interest in the field.

9\*Conclusion: Summarize key points covered in the presentation. – Emphasize the importance of nutrition in cancer prevention and the potential for dietary interventions to complement conventional cancer treatment.

10\*Q&A Session: Allocate time for questions and discussion to clarify any points and engage with the audience. By following this study plan outline, you can structure your presentation effectively and provide a comprehensive overview of the relationship between nutrition and cancer.

## **First:**

### **1\* The Definition of Cancer.**

Cancer refers to a group of diseases characterized by the uncontrolled growth and spread of abnormal cells, which can invade and damage surrounding tissues.

### **2\*Differences between Cancer Cells and Normal Cells.**

Cancer cells differ from normal cells in several ways. They often grow and divide uncontrollably, evade signals that normally tell cells to stop dividing or to die, have abnormal shapes and sizes, can invade nearby tissues, and can spread to other parts of the body through the bloodstream or lymphatic system, a process called metastasis. Additionally, they can

hijack the body's resources, depriving normal cells of nutrients and promoting the formation of new blood vessels to sustain their growth (angiogenesis).

## **SECOND:**

### **•1•Cancer and food.**

#### **Summary**

High-fat, low-fibre diets may increase the risk of many cancers including bowel, lung, prostate and uterine cancers.

Reducing alcohol intake and maintaining a healthy body weight may reduce the risk of many cancers.

You can reduce your risk of developing cancer by eating a wide variety of nutritious foods as described in the Australian Guide to Healthy Eating.

Even though diet can influence your risk of developing cancer, there is little evidence that special foods can be used to cure existing cancers. Cancer-causing chemicals in foods.

Cancer-causing chemicals that may be in food include:

Nitrites and nitrates, which manufacturers use to preserve processed meats butylated hydroxyanisole, a preservative that is a possible human carcinogen potassium bromate, which manufacturers use as a flour additive, though it has toxic and carcinogenic effects Trusted Source heterocyclic amines and polycyclic aromatic hydrocarbons Trusted Source, which result from smoking and grilling of meat at high temperatures

Countless other cancer-causing chemicals, such as preservatives, artificial sweeteners, and food dyes, may be present in processed foods.

## Alcohol

Alcohol is a group 1 carcinogen, meaning it has shown sufficient evidence of carcinogenicity.

The cancer risk of alcohol appears to be dose-dependent in some types of cancer, meaning that the more people drink, the higher their risk is.

## Alternatives

A person may choose to buy organic foods, which food producers grow without using cancer-causing pesticides or chemicals. If buying organic is not an option, using fresh, whole foods to prepare homemade meals is the best way to limit exposure to cancer-causing chemicals.

## Sugar

Foods high in refined sugar and refined carbohydrates, such as candy, white bread, pasta, and sugary drinks, can indirectly increase cancer risk. Consuming large amounts of sugar can contribute to obesity, type 2 diabetes, and chronic inflammation — all cancer risk factors.

Studies suggest that type 2 diabetes increases the risk for ovarian, breast, and uterine cancers. Furthermore, a high sugar diet can increase blood glucose levels, a risk factor trusted Source for colorectal cancer.

### **\*2-Anticancer foods.**

No single food or diet can prevent cancer, but eating a balanced, nutritious diet may help reduce the risk. People should minimize processed and red meats and foods high in sugar, fat, and salt. Instead, they should include the following foods in their diet.

- Fruit.
- Vegetables.

- Whole grains.
- Lean proteins such as fish and chicken.
- Healthy fats such as olive oil and avocado.
- Read about the seven best cancer-fighting foods.

## Summary

Eating certain foods may increase the risk of cancer. Therefore, a person should try to limit their consumption of processed and red meats, processed and fast foods, alcohol, and sugar.

Instead, try to prepare fresh, homemade meals and snacks from whole foods such as fruit, vegetables, whole grains, lean proteins, healthy fats, and low fat dairy.

Eating a balanced, nutritious diet can also help reduce the risk of obesity and type 2 diabetes, conditions that increase a person's risk of developing cancer.

## THIRD:

### **1•Nutrition as general for all types' cancer after diagnosed.**

The truth is, eating well can be a challenge when you have cancer. And everyone is affected differently. Some people find their eating habits change only slightly, while others find that eating well is really hard. Many people are somewhere in-between.

How your eating is affected will depend on the type of cancer you have and the treatments you receive. But the goal for everyone is the same – to eat as well as you can to be as healthy as you can during and after treatment.

During treatment, how you respond to food can change from day to day. On some days you may have a good appetite. On others, you may feel you

just can't eat much or can't resist an unhealthy craving. All of these responses are normal.

Once you've finished treatment and the side effects have eased off, your interest in food will probably return. It's a gradual process – changes rarely happen overnight. Try to be patient if you don't get back to your usual eating habits as quickly as you'd like. Your body needs a lot of time to recover.

## **2•What to eat and drink to help with recovery?**

Your post-cancer treatment diet should continue to focus on good nutrition to help prevent cancer and other chronic diseases like heart disease, high blood pressure, and diabetes.

Research trusted Source suggests that colon cancer survivors who eat a diet high in fruits, nuts, vegetables, whole grains, chicken, and fish may live longer than survivors who eat more refined sugars, fats, and processed or red meats.

However, it's not certain whether this is because of the benefits of a healthier diet or a healthy diet's effect on colon cancer.

Drinking coffee may also help with recovery. A 2020 study trusted Source of 1,171 people with advanced or metastatic colorectal cancer found that those who increased their coffee intake to at least four cups a day had a lower risk of disease progression and death.

If your side effects have subsided, you can begin to add back some of your regular foods as you tolerate them. Continue to consume a diet rich in healthy fats, protein, and fiber.

Continue to restrict your alcohol and tobacco use as much as possible.

The American Cancer Society website has many recipes trusted Source for **nutritious meals and snacks, including:**

- Chicken and white bean soup trusted Source.
- Zucchini bites trusted Source.
- Pumpkin oat muffins trusted Source.
- Make-your-own trail mix trusted Source.

Other healthy choices include a nutrient-dense omelet or a yogurt parfait topped with berries, unsweetened coconut, and sliced almonds.

Whether you're still dealing with side effects or not, Wisotsky offers two additional snacks you can make at home:

- GG Yogurt.
- Ingredients.
- 1 container of plain nonfat Greek yogurt.
- 4–6 ginger snap cookies.
- 1/2 banana, sliced, if desired.

**The National Cancer Institute (NCI) Trusted Source suggests:**

- Drinking plenty of fluids, such as water, flat ginger ale, and sports drinks.
- Eating 5–6 small meals per day
- Consuming foods that are high in potassium and sodium, such as mashed potatoes and bananas
- Eating low fiber foods such as plain yogurt and white toast

**3•Why eating well is important?**

A healthy diet gives your body the nutrition it needs during and after cancer treatment. There are many benefits to this.

In the short term, eating well can:

- Give you energy
- Help you feel better
- Keep your body strong
- Help you cope with side effects

### **What is eating well?**

In general, eating well means eating a variety of healthy foods like vegetables and fruit, whole grains and protein. Canada's Food Guide is a good place to start.

Because everyone's nutritional needs are different, you may want help from your healthcare team. A registered dietitian can help you find ways to eat well and maintain a healthy body weight throughout your cancer experience. A dietitian can also help you if you're following a special diet (like vegan, vegetarian or gluten-free) or if you need to limit or avoid some foods because of a health condition such as diabetes, heart disease, food allergies or celiac disease.

Your dietitian can help you make sure that you get the right amount of calories, protein and fluids that you need to eat well.

## Calories:

*During treatment, you may need more calories (energy) than usual so that you don't lose weight. Good sources of calories include whole fat dairy products like milk, yogurt and cheese, and healthy fats like olive oil, avocados, nuts and nut butters.*

*Some people may have to be careful with the amount of calories during and after treatment to make sure they don't gain too much weight.*

## ***Protein:***

*Protein is good for your health in many ways. It helps your body grow cells, heal tissue and maintain a healthy immune system. And it can help you avoid infection and recover more quickly. The key is to know where to find it. Good sources of protein include fish, poultry, lean red meat, eggs, nuts and nut butters, dried beans, peas and lentils, dairy products and soy foods.*

## ***Fluids:***

*As you focus on eating well, it's easy to forget about fluids. Yet every cell in your body needs water. If there are days when you can't eat solids, it's even more important to drink plenty of liquids. They can provide much-needed calories and keep you from becoming dehydrated.*

*Do your best to drink plenty of water and other fluids each day. When it's hot outside or you're active, you'll need to drink even more. You'll also need to drink more if you have a fever, are vomiting or have diarrhea. Your dietitian can give you specific guidelines on how much is right for you.*

*-4\* Nutrition for cancer patient after surgery.*

*Problems with digestion can arise due to the inflammatory response to intestinal manipulation and trauma during surgery. This may lead to more gas production when eating, which can be painful if you are unable to pass it or at the very least embarrassing if you can. In addition, some people can become nauseous or have diarrhea shortly after meals. This is just a sign that your stomach is feeling stressed with the burden of your meal and temporary adjustments will need to be made to ease that burden.*

*The top two tips that will help you best tolerate your diet after surgery sound simple but make a huge difference. These simple steps decrease the amount of work your stomach has to do to digest your food.*

*Take small bites, chew well, and take time to eat. The better you chew your food the more the enzymes in your saliva can help with digestion and the smaller pieces are easier for your gastric juices to break down. In addition, when you eat slowly you take in less air which should reduce gas production.*

*Eat small frequent meals. Try for five or six small meals per day such as yogurt and fruit or milk and peanut butter on toast.*

*If you continue to have gas, nausea or diarrhea, you may need to reduce the time it takes to digest your food. You can do this by decreasing the fiber and fat content of your food. Fiber-rich foods, while normally very beneficial to our digestive tract, can be irritating after abdominal surgery. These include any whole grain product such as whole wheat bread, pasta, beans, vegetables and fruit. During the six week recovery period after surgery, choose light brown or white breads, cook vegetables and keep servings sizes to ½ cup per meal, and peel raw fruit or used canned versions instead. Minimize your intake of fried, greasy foods and avoid having several high fat foods in one meal.*

*With these dietary adjustments you should be able to eat comfortably, which is important because the food we eat is the fuel that will help your body heal after surgery.*

***5\*The most important nutrition goals after surgery are four-fold.***

*1\*Drink lots of fluids. They are necessary for the transport of nutrients and oxygen to the wound area to promote healing. Try to drink at least 64 to 80 ounces of fluids throughout the day to stay well hydrated.*

*2\*Eat enough calories to maintain your weight. If you are not eating enough calories, then you are not getting enough fuel to support the healing process.*

*3\*Eat more protein. Protein aids in collagen formation, tissue remodeling, and skin structure that are all important for healing. Good protein sources include all animal meats, soy foods such as tofu and tempeh, eggs, dairy, nuts and nut butters, and beans.*

*4\*Try not to eat the same things every day.*

*5\*Avoid foods high in sugar, fat and/or sodium.*

*If gas, nausea or diarrhea make it hard for you to follow these tips, try taking a general multivitamin with mineral supplement that includes 100% of the DRI for vitamin A, C and zinc which help the healing process. If you continue to have problems eating, your wound isn't healing well, and/or you are losing weight, contact your doctor and ask about talking to a dietitian.*

**6\*- Nutrition for cancer patient after chemotherapy& radiation therapy.**

*Chemotherapy and Hormone Therapy:*

*Chemotherapy and hormone therapy affect nutrition in different ways.*

*Chemotherapy affects cells all through the body. Chemotherapy uses drugs to stop the growth of cancer cells, either by killing the cells or by stopping them from dividing. Healthy cells that normally grow and divide quickly may also be killed. These include cells in the mouth and digestive tract.*

*Hormone therapy adds, blocks, or removes hormones. It may be used to slow or stop the growth of certain cancers. Some types of hormone therapy may cause weight gain.*

### **The suitable nutrition that related the side effect of chemotherapy & radiation therapy.:**

#### **Anorexia:**

The following may help people with cancer who have anorexia (loss of appetite or desire to eat):

- Eat foods that are high in protein and calories. The following are high-protein food choices:
- Beans.
- Chicken.
- Fish.
- Meat.
- Yogurt.
- Eggs.

Add extra protein and calories to food, such as using protein-fortified milk.

Eat high-protein foods first in your meal when your appetite is strongest.

Sip only small amounts of liquids during meals.

Drink milkshakes, smoothies, juices, or soups if you do not feel like eating solid foods.

- Eat foods that smell good.
- Try new foods and new recipes.
- Try blenderized drinks that are high in nutrients (check with your doctor or registered dietitian first).
- Eat small meals and healthy snacks often throughout the day.
- Eat larger meals when you feel well and are rested.
- Eat your largest meal when you feel hungriest, whether at breakfast, lunch, or dinner.

Make and store small amounts of favorite foods so they are ready to eat when you are hungry.

Be as active as possible so that you will have a good appetite.

Brush your teeth and rinse your mouth to relieve symptoms and aftertastes.

Talk to your doctor or registered dietitian if you have eating problems such as nausea, vomiting, or changes in how foods taste and smell.

If these diet changes do not help with the anorexia, tube feedings may be needed.

### **Nausea.**

The following may help people with cancer control nausea.

Choose foods that appeal to you. Do not force yourself to eat food that makes you feel sick. Do not eat your favorite foods, to avoid linking them to being sick.

- Eat foods that are bland, soft, and easy-to-digest, rather than heavy meals.
- Eat dry foods such as crackers, bread sticks, or toast throughout the day.
- Eat foods that are easy on your stomach, such as white toast, plain yogurt, and clear broth.
- Eat dry toast or crackers before getting out of bed if you have nausea in the morning.
- Eat foods and drink liquids at room temperature (not too hot or too cold).
- Slowly sip liquids throughout the day.
- Suck on hard candies such as peppermints or lemon drops if your mouth has a bad taste.
- Stay away from foods and drinks with strong smells.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sip on only small amounts of liquid during meals to avoid feeling full or bloated.
- Do not skip meals and snacks. An empty stomach may make your nausea worse.
- Rinse your mouth before and after eating.

Don't eat in a room that has cooking odors or that is very warm. Keep the living space at a comfortable temperature and well-ventilated.

- Sit up or lie with your head raised for one hour after eating.

- Plan the best times for you to eat and drink.
- Relax before each cancer treatment.
- Wear clothes that are loose and comfortable.
- Keep a record of when you feel nausea and why.
- Talk with your doctor about using antinausea medicine.

### **Vomiting:**

The following may help people with cancer control vomiting:

- Do not eat or drink anything until the vomiting stops.
- Drink small amounts of clear liquids after vomiting stops.
- After you are able to drink clear liquids without vomiting, drink liquids such as strained soups, or milkshakes, that are easy on your stomach.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sit upright and bend forward after vomiting.
- Ask your doctor to order medicine to prevent or control vomiting.

### **Dry Mouth.**

The following may help people with cancer who have dry mouth:

- Eat foods that are easy to swallow.
- Moisten food with sauce, gravy, or salad dressing.
- Eat foods and drinks that are very sweet or tart, such as lemonade, to help make more saliva.
- Chew gum or suck on hard candy, ice pops, or ice chips.

- Sip water throughout the day.
- Do not drink any type of alcohol, beer, or wine.
- Do not eat foods that can hurt your mouth (such as spicy, sour, salty, hard, or crunchy foods).
- Keep your lips moist with lip balm.
- Rinse your mouth every 1 to 2 hours. Do not use mouthwash that contains alcohol.
- Do not use tobacco products and avoid second hand smoke.
- Ask your doctor or dentist about using artificial saliva or similar products to coat, protect, and moisten your mouth and throat.

### **Mouth Sores:**

The following can help people with cancer who have mouth sores:

- Eat soft foods that are easy to chew, such as milkshakes, scrambled eggs, and custards.
- Cook foods until soft and tender.
- Cut food into small pieces. Use a blender or food processor to make food smooth.
- Suck on ice chips to numb and soothe your mouth.
- Eat foods cold or at room temperature. Hot foods can hurt your mouth.
- Drink with a straw to move liquid past the painful parts of your mouth.
- Use a small spoon to help you take smaller bites, which are easier to chew.

**Stay away from the following:**

- Citrus foods, such as oranges, lemons, and limes.
- Spicy foods.
- Tomatoes and ketchup.
- Salty foods.
- Raw vegetables.
- Sharp and crunchy foods.
- Drinks with alcohol.
- Do not use tobacco products.

Visit a dentist at least 2 weeks before starting immunotherapy, chemotherapy, or radiation therapy to the head and neck.

Check your mouth each day for sores, white patches, or puffy and red areas.

Rinse your mouth 3 to 4 times a day. Mix  $\frac{1}{4}$  teaspoon baking soda,  $\frac{1}{8}$  teaspoon salt, and 1 cup warm water for a mouth rinse. Do not use mouthwash that contains alcohol.

- Do not use toothpicks or other sharp objects.
- Taste Changes.
- The following may help people with cancer who have taste changes:
- Eat poultry, fish, eggs, and cheese instead of red meat.

Add spices and sauces to foods (marinate foods).

Eat meat with something sweet, such as cranberry sauce, jelly, or applesauce.

Try tart foods and drinks.

Use sugar-free lemon drops, gum, or mints if there is a metallic or bitter taste in your mouth.

Use plastic utensils and do not drink directly from metal containers if foods have a metal taste.

Try to eat your favorite foods, if you are not nauseated. Try new foods when feeling your best.

Find nonmeat, high-protein recipes in a vegetarian or Chinese cookbook.

Chew food longer to allow more contact with taste buds, if food tastes dull but not unpleasant.

Keep foods and drinks covered, drink through a straw, turn a kitchen fan on when cooking, or cook outdoors if smells bother you.

Brush your teeth and take care of your mouth. Visit your dentist for checkups.

### **Sore Throat and Trouble Swallowing:**

The following may help people with cancer who have a sore throat or trouble swallowing:

1\*Eat soft foods that are easy to chew and swallow, such as milkshakes, scrambled eggs, oatmeal, or other cooked cereals.

2\*Eat foods and drinks that are high in protein and calories

Moisten food with gravy, sauces, broth, or yogurt.

3\*Stay away from the following foods and drinks that can burn or scratch your throat:

- Hot foods and drinks.
- Spicy foods.
- Foods and juices that are high in acid.
- Sharp or crunchy foods.
- Drinks with alcohol.
- Cook foods until soft and tender.
- Cut food into small pieces. Use a blender or food processor to make food smooth.
- Drink with a straw.
- Eat 5 or 6 small meals every day instead of 3 large meals.
- Sit upright and bend your head slightly forward when you eat or drink, and stay upright for at least 30 minutes after eating.
- Do not use tobacco.
- Talk to your doctor about tube feedings if you cannot eat enough to stay strong.
- Lactose Intolerance.

#### **FOURTH:**

##### **1\*Why people with cancer use dietary supplements?**

Dietary supplements are also called nutritional supplements.

You might need to have dietary supplements if you have low levels of certain nutrients. Some hormone treatments for breast and prostate cancer can weaken your bones. So your doctor might prescribe calcium and Vitamin D to protect your bones. Or your cancer might stop you from

easily absorbing nutrients from your food. So your doctor might prescribe a daily multivitamin and mineral supplement.

Most people use supplements alongside their cancer treatments, such as radiotherapy or chemotherapy. But others choose to use them instead of conventional treatments.

Taking dietary supplements instead of conventional cancer treatment could harm your health. Choosing to stop conventional treatment recommended by your doctor could reduce the chance of curing or controlling your cancer.

Check with a pharmacist or your healthcare team before taking any supplements. Some of these could interfere with how well cancer drugs work. Supplements at a high dose could be toxic or harmful to your health..

If possible, it's better to have a balanced diet with a variety of food (rather than a supplement).

How you have them?

Vitamins and dietary supplements come as pills, tablets or a liquid. Some complementary or alternative therapists also use injections of dietary supplements.

## **2•The benefit of the herbs for cancer patient.**

Is Herbal Medicine Safe for Cancer Patients?

Herbs may seem harmless, but sometimes they can interfere with cancer treatment.

For example, some herbs can prevent chemotherapy and radiation therapy from killing cancer cells. Certain herbs enhance the effect of chemotherapy in a toxic way that leads to unwanted side effects.

Doctors recommend patients avoid herbs during treatment. It won't be safe until research can identify which herbs are safe to combine with cancer treatment.

Clinical trials that combine herbal medicine with cancer therapies are relatively new to the United States. China has performed such trials since the early 1900s.

Cancer doctors rely on clinical trials to recommend treatments that are proven effective. The lack of clinical trials on herbal medicines has limited what doctors can safely recommend.

People with cancer should get approval from their oncologist first before they take any kind of herbal medicine because some herbs may negatively impact the outcome of cancer treatment.

### **3•The role of healthy diet in reducing risk of cancer.**

#### **Does eating a healthy diet reduce my risk of cancer?**

Yes, eating a healthy and balanced diet can reduce the risk of cancer

This is partly from the effect of the diet itself, but mostly by helping you keep a healthy weight or lose weight.

Your overall diet (what you usually eat in a normal week) is more important than individual foods when it comes to cancer.

When it comes to diet and cancer, there are lots of common questions and myths. Read on to find out about how eating a healthy, balanced diet can reduce the risk of cancer.

### **How does a healthy diet reduce my risk of cancer?**

What we eat and drink can affect our health in lots of ways. Having too much sugary food and drink, or food high in calories (including fast food) can make it easier to gain weight.

Obesity is a cause of 13 different types of cancer. Having a healthy diet helps you keep a healthy weight, or lose weight, which can reduce the risk of cancer.

### **What are some cancer-causing foods and drinks?**

There are some foods that can increase the risk of cancer, but eating these doesn't mean you'll definitely get cancer.

For a healthy balanced diet, cut down on:

Processed and red meat.

Eating a lot of processed meat or red meat can increase the risk of bowel cancer. Find out how and what counts as processed or red meat.

Alcohol

Alcohol causes 7 types of cancer. So, whatever your drinking habits, cutting down reduces the risk.

High-calorie foods and sugary drinks

Foods high in fat, sugar or calories can make it harder to keep a healthy weight.

### ***4•The Keto diet & Cancer:***

*What is the keto diet?*

*The keto diet is a low-carbohydrate diet. The diet's strict guidelines recommend eating more fat and protein while cutting most carbohydrates and sugars out of your diet.*

*Cutting out carbs forces your body to burn the fat you've already stored. This process, called ketosis, usually begins three to four days after eliminating carbs from your diet.*

***What should cancer patients who are considering the keto diet know?***

*While there's the potential that the keto diet could help some cancer patients, it can also harm others. Depending on your type of cancer or cancer treatment, your body may not be able to break down the proteins and fats. This could lead to other digestive problems.*

*That's why it's important to talk to your doctor or a dietitian before beginning the keto diet -- or any other diet. Different diet plans work for different people, and your doctor or dietitian can help you determine if a new diet will help you reach your health goals.*

*If you're an MD Anderson patient, your doctor can refer you to a clinical dietitian. Each clinic at MD Anderson has an assigned dietitian who is available to help patients at all stages of cancer treatment.*

*A dietitian can determine your nutrition goals and help adjust them during each stage and change of your cancer treatment. Your dietitian can help you manage your diet to minimize side effects, cope with any new food sensitivities and keep you feeling your best.*

*Carbohydrates are your body's main source of fuel. A ketogenic (keto) diet is very low in carbohydrates and high in fat. On the keto diet, about 5 to 10 percent of your daily calories come from carbohydrates, 80 percent from fat, and the remaining 10 to 15 percent from protein.*

*Drastically cutting back on carbohydrates puts your body into a state of ketosis, where it becomes very efficient at burning fat for energy. Your liver also begins producing ketones and fatty acids for energy. These support healthy cells but not cancer cells.*

*Research from 2020 found that following a keto diet may help slow the growth of cancer cells. The researchers note that some evidence suggests a keto diet might also make cancer cells more sensitive to chemotherapy, radiation therapy, or some targeted therapies.*

*The researchers also note that other studies have found that a keto diet has no effect on tumor growth and may even increase tumor growth in certain types of cancers. Different types of tumors may respond to the diet in different ways.*

*More research is needed on the potential benefits and risks of following a keto diet when you have liver cancer.*

***We often hear that a healthy and balanced diet is good for us, but what does this mean?***

*A healthy balanced diet means eating mostly fruit and vegetables, plenty of wholegrains (these include things like brown pasta and wholegrain bread) and healthier sources of protein like fresh chicken, fish or pulses (including lentils and beans).*

*And it's best to cut down on processed and red meat (like bacon and sausages), high-calorie foods (including fast food), sugary drinks (including fizzy drinks and energy drinks) and alcohol.*

*Your overall diet has a bigger impact on cancer risk than any individual food or ingredients.*

## **Recommendations:**

*In a presentation about nutrition and cancer, it's important to emphasize the role of a balanced diet in supporting overall health and potentially reducing cancer risk. Highlight foods rich in antioxidants, fiber, and nutrients, and emphasize the importance of limiting processed foods and sugary drinks. Additionally, discuss the significance of maintaining a healthy weight and staying physically active. Providing practical tips for incorporating these dietary changes into daily life can also be helpful*

## **Contents:**

*The role of diet in cancer prevention, the impact of specific nutrients on cancer risk, the importance of a balanced diet, the potential benefits of antioxidants, the connection between obesity and certain types of cancer, and tips for maintaining a healthy diet during cancer treatment. Additionally, you might discuss the role of nutrition in supporting overall health and immune function, which can be crucial for cancer patients. Providing practical dietary recommendations and highlighting research-backed findings would also be valuable.*