

MEDICINE AND MEDICAL NURSING III

ACKNOWLEDGEMENTS

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COURSE OVERVIEW

Introduction

Welcome to third and final part of our course on Medicine and Medical nursing III. In year 2 you looked at and four units covering introduction to conditions of the urinary system, central nervous system endocrine system and management of HIV/AIDS. Medicine III is continuation of Medicine II as it opens with palliative care and proceeds to look at Opportunistic Infections, Legislation and policies in relation to STI's, skin conditions (Dermatology and finally Management of STI's. Therefore, the course is tailored to provide you with information on how to manage patients/clients suffering from the conditions listed above.

Course Aim

To equip students with knowledge and skills of common medical conditions in order to provide comprehensive nursing care to clients and their families in hospitals and community settings

Course Objectives

At the end of the course the student should be able to:

1. Assess clients self-image to various skin conditions and STIs in promoting awareness
2. Apply syndrome management principles in managing clients with STIs
3. Apply general principle of management of STIs Apply knowledge of legislation and law in order to promote client's right whilst utilizing community support programs in health care delivery.

Course Content

Unit 1: Palliative Care

In this unit you will learn how to take care of patients that are terminally ill and be able to explain what basic nursing care you will provide to them. You will learn how to manage their pain, nausea and vomiting. You will also learn the different models of palliative care.

Unit 2: HIV Related Opportunistic Infections

This unit covers the introduction to opportunistic infections and guiding principles for the management of opportunistic infections. It also includes the opportunistic infections caused by bacteria, parasites, fungi and viruses. The unit further describes HIV associated neoplasms, Syndromic management of opportunistic infections and HIV related conditions and infection prevention.

Unit 3: Legislation And Regulations

This unit will provide you with information on the medical and legal aspects of STI/ HIV/AIDS. It will also discuss ethics as related to STIs/HIV/AIDS, infectious disease ordinance, human rights and clients rights. Information on public health acts and National policy on STIs/HIV/AIDS/TB and leprosy is also included.

Unit 4: Dermatology

This unit reviews the anatomy and physiology of the skin and describes the management of skin diseases. It will also review the assessment of a patient with skin problems. Lastly, the unit will discuss the nursing responsibility in care of a patient with skin problems and management of a patient with common conditions of the skin.

Unit 5: Management Of Sexually Transmitted Infections (STI)

The unit will review the anatomy and physiology for the female and male reproductive organs. It will also outline the principles of management of common sexually transmitted infections and assessment of a patient with sexually transmitted infections. Furthermore, it will describe the nursing responsibility in the care of patients with STI and discuss the common sexually transmitted infections (STIs). Syndromic management of the patient with STIs and Psycho social counselling will be covered in this unit as well.

Assessment

- Continuous Assessment 40%
- Final Examination 60%

UNIT 1: PALLIATIVE CARE

10 Hours

1.0 Introduction

Palliative care is the active holistic care of patients with advanced progressive illness. Management of pain and other symptoms and provision of psychological, social and spiritual support is paramount. The goal of palliative care is achievement of the best quality of life for patients and their families. Many aspects of palliative care are also applicable earlier in the course of the illness in conjunction with other treatment. This unit is not bulky equally it is easy to understand. Now we can start by defining palliative care.

1.2 OBJECTIVES

By the end of the unit you should be able to:

1. Define Palliative care
2. Discuss models of palliative care
3. Describe pain management
4. Discuss the management of nausea and vomiting

1.3 Definition

For the purpose of this discussion, I will refer to the definition by WHO which defines palliative care as “An approach that improves the quality of life of clients and their families facing the problems associated with life- threatening illness, through the prevention and relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems that are physical, psychosocial and spiritual, (WHO, 2002).” Palliative care provides support and care for individuals with life threatening illnesses across all care settings through an interdisciplinary team approach. Palliative care also deals with needs of the family as well as the family, (Black and Hawks, 2009:386).

The second definition says, it also refers to the prevention, relief, reduction, or soothing of symptoms of disease or disorders throughout the entire course of an illness, including care of the dying and bereavement follow-up for the family (Ferrell and Coyle, 2006).

Take a second and reflect on this story

Case scenario

Imagine a young woman aged 24 years with two children. She lives in Kanyama compound. Her husband died six months ago and the neighbours say that he must have died from HIV. Now she is becoming sick, has lost weight and she is scared that she may also die. Recently she developed a painful ulcerating swelling on her leg which stops her from sleeping. Some days she can barely get out of bed to care for her children. Her parents are far away in the village. The landlord is asking for rent but she has no income since her husband died. The neighbours are gossiping saying that the family is cursed and she wonders if they are right since she has prayed for help but none has come.

If you were that woman, what would be on your mind?

What help do you think this woman needs?

Do you think she needs support in any form? Yes she does. That's what palliative care means.

It is what is known as the holistic approach to palliative care. It includes addressing:

- Physical- symptoms e.g. pain, cough, tiredness, fever, vomiting
- Psychological-worries, fears, sadness, anger
- Social-needs of the family, issues of food, work, housing and relationships
- Spiritual-questions of the meaning of life and death, the need to be at peace

Now you will learn the goals of palliative care

Goals of Palliative Care

The goals of palliative care include the following:

- To provide relief from pain, shortness of breath, nausea, and other distressing symptoms.
- To affirm life and regard dying as a normal process
- Intend neither to hasten nor to postpone death
- Integrate the psychological and spiritual aspects of patient care
- Offer a support system to help patients live as actively as possible
- Offers a support system to help the family cope
- Uses a team approach to address the needs of patients and their families
- Enhance quality of life
- Applicable early in the course of illness, in conjunction with other therapies that are intended to prolong life, such as chemotherapy or radiation therapy

Palliative care is targeted for patients of all ages, living with a persistent or recurring condition, that adversely affects their daily functioning or will reduce expectancy. It is also targeted to

family members or other individuals who support and with whom the patient has a significant relationship.

Principles of Palliative Care

The principles that underpin this Palliative Care Model are:

A life-limiting illness is an illness that can be reasonably expected to cause the death of a patient within a foreseeable future.

The patient and family are the unit of care given that: the person's illness affects not only the person who is unwell but also the family and any difficulties experienced by the family will in turn have impact on the person who is unwell.

- Palliative care is multidisciplinary and is an integral part of the health care system. Every person with a life-limiting illness has a fundamental right to access care that is underpinned by a palliative approach.
- There is a formal process of assessment, informed consent inclusive of boundaries of care and decision making around advance care plans. For example orders for “not for resuscitation”.
- Quality of life can be enhanced by access to physical, psychological, emotional, social and spiritual support provided in a culturally appropriate manner.
- People with a life-limiting illness and their families, will have access to information about options for future care so that they are able to actively participate in decision making about treatment, care and end-of-life issues.
- People with life limiting illness will have access to quality care to meet their needs. This care is delivered by trained staff that is supported by specialist palliative care services.

- People with life limiting illness have the right to spend as much time as possible in their own home and community, therefore outpatient follow-up will be provided where possible in local community settings, or by using Tele health and other technologies, to avoid unnecessary travel and burden to patients and families.

Patients and families need to experience a seamless (unbroken) service system, with smooth and timely transitions from one service to another. This includes:

- **Timely referral** to a palliative care service (preferably not in crisis).
- Effective **communication** with the patient and family and between services.
- Speedy and **straightforward admission** to appropriate inpatient care when required.
- Speedy and **straightforward transfer** from acute care to an appropriate palliative.
- **Continuity** of health care provision across the various care settings.
- Coordination and integration of services across all settings with other medical, health or community care providers.

Models of Palliative Care /Types of Services Provided Under Palliative Care

There is no one right or wrong model for the provision of palliative care. The best model is determined by local needs and resources, in consultation with the local health care providers and authorities such as the Ministry of health.

The International Association for Hospice and Palliative Care (IAHPC) believes that each developing country should be encouraged and enabled to develop its own model of palliative care, appropriate to the needs of the local patients and the available resources, taking advantage of the experience and expertise accumulated in developed countries, and not be expected to copy models more appropriate to affluent countries

The models are discussed below:

In-patient beds

An in-patient palliative care unit may be part of a hospital or an independent free-standing unit. A hospital unit may be either a special ward within the hospital or a separate unit built in the hospital grounds. This means that the hospital may set aside a separate side ward to nurse patients requiring palliative care.

If it is a free-standing unit, then it is physically separate from the hospital, but should still be able to access its staff and services

In this model, patients may be admitted for:

- symptom management (physical or psychosocial)
- terminal care
- short duration rehabilitation/convalescence
- to provide a period of respite for family carers

Terminally ill patients who need urgent medical or surgical intervention are admitted also to the hospital for management of those life-threatening symptoms such as obstruction, haemorrhage or infection. You may not understand what haemorrhage is, it is simply bleeding.

If you have been to a palliative care unit, you may have noted that most units have few beds (6-30), an average length of stay of 2 weeks or less, and a discharge rate of 40-60%. Although these figures vary greatly around the world and depend on local needs and resources and the relationship to other services.

Community services/Home Based Care Palliative

There are various models for community based palliative care services:

- services providing specialist advice and support for the family doctors and community nurses managing the patients
- services providing 'hands-on' nursing and allied health services to patients at home, in co-operation with the patient's own doctor
- comprehensive services providing medical, nursing and allied health care to patients and their families at home

You can see that this is similar to home based care.

Day Units

This is also known as Day Care, Day Hospice, and Day Palliative Care Unit. It usually forms part of a hospital or in-patient palliative care unit. In day units there is provision of care, rehabilitation, support and respite during the day for people under care at home, who are still well enough to be transported to and from the Day Care Unit, often by volunteer transport. This

means that the patient could be brought during the day and after the care has been provided, they go back home.

Hospice care is usually provided in the patient's home by a multidisciplinary team of health-care professionals and trained volunteers, including family members. When home care is not possible, hospice care may be provided in nursing homes, hospitals, and in homelike hospice centres. Hospice patients receive medication for pain and anxiety, and other medications to control various symptoms of their disease. While professionals and trained volunteers are essential components of hospice care, family members provide much of the daily care that a patient receives at home. This practice helps relieve the distress of a dying patient by providing a familiar environment in which the patient is surrounded by loved ones, and helps both the patient and family prepare for death in a way that many find rewarding. Hospice services also provide counselling and support to family members during the terminal illness and grieving process.

Nursing homes; this refers to residence that is equipped and staffed to provide care for people with serious medical conditions. Nursing homes are designed to provide food, shelter, and medical care for their residents, as well as social, religious, civic, creative, and intellectual activities. Most nursing home residents are elderly.

Hospital Palliative Care Teams

These operate in general and specialist hospitals for example the Cancer Diseases Hospital. The teams are staffed by doctors and palliative care nurses and some also have a social worker or a pastoral care specialist on the team. They provide consultative advice on patients referred to them in any department of the hospital:

- to advise on every aspect of palliation
- provide support for family member
- provide support and education for the staff

They also facilitate the provision of high quality palliative care in all wards where the patient is familiar with the staff and surroundings without the need to be transferred to another unit and educates the ward staff about matters pertaining to

Below is the Australian Palliative care Model

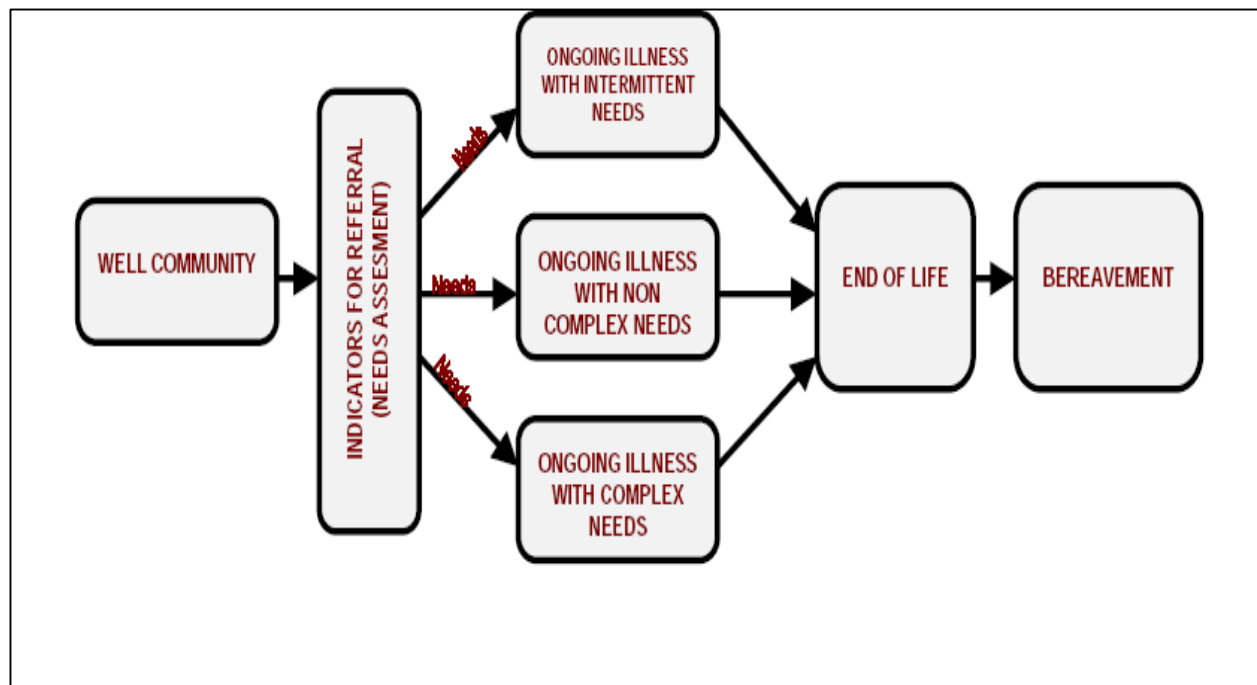


Figure 1: Palliative Model

Activity

In your clinical practice find out what model of palliative is being used and write notes on the same

Hospital Palliative Care Teams

As we were looking at the palliative care services I kept on mentioning palliative care team, so who is involved in this team?

Successful palliative care requires attention to all aspects of a patient's suffering, which requires input or assistance from a range of medical, nursing and allied health personnel a multidisciplinary approach.

Established palliative care services work as a multidisciplinary or inter professional team

Inter professional is the term now used for teams that meet on a regular basis to discuss patient care and develop a unified plan of management for each patient, and provide support for other members of the team

Where palliative care services have not yet been established, it is important for the few professionals providing such care to work as a team, meeting regularly, planning and reviewing care, and supporting each other.

The patient may be considered a 'member' of the team (although they do not participate in team meetings), as all treatment must be with their consent and in accordance with their wishes

The members of the patient's family can be considered 'members', as they have an important role in the patient's overall care and their opinions should be included when formulating a plan of management.

Palliative care units are usually staffed by doctors and palliative care nurses just like any other hospitals. These doctors review patients, make diagnosis and work hand in hand with nurses to administer medication to relieve the physical and psychological symptoms a patient may present with.

We also have a social worker on the palliative care unit. A social worker will ensure that all the social problem of the patients are attended to. The family members are also involved in the care of their relatives.

A pastoral care specialist-Because most of these patients may be terminally ill and may not manage to go to church or to meet a pastor their spiritual needs will be met by ensuring a pastor/clergyman comes to visit them and preach to them as patient may be longing for God's word as they view themselves that there is no way out but to die.

Volunteers play an important role in many palliative care services

The ideal multidisciplinary team:

Medical staff- the medical staff together with the nursing staff need to assess the patient and come up with treatment plan.

Nursing staff – together with the medical staff need to assess the patient and come up with treatment plan.

Social worker- The social worker to look at the social aspect like home environment where the patient comes from and the financial stance as some finances may be needed at some point.

Physiotherapist- some patient s may be admitted for rehabilitation where they will need rehabilitation services.

Occupational therapist- skills accusation.

Dietician- The patient may need diet modification depending on the problem.

Psychologist (or liaison psychiatrist) –they attend to psychological aspect of the patient as others may be depressed

Chaplain (or pastoral care worker)

Volunteers-Volunteer also work hand in hand with family members in looking after patients.

Other personnel, as required

Family members- Family members and community volunteers work hand in hand in looking after the patient.

The palliative care teams provide consultative advice on patients referred to them in any department of the hospital. Some of the consultative services the palliative care provide include the following:

The team to advise on every aspect of palliation because the team has some expertise

The team provide support for family member and also provide support and education for the staff because they are part of the care

The team facilitates the provision of high quality palliative care in all wards without the need to be transferred to another where the patient is familiar with the staff and surroundings. some patients feel very bad and lost when you transfer them to another ward

The team educates the ward staff about matters pertaining to palliative care, in case other members do not have adequate information the team will make sure that they teach the members.

The palliative care team will also ensure that a person's home environment is safe and comfortable, that they have a caregiver to help them at all times, and that transportation is available for hospital or doctor visits. They will also make sure that caregivers and loved ones have the financial resources needed, and give caregivers the support and education they will need

in order to provide good, consistent care, and providing them with help for their own need and stresses.

You have seen that as a palliative care team member you need to be dedicated to your work and empathetic to the patients only then can you be able to attend to their needs because these patients really need a lot of support from the professional and the family members. You need to assist the patient in prolonging their lives and peaceful death.

Assignment

Identify members the palliative health care team in your local hospital and roles they play.

Now let's look at palliative care and suffering. When you look at this subtitle what comes into your mind?

Palliative Care And Suffering

Let me try to define suffering, Suffering may be defined as the distress associated with events that threaten the wholeness of the person. As you know patients with these conditions whose symptoms need relief they are often distressed because there is something threatening their health.

For you to understand better, it is helpful to have a simple classification of the causes of suffering, so that the complex problems presented by patients can be handled, in order to provide comprehensive palliation and relief of suffering: These symptoms are as follows:

- **Pain,** as I have mentioned earlier mostly patients are in pain more especially those patients with cancer the major symptom is pain
- Other physical symptoms like vomiting, some patients on radiation therapy often experience vomiting, difficulty breathing, sleep problems, weight loss; fatigue, weakness
- **Psychological-** when you look at the patient, patient has anxiety and depression, give the patient and family psychological support; . Patient is usually worried of death, you need to understand what the patient is going through for you to give them proper counselling because it is not easy for these patient as they might have given up on their life.

- **Social** – patient and the family go through different social problems which may include finances and rejection. It is your duty to connect the patient and the family to appropriate people who can come in to assist the patient. They may not even have transport money to go to health facility. The people they live with may reject them for example the husband may reject the wife and vice versa.
- **Cultural** ethnic, racial, religious and other cultural factors may have a profound effect on a patient's suffering. Respect the cultural differences and treatment planned in a culturally sensitive manner.

The **components of palliative care**, or the aspects of care and treatment that also need to be addressed, follow logically from the causes of suffering. Each one has to be addressed in the provision of comprehensive palliative care, making a multidisciplinary approach to care a necessity.

In simple words in palliative care - and suffering you look at what is it that is making the patient suffer, is it pain if it is, treat the patient to ease the suffering. If its spiritual concerns combined with psychological problems, you need to call the clergyman to come in and attend to spiritual concerns. So when you look at palliative care and suffering you need multidisciplinary palliative care approach. If you remember very well when we looked at palliative care team we discovered that it actually involves a lot of members like the doctor, nurses, social worker which involves Multidisciplinary Palliative Care.

Let's now look at how you can nurse cancer patients with their terminal illness.

Nursing Management of Cancer Patients on Palliative Care

Most of the cancer patients are terminally ill, Terminal illness is a health condition that is certain to result in the patient's physical decline and death. Treatment options may be available to slow the progression of the disease but the person has no possibility for complete cure.

Palliative care seeks to address the needs of all individuals with serious and other end stage illnesses such as heart disease, cancer, stroke , chronic obstructive pulmonary disease and diabetes mellitus (ibid, 386).

Cancer patients are at risk of many problems that are caused by the cancer itself as well as from the therapy they receive.

The following are the problems you can identify and how you can manage them;

The patient is at Risk of acquiring infection related to immunosuppression from therapy. Patient with cancer may be on what we call ration therapy, which lowers the immunity of the patient. Your objective is to minimize the risk throughout patient management, through;

Teach the patient to practice good personal hygiene by hand washing each time they visit the toilet, before handling food, and before handling any ulcer on the body. This will protect them from diarrhoeal diseases as well as from introducing microorganisms on the ulcer, leading to infection.

Teach to avoid being in crowded areas, as many of the people in those areas may have infectious diseases which the patient can easily contract due to lowered immunity.

Teach patient to have a balanced diet (carbohydrates, proteins, vitamins, and other essential elements such as iron and zinc) so that it helps replace worn-out tissues, and prevent infections. Here incorporate your knowledge you have gained from nutrition.

Advised to do oral care daily and frequently rinse their mouth with an alcohol-free mouthwash, to maintain the moisture and normal PH, and prevent infections.

Advice patient to keep away any animals such as cats, birds, and dogs with their faeces, as these could be sources of infection.

Tell patient to drink boiled cooled or chlorinated water to prevent diarrhoea.

Any rise in patient's body temperature must be investigated and the cause managed. This is because of the patient's lowered immunity. Administer Antibiotics accordingly to doctor's prescription.

There is a risk of bleeding/anaemia related to bone marrow suppression because the bone marrow is not able to produce enough red blood cells. Your aim is to minimise risks of bleeding throughout patient management, by;

- Teaching the patient to always maintain good oral hygiene by using a soft tooth brush to prevent gum bleeding as platelets are usually low.
- The patient should also avoid taking un prescribed drugs such as aspirin, as these promote bleeding (they have an anti-platelet property).
- The skin is usually dry and may crack, leading to bleeding. The patient is advised to apply lotion to soften the skin and prevent bleeding.
- The nursing staff should avoid using rectal thermometers on these patients as they may cause injury to the rectal epithelial tissue, causing bleeding.

- Any petechiae (small red spots) or bruising, tarry stool, hypermenorrhea, blood in urine or vomit, if observed, must be reported and managed immediately. These are features of bleeding disorder which is possible due to low platelets caused by cancer therapy.
- The nursing staff must avoid giving these patients intramuscular or subcutaneous injections to prevent bleeding, as they can bleed easily. A central line can be used for parenteral medications.
- The patient is advised to avoid walking barefoot if they can, to prevent any injuries/bruises, which can initiate bleeding.

Poor nutrition status due to poor appetite from pain, nausea and vomiting, which you can tell from - weight loss. Your aim is to improve the patient's nutritional status throughout hospitalization.

Anti-emetics and morphine are administered as prescribed, to prevent vomiting and pain respectively.

The patient is advised to eat a balanced diet, small and frequent meals that are served in a clean environment free from odours, to stimulate appetite. This can improve patient's nutritional status.

Soft foods and fluids easy to swallow are advised; porridge soups and juices; to prevent mouth irritations since they may be dry for some time. The patient must also be carrying a bottle of water to drink so as to keep the mouth moist and prevent infection. This is because radiation of the face causes mouth dryness.

Anxiety about the disease, its management, and its outcome; evidenced by asking questions. The aim is to allay anxiety throughout patient care, by;

- Explaining the disease process to the patient.
- Developing good relationship between medical staff and the patient, so that they gain patient's trust.
- Encourage the patient's relatives to be supportive to her, so that the patient can have a positive look of herself. Relatives should never let their loved one feel that she is a burden to them. They should show empathy, and learn to tune in to the patient's feelings so that they will know what to talk about and when.
- Helping them build/strengthen their faith in God through prayer and bible reading, so that they have hope in God's promises of relief of pain and everlasting life in the future.

Pain, due to the disease process and treatment modalities, evidenced by patient screaming and failure to sleep. The aim is to alleviate pain as fast as possible, by;

- Explaining the disease process to the patient so that she understands the cause of pain.
- Offering prescribed analgesia such as morphine and observe for side effects; nausea and constipation. Provide a laxative such as dulcolax, to prevent and treat constipation. Provide high fibre diet and recommend routine exercises to strengthen abdominal muscles thus enhancing bowel movements.
- Assisting the patient to a more comfortable position to relieve pain.

Fatigue related to metabolic demands, stress and decreased oral intake, evidenced by patient's failure to perform self-care activities. The aim is to reduce patient fatigue by;

- Balancing activity and rest periods according to patient's priorities and preferred time of day.
- Modifying the environment by avoiding noise since it can increase on the stress.
- Increasing on the daily food intake especially sweet fluids and juices if tolerated by the patient. These will offer energy.

Interprofessional Care

Let's now look at inter professional care; do not forget that we looked at the palliative care team. The interprofessional care services are provided by specialist multidisciplinary palliative care teams. We have looked at these team under hospital palliative care team, In the same way there should be specialist teams to provide inter professional care. So I can say that Inter professional care is the care provided by different professionals. The professionals should include palliative medicine consultants and palliative care nurse specialists together with a range of expertise provided by physiotherapists, occupational therapists, dieticians, pharmacists, social workers and those able to give spiritual and psychological support.

What type of care do these professionals provide? The care which they provide includes providing;

- Assessment where they will note what problems does the patient have, Then after assessment, professional gives advice and they will also care for patients and families in all care settings, including hospitals and care homes.
- Specialist in-patient facilities (in hospices or hospitals) for patients who benefit from the continuous support and care of specialist palliative care teams

- Intensive co-ordinated home support for patients with complex needs who wish to stay at home. The professional will co-ordinate the care giving they, are experts in their area of expertise, That's why it is called inter professional care.
- This may involve the specialist palliative care service providing specialist advice alongside the patient's own doctor and district nurse to enable someone to stay in their own home.
- Many teams also now provide extended specialist palliative nursing, medical, social and emotional support and care in the patient's home, often known as 'hospice at home'.
- The inter professional care is extend to Day care facilities that offer a range of opportunities for assessment and review of patients' needs and enable the provision of physical, psychological and social interventions within a context of social interaction, support and friendship. Many also offer creative and complementary therapies. Advice and support to all the people involved in a patient's care.
- Education and training in palliative care, the inter professional have the vast knowledge in palliative care so identify other members whom they may want to educate or train with regard to care of patients. They may also wish to educate the patient and family members on how to relief certain symptoms. You can see that inter professional care actually is quiet involving but each professional should strive to contribute their expertise.
- The other inter professional care given is bereavement support services which provide support for the people involved in a patient's care following the patient's death. The type of support may involve counselling of the family members.

Why do you think this supportive care from different professionals is important?

Supportive care helps the patient and their family to cope with their condition and treatment of it from pre-diagnosis, through the process of diagnosis and treatment, to cure, continuing illness or death and into bereavement. It helps the patient to maximize the benefits of treatment and to live as well as possible with the effects of the disease. It is given equal priority alongside diagnosis and treatment.

The social support you need to offer through palliative care includes making sure that a person is receiving attention from their family, community, and from their religious or spiritual leader/family.

The palliative care team will also ensure that a person's home environment is safe and comfortable, that they have a caregiver to help them at all times, and that transportation is available for hospital or doctor visits.

They will also make sure that caregivers and loved ones have the financial resources needed, and give caregivers the support and education they will need in order to provide good, consistent care, and providing them with help for their own needs and stresses.

Communication with Patients

Now let's look at how we can communicate with the patient.

Some people may need a more complex form of care from the beginning, especially those who have communication problems (difference in language, or are hard-of-hearing); who have family problems; or who have repeatedly requested physician-assisted suicide. Whatever the situation, the palliative care team will work with the appropriate mental health care professionals, medical professionals, social services, to make sure that their needs are met. This would include people: with a past history of psychiatric problems or substance abuse problems; who had difficulty coping during earlier cancer treatment; with no social support, or no one to turn to for emotional support; who have young children in the family; who have suffered from multiple losses; with financial problems; who have problems thinking clearly; who have other serious, medical problems.

After a loved one has died, the palliative care continues, making sure that the body is treated in a culturally sensitive and respectful way, that the family has time with the body, that funeral arrangements are made and finalized, and that all healthcare professionals and insurance companies are notified. For the family, the palliative care team will help provide support with their grief by identifying available help or community grief/bereavement groups, and will make sure that family members are receiving the help needed in order to cope with the death.

Barriers to Palliative Care

When we say barriers to palliative care, we are looking at what can make a patient not to access palliative care. Some of the things which can make the patient not to access to palliative care are as follows;

Late disease presentation Inadequate diagnostic facilities and assessment- skills. This can be a hindrance because you should know the diagnosis before you put the patient on any treatment. In fact you also need to assess the patient adequately for you to be able to notice whatever problem.

Lack of access to Poor availability of chemotherapy and radiotherapy if these services less available, patient cannot access and therefore it becomes a barrier

Absence of opioids – as i mentioned earlier opioids are strong pain killer associated with addiction and because of this the ordering is restricted such that they may not be available when required hence patients cannot be relieved of pain and thereby becoming a hindrance to palliative care

Regulatory and pricing obstacles drug administration of strong pain killer is being regulated restricting even the palliative care which means they cannot do certain things they want to do and this is a barrier to palliative care

- Ignorance and false beliefs, a lot of people may be ignorant of these palliative care services and there are certain believes like addiction because of this people may not access palliative care service which can be a barrier limited access to travel distances- people walk long distances to access the care and others may be too weak to travel to places where they can access the , and distrust of western medicine – others do not believe in western medicine and cannot agree to use it,
- Lack of trained personal to make accurate assessment of palliative care needs is very difficult if accurate assessment cannot be done then people cannot fully receive the care.

Culture Variation Preferences

Traditions dictate appropriate models of care. Terminally ill people might be removed from villages to avoid risk to the community or some are returned from hospitals to the community. In all these times patients are not able to access care

Stigma – stigma may mean shame, disgrace or dishonour usually patient with terminal illness have that shame because of the terminal illness. So this patient may not even seek treatment because they are disgraced.

Assignment

In this assignment you should identify a facility that provides palliative care and take part in the care of patients and write a case study on one patient.

SELF TEST

1. The following are barriers to palliative except
 - a. Absence of opioids

- b. Delay in diagnosis
 - c. Nationality
 - d. Distance
2. Members of the palliative health care are
- a. Nurse
 - b. Patient
 - c. Doctor
 - d. Plumber

Answers: Q1 C. Q2 D.

We have come to the end of palliative care and our next sub topic in this unit is pain.

1.5 Pain Management

We will look at pain since most of the patients under palliative care are in pain. Let us first start by defining pain.

Pain

The word pain comes from a Greek word 'poin' meaning punishment or penalties. In Latin it is 'pina' .

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage (Smeltzer, 2004).

Pain is an unpleasant sensation signalling that the body is damaged or threatened with injury (Berkow, 1999).

Different writers define pain differently but when you look at both definitions both writers acknowledge that pain is unpleasant which is as a result of damage to the tissue or body. That's why in palliative care, we strive relief pain.

What are the causes of pain?

Causes of Pain

The following are some of the causes of pain.

Chemicals- such as acids, hair relaxers because chemicals destroy the body tissue

Heat or extreme cold, I want you to think of what make extreme coldness to cause pain. In the same way heat can destroy body tissue, coldness also can leading to person experiencing pain.

Trauma due to RTA or gunshot because nerves may be destroyed leading to unpleasant sensation.

Mechanical- such as surgery, labour, lacerations or bruises

Twisting of organs e.g. sigmoid volvulus, because the body tissues and nerves are squeezed leading to patient experiencing pain.

Classification of pain

Let us now classify pain, Pain is classified according to its duration, location and cause. We can therefore classify pain into three main categories:

- Acute pain
- Chronic (non-malignant) pain
- Cancer related pain

We will discuss each one of them in a bit more detail as follows:

Acute pain - Acute pain is the sudden or slow onset of any intensity from mild to severe with an anticipated or predictable end and duration of less than six months (NANDA). When you sudden pain which you were not expecting then we can say that its acute pain. This type of pain usually accompanies illness, injury or surgery. It may be mild and lasts for just a moment, e.g. pain from a sting. It can be severe and lasts for weeks or months, e.g. pain from burns, or a broken bone. Severe acute pain causes rapid heart rate, increased breathing rate, and increased blood pressure, sweating and vomiting at times because the pain is too much it can end up affecting other system.

Chronic pain - this type of pain is continuous or intermittent and persists beyond the expected healing time. I can define it as pain that recurs on and off over a month or years. The client may feel the pain to be tingling, burning, dull, aching or sharp. Chronic pain does not affect the heartbeat, blood pressure or the breathing rate. It normally disturbs sleep and mostly associated with cancer, chronic diseases like arthritis and end of stage cancer. It also decreases appetite, causes constipation, weight loss, loss of libido and depression.

Cancer pain is the type of pain that can fall under acute or chronic pain, since most of the patients under palliative care are in pain, we can as well look at it on its own. We can say this is the pain that is associated with cancer and it may be acute or chronic as I mentioned earlier. This may be due to tumour growing into the bones, nerves and other organs causing discomfort. There are different types of pain that people suffer from and some of the major types are as follows:

- **Local pain-** is felt at the site of origin, e.g. pain on the sore or abscess.
- **Referred pain-** is felt at a distance from the site of origin, e.g. pain from the heart attack may be felt in the neck, jaws, arms or abdomen. Pain from a gallbladder attack may be felt in the back of the shoulders.
- **Itching pain-** is due to tension or pressure on viscera.
- **Neuropathic pain-** is caused by an abnormality anywhere in the nerve pathway, e.g. in phantom pain or pain from the healed herpes zoster.
- **Superficial pain-** is the type of pain which is localised, short duration and a sharp sensation
- **Deep pain-** is of long duration, diffuse, dull and aching

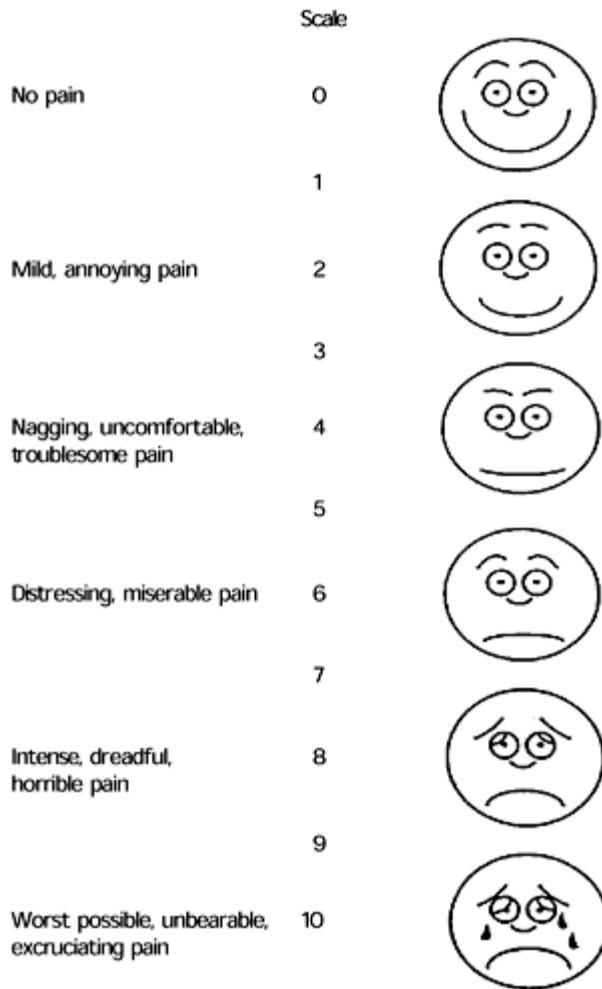
Viscera pain- is pain from the internal organs, e.g. abdomen, kidneys etc., you will be familiar with these organs as you do your Anatomy and physiology.

Pain assessment

Management of pain can only be effective if the pain has been assessed as required. As a care giver you are always required to assess pain. The initial pain assessment should include information about the location, quality, intensity, onset, duration and frequency of pain, as well as factors that relieve or exacerbate the pain. This information can be organized using a pain assessment form. Pain intensity can be assessed on a 10-point scale, with zero representing no pain and 10 representing the worst pain possible. This can only be clear when you look at the Pictorial Pain Assessment Scale.

Pictorial Pain Assessment Scale

You can ask the patient this question. Which one of the following best describes your pain? (Patient can reply by pointing to the words, numbers or pictures.)



(Miller et al, 2001)

Figure 2: Pictorial Pain Rating Scale

We will now look at the analgesic ladder recommended by WHO.

World Health Organisation (WHO) Analgesic Ladder

You can use this step ladder for pain developed by World Health Organisation to relieve patient from pain. After you assessed pain to mild, moderate and severe, you administer drugs following the ladder if the pain mild you give weaker analgesics and if the pain is severe you give strong analgesics. Follow the example given as follows:

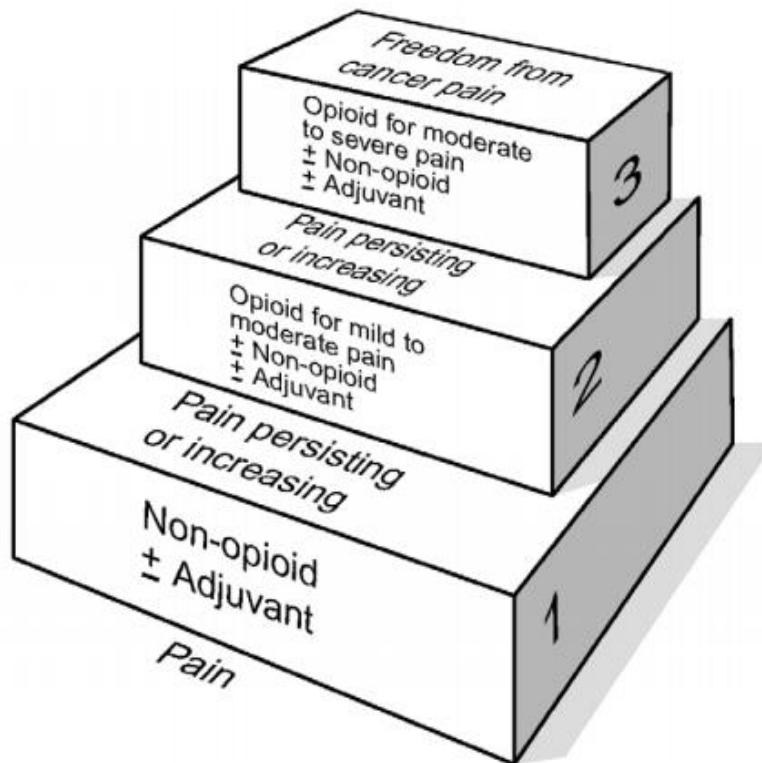
Administer oral drugs in following order to treat pain:

Non-opioids (e.g. aspirin, paracetamol) +/- adjuvant,

Weak opioids (e.g. codeine) +/- adjuvant +/- non-opioid

Strong opioids (e.g. morphine) +/- non-opioid until patient free of pain.

Use adjuvant drugs to calm fears and anxiety.



Treat "by the clock" (i.e. every 3-6 hours) rather than "on demand" to keep patient pain-free. Start with low dose then titrate to patient's pain, until patient comfortable. Give next dose before previous dose wears off. For breakthrough pain, give extra "rescue" dose (same as 4-hourly dose) in addition to regular dose.

Administer the right drug with right dose at the right time as it is inexpensive and 80-90% effective.

Surgical intervention on appropriate nerves may provide further pain relief if drugs not wholly effective.

Treat pain according to whether it is common pain, special pain problem or both: (1) with analgesics, according to analgesic ladder, (2) with medications to control special pain problems, as appropriate

Explain reason for treatment and side effects; always consider patient preference.

Reassess need for analgesics and other interventions frequently. Repeat grading of the pain.

Investigate new problems.

If possible, give analgesics orally. Rectal is alternative, this involves pushing an analgesic medicine into the rectum. Avoid intramuscular dosing avoid giving analgesic by use of injection.

Link first and last dose with waking and sleeping times. Write out drug regimen or present in a drawing. Teach its use. Check to be sure patient and family understands. Ensure that pain does not return and patient is as alert as possible.

Pain is subjective experience that can be altered by emotional, social or spiritual state. Therefore, total pain management (physical, social, psychological and spiritual) is important. Reassurance and support helps alleviate pain. Effective pain control is achievable goal that results in improved quality of life for patient and family.

Drug Addiction

Drug addiction is a complex brain disease. It is characterized by compulsive, at times uncontrollable, drug craving, seeking, and use that persist even in the face of extremely negative consequences. In simple terms the patient cannot do without taking the drug so if the patient cannot stay without using the drug, just know that the patient is a drug addict.

Fear of Addiction

A lot of people have fear that patient may become addicted because of Fear that a patient may become addicted to pain medication most of the doctors are not willing to give patients the medication to relief and controlling pain. As a result, many people believe that pain may not be controllable. This is because a few doctors are not well educated on modern pain management techniques, and thus do not have the proper knowledge.

Addiction is a psychological craving and dependence on drugs taken for pleasure. It is very rare that a person taking pain medications for pain management will experience addiction. Mental addiction is not a problem in pain management of a dying patient.

When pain management is initiated, the dose of pain medication should be adjusted until the pain is controlled to your loved one's satisfaction. The pain medications may not need to be increased for some time, but as the disease progresses, the pain medications may need to be increased. Tolerance also can be mistaken for addiction. This means that the dose of the pain medication must be increased to keep the pain controlled, because the body has become used to having the drug in the bloodstream. As the body becomes accustomed, doses may need to be increased. There is no minimum or maximum dose for opioids for pain control. Some require

small doses, some much larger. With today's medicine, there is no fear of addiction, and no reason that anyone should suffer without good pain management.

Let's look at the three steps to confront fear of addiction. There are three steps:

Three steps to confront fear of addiction

The first step is for you to know the facts: addiction is very rare when treating pain with opioids; opioid analgesics such as morphine and its derivatives are safe and effective when prescribed by a trained health care professional.

The second step is to ensure that you as a nurse, you have a good working knowledge of the mechanisms of action of opioids and their side-effects in cancer pain management. You will be able to understand these opioids when you do your pharmacology, as for now all you need to know is that these are very strong pain killers.

The third step is to be prepared to tell everyone but especially patients and families the facts about pain management in relation to addiction.

SELF TEST

1. Pain can be defined
 - a. Unpleasant sensory and emotional feeling
 - b. Mental experience
 - c. Stressful feeling
 - d. Non-specified intense feeling
2. The causes of pain include the following except
 - a. Trauma
 - b. Chemical
 - c. Stress
 - d. Gunshot
3. Your first consideration is the administration of analgesics is
 - a. Availability of drugs
 - b. Intensity of pain
 - c. Morphine
 - d. Type of injury

Answers Q1 A. Q2 C. Q3 B.

1. Managing Nausea and Vomiting

Nausea and vomiting are awful experiences that individual go through due to so many triggering factors. Nausea and vomiting can be drug induced, pain related due to illness etc., but before we can go any further let us define these two terms.

Activity

What is nausea?

What is vomiting?

Very good,, now compare your answer with the following definitions.

Nausea and Vomiting

Nausea is a feeling of wanting to vomit and often associated with autonomic effect e.g. sweating, hyper salivation.

Vomiting is expulsion of gastric content through the mouth. The centre of vomiting is in the medulla oblongata, also a place called Trigger zone in the 4th ventricle. Some drugs (chemicals) trigger this zone directly to induce vomiting e.g. opiates, digoxin, urea as in chronic renal failure, Ketone bodies as in diabetic ketoacidosis, hypercalcaemia or most of the infections e.g. CNS diseases. Also conditions that lead to raised intracranial pressure such as meningitis; early pregnancy; psychogenic causes; severe pain e.g. acute myocardial infarction; sensory stimulation can cause vomiting.

Physiology of vomiting

- The nerve impulses from the vomiting centre travel to the diaphragm and abdominal muscles, through the Vagus nerve.
- The pyloric sphincter relaxes, allowing duodenal contents to fill the stomach. Following a period of nausea there is a sudden, deep inspiration; the glottis, epiglottis, and nasopharynx close and the oesophagus, cardiac sphincter, and stomach relax.
- While this is happening, there is contraction of abdominal muscles and the diaphragm against the dilated stomach, forcing the contents into the oesophagus and out through the mouth.

- **Effects of prolonged vomiting** Nutrition is interfered with this result in loss of weight.
- Fluids and electrolytes are lost from the gastrointestinal tract, resulting in fluid (dehydration) and electrolyte imbalance (acid-base imbalance).
- Acidosis may develop as patient becomes dependant on his body fat as a source of energy.
- Muscular contractions (that occur during vomiting) can cause exhaustion.
- Vomiting increases intracranial pressure.
- Patient may complain of abdominal soreness from the retching and muscular effort and becomes anxious and depressed because of unpleasantness of the actual vomiting, and through worrying about the underlying cause.

Management Of A Patient Who Is Vomiting

Aims of Management

- Remove the stimulus if possible
- Give an antiemetic drug as ordered, for example, metoclopramide
- Keep the stomach empty, for example, by aspiration via a nasogastric tube
- Maintain fluid and electrolyte balance by intravenous infusion.

Supportive measures Nurses should be empathetic. Remain with the patient and support him by holding the painful site, providing and holding an emesis bowl for the patient to vomit in, clean his mouth and lips. Encourage patient to take several deep breaths which may reduce nausea and offset vomiting. If patient is unconscious, his head should be placed down (do not use a pillow) and place in a lateral position to facilitate drainage of vomitus from the mouth and hence prevent possible aspiration.

Observations

Observe the quantity, consistency, colour, content and frequency of vomitus. Observe the type of vomitus projectile or non-projectile, time of the day when patients vomits, any associated factors e.g. ingestion of food, drugs, pain, emotional stress etc. observe the effects of prolonged vomiting e.g. exhaustion, dehydration etc.

Food and Fluids

Oral intake may be withheld for a period of time and resume gradually in small amounts, but if vomiting is due to irritation, it may be helpful for the patient to take a whole glass of water to “wash out” the stomach. If vomiting is prolonged, an intravenous infusion of fluids may be necessary to prevent or correct dehydration and replace electrolytes.

Hygienic Measures

The mouth is rinsed after each vomit and basin emptied promptly. Soiled beddings and clothing should be changed and the room ventilated. The odour or sight of vomitus may contribute to the patient’s discomfort and may cause repetitive vomiting. The patient may be reassured by having a clean but covered basin always within reach

Environment

Rest, quiet and minimum disturbance may reduce the incidence of vomiting. Nausea tends to increase with motion; any change of position should be made slowly. Dimmed light may reduce external stimuli and be conducive to rest.

Psychological Care

Worry and fear may perpetuate nausea and vomiting, the patient is encouraged to verbalise his concerns. The care must be individualized.

Medication

Antiemetic or a sedative may be prescribed. If vomiting continues, gastric drainage using a nasogastric tube may be established.

SELF TEST

1. The following are the effects of vomiting except
 - a. Acidosis
 - b. Nutrition interference
 - c. Scoliosis
 - d. Fluid and electrolyte imbalance
2. Which of the drugs below can be used to control vomiting
 - a. Amoxyl

- b. Gentamycin
- c. Panadol
- d. Metoclopramide

Answers: Q1 C. Q2 D.

1.7 Summary

We have just finished discussing palliative care and we said Palliative care is the active holistic care of patients with advanced progressive illness. Management of pain and other symptoms and provision of psychological, social and spiritual support is paramount. The goal of palliative care is achievement of the best quality of life for patients and their families. Many aspects of palliative care are also applicable. Palliative Care is the care that professionals from many disciplines offer the dying person to improve the quality of his/ her life by reducing pain and other distressing symptoms. Palliative care is an approach which improves the quality of life of patients and their families facing life-threatening illness, through the prevention, assessment and treatment of pain and other physical, psychosocial and spiritual problems. Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. We have also discussed that there are different services offered under palliative care. Although there are barriers we need to break the barriers so that all those who need palliative care may have access. We went on discussing pain management using strong pain killers which said people fear to use because fearing addiction. Lastly we looked at managing nausea and vomiting because most the patient on radiation therapy usually vomit.

1.8 REFERENCES

Palliative Care Australia. (2005). **A Guide to Palliative Care Service Development: a Population based approach.** A National Consensus Document. Deakin West.

UNIT 2: MANAGEMENT OF HIV RELATED OPPORTUNISTIC INFECTIONS

18HoursIntroduction TO OPPORTUNISTIC INFECTIONS

Opportunistic infections (OIs) are infections that occur more frequently and are more severe in individuals with weakened immune systems, including people with HIV. However, many people with HIV still develop OIs because they may not know of their HIV infection, may not be on treatment, or their treatment may not be keeping their HIV levels low enough for their immune system to fight off infections(CDC,2015)

HIV related opportunistic infections are those infections you will find present and causing suffering in an infected person with the HIV virus, which he/she would not have suffered from if he/she was ok. This sub unit will help you identify and understand that these infections are the ones that pose a problem to such individuals. Take time to study and understand them.

Opportunistic infections (OIs) are infections that take advantage of the weakness of a person's immune system to cause health problems.

These are diseases that people with normal immune systems can also get, but with HIV they occur at a much higher rate and take longer for a person with HIV to recover than it takes for someone with a healthy immune system.

Different conditions typically occur at different stages when the immune system is very weak due to advanced HIV disease or AIDS. Some opportunistic infections can spread to a number of different organs, which is known as 'disseminated' or 'systemic' disease. Many of the opportunistic infections that occur at this late stage can be fatal.

Let us now look at the principles of management of opportunistic infections

2.2Guiding Principles For The Management Of Opportunistic Infections

The guiding principles are meant to help the patient from acquiring new infections and comply with treatment. The following are the guiding principles:

1. Patients should use latex or polyurethane condoms during every act of sexual intercourse to reduce risk of:
 - Cytomegarovirus
 - Herpes simplex virus
 - Hepatitis C
 - HPV

- Other STIs

Correct use of condoms also prevents HIV transmission to others and patients should avoid sexual intercourse in the presence of herpetic lesions (mouth or genital) to reduce herpes transmission. Patients should avoid oral exposure to faeces (from oral-anal contact) to reduce risk of GIT infections:

- Cryptosporidiosis
- Shigellosis
- Campylobacteriosis,
- Amoebiasis
- Hepatitis A and B
- Patients should frequently wash hands and genitals with warm soapy water during and after possible contact with faeces

IDU puts HIV infected persons at risk for:

- Hepatitis B and C infection
- Additional strains of HIV (including drug-resistant ones)
- Other blood borne pathogens

2. Counsel and refer patients to drug treatment programs

Avoid use of contaminated needles and syringes and use only properly screened blood for transfusion

Activities increasing the risk of exposure to TB include:

- Volunteer work
- Employment in healthcare facilities
- Employment in correctional institutions (e.g. prisons)
- Shelters for homeless persons
- Refugee camps

An HIV infected person should reconsider working in such environments and base decisions on nature of his/her duties, TB prevalence in community and IP precautions at the workplace.

Child-care providers and parents of children in child-care facilities are at increased risk of acquiring:

- Cytomegarovirus infection

- Cryptosporidiosis
- Hepatitis A
- Giardiasis

Good personal hygiene (especially handwashing) minimizes this risk

HIV infected persons with no history of chickenpox or shingles should avoid exposure to persons with chickenpox or shingles

Household contacts, especially children, should be vaccinated against VZV if they are HIV negative and have no history of chickenpox, so that they will not get infected and transmit VZV to their infected contact.

Veterinary work (with pets, in farms or slaughterhouses) may pose risk for:

- Cryptosporidiosis
- Toxoplasmosis
- Salmonellosis
- Campylobacteriosis
- Bartonella infection

Patients should use gloves and wash hands after farming or gardening to avoid risk of cryptosporidiosis

Patients should be informed about the potential risk posed by pet ownership

2. Raw or uncooked eggs, poultry, meat or seafood, unpasteurized dairy products and unpasteurized fruit juices may contain pathogens
3. Meat should be cooked until no trace of pink remains (in order to prevent GIT infections and toxoplasmosis)

Fruits should be thoroughly washed before being eaten

Cross-contamination of foods should be avoided (prevent contact with uncooked food and contaminated cutlery and cooking utensils)

HIV infected persons should avoid drinking unprocessed water (from lakes, rivers etc) and ice from such water

Boiling of water for 1 min eliminates cryptosporidiosis and giardiasis

4. Travel may carry significant risks of exposure of HIV infected persons to OIs
- Severely immunosuppressed persons are at increased risk for food-borne and water-borne infections

- Persons on co-trimoxazole for PCP may have some protection against traveller's diarrhoea
- All HIV infected persons should take antimicrobial agents with them on their travel (should diarrhoea develop)
- Patients should consult a physician if diarrhoea is severe, contains blood, is associated with fever or does not respond to empirical therapy
- Antiperistaltic agents (e.g. diphenoxylate and loperamide) are used for the treatment of diarrhoea but should be avoided if there is:
 - High fever
 - Blood in stool
 - Symptoms persist beyond 48 hours
- Travellers should also take chemoprophylaxis for malaria and obtain treatment with immune globulin as needed

Vaccines that are safe if patient's immunization is not up-to-date:

- Pneumococcal
- Influenza
- Hepatitis B
- Tetanus toxoid
- Inactivated polio

Vaccines that are contraindicated in HIV infected persons:

- BCG
- VZV
- Oral polio
- Oral typhoid
- Yellow fever

3. Nutritional support

Malnutrition adversely affects immunity and has a significant impact on quality of life of HIV infected persons. Malnutrition makes children more prone to OIs

Weight loss can be due to:

- a. Inadequate energy intake
- b. Metabolic dysregulation

- c. Side-effects of medications
- d. Malabsorption syndrome
- e. Infectious processes (e.g. OIs)

Inadequate energy intake may be associated with:

- f. Mouth lesions
- g. Pharynx or oesophageal candidiasis
- h. CMV
- i. Herpes virus
- j. Non-infectious lesions like aphthous ulcers
- k. Poor oral hygiene
- l. Medication-induced GIT symptoms (e.g. nausea/vomiting)
- m. Psychosocioeconomic stress caused by bereavement, depression, loneliness or concerns about financial resources
- n. Chronic diarrhoea

All HIV infected persons need early and continuing nutritional assessment and counselling

Dietary supplements and appetite stimulation agents may be helpful

Nutritional education or early referral to a dietician helps many patients deal with nutritional issues

5. Community and peer support (1)

Persons living with HIV/AIDS are confronted with:

- o. Severe illnesses
- p. Neuropsychiatric disorders
- q. Overwhelming societal responses
- r. Complex social and psychological needs

The disease challenges not only the individual but also people whose lives are affected by the disease

The clinician must take time to deal with some of these issues (shock, disbelief, anger, sadness, suicidal ideation) in the immediate period after receiving a positive test result

The clinician should develop an alliance with key CBOs and link patients as appropriate:

- Post-test clubs

- FBOs/NGOs
- Nutritional support groups

The clinician should also show respect for the spiritual beliefs of the patient

Extended family members should be educated and counselled about home-based care for the patient

6. Sexual and RH counseling (1)

Every HIV infected woman has the right to decide if and when she wants to:

- Become pregnant
- Continue a current pregnancy
- Accept evidence-based prenatal services to reduce risk of MTCT

Patients should be informed that new infections which increase viral loads and lower CD4+ cell counts worsen OIs or precipitate re-infections

Counsel all HIV infected adults about family planning

Assure confidentiality, respect for client's rights, voluntary choice and informed consent

The benefits of quality counseling include:

- s. Increased contraceptive acceptance
- t. Enhanced effectiveness
- u. Improved continuation rates with chosen method
- v. Increased client satisfaction
- w. Reduced rumours and misconceptions

Patients should be informed that only condoms protect against HIV infection and that **DUAL PROTECTION** against HIV and Pregnancy is recommended

4. Stigma and Discrimination (2)

More negative attitudes of caregivers limiting ability to provide effective, respectful care:

- a. Inability to discuss sexual practices because of embarrassment or guilt
- b. Ignoring and avoiding discussions about risky behaviours and HIV prevention and care
- c. Inability to approach PLHA and family in a non-judgemental, caring and supportive manner

Reducing Stigma and Discrimination (3)

Irrational and exaggerated fears associated with HIV/AIDS should be addressed through educational programs, sustained and supported over a period of time.

Clinicians should educate their peers e.g. about universal precautions in infection prevention

Addressing Stigma and Discrimination

Clinicians must:

- d. Examine their own beliefs, values and assumptions and attitudes towards HIV/AIDS
- e. Allow patients to enumerate fears as well as describe any actual experiences of discrimination
- f. Help clients to identify trusted sources of support in the family or community
- g. Assist in provision of emotional and social resources for those who have experienced discrimination

SELF TEST

Explain the principles you must observe when managing OIs and HIV related disease.

Now that you looked at the principles in the management of OIs, let us move to look at the OIs themselves and how we can manage them. These include the following:

Opportunistic Infections

Opportunistic Caused By Bacteria

There are a number of organisms which cause problems but bacterial is on the top list.

- **Bacterial micro-organisms**
- **Mycobacteria**
 - Mycobacterium tuberculosis
 - Mycobacterium avium complex
 - **Gram positive bacteria**
 - Streptococcus pneumoniae
 - Staphylococcus aureus
 - **Gram negative bacteria**
 - Escherichia coli

- Haemophilus influenzae
- Non-typhoid salmonella species
- Klebsiella species Other less usual species

2.3.2 Opportunistic infections caused by Parasites

- Toxoplasmosis
- Microsporidiosis
- Cryptosporidiosis
- Isosporiasis

2.3.3 Opportunistic infections caused by Fungi

- Candidiasis
- Pneumocystis carinii pneumonia
- Cryptococcosis
- Histoplasmosis
- Blastomycosis
- Aspergillosis

2.4 Opportunistic infections caused by Viruses

- Cytomegalovirus
- Herpes simplex virus
- Varicella Zoster Virus (Herpes zoster virus)

HIV associated Neoplasms

1. The gram positive bacteria include the following except:

- Streptococcus pneumoniae
- Staphylococcus aureus
- E. coli

2. Indicate True or False if the following bacteria are gram negative bacteria or not

- Escherichia coli T/ F

b.	Haemophilus influenzae	T/ F
c	Non-typhoid salmonella species	T/ F
d	K. lebsiella species	T/ F
e	Other less usual species	T/ F

answers: 1. C 2. All are **TRUE**

Common Hiv Opportunistic Infections

Almost any disease can become an HIV opportunistic infection when the immune system is weak. Some are more common than others, though some are more likely to occur at certain levels of CD4 counts than others.

Here are some of the more common HIV opportunistic infections:

BACTERIAL PNEUMONIA

Pneumonia can be caused by various bacteria. Symptoms among HIV-positive people are much the same as in those without HIV infection, and include chills, rigours, chest pain and pus in the sputum. The vaccine PPV can protect people against some of the more common pneumonia-causing bacteria, and is recommended in the US.

Because other forms of respiratory infection, including pneumocystis jirovecii pneumonia (PJP), are common among HIV-infected people, doctors must be certain of diagnosis before administering antibiotics.

TUBERCULOSIS

Tuberculosis (TB) is a bacterial infection that primarily infects the lungs caused by mycobacterium tuberculosis. It is the leading HIV-associated opportunistic disease in developing countries.

Tuberculosis is harder to diagnose in HIV-positive people than in those who are uninfected. The diagnosis of TB is important because TB progresses faster in HIV-infected people. TB in HIV-positive people is more likely to be fatal if undiagnosed or left untreated.

It occurs more frequently in HIV infection than many other opportunistic infection. A proper combination of anti-TB drugs achieves both prevention and cure. Effective treatment quickly makes the individual non-contagious, which prevents further spread of the TB germ.

The **DOTS** (directly observed short course) treatment strategy recommended by WHO treats TB in HIV-infected persons as effectively as it treats those without the virus.

A complete cure takes 6 to 8 months and uses a combination of antibiotics. In addition to curing the individual, it also prevents further spread of the disease to others. This is why treating infectious cases of TB has important benefits for society as a whole.

Simultaneous HIV/TB diagnosis recommendations

It is recommended, if feasible, to wait at least until 2 months of anti-TB therapy (perhaps the entire course of anti-TB therapy) before starting ARVs. If patient's clinical status is not stable enough to wait 2 months before starting ARVs, a delay of 4 weeks is recommended

HIV+ patient who develops TB - recommendations

If a patient is already receiving antiretrovirals at the time TB is diagnosed, continue ARVs. Treatment may consider using anti-TB medicines that have fewer side effects with ARVs (like using rifabutin instead of rifampicin).

TAKE NOTE

Confirmed HIV patients must be screened for presences of TB and vice versa and treated accordingly.

Refer to you TB lesson on DRUG interaction of TB drug with ARVs.

Isoniazid preventive therapy is recommended as a health-preserving measure for HIV-infected persons at risk of TB, as well as for those with latent TB infection.

2.3.5 PROTOZOA

INFECTIONS

CRYPTOSPORIDIOSIS AND ISOSPORIASIS

Cryptosporidiosis (crypto) and isosporiasis are both caused by protozoan parasites. These diseases are easily spread by contaminated food or water, or by direct contact with an infected person or animal.

Both cryptosporidiosis and isosporiasis cause diarrhoea, nausea, vomiting and stomach cramps. In people with healthy immune systems, these symptoms do not last more than about 14 days.

However, if the immune system is damaged then they can continue for a long time. Diarrhoea can interfere with the absorption of nutrients and this can lead to serious weight loss.

To confirm diagnosis of either disease, the stool is normally checked for parasites and their eggs.

There is no cure for crypto, but antiretroviral therapy to restore immunity can effectively clear up the infection. For isosporiasis, TMP-SMX (trimethoprim-sulfamethoxazole) is often the preferred treatment.

MICROSPORIDIOSIS

This caused by protozoon frequently seen in stool of HIV-infected persons suffering from chronic diarrhoea.

Symptoms:

- Profuse watery diarrhoea
- Weight loss
- Abdominal pain and cramping

Treatment

Albendazole 400-800 mg. 4 times daily orally for 3 or more weeks,

OR

Metronidazole, 400 mg. orally three times daily

TOXOPLASMOSIS

Toxoplasma gondii is an intracellular protozoan parasite found widely in the environment.

Reservoirs include Cats, Birds and Domesticated animals

Mode of transmission in humans is faeco-oral (mostly through contaminated water and raw/uncooked meat). Toxoplasmosis (toxoplasmosis) is caused by a protozoan found in uncooked meat and cat faeces.

Clinical manifestations

This microbe infects the brain and can cause raised intracranial pressure, which leads to headaches and vomiting.

Other symptoms include confusion, motor weakness and fever. In the absence of treatment, disease progression results in seizures, stupor and coma.

Disseminated toxoplasmosis is less common, but can affect the eyes and cause pneumonia.

Definitive diagnosis of toxoplasmosis requires radiographic testing (usually an MRI scan).

Treatment of Toxoplasmosis

Primary prophylaxis: Co-trimoxazole, same dose as for PJP prophylaxis. It can be stopped in adults who have a CD4 count > 200 for more than 3 months in response to HAART

Secondary prophylaxis: Pyrimethamine+sulfadiazine+leucovorin. Lifelong treatment in children, and also in adults who are not taking HAART. Can be stopped in adults if CD4 counts are > 200 for more than 6 months because of HAART; not studied in children

Recommendations- advise HIV-positive individuals to:

- Avoid ingestion of undercooked meat
- To wash hands after any contact with soil
- To avoid emptying cat litter trays, or to empty trays daily and wash hands thoroughly after every disposal.

2.3.6 FUNGAL

INFECTIONS

CANDIDIASIS (THRUSH)

A fungal infection which can affect the mouth, throat, or vagina is a common opportunistic infection in people with HIV. It is caused by a common type of yeast (or fungus) called *Candida albicans*.

It can occur months or years before other, more serious opportunistic infections. In HIV-positive patients indicates a decline in immunodeficiency and, when ART is absent, is a sign of the onset of AIDS. However, the vaginal variant is a common occurrence among HIV-negative women.

a. Candidiasis (oral/oesophageal)

Infection of the mouth is called Oral thrush. When the infection spreads deeper into the throat it is called esophagitis. It looks like white patches similar to cottage cheese, or red spots. It can cause a sore throat, pain when swallowing, nausea, and loss of appetite. Thrush can also cause cracking at the corners of the mouth and it is called angular cheilitis.

Clinical manifestations

- Oesophageal candidiasis
 - *Dysphagia* (difficulty in swallowing)
 - *Odynophagia* (pain on swallowing)
 - Loss of appetite

- Burning central chest pain
- Regurgitation of thick mucous material
- Oral candidiasis
 - White patches on the tongue, palate and inner cheek.
- b. Vaginal candidiasis

In the vagina, the infection is called yeast infection or vaginitis. Symptoms include itching, burning, and a thick whitish discharge.
- Vaginal candidiasis
 - Thick white vaginal discharge
 - Vulvovaginal irritation
 - Plaques on vaginal walls and inner parts of labia
- c. Candida balanitis

This candida infection of the male genitalia the glans penis but uncommon
- Candida balanitis
 - Thrush on the glans of penis

Treatment of Candidiasis (Thrush)

- Disseminated candidiasis causes fever and symptoms in the organs affected by the disease (for example, blindness when it affects the eyes), and can be life threatening.
- Localised disease may be treated at first with relatively inexpensive drugs such as nystatin, miconazole or clotrimazole.
- Systemic candidiasis requires treatment with systemic antifungal agents such as fluconazole, ketoconazole 400 mg bd for 2 weeks, itraconazole or amphotericinB, 0.67 mg/ kg /day given or 25-50 mg/day, given by IV.
- Vaginal candidiasis is treated with *Clotrimazole* (Canesten), vaginal tablets or cream, insert or apply at night for 14 days or until symptoms improve.
- Nystatin or tablets : 500,000 I.U twice a day (bid) for 8-10 days
- Miconazole vaginal tablets or creams, 200mg/ day until symptoms improve e.g. after 14 days
- Ketoconazole 200mg orally per day for 7 days or twice daily for three days
- Fluconazole, 150mg as a single dose

TAKE NOTE

Candida can also spread and cause infection in the brain, heart, joints, and eyes.

PNEUMOCYSTIS JIROVECHII PNEUMONIA (PJP)

PJP is caused by a fungus, which was formerly called pneumocystis carinii but has now been renamed pneumocystis jirovecii.

PJP is a frequent HIV associated opportunistic infection which occurs in 70%-80% of patients with AIDS prior to the widespread use of primary PJP prophylaxis and ART, which has led to a significant decline of cases.

The symptoms are mainly pneumonia along with fever and respiratory symptoms such as dry cough, chest pain and dyspnoea (difficulty in breathing). This may require a chest radiograph, blood cultures, a white blood cell count and sputum tests to eliminate other infections.

Definitive diagnosis requires microscopy of bodily tissues or fluids.

Treatment of PJP

Treatment is usually aimed at eliminating the disease-causing bacteria and the drug of choice is Cotrimoxazole, 15mg/kg body weight/ day in 6 divided doses for 3 months

If the infection was fungal anti fungal have to be used e.g. Fluconazole 100mg bd 7-14 days

Corticosteroids are also used to suppress the lung inflammation as scheduled below:

Day 1-5 :prednisolone 40mg BD

Day 6-10 :Prednisolone 40mg OD

Day 11-21 :Prednisolone 20mg OD

Broncho dilators e.g. ventolin 2-4mg tid

If the patient is allergic to septrin the alternative treatment comprises:-

Dapsone 100mg daily and trimethoprim, 200mg TDS for 3 weeks

Pentamidine, 4mg/kg/day IV a single daily dose for 3 weeks

Then assess the progress of treatment.

CRYPTOCOCCOSIS

Cryptococcosis is caused by a fungus that primarily infects the brain Commonly found in soils contaminated by birds' droppings acquired by inhalation. It most often appears as meningitis and occasionally as pulmonary or disseminated disease.

Cryptococcus neoformans (Crypto): a fungus that can lead to meningitis, a serious inflammation of membranes surrounding the brain and spinal cord.

Signs in meningitis:

- Neck stiffness
 - Focal neurological deficits
 - Elevated intracranial pressure (fundoscopy)
 - Hyperpyrexia
- **Signs in pulmonary cryptococcosis**
 - CXR may show diffuse or focal infiltrates and intrathoracic adenopathy

Treatment of Cryptococcosis

Its treatment is either with amphotericin B with or without flucytosine or in mild cases with oral fluconazole and secondary chemoprophylaxis are often impossible in developing countries because of high cost and limited availability of the drugs required.

First line medication (Induction Phase) :

AmphotericinB, 0.7mg/kg IV infusion daily for up to 14 days PLUS 200 mg. **Hydrocortisone** per dose PLUS 25 mg. **Promethazine** prior to amphotericin infusion dose

Maintenance medication:

Fluconazole 400 mg. after meals (given indefinitely)

It is recommended that ART should be administered to those diagnosed with cryptococcal disease.

HISTOPLASMOSIS

Histoplasmosis is a fungal infection that primarily affects the lungs but may also affect other organs. Infection occurs through inhalation of fungus spores.

Symptoms can include fever, fatigue, weight loss and difficulty in breathing.

Disseminated histoplasmosis infection may be diagnosed using an antigen test, and can be fatal if left untreated. Treatment usually involves amphotericin B or itraconazole.

2.3.7 VIRAL INFECTIONS CYTOMEGALOVIRUS

Cytomegalovirus (CMV) is a virus that infects the whole body. Infection usually occurs in childhood yet the virus remains dormant unless the immune system is suppressed.

It commonly appears as retinitis, which causes blurred vision and can lead to blindness, and also as gastrointestinal disease. CMV can also affect other organs such as the lungs or liver, and is capable of causing fever, diarrhoea, nausea, pneumonia-like symptoms and dementia.

Treatment of Cytomegalovirus

CMV infection may be treated with drugs such as ganciclovir, valganciclovir, cidofovir and foscarnet. Access to ARV's deterring the chances of infection as immune systems can be supported.

It is recommended to initiate ART following anti-CMV treatment in order to reduce the chance of a relapse.

HERPES SIMPLEX AND HERPES ZOSTER

HSV-1 and HSV-2 are members of the alpha herpes virus sub-family. HSV-1 and HSV-2 are similar in nature, though modes of transmission and clinical manifestations may differ. There is no cure for HSV though use of antiretrovirals may reduce frequency and severity of attacks.

The usual symptoms of herpes simplex virus infection (HSV, which causes sores around the mouth and genitals) and herpes zoster virus infection (or varicella zoster virus (VZV), which causes chickenpox (varicella) and shingles (zoster)) are not life-threatening but can be extremely painful.

Both viruses are also capable of causing retinitis and, less often, encephalitis (which can be life-threatening). Herpes Zoster is transmitted usually through the respiratory route, whereas Herpes Simplex Virus is transmitted through contact with secretions from an infected area.

Summary of herpes viruses

HSV-1

It causes the familiar cold sore around the mouth and nostrils Transmitted through direct contact (e.g. through kissing or oral genital sex).

HSV-2

Is transmitted through sexual contact .It causes lesions on both male and female genital organs. It may cause extensive perianal ulcerations, especially in HIV positive persons

Treatment

Both herpes simplex and herpes zoster are usually diagnosed by simple examination of the affected area, and may be treated with drugs such as acyclovir, famciclovir and valacyclovir.

Mild/Moderate HSV-1 and HSV-2

Oral Aciclovir, 200 mg. 5 times daily for 7-10 days, OR Oral Aciclovir, 400 mg. 3 times daily for 7-10 days

Severe/Extensive localized HSV-1 and HSV-2

IV Aciclovir, 5 mg./kg. every 8 hours for 7-10 days until when able to swallow, change to oral acyclovir

Disseminated HSV or HSV encephalitis

IV Aciclovir, 10 mg./kg every 8 hours, OR Valacyclovir, 500 mg. Orally BD for 5-10 days, OR Famciclovir, 500 mg. Orally BD for 5-10 days, OR IV Foscarnet, 40 mg./kg TDS for 10 days
Maintenance therapy: Aciclovir, 400 mg. BD.

Shingles or VZV

VZV is a member of the alpha herpes virus sub family. Primary infection causes varicella (chicken-pox) which leads to viral latency. Reactivation of latent virus can lead to “shingles” later in life. Transmitted through direct contact by kissing or aerosols

Primary infection is severe and can be fatal. Secondary infection in HIV infected persons may take the form of extensive multidermatomal vesicular eruption. VZV rarely manifests as encephalitis, pneumonitis or hepatitis.

Standard Treatment for Shingles or VZV

Dermatomal VZV

Valacyclovir, 1 gm. Orally TID for 7 days OR Famciclovir, 500 mg. orally TID for 7 days OR Aciclovir, 400 mg. TID orally for 7 days

Disseminated, visceral or ophthalmic nerve VZV

IV aciclovir 30-36 mg./kg/day in 3 divided doses for 7 days

Post-exposure prophylaxis (PEP) medication

Preferred: Varicella Zoster immune globulin, 6.25 ml (5 vials) IM within 48 hours (at most 96 hrs) post-exposure. Alternatively, Acyclovir, 800 mg. orally 5x/day for 3 weeks

SELF TEST

Match the diseases in column 1 with the causative in column 2

Column 1	Column 2
1. Herpes simplex	a. Mycobacterium bacilli
2. CMV	b. Pneumocystis Jerovecii
3. Histoplasmosis	c. Cytomegalovirus
4. PJP	d. Fungal
5. Tuberculosis	e. Herpes simplex virus
Answers: Q1 E. Q2 C. Q3 D. Q4 B. Q5 A.	

2.3.8 HIV Associated Malinancies (Neoplasms)

Kaposi's Sarcoma

HIV-associated Kaposi's sarcoma causes dark blue lesions, which can occur in a variety of locations including the skin, mucous membranes, gastrointestinal tract, lungs or lymph nodes.

The lesions usually appear early in the course of HIV infection.

Treatment Most effective treatment is antiretroviral therapy and treatment of the lesion with cytotoxic drugs. However, regression may occur with immune reconstitution alone as therapy. For local lesions, injection therapy with vinblastine has been used with some success. Radiotherapy can also be used, especially in hard-to reach sites such as the inner mouth, eyes, face and soles of the feet. For severe widespread disease, systemic chemotherapy is the preferred treatment using liposomal doxorubicin or daunorubicin. If systemic KS is present, chemotherapy is palliative and does not alter survival.

2.4 Syndromic Management Of Ois And Hiv Related Conditions.

The syndromic management of OIS AND HIV related conditions has been already discussed in individual opportunistic infections.

2.5 Infection Prevention

We will look at how to prevent infection in the patient's environment, before going any further, it is important to define infection prevention so that as we proceed in our discussion you know what it means. I can define it in so many ways:

- i. Infection prevention is defined as standards provided or measures used to avoid or prevent infection and promote quality services

- ii. Other writers have defined Infection prevention as Prevention of cross infection between patients, staff and patients and vice versa.
- iii. Lastly Infection prevention can also be defined as series of activities done to control or limit the transfer of micro-organisms from one point to another or from person to person.

Mode of Spread of Infection

Now that you know what infection prevention is , what are some of the modes of spread of infection? Here are some of the modes of spread of infection. Or we can say infection can spread through the following ways:

Airborne: through the air e.g. mumps, chicken pox.

Blood or fluids: if blood or body fluids are contaminated with hepatitis B virus (HBV) or HIV and comes in contact with another person such as through a needle stick injury.

Contact: this can be either direct (touching an open wound or draining pustule) or indirect (touching an object contaminated with blood or other body fluids).

Faecal Oral: swallowing food contaminated by human or animal faeces.

Food borne: eating or drinking contaminated food or liquid that contains microorganisms.

Animal or insect borne: contact with infected animals or insects through bites, scratches, secretions or waste.

ACTIVITY

At your own time make a list of infections that may be considered as opportunistic infections from this study.

In summary, I can say that, the modes of spread of infection mainly are in four ways, i.e.

Alimentary (food borne) by infected food or drink.

Contact (direct or indirect) e.g. contact with diseased tissue or handling of soiled dressings, hospital equipment and linen if not properly cleaned, dried or sterilized.

Air borne - by contaminated dust or droplets.

Inoculation – by certain insects e.g. flies and mosquitoes or innominate objects.

Universal Precautions

The recommended infection prevention practices are based on the following principles:

Consider every person (client or staff) and every specimen as potentially infectious (MoH, 2009).

Wash hands with soap before and after every intervention, the most practical way of preventing cross-contamination (person to person).

Wear gloves before touching anything wet broken skin, mucous membranes, blood, body fluids, secretions or excretions – or soiled instruments and other items.

Use physical barriers including personal protective equipment (protective goggles, face masks and aprons) if splashes or spills of any blood, body fluids, secretions or excretions are anticipated.

Use safe work practices, such as not recapping or bending needles, safely passing sharp instruments, and disposing of sharps in puncture proof containers.

properly Process instruments and other items that come in contact with blood, body fluids, secretions or excretions (decontaminate, clean, and sterilize or high-level disinfect them according to infection prevention protocols.

Dispose contaminated instruments and contaminated waste thoroughly and safely.

Isolate patients only if secretions (mucus, saliva, and vomitus) or excretions (urine or faeces) cannot be decontaminated.

Cover all cuts and bruises which offer portal of entry for infections.

Measures To Prevent Infection

A. Hand washing

What exactly do you need to do to prevent infection?

You need to do Hand washing mechanically to remove soil and debris from the skin and also to reduce the number of transient microorganisms.

You should regard hand washing as the most important infection prevention procedure to maintain an infection free environment in every health facility.

You should wash your Hands **before:**

You start of the day's work.

Putting on gloves.

You examine the patient and in general, any dealings with a sick person.

Giving injections.

Drawing blood.

Handling sterilized equipment/instruments.

Eating or drinking.

Writing of reports or handling patient's files.

Going home.

You should also wash Hands **after**:

Examination each patient.

Touching any part of the body or mucus membranes excretions.

Removal of gloves

Personal use of the bathroom/toilet.

Cleaning the nose, coughing or sneezing.

Touching any of the instruments that have been used in medical procedures.

Hand hygiene techniques

Hand washing

Hand washing using ordinary soap and water is able to remove soil and debris from the skin and also to reduce the number of transient microorganisms.

How can you wash your hands? For Hand washing procedure-Refer to procedure manual .

Remove all jewellery, watches and nail polish (jewellery and nail polish harbour microorganisms).

Thoroughly wet hands in running water, if running water is not available, use a cup to pour water (hands lower than the elbow).

Apply a hand washing agent (plain soap or detergent) if bar soap is used, rinse the bar before lathering and rinse bar before retaining it to the dish.

Thoroughly rub all areas of the hands and fingers for 10 – 15 seconds, paying particular attention to finger nails and in between the fingers. Interlace fingers and thumbs moving hands back and forth.

Return the soap directly to the soap dish to prevent it touching the water basin, which may be contaminated.

Use fine orange wool sticks to clean finger nails.

Rinse hands thoroughly with clean personal running water from a tap or Bucket.

Dry hands with a paper towel or a dry clean personal towel or hair dry them. When turning off the tap if there is no foot control or automatic shut off, use your elbow.(- if you use bar soap , use small bars and soap racks which drain use running water and avoid dipping hands in a basin).**B.**

Hand Antisepsis

Apart from hand washing, hand hygiene can be maintained by the use of Hand antisepsis to remove soil and debris and reduce both transient and resident flora on the hands.

It important to make you understand what antisepsis means: Antisepsis is the process of reducing the number of microorganisms on the skin, mucous membranes or other body tissue by applying an antimicrobial (antiseptic) agent.

Technique

The technique is similar to plain hand washing except that you use an antimicrobial agent instead of plain soap or detergent.

You should use Hand antisepsis before:

- Examining or caring for highly susceptible patients' e.g. premature babies, elderly patients or those with advanced AIDS.
- Performing an invasive procedure such as placement of an intravascular device.
- Leaving the room of patients on contact precautions e.g. hepatitis A or E.

Antiseptic Hand Rub

You can also use Antiseptic hand rub to inhibit or kill transient and resident flora which you can achieve by use of a waterless, alcohol based hand rub. It is quicker and easier to perform and can give you a greater initial reduction in hand flora. How can you use the Antiseptic hand rub?

Technique

Apply enough alcohol-based hand rub to cover the entire surface of hands and fingers about a teaspoonful.

Rub the solution vigorously into hands, especially between fingers and under nails until dry.

If hands are visibly soiled or contaminated with blood or body fluids, hand washing with soap and water should be done first since alcohol-based hand rub does not remove soil or organic matter.

To reduce the build-up of emollients on hands, after repeated use of alcohol-based hand rub, wash hands with soap and water every 5 – 10 minutes.

Surgical Hand Scrub

You can use Surgical hand scrub when mechanically removing soil, debris and transient organisms and to reduce resident flora prior to performing any invasive surgical procedure. Your goal is to prevent wound contamination by microorganisms from the hands and arms of the surgeon and assistants.

Technique

The technique is simple as follows:

Remove watches, rings and bracelets.

Thoroughly wash hands and forearms to the elbow with soap and water.

Clean nails with nail cleaner.

Rinse with clean running water thoroughly.

Apply an antiseptic agent.

Vigorously scrub all surfaces of hands, fingers and forearms for at least 2 minutes. If a brush is used, it should be cleaned or sterilized or high-level disinfected before use, sponges if used should be discarded.

Rinse hands and arms thoroughly, holding hands higher than the elbows.

Procedure for Putting on and Taking off Surgical Gloves

Wash and dry hands thoroughly.

Select the correct size of gloves.

Open gloves in a clean and dry area.

Put powder on your hands if gloves are not powdered.

Hold the folded cuff of the gloves with your thumb and the fore finger without touching the outside of the glove.

Insert the fingers of your other hand in a downward direction, keeping your thumb towards the palm. The fingers must be separated from each other. Pull the glove back towards your wrist.

If, after putting on the first glove it is not comfortable, wait until you have put on the other glove before adjusting it. This is to ensure it remains sterile.

Hold the second glove with the first gloved hand and insert your fingers into the glove. Avoid contaminating the sterile part with the un gloved hand.

Use of personal protective clothing

Use of protective clothing

Clients and health workers are major sources of microorganisms that cause infection. The microorganism can be from people's hair, skin, nose, mouth, hands, blood and body fluids. In addition, actions such as touching unclean items can spread microorganisms.

Placing a physical barrier e.g. gloves or antiseptic solution between the microorganism and the person either the client or you as a health worker is an effective means of preventing the spread of infection from person to person and or from the equipment and the environment to a person. The protective barrier and clothing are commonly known as Personal Protective Equipment (PPE). These protective equipment include gloves, masks, gowns, goggles or glasses, aprons, coats, respirators and sterile drapes. Caps, masks or drapes made from papers should never be reused. If it cannot be washed, do not reuse it.

Types of protective clothing

Gloves

Gloves protect your hands from infectious materials and protect patients from microorganism from your hands. They are the most important physical barrier for preventing the spread of infection. You should use Gloves appropriately. You should change gloves in between each patient to avoid cross infection. You should wear gloves every time there is a likelihood of you coming into contact with the mucus membranes, blood and other body fluids. You should also wear gloves when handling contaminated waste or when cleaning, disinfecting instruments, equipment and surfaces. Ensure that you:

Wear appropriate gloves prior to contact with blood, body fluids and secretions or excretions from any client.

Use a separate pair of gloves for each client to avoid cross contamination.

It is preferable that you to use new and single use (disposable) gloves.

Types of Gloves

The following are the types of gloves:

Disposable examination gloves used anytime there may be contact with mucus membranes or non-intact skin.

Sterile gloves: can use them when performing surgical procedures.

High-level disinfected surgical gloves: only acceptable alternative if you don't have sterile surgical gloves when performing surgical procedures.

Clean, heavy duty households (utility) gloves: which can be used for cleaning instruments and equipment, contaminated surfaces and handling or disposing of contaminated waste.

Key Points

- Use gloves only once in order to avoid infection transmission
- Do not use any medical gloves that are expired
- Do not use any gloves that are worn out, peeling or have holes or tears
- Do not touch the exterior of the gloves when putting on
- Change gloves, if by mistake, they have been contaminated
- Wash hands before putting on gloves and after taking them off.

Mackintosh or plastic aprons

You can use mackintosh or plastic aprons to protect clothing or surfaces from contamination. They provide a water proof barrier along the front of the health care worker's body. You should wear them during procedures where splashing or spillage of blood, body fluids, secretions or excretions is likely e.g. when you are conducting a delivery. They also prevent microorganisms from reaching your uniform. You must wash them after each shift.

Masks

Masks should be large enough to cover your nose, lower face, jaw and all facial hair. You need to wear them to contain moisture droplets expelled as health workers or surgical staff speak, cough or sneeze as well as to prevent accidental splashes of blood and other contaminated fluids from entering your mouth or nose.

Respirators

These are specialized types of masks called PARTICULATE RESPIRATORS that are recommended in situations where filtering inhaled air is deemed important e.g. when you caring for PTB patients. They contain multiple layers of filter materials and fit the face tightly.

Eye Wear

They protect you in the event of accidental splashes of blood or other contaminated fluids by covering the eyes. Eye wear include clear plastic goggles, Safety glasses and face shields. Prescription glasses with plain lenses are also accepted. You should wear Eye wears when performing any task where accidental splashes in the eyes could occur e.g. when performing caesarean section, vaginal deliveries or when cleaning instruments. If eye shields are not available, you can use goggles or glasses and a mask together.

Scrub Suits or Cover Gowns

The main use of the cover gown is to protect your clothing. Scrub suits usually consists of draw string pants and a shirt

Foot Wear

You can wear foot wear to protect your feet from injury by sharps or heavy items or fluids that may accidentally fall or drip on you. For this reason, shoes or sandals made of soft cloth are accepted. Rubber boots and leather shoes are also accepted but you must keep them clean and free from contamination from blood or other body spills.

Sterile Drapes

They are made of cloth and you can place it around a prepared surgical site to create a working area. Although this is often called a sterile field, it is not sterile because cloth drapes allow moisture to soak through and can help spreading microorganisms from the skin into the incision even after surgical cleaning with antiseptic agents. Therefore, neither your gloved hands nor sterile instruments should touch the drapes once you put them in place.

Head Wear

You can wear a head wear to protect the client from the microorganisms from your hair. An example of a head wear is surgical cap.

Table 1 : Types of Personal Protective Equipment

TYPE OF PPE	USAGE	BENEFICIARY
Mackintosh or Apron	Situations where splashing or spillage of blood, body fluids, secretions or excretions is likely.	Service Provider and client
Closed boots or shoes (open sandals are not acceptable)	Situations involving sharp instruments or where spillage of infectious agents is likely (e.g. Deliveries, surgical procedures)	Service Provider
Caps, Gowns/Scrub suits, Masks, Aprons, Drapers	Invasive procedures where tissue beneath the skin is exposed (e.g. Surgical procedures)	Service Provider and Client
Goggles or Glasses, Masks, Aprons or Mackintosh	Situations where splashing of blood, body fluids, secretions or excretions is likely.	Service Provider
Masks	Situations which call for airborne or droplet transmission precautions.	Service Provider and Client
Sterile Drapes	Major or Minor surgical procedures.	Client (note: limited protection, as even sterile drapes do NOT create a sterile field)

TAKE NOTE

Find time to practice the art of hand washing with your friend observing you for proficiency.

Safe disposal of wastes and sharps

Safe disposal of waste

Safe disposal of wastes and sharps is also one of the principles you are to prevent infection.

Therefore you need to handle waste properly before it is taken for incineration, burial or other disposal, to protect the client, yourself, and the community. Waste from health care facilities may be non-contaminated or contaminated.

A. Uncontaminated waste

These pose no infectious risks to people who handle them as they do not come into contact with body fluids and blood. For instance, paper, boxes, bottles, plastic containers.

B. Contaminated waste

These are infectious or toxic if not disposed of properly, for instance, Blood, body fluids, secretions and excretions and items that have come in contact with them, such as sharps and used dressings, as well as other chemicals that may be toxic.

You should separate Contaminated and uncontaminated waste at original site to reduce the volume of contaminated waste and minimize the cost to the institution for more expensive procedures required to manage and dispose of contaminated wastes properly.

Use separate containers for contaminated and non-contaminated wastes. Never sort through contaminated wastes, i.e. do not try to separate uncontaminated from contaminated wastes after they have been combined.

Dispose off contaminated wastes separately from uncontaminated wastes because contaminated wastes need special handling.

You should dispose off contaminated wastes immediately after a procedure.

Ensure that there is sufficient number of waste containers in convenient locations, to minimize carrying contaminated wastes from place to place.

Ensure that you wash Waste containers with 0.5% chlorine solution and rinse them with water between each use.

Ensure that anyone handling waste containers wear heavy duty gloves and appropriate personal protective clothing to prevent contamination.

Proper disposal of waste minimizes the spread of infection to health personal and to local community. You should burry or incinerate (burn).Ensure that disposal sites are fenced with a gate and lock to prevent scavenging by both animals and people.

Sharps Disposal

- The principle for sharps disposal is to prevent potential injury and transmission of disease through injury with a contaminated sharp object. Ensure that you observe the following:
- Sharps should always be disposed off in a puncture-resistant container.
- Dispose off sharps directly without manipulation, for instance, do not recap, disconnect or bend needles. Only use one hand if there is need to recap to avoid needle prick.
- Ensure that Sharps containers are readily available and conveniently located so that workers do not have to carry sharp items any distance before disposal.
- Do not over-fill the sharps containers to prevent needle stick injuries; they should only be three quarters full.

Safe handling of needles and sharps

Several studies have shown that unsafe injection practices such as using same needles, syringes for more than one patient or improperly processed needles and syringes are responsible for transmitting HIV and Hepatitis viruses. Therefore, after each use, the assembled needle and syringe you should safely place them in a sharp container for disposal. What you have in mind is that the principle of sharp disposal is to prevent potential injury and transmission of disease through injury with the contaminated sharp object.

This is how you go about safe handling of needles and sharp

Needles and syringes

Use each needle and syringe only once

Do not disassemble the needle and syringe

Do not recap, bend or break needle prior disposal

Dispose off the needle and syringe in a puncture resistant container which should be readily available and placed within arm's reach.

Other sharps

When I say other sharps I am referring to anything capable of puncturing a glove or skin e.g. a surgical blade which you should dispose off after use. Also you observe the following:

Do not overfill the sharp container above $\frac{3}{4}$ full

Do not place the sharp containers in high traffic areas where people could bump into them or accidentally knock them off.

Processing of soiled items

Soiled items whether metal or not require special handling and processing to minimize the risks of spreading infection. You should note The key steps involved in the processing of soiled instruments which include:

- Decontamination: This renders the instruments safer to handle by staff before they are cleaned
- Cleaning: It removes visible blood, body fluids and dirty.
- Sterilization: It destroys all microorganisms including endospores. In cases where facilities for sterilization are not available, high level disinfection can be used. It destroys all microbes except endospores
- Note that for soiled thermometers, decontamination is not necessary. Simply wipe with disinfectant and rinse with clean water

Decontamination

This is the first step you do in processing soiled items. It is important for you to disinfect items which you can do by placing them in 0.5% solution of jik for ten minutes. Decontamination with cleaning is very effective infection prevention control practice that can minimize transmission of blood borne infections like HIV to health care provider.

Decontaminating products

Chlorine solutions made from sodium hypo chloride are the least expensive and rapid acting and effective product to use for decontamination.

NOTE: Chlorine solutions come in different concentrations. To determine the total part of water needed, use the following formula:

$$\text{TOTAL PARTS OF WATER} = \frac{\% \text{ Concentration} - 1}{\% \text{ dilute}}$$

EXAMPLE

Make a dilute solution 0.5% from 3.5% concentrated solution

$$\text{TPW} = 3.5\% \div 0.5\%$$

$$\begin{aligned}
&0.5\% \times 10 \\
&= 35/5 - 1 \\
&= 7 - 1 \\
&= 6 \text{ parts of water} \\
&1:6
\end{aligned}$$

Tips for decontamination

Use plastic containers to help prevent the following:

- Dulling of sharps e.g. pairs of scissors due to contact with metal containers
- Rusting of instruments due to some chemical reaction
- Do not soak instruments that are electroplated (Instruments that are not 100% stainless) for more than 1 hour because rusting can occur

Once instruments and other items are being decontaminated, they can further be processed by cleaning and finally sterilizing or high level disinfecting them

Table 2 : Effectiveness of Methods When Processing Instruments

Method	Effectiveness	End Point
Decontamination	Kill Hepatitis B, HIV and most micro organisms	10 minutes soaking
Cleaning without soap	Up to 50%	Until visibly clean
Cleaning with soap	Up to 50%	Until visibly clean
Sterilization	100%	Recommended time for autoclaving
HLD	95%	Boiling/steaming/Chemical – 20 minutes

Cleaning

This is an important process because it is an effective way of reducing a number of microorganisms especially endospores that cause tetanus and gangrene. I can assure you neither sterilization nor high level disinfection is effective without prior thorough cleaning. Cleaning and washing with water will visibly remove organic material such as blood and body fluids. This is important because dry organic material entrap microorganisms including endospores in the residue that protect them against sterilization or disinfection. You can use soap; the use of soap is very effective because water alone cannot remove proteins, grease and oil. Most of the

microorganisms (up to 80%) are removed in blood and organic material by the use of soap and water.

Cleaning tips

Wear suitable gloves when cleaning instruments (Thick household utility gloves work well. The gloves should be cleaned and let dry at the end of the day before next use. If torn or damaged, they should be discarded.

Take Note 5.1

When wearing heavy utility gloves, precautions should be taken to prevent pricks from sharp instruments.

Wear protective eye wears if available

To prevent splashing, keep the items being washed under the surface of water.

Instruments especially those that have teeth and joints should preferably be washed with used tooth brush. Attention should be paid to the joints and in between the teeth where organic material may be difficult to remove.

Syringes (glass or plastic) when reused should be disassembled only after decontamination and when being cleaned with soapy water, ensure that they are rinsed at least 3 times with water and remove soap by expelling the water through the syringe into the container

Do not use abrasive cleaners because they can scratch the instruments creating hiding or resting places for microorganisms. Scratched instruments are difficult to clean.

High Level Disinfection (HLD)

Although sterilization is the most preferred and safest method for final processing of instruments, often sterilization equipment may not always be available and suitable. In such cases HLD is the only acceptable method as it destroys all the microorganisms including vegetative bacteria, yeast, tubercle bacilli, and fungi except for bacteria endospores. HLD can be achieved by boiling in water, steaming and soaking instruments in chemical disinfectant. For HLD to be effective, all steps in performing each method must be monitored carefully. Let's now look at types of High Level Disinfection (HLD)

Types of HLD

Boiling

Tell me any type of high level disinfection (HLD) you know? Well I will start by mentioning one of them; one of them is boiling in water which is an effective practical way of HLD to disinfect instruments and other items. A gentle rolling boil is sufficient as it will prevent instruments and other items from sticking to each other causing damages. You should consider the following steps when using high level disinfecting using boiling:

- Start timing when water begins to boil
- Instruments should be properly immersed in water during boiling
- Do not add anything to the pot after timing begins
- After boiling, remove objects with previously HL disinfected forceps. Never leave instruments in water that has stopped boiling
- Use the instruments immediately or place instruments in a previously high level disinfected container with a tightly fitting cover.

Take Note 5.2

To avoid lime deposits on the items boil water for 10 minutes before use and use the same water throughout the day adding only enough to keep the instruments immersed in water fully. Drain and clean the boiler at the end of each day to remove lime deposits

Steaming

This is another type you can use; basically this process has several distinct advantages over the boiling method for final processing of surgical gloves and other items such as syringes as it is less destructive. It also uses less fuel compared to the boiling method

Chemicals

This is another type where you can use several chemicals, the common disinfectants that you use are:

- Chlorine

- Formaldehyde
- Gluteralhyde

Sometimes you can use hydrogen peroxide.

Let's now look at advantages and disadvantages of commonly used disinfectants as follows

Chlorine Solution

What do you think are the advantages of chlorine solution?

Here are some of the advantages

Fast acting

Cheaper

Effective against HIV and Hepatitis B

Chlorine solutions are readily available

How about the disadvantages, would you like to mention any?

The main disadvantage is that of discoloration. This problem can be reduced if items are rinsed with previously boiled water and dried promptly.

The others are as follows:

Formaldehyde solution 8%

Advantages

Less expensive

Readily available

Very effective

Disadvantages

It has a very irritating vapour

Potentially carcinogenic

Take Note 5.4

Do not dilute formaldehyde with chlorinated water because a dangerous gas can be formed. The staff handling formaldehyde should wear gloves and avoid skin contact. The eyes should be highly protected from splashes. Limit exposure time to formaldehyde and use solution only in well ventilated rooms.

Gluteralhyde

Advantages

Less irritating than formaldehyde

Disadvantages

Produces some fumes when mixing

Leaves a residue on the instruments. This should be rinsed off by previously boiled water 3 times in order to prevent skin irritation

Hydrogen peroxide 6%

Advantages

Less expensive

Available locally

3% solution can be used as an antiseptic

Disadvantages

- Hydrogen peroxide is very corrosive
- Loses potency rapidly when exposed to heat and light (Therefore it is not recommended to use hydrogen peroxide in hot climate because of its instability in the presence of heat and light

Steps for HLD with Chemicals

- Decontaminate and thoroughly clean the instruments before putting them in the chemical for HLD
- Prepare fresh solution of chemicals and check to ensure that the solution not expired
- Ensure that the instruments are completely immersed in the disinfectant solution to achieve good results
- Soak for about 20 minutes in a covered container
- Remove items using previously high level disinfected forceps
- Rinse well with previously boiled water and air dry
- Use the items that have been high level disinfected promptly or store in a high level disinfected container with a lid

Take Note

Fresh solution for HLD should be made and changed every 14 days or sooner if the solution is cloudy. Many antiseptics are used incorrectly as disinfectants although they are not appropriate for disinfecting items and do not reliably kill bacteria, viruses and endospores e.g. savlon and Dettol

Sterilization

Now let's move on to sterilization. This is the process that destroys all microorganisms including bacteria endospores. Sterilization can be used for instruments, surgical gloves and other items that come into direct contact with blood or body fluids. You can achieve Sterilization by high pressure steam (autoclaving), dry heat (oven), chemicals and radiation. For Sterilization to be effective, it requires time, contact, temperature and for autoclave you also require high pressure. You should follow all the steps that are used in processing soiled items for sterilization to be effective.

You should note that effectiveness of sterilization also depends on other factors as follows:

- The type of microorganisms present. Some may be very difficult where as others can be killed easily.
- The number of microorganisms present. It is much easier to kill one microbe than a lot
- The amount and type of organic material that protect the microorganisms e.g. wool or tissue remaining on poorly cleaned instruments. This is likely to shield the microorganism and sterilization will not be effective.

Methods of Sterilization

Now that we looked at Sterilization and autoclaving i as one of the methods of sterilization, we need to look at how this autoclaving is done.

Autoclaving

Autoclaving basically involves the use of high pressure steaming. Using an autoclave is an effective method. When you are using an autoclave, ensure that steam reaches all surfaces. You cannot sterilize Plastics and rubbers using this method. Ensure that temperature is 121° c during autoclaving. For the unwrapped items, autoclave for 20 minutes and 30 minutes for wrapped items.

Dry Heat

You can also Sterilize using dry heat which you can achieve by the use of oven is recommended in humid climate but needs a continuous supply of electricity making it unpractical in the rural settings. Only metal objects can be sterilized using an oven. Ensure that temperature is 170°c for 1 hour or 160°c for 2 hours

Points to remember on sterilization

Exposure time begins after the sterilizer has reached the target time

Do not overload the sterilizer because it will not be effective and time required to complete the process has to be more

Sterilized instruments should be used immediately unless wrapped in a double layer of paper or appropriate material or stored in a sterile container with a fitting lid

Isolation

What do you understand by the word isolation?

I can say that isolation is the practice of establishing a barrier around the client to contain offending and threatening microorganisms. This is called isolation or barrier nursing. When isolation is meant to protect a patient from catching infection on account of his low immunity, the practice is called “protective or reverse isolation”. Isolation requirement will vary depending on the nature of the organism found in the facility.

You isolate a patient suffering from a communicable disease like pulmonary tuberculosis. The reason for isolation is to prevent the movement of microorganisms. You decide to institute barrier nursing for the safety of the patient, visitors and the caretaker. The decision is usually based on confirmed clinical diagnosis.

Let's now look at the types of isolation.

There are two types of isolation, these are as follows:

Strict Isolation/Barrier Nursing

You can use it when you want to prevent the transmission of pathogens spread by contact and droplet. You need to use a private room with its door kept closed. The use of gowns, gloves and masks by staff is essential. You should wash your hands upon entering and leaving the room. If you remember very well I said hand washing is very important in infection prevention. All used items must be double bagged before disposal or processing. If you are to re-use items must be decontaminated them before you do routine cleaning and sterilization.

You should isolate patients who are frequently the source. You can do this in single rooms within the wards.

You can take Barrier nursing measures to prevent the health care provider from acquiring germs accidentally on the hands and on the uniform. You should wear plastic aprons over your uniform. You should use Protective clothing to prevent contact with body fluids or other sources of contamination.

Protective/Reverse Isolation

You can use it to prevent transmission of infection to a client who is immune compromised. You require a private room. Wear Clean or sterile gloves, you require Masks as well. Again here we are emphasizing on washing hands upon entering, during care and when leaving the room. You can see that hand washing is very important and it is a basic procedure you can do in infection prevention. Use sterile items because you are protecting the patient from any form of contamination that may result in infection.

If you put patients with profuse diarrhoea at the last bay nearest to the toilet facilities is a classic example of reverse isolation in the form of intelligent geographical ward demarcation since these patients are mostly immuno-compromised. In this way you will protect them from the other patients as well as guaranteeing easy access to the toilets.

Indications for Isolation

Somehow we have already mentioned when we need to isolate patients but there is no harm we can still mention them as follows;

Immune suppression where the client's blood neutrophil count is very low like in HIV infected clients. Immune suppression may occur for a variety of reasons for instance, organ transplants,

extensive burns, some genetic disorders like sickle cell anaemia and cancer clients who are being treated with high doses of chemotherapy.

Micro-organisms may be acquired from the hands of hospital staff, equipment or food. Below is self-test.

SELF TEST

1. Autoclaving requires temperatures to be achieved
 - a. 120° C
 - b. 123° C
 - c. 121° C
 - d. 122° C
2. Under High Level Disinfection, instruments must be soaked for
 - a. 30 minutes
 - b. 28 minutes
 - c. 25 minutes
 - d. 20 minutes
7. All the following are examples of High Level Disinfection except
 - a. Drying
 - b. Boiling
 - c. Steaming
 - d. Chemical

Answers: Q1 C. Q2 D. Q3 A.

2.6Summary

This unit was quite bulk but we have covered relevant materials for us to move to the next unit. We have learnt the guiding principles are necessary for us if infections are to be prevented and they include: use of condoms; counselling clients at risk of infections; counselling those on medication not to default; educating on good personal hygiene and those in hospital setting the use of gloves and hand washing. Other principles considered were eating clean health foods which are washed before eating and indeed vaccinations. It also important to develop alliances with NGOs if we are to succeed in our programmes

Further we looked at OIs considering their cause and treatment such as Bacteria, parasites, fungi, viruses and malignancies

On infection prevention remember the definition that “it is standards provided or measures used to avoid or prevent infection and promote quality services. We discussed the modes of spread of such infections like those spread by airborne, blood/ fluids, contact, faecal matter, food and animal/ or insect bites. The precautions’ put forth were considering every person you meet as infectious, so you avoid them, washing hands, wearing protective clothing etc, and use of physical barriers. Finally we considered the fact that where waste matter was available and needed disposal safe disposal was considered important and use of safe disinfectants recommended. An example was provided and you are encouraged to read and master it.

2.7Reference

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UNIT 3: LEGISLATION, REGULATIONS AND POLICES

4 Hour

3.0 Introduction

3.1 Unit Objectives

At the end of the lesson you should be able to:

3.2 Medical And Legal Aspects Of STI/ HIV And AIDS

Legal Framework for National HIV/AIDS/STI/TB Council

Currently in Zambia, there is no national body that coordinates efforts being done to fight HIV/AIDS by the private, civil society and government institutions. Therefore, there is need to establish the National AIDS Council through an Act of Parliament.(MoH HIV/AIDS/STI Policy,2002)

There is a vacuum in the existing legislation with regard to the provision for proactive services and measures to fight HIV/AIDS. There is need to review and amend the existing legislation. However, the HIV/AIDS/STI Policy is being implemented in its draft form to protect the citizenry in HIV related issues.

Furthermore, the medical and legal aspects of STI/ HIV/AIDS and ethics as related to STI/HIV AND AIDS overlap in patient/ client observance of HIV/AIDS and STI related issues.

Confidentiality

Health care and social welfare case workers shall not disclose any confidential information of their client to any other person without the express consent of the client. This can be an exception in cases where the considered opinion of the professional to such disclosure is permitted by law and or in the interest of the client himself his/her spouse, other supportive family members or another person involved in the client's care.

The Centre for Disease Control and Prevention (CDC) has made specific recommendations for keeping reporting confidential (CDC HIV/ AIDS, 2012)

Shared confidentiality with other Professionals

This is where the patients confidential information is shared with other professionals is required for professional purposes to enhance patient care. It is the responsibility of the professional

making the disclosure to ensure that his or her colleagues appreciate that the information being imparted in strict professional confidence.

Conflicts of Interest

Some conflicting interests are inherent in research. For example, health care providers gain prestige, grants, and promotions through their research and publication of their work. Accordingly, they have a personal interest in recruiting and maintaining participants in their studies. Although this interest may sometimes conflict with the best interests of participants, it is an accepted element of research, in part, because it is open and acknowledged

Mandatory Medical Examination

Mandatory HIV testing shall not be part of pre-employment examination or pre-enrolment, pre-surgical procedures and pre-marital engagement.

Non-disclosure of HIV/AIDS Status to Employer

PLWHAs shall not be obliged to disclose their status to their employers or prospective employers. Employers shall be encouraged to adopt a positive attitude towards employees who are HIV positive to the extent that they are reasonably accommodated on their jobs for as long as they are able to work.

ACTIVITY

Write down three points on the importance of medical and legal aspects of STI/ HIV AND AIDS.

Well done. Compare your answers with the note before you proceed.

3.3 Ethics As Related To STI/HIV And AIDS

This subunit looks at ethical issues related to HIV/AIDS testing, treatment, and research. These issues include confidentiality, informed consent, and end of life, research design, conflict of interest, vulnerable populations, and vaccine research. It is against this background that you must learn about this to avoid conflicting with the rights of the patient.

HIV Testing

In order to provide guidance on HIV testing, Government shall

- Encourage voluntary counselling and testing for all persons and maintain confidentiality by service providers
- Legalise mandatory testing in case of persons charged with any sexual offence that could involve risk of HIV transmission.
- Not encourage anonymous testing without consent except in research where it is unlinked anonymous.

Partner Notification

In order to bring about shared confidentiality that is desirable to promote prevention, better care and coping with HIV/AIDS, Government shall legislate against individuals who deliberate and knowingly withhold their HIV status from their partners/spouses

Stigma and Discrimination

In order to eliminate stigma and achieve human and constitutional rights for HIV infected people, Government shall

- a) Promote education and information to the public to eliminate discrimination against PWA
- b) Encourage the insurance industry to develop and apply policies, which take into account the insurance needs of persons with HIV/AIDS.

Differently abled persons

In order to resolve the challenges associated with people with different abilities, Government shall integrate the HIV/AIDS/STI/TB services required by people with different abilities in the existing health and social welfare delivery systems.

Children and Young People

In order to protect the rights of children and young people and avail them access to HIV/AIDS/STI/TB prevention and care services throughout the country, the Government shall

- a) Ensure that parents and guardians of street kids are located, penalized and made to fulfill their child rearing obligations.
 - b) Ensure that children and young people, regardless of their HIV status, enjoy all their rights as enshrined in the African Charter, UN Convention on the Rights of the Child and the relevant Zambian laws
- c) Ensure that confidentiality of children's HIV status is strictly maintained and only communicated to the child or parents or guardians or prospective foster parents in the interest of the child
- Support training of health personnel and other youth practitioners in

counseling young people on the dangers of early sex, unwanted pregnancies, and prevention of HIV/STDs.

Willful Transmission of HIV

In order to provide a framework for dealing with willful transmission of HIV, Government shall:

- a) Legislate against willful transmission of HIV/AIDS
- b) Put in place support systems for victims and offenders in the form of counseling, education, information, rehabilitation and appropriate therapy.

Gender

In order to effectively deal mainstream, the Government shall

- a) Adopt a gender-based approach to planning and implementation of programmes.
- b) Strengthen the enforcement of existing legislation dealing with sexual harassment, abuse and violence.

Research and Development

1. Research

In order to promote HIV/AIDS/STI/TB research, Government shall:

- a) Development agenda in HIV/AIDS/STI/TB, research
- b) Encourage and strengthen research related to HIV/AIDS/STI/TB
- c) Encourage research and evaluation of traditional/alternative remedies in the prevention, management and care of HIV/AIDS/STI/TB and other related infectious diseases.
- d) Facilitate infrastructure development, capacity building for HIV/AIDS/STI/TB research.
- e) Mobilise resources to promote and support identified priority research and application of research findings.

Vaccine Developments

In order to encourage vaccine research and development, Government shall

- a) Mobilise resources to support vaccine development. .
- b) Ensure Zambia's participation in vaccine development

3.4 National Policy On STIS/HIV And AIDS/TB And Leprosy

In this unit we are going to look at the National Policy on STIs / HIV and AIDS/TB and Leprosy. The policy is a guide to which we are all asked to follow in our work places to avoid segregation and stigma to those who may be sick or affected.

In order to demonstrate its highest political commitment to the fight against HIV, AIDS, STIs, TB and other opportunistic infections and to militate against the harmful socio-economic impact that communities have been subjected to, the Government in 1999 established the National HIV/AIDS/STD/ TB Council (NAC) through an Act of Parliament. The chief mandate of the Council is to coordinate national responses to the HIV/AIDS/STI/TB pandemic. Policy interventions against HIV/AIDS/STI/TB have, however, been undertaken in an environment devoid of policy direction and guidance. As might be expected, the lack of a national policy has resulted in undue duplication of effort and waste of scarce health resources. This policy, therefore, is expected to provide the requisite framework for informing and guiding various stakeholders in the quest to contribute to the fight against HIV, AIDS, STI, TB and other opportunistic infections.

The individual and collective actions against HIV/AIDS/STI/TB will be guided by the guiding principles in this policy and shall be based on the “Three Ones” approach (i.e. one national strategic plan, one national coordinating body and one monitoring and evaluation plan)

The task ahead is to ensure that the policy measures are disseminated widely and translated into implementable strategies and programmes by the various stakeholders, which will have the required impact countrywide.

1) General and Cross-Cutting Policy

- Domestication of international declarations on HIV/AIDS. Multisectoralism.
- Increased advocacy, social mobilisation and communication.
- Enhanced equity and gender sensitivity.
- Incorporation of church based organisation. Involvement of traditional leadership and structures.
- Employment and workplace.
- Protection of human rights and prevention of stigma.
- Protection of children rights and young people.

2) *Prevention and Control policy*

Prevention is the cornerstone for national response against the HIV/AIDS pandemic. major interventions include;

- Raising awareness, influencing behaviour change,
- VCT, PMTCT,
- Promotion of condom use,
- Case finding and treatment of STIs and provision of safe blood and blood products.

Information, Education and Communication and life skills programmes

Main thrust by use of media to sensitise public.

Channels-TV, radio, drama, role -plays, billboards and use of pamphlets.

Condoms and other Barrier methods

There must be a coordinated social marketing system as means of increasing access, and acceptability of condoms use.

They must market throughout the country and outlets for distribution readily available at health centres, private and public health institution and pharmacies.

Promotion of female condoms must be enhance though its use is low.

Provision of safe blood and blood products

Strengthening blood transfusion service with centres at provincial headquarters.

Screening for HIV and syphilis and to a lesser extent Hepatitis B.

Prevention and control of sexually transmitted infections

STI control programme launched 1980.

Objectives; -reduce transmission of STIs.

Provide efficient diagnostic and treatment services.

Use of syndromic approach for STI management and treatment.

Difficulty –staff training & retention, drug, supplies and reagents.

Prevention of Mother-to-Child Transmission of STI and HIV

PMTCT of STI critical component of government's response against HIV/AIDS and STIs.

Problem-shortages of testing kits and drugs for prophylaxis for ophthalmic neonatorum.

PMTCT played major role in preventing vertical transmission through provision of ARVs and infant formulas.

VCT/CTC

Entry point for diagnosis and management of HIV infected persons.

Trained counsellors.

Testing centres country-wide.

3) Treatment, Care and Support

-Complimentary to prevention and control of HIV/AIDS/STI/TB.

Prevention and control of TB

-Effective TB/leprosy control programme in 80s.

-Integrated approach adopted →very weak programme

Treatment of HIV/AIDS and other OIs

-approach to provide support through counselling and testing, treatment of symptomatic HIV-infected patients and encouraging home-based care.

-OIs also attended to.

-ARV drugs up to district level.

Home-Based Care

-Response to unprecedented costs within the formal sector health sector and the increasing demand for hospital beds.

-Effective complement or alternative to hospital services.

-Cost implications on those providing care on voluntary basis.

Support for the infected and affected

-Social support need not be over emphasised.

-They need incentives.

Orphans and Vulnerable children

-Alleviate their difficulties.

-Grants to organisations involved in the cause.

Human Rights And HIV/AIDS

HIV/AIDS negatively touches and impacts fundamental human rights.

Cases involving job redundancies and abrupt loss of income on account of the HIV/AIDS status of an employee. Stigmatisation and discrimination have also been rife in homes, communities, schools and workplaces. Correlation between the HIV/AIDS pandemic and the abuse of human rights.

HIV/AIDS and the Workplace

- Section 28 of the Employment Act requires that every employee shall be medically examined by a qualified and competent Medical Officer before he/ she enters into a contract or service of at least six months' duration.
- The purpose is to ascertain fitness of employee and the type of work.
- Some employers still request mandatory testing.
- Prospective employees comply as no law protect them.Currently no provision in the labour act for continuous testing for physical fitness of employees.

Confidentiality

- Key to ensuring that the right to privacy of infected persons is upheld.It's important to allow infected persons space to conscientiously choose to either make their status public or keep it private.Confidentiality should, however, not apply to ones sexual partner or spouse as doing otherwise would encourage wilful transmission.Currently, in cases of defilement compromise outside courts of law does exist.

Silence, Stigma and Discrimination

- These affect all sections of society as either infected or affected. Particularly affect women, the girl-child and vulnerable groups such as the differently-abled.
- perpetuation of stigma and discrimination causes some infected persons to delay their notification of their HIV status and, by extrapolation, treatment, care and support.
- sensitisation key to breaking the 'twin' through HIV/AIDS task forces and HIV/AIDS focal points. -NZP+ members, on their part, have been models in the fighting stigma and continue to assist communities to be open & positive in their discourse on HIV/AIDS/TB.

3.5 Summary

We have come to the end of the unit. In this unit you were looking at Legislation, regulation and policy in the management of STI/HIV and AIDS. You have appreciated the importance of their existence to protect unlawful handling and disclosure of the clients/ patients health information. As such you have an obligation to always uphold the laid down ethical issues to in relation to managing client/patients under your care. In the next unit you will be looking at conditions which affect the skin. I encourage you to continue working hard in the next unit.

3.6 References

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UNIT 4: DERMATOLOGY

26 Hours

4.0 Introduction

Welcome to unit 4 of Medicine & Medical Nursing III, in the previous unit you learnt about various policies and legislation related to STIs. In this unit you will learn about conditions that affect the skin (dermatology) ranging from various infections, albinism and malignancies affecting the skin and how to manage these conditions. The skin is window most conditions an individual is suffering from as such it is important to gain the knowledge and skills in skin conditions to also manage the patient holistically.

4.1 Unit Objectives

At the end of this unit the student should able to:

1. Describe the of anatomy and physiology of the skin
2. Discuss the general principles in the management of skin diseases
3. Conduct an assessment of a patient with skin problems
4. Explain the nursing responsibility in the care of a patient with skin problems
5. Discuss the management of a patient with common conditions of the skin

4.2 Review Of Anatomy And Physiology Of The Skin

In this unit you will start by reviewing the anatomy and physiology of the skin and the skin is not only the largest organ of your body, but also the heaviest. It has a surface of 1.5–2m² and contributes 1/7 to 1/6 of bodyweight. Architecturally, our skin is a constantly remodeled, intricately perfused and innervated three-layered structure (*epidermis, dermis, subcutaneous*).

Specialized skin “appendages” protrude from the skin (*hair, nails*) or are *embedded in it (sweat and sebaceous glands)*. Two special structures—*hair follicles and mammary glands (derived from epidermis)*—mark us as mammals.

Epidermis

The epidermis, a very thin but tough cornified (i. e. keratinized) avascular outer layer, provides the skin’s direct interface with the environment. It is composed primarily of keratinocytes along with smaller populations of two other resident cells melanocytes and Merkel cells. In addition, there are migratory cells moving in and out of the skin, serving as outposts of the immune system (Langerhans cells, intraepidermal T cells).

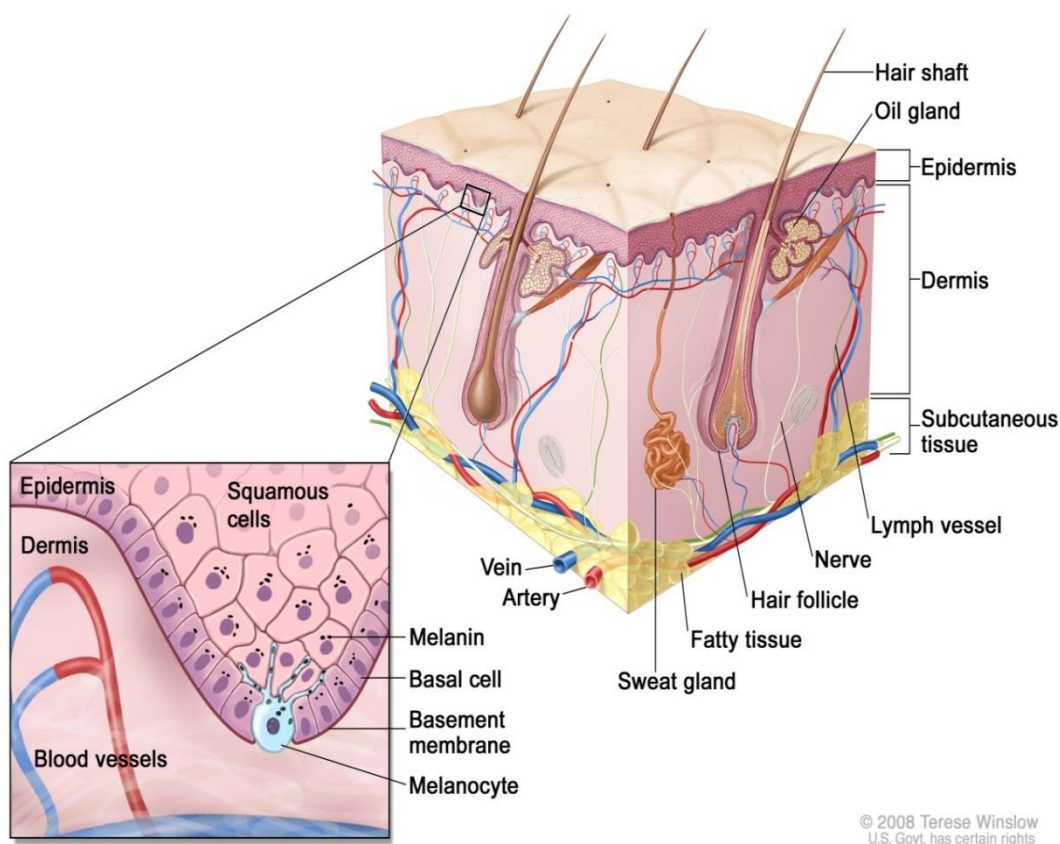


Figure 3: The Skin

i. Layers Of The Epidermis

- *Stratum corneum*-it is made up of terminally differentiated, dead keratinocytes (corneocytes). These are perfectly sculpted, flattened hexagons whose complex geometric shape allows for optimal packing. Corneocytes are nonvital epithelial cells that have lost and

digested their nucleus, and are loaded with keratin filaments in an amorphous protein matrix, which is held together by the cornified envelope. They are glued together like bricks in a wall by a mortar rich in lipids (ceramides, cholesterol, free fatty acids).

- *Stratum granulosum*- a thin layer of cells. Keratinocytes migrating from underlying stratum spinosum become as granular cells in this layer. They contain keratohylin granules, protein structures that promote hydration and cross linking of keratin.
- *Stratum spinosum*- this is referred to as the “spinous” or “prickle” – cell layer. This appearance is due to desmosomal connections of adjacent cells. Keratinization begins here and it is composed of polyhedral keratinocytes.
- *Basal layer*- also called the stratum basale. It is the deepest layer of the layers of the epidermis and it is a continuous layer of cells. It is made out of basal keratinocyte cells which can be considered the stem cells of the epidermis. They divide to form the keratinocytes of the stratum spinosum.

Basal membrane zone- this central layer of the skin bestows the remarkable mixture of structural firmness and flexibility that is so characteristic of mammalian skin, and is the chief component of leather used in clothes, shoes, and handbags. The BMZ represents an entire system of dermoepidermal anchorage, skin flexibility, and elasticity, as well as epithelial–mesenchymal communication and trafficking. Not surprisingly, it is in this dynamic, constantly remodeled dermoepidermal interface where most inflammatory skin diseases manifest themselves, and where defects in individual BMZ components result in a large array of therapy-resistant.

The Dermis

The dermis harbors a rich network of nerves with free nerve endings in the epidermis, a generous network around hair follicles and specialized receptors. In addition, the eccrine glands course through the dermis, before emptying sweat onto the epidermal surface.

The Subcutaneous

The third, deepest and usually thickest layer of your skin—the *subcutis* or *subcutaneous* fat. The predominant cells of the subcutis are *adipocytes*, *highly specialized* mesenchymal cells turned into a storage site for fat. The subcutis provides thermal insulation, serves as a crucial energy store, and acts as an important shock absorber for underlying organs and structures.

Functions Of The Skin

The following are the functions of the skin:

- It acts as a physical barrier against friction and shearing forces
- It Protects against infection (immune and innate), chemicals, ultraviolet irradiation
- It Prevents excessive water loss or absorption
- Synthesis of vitamin D
- Temperature regulation sensation(pain, touch and temperature (sensory perception)
- Processing of antigenic substances
- Excretion

Now that you have reviewed the skin, it is important that you identify yourself with what principles you will use in the management of skin diseases.

4.3General Principles In The Management Of Skin Diseased

To understand these principles you should have made yourself familiar with the skin anatomy. Some of the areas are:

1. The patient with a skin disorder should be questioned (assessed) about topical home remedies such as alcohol, and other products such as detergents that may be causing or exacerbating the skin condition. The physician should also ascertain the patient's concept of the skin condition.
2. Physicians should ensure that prescribed treatment regimens are as simple as possible to avoid making errors with medication
3. Diagnosis of the skin conditionDiagnosis is based on history and clinical examination and results of laboratory tests and skin biopsy.
4. ***Non-drug related treatment***
5. All patients should be educated in general principles of good personal hygiene including hand washing and washing of the body parts that are affected by the skin condition. Simple use of soap and water to keep the affected area clean should be advocated. Open sores and lesions that are oozing blood or pus should be kept covered with gauze bandages that are replaced frequently.
6. ***Special requirements***
7. Room where patient can be interviewed and examined in private; examination couch; light source; disposable gloves.
8. **Provide education**

9. All patients should be provided with education regarding the nature of the condition and good personal hygiene.

10. Counselling

11. Counselling should be provided on how to live with a chronic skin condition and on treatment compliance and side effects of medications. If there are factors that lead to exacerbation of the condition, then patients should be counselled on how they may avoid trigger factors.

Treatment compliance

All patients should be counselled on treatment compliance and adherence to treatment

Nursing requirements

No special nursing is required for most skin conditions. However in the situation where the patient has chronic, indolent, necrotic, fungating lesions that tend to become infected, regular dressings may be necessary and a patient's individual needs should be worked out.

Follow-up plan

Arrange to review patient regularly

Social services

Support Drugs for terminally ill patients and those with fungating malignancies may not be affordable by all patients and should be provided.

ACTIVITY

Outline five (5) the principles of the management of a client with skin infections.

You are now ready to continue your study. It is important that we start by assessing the client

4.4 Assessment Of A Patient With Skin Problems

Client assessment is similar in all respect hence you start by:

History Taking

A clear, thorough history provides information that is vital to determining the cause of a cutaneous manifestation and to assessing the patient's general physical condition.

Demographic data

Name, address, phone number, age, sex, race, marital status, occupation, education, religion.

Chief complaint/reason for visit

What is the skin problem (define in patient's own words)

- **Current problem/current health status**

- What is the patient's perception of what the abnormality looks like?
- What are the symptoms? (including pruritis, stinging, burning, tingling, numbness, pain or tenderness to touch)
- When did the problem begin?
- Are there any seasonal variations?
- Is there a family history of skin disease?
- What are the patient's occupation and hobbies?
- What medication is the patient taking?
- Are there any known allergies?
- Previous and present treatments and their effectiveness?
- Are there any treatments, actions or behavioural changes which influence the condition?
- How have the lesions changed over time?
- Have the lesions spread?
- What was the pattern of spread?
- Is this a sudden onset or has the problem been chronic (present for an extended time or since birth)?
- Has the patient experienced this or a similar problem before?
- How often does it occur or recur?

How often and how recently?

- ***Family background***

The client should be questioned about a family history of diabetes, blood dyscrasis, allergic disorders, cancer or specific dermatologic problems. Many congenital or familial problems such as neurofibromatosis have skin manifestations as the primary or secondary problem. The following questions can be asked:

- Is there a family history of skin disease or genetic disorder?
- Are there other skin disorders in the family?

Is there a history of asthma?

- ***Medical History***

Past medical history would indicate the reasons for scars related to trauma or surgery. Specific major illnesses which could have dermatologic implications include collagen, renal and hepatic diseases. A careful medication history is important, especially in relation to vitamins, steroids, hormones and antimetabolites. Any food, drug or contact allergy and the specific pattern of allergic reaction would be recorded.

- Chronic illnesses
- Recent infections
- Previous skin problems
- Allergies to medicine, food or other substances (e.g. plants, cosmetics, chemicals)
- Trauma to the skin

- ***Medication History***

- Current prescribed medications (systemic/topical)

Over the counter medications (particularly laxatives, cold remedies and similar drugs)

- ***Family Health status***

- Does anyone in the immediate family have a skin condition?
- Does anyone in the family have an allergy?

Paediatric patients;

- Feeding history-breastfed or formula , types of food currently taken
- Diaper history-cleansing routine, type of diaper used
- Types of clothing and washing practices
- Bath practices- bathing routine, including frequency and soaps or oils used
- Dress habits- type and amounts of clothing
- Infant's habits-rubbing of extremities or head on mattress
- Exposure to pets

School aged children

- Dietary habits

- Exposure to communicable diseases
- Known allergies
- Exposure to pets

Physical Examination

Physical assessment is necessary as it will give you clinical information about skin texture and temperature whilst also breaking down the physical barrier, which many dermatology patients experience. Most people are unused to exposing their body to 'strangers'. Other factors such as religion, culture and upbringing should be considered before a physical examination begins.

Physical examination is the most important thing in dermatology; it needs to take place in a warm environment with privacy. Explanation needs to be given as to why you may be undressing the patients when the rash is only on one part of their body. The skin tells a story so it may need to be examined thoroughly, looking at the distribution, character and shape of the lesions. This needs to be done, preferably, in good natural light, which will not change the colour of what is seen. Spend a lot of time describing what you see:

- type of lesion
- pattern of eruption
- Localized, generalized, symmetric.

To examine the patient's skin, you'll use both inspection and palpation-sometimes simultaneously. During examination wear gloves and focus on skin tissue characteristics like colour, texture, turgor, moisture and temperature.

Colour

Begin by symmetrically inspecting the skin's overall appearance. Remember, skin colour reflects the patient's nutritional, hematologic, cardiovascular and pulmonary status.

Observe general colouring and pigmentation, keeping in mind racial differences as well as normal variations from one part of the body to another. Examine all exposed areas of the skin, including the face, ears, back of the neck, axillae, and back of the hands and arms.

Note the location of any bruising, discoloration, or erythema. Look for pallor, a dusky appearance, jaundice and cyanosis. Ask the patient if he has noticed any changes in skin colour anywhere on his body.

Texture

Inspect and palpate the texture of the skin, noting thickness and mobility. Does the skin feel rough, smooth, thick, fragile or thin?

Changes can indicate local irritation or trauma, or they can be a result of problems in other body systems. For example, rough, dry skin is common in hypothyroidism; soft, smooth skin is common in hyperthyroidism. To determine if the skin over a joint is flexible or taut, have the patient bend the joint as you palpate

Turgor

Assessing the turgor, or elasticity of the patient's skin helps you evaluate hydration. To assess turgor, gently squeeze the skin on the forearm. If it quickly returns to its original shape, the patient has normal turgor. If it resumes its original shape slowly or maintains a tented shape, the skin has a poor turgor. Decreased turgor occurs with dehydration as well as with aging, whereas increased turgor is associated with progressive systemic sclerosis, a connective tissue disease.

To accurately assess skin turgor in an elderly patient, try squeezing the skin of the sternum or forehead instead of using the forearm. In an elderly patient, the skin of the forearm tends to be flaccid, so using this site to assess skin turgor would not give you an accurate evaluation of the patient's hydration.

Moisture

Observe the skin for excessive dryness or moisture. If the patient's skin is too dry, you may see reddened or flaking areas. Elderly patients frequently have dry, itchy skin. Moisture that appears shiny may result from oiliness. If the patient is over hydrated, the skin may be oedematous and spongy. Localized oedema can occur in response to trauma or skin abnormalities such as ulcers. When you palpate local oedema be sure to document any associated discoloration or lesions

Temperature

To assess skin temperature, touch the surface using the backs of your fingers. Inflamed skin will feel warm because of increased blood flow. Cool skin results from vasoconstriction. With hypovolemic shock, for instance, the skin feels cool and clammy.

Make sure you distinguish between generalized and localized warmth and coolness. Generalized warmth or hyperthermia is associated with fever stemming from a systemic infection or hyperthyroidism. Localized warmth occurs with a burn or localized infection. Generalized coolness occurs with hypothyroidism; localized coolness with arteriosclerosis

Skin lesions

During your inspection, you may note vascular changes in the form of red, pigmented lesions. Among the most common are haemangiomas, telangiectases, petechiae, purpura, and ecchymosis. Keep in mind that these lesions may or may not indicate disease. You will see telangiectases for instance in pregnant patients as well as in those with hepatic cirrhosis.

Description of a lesion

Character; is there redness (erythema), scaling, crusting, exudate? Are there excoriations, blisters, erosions, pustules, papules? Are the lesions all the same (monomorphic), e.g. drug rash or variable (polymorphic) e.g. chickenpox?

Shape: Are the lesions small, large, annular (ring shaped), linear?

Distribution: Is it acral (hands, feet), extremities of ears and nose, in light exposed areas or mainly confined to the trunk?

Description of a skin lesion

The lesions can be primary or secondary

Primary lesions

Primary lesions are those present at the initial onset of the disease:

1. Macule - a flat mark; circumscribed area of colour change: brown, red, white or tan.
Example: vitiligo

2. Papule - elevated 'spot'; palpable, firm, circumscribed lesion generally less than 5 mm in diameter. Example: scabies/insect bites
3. Nodule - elevated; firm; circumscribed; palpable; can involve all layers of the skin; larger than 5 mm in diameter. Example: erythema nodosum
4. Plaque - elevated, flat topped, firm, rough, superficial papule greater than 2 cm in diameter. Papules can coalesce to form plaques. Example: psoriasis
5. Wheal - elevated, irregular-shaped area of cutaneous oedema; solid, transient, changing, variable diameter; red, pale pink or white in colour. Example: urticaria
6. Vesicle - elevated, circumscribed, superficial fluid filled blister less than 5 mm in diameter. Example: herpes simplex/pompholyx
7. Bulla - vesicle greater than 5 mm in diameter. Example: bullous pemphigoid
8. Pustule - elevated, superficial, similar to vesicle but filled with pus. Example: impetigo

Secondary lesions

Secondary lesions are the result of changes over time caused by disease progression, manipulation (scratching, rubbing, and picking) or treatments.

1. Scale - heaped-up keratinised cells; flaky exfoliation; irregular; thick or thin; dry or oily; variable size; silver, white or tan in colour. Example: psoriasis
2. Crust - dried serum, blood or purulent exudate; slightly elevated; size variable. Examples: impetigo discoid pattern atopic eczema
3. Excoriation - loss of epidermis; linear area usually due to scratching. Example: atopic eczema
4. Lichenification - rough, thickened epidermis; accentuated skin markings caused by rubbing or scratching. Examples: chronic eczema, lichen simplex

The skin as a sensory organ

It is also important to establish the degree of pain, itching and soreness associated with the skin condition. Itching (pruritus) is the principal symptom of dermatological disease and also occurs in numerous systemic disorders. It can be an extremely distressing complaint and is reported as the prime cause of consultations in general practice. It is vital to attempt to identify and treat the

underlying cause of pruritus. The most common cause of itching is a primary skin disease such as eczema, urticaria, lichen planus, psoriasis, dermatitis herpetiformis, insect bites and scabies. Systemic causes of itch include pregnancy, chronic renal failure, cholestasis, thyroid dysfunction, haematological disorders, iron deficiency and internal malignancy.

Investigations

- Skin swabs used in bacterial culture e.g. impetigo
- Gram stains and exudate cultures help to identify the causative organism.
- Skin scrapes for fungal culture and microscopy. It requires removing scales from the skin by scraping and then mixing the scales with few drops of potassium hydroxide on a glass slide. It identifies fungal skin infections e.g. tinea pedis and scabies
- Nail sampling for fungal culture
- Blood tests for serology, autoantibodies, and DNA analysis
- Patch tests identify the cause of allergic contact sensitisation as in allergic contact eczema
- Urine for glucose and cytology in diabetes and vasculitis respectively
- Dermatoscopy for assessment of pigmented lesions in malignancy
- skin biopsy determines the histology of cells and may be diagnostic or confirmatory

ASSIGNMENT

Having studied the assessment section, during your clinical placement practice history taking and physical examination of a patient with a skin condition as important aspects of assessment and record your findings in the note book.).

4.5 Nursing Responsibility In Care Of A Patient With Skin Problems

When assessing the dermatology patient, nurses should try to develop their powers of observation. It is vital to not only listen, but also hear; not only to look, but also see. This will result in increasingly effective prevention and cure of disease and greater success in health promotion. Nurses have the responsibility of:

- Educating patients about their skin condition management
- Help control the skin condition by providing physical care, and maintaining the integrity of the skin through the administration of drugs, especially topical treatments.

- Maintain comfort of the patient by tackling distressing symptoms and effects such as itch, soreness, dryness, bleeding and pain
- Monitoring and educating about specific medication, use and side effects
- Adapt skin care regimes to suit individual patients and their families
- Support patients - support groups, coping strategies, stress management, counselling, listening and talking
- Provide time for the patient
- Provide continuity of care

Therefore nurses should be aware of the wide-range of effects a skin disease can have on individuals and their families. It is important that nurses understand the basic principles of skin disease and care, but also aware of their limitations, seeking further advice as necessary.

Now that you have come to the end of this section, answer the question that follows before you move on to the next section.

ACTIVITY

Write down the nursing responsibilities when assessing a client with skin infection in your note book and compare your answer with the notes in the previous lecture. Well done.

4.6 Management Of A Patient With Common Conditions Of The Skin.

This sub unit will lead you to discuss the conditions affecting the skin. These may be caused by viruses, bacteria, fungi or protozoa and are discussed as follows:

Viral Infections

HERPES SIMPLEX VIRUS INFECTIONS

Definition: Diseases caused by infections with herpes simplex virus type 1 (HSV-1) or type 2 (HSV-2).

Pathogenesis

Initial infection:

HSV enters via small defects in skin or mucosa and starts to replicate locally. The infection spreads via axons to sensory ganglia where further replication occurs. After resolution of the primary infection, the virus remains latent in the sensory ganglia.

Recurrent infection: reactivation of virus by various stimuli (UV light, fever) as well as local or systemic immunosuppression. This leads to seeding of the virus into area served by the sensory ganglia and thus to local recurrences.

Epidemiology:

- Almost everyone suffers from HSV-1 infection; the first infection is silent in 90%, non-specific in 9%, and clinically manifest in only 1%.
- Infection occurs in childhood.
- HSV-2 appears after start of sexual activity and affects 25–50% of population. Both viruses can be shed when patient is asymptomatic, easing transmission.
- Herpes simplex virus infections

Clinical features:

- Common findings:
- Incubation period 6–8 days.
- – Both HSV types can cause oral and genital infections; their clinical presentations are identical.
- In the genital area, the recurrence rate for HSV-2 infections is 10× greater than for HSV-1, while with oro-facial infections, HSV-1 has a significantly higher recurrence rate.
- Herpes simplex virus infections

Diagnostic approach:

- Clinical findings usually so typical that laboratory investigations not needed.
- *Most rapid approach: Tzanck smear searching for multinucleated giant cells.*
- Identification of virus: immunofluorescent staining of smear with monoclonal antibodies, PCR, electron microscopy, culture.
- Serology (ELISA): most useful for epidemiological studies.

- Herpes simplex virus infections

Differential diagnosis:

- Early zoster :
- Deciding between HSV and early zoster can be difficult but zoster should be unilateral and not recurrent.
- HSV also develops more rapidly following immunosuppression than does VZV.
- Herpes simplex virus infections

Therapy:

- Systemic treatment with acyclovir, valaciclovir, or famciclovir.
- Prophylaxis for recurrences: If patient has more than six recurrences yearly, consider acyclovir 400mg p. o. b.i.d. or valaciclovir 1000mg p. o. daily.
- Use for one year; then vacation to check for improvement.

VARICELLA (Chickenpox)

Definition: Initial infection with varicella-zoster virus (VZV).

Clinical features:

- Highly infectious childhood disease.
- Incubation period 2–3 weeks.
- Typically starts with red maculae on trunk, oral mucosa and scalp, which rapidly become vesicular and pustular; later crusts.
- Characteristic lesion: 1–2cm oval erythematous macule with central blister.
- Children are usually not very ill, but adults often have systemic symptoms and even pneumonia

Diagnostic approach: Usually clinical; Tzanck smear, immunofluorescent.

Therapy:

- Drying lotions, antihistamines for itch, antibiotics (topical or systemic) for secondary infections.
- Systemic acyclovir is rarely used, but slightly reduces course of disease.
- **Immunization:** Varicella vaccine is a routine part of childhood immunizations

ZOSTER (Herpes Zoster, Shingles)

Definition: Herpes zoster, also called shingles, is an infection caused by the varicella-zoster virus, a member of a group of DNA viruses (Smeltzer et al, 2010) or segmental (dermatomal) painful skin disease caused by reactivation of Varicella Zoster Virus.

The viruses that cause chickenpox (varicella) and herpes zoster are indistinguishable, hence the two-part name. The disease is characterized by a painful vesicular eruption along the area of distribution of the sensory nerves from one or more posterior ganglia. After a case of chickenpox runs its course, the VZV responsible for the outbreak lies dormant inside nerve cells near the brain and spinal cord. Later, when these latent viruses are reactivated because of declining cellular immunity, they travel by way of the peripheral nerves to the skin, where the viruses multiply and create a red rash of small, fluid-filled blisters (Smeltzer et al, 2010).

Epidemiology:

- 10–20% of seropositive adults develop clinically apparent zoster.
- Peak age 50–70; in younger patients think of HIV and iatrogenic immunosuppression.
- ZOSTER (Herpes Zoster, Shingles)

Pathogenesis:

Following the initial varicella infection. VZV persists life-long in the sensory ganglia of the spinal cord and cranial nerves. When reactivated, it follows the associated nerves into the skin; thus both the peripheral nerve and the skin of its dermatome involved.

Clinical features:

- *Prodromal phase:* dysesthesias or pain in distribution of the affected nerve without visible skin changes.
- Eruption of grouped vesicles and then pustules on an erythematous base.
- The eruption is usually accompanied or preceded by pain, which may radiate over the entire region supplied by the affected nerves.
- The pain may be burning, lancination (tearing or sharply cutting), stabbing, or aching.
- Some patients have no pain, but itching and tenderness may occur over the area.
- Malaise and gastrointestinal disturbances may precede the eruption.
- The patches of grouped vesicles appear on the red and swollen skin.
- The early vesicles, which contain serum, later may become purulent, rupture, and form crusts.

- The inflammation is usually unilateral, involving the thoracic, cervical, or cranial nerves in a band like configuration.

Therapy:

Acute zoster:

- Drying measures (zinc oxide lotion, calamine lotion). Herpes zoster infection can be arrested if oral antiviral agents such as acyclovir are administered within 24 hours of the initial eruption.
- IV acyclovir, if started early, is effective in significantly reducing the pain and halting the progression of the disease.
- In older patients, the pain from herpes zoster may persist as post herpetic neuralgia for months after the skin lesions disappear. Pain is controlled with analgesics because adequate pain control during the acute phase helps prevent persistent pain patterns.
- Systemic corticosteroids may be prescribed for patients older than 50 years of age to reduce the incidence and duration of post herpetic neuralgia (persistent pain of the affected nerve after healing).
- Ophthalmic herpes zoster occurs when an eye is involved. This is considered an ophthalmic emergency, and the patient should be referred to an ophthalmologist immediately to prevent the possible sequelae of keratitis, uveitis, ulceration, and blindness.

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MOLLUSCUM CONTAGIOSUM

Definition: Multiple umbilicated papules or nodules caused by molluscum contagiosum virus; mollusca contagiosa

Epidemiology:

- Predisposing factors include atopic dermatitis, immune defects, immunosuppression, HIV/AIDS.
- Most patients are children

Clinical features:

- Incubation period days to several months.
- Skin-colored, 1–5mm umbilicated papules, often arranged in groups or linear fashion.

- Sites of predilection include face, neck, eyelids, axillae in children; genital region in adults; disseminated in atopic dermatitis or HIV/AIDS.
- In patients with HIV/AIDS, giant molluscum contagiosum are possible.

Therapy:

- Solitary lesions can be destroyed with curettage or a sharp tweezers.
- Application of salicylic acid plasters is another approach.

COMMONWARTS (Verrucae vulgares).

Definition: Hyperplastic tumors induced by Human Papilloma Virus (HPV).

Clinical features:

- Hyperkeratotic papillomatous tumors, usually 2–6mm in diameter.

Characteristic findings are loss of skin markings and intralesional hemorrhagic dots or streaks

Most common sites are acral—hands, feet. On fingers, frequently periungual **Therapy:**

- Most common warts, especially in children, resolve spontaneously.
- Cryotherapy.
- Application of salicylic acid.
- In resistant cases, Imiquimod with aggressive removal of scale.

Bacterial Skin Infections

FOLLICULITIS

Definition: this is an infection of bacterial or fungal origin that arises within the hair follicles (Smeltzer et al, 2010).

Causes

The most common forms are caused by invasive staphylococci, but other bacteria, viruses, and fungi may also be responsible and other forms (eosinophilic folliculitis in HIV/AIDS) are non infectious.

Mechanical irritation is also a factor, such prolonged sitting (*truck driver folliculitis*) or tight clothes (*blue jean folliculitis*); *exposure to cutting oils is another factors.*

Clinical features:

- Tiny pustules with erythematous border localized in superficial aspect (infundibulum) of follicle

- Localization: In children, usually scalp; in adults, trunk, buttocks, thighs, beard area.

Therapy:

- Topical antiseptics or antibiotics (fusidic acid or erythromycin).
- If lack of response, systemic antibiotics (penicillinase-resistant penicillins or first-generation cephalosporin for 7–10days).

IMPETIGO (BULLOUS IMPETIGO)

Definition: Impetigo is a superficial infection of the skin caused by staphylococci, Streptococci, or multiple bacteria (Smeltzer et al, 2010)

Pathogenesis

- Staphylococci in phage group II produce a toxin, exfoliating, coded by the phage virus, which is capable of splitting the epidermis in the stratum granulosum.
- This action produces large superficial blisters or more diffuse superficial skin loss

Clinical features

- Most patients are neonates (neonatal pustulosis) infants, or small children.
- Sudden appearance of small blisters that rapidly enlarge; little associated erythema. Soon form yellow crusts.

Diagnostic approach: Bacterial culture; see if siblings have similar lesions.

Therapy:

- Topical antiseptics or fusidic acid.
- Systemic antibiotics (penicillinase-resistant penicillins or first-generation cephalosporins) may slightly speed course of healing.

ERYSPELAS

Definition: acute superficial cellulitis involving dermal lymphatics; caused by group A streptococci.

Pathogenesis:

There is usually a portal for entry. On the face, it is often herpes simplex; on the legs, interdigital tinea with maceration. The streptococci come from nasal or perineal carriage, or from respiratory tract infections.

Clinical features:

- Bright red, sharply demarcated, rapidly spreading erythematous patch.
- On the face, usually symmetrical involving the cheeks.
- On the legs, unilateral with associated swelling.
- Fever, chills, malaise.

Therapy:

- High-dose penicillin IV, raise limb; cool compresses.
- Later attempt to address portal of entry; consider compression.

CELLULITIS

Definition: Deep infection involving dermis and subcutaneous fat, and often extending to muscles or bones.

Pathogenesis:

Staphylococci and streptococci are the most common causes. But many other organisms may be involved including *Clostridium* (gas gangrene), *Haemophilus influenzae* (facial cellulitis), Gram-negative bacteria, and often mixed infections. Often a history of trauma or impaired circulation

Clinical features: Localized deep erythematous process usually associated with systemic signs and symptoms.

Therapy:

- Culture-directed systemic antibiotic therapy.
- Incision and drainage may also be needed.

Fungal Infections**TINEA INFECTIONS**

Tinea or ringworm is the name given to superficial fungal infections of the skin. These fungi live in the stratum corneum and feed on keratin. They are also called dermatophytes and belong to three general fungi:

- Microsporum
- Trichophyton
- epidermophyton

BODY RINGWORM (TINEA CORPORIS)

Fungal infection of the skin, most common on the exposed surfaces of the body, namely the face, arms and shoulders. Tinea or ringworm presents in typical round lesions, which show scaling at the periphery, or in concentric rings, usually one or a few lesions are seen and only topical treatment is necessary. Multiple, large or widespread lesions may be seen if a patient delays seeking treatment for a long time or in malnourished or immunosuppressed states.

Clinical Features

Round, expanding lesions with white, dust-like scales and distinct borders, found on the body, face or limbs.

Treatment

- An imidazole cream (miconazole 2%)- Apply Locally 2-3 times a day for 7 days or Whitfield's ointment twice daily for a minimum of 4 weeks
- Continue treatment until one week after symptoms have cleared.
- Multiple, widespread lesions may be treated systemically:
- Griseofulvin 500mg once daily for 2 to 6 weeks + Whitfield's ointment twice daily in adults or griseofulvin 10mg/kg once daily + Whitfield's ointment twice daily for 2 to 6 weeks in children or
- Ketaconazole 200mg once daily + Whitfield's ointment twice daily for 2 to 6 weeks in adults or ketaconazole 5mg/kg once daily + Whitfield's ointment twice daily for 2 to 4 weeks in children + Whitfield's ointment twice daily or
- Terbinafine 250mg once daily + Whitfield's ointment twice daily for 1 week in adults.

TINEA CAPITIS (SCALP RINGWORM)

Scalp ringworm is common in children. The fungus has usually grown into the hair follicle and hence topical treatment is unlikely to be effective. Severe pustular forms exist with follicular pustules and nodules and often massive purulent secretion. Lymph nodes in the neck swell and the patient may have a fever and headache. There may be bacterial super infection. Systemic treatment is necessary to prevent scarring leading to permanent bald patches.

Treatment

- Griseofulvin 500mg once daily for 4 weeks in adults.
- Griseofulvin 10mg/kg once daily for 4 weeks in children
- Continue treatment after 4 weeks if the infection has not cleared completely.
- Alternative: Terbinafine 250mg once daily in adults or terbinafine 125mg once daily in children + Whitfield's ointment twice daily for two weeks.
- Ask for signs of infection in siblings or friends of affected children or in pets or farm animals (bald patches, rash] and have these treated.
- In case of bacterial super infection: antiseptics and/or antibiotics.

TINEA UNGUUM (ringworm of the nails)

Fungal infection of the nails is common, especially of the toenails in the elderly, where it generally does not require treatment. There may be a mixed fungal and yeast infection of toenails and/or fingernails.

Chronic paronychia is a chronic inflammation of the skin around the nail caused by mixed or yeast infections. It often occurs in people who frequently wet their hands such as domestic workers, cleaners, and kitchen and laundry staff.

Management of Tinea Unguum

Infection of the toe nails:

- Usually this does not require any treatment. Thickened toenails may be softened using Whitfield's ointment or urea 10% to 40% ointment, and then thinned with a stone or a file.
- Systemic treatment is sometimes indicated e.g. when there is pain or when the patient is young.

Infection of the finger nails:

- Griseofulvin 500mg once daily in adults or griseofulvin 10mg/kg once daily in children. Continue treatment until the affected nails have grown out completely i.e. up to 1 year in toenails and up to 4-9 months in fingernails.
- If there is no improvement after 2-4 months, there may be a mixed infection (griseofulvin only treats fungal infections, not yeast infections) or resistance. One of the systemic azoles should be given, e.g. ketoconazole 200mg once daily in adults or ketoconazole 5mg/kg once daily in children until symptoms clears.

Chronic paronychia:

Keep dry Work conditions may need adapting. Bathe in betadine or potassium permanganate solution followed by application of an imidazole cream twice daily.

TINEA PEDIS (Fungal / Athlete's Foot)

This is a very common fungal infection and is often the source of infection at other sites and it's more common in males that put on protective shoes and people who work in places like mines.

Clinical Features

White scaling between the 4th and 5th toes or between 3rd and 4th toes on one foot only and can spread to the dorsum of the foot

Differential Diagnosis

- Candida, erythrasma, eczema, psoriasis and lichen planus

Treatment

- Keep the feet as **dry** as possible, and as far as possible avoid wearing socks / closed-in shoes.
- Treat any bacterial super infection first, then treat the fungal infection as follows:

Imidazole cream (miconazole 2%)-Apply Local 2-3 times a day for 7 days

Griseofulvin 500mg PO OD 4 weeks

Whitfield's ointment applied twice daily until it clears

TINEA CRURIS (ringworm of the groin, buttocks and upper thighs)

A fungal infection of the groin, buttocks and upper thighs usually acquired from the patient's own feet. (i.e. he also has tinea pedis). A scaly plaque grows out from the groin crease which, like tinea corporis, has a raised scaly edge. It is usually asymmetrical, but can be bilateral and symmetrical in patients who live in hot, humid environment or those with HIV infection.

Treatment

- Whitfield's ointment applied twice to the groin.
- Alternative treatments are imidazole creams applied twice for 2 weeks.

PITYRIASIS VESICOLOR

This is a common, chronic, superficial fungal infection which is caused by the yeast *Pityrosporum*. It is usually asymptomatic, causing only cosmetic complaints. *Pityrosporum* is a normal skin resident predominantly of seborrheic areas which becomes pathogenic under favourable circumstances: warmth and humidity, pregnancy, serious underlying disease or a genetic predisposition. On the scalp the infection presents as dandruff, from there the neck and upper trunk become infected. Recurrences are common, especially after inadequate treatment.

Clinical features

- The onset is gradual
- The lesions are macular and are fawn
- They are well defined, covered with fine branny scales
- Commonly affect the chest, back and axillae.
- Those affected usually wear woollens, often sleep and bath seldom.

Diagnosis

This is made by finding the fungus in scales. The infection must be distinguished from vitiligo, chloasma and other pigmentary disorders.

Management of pityriasisversicolor

- Scrubbing of the skin with a brush takes away a lot of the infected scales
- Do not use Vaseline
- An imidazole cream twice daily on affected areas for 4 weeks. Add selenium sulphide shampoo or ketaconazole 2% shampoo (expensive) twice weekly for the scalp if lesions are widespread or if they are recurrences or
- Selenium sulphide suspension (e.g. Selsun shampoo) to affected areas and the scalp for 10 minutes daily for 2-4 weeks or

- Propylene glycol 50% in water applied twice daily to affected areas + scalp for 2-4 weeks or
- Salicylic acid 5% + sulphur 5% ointment overnight for 2-4 weeks or
- Salicylic acid 5% gel or lotion overnight for 2-4 weeks or
- In severe recurrent cases: ketoconazole 400 mg ketoconazole 200mg stat or ketoconazole 200mg once daily for 5 days.
- Treatment is complete when all the scales have disappeared. The hypopigmentation may persist for some time and will re-pigment faster when exposed to the sun.

CANDIDIASIS

Candida is resident yeast of the mucous membranes. It becomes pathogenic under favorable host conditions. These are:

- When host immunity is decreased in HIV infection and cancer patients or by systemic steroids, cytotoxics, and radiotherapy
- Pregnancy and contraceptive pill use.
- Warmth and moisture (babies' nappy area, groin, under breasts, between toes).
- Use of broad-spectrum antibiotics which kill resident non-pathogenic bacteria.
- Diabetes mellitus.

Clinical features

Candidiasis or thrush presents on the skin as red macules often with small pustules on their periphery which break down as the lesion spreads outwards. On the oral and vulvo-vaginal mucosa redness, superficial erosions and white adherent plaques may be seen. These can be itchy and painful. When oral lesions extend to the throat and oesophagus they can cause anorexia. Infection of lips / corners of the mouth also occur. Severe mucosal candidiasis is often seen in HIV infection.

Management Of Candidiasis

- Treat large oozing lesions with potassium permanganate dressings or baths for 10 minutes twice daily. Keep affected skin dry.
- Paint mucosal or smaller wet lesions with Gentian Violet solution once daily until healed.
- Application on normal skin or on large areas is very unsightly.

- Nystatin ointment or cream twice daily for skin, nystatin oral suspension (1ml) swirled around mouth four times daily until two days after clinical cure for oral candidiasis, nystatin pessaries nightly for 2 weeks for vaginal candidiasis.
- An imidazole cream twice daily for skin infections, miconazole oral gel 5mls 4 times daily for 1 week for oral thrush, imidazole pessaries 1-3 nights for vaginal thrush
- In severe cases e.g. oesophageal thrush ketoconazole 200mg twice daily for 1-2 weeks. Other systemic azoles (itraconazole, fluconazole) are also effective.

Treatment duration may need to be extended in immuno-compromised patients

- *Griseofulvin is not an effective treatment for candida infections*

Skin Infestations

Having looked at skin infections caused by various organisms, let us now shift our attention to skin infestations.

MYIASIS

This is an infection by larvae (maggots) of dipterous insects. Any part of the body may be affected, but the skin and sub cutaneous tissue, eyes, ears, nose, and intestinal and urinary tracts are more frequently involved.

Myiasis: Is found worldwide, although it occurs mainly in tropical areas where socio economic condition favour the development of flies in South America and tropical Africa infestations occur in cattle indigenous mammals and man.

Cause: Tropical fly, Tumb fly, mango fly and Congo floor fly.

Symptoms: Tender furunculoid lesions, severe pain may be caused by movements of spiny larvae, pruritus is common. Nasal myiasis causes pain, epistatic and nasal obstruction, Myiasis of urinary tract and gastro intestinal causes systemic symptoms.

Treatment: In furunculoid lesions the larva is killed by closing the opening with petrolatum, the larva may then be gently removed. Surgical excision is needed in resistant cases.

SCABIES

Scabies is a parasitic infection of the skin caused by the mite *Sarcoptes scabiei*. Infection is transmitted by skin-to-skin contact, including sexual intercourse. Household contacts of infected persons may become infected through close body contact. If untreated it spreads to all members

of the household.. The disease may be found in people living in substandard hygienic conditions, but it can occur in anyone. The mites frequently involve the fingers, and hand contact may produce infection.

Clinical features

The main symptoms of infection are itchiness and a rash. The itching becomes worse at night and after a hot bath. Usually there is an itchy, excoriated, non-specific rash on the trunk, associated with scaly burrows in the web spaces of the fingers, on the wrists and on the ulnar margins of the forearms and on the buttocks, periumbilical and genital areas, axillae and inner aspects of the feet.

All close contacts in the same household, especially children and the elderly should be treated at the same time.

Sexual contacts of persons with scabies should also be treated.

Clothing and bedding should be washed pressed and left to dry in the sun.

Management of scabies

Treatment of scabies in adults after normal bathing, apply:

- Gammabenzenehexachloride lotion(1%) Apply from neck down to toes. Local Apply once and wash off after 24 hours Single application

Treatment of scabies in children

- After normal bathing, apply Gammabenzenehexachloridelotion (1%) Apply from neck down to toes Local Apply once and wash off after 12hoursSingleapplication

.

CAUTION: Hot baths and scrubbing should be avoided to prevent systemic absorption.

Treatment of scabies in pregnant women, in lactating women and in children less than 6 months of age

Benzyl benzoate emulsion (25%) Apply from to toes Local Apply nightly and wash off after 12hours3 nights and repeating 10 days if necessary

OR

- Sulphur ointment 5-10% (for infants) Apply from neckdown to toes
- Local Twice daily 10-14 days
 - For children dilute benzyl benzoate with one part water 1:1
 - For infants dilute benzyl benzoate with 3 parts water 1:3

- If there is secondary bacterial infection (“septic sores”), treat as for impetigo for 4-5 days. Only apply scabicide once lesions are closed.
- Advise that the itch may continue for several weeks. This can be relieved by applying Calamine lotion Apply Local As needed As required

OR

- Chlorpheniramine maleate 4mg PO TID 3 days

Paediatric doses:

- Chlorpheniramine maleate 0.1mg/kg PO TID for 3 days

Nursing Management

Hygiene- The patient should wear clean clothing and sleep between freshly laundered bed linens. All bedding and clothing should be washed in hot water and dried on the hot dryer cycle. If bed linens or clothing cannot be washed in hot water, dry cleaning is advised. After treatment is completed, the patient should apply an ointment, such as a topical corticosteroid, to skin lesions because the scabicide may irritate the skin.

Prevention and control

The patient’s hypersensitivity does not cease on destruction of the mites. Pruritus may continue for several weeks as a manifestation of hypersensitivity, particularly in atopic (allergic) people. This is not a sign that the treatment has failed.

The patient is instructed (1) not to apply more scabicide, because it will cause more irritation and increased itching, and (2) not to take frequent hot showers, because they can dry the skin and produce pruritus. Oral antihistamines such as diphenhydramine or hydroxyzine can help control the pruritus.

All family members and close contacts should be treated simultaneously to eliminate the mites. Some scabicides are approved for use in infants and pregnant women.

If scabies is sexually transmitted, the patient may require treatment for coexisting sexually transmitted disease. Scabies may also coexist with pediculosis

ONCHOSERCIASIS

Onchocerciasis is due to the filarial worm, *onchocerca volvulus*. It is transmitted by the bite of black flies, *Simulium Damnosum* in West Africa and *Simulium Neavi* in East Africa. The flies suck human blood containing microfilaria and then inject the larvae into the next victim. Numerous bites over many years are needed for infestation to occur. The flies breed near fast flowing rivers, so humans who live, work or play near these rivers are most at risk. The injected larvae mature to adult worms in about 3 months and these live in nodules in the dermis, mainly around the pelvic girdle. The female may be 50-60cm long and can produce more than 1000 microfilaria per day which goes to the skin and eyes.

Signs and symptoms

- Microfilaria produces a very itchy rash
- The skin becomes lichenified and so thick that it is likened to elephant skin
- After some years the loss of elastic fibres in the dermis leaves the skin wrinkled like tissue paper. This together with inguinal lymphadenopathy gives rise to the typical hanging groin.
- On the shin there is spotty depigmentation known as leopard shins

Diagnosis

- Remove a small snip of the skin with a scalpel blade and place it on a glass slide with a drop of normal saline. Cover the slide and leave it for half an hour.

Remove one of the onchocercal nodules from around the hips, cutting it across and seeing the adult worms or send for histology

Treatment

A single dose of Ivermectin 200ug/kg body weight, once a year. This makes the microfilaria leave the skin and go to the lymph nodes where they die. The adult worms are not affected so the drug needs to be given once a year until the adult worms die (10-15 years).

PEDUCULOSIS

Any human infestation of parasitic forms of lice is known as pediculosis. It occurs anywhere on the body; the most common species are pediculosis capitis, feeds on the scalp and rarely in the eyebrows, eyelashes and beard. Pediculosis corporis (body lice) lives next to the skin in clothing seams, leaving only to feed on blood. Pediculosis pubis is found primarily in pubic hairs but also may extend to the eyebrows, eyelashes and axillary or body hair.

All these types of lice feed on human blood and lay eggs (nits) in body hairs or clothing fibres. After the nits hatch, the lice must feed within 24 hours or die; they mature in about 2 to 3 weeks. When the louse bites, it injects a toxin into the skin that produces mild irritation and a pruritic spot. Repeated bites cause sensitization to the toxin leading to more serious inflammation. In severe cases, wheals or a rash may appear on the trunk caused by sensitization to the parasite. Headache, fever and malaise also may occur, along with cutaneous changes.

PEDICULOSIS CAPTITIS

Incidence

Relatively common; Pediculosis capitis is found mainly in children and neglected adults with poor hygiene. Women, girls and men with long hair are more frequently affected; It is transmitted through intimate personal contact and items that are shared, such as hats, brushes and combs.

Symptoms

Severe pruritus, pronounced secondary bacterial infection may cause malaise, fever and other symptoms

Cause

Pediculus humanus (head louse) a six – legged, wingless insect 1 to 3mm in length, greyish in colour becoming reddish when engorged with blood. It has head thorax and an elongated abdomen. As it pierces the skin to feed, it injects a poisonous secretion. The ova hatch in about one week, in 2 weeks insects reach maturity.

Differential Diagnosis

Tinea capitis, seborrheic dermatitis pyoderma and infective eczema **Treatment**

Gamma benzene hexachloride shampoo is recommended. Crotamiton cream or benzyl Benzoate lotion is also effective. Vigorous brushing and combing with fine toothed comb will remove the nits. If necessary treatment should be repeated after 5 days.

PEDICULOSIS CORPORIS

This louse lives in clothes and only leaves them to have a meal off the skin. The eggs are laid in underclothing. Scratch marks are the only lesion of this infestation. Body lice are the cause of typhus, trench fever and relapsing fever

Treatment

Give the patient a hot bath, and following this with the application of dicophane dusting powder not forgetting the underclothes.

PEDICULOSIS PUBIS

This may be contracted during sexual intercourse, or from bedding. It is commonly found in the pubic area, but also in the axillae, and on the eyelashes and chest. Itching may be severe, and the louse should be looked for in cases of pruritis ani and vulvae.

Treatment

It is the same as for pediculosis capitis.

SELF TEST

Among the infestations of the skin pediculosis caputis is found on the pubis. T/ F
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Allergic Reactions And Disorders

In this section you will look at allergies which are a reaction arising from either food or other materials that cause histamines to be produced. These include:

URTICARIA

This is an itchy rash due to the release of histamine in the skin. The features are therefore the same as Lewis' triple response, i.e. Erythema, followed by oedema and then an erythematous flare. It can be due to a type I allergic reaction, e.g. after penicillin or certain foods or more

commonly it is associated with taking aspirin or having intestinal worms. Sometimes no cause can be found. It is the most common rash where individual lesions come and go within few days

Treatment

Treat or remove the underlying cause if possible. If it is due to a drug or food, avoid it in future. If it is due to intestinal worms they can be eradicated with the appropriate treatment. If no cause is found, give a long-acting antihistamine by mouth, e.g. promethazine 25mg nocte, until it gets better spontaneously. Non-sedative long-acting antihistamines, such as cetirazine 10mg nocte or loratidine 10mg per day are preferable to promethazine but are much expensive.

ECZEMA/ DERMATITIS

Definition: Dermatitis is a superficial inflammation of the skin characterised by redness, oedema, oozing crusting, scaling and sometimes vesicles (Beer M.H et al,2006).

The terms eczema and dermatitis are often used to describe the same condition. Eczema is a non-infectious inflammation of the skin. It may be acute, subacute or chronic and is influenced by many factors, i.e. constitutional, irritant (Vaseline!), allergenic, heat, stress, infection etc. An acute eczema characteristically shows redness, swelling, papules, blisters, oozing and crusts. Progressing to the subacute stage the skin is still red but becomes drier and scaly and may show pigment changes and in the chronic stage there is lichenification, excoriations, scaling and the forming of cracks. There are many different types of eczema; the most common ones will be presented. They may have predominantly acute, subacute or chronic phases. Itching is often the major complaint.

ATOPIC ECZEMA

Atopic dermatitis is an immune mediated inflammation of the skin. Atopic eczema is a multifactorial skin disease seen in patients with an atopic constitution. This means that they have a

genetic pre-disposition for hypersensitivity reactions such as asthma, hay fever and atopic eczema. The eczema comes and goes and may be triggered or worsened by dryness of the skin, infections, heat, sweating, contact with allergens or irritants and emotional stress.

Atopic eczema in children and adults appears in elbow- and knee folds, on the wrists and ankles and on the face and neck; in some cases it may become generalized. Itchiness is an important feature. In long-standing disease lichenification is common.

Management of atopic eczema in children and adults

Explain to the patient the recurrent nature of the disease. Take time to explain daily skin care as described below, and how to use the drugs prescribed.

- Stop the use of irritants such as Vaseline and soap. Avoid temperature extremes and contact with wool. Use a non-greasy moisturizer such as aqueous cream, if the skin is very dry urea 5% or 10% cream. Soap is an irritant, especially if not rinsed off properly after use. In active phases of eczema; use aqueous cream or emulsifying ointment as a soap.
- In severe eczema, the patient should take rest.
- Lesions: -A mild topical steroid such as hydrocortisone 1% cream for acute or wet, ointment for chronic or dry lesions) once to twice daily until lesions clear, usually 1 or 2 weeks.
- In severe or refractive cases a stronger steroid e.g. betamethasone 0,1% once daily for 1 – 2 weeks. Do not use strong steroids in the face.
- Always use topical steroids intermittently when they are used over longer periods of time.
- Chronic cases with lichenification: coal tar 2-6% paste/ointment at night.
- For severe itchiness; use antihistamines e.g. promethazine 25 mg nightly.
 - For bacterial superinfection use betadine scrub as a soap or when weepy bathe in potassium permanganate 1:4000 solution. In severe or widespread infection give antibiotics (cloxacillin, erythromycin) as in impetigo.

INFANTILE ECZEMA

In infants atopic eczema is often popular and tends to occur on the face and neck, the trunk, the hands and feet, which may be scratched open causing bacterial super infection. The major complaint these infants have is itching. Often young infants also have seborrhoeic eczema on the scalp, in the nappy area and body folds. Attempts to differentiate between the two can become

difficult. For practical purposes the term infantile eczema is therefore used. In the majority of cases the course is chronic recurrent up to age 2 to 3 years, after which the eczema disappears. In a minority it progresses to childhood and adult atopic eczema.

Management of infantile eczema

- Explain to the parents the recurrent nature of the disease. Also reassure them that the eczema will most likely clear completely after some months to years. Explain how to take care of the skin and how to use topical medications.
- Stop the use of irritants such as Vaseline and excessive use of soap, contact with wool, excessive sweating and temperature extremes. Bathe the baby using aqueous cream or emulsifying ointment as soap or a few drops of baby-oil or even cooking oil in the bath water. Use a non-greasy moisturizer such as aqueous cream or baby-lotion.
- Keep fingernails short; cover itchy lesions with loose, airy clothing.
- Lesions: - A mild topical steroid such as hydrocortisone 1% once to twice daily until lesions clear, usually 1 or 2 weeks. Continue aqueous cream etc. and re-apply steroid only when lesions recur.
- In chronic cases with lichenification: coal tar 2-6% paste or ointment *nightly* because of its photosensitizing potential in the sun.
- Eczema in the nappy area, armpits and on the scalp is usually seborrhoeic in origin: use an imidazole cream twice daily. In the nappy area cover the imidazole with a thick layer of zinc oxide paste.

Itchiness: only in severe cases use a sedating antihistamine like promethazine. Take care not to overdose in infants.

- For super-infection use betadine scrub or bathe in potassium permanganate 1:4000 solution (this is pink, not purple, a purple solution is too strong, it will stain the skin and cause irritation) and if necessary antibiotics (cloxacillin, erythromycin).

SEBORRHOEIC ECZEMA

This inflammation of the skin with high density of sebaceous gland (face, scalp and upper trunk (Beer et al, 2006)). This is a dermatitis with classically greasy scales on seborrheic areas of the skin, scalp, border of forehead/scalp, behind ears, above and in between eyebrows, in Naso labial folds, chin, the sternum, the middle of the upper back, in between the shoulder blades, axillae and groin. It is multifactorial; constitutional and stress factors play a role as well as yeast, *pityrosporum ovale*, which is found in sebaceous glands. Patients often complain of oily skin as a result of their pronounced sebum production.

The eczema comes and goes.

In mild cases only the face, scalp and chest are affected. Sometimes, commonly in case of immunosuppression such as in HIV infected persons, the eczema can become very widespread and easily super infected. It often occurs in armpits and groin and is conspicuous behind the ears. It may generalize to cover the entire skin. Usually you will still find the typical greasy scales in e.g. the nasolabial folds. The entire skin is inflamed, red to a darker shade than normal.

Management of seborrheic eczema

- Stop Vaseline, use a non-greasy moisturizer or none.

For minor lesions e.g. only on seborrheic areas in the face and on the scalp

- An imidazole cream can be used twice daily (fights *pityrosporum*), hydrocortisone cream twice daily or a combination of the two. For chronic scaling salicylic acid 2-5% ointment. Warn the patient that the eczema will probably recur.

For acute and severe, widespread lesions (usually infected)

- Use Hydrocortisone cream once or twice daily.
- An imidazole cream can be used twice daily.
- Ketoconazole 200mg once daily or 200 mg on alternate days per os 1-3 weeks.
- Antibiotics and betadine scrub/potassium permanganate solution as required.

For chronic recurrent widespread lesions

- At night: Coal tar 2-6% in zinc paste or coal tar ointment or coal tar + sulphur 5-10% ointment (not on wet lesions). Wash off in the morning.
- Day time: Hydrocortisone cream or betamethasone cream once daily and/or an imidazole cream twice daily.
- Salicylic acid 2% or 5% ointment twice daily for scaling lesions.
- Systemic ketaconazole in low doses as above may be added when severe.
- Antibiotics and antiseptics as required.

INFECTIVE ECZEMA

This is an eczema which occurs as a response to an oozing skin infection. This most common localization is the foot/ankle region. Causative organisms are usually staphylococci or streptococci. The use of Vaseline often aggravates the condition.

Management of infective eczema

- Stop the use of Vaseline
- Treat the infection with antibiotics (cloxacillin, erythromycin) and/or antiseptics (betadine solution/scrub, potassium permanganate baths).
- When dry, add a topical steroid, starting with hydrocortisone cream twice daily.
- Prevent recurrences by preventing irritation (no Vaseline, sweating) habitual scratching (instruct the patient, use aqueous cream, calamine lotion, keep fingernails short, cover at night) and infection (use betadine scrub as a soap for 4 weeks).

CONTACT ECZEMA

Contact dermatitis is an inflammatory reaction of the skin to physical, chemical, or biologic agents (Smeltzer et al, 2010). The epidermis is damaged by repeated physical and chemical irritations. Contact dermatitis may be of the primary irritant type, in which a non allergic reaction results from exposure to an irritating substance, or it may be an allergic reaction resulting from exposure of sensitized people to contact allergens.

Chronic Irritant Contact Eczema is caused by excessive, repeated contact of an irritant with the skin. Vaseline commonly causes “**Vaseline dermatitis**”, which presents

with papules and pustules on the lower legs, often of school girls. Other common causes of irritant contact eczema on hands, arms and legs are excessive use of water, soap (especially if not washed off properly after use) and detergents, and many types of chemicals (e.g. alkaline and acid solutions, organic solvents such as alcohol, benzene, toluene, gasoline). Saliva may cause “lip-licking disease” through repeated wetting of the skin around the lips.

- **Acute and chronic allergic contact eczema** develops after sensitization to an allergen through previous contacts with the same allergen.
- **Acute allergic contact eczema**
 - The contact site shows redness, small or large blisters which on bursting become oozing red erosive areas, and finally crusting and scaling. When the allergic reaction is set off by exposure to sunlight it is a photo-allergic contact eczema. Some soaps contain photo-allergens which cause these reactions. The history (e.g. “I have applied betadine dressings on that site”) and the usually sharp margins of the eczema help define the causative allergen.
- **Chronic allergic contact eczema**

It usually shows a symmetrical distribution and blurred borders. The skin is usually dry, scaly and shows lichenification and often cracks. It can spread to sites distant from the original contact making it difficult to determine the cause.

Some examples of contact allergens are: occupational (dyes, preservatives, rubber, bleach, soap, floor wax, nickel, oils, diesel, fertilizers, pesticides, cement), environmental (plants, spices), medical (betadine, lanolin, local anaesthetics, menthol, camphor), cosmetic (perfumes, nail polish, hair-chemicals), clothes or jewellery (wrist watch, earrings, belt buckle). This list is not complete. Allergy testing may be done by a dermatologist or allergologist.

Signs and symptoms

1. The eruptions begin when the causative agent contacts the skin.

2. The first reactions include pruritus, burning, and erythema,
3. Followed closely by edema, papules, vesicles, and oozing or weeping.
4. In the sub acute phase, these vesicular changes are less marked, and they alternate with crusting, drying, fissuring, and peeling.
5. If repeated reactions occur or if the patient continually scratches the skin, lichenification and pigmentation occur.
6. Secondary bacterial invasion may follow

Management of contact eczema

- Avoid contact with the relevant irritant or allergen
- Avoid soap and Vaseline, use calamine or phenol-zinc lotion, betadine scrub, stop Vaseline and do not re-use after healing.
- In Severe infection: cloxacilin or erythromycin for 1 week can be used
- Acute contact eczema: Wet dressings with saline or potassium permanganate solution twice daily. For itchiness: calamine lotion or phenol-zinc lotion can be applied.
- When dry a topical steroid cream e.g. hydrocortisone 1% twice daily.
- Antihistamines e.g. promethazine 25 mg nightly for 5 days.
- Chronic contact eczema: Hydrocortisone 1% ointment, if necessary stronger topical steroid.
- Coal tar ointment for itch nightly.
- Aqueous cream.
- If lichenified: urea 10% cream or salicylic acid 255% ointment twice daily.

SELF TEST

Match the conditions of the Skin in Column 1 to their causes in Column 2

Column 1	Column 2
1. Herpes Zoster	a. Bacteria
2. Impetigo	b. Infestation
3. Tinea	c. Viral
4. Myiasis	d. Fungi
5. Eczema	e. Antigen-antibody reaction
Answer Q1 C. Q2 A Q3 D Q4 B Q5 E	

Pigmentary Disorders

Pigment may be increased in the skin or in some conditions diminished; however hyper-pigmentation is more common than hypo-pigmentation. The principal causes for hyper-pigmentation are:

- Increase of melanin, which may be local or general and more rarely
- Deposits of foreign pigments
- Deposits of heavy metals e.g. arsenic
- Deposits of haemoglobin derivatives as in haemosiderosis

ALBINISM

Albinism(officially called oculocutaneous albinism) is an inherited defect in melanin formation that causes diffuse hypo pigmentation of the skin, hair and eyes: deficiency of melanin and hence pigmentation dilution (Beer et al, 2006).A group of inherited conditions in which there is lack of melanin in the skin, hair, and eyes. An individual with albinism is called albino. These people are very sensitive to light because they have no UV-absorbing melanin, which usually protects people from solar damage.

Clinical Features

It is obvious at birth- the baby is white instead of black, the hair is blonde or yellow and the iris is blue or hazel.

After short term sun exposure the following features are seen:

- Redness and soreness and if severe blistering
- Freckling (brown pigmented spot) and early ageing of the skin occurs.
- Yellowish discolouration of the skin with increased skin markings is the earliest of sun damage
- Actinic cheilitis- dryness and scaling of the lips due to sun damage
- Hyperpigmented papules which are rough to touch

Because of lack of melanin the eyes also have nystagmus, squint, poor central vision and photophobia. Skin cancer can occur on any sun-damaged site.

Management

- Sun protection to prevent sun damage
 - Wear protective clothing (long sleeves, long skirts and trousers), sunhat with a wide rim and sunglasses.
 - Use sunscreens with a high sun protection factor e.g. para-aminobenzoic acid.
 - Zinc oxide cream/past/ointment blocks out sunlight and can be used for the lips
 - Apply sunscreen whenever going outdoors
 - Stay in doors as much as possible during the hot hour of the day.
- Regular skin check-ups for early detection and treatment of pre-cancerous keratoses and skin cancer.
- Single keratoses can be treated with liquid nitrogen, curettage and electrodissection, shave excision (scalpel skinning) followed by electrosurgery. Multiple and/or extensive lesions can be treated with topical 5% 5-fluorouracil.
- The rough skin can be kept soft with urea 10% ointment or salicylic acid 2.5% ointment

VITILIGO

Vitiligo is a loss of skin melanocytes that causes areas of skin depigmentation of varying sizes (Beer et al, 2010). A condition in which there are patches of depigmentation of the skin due to loss of melanocytes. Sometimes it's a familial disorder.

Cause

The cause is unknown, although recent findings suggest autoimmune factors. Dark people are commonly affected and both sexes at any age, whilst 50% develop before the age of 20

Clinical Features

-
- Vitiligo is characterised by depigmented areas usually sharply demarcated and often symmetric.
- Small white macules become progressively larger and confluent, leading to bizarre shapes
- Common localizations are hands, neck, face, feet and the skin around the body openings, e.g. eyes, nose, mouth, umbilicus and genital and peri-anal area.
- It also occurs in traumatized areas and may affect hair bulb.

Treatment

- There is no satisfactory treatment.
- Reassure the patient; there is only colour change
- Skin on sun-exposed areas should be protected from the sun by applying sunscreens or cover with protective clothing.
- Ultraviolet light is helpful which perhaps explains why Vitiligo is not common on the face in Africa.
- Apply a moderate potent topical steroid e.g. 0.05% clobetasone butyrate or ointment twice daily.

Papular Squamous Conditions

PSORIASIS

This is a chronic, recurrent, inherited, and occasionally acute inflammatory disease characterized by well-defined papules, or plaques of varying size. It is a non-infectious skin disease caused by an abnormally fast turnover of the skin. The turnover may be up to 40 times the normal and as a

result the skin is not able to develop normally. All layers become too thick and the most obvious one is the horny layer, the outer layer of the skin.

Pathophysiology

In this disease, the cells in the basal layer of the skin divide too quickly, and the newly formed cells move so rapidly to the skin surface that they become evident as profuse scales or plaques of epidermal tissue. As a result of the increased number of basal cells and rapid cell passage, the normal events of cell maturation and growth cannot occur, which prevent formation of the normal protective layers of the skin.



Psoriasis: Courtesy of Roche Laboratories.

Incidence

Approximately 20% of the population is affected by psoriasis with equal distribution in both genders. It occurs in all- age groups but less common among children and older people.

Clinical Features

- The lesions are reddish and covered with dull silvery scales. All layers become too thick and the most obvious one is the horny layer, the outer layer of the skin.
- The skin is red, inflamed, and the scales are thicker than normal.

- They produce a so-called candle-wax phenomenon: when you scratch such a patch it becomes silvery-white.
- It appears in traumatized skin.
- Classical psoriasis occurs on the scalp, the extensor areas of extremities (especially elbows, knees), the umbilicus and the buttocks.
- Finger-and toenails may show pitting, thickening of the nailbed or distal onycholysis (black oil-like changes on the distal nail where the nail is detached from the nailbed). Palms and soles may also show thickening, callus, scales and cracks.
- Psoriatic arthritis of the small joints of the hands and feet occurs in 5-10% of patients. The arthritis may be mutilating and eventually become widespread.

Treatment is often effective but you never cure the patient of the disease as such. It may always recur, after weeks, months or years. Psoriasis may flare up after an infection (flu, angina) or drug use (e.g. antimalarial drugs, beta blockers, lithium). There is also a pustular psoriasis and an inverse form with lesions in skin folds rather than extensor areas, the latter may be difficult to distinguish from seborrhoeic eczema.

Management of psoriasis

The goals of management are:

- To slow the rapid turnover of epidermis,
 - To promote resolution of the psoriatic lesions,
- And to control the natural cycles of the disease. Explain to the patient the recurrent nature of psoriasis.
- Salicylic acid 2-10% ointment twice daily to reduce scaling
- Coal tar 6.2% ointment or sulphur 5% in coal tar 6.2% ointment nightly
- Moisturize (Vaseline, urea 10% cream/ointment, aqueous cream in folds), and expose to sun. In psoriasis coal tar ointment may be tried in combination with sunlight (see page 9)
- Salicylic acid and coal tar should not be applied on body folds unless the skin is dry and thickened. They can be mixed together as ointments, or with zinc paste.
- A strong topical steroid daily/intermittently, if very scaly cover with salicylic acid ointment.
- Urea 10% cream or ointment as an emulsifier, aqueous cream in folds.

- Treat any superinfection with betadine or antibiotics if necessary.
- Psoriatic arthritis: NSAID's e.g. ibuprofen 400mg 4.6 x daily, indomethacin 75-100mg daily, naproxen 500-750mg daily.

LICHEN PLANUS

Lichen planus presents with very typical itchy papules, which are small (1-3mm) and are demarcated by the natural skin lines, making them polygonal. They are often a shade of red, later reddish blue to purple and show “Wickham’s striae”, a fine milky-white network on the papule’s flat surface. Neighbouring papules may join together to form plaques which resemble lichen growing on trees, explaining the name “lichen”. They may occur anywhere on the skin but are most common on joint flexures (especially wrists), genitals, sacral region and inner thighs. Actinic lichen planus occurs on sun-exposed areas. In hypertrophic lichen planus there are thick, hyperkeratotic papules and nodules or thickened wart-like plaques on the shins. Lichen planus is self-limiting, it will disappear spontaneously, sometimes in months but it may take many years.

Management of lichen planus

Treatment can be very difficult.

- For severe itch: calamine lotion and /or antihistamines
- Coal tar 2-6% ointment nightly.
- Strong topical steroids combined with salicylic acid 5% once to twice daily.

Refractive lesions: Apply strong steroid at night and cover with plastic 2 nights a week (see lichen simplex). This improves penetration of the steroid. Widespread, severe forms: a short course of prednisolone may be tried: start with 30mg daily for a week then reduces to zero in two weeks. Bullous Eruptions

PEMPHIGUS GROUP

Pemphigus is a group of serious diseases of the skin characterized by the appearance of bullae (blisters) of various sizes on apparently normal skin and mucous membranes. Pemphigus is an autoimmune disease involving IgG. It is thought that the pemphigus antibody is directed blister forms from the antigen–antibody reaction. The level of serum antibody is predictive of disease

severity (Smeltzer et al, 2010). Two types of pemphigus exist and these are; pemphigus vulgaris and pemphigus foliaceus. Each of these has a variant namely pemphigus vegetans and pemphigus erythematosus

Pemphigus foliaceus

This is the most common type of pemphigus in Africa. The blister is very superficial, just below the granular layer. The rash is mainly on the face, scalp and upper trunk. It often looks scaly although it is actually a blistering disorder.

Treatment

- Prednisolone 60mg/day until the blistering stops and then gradually reduce to maintenance dose of 7.5-10mg/day.

Pemphigus Vulgaris

This is the most common pemphigus in Europe but is rare in Africa. The blister is just above the basal cells in the epidermis.

It often starts with blisters in the mouth for weeks or months before numerous flaccid blisters appear on the skin, which break very quickly leaving erosions.

Treatment

- Prednisolone 60mg/day. Reduce the dose when the blister stops and gradually reduce to a maintenance dose of 7.5-10mg/day for the rest of the patient's life

Pemphigus Vegetans

This is probably a variant of pemphigus vulgaris in which the flexural lesions become very thick and almost warty.

Treatment

- Prednisolone 60mg/day. Reduce the dose when the blistering stops and gradually reduce to a maintenance dose of 7.5-10mg/day for the rest of the patient's life.

DERMATITIS HERPETIFORMIS

Dermatitis herpetiformis is an intensely pruritic, chronic disease that manifests with small, tense blisters that are distributed symmetrically over the elbows, knees, buttocks, and nape of the neck (Smeltzer et al, 2010)., which as herpetiform suggests results in the lesions usually being grouped as they are in herpes zoster. Another factor of much more importance to the patient is the itching which always accompanies the condition.

Cause

The cause is unknown. But both sexes are affected at all ages, but chiefly adult males.

Clinical Features

- The vesicular and bullous lesions are tense and clear at first, and later become cloudy
- The groups of the lesions have irregular patterns and excoriations from scratching are notable
- The sites usually affected are the forearms and thighs, inter scapular and lumbosacral areas
- The distribution of the rash is symmetrical
- Diarrhoea may be present in some cases

Laboratory investigations

The blood eosinophilia is high being between 10 and 30 per cent

Course

It is typical of this disease to come and go, the intervals of relapse and remission varying between weeks and months, for up to 10 or 15 years, and very occasionally.

Treatment

- External; calamine lotion, or a steroid lotion to alleviate symptoms slightly
- Internal; Diamino-dyphenyl-sulphone (dapsone) is the drug of choice. 100mg tablets twice a day for 2 weeks, followed by 100mg daily or less. Iron should be given at the same time to offset any tendency to a normocytic anaemia which the drug may provoke.

Connective Tissue Disorders

LUPUS ERYTHEMATOSUS

Discoid Lupus Erythmatosus

Unsightly rash on the face and scalp made up of well defined, red scaly plaques with follicular plugging. They heal leaving hypopigmentation and/or hyperpigmentation.

Treatment

If there are few lesions, apply a potent (e.g. 0.1% betamethasone 17-valerate) or very potent (e.g. 0.05% clobetasol propionate) topical steroid twice until the lesions are no longer red and scaly. If there are extensive lesions use oral use oral chloroquine sulphate 200mg/day for at least 3 months. It may need to be continued longer if the disease is not fully controlled or recurs.

Subacute Cutaneous Lupus Erythematosus

This is a benign variant of systemic lupus erythematosus. There is an erythematosus rash on sun-exposed skin which looks like discoid LE but without the scaling follicular plugging. May be associated with arthritis, fever and general malaise but there is no serious systemic manifestations such as involvement of the central nervous system or kidneys.

Treatment

Chloroquine sulphate 200mg/day orally

Systemic Lupus Erythematosus

This is an auto-immune multi-system disorder mainly of females. On the skin there is a butterfly erythema (erythema on the cheeks and nose, nail fold telangiectasia and diffuse non-scarring alopecia. The systemic manifestations include fever, arthritis, nephritis, endocarditis, pulmonary fibrosis and CNS and psychiatric changes.

Treatment

Control the disease with high-dose systemic steroids (60mg prednisolone/day and gradually reduce the dose to a maintenance dose of 5-10mg/day. Chloroquine or methotrexate may have to be added if the steroids do not control the disease or if it relapses when the dose is lowered.

SCLERODERMA

Multi system disorder in which the skin of the face becomes tight. It is difficult for the patient to open the mouth wide.

The skin of the fingers is also tight and there may be calcification in the dermis and subcutaneous fat which can ulcerate through the skin.

Clinical Features

- There may be loss of the tips of the fingers due to vasculitis.
- There is also nail fold telangiectasia as in dermatomyositis and systemic lupus erythematosus.
- There may also be problems in swallowing due to involvement of the oesophagus; streatorrhoea due to involvement of small bowels;
- Constipation or diarrhoea due to involvement of the colon;

- Dyspnoea due to fibrosis of the lungs;
- Cardiac arrhythmias due to involvement of myocardium and
- Proteinuria and renal failure due to involvement of the kidneys

Treatment

Unsatisfactory; Nothing works well.

Skin Manifestations Of Internal Diseases

PAGETS DISEASE OF THE NIPPLE

This is a rare tumour, which involves the female nipple or areola, and is nearly always unilateral. It normally occurs between the ages of 40 and 60. It is sometimes confused with eczema.

Clinical Features

- Early lesions are papular and round and well defined.
- At first small, it enlarges up to palm size
- It is red and the surface is scaly which when removed reveals red, eroded or oozing surfaces
- The lesion gradually become indurated (abnormal hardening), infiltrated and sometimes ulcerated. The nipple may become retracted or destroyed

Treatment

Radical mastectomy and removal of axillary lymph nodes, followed by X-rays.

Tumours Of The Skin

Tumours of the skin are tumours that involve the superficial layer of the skin called the epidermis.. People often associate a skin tumour with cancer, but in fact tumours don't have to be cancerous, and the vast majority is not. Tumours are usually classified in three different groups: benign, pre-malignant, and malignant. Only malignant tumours are actually cancerous.

The different terms used can be a bit confusing, but they are essentially greater levels of specificity.

A neoplasm is a group of abnormal cells, but these abnormal cells don't necessarily form a lump. When a neoplasm forms a lump it is known as a tumour. If that tumour forms on the epidermis, it is known as a skin tumour. If the skin tumour that forms is malignant, meaning it has uncontrolled growth, invades nearby tissue, and may even spread to other parts of the body, then it is known as skin cancer.

Benign Tumours

A benign skin tumour will never transform into skin cancer, and so poses no cause for concern. Moles on the skin are a good example of this sort of skin tumour, and while many people get them removed because they find them unsightly, only some moles are cancerous. Uterine fibroids are another good example of a benign skin tumour. Some other forms of benign skin tumour include seborrheic keratoses, which look like small lesions stuck to the skin, acrochordons, more commonly known as skin tags, epidermoid or sebaceous cysts, which are round, keratin lined cysts of the skin, and dermatofibroma, which are small nodules that form on the skin as an inflamed circular area.

Seborrheic and Actinic Keratoses

Seborrheic keratoses are benign, wartlike lesions of various sizes and colors, ranging from light tan to black. They are usually located on the face, shoulders, chest, and back and are the most common skin tumors seen in middle-age and elderly people. They may be cosmetically unacceptable to the patient. A black keratosis may be erroneously diagnosed as malignant melanoma. Treatment is removal of the tumor issue by excision, electro desiccation (destruction of the skin lesions by monopolar high-frequency electric current) and curettage, or application of carbon dioxide or liquid nitrogen. However, there is no harm in allowing these growths to remain

because there is no medical significance to their presence. Actinic keratoses are premalignant skin lesions that develop on chronically sun-exposed areas of the body. They appear as rough, scaly patches with underlying erythema. A small percentage of these lesions gradually transform into cutaneous squamous cell carcinoma; they are usually removed by cryotherapy or shave excision.

Verrucae: Warts

Warts are common, benign skin tumors caused by infection with the human papillomavirus, which belongs to the DNA virus group. People of all ages may be affected, but the warts occur most frequently between the ages of 12 and 16 years. There are many types of warts. As a rule, warts are asymptomatic, except when they occur on weight-bearing areas, such as the soles of the feet. They may be treated with locally applied laser therapy, liquid nitrogen, salicylic acid plasters, or electrodesiccation. Warts occurring on the genitalia and perianal areas are known as condylomata acuminata. They may be transmitted sexually and are treated with liquid nitrogen, cryosurgery, electrosurgery, topically applied trichloroacetic acid, and curettage.

Condylomata that affect the uterine cervix predispose the patient to cervical cancer

Angiomas

Angiomas are benign vascular tumors that involve the skin and the subcutaneous tissues. They are present at birth and occur as flat, violet-red patches (port-wine angiomas) or as raised, bright-red, nodular lesions (strawberry angiomas). The latter tend to involute spontaneously within the first few years of life, but port-wine angiomas usually persist indefinitely. Most patients use masking cosmetics (ie, Covermark or Dermablend) to camouflage the lesions. The argon laser is being used on various angiomas with some success. Treatment of strawberry angiomas is more successful if undertaken as soon after birth as possible.

Pigmented Nevi: Moles

Moles are common skin tumors of various sizes and shades, ranging from yellowish brown to black. They may be flat, macular lesions or elevated papules or nodules that occasionally contain hair. Most pigmented nevi are harmless lesions. However, in rare cases, malignant changes occur, and a melanoma develops at the site of the nevus. Some authorities believe that all congenital moles should be removed because they may have a higher incidence of malignant change. However, depending on the quantity and location, this may be impractical. Nevi that show a change in color or size, become symptomatic (eg, itch), or develop irregular borders

should be removed to determine if malignant changes have occurred. Moles that occur in unusual places should be examined carefully for any irregularity and for notching of the border and variation in color. Early melanomas may display some redness and irritation.

Keloids

Keloids are benign overgrowths of fibrous tissue at the site of a scar or trauma. They appear to be more common among dark-skinned people. Keloids are asymptomatic but may cause disfigurement and cosmetic concern. The treatment, which is not always satisfactory, consists of surgical excision, intralesional corticosteroid therapy, and radiation

Pre-Malignant Tumours

Pre-malignant skin tumours are not yet cancerous, because they don't invade surrounding tissue. They are not, however, benign, because over time they will become malignant and demonstrate the same destructive properties that cancerous cells have. One common form of pre-malignant cancer is carcinoma in situ, where the cells are neoplastic, and do continue to multiply, but do not leave their confined space.

Malignant Tumours

The most commonly thought of type of skin tumour is a cancerous skin tumour, as these are the most dangerous. Malignant skin tumours will, if left alone, likely spread throughout the body, metastasizing and eventually killing the host. Malignant skin tumours are treated with a wide range of treatments to try to destroy them, including chemotherapy, invasive surgery, and radiation therapy. Skin tumours often will spread first to surrounding lymph nodes, and in this case those lymph nodes need to be removed as well. So long as malignant skin tumours are detected early, treatment is usually quite effective and not terribly invasive or destructive.

Basal cell carcinoma

Most of these tumours arise from basal cells, some few do not. The lesions are recognized as superficial or deep nodules or indurated ulcers, usually on the face, but sometimes elsewhere. They rarely metastasize, but ulcerate the surrounding tissue in which they lie. They are uncommon before the age of 40, and males are much more prone than females. They are the commonest form of skin cancer accounting for approximately 70% of the total.

Pathology

The tumour cells are very characteristic. They are large, oval and stain deep blue-black with haematoxylin. Although they may appear in the epidermis, they commonly lie in various groups in the dermis, the cells inside the group are arranged, whilst those all around the edge of the group are arranged as a palisade.

An inflammatory reaction in the dermis varies according to the rate of growth of the tumour, being more pronounced in rapidly growing lesions.

Clinical features

- The onset is insidious.
- The lesion is nodular growing from pin-head to pea-size or somewhat larger.
- The edge is pearly, shiny and raised and this is a notable characteristic.
- The surface of the lesion may be unbroken, or ulcerated.
- When the crust is removed bleeding easily occurs.
- Commonest sites are the face and forehead, but the scalp, forearms or trunk may become involved
- There are three common clinical types of lesion- button-like or nodulo-ulcerative, pigmented nodulo-ulcerative, fibrotic type appearing as a raised firm yellowish plaque which usually ulcerates.

Diagnosis

This is made by the long history of slow growth and the appearance of the pearly-edged nodule. A biopsy will of course clinch the diagnosis

Treatment

Excision, x-rays; cautery or diathermy, combined with curettage

Squamous cell carcinoma

This differs greatly from the basal cell carcinoma, being a true invasive tumour which develops in normal tissue or in a pre-existing lesion, such as leukoplakia or senile keratosis. It commonly occurs in elderly people.

Pathology

Masses of irregularly grouped epithelial cells team downwards to invade the dermis. These masses contain flat prickle cells very distorted in size and shape, intracellular fibril, and dotted about, shiny horny pearls. In reality, they are composed of concentrically arranged layers of horn cells enclosing a central area of keratinization or horn.

Clinical features

- The onset is gradual
- The lesions may begin as hard nodules, sometimes with a warty surface; or as flat scaly indurated lesions.
- When the growth is 1 or 2 cm in diameter ulceration occurs
- The edge of the ulcer becomes thick and everted. The surface may be papillomatous or like a cauliflower and have a smelly exudate
- Occasionally the lesions do not ulcerate
- Localized lymphadenitis may be present and metastasis occurs

Diagnosis

This is made by the comparatively rapid growth, the marked induration and biopsy.

Treatment

Excision is the best method for most lesions.

SELF TEST

True/False

1. Psoriasis is a popular squamous condition.....
2. Lupus erythematosus is macular disorder
3. Tumours of the skin can either be benign or malignant

Answers Q1 T. Q2 F. Q3 T

4.7 Summary

You have now come to the end of unit 4; in this unit you have learnt dermatology. We started by revising the anatomy and physiology of the skin. We looked at the general principles that are applied in the management of skin conditions.

Further, we looked at the assessment of a patient with skin problems, we also looked at nursing responsibilities in caring for patient with skin conditions and finally we looked at various skin conditions ranging from skin infection to malignant skin conditions.

In the next unit, which is unit 5 and the last unit in Medicine III we will focus our attention on Management of Sexually Transmitted infections (STI's), in your free time try to find what management of STI's is all about.

4.8 Reference

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UNIT 5: MANAGEMENT OF SEXUALLY TRANSMITTED INFECTIONS 24 Hours

5.1 Introduction

Welcome to unit 5, the final unit in Medicine III, in this unit you will learn about the management of Sexually Transmitted Infections (STI's). STI's are common illnesses caused by various organisms, the infections have far reaching consequences' leading infertility, congenital abnormalities and neurologic complications. There are a lot of driving forces to the spread of these infections which border on behaviour change.

We will briefly review the anatomy and physiology, principles, various STI's and their management and later look at Syndromic Management of STI's. Finally we will look at psychosocial counseling.

5.2 Objective

At the end of this unit the student should be able to:

1. Describe the anatomy and physiology of the female and male reproductive organs
2. Outline the general principles in the management of patient with common sexually transmitted infections (STIs)
3. Conduct an assessment of a patient with sexually transmitted infection
4. Explain the responsibility of a nurse in the care of patients with STIs
5. Discuss common sexually transmitted infections
6. Discuss the Syndromic management of a patient with STIs
7. Conduct a psycho social counselling session

5.3 Review Anatomy And Physiology For Female And Male Reproductive Organs

The female reproductive system consists of external and internal structures. Other anatomic structures that affect the female reproductive system include the hypothalamus and pituitary gland of the endocrine system.

External Genitalia

The external genitalia (the vulva) include two thick folds of tissue called the labia majora and two smaller lips of delicate tissue called the labia minora, which lie within the labia majora. The

upper portions of the labia minora unite, forming a partial covering for the clitoris, a highly sensitive organ composed of erectile tissue. Between the labia minora, below and posterior to the clitoris, is the urinary meatus. This is the external opening of the female urethra and is about 3 cm (1.5 inches) long. Below this orifice is a larger opening, the vaginal orifice or **introitus**. On each side of the vaginal orifice is a vestibular (Bartholin's) gland, a bean-sized structure that empties its mucous secretion through a small duct. The opening of the duct lies within the labia minora, external to the hymen. The area between the vagina and rectum is called the perineum.

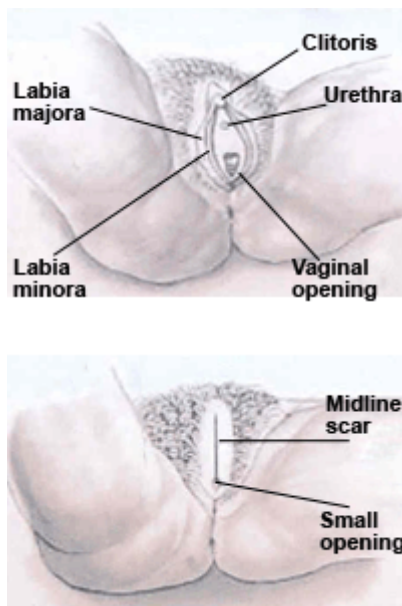


Figure 4: The Female External Genitalia

Internal Reproductive Structures

The internal structures consist of the vagina, uterus, ovaries, and fallopian or uterine tubes.

VAGINA

The vagina, a canal lined with mucous membrane, is 7.5 to 10 cm (3 to 4 inches) long and extends upward and backward from the vulva to the cervix. Anterior to it are the bladder and the urethra, and posterior to it lies the rectum. The anterior and posterior walls of the vagina normally touch each other. The upper part of the vagina, the **fornix**, surrounds the **cervix** (the inferior part of the uterus).

UTERUS

The uterus, a pear-shaped muscular organ, is about 7.5 cm (3 inches) long and 5 cm (2 inches) wide at its upper part. Its walls are about 1.25 cm (0.5 inch) thick. The size of the uterus varies,

depending on parity (number of viable births) and uterine abnormalities (e.g., fibroids, which are a type of tumour that may distort the uterus). A nulliparous woman (one who has not completed a pregnancy to the stage of fetal viability) usually has a smaller uterus than a multiparous woman (one who has completed two or more pregnancies to the stage of fetal viability). The uterus lies posterior to the bladder and is held in position by several ligaments. The round ligaments extend anteriorly and laterally to the internal inguinal ring and down the inguinal canal, where they blend with the tissues of the labia majora.

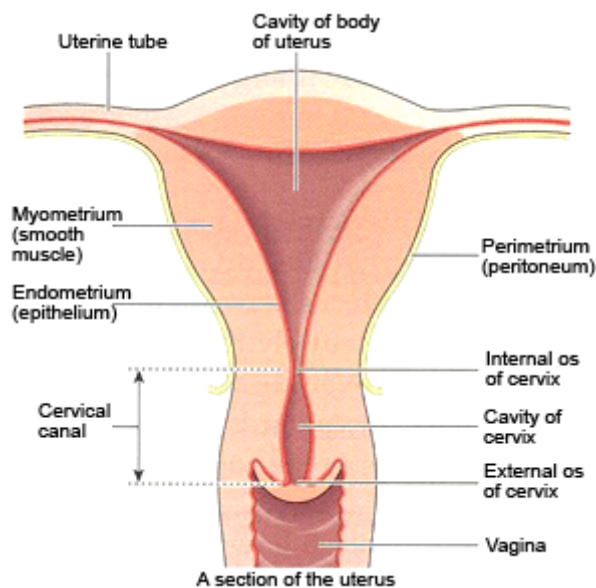


Figure 5: The Uterus

The broad ligaments are folds of peritoneum extending from the lateral pelvic walls and enveloping the fallopian tubes. The uterosacral ligaments extend posteriorly to the sacrum. The uterus has two parts: the cervix, which projects into the vagina, and a larger upper part, the **fundus** or body, which is covered posteriorly and partly anteriorly by peritoneum. The triangular inner portion of the fundus narrows to a small canal in the cervix that has constrictions at each end, referred to as the external os and internal os. The upper lateral parts of the uterus are called the cornua. From here, the oviducts or fallopian (or uterine) tubes extend outward, and their lumina are internally continuous with the uterine cavity.

OVARIES

The **ovaries** lie behind the broad ligaments, behind and below the fallopian tubes. They are oval bodies about 3 cm (1.2 inches) long. At birth, they contain thousands of tiny egg cells, or ova. The ovaries and the fallopian tubes together are referred to as the **adnexa**.

Function Of The Female Reproductive System

Ovulation

At puberty (usually between ages 12 and 14, but earlier for some; 10 or 11 years of age is not uncommon), the ova begin to mature. During a period known as the follicular phase, an ovum enlarges as a type of cyst called a **graafian follicle** until it reaches the surface of the ovary, where transport occurs. The ovum (or oocyte) is discharged into the peritoneal cavity. This periodic discharge of matured ovum is referred to as **ovulation**. The ovum usually finds its way into the fallopian tube, where it is carried to the uterus. If it meets a spermatozoon, the male reproductive cell, a union occurs and conception takes place. After the discharge of the ovum, the cells of the graafian follicle undergo a rapid change. Gradually, they become yellow (**corpus luteum**) and produce **progesterone**, a hormone that prepares the uterus for receiving the fertilized ovum. Ovulation usually occurs 2 weeks prior to the next menstrual period.

Anatomic And Physiologic Overview Of The Male Reproductive System

In the male, several organs serve as parts of both the urinary tract and the reproductive system. Disorders in the male reproductive organs may interfere with the functions of one or both of these systems. As a result, diseases of the male reproductive system are usually treated by a urologist. The structures in the male reproductive system are the testes, the vas deferens (ductus deferens) and the seminal vesicles, the penis, and certain accessory glands, such as the prostate gland and Cowper's gland (bulbourethral gland).

Testicular Development

The **testes** are formed in the embryo within the abdominal cavity near the kidney. During the last month of fetal life, they descend posterior to the peritoneum and pierce the abdominal wall in the groin. Later, they progress along the inguinal canal into the scrotum. In this descent, they are accompanied by blood vessels, lymphatics, nerves, and ducts, which support the tissue and make up the spermatic cord. This cord extends from the internal inguinal ring through the abdominal wall and the inguinal canal to the scrotum. As the testes descend into the scrotum, a tubular

extension of peritoneum accompanies them. Normally, this tissue is obliterated during fetal development, the only remaining portion being that which covers the testes, the tunica vaginalis. The testes are encased in the scrotum, which keeps them at a slightly lower temperature than the rest of the body to facilitate **spermatogenesis** (production of sperm). The testes consist of numerous seminiferous tubules in which the spermatozoa form. Collecting tubules transmit the spermatozoa into the epididymis, ducts that lead into the vas deferens. This firm, tubular structure passes upward through the inguinal canal to enter the abdominal cavity behind the peritoneum. It then extends downward toward the base of the bladder. An outpouching from this structure is the seminal vesicle, which acts as a reservoir for testicular secretions. The tract is continued as the ejaculatory duct, which passes through the prostate gland to enter the urethra. Testicular secretions take this pathway when they exit the penis during ejaculation.

Activity

Draw well labelled diagram of the male genitalia in your notebooks.

Glandular Function

The testes have a dual function: the formation of spermatozoa from the germinal cells of the seminiferous tubules and the secretion of the male sex hormone **testosterone**, which induces and preserves the male sex characteristics. The **prostate gland** lies just below the neck of the bladder. It surrounds the urethra and is traversed by the ejaculatory duct, a continuation of the vas deferens. This gland produces a secretion that is chemically and physiologically suitable to the needs of the spermatozoa in their passage from the testes. Cowper's gland lies below the prostate within the posterior aspect of the urethra. This gland empties its secretions into the urethra during ejaculation, providing lubrication. The **penis** has a dual function: it is the organ for copulation and for urination.

Anatomically, it consists of the glans penis, body, and root. The glans penis is the soft, rounded portion at the distal end of the penis. The urethra, the tube that carries urine, opens at the tip of the glans. The glans is naturally covered or protected by elongated penile skin—the foreskin—which may be retracted to expose the glans. However, many men have had the foreskin removed (circumcision) as newborns. The body of the penis is composed of erectile tissues containing numerous blood vessels that become distended, leading to an erection during sexual excitement.

The urethra, which passes through the penis, extends from the bladder through the prostate to the distal end of the penis.

SELF TEST

1. The structure of the male reproductive system include the following except
 - e. The penis
 - f. The Bladder
 - g. Testes
 - h. Van deferens
2. Spermatogenesis means
 - a. Production of ova
 - b. Production of semen
 - c. Production of urine
 - d. Production of sperms
3. The male sex hormone is called
 - a. Adrenaline
 - b. Progesterone
 - c. Testosterone
 - d. Oestrogen

Answers: Q1 B. Q2 D. Q3 C.

5.4 General Principles Of Management Of Common Sexually Transmitted Infections (Sti)

1. Correct diagnosis
2. Selection of effective drugs and most appropriate route.
3. Adequate counselling to promote compliance with treatment and abstinences from sexual intercourse until cured.
4. Notification and treatment of sexual partners
5. Clinical follow-up as indicated
6. They should have high efficacy (preferably at least 95% effective)
7. Low cost of drugs, which are readily affordable.
8. Should have low toxicity and be readily tolerated by patients.

9. Preferably administered by single dose
10. Given by oral administered.
11. Low level or no resistance by the targeted organism.
12. Not contraindicated in pregnant women or lactating mothers

SELF TEST

Explain five (5) principles you must observe when managing STI's

5.4 Assessment Of A Patient With Sexually Transmitted Infections

History taking

When getting history from the patient, it is important that you use your communication and counselling skills during your interview session.

History taking and patient examination in the management of STI is very important so that you can manage this patient very well and rule out other conditions. This must be conducted in a private place. The following should be considered when collecting history:

- What is troubling you? Or what are your complaints?
- When did it/they start?
- When did you last have sex?
- Who did you have sex with during the last three months?
- Did you use a condom?
- Have you or your sexual partner(s) suffered from an STI recently?
- Do you have a regular partner or are you married?
- When did you last have sex with your partner or wife/husband?

Physical examination

1. Examination of a Male Client

When examining a male client you must consider the following:-

1. The patient should be examined in the standing position. Do the following:
2. Ask politely the patient to take his trousers and underwear down
3. Gently examine the patient's penis (if it is not circumcised, gently retract the foreskin and note any abnormalities.
4. Milk the penis gently and note any colour of the discharge.
5. If no obvious discharge is present, look at the groins, pubic and perineal area
6. Palpate the groins (for swelling)

Palpate the testicles for swelling and tenderness

Note the following:

- Discharge from urethra
- Sores and ulcers
- Warts
- Swollen glands
- Scabies on the genitalia
- Pubic lice

MolluscumContagiosum

2. *Examination of a Female Client*

When examining a female client consider the following

- Examine the patient on a couch or table on her back with knees flexed. Do the following:
 - Expose the genital area.
 - Look at the external genitalia, perineum, and perianal region.
- 1. Palpate lower abdomen and the groins gently.
- 2. With gloved hand gently separate outer labia, look at the inner labia, separate them, look at the introitus and, if you have a speculum, insert it and look at the cervix, vaginal vault and vaginal walls.
- 3. Perform a bimanual examination for cervical excitation (tenderness while moving the cervix).

Note the following:

- Warts
- Sores and ulcers
- Vaginal discharge (colour, smell and amount)
- Swollen glands
- Scabies on genitalia
- Lower abdominal tenderness and presence of cervical excitation
- Pubic lice
- MolluscumContagiosum

Investigations

There are number of investigations that are performed to arrive at diagnosis. These are:

1. Culture and sensitivity test for bacterial caused STI- pus swab for gonorrhoea, bacterial vaginosis.
2. Microscopic examinations for gonorrhoea, chlamydia
3. RPR for syphilis
4. Gram stain for urethral discharges

Polymerase chain reaction test for syphilis

Activity

You are required to visit an STI clinic at your local hospital/clinic and participate in the history taking, physical examination and investigations for you to arrive at a diagnosis.

5.5 Nursing Responsibility In The Care Of Patients With Stis

As a nurse your major responsibility in the care of patients with STI's is mainly to educate them on the following:-

1. Adherence to medication to achieve complete recovery
2. Contact tracing by Instructing the client to bring their sexual partner for treatment.
3. The client to return for follow up
4. Change in sexual behaviour by been faithful, abstaining, condom use and negotiating for safer sex practices.
5. Patient counseling so that the patient can make informed choices

Activity

Make a lesson plan for you to teach patients with STI's.

You have just finished looking at your responsibility of taking care of patients with STIs. You will now be learning at individual common sexually transmitted infection.

5.6 Common Sexually Transmitted Infections (Stis)

Syphilis

Definition: a chronic bacterial disease caused by the spirochete *Treponemapallidum*. It is contracted chiefly during sexual intercourse with an infected person although there are examples of congenital syphilis via transmission from mother to child in utero.

Clinical Manifestations

Primary syphilis:

CHANCERE- which is punched out ulcer which heals within weeks with minimal scarring. It appears approximately between 10–90 days after the initial exposure (average 21 days), a skin lesion appears at the point of contact, which is usually the genitalia, but can be anywhere on the body

- Single, painless, clean based ulcer with induration
- Painless regional lymphadenopathy (80%)
- Incubation period of 3 to 90 days
- Occur at site of inoculation

Secondary Syphilis

It appears approximately 1–6 months (commonly 6 to 8 weeks) after the primary infection.

- The mucosal surfaces develop erythematous rashes (condylomata lata) with generalised lymphadenopathy
- Usually appears 2 weeks–6 months after primary infection
- Primary chancre may or may not still be present
- Skin rash
- Alopecia
- Mucosal lesions
- Syphilis- Latent stage
- Latent Syphilis: period from disappearance of secondary symptoms until cure or tertiary symptoms
 - Early latent: within 1 year of infection
 - Late latent: after 1 year of infection

Tertiary Syphilis

Latent syphilis is defined as having serologic proof of infection without signs or symptoms of disease.

Tertiary syphilis usually occurs 1–10 years after the initial infection, however in some cases it can take up to 50 years.

It is in three forms

- i. Gumma (s): these necrotic lesions of varying size that appear in the skin, testis, liver and bones (e.g. the nose may collapse. Histologic examination show presence of granulomas as in TB and spirochetes are rarely seen)
- ii. Cardiovascular: presents as arteritis affecting the media of large vessels, there is chronic inflammation and destruction of the elastic elements critical for maintenance of artery diameter. Classically lesions is thoracic aortitis presenting as aneurysm.
 - syphilitic aortitis of ascending aorta
 - aortic regurgitation
 - Dilated aortic valve ring
 - Coronary artery stenosis with MI
- iii. Neurologic (neurosyphilis):
 Neurosyphilis refers to a site of infection involving the central nervous system (CNS).
 Neurosyphilis may occur at any stage of syphilis. Neurosyphilis is now most common in patients with HIV infection.
 - Asymptomatic
 - Aseptic meningitis
 - Paresis mimicking progressive dementia with psychotic features also referred to as generalized paralysis of the insane due to cerebral atrophy characterized by loss of neurones, a microglial cell reaction and visible spirochetes in the tissues
 - Tabes dorsalis: **tabes dorsalis**, also known as **syphilitic myelopathy**, is a slow degeneration (specifically, demyelination) of the sensory neurons that carry information to the brain. The degenerating nerves are in the posterior columns (dorsal horn) of the spinal cord (the portion closest to the back of the body).

Congenital yphilis

Rare but causes abortion, fetal hydrops, or newborns with hepato-splenomegaly and pneumonia. Abundant spirochetes are present in the lesions. Later CNS, bone and muco-cutaneous lesions may appear.

Management

Invetsigations

RPR and VDRL: these two detect autoantibodies and not specific

Specific tests: treponemal haemagglutination assay (TPHA) and treponemal immobilization test (TPI)

Drug therapy- For early syphilis, treatment may consist of a single injection of Penicillin G Benzathine I.M (2.4 million units).

Patients who are allergic to penicillin may be successfully treated with tetracycline or erythromycin; in either case; 500mg P.O, QID for 15-30 days

ACTIVITY

What is the drug of choice for Syphilis?

Write your answer in your note book. Compare your answer with the notes

Well done.

You have just finished learning about syphilis. Now you will be looking at gonorrhea.

Gonorrhea

A specific disease caused by *Neisseria gonorrhoea*, a gram-negative diplococcus. Sites mostly affected are urethra in men and the uterine cervix and urethra in women.

Gonococcal conjunctivitis is seen in new born and less in adults. Ophthalmia neonatorum is acquired at birth in the cervix.

Local complications in men include epididymitis, urethra stricture and acute prostatitis, and in women Bartholin'sitis and salpingitis. Disseminated infection can also occur involving joints- gonococcal arthritis, meningitis, and endocardium.

Causes/Transmission

Neisseria gonorrhoea is transmitted through sexual contact with an infected person. A child born of an infected mother can contract gonococcal ophthalmia neonatorum during passage through the birth canal. Also, a person with gonorrhea can contract gonococcal conjunctivitis by touching his eyes with contaminated hands.

Incubation Period

The incubation period is 2 to 30 days with most symptoms occurring between 4–6 days after being infected.

Clinical Features

In men

- Urethral discharge
- Dysuria
- Frequency of micturation
- Onset is sudden and incubation period is 1-10 days

In women

- Usually asymptomatic
- Dysuria
- Vaginal discharge
- Salpingitis
- Pelvic Inflammation

Management

Investigation

1. Pass swab for culture and sensitivity tests.

Treatment

- **Ciprofloxacin**, 500 mg as a single dose

OR

- **Spectinomycin** 2g IM stat (40 mg/kg up to 2g stat in children)

OR

- **Cefixime** 400 mg PO stat (8mg/kg body wt PO stat in children if less than 45kg)

OR

- **Tetracycline/Erythromycin** 500mg, qid, PO for 7 days

OR

- **Doxycycline**, 100mg twice daily for 7 days by mouth

Thank you for paying attention the lesson that you have learnt. You have just finished to looking about gonorrhea and now you will be learning about Non-Gonococcal Urethritis.

Non-Gonococcal Urethritis (Ngu)

This is usually an STI which has a number of possible causative organisms such as

- *Trichomonas Vaginalis* (TV)
- *Candida albicans*,

- intracellular ulceration&
- various bacterial agents after trauma

In the vast majority of cases, no single causative agent can be isolated, current trends suggest a multiple cause by *Chlamydia Trachomatis* in 50-60% of cases

Clinical Features

- In males irrespective of the possible cause, C/F are essentially as in acute gonorrhoea though symptoms tend to be less severe:
 - Urethral discharge
 - Dysuria
 - Frequency of micturition
- In females tends to be mild also with a mucopurulent discharge from the endocervix or the os
- Vaginitis: itching, burning, and inflammation of the vagina
- Cervicitis: inflammation of the cervix
- Urethritis: inflammation of the urethra
- Yellow-green, pruritic, frothy foul-smelling vaginal discharge

The condition has an incubation period varying from 1-3 weeks or longer.

Complication in males include epididymitis, urethral stricture, conjunctivitis and arthritis.

Treatment

- Metronidazole, 2 g orally, in a single dose or metronidazole, 400 or 500 mg orally, twice daily for 7 days⁴
- **Tetracycline**, 500mg, four times for 7 days by mouth
OR
- **Doxycycline**, 100mg, twice daily for 7 days by mouth
OR
- **Erythromycin**, 500mg, four times daily for 7 days by mouth
OR
- **Azithromycin**, 1gm as a single dose

Candidiasis

Candidiasis (moniliasis) is skin infection with *Candida* species, most commonly *Candida albicans*. Infections can occur anywhere and are most common in skin folds, genitals, cuticles, and oral mucosa. Symptoms and signs vary by site. Candidiasis (moniliasis) is skin infection with *Candida* species, most commonly *Candida albicans*. Most candida infections are of the skin and mucous membranes, but invasive Candidiasis is common in immunosuppressed patients and can be life threatening

DEFINITIONS

Candidiasis commonly called yeast infection or thrush is a fungal infection (mycosis) of any of the candida species of which candida albicans is the most common that range from superficial, systemic and potentially life threatening.

Candidiasis is an infection caused by strains of candida especially candida albicans.

Aetiology

- *Candida* is a group of about 150 yeast species. *C. albicans* is responsible for about 70 to 80% of all candidal infections. Other significant species include *C. glabrata*, *C. tropicalis*, *C. krusei*, and *C. dubliniensis*.

Risk Factors

- *Candida* is a yeast infection that resides harmlessly on skin and mucous membranes until dampness, heat, and impaired local and systemic defenses provide a fertile environment for it to grow. Risk factors for candidiasis include:
 - Hot weather
 - Restrictive clothing
 - Poor hygiene
 - Infrequent diaper or undergarment changes in children and elderly patients
 - Altered flora from antibiotic therapy
 - Inflammatory diseases (such as psoriasis) that occur in skin folds
 - Immunosuppression resulting from corticosteroids and immunosuppressive drugs, pregnancy, diabetes, other endocrinopathies (e.g., Cushing's disease, hypoadrenalism, hypothyroidism), blood dyscrasias, or T-cell defects

Management

History may reveal underlying illness such as cancer, diabetes, HIV/AIDS, malnutrition, recent course of a broad spectrum antibiotic, anti neoplastic therapy, contraceptives or drug abuse.

Physical Examination

A thorough examination will reveal the presence of fungal lesions on the affected part.

Laboratory/Radiological Tests

Vaginal and skin scrapping for microscopic culture and sensitivity testing will reveal presence of fungi.

Sputum and pus examination

Stool for microscopic examination

Blood and tissue culture to rule out systemic infection

Treatment

- Intertriginous infection is treated with drying agents as needed (e.g. Burrow's solution for oozing lesions, gentian violet for toe web spaces) and topical antifungals). Powdered formulations are ideal for dry lesions e.g. Miconazole powder bid for 2 to 3 weeks).
- Fluconazole 150 mg p.o once/week for 2 to 4 weeks is indicated for extensive intertriginous candidiasis; topical antifungal agents may be used at the same time.
- Candida diaper rash is treated with more frequent change of diapers, avoidance of disposable diapers with plastic coverings, and an imidazole cream bid.
- Oral nystatin
is an option for infants with coexisting oro-pharyngeal candidiasis; 1 ml of suspension (100,000 units/ml) is placed in each buccal pouch qid.
- Candidal paronychia is treated by protecting the area from wetness and giving topical or oral antifungals. These infections are often resistant to treatment.
- Oral candidiasis is treated with fluconazole
200 mg po on the first day, then 100 mg po once/day for 2 to 3 weeks thereafter.
- Chronic mucocutaneous candidiasis requires long-term oral antifungal treatment with ketoconazole
400 mg once/day or itraconazole
200 mg once/day.

- Amphotericinbiv may be given for systemic infections. Monitor for side effects e.g. Hypokalaemia and renal impairment. Blood transfusion if platelet count is low due to amphotericinb.
- Vaginal candidiasis can be treated by clotrimazole cream and pessaries, mycostatin and nystatinpessaries.

Nursing care

Hygiene

- Give mouth washes with nonirritating substances or soft toothbrush to loosen secretions, avoid irritation and relieve mouth discomfort with a topical anaesthetic i.e. lidocaine.
- Frequent changing of diapers and under wear
- Frequent baths especially in skin folds, genital area. Keep the areas dry to prevent odour, irritation and multiplication of fungi and other microorganisms.
- Apply corn starch and nystatin powder or dry padding in intertriginous areas of obese patients to prevent irritation and candida growth.

Observations

- Vital signs 4hrly to note any abnormalities as patients are prone to systemic infections.
- Observe for signs and symptoms of candida infection in patients at risk e.g. diabetic and immunosuppressed patients
- For patients receiving lidocaine, observe for gag reflex to avoid aspiration
- Observe and record the colour, amount and odour of vaginal discharge to note the response to treatment and the setting in of other infections.
- Observe for dysphagia and institute measures to reduce and relieve pain e.g. giving a soft or liquid diet.
- Monitor the general appearance of lesions to note any improvement
- Observe for side effects of drugs e.g. amphotericinB; severe chills, renal impairment and gastrointestinal disturbances.
- Note the urinary output to detect renal involvement.
- Note the level of consciousness to detect brain involvement

Diet

- Avoid irritating foods such as chilly, highly spiced, acidic.

- Encourage thorough chewing of food to avoid trauma
- A fluid diet and soft diet is given to reduce pain.
- The diet should be rich in all nutrients to boost the immune system, repair worn out cells and promote quick recovery.

Psychological care

- Assure client that lesions will disappear with treatment
- Reassure client that sexual impairment will resolve with treatment
- Medication
- Administer prescribed drugs and observe client for any side effects.

Health education

- Teach client good oral hygiene practices encouraging the use of alkaline mouthwash products as acidic ones promote candidal growth
- For clients using nystatin oral solutions, teach them to rinse it around in his/her mouth several minutes before swallowing.
- Advise client to frequently change underwear or nappies to reduce multiplication of Candida
- teach pregnant women signs and symptoms of Candida to seek early treatment and prevent spread of infection to her infant
- Teach client on how to insert pessaries correctly

You have finished learning about Candidiasis. Now you will be looking at Bacterial vaginosis.

Bacterial Vaginosis (Bv)

Is the name given to the condition in women where the normal balance of the bacteria in the vagina is disrupted and replaced by an overgrowth of certain anaerobes.

Bacterial vaginosis is caused by an overgrowth of anaerobic bacteria and *Gardnerella vaginalis* normally found in the vagina and an absence of lactobacilli (Smelzer et al., 2010)

Clinical Manifestations

- whitish-greyish, homogeneous discharge, sometimes frothy
- discharge in a thin layer on the vaginal wall and cervix
- usually *no* true signs of vaginitis (such as erythema and easy bleeding)

Causes

The condition is due to changes in the vaginal pH however the disease is associated with the following bacteria:

- Gardnerellavaginalis, Mobiluncus, Bacteroides, and Mycoplasma.

Management

diagnosis of vaginal infections:

- inspection: what does the discharge look like?
- does the discharge have a bad smell or not?
- direct microscopy of vaginal secretions (physiologic saline)
- culture hardly if ever needed, with the possible exception of suspicion of candidosis.
- microscopic examination in case of BV
 - Few or no leukocytes (no true vaginitis)
 - No lactobacilli
 - ‘clue cells’ present which highly characteristic of bacterial vaginosis

Drug therapy

- Metronidazole 2 gram STAT
- Metronidazole 500 mg b.i.d./1 week
- Clindamycine 300 mg t.i.d./ 1 week
- Follow-up : not necessary

Let us now look at herpes venereum wars

Herpes Venereum Warts

Human papilloma virus (HPV) is a common sexually transmitted pathogen.

These are genital growths caused by Human Papilloma Virus, the virus responsible for cervical cancer (Smeltzer et al., 2010).

Most genital warts are caused by one of two types of HPV — types 6 and 11. Genital warts can appear in the mouth or genital area — the vulva, vagina, cervix, rectum, anus, penis, or scrotum. They are passed from one person to another by skin-to-skin contact, usually during sex play. — Genitalwarts are painless and do not lead to serious complications, except where they may cause obstruction.

Clinical Manifestations

Evidence of growths on the vulva and penis

Management

Investigations

- HIV testing

Drug therapy

- Use of podophyline
- Surgery which is cauterization
- Male circumcision to prevent spread to females

Herpes Simplex (HSV)

This is a viral infection caused by Herpes Simplex Virus1 & 2. It is sexually transmitted and intimate contact. The infection tends to be recurrent & persistent. The infection has the potential to disseminate to the oesophagitis, encephalitis, retinitis

Diagnosis

- Clinical features
- Viral culture
- Microscopy
 - Multinucleate giant cells
 - Low sensitivity

Drug therapy

- Acyclovir, valacyclovir, famcyclovir
- Foscarnet in resistant cases

Management

- If the lesions are extensive, if the eye is involved or if there is persistent ulceration, treat with acyclovir 400mg 3x/day for at least 5 days
- Long-term, low-dose prophylaxis with acyclovir 400mg 2x/day may be needed in patients with recurrent ulceration

5.5.1 SELF TEST

1. The cause of syphilis is
 - a. Mycobacterium ducrei
 - b. Treponemapallidum

- c. Diplococci
 - d. Bacillus
2. Chancre is a primary lesion in
- a. Candidiasis
 - b. Bacterial vaginalis
 - c. Syphilis
 - d. Tuberculosis
3. All these are drugs used in the treatment of Non-gonococcal urethritis except
- a. Ciprobid
 - b. Erythromycin
 - c. Azithromycin
 - d. Tetracycline
4. The following are common complications of gonorrhoea in females are except
- a. Salpingitis
 - b. PID
 - c. Ophritis
 - d. Cancer
5. Bacterial Vaginosis is better treated with the following
- a. Flagyl
 - b. Benzyl penicillin
 - c. Acyclovir
 - d. Cephalexin

Answers: Q1 B. Q2 C. Q3 A. Q4 D. Q5 A.

Relationship of STIS, HIV and AIDS

Both HIV and STI's are sexually transmitted diseases, STIs increase risk of HIV acquisition sexually. Ulcerative STI's expose the mucosa surface leaving the portal of entry for HIV.

Damaged integrity → impaired immunity = especially genital ulcer disease which increase the risk at least 5 times high as compared to other STIs which increase risk by 2 times. STIs increase risk of HIV in women more than in men as women have a larger surface which is in contact with sexual fluids more than men (The Foundation for Professional Development, The

Southern African HIV Clinicians Society and The Centre for Infectious Disease Research in Zambia, 2009).

Assignment

Read further on the relationship between HIV/AIDS and STI's

5.7 Syndromic Management Of The Patient With Stis

Definition of Syndromic Management of STIs: It is the identification of consistent groups of symptoms and easily recognizable signs (syndromes) and the provision of treatment that will deal with the majority of organisms responsible for each syndrome (MoH, 2008).

The syndromic treatment approach involves identifying constellations of STI signs and symptoms in order to categorise by groups of possible aetiologic cause, and then provide treatment most likely to cure the causative infection.

Advantages: Syndromic Approach

Immediate treatment: Clients receive diagnosis and treatment within a single visit

Effectiveness: Clients are treated for a potential mixed infection to prevent incorrect diagnoses in settings where clinical diagnosis is common

STI Transmission

- Most commonly through unprotected penetrative sexual intercourse (vaginal/anal).
- Other forms include:
 - Mother to child (during pregnancy, at delivery, after birth and through breast milk)
 - Unsafe use of sharps (needles/injections) and blood and blood products.

Advantages of Syndromic case management:

- It is easy to teach and learn and its cost saving since expensive lab tests are not used.
- Could be done by most health workers at any level if they are trained
- Enables treatment to be given during the first visit
- Treatment covers multiple infections

Disadvantages Syndromic case management:

- Over-treatment and drug wastage because not all patients have superimposed infections
- It requires research to determine the common causes of particular syndrome in a given area.

- This is costly in terms of unnecessary drug use, waste of drugs that could be used to treat other clients.
 - There is potential for microorganisms to develop resistance to antimicrobial drugs.
- Ineffectiveness against asymptomatic infections:
- This approach cannot be used on clients who are infected but show no signs and symptoms

Principles of Syndromic Management of STI's

- Correct diagnosis should be made to achieve maximum therapeutic outcomes
- Selection of effective drugs and most appropriate route to promote patient compliance.
- Adequate counselling to promote compliance with treatment and abstinences from sexual intercourse until cured.
- Notification and treatment of sexual partners to halt spread and re-infection.
- Clinical follow-up as indicated- the client must be followed up.
- The drugs should have high efficacy (preferably at least 95% effective)
- Low cost, that is readily affordable.
- Should have low toxicity and be readily tolerated by patients to promote adherence to treatment.
- Preferably administered by single dose to allow for patient compliance
- Given by oral administered as opposed to other routes.
- Low level or no resistance by the targeted organism.
- Not contraindicated in pregnant women or lactating mothers to achieve maximal treatment outcomes.

Types of Syndromes

There are basically eight (8) syndromes as outlined in table 5.1. Management of these syndromes is outlined from figures 7 to 13.

Table 6: The Eight STI Syndromes

SYNDROMES	SYMPTOMS	SIGNS	COMMON CAUSE
Vaginal discharge	Vaginal discharge, vaginal itching, dysuria, dysparemia	Abnormal vaginal discharge	VAGINITIS- trichomoniasis, bacterial vaginosis, candidiasis. CERVICITIS- gonorrhoea, chlamydia
Urethral discharge	Urethral discharge, dysuria, frequent micturation	Urethral discharge	Gonorrhea and chlamydia
Genital ulcerations	Genital sore	Genital ulcer	Syphilis, chancroid, genital herpes, lymphogranulomavenerium
Lower abdominal pain	Lower abdominal pain, dysparemia	Vaginal discharge, lower abdominal pain, tenderness on palpation, temperature <38 C	Gonorrhoea, chlamydia, mixed anaerobes

Scrotal swelling	Scrotal pain and swelling	Scrota swelling	Gonorrhoea, chlamydia
Inguinal bubo	Painful enlarged inguinal lymph nodes	Enlarged inguinal lymph nodes, fluctuation, abscesses or fistulae	LGV and chancroid
Genital warts	Genital warts or warts	Growths or warts	Genital warts (condylomata accuminata) and syphilis (condylomata lata)
Neonatal conjunctivitis	Swollen eyelids, discharge, failure to open eyes	Oedema of the eyelids and purulent discharge	Gonorrhoea and chlamydia (MoH, 2008)

Sexual Behaviour Change Communication Message

The sexual behaviour of individuals must be addressed in order to adequately control the reinfections and spread of STIs. In Syndromic management there are 5 C's that are emphasize in order to stop the spread of STI's. The 5 C's are:

1. **Condom use**- individuals/clients must know how to use condoms properly.
2. **Compliance to treatment**- the client must complete treatment to cure the illness and prevent complications.
3. **Confidentiality**- all disclosed information by the patient must held in confidence
4. **Contact tracing**- all sexual partners must contacted and treated
5. **Counseling**- the health provider must give information to the client on STI's and sexual behaviour change and the client must make a decision.

SELF TEST

Cross matching: match the item sin column A with items in Column B

Column A

1. Vaginal discharge
2. Urethral discharge
3. Genital Ulcerations
4. Lower abdominal pains
5. Scrotal swelling
6. Inguinal bubo
7. Genital warts
8. Neonatal conjunctivitis

Column B

- a. Failure to open eyes
- b. Scrotal pain
- c. Growths
- d. Ulcer present
- e. Frequent micturation
- f. Dysparemia
- g. Lower abdominal pain
- h. Enlarged lymph node

Answers: Q1 F. Q2 E. Q3 D. Q4 G. Q5 B. Q6 H. Q7 C. Q8 A.

We have now come to the end Syndromic Management of STI's, I hope you have learnt and will master the skill of managing these clients. Our next topic in this unit will be psychosocial counseling.

5. Psychosocial Counselling

INTRODUCTION

All humans have immense potential and are intrinsically intelligent, powerful, co-operative, zestful and loving. Unfortunately, this basic nature is often obscured as we grow older. Our nature is such that we are easily hurt and when hurting our thinking process shuts down. When we act without thinking, the consequences often cause further hurts (distress) which reduce our capacity to think in the situation still further. We then behave in a rigid, stereotyped way every time we experience a situation that reminds us enough of the original situation in which we were hurt.

This complex process develops rigid (patterned) responses to situations rather than a flexible appropriate response.

Fortunately, we had highly effective mechanisms for discharging our hurts and thus recovering our ability to think in any situation. A child that is experiencing, or has experienced hurt, will typically find someone, often an adult, and get this person to pay attention to him/her. The child will then talk actively, laugh, sweat, shake, have a tantrum (storm), cry or yawn. If the adult can stay in touch with the child, perhaps offer a warm hug or hold a hand, the child will discharge the painful emotion exhaustively and then go back to playing etc. quite freely and with no rigidities installed by the hurtful experience. The above describes the counseling process in its natural state.

Definitions

Psychosocial -relating to both the psychological and the social aspects of something.

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Counseling - help with personal problems: help with personal or psychological matters usually given by a professional. **Microsoft® Encarta® 2009. © 1993-2008 Microsoft Corporation.**

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Counseling is a professional relationship that empowers diverse individuals, families, and groups to accomplish mental health, wellness, education, and career goals. - <http://www.counseling.org>

Counseling is a process in which clients learn how to make decisions and formulate new ways of behaving, feeling, and thinking. (Brammer, 1993; Egan, 1990).

Importance Of Counseling

Counseling aims to help you deal with and overcome issues that are causing pain or making you feel uncomfortable.

It can provide a safe and regular space for you to talk and explore difficult feelings.

The counselor is there to support you and respect your views.

They will not usually give advice, but will help you to find your own insight and understanding of your problems.

Counseling can help you to:

- Cope with a bereavement or relationship breakdown.
- Cope with redundancy or work-related stress
- Explore issues such as sexual identity.
- Deal with issues that are preventing you from achieving your ambitions.
- Deal with feelings of depression or sadness, and have a more positive outlook on life
- Understand yourself and your problems better
- Feel more confident.
- Develop a better understanding of other people's points of view

Counseling can often involve talking about difficult or painful feelings and, as you begin to face them, you may feel worse in some ways.

However, with the help and support of your therapist, you should gradually start to feel better.

Who Needs Counseling

There are a lot of individual who need counseling, below is list of some of the individuals who will need counseling.

1. Mental patients
2. Adolescents in crisis
3. Patients with chronic illnesses
4. Couples going through hard times
5. Students failing to adjust with school work
6. Clients with depressions
7. Addicts etc.

Qualities Of A Good Counselor

As a nurse you need to possess qualities that will enable you have meaning counseling sessions with your patients. The following are the qualities of a good counselor

Patience:

You need to be very patient.

Go to the next step of explanation only when the patient/client has clearly understood the content of the information you are giving.

Thus you need to have ample time.

Good

Listener:

You need to be a good listener.

Never interrupt what the patient/client has to say.

Give your inputs only when the client / patient has finished talking.

Observant:

You need to be very observant and able to interpret non-verbal communication e.g. if the patient/client looks angry, find out the cause of his/her anger first.

Warm:

Provide non-possessive warmth in a counseling environment. Smile and show concern and acceptance to the patient/client.

Knowledgeable:

You should have good knowledge on the topic /problem e.g. compliance to medication. Some people do not take medication for one reason or the other, while others demand drugs/medication. For example, Muslims do not take oral medication when they are fasting while Jehovah's witnesses do not accept blood transfusion.

Having empathy with the patient/client:

Try to understand the feelings the patient/client is having in the counseling process. In other words put yourself in his/her position.

Maintaining a therapeutic relationship with a patient:

Give the patient/client the opportunity to make his/her own decision from the discussion.

Confidentiality:

Although confidentiality is important in health matters it does not apply very much to all situations e.g. most people will openly say what they feel.

However, ensure that you maintain confidentiality on what the client tells you.

The client would feel greatly offended if you disclose any information about him or her to other people.

This means that counseling must be done individually.

Personal**integrity:**

Maintain a high degree of personal integrity, credibility and mutual trust.

Counseling Skills

Effective counseling occurs only when there is a mutual understanding between you the health worker and the patient/client which is brought about by information sharing and exchange of ideas.

The following are some of the skills that you need as a counselor:

Active**Listening**

As a health worker, you should listen to what your client says. Show the client that you are paying attention.

For example, rather than looking through papers on your desk as the client is talking to you, you should look at his/her face as you listen.

Attending**Behaviour**

You should greet your client politely and make him/her feel comfortable and relaxed.

With facial expression, eye contact, gestures, and posture, show him/her that you are interested .

Interviewing/Asking**Questions**

As a good counselor, you should ask open-ended questions as opposed to close-ended questions.

You should also ask probing questions.

We have used three expressions i.e. close ended, open-ended and probing questions.

An open-ended question is a question that leaves room for client to give a detailed and complete answer. For example, “tell me about your experience so far with the drug you are taking”.

What is a probing question?

A probing question is a question that asks for more details for example, “And what else can you tell me?” or “What happened after that?” “Is there anything else you would like to add?” And so on.

Reflecting**Feelings**

By observing and listening, you can imagine how a client feels. You can then tell the client what you think. When a client gives a vague answer, you can point this out by saying “You seem not to be clear on this”.

You should praise a client for any good practice he/she may mention which is done in a recommended way.

After the client has told you his/her problem, you should give her/him relevant information and negotiate changes.

You should use words that the patient/client understands. Check whether the client understands you by asking him/her to repeat the information and instructions you have given.

If the feedback shows that the client did not understand the information or cannot remember, you repeat the information with politeness.

Whenever possible use a local language that the client understands best. It is important for both you and the patient to understand each other very well.

Whenever possible give advice but do not judge.

If you are sure of the facts be consistent.

By re-stating in your own words what the client says, you show that you are listening and that you have understood what the client has said. For example, “What you are saying is that you have no problem with the drug so far...”

It is important to develop skills in counseling so that you can effectively help your clients.

What are the counseling skills you are to observe when attending to a client?

Our next topic is the counseling process.

Opening the session.

Discussing the issues.

Developing the plan of action.

Recording and closing the session.

Open the Session: In the session opening, state the purpose of the session and establish a client centered setting. Establish the preferred setting early in the session by inviting the client to speak.

Develop a Plan of Action: A plan of action identifies a method for achieving a desired result. It specifies what the client must do to reach the goals set during the counseling session. The plan of action must be specific: it should show the client how to modify or maintain his behavior. It should avoid vague intentions.

Record and Close the Session: Although requirements to record counseling sessions vary, a counselor always benefits by documenting the main points of a counseling session. Documentation serves as a reference to the agreed upon plan of action and the client's accomplishments, improvements, personal preferences, or problems.

Mention the steps involved in counseling.

Follow Up

Counselor's Responsibilities: The counseling process doesn't end with the counseling session. It continues through implementation of the plan of action and evaluation of results. After counseling, you must support clients as they implement their plans of action. Support may include teaching, coaching, or providing time and resources. You must observe and assess this process and possibly modify the plan to meet its goals. Appropriate measures after counseling include follow-up counseling, making referrals, informing the chain of command, and taking corrective measures.

Conclusion

The purpose of counseling is to develop clients who are better able to achieve personal improvement, improve their health and have positive focus on their problems. During the assessment, review the plan of action with the client to determine if the desired results were achieved. You and the client should determine the date for this assessment during the initial counseling session. The assessment of the plan of action provides useful information for future follow-up counseling sessions. Therefore, we should bear in mind that counseling is an important part of mental health and coping process.

Activity

Since psychosocial counseling is practice based, I need you to practice, find the counseling department and get involved in the counseling of client for you to appreciate psychosocial counseling.

5.9 Summary

You have come to the end of this unit. I believe you have learnt a lot in unit. We have looked at Management of STI's, these being syphilis, gonorrhoea, and warts etc. which are caused by various organisms. We earlier looked at the anatomy of both the female and male genitalia, principle that are applied in STI management and patient assessment.

Finally we looked at Syndromic management of STI, and its advantages and closed the unit by discussing psychosocial counseling. This marks the end of entire Medicine and I hope you make the most of the knowledge you have obtained in this course. Below is a self-test for you to attempt.

5.10 References

- 1 Smeltzer et al.,(2010).*Brunner and Suddarth Medical-Surgical Nursing*, 10th Edition, Elsevier, Missouri.
- 2 Foundation for Professional Development, Southern African HIV Clinicians Society and Centre for Infectious Disease Research in Zambia, (2009).*HIV and STIs in Zambia*, Alabama.
- 3 MoH, (2008).*Syndromic Management of Sexually Transmitted Diseases*, Ndeke House Lusaka.
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