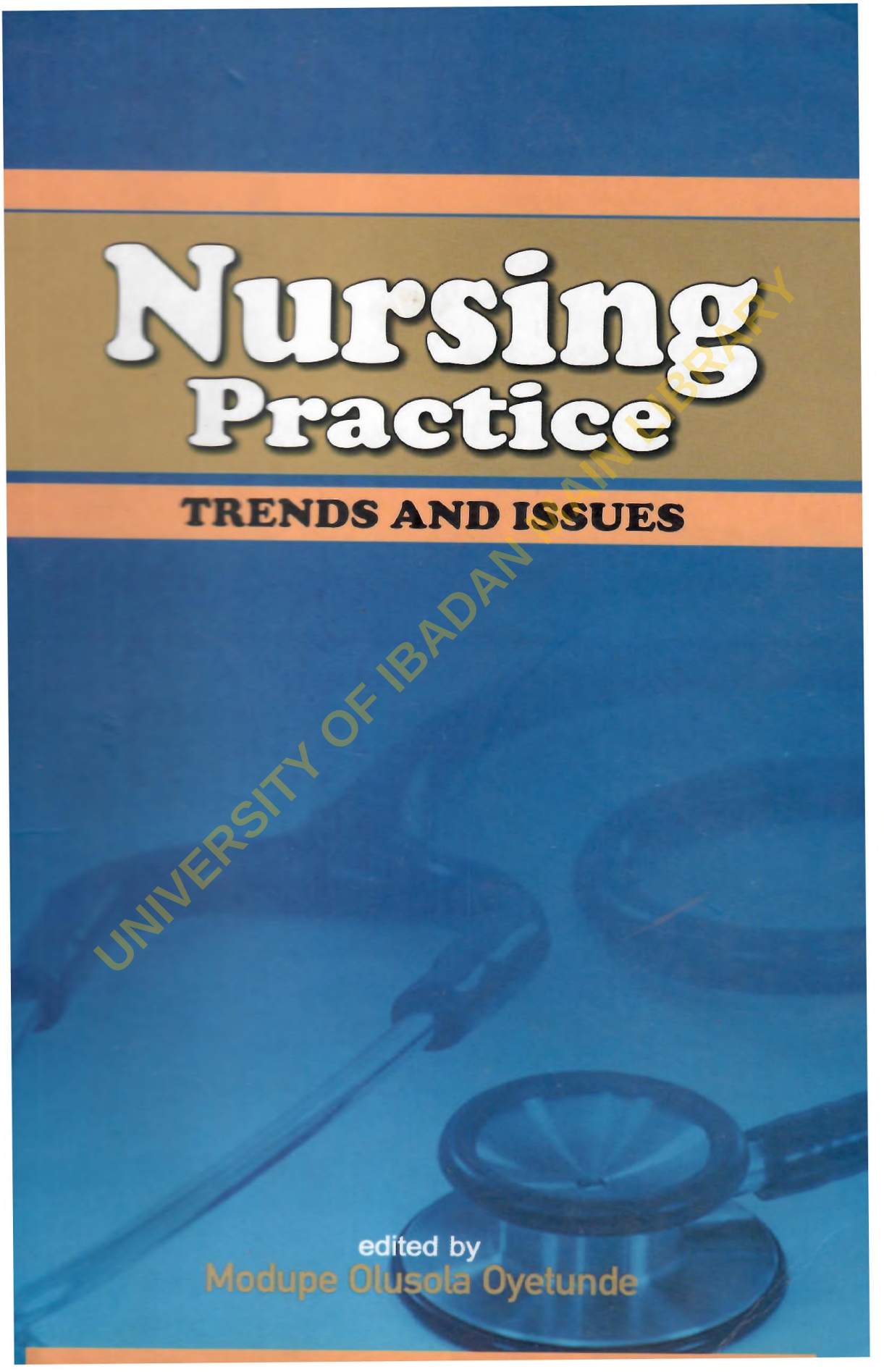
Nursing Practice

TRENDS AND ISSUES



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Assessment and Screening for Gynaecological and Breast Cancers

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Learning Outcomes

At the end of this chapter, the learner should be able to:

1. Enumerate common gynaecelogical cancers.
2. Develop confidence in obtaining gynaecological information.
3. Discuss measures for early detection of gynaecological cancers.
4. Demonstrate the steps for breast self-examination.

Introduction

Cancer is a major contributor to mortality and morbidity among women. It is a group of many diseases of multiple causes that can arise in any cell of the body capable of evading regulatory controls over proliferation and differentiation (Lewis, Heitkemper, & Dirksen, 2004). It is also described as a group of diseases characterized by unregulated growth of cells. Gynaecological cancers are major reproductive health concerns for many women as well as breast cancer. According to the Centre for Disease Control (2014), the five main types of gynecologic cancer are cervical, ovarian, uterine, vaginal and vulvar. Issues related to screening for reproductive cancer is one of the components of reproductive health that have impact on women, because proper implementation ensures prevention and early detection of cancer.

The American Cancer Society (2013) reported that, 'In 2013, an estimated 1,660, 290 people in the United States will be

diagnosed with cancer, and 580,350 will die of cancer. Estimates of the premature deaths that could have been avoided through screening vary from 3% to 35%, depending on a variety of assumptions.' In 2008, there were 12.4 million new cancer cases and 7.6 million cancer deaths globally and more than half of cancer cases and 60% of deaths occurred in the less-developed countries (International Agency for Research on Cancer, 2008). In sub-Saharan Africa, the major cancers in women are breast and cervical cancer; with incidence of breast cancer being highest at 94, 378 (15.1%) and cervical cancer, 93, 225 (14.9%) among other cancers in females. In terms of mortality cervical cancer tops the list at 57, 381(12.8%) followed by breast cancer 47, 583 (10.6%) (International Agency for Research on Cancer, 2014). A survey covering a 2-year-period (2009-2010) by Jedy-Agba, Curado, Ogunbiyi, *et al.* (2012) showed a total of 3,393 cancer cases at the Ibadan cancer registry. Gynaecological cancers are problems even in developed countries, though reduction is being achieved in countries with well established regular screening programmes.

Screening for reproductive cancer is one of the components of reproductive health that has impact on the life of women because proper implementation ensures prevention and early detection of gynaecological cancer. Klossner & Hatfield (2006) stated that screening tests do not diagnose the disease; instead a positive result indicates the need for more screening. A screening programme can only be successful if it is able to identify, reach and screen the defined target population (Germar, 2004). Participation in screening programmes for diseases such as hypertension and cancer is part of the health promotion activities in the Nigeria national health policy, to be carried out by individuals and families in Nigeria (FMOH, 2004). To ensure that the purpose of screening is achieved, women should be counselled before and after screening so they can make informed choices. To increase informed uptake, the tailored intervention should include information on the likely harms and risks, as well as the benefits of screening (Jepson, Clegg, Forbes & Lewis, 2000). In order to maintain reproductive

health and prevent common cancers, women should have regular gynaecological assessment and screening especially when there is a gynaecological problem.

Gynaecological Assessment

This is a process of obtaining objective and subjective data on gynaecological issues that will form the basis for further evaluation and management. This consists of the steps used for the normal assessment; history, physical examination, diagnostic procedures and investigations as contained in the nursing process. Obtaining gynaecological information takes a lot of tact and skills as some women find disclosing their sexual, reproductive and genital issues socially unacceptable. The professional nurse should be sensitive to this and use a non-judgemental approach.

Nursing History for Gynaecological and Breast Cancers

- Ensure conducive atmosphere and privacy during history taking.
- Interview the client alone in most situations except where there are barriers e.g. language, hearing, gender, etc.
- Start questioning with general day-to-day matters before progressing to discuss "private" issues. Ensure observation of non-verbal responses and level of comfort with questions on reproductive health Issues. Always try to verify information in order to obtain the right data.
- Ask for the major reason for visit. This should be expressed in client's own words, the main purpose of the visit.
- Past medical and surgical history. Identify major health challenges suffered in the past. Current and prior medications should be listed and all allergic reactions should be noted.

Gynaecological history

Menstrual history (age at menarche/menopause, cycle length, and duration, last menstrual period), contraceptive history, prior vaginal or pelvic infections, sexual history, and previous surgical gynaecological procedures (including biopsies and other minor operations).

Obstetric history

All pregnancies should be detailed including gestational ages, pregnancy-related complications, and pregnancy outcomes.

Family history

Detailed family history should be taken. Serious illnesses (diabetes, cardiovascular disease and hypertension) or causes of death for each individual should be recorded, with particular attention to first-generation relatives. History of mental retardation or genetic syndromes may have implications for further pregnancies.

Social history

The patient should be asked about her occupation and where and with whom she lives. She should be asked about cigarette smoking, illicit drug use and alcohol use.

Review of systems

A directed review of general symptoms is invaluable to uncover seemingly (to the patient) unrelated aspects of her health. Areas of importance include constitutional (weight loss/gain, hot flushes), cardiovascular (chest pain, shortness of breath), gastrointestinal (irritable bowel syndrome, hepatitis), genito-urinary (incontinence, haematuria), neurological (numbness, decreased sensation), psychiatric (depression, suicidal ideations) and other body systems.

Pelvic examinations

Pelvic examination should be conducted with the patient lying supine on the examining table with her legs in stirrups, with the patient being as relaxed as possible. This can be enhanced by explaining exactly what is to be done before commencement.

Inspection of the perineum

This involves the assessment of hair pattern, skin, presence of lesions, and evidence of trauma, haemorrhoids, and abnormalities of the perineal body. It entails the following processes:

- Palpation of the labia may identify swollen or infected Bartholin's or Skene's glands.
- Speculum examination. That is, choosing the appropriate type and size of speculum (warm in sterile water before use). Gently spread the labia and insert with downward pressure by placing the closed blades through the introitus and guiding the tip in a downward motion toward the rectum. The blades are inserted to their full length and then opened to reveal the cervix. The vaginal canal should be examined for erythema, lesions, or discharge. The cervix should be pink, shiny, and clear.
- The Papanicolaou (pap) smear is designed to sample the transformation zone of the cervix (the junction of the squamous cells lining the vagina and the columnar cells lining the endocervical canal). The material obtained is then smeared thinly on a microscopic slide and immediately fixed by spraying. Alternatively, the spatula may be scraped to dislodge cells into a liquid-based cytology vial and prepared for cytological interpretation.
- Bimanual examination involves palpation of the uterus and adnexae.
- A rectovaginal examination may yield additional information, especially when pelvic organs are positioned in the posterior cul-de-sac.

Screening for Breast and Gynaecological Cancers

Screening implies that this is a means of detecting disease early in asymptomatic people. It identifies those at higher risk for developing a disease. Screening should be combined with appropriate treatment in order to be effective. The aim of screening is to

detect and treat those people identified as having early signs of the disease, usually by means of an inexpensive, accurate, and reliable test that can be applied widely. No screening test is perfect, and the advantages and disadvantages need to be carefully weighed in any particular setting when deciding which test or tests to use. Positive results of examinations, tests, or procedures used in screening are usually not diagnostic but identify persons at increased risk for the presence of cancer and there is always need for confirmatory diagnosis. Diagnosis is confirmation of disease by biopsy or tissue examination in the work-up following positive screening tests (NCI, 2013).

Screening tests could involve any of the following:

Physical exam and history: An exam of the body to check for general signs of health, including checking for signs of disease, such as lumps or anything else that seems unusual. A history of the patient's health habits and past illnesses and treatments will also be taken.

Laboratory tests: Medical procedures that test samples of tissue, blood, urine, or other substances in the body.

Imaging procedures: Procedures that take pictures of areas inside the body.

Genetic tests: Tests that look for certain gene mutations (changes) that are linked to some types of cancer.

Early Detection of Cancer

- Direct or assisted visual observation is the most widely available examination for the detection of cancer. It is useful in identifying suspicious lesions in the skin, external genitalia and cervix.
- The second most available detection procedure is palpation to detect lumps, nodules, or tumors in the breast, prostate, testes, ovaries, and uterus.
- Internal cancers require procedures and tests such as endoscopy, x-rays, MRI, or ultrasound. Laboratory tests, such as the Pap

smear or the FOB test have been employed for detection of specific cancers.

Performance of screening tests

This is usually measured in terms of sensitivity, specificity as well as positive-predictive values (PPV) and negative-predictive values (NPV).

Sensitivity is the chance that a person with cancer has a positive test result. Specificity is the chance a person without cancer has a negative test. Positive-predictive value is the chance that a person with a positive test has cancer. Negative-predictive values is the chance that a person with a negative test result does not have cancer. Positive-predictive value and to a lesser degree, NPV are affected by the prevalence of disease in the screened population. For a given sensitivity and specificity, the higher the prevalence, the higher the PPV. A screen was classified positive if any test was suggestive of malignancy, and in these cases the subject was referred for further testing or retesting at the screening center (Nishizawa, Kojima, Teramukai *et al.*, 2009).

Counselling in Cancer Screening

Counselling is a face-to-face, personal and confidential communication aimed at helping a person and her family to make informed decisions and then act on them (WHO, 2006). Counselling women will enable them to understand the risks and benefits of various screening tests and be able to make informed choices. Counselling therefore is more than advice giving. It is a two-way communication between a client and a health worker to identify and address the client's needs and concerns about cervical cancer screening. It is seen as a necessity in screening and diagnostic and/or treatment services.

The counselling process involves providing information on cervical cancer which includes the causes, risk factors, methods of screening and treatment of cancer. Henriksson, Olsson &

Kristoffersson (2004) stated that cancer screening counselling includes education and counselling on the natural history and genetics of the cancer syndrome, the benefits, risks, and limitation of mutation analysis, as well as cancer surveillance and management implications. Providing support to patients in distress is a key component of the clinical nurse's specialist role, appropriate training should be available to them (Hairan, 2007).

It is important that counselling starts before a screening test because perception could be blinded once diagnosis has been made (Ndikom & Ofi, 2011). According to Solanke (2006), 'Information to cancer patients and their family members regarding the disease, the treatment procedure, the adaptation process of living with uncertainty, inherent with the diagnosis of cancer is often not effective due to people's failure to understand and also emotional stress usually creates communication difficulties.' Good psychological support services should be in place to support patients from the point of diagnosis and as they move along the patient pathway (Hairan, 2007).

Determinants of Screening and Treatment Methods

The following should be considered when deciding on the most suitable method:

- Performance of the screening tests.
- Processing requirements of the tests.
- Safety and effectiveness of the treatment.
- Equipment and supplies required.
- Feasibility of using the screening and treatment options in proposed locations.

Breast Cancer

Breast cancer is a group of diseases that cause cells in the body to change and grow out of control. Most types of cancer cells form a lump or mass called a tumor and are named after the part

of the body where the tumor originates. In 2010, approximately 207,000 women were diagnosed with breast cancer and about 39,840 women died from this disease (American Cancer Society, 2010). Early detection of breast cancer plays an important role in decreasing its morbidity and mortality among women (American Cancer Society, 2009). A palpable mass is the most common first sign or symptom associated with breast disease (Klossner & Hatfield, 2006).

Causes and risk factors

Gender: Simply being a woman is the main risk factor for developing breast cancer. Men can develop breast cancer, but the disease is more common among women.

Age: Risk of developing breast cancer increases with age. Seventy-five per cent of cases are over 40 years (Reeder *et al.*, 1997). About 1 out of 8 invasive breast cancers are found in women younger than 45, while about 2 of 3 invasive breast cancers are found in women age 55 or older.

Genetic risk factors: About 5% to 10% of breast cancer cases are thought to be hereditary, meaning that they result directly from gene defects (called mutations) inherited from a parent.

Family history of breast cancer: Breast cancer risk is higher among women whose close blood relatives have this disease. Having a first-degree relative (mother, sister, or daughter) with breast cancer almost doubles a woman's risk. Having 2 first-degree relatives increases her risk about 3-fold.

Personal history of breast cancer: A woman with cancer in one breast has a 3- to 4-fold increased risk of developing a new cancer in the other breast or in another part of the same breast. This is different from a recurrence (return) of the first cancer (Park & Chang, 2009).

Race and ethnicity: White women under 45 years of age are slightly more likely to develop breast cancer than non-whites. However, breast cancer is more common in African-American women.

Menstrual periods: Early or late menarche. Women who have had more menstrual cycles because they started menstruating early (before age 12) and/or went through menopause later (after age 55) have a slightly higher risk of breast cancer. The increase in risk may be due to a longer lifetime exposure to the hormones estrogen and progesterone (American Cancer Society, 2014).

Exposure to radiation: Women who as children or young adults were treated with radiation therapy to the chest area for another cancer have a risk of breast cancer.

Diethylstilbestrol (DES) exposure: Women whose mothers took DES during pregnancy may also have a slightly higher risk of breast cancer (Facione, Giancalo & Chan, 2010)

Nulliparity/first child after 30 years: Women who have not had children or who had their first child after age 30 have a slightly higher breast cancer risk overall. Having many pregnancies and becoming pregnant at an early age reduces breast cancer risk overall for some breast cancers.

Oral contraceptives: Studies have found that women using oral contraceptives (birth control pills) have a slightly greater risk of breast cancer than women who have never used them.

Depot-medroxyprogesterone acetate (DMPA; Depo-Provera) is an injectable form of progesterone that is given once every 3 months as birth control. This predisposes women to breast cancer.

Hormone therapy after menopause: Use of combined post-menopausal hormone therapy increases the risk of breast cancer.

Alcohol: Consumption of alcohol is clearly linked to an increased risk of developing breast cancer. The risk increases with the amount

of alcohol consumed. Compared with non-drinkers, women who consume 1 alcoholic drink a day have a very small increase in risk.

Overweight or obesity: Overweight or obesity after menopause increases breast cancer risk. Before menopause your ovaries produce most of your estrogen, and fat tissue produces a small amount of estrogen. Higher insulin levels have also been linked to some cancers, including breast cancer (American Cancer Society, 2014).

Oophorectomy before 40 years of age is also a risk factor.

Stages of breast cancer

Stage 0 breast cancer is when the disease is localized to the milk ducts (carcinoma in situ).

Stage I breast cancer: The cancer is smaller than 1-inch across and has not spread anywhere.

Stage II breast cancer is one of the following:

- The tumor is less than an inch across but has spread to the underarm lymph nodes (IIA); or
- The tumor is between 1 and 2 inches (with or without spread to the lymph nodes); or
- The tumor is larger than 2 inches and has not spread to the lymph nodes under the arm (both IIB).
- Advanced breast cancer (metastatic) results after cancer cells spread to the lymph nodes and to other parts of the body.

Stage IIIA breast cancer is also called "locally advanced breast cancer". The tumor is larger than 2 inches and has spread to the lymph nodes under the arm, or a tumor that is any size with cancerous lymph nodes that adhere to one another or to surrounding tissue (IIIA).

Stage IIIB breast cancer is a tumor of any size that has spread to the skin, chest wall, or internal mammary lymph nodes (located beneath the breast and inside the chest).

Stage IV breast cancer is defined as a tumor, regardless of size, that has spread to areas away from the breast, such as bones, lungs, or lymph nodes.

Signs and symptoms of breast cancer

The most common symptom of breast cancer is a new lump or mass. A mass that is painless, hard, and has irregular edges is more likely to be cancerous, but breast cancers can be tender, soft, or rounded. They can even be painful.

Other possible signs of breast cancer include:

- Swelling of all or part of a breast (even if no distinct lump is felt).
- Skin irritation or dimpling.
- Breast or nipple pain.
- Nipple retraction (turning inward).
- Redness, scaliness, or thickening of the nipple or breast skin.
- A nipple discharge other than breast milk.

Breast cancer screening methods

These include:

- Breast self-examination.
- Clinical breast examination.
- Thermography.
- Mammography.
- Ultrasound or magnetic resonance imaging (MRI).
- Biopsy used to confirm diagnosis.
- Scintimammography.

- Positron emission tomography (PET) scanning.

Breast self-exam (BSE): This is an option for women starting in their 20s. Women should know how their breasts normally look and feel and report any breast change promptly to their health care provider. According to Oluwatosin (2012), breast self-examination (BSE) and clinical breast examinations (CBE) have been recommended as early detection measures (EDM) for developing countries.

Steps in breast self-examination

Step 1: Start by looking at the breasts in the mirror with shoulders straight and arms on the hips.

Plate 9.1: Breast Self-Exam (Step 1)
Source: Breastcancer.org (2013)

Observe if the breasts are still their usual size, shape and colour. Check for change in shape or visible distortion or swelling. The following changes should be reported: dimpling, puckering, or bulging of the skin. Nipple that has changed position or an inverted nipple. Redness, soreness, rash, or swelling.

Step 2: Raise arms and look for the same changes.

Step 3: While at the mirror, check for any signs of fluid coming out of one or both nipples, it could be watery, milky, or yellow fluid or blood.

Plate 9.2: Breast self-exam (Steps 2 and 3)
Source: Breastcancer.org (2013)

Step 4: Feel the breasts while lying down, using the right hand to feel the left breast and then the left hand to feel the right breast. Use a firm, smooth touch with the first few finger pads of the hand, keeping the fingers flat and together. Use a circular motion, about the size of a quarter.

Plate 9.3: Breast self-exam (Step 4)
Source: Breastcancer.org (2013)

Cover the entire breast from top to bottom, side to side; from your collarbone to the top of the abdomen, and from your armpit to the cleavage.

Follow a pattern to be sure that the whole breast is covered. Begin at the nipple, moving in larger and larger circles until the outer edge of the breast is reached. Move the fingers up and down vertically, in a row. Feel all the tissue from the front to the back of your breasts. For the skin and tissue just beneath, use light pressure; use medium pressure for tissue in the middle of your breasts; use firm pressure for the deep tissue in the back.

Step 5: Feel the breasts while standing or sitting. Cover the entire breast, using the same hand movements described in Step 4.

Plate 9.4: Breast self-exam (Step 5)
Source: (Breastcancer.org, 2013)

Any abnormality observed should be reported promptly.

Clinical breast exam (CBE): This is the physical examination of the breast by a health care provider to exclude abnormal changes in the breast. This should be carried out every 3 years for women in their 20s and 30s and every year for women 40 and over (Klossner & Hatfield, 2006; Berman, Snyder, Kozier *et al.*, 2008). This follows the pattern of breast self-examination but it is carried out by a nurse or clinician.

Mammography: A mammogram uses low levels of radiation to provide a black-and-white X-ray image of your breast (Klossner & Hatfield, 2006). This image varies according to breast density, with tumors typically appearing denser than normal breast tissue. However, the breast tissue tends to be more dense in young women, which makes it difficult to distinguish between normal breast tissue and potentially cancerous tumors on the mammograms in this group. Therefore, physicians do not typically recommend this screening method for women under age 40 – unless they are at increased hereditary risk for breast cancer. It is recommended annually for women age 40 and above (Berman, Synder, Kozier *et al.*, 2008).

Mammograms detect potentially dangerous masses that cannot be felt or seen with the naked eye, which makes them an important screening tool for older women. Danziger (2011) states that 'the value of mammograms is greatly enhanced by annual or repeat screening because when compared with previous mammograms, changes in breast density or the presence of new microcalcifications can be observed.'

Ultrasound or magnetic resonance imaging (MRI): Annual screening with mammograms for women with an increased risk of breast cancer and dense breast tissue detects more new breast cancers than mammography alone but also results in more false-positive findings. Yearly, mammograms are recommended starting at age 40 and continuing for as long as a woman is in good health.

Some women because of their family history, a genetic tendency, or certain other factors, should be screened with MRI in addition to mammograms (American Cancer Society, 2013).

Scintimammography: This is a technique in which radioactive contrast agents are injected into a vein in the arm. An image of the breast is taken with a special camera which detects the radiation (gamma rays) emitted by the dye. Tumor cells, which contain more blood vessels than benign tissue, collect more of the dye and project a brighter image.

Positron emission tomography (PET) scanning: This is a technique that measures a signal from injected radioactive tracers that migrate to the rapidly dividing cancer cells. The PET scanner picks up the signal and creates an image.

Thermography: This is a way to measure and map the heat on the surface of the breast using a special heat-sensing camera. It is based on the idea that the temperature rises in areas with increased blood flow and metabolism, which could be a sign of a tumor (American Cancer Society, 2013). It is a newer test but it is not as effective as mammogram.

Ovarian Cancer

Ovarian cancer is a cancerous growth arising from the ovary and symptoms are frequently very subtle and may include bloating, pelvic pain, difficulty in eating and frequent urination, and are easily confused with other illnesses (Johannes, 2010). Ovarian cancer is the second most common gynecological cancer (about the eighth most common cancer overall), with about 22,000 new cases per year, leading to 16,000 deaths annually (Florida Hospital, 2014). Reeder, Martin & Koniak-Graffin (1997) stated that ovarian cancer is generally silent, making early diagnosis difficult. The survival figures for ovarian cancer are the poorest amongst the gynecological cancers. According to Reeder, Martin & Koniak-Graffin (1997) one out of 70 women will develop ovarian cancer in her lifetime. In Europe, there are an estimated 65,697 new cases and 41,448 deaths each year. (Ferlay, Shin, Bray *et al.*, 2012). A minority of women (approximately 15%) present with disease confined to the ovaries and following surgery their 5-year survival is more than 90%. For those presenting with advanced disease (FIGO Stage III-IV), the outlook is less optimistic with the probability of surviving 5 years being less than 30% (Jemal, Siegel, Ward *et al.*, 2009). Early diagnosis of ovarian cancer is therefore highly desirable but confounded by the lack of clearly defined

symptoms (Goff, Mandel, Drescher *et al.*, 2007; Hippisley-Cox & Coupland, 2011).

Risk factors of ovarian cancer identified by Reeder, Martin & Koniak-Graffin (1997) are:

- High fat diet (doubles risk).
- Smoking and alcohol consumption.
- Environmental pollutants.
- History of two first degree relatives with breast or ovarian cancer.
- Personal history of colon, breast or endometrial cancer.

Screening for ovarian cancer

Majority of women with ovarian cancer like other cancers present late by up to Stages III and IV at the point of initial diagnosis. Women at high risk for ovarian cancer may receive regular screening or reduce their risk of cancer in other ways, such as surgery to remove the ovaries. General routine screening has not been shown to contribute to reduction of ovarian cancer mortality (Buys, Partridge, Black *et al.*, 2011).

CA-125 blood test: CA-125 is a tumor marker using monoclonal antibodies that are found in higher levels in women with ovarian cancer (Reeder, Martin & Koniak-Graffin, 1997). This new method estimates a woman's risk of ovarian cancer by using her age and the results of a yearly CA-125 blood test.

Transvaginal sonography (TVS): This is an imaging test that uses sound waves to create a picture of the ovaries and look for any tumors and if found, the patient is referred to a gynaecologic oncologist to decide if surgery is needed (Cancer.net, 2013).

Abdominal ultrasonosography: This is a sensitive test for detecting morphologic changes that suggest cancer, but false positive rate is high (Reeder, Martins & Koniak-Graffin, 1997).

Uterine/Endometrial Cancer Screening

There are many different ways to screen for endometrial cancer. Some methods of endometrial cancer screening are more useful and accurate than others. Like most cancers, endometrial cancer does not produce noticeable symptoms until later stages of the disease. The most common symptom usually noticed first is vaginal bleeding. Since the disease can go months without being noticed, it is important that women undergo endometrial cancer screening as routinely as possible. However, most women do not get screened for this disease until symptoms become noticeable.

Stages of endometrial cancer

Stage I: It is confined to the corpus.

Stage II: *It involves the corpus to cervix.*

Stage III: It extends outside the corpus but not outside the pelvis (vaginal wall).

Stage IV: It involves the bladder, rectum or outside the pelvis.

Screening for uterine cancers

Pap test: The Pap test is not a direct method of endometrial cancer screening. However, results of this test can show common signs of endometrial cancer, which will usually call for further testing. All women should have an annual gynecologic examination, including a careful pelvic examination; changes should be further evaluated. Changes in the size, shape or consistency of the uterus or its surrounding supporting structures may exist when the disease is more advanced.

Transvaginal ultrasound is usually performed before a biopsy. This form of endometrial cancer screening is performed with a special tool, called a probe. The probe is inserted into the vagina. Sound waves bounce off of the probes which are translated into pictures visible on the ultrasound machine. These images can usually show whether or not a tumor exists in the uterus. If metastasis has

occurred, it will be visible on the images as well. Sometimes, if the health care provider who is conducting the ultrasound feels that the images are not clear enough, they will feed salt water through a tube, which will make abnormalities more visible.

Endometrial biopsy: One of the most common and productive methods of endometrial cancer screening is a biopsy. A biopsy consists of a small sample of endometrium being collected by the health care provider using a suction device. This sample is obtained by inserting the device into the uterus. Collecting the sample can take less than sixty seconds. However, this process can cause slight pain or discomfort, similar to cramps caused by menstruation.

Cervical Cancer

Cervical cancer is a malignant epithelial tumour of the cervix characterized by the proliferation of abnormal cells within and around the cervix (Monahan, Sands, Neighbors *et al.*, 2007). The signs may not be obvious but it can be detected through cervical cancer screening and diagnosis. Cancer of the cervix is the second leading cause of cancer deaths among women in developing countries with inadequate cervical cancer screening programmes.

The most common symptoms in women with cancer include abnormal vaginal bleeding or discharge, bleeding after intercourse and pain. Most gynecologic oncologists use the FIGO (International Federation of Gynecology and Obstetrics) classification. This divides the disease into five stages, with further divisions in each stage.

Stage 0 or cervical carcinoma in situ: This is usually the first stage which refers to the precancerous non-invasive stage with slight changes on the cervix. It is now the most common form diagnosed and it peaks in incidence between the ages of 25 and 35 (Monahan, Sands, Neighbors *et al.*, 2007).

According to IARC (2014) and the America Cancer Society (2013) the International Federation of Gynecology and Obstetrics classified cervical cancer stages as follows:

Stage I: This is carcinoma strictly confined to the cervix; extension to the uterine corpus should be disregarded. The diagnosis of both Stages IA1 and IA2 should be based on microscopic examination of removed tissue, preferably a cone, which must include the entire lesion.

Stage IA: *Invasive cancer identified only microscopically. Invasion* is limited to measured stromal invasion with a maximum depth of 5 mm and no wider than 7 mm.

Stage IA1: Measured invasion of the stroma no greater than 3 mm in depth and no wider than 7 mm diameter.

Stage IA2: Measured invasion of stroma greater than 3 mm but no greater than 5 mm in depth and no wider than 7 mm in diameter.

Stage IB: Clinical lesions confined to the cervix or preclinical lesions greater than Stage IA. All gross lesions, even with superficial invasion, are Stage IB cancers.

Stage IB1: Clinical lesions no greater than 4 cm in size.

Stage IB2: Clinical lesions greater than 4 cm in size.

Stage II: This is carcinoma that extends beyond the cervix, but does not extend to the wall. The carcinoma involves the vagina, but not as far as the lower third.

Stage IIA: There is no obvious parametrial involvement. Involvement of up to the upper two thirds of the vagina.

Stage IIB: There is obvious parametrial involvement, but not to the pelvic sidewalls.

Stage III: This is carcinoma that has extended to the pelvic sidewall. On rectal examination, there is no cancer-free space

between the tumour and the pelvic sidewall. The tumour involves the lower third of the vagina. All cases with hydronephrosis or a non-functioning kidney are Stage III cancers.

Stage IIIA: No extension to the pelvic sidewall, but involvement of the lower third of the vagina.

Stage IIIB: Extension to the pelvic sidewall or hydronephrosis or non-functioning kidney.

Stage IV: This is carcinoma that has extended beyond the true pelvis or has clinically involved the mucosa of the bladder and/or rectum.

Stage IVA: This is the spread of the tumour into adjacent pelvic organs.

Stage IVB: This is the spread to distant organs.

Screening for Cervical Cancer

Cervical cytology or Papanicolaou test: This detects abnormal cells in a sample taken from the cervix. It involves performing a speculum examination to expose the cervical os and collecting cervical cells using a wooden or plastic spatula, broom, or brush. These cells are then smeared and fixed on a glass microscope slide. Each slide is evaluated under the microscope by a pathologist. This multistage process can take several weeks before the results are available to the client, although in well organized programmes results can be available sooner. According to Gharoro & Ikeanyi (2006) 'Papanicolaou (Pap) smear test is considered the best approach to reduce cervical cancer incidence worldwide.'

Liquid-based cytology (LBC) testing: This is a new technique that provides a uniform thin layer of cervical cells without debris. It is a more expensive test than conventional cytology and requires additional supplies and sophisticated equipment to process the smear. The impact of LBC on cancer incidence and mortality

remains to be established, as does its cost-effectiveness (WHO, 2001).

HPV DNA test: The currently available test, Hybrid Capture 2, determines if one or more of the high-risk types of HPV virus are present in a cervical specimen. HPV DNA testing usually involves a speculum exam to obtain a sample of cervical cells using a brush or swab. The sample is taken to a laboratory for processing. Where such laboratory services have been established, an automated system can process 70 to 90 specimens at a time, requiring a total processing time of about seven hours. The results can potentially be returned to the service site in a day (Wright, Denny, Kuhn *et al.*, 2000). Although the technical, cost, and infrastructure requirements can make the HPV DNA test difficult to implement, available data suggests that it performs better than cytology and visual tests in detecting precancerous lesions among women in their 30s and 40s (ACCP, 2004).

Visual tests (VIA and VILI): These types of visual tests identify precancerous cervical lesions. In visual inspection with acetic acid (VIA), sometimes referred to as direct visual inspection (DVI), precancerous lesions temporarily appear white after staining with acetic acid (vinegar). Like cervical cytology and HPV DNA testing,

Visual inspection with acetic acid (VIA): This involves a speculum examination and exposing the cervix. After swabbing the cervix with 3%-5% acetic acid using a cotton applicator, abnormal areas have a distinctive white appearance.

VIA can be implemented in a wide range of settings. No laboratory processing is required, the results are immediate, and treatment can be provided on the same visit. Visual inspection with acetic acid (VIA) can be used to screen women. It can be done by nurses or midwives with appropriate training. Although still under investigation, research results show that VIA is simple, accurate, cost-effective, and acceptable to most women (Carr & Sellor, 2004). Due to the subjective nature of visual assessment,

it is important to standardize definitions for positive and negative tests, and to give special attention to regular and consistent quality assurance (Denny *et al.*, 2002).

Visual inspection with Lugol's iodine (VILI): Like VIA, VILI involves temporarily staining the cervix with Lugol's iodine. Normal cells take up the iodine stain and appear a mahogany-brown colour, whereas precancerous cervical lesions appear yellow. Like VIA, results for VILI are immediate, treatment can be provided on the same visit, and it may be implemented in a wide range of settings.

Diagnosis and confirmation

Conventionally, cytology-based screening is linked to treatment through an intermediary diagnostic step using colposcopy, followed by confirmatory biopsy when indicated.

Biopsy: Endocervical curettage (ECC) or an endocervical smear can be used to sample the endocervical canal. Laboratory assessment of the tissue samples obtained by biopsy (histology) confirms the presence or absence of CIN in precancer stages and cervical cancer itself.

Colposcopy: This involves high-powered illuminated magnification of the cervix using a colposcope – a binocular magnifying instrument. This enables health care providers to determine the extent of lesions and is useful in taking biopsies and in providing directed treatment with cryotherapy or loop electrosurgical excision procedure (LEEP). Colposcopy is non-invasive and performed as an out patient procedure. It does not require anesthesia.

The American Cancer Society Guideline 2013 states as follows:

- Cervical cancer screening (testing) should begin at age 21. Women under age 21 should not be tested.
- Women between ages 21 and 29 should have a Pap test every 3 years. Now there is also a test called the HPV test. HPV testing

should not be used in this age group unless it is needed after an abnormal Pap test result.

- Women between the ages of 30 and 65 should have a Pap test plus an HPV test (called "co-testing") every 5 years. This is the preferred approach, but it is also OK to have a Pap test alone every 3 years.
- Women over age 65 who have had regular cervical cancer testing with normal results should not be tested for cervical cancer. Once testing is stopped, it should not be started again. Women with a history of a serious cervical pre-cancer should continue to be tested for at least 20 years after that diagnosis, even if testing continues past age 65.
- A woman who has had her uterus removed (and also her cervix) for reasons not related to cervical cancer and who has no history of cervical cancer or serious pre-cancer should not be tested.
- A woman who has been vaccinated against HPV should still follow the screening recommendations for her age group.

Considerations to make Pap test more precise:

- Do not schedule an appointment for a time during menstrual period. The best time is at least 5 days after menstrual period stops.
- Tampons, birth-control foams, jellies or other vaginal creams should not be used 2 to 3 days before the test.
- No douching for 2 to 3 days before the test.
- No sexual intercourse for 2 days before the test.

Vaginal Cancer

There is no screening programme for vaginal cancer as such but a routine examination of the vagina can be carried out during cervical smear test. Precancerous conditions such as vaginal intraepithelial

neoplasia (VAIN) can be noticed during this examination. If treated, vaginal cancer can be prevented.

Vulval Cancer

Vulval cancer can start on any part of the vulva. But the commonest sites are the inner edges of the outer lips and the inner lips. Screening for volval cancer can be done in the following way:

Vulva self-examination: Women should check their vulva regularly and check for any changes to the skin. According to Klossner & Hatfield (2006), women older than 18 years or sexually active should perform monthly self-examination of tee external genitalia. Doing this may help you to pick up vulval cancer at an early stage, as well as other conditions that may need treatment.

Self-exam: This should be carried out between periods. The woman will need to hold a mirror so that she can see the outside of her genitalia while using the other hand to spread the labia. She will need to examine the whole area for anything that seems abnormal. Also, she should look for warts, sores and changes in skin colour – areas that are red, irritated, white or darkly coloured. Women should report any abnormal changes.

Conclusion

Cancer is known to be a major course of morbidity and death among women. Breast and gynaecological cancers are major reproductive health concerns for many women. This chapter focused on breast cancer as well as the various types of gynaecologic cancers which include cervical, ovarian, uterine, vaginal and vulvar. Issues related to screening for reproductive cancer is one of the components of reproductive health that have impact on women, because proper implementation ensures prevention and early detection of cancer.

Screening programmes can only be successful if they are able to identify, reach and screen the defined target population. Gynaecological assessment and various screening methods for

breast and gynaecological cancers were discussed. The need for screening in early detection of cancer cannot be over emphasized.

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