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COMPONENT 2 PRESENTATION



MY CHOSEN TOPIC FOR TODAY IS BREAST CANCER. BREAST CANCER IS A DISEASE IN WHICH ABNORMAL CELLS IN THE BREAST GROW UNCONTROLLABLY AND FORM A TUMOR. IT OCCURS WHEN CHANGES IN THE DNA OF BREAST CELLS CAUSE THEM TO MULTIPLY FASTER THEN NORMAL AND AVOID THE BODY'S UNUSUAL MECHANISMS FOR CONTROLLING CELL GROWTH (NHS.UK 2024).

SO TODAY WE HAVE SARAH WILLIAMS AGE 52 YEARS OLD, FEMALE AND HER DIAGNOSIS IS STAGE TWO INVASIVE BREAST CANCER (LEFT BREAST). SARAHS MEDICAL HISTORY IS THE FOLLOWING HYPERTENSION, OVERWEIGHT (BMI 29), NO KNOWN DRUG ALLERGIES. SARAH LIVES WITH HER HUSBAND AND TWO TEENAGE CHILDREN. SARAH WORKS PART-TIME AS A TEACHING ASSISTANT. SARAH HAS A GOOD FAMILY SUPPORT BUT REPORTS FEELING ANXIOUS ABOUT HER DIAGNOSIS. SARAH HAS RECENTLY BEEN DIAGNOSED WITH BREAST CANCER AND IS SCHEDULED TO UNDERGO A LUMPECTOMY FOLLOWED BY CHEMOTHERAPY AND RADIOTHERAPY. SHE EXPERIENCES MILD BREAST PAIN AND HAS DIFFICULTY SLEEPING DUE TO WORRY.



Now we shall speak about how breast cancer affects two body systems, the lymphatic system and the reproductive system.

How does breast cancer affect the reproductive system?

The breasts are considered part of the female reproductive system because they are involved in lactation after childbirth. Breast cancer affects the normal structure function of breast tissue by damaging the milk ducts or lobules. As the tumor grows, it may cause a breast lump, changes in breast shape, nipple discharge, skin dimpling or pain. Treatments such as surgery, chemotherapy, hormone therapy, and radiotherapy can also affect body image, fertility, and hormonal balance, particularly in younger women (Cancer research 2025).

How does Breast Cancer affect the Lymphatic System?

The lymphatic system plays an important role in immunity and fluid balance. Breast cancer cells can spread from the primary tumor into nearby lymphatic vessels and travel to the axillary (underarm) lymph nodes. The presence of cancer in these lymph nodes is an important factor in determining the stage of the disease and planning treatment. Removal of lymph nodes or damage caused by radiotherapy may lead to lymphedema, a condition that causes swelling of the arm due to impaired lymph drainage.



ANATOMY AND PHYSIOLOGY OF THE LYMPHATIC SYSTEM IN RELATION TO BREAST CANCER

The lymphatic system is closely associated with breast cancer because it is one of the main pathways through which cancer can spread to other parts of the body. Understanding the anatomy and physiology of this system is important for recognizing how breast cancer develops, progresses, and is treated.

Anatomy of Lymphatic System;

- Lymph; a clear fluid that contains water, proteins, waste products, and white blood cells .
- Lymphatic vessels; Thin vessels that collect excess fluid from body tissues and return it to the bloodstream.
- Lymph nodes; Small bean-shaped structures that filter lymph and remove bacteria, viruses, and abnormal cells.
- Spleen; Filters blood, removes damaged red blood cells, and supports the immune response.
- Thymus; Produces and matures T lymphocytes, which are essential for adaptive immunity.
- Tonsils; help protect the body by trapping pathogens entering through the mouth and nose.



PHYSIOLOGY OF LYMPHATIC SYSTEM

The lymphatic system performs several essential physiological functions such as;

- Maintains fluid balance by returning excess tissue fluid to the blood stream
- Absorbs dietary fats from the small intestine through specialised lymphatic vessels called lacteals.
- Transports immune cells throughout the body.
- Filters lymph through lymph nodes, where pathogens and abnormal cells are identified and destroyed by lymphocytes and macrophages.
- Supports the body's immune response by producing and activating white blood cells that fight infection.



BRIEFLY EXAMINING HOW THE FUNCTIONING OF THE SYSTEM OF THE BODY IS DESCRIBED AND HOW BREAST CANCER AFFECTS THE BODY

Breast cancer affects the normal functioning of the lymphatic system by allowing cancer cells to enter the lymphatic vessels and spread to nearby lymph nodes, particularly the axillary (underarm) lymph nodes.

As cancer progresses, affected lymph nodes may become enlarged and less effective at filtering lymph fluid and supporting the immune response. During treatment, lymph nodes may be removed surgically or damaged by radiotherapy to prevent further spread of the disease (Tortora & Derrickson, 2021).

Overall, breast cancer disrupts the normal physiology of lymphatic system by interfering with lymph flow, reducing immune function in the affected area, and increasing risk of cancer spreading throughout the body. Understanding these changes helps healthcare professionals plan appropriate treatment, monitor complications, and provide effective treatment and patient education and ongoing care (World Health Organization, 2024).



SARAH WILLIAMS CARE PLAN DEMOGRAPHIC INFORMATION AND RISK FACTORS

Risk factors for Breast Cancer

Several aspects of Sarah's lifestyle and personal characteristics increase her risk of developing breast cancer.

- Age 52 years old, Sarah's risk of breast cancer is higher because the incidence of breast cancer increases with age (World Health Organization, 2024).
- Female Sex; Being female is the greatest risk factor for breast cancer because breast tissue is influenced by hormones such as estrogen and progesterone (Cancer Research, UK, 2024).
- Overweight (BMI 29 kg/m) Being overweight, particularly after menopause, increases the amount of oestrogen produced by body fat, which can promote the growth of some breast cancers (NHS, 2023).
- Physical inactivity; Sarah's sedentary lifestyle contributes to her increased risk, as regular physical activity helps maintain a healthy weight and reduces breast cancer risk (WHO, 2024).
- Alcohol consumption: Drinking 10-12 units of alcohol each week increases breast cancer risk because alcohol can increase circulating estrogen levels and damage DNA within cells (Cancer Research UK, 2024).



PROTECTIVE FACTORS

Sarah has several factors that may support her treatment and recovery including;

- A supportive family.
- Stable employment and housing.
- Access to health care services.
- Willingness to engage with treatment and follow medical advice (NHS.UK Breast Cancer, 2023).



PCP PERSONAL CARE PLAN THREE COMPONENTS OF THE HEALTH PYRAMID

- Physical Health- Sarah's physical health focuses on managing the symptoms and treatment of breast cancer. Her care plan includes radiotherapy and chemotherapy appointments, taking prescribed medications, maintaining a balanced diet, engaging in light physical activity such as walking, and monitoring side effects including fatigue, pain, infections etc.
- Emotional and Mental Well-being- A diagnosis of breast cancer can cause anxiety, fear and emotional distress. Sarah's care plan includes referral to a breast cancer nurse, counselling services, or local cancer support. She is encouraged to discuss her concerns with family and friends for support.
- Social Well-being- Maintaining positive social relationships with protection and care is important during cancer treatment. Sarah has the support of her husband and children, who can assist with daily activities and provide emotional support. The care plan encourages continued family involvement, participation in cancer support groups, and maintaining communication with friends and colleagues (World Health Organization, 2024).

These three components work together to provide holistic, person-centered care.



PCP CARE PLAN ON DIETARY NEEDS

- Accesses Sarah's weight, BMI, appetite, and dietary intake at each appointment.
- Encourage Sarah to follow the essential Eatwell guide. Including at least five portions of fruit and vegetables daily, whole grain carbohydrates, lean protein and dairy (NHS, 2025).
- Encourage adequate protein intake from foods such as fish, eggs, beans, lentils, poultry and low-fat dairy products.
- Advise Sarah to drink 6-8 glasses of fluid each day unless otherwise advised by her health care team to reduce the risk of dehydration (NHS, 2025).
- Refer Sarah to oncology dietitian if she experiences significant weight loss or poor appetite, swallowing difficulties, or persistent treatment side effects during her nutritional intake (University Hospital Birmingham NHS Foundation Trust, 2026).



EVIDENCE- BASED PERSONAL CARE PLAN FOR SARAH

Sarah's Care routine should be person-centered and based on her individual needs, preferences, and breast cancer treatment plan. The health care team should provide coordinated care involving nurses, oncologists, surgeons, dietitians and other relevant health professionals. Sarah should be supported to understand her diagnosis, treatment options, and self-management strategies.

The care routine should include:

- Supporting Sarah to attend scheduled appointments.
- Providing information about breast cancer.
- Encouraging healthy lifestyle choices.
- Assessing and managing symptoms.
- Providing information about support services including psychological support.

NICE recommends that people with breast cancer should receive coordinated care from multidisciplinary team and have access to information and support throughout their treatment pathway (NICE, 2023).



MONITORING AND REVIEW IN SARAH'S CARE PLAN

Sarah's condition should be regularly monitored to identify changes in her health and respond to her needs promptly. Monitoring should include;

- Physical observations such as temperature, blood pressure, weight and general well-being.
- Treatment side effects, assessing for chemotherapy- related side effects such as nausea, fatigue, infection.
- Lymphoedema assessment, monitoring for swelling, discomfort or reduced movement in the arm.
- Nutritional monitoring such as reviewing weight, dietary intake, hydration, and referral to a dietitian if required.
- Psychological wellbeing such as assessing anxiety, depression, coping ability, and emotional well-being support needs.
- Medication review such as checking effectiveness, side effects, and adherence to prescribed treatments.

Regular assessment allows early identification of complications and supports safer, more effective care (NICE, 2023) (NHS, UK, 2020).



REFERENCES

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