**A COMMUNITY HEALTH NURSING CARE CASE STUDY PRESENTED AS A REQUIREMENT BY THE NURSING COUNCIL OF KENYA FOR THE AWARD OF DIPLOMA IN COMMUNTY HEEALTH NURSING.**

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**COMMUNITY HEALTH CASE STUDY ON TUBERCLOSIS**

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**CAMPUS: CHUKA**

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**INTRODUCTION**

Community health case study is a study that involves learning of a condition through identification of an individual with the condition, teaching about the causes, treatment and preventive measures during subsequent visits. Also entails teaching the client on environmental upkeep, teaching on proper housing and good hygiene to prevent transmission and spread of diseases.

**IMPORTANCE OF COMMUNITY HEALTH CASE STUDY;**

**TO CLIENT AND COMMUNITY**

1. Helps understand the condition better, its causes, predisposing factors, treatment and preventive measures hence reducing the chances of getting the disease.

2. Helps understand ways of maintaining environmental hygiene thus reducing the rate of communicable diseases hence lowering mortality rate.

3. Through the teaching, the client, family and community at large become compliant to drugs of any condition since they are aware of its effectiveness.

4. Community is Enlighted on ways of building houses which have ventilations and spacious enough to serve everybody in the family. Good means of waste disposal is also achieved through digging pit latrines and compost pit for disposing wastes.

**TO THE STUDENT NURSE**

1. Helps study the condition in depth thus gaining a lot of knowledge and skills.

2. During home visits, gets understand better the community in which he or she lives hence being able to cope with their lifestyles and culture teaching.

3. Strong relationship is built between the community and nurses through interaction hence making understanding easier during teaching.

**HOW I MET MY CLIENT**

I met my client MARCUS MWENDA in the comprehensive care clinic at Muthambi health Centre when he had come for the drugs. I explained to him about the case study then I sought consent from him to allow me use him as my client for case study and he agreed. We then agreed and planned on the home visits after which he gave me directions to his home. I introduced myself to him and explained to him that I was interested about doing case study with his condition and its mutual importance to both of us. he agreed and he gave me his phone number and address.

**BIO-DATA OF THE PATIENT**

NAME: MARCUS MWENDA MUTEMBEI

SEX: MALE

AGE: 22YEARS

OCCUPATION: DRIVER

MARTAL STATUS: SINGLE

RELIGION: CHRISTIAN

COUNTY: THARAKA NITHI

SUB-COUNTY: MAARA

LOCATION: MUTHAMBI

DIVISION: NGOROKA

NEAR PRIMARY SCH: DEB IRIGA PRIMARY SCHOOL

TEL NO: 071721187

NEXT OF KIN: SILAS MUTEMBEI (FATHER)

DIAGNOSIS: PULMONARY TUBERCLOSIS

# **OBJECTIVES OF THE STUDY**

# **BROAD OBJECTIVES**

* To Explore tuberculosis and provide quality care to a client suffering from tuberculosis

**SPECIFIC OBJECTIVES**

* To carry out a home visit
* To educate the client and the family what TB is its causes; risk factors, management and prevention.
* To encourage the client to adhere to medication, eat balanced diet and maintain hygiene.
* To enhance my understanding of TB

# **HISTORY OF THE CLIENT**

## **CHIEF COMPLAIN**

Marcus came to the hospital with the complains of coughing, sweating at night, difficulty in breathing and general body weakness

## **HISTORY OF PRESENTING ILLNESS**

My client reported history of persistent productive cough and also difficult in breathing for the past one month which could not be relieved by medication and also loss of appetite and night sweats.

**PAST MEDICAL HISTORY**

He has no history of admission

He has no history of surgical operation

He has no history of blood transfusion

No history of neither food or drug allergy

## **FAMILY AND SOCIAL HISTORY**

He is the first born in a family member of three.

he is single

There is no history of alcohol or cigarette smoking.

There is no history of chronic illness in the family

His occupation is driver

# **PHYSICAL EXAMINATION**

**Head;** hair is evenly distributed, no any scar

**Eyes;** no discharge and the pupils react to light, conjunctiva is pink in color, the sclera is white in colour and no signs of pallor.

**Ears;** no discharge and the patient has good sense of hearing and no any abnormality detected.

**Nose;** no nasal flaring, no discharge and the septum is centrally located

**Mouth;** lips are dry, tongue pink in color, no missing teeth, gums not swollen and no bad odor from the mouth

**Neck;** thyroid gland not swollen, lymph nodes not swollen

**Chest;** flat in shape, respirations 20 breaths per minute, on auscultation bilateral rhonchi heard and on percussion there is dullness.

**Upper extremities;** no extra or missing digit, they are equal in size, nails clean, short and capillary refill <2 seconds

**Abdomen;** on inspection the abdomen is not distended and has no scars. On auscultation the bowel sounds were heard. Upon percussion there is resonance. On palpation there was no tenderness.

**Back**; there were no lesions. The spine was symmetrical. There was no lordosis, scoliosis or kyphosis.

**Lower limbs**; they were equal in size and there is no extra digit. There was no edema. There was no varicose veins. There was no deformity and missing digit of toes.

**Genitalia**; reported no problem during voiding, there was no inflammation of the femoral lymph nodes and no any abnormality detected.

**CURRENT MANAGEMENT.**

Marcus mwenda is currently on the continuation phase of treatment. he uses Rifampicin and Isoniazid for four months.

**DOSAGE OF THE DRUGS**

Rifampicin- 150 mg **and** Isoniazid- 400 mg

Isoniazid may cause neural damage; thus pyrodoxine(vitamin B6)50mg OD. The client collects the drugs every 2 weeks from muthambi health center.

# **LITERATURE REVIEW**

TUBERCULOSIS

**DEFINITION;** Tuberculosis is a highly infectious and contagious disease caused by mycobacterium tuberculi.

## **CAUSES**

The Mycobacterium tuberculosis bacterium causes TB. It is spread through the air when a person with TB (whose lungs are affected) coughs, sneezes, spits, laughs, or talks.

## **TYPES OF TB**

Latent TB. In this condition, you have a TB infection, but the bacteria remain in your body in an inactive state and cause no symptoms. Latent TB, also called inactive TB or TB infection, isn't contagious. It can turn into active TB, so treatment is important for the person with latent TB and to help control the spread of TB. An estimated 2 billion people have latent TB.

Active TB. This condition makes you sick and can spread to others. It can occur in the first few weeks after infection with the TB bacteria, or it might occur years later.

## **MODE OF TRANSMISSION**

## Tuberculosis is caused by bacteria that spread from person to person through microscopic droplets released into the air. This can happen when someone with the untreated, active form of tuberculosis coughs, speaks, sneezes, spits, laughs or sings.

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## **RISK FACTORS**

* People with compromised immune systems are most at risk of developing active tuberculosis. For instance, HIV suppresses the immune system, making it harder for the body to control TB bacteria. People who are infected with both HIV and TB are around 20-30 percent more likely to develop active TB than those who do not have HIV.
* Tobacco use has also been found to increase the risk of developing active TB. About 8 percent of TB cases worldwide are related to smoking.
* People with the following conditions have an increased risk**:**
* diabetes
* certain cancers
* malnutrition
* kidney disease
* Also, people who are undergoing cancer therapy, anyone who is very young or old, and people who abuse drugs are more at risk.
* Travel to certain countries where TB is more common increases the level of risk, too.
* Countries with higher tuberculosis rates eg Africa especially

## **PATHOGENESIS**

When someone with TB infection coughs, sneezes or talks, tiny droplets of saliva or mucus are expelled into the air which can be inhaled by another person. Once the infectious particles reach the alveoli, macrophage engulf the TB bacteria. Then the bacteria are transmitted to the lymphatic system and blood stream and spread to other organs occur. The bacteria further multiply in organs that have higher oxygen pressures such as upper lobes of the lungs, kidney, bone marrow, spinal cord, meninges like covering the brain. When the bacteria cause clinically detectable disease one has TB.

## **CLINICAL PRESENTATION**

1. Productive cough of any duration
2. Coughing that persist
3. Coughing up blood
4. Chest pain, or pain with breathing or coughing
5. Unexplained weight loss
6. Fatigue
7. Fever
8. Night sweats
9. Chills
10. Loss of appetite

## **DIAGNOSIS**

**ACTIVE TB;** To diagnose PTB, a thorough physical and medical history of the patient is first taken to determine the presence of signs and symptoms of PTB as well as the risk factors to the development of PTB including cigarette smoking, low immunity, lack of immunization among others. The following tests can then be carried out to confirm PTB;

1. Sputum for acid fast bacillus test- This is a differential test to detect M. tuberculosis. Its called acid fast stain because mycobacobacteium contains large amount of lipid substances called mycolic acid within their walls which resist ordinary stains like gram stain
2. Sputum culture – a test to detect and identify bacteria or fungi that infect the lungs or breathing passages. Positive for Mycobacterium in early stages of infection
3. Gene expert test- a cartridge based nucleic acid amplification test for simultaneous rapid TB diagnosis and rapid antibiotic sensitivity test.
4. A chest x-ray part of the initial evaluation- Chest x-ray is an imaging test that uses small amount of radiation to produce pictures of organs or tissues

**LATENT TB;** The Monteux tuberculin skin test- also called purified protein derivative. Its based on the fact that, the infection with M. tuberculosis produces a delayed a type hypersensitivity skin reaction to certain components of the bacterium. Tuberculin is injected under the skin and a small pale bump forms under the skin.

Interpretation;<5mm negative for TB

>15mm positive for TB

## **TREATMENT**

Initial empirical treatment involves six months of a combination of antibiotics

**Intensive phase-** it consist of rifampicin, isoniazid, pyrazinamide and ethambutol(RHZE) for the first 2 months.

**Continuation phase**-it consists of rifampicin and isoniazid (RH) for 4 months. Where resistance to isoniazid is high, ethambutol may be added for the last 4 months as an alternative.

For the pediatrics there is no usage of ethambutol because of the side effects of color changes since the young cannot speak of this side effects.

## **COMPLICATIONS**

* Without treatment, tuberculosis can be fatal. Untreated active disease typically affects your lungs, but it can spread to other parts of your body through your bloodstream. Examples of tuberculosis complications include:
* Spinal pain. Back pain and stiffness are common complications of tuberculosis.
* Joint damage. Tuberculous arthritis usually affects the hips and knees.
* Swelling of the membranes that cover your brain (meningitis). This can cause a lasting or intermittent headache that occurs for weeks. Mental changes also are possible.
* Liver or kidney problems. Your liver and kidneys help filter waste and impurities from your bloodstream. These functions become impaired if the liver or kidneys are affected by tuberculosis.
* Heart disorders. Rarely, tuberculosis can infect the tissues that surround your heart, causing inflammation and fluid collections that may interfere with your heart's ability to pump effectively. This condition, called cardiac tamponade, can be fatal.

**FIRST HOME VISIT; Saturday 2nd November, 2019**

**OBJECTIVES**

1.To know the client’s home

2.To familiarize with other members of the family.

3.To assess the progress of the client

4.To assess the condition and type of house of my client.

5.To assess the environmental condition of clients' homestead and advise on improvement if any.

6.To identify the source of water and food of the client.

7.To identify food grown and livestock kept by the client's family and source of income

**REPORT ON 1st HOME VISIT**

* It was on 2nd november 2019 at 12pm when I and my classmate flomena cherotich started a journey to my client's home at Ngoroka village after calling him and he told me he is available. he gave me direction and told me he is waiting for us. We boarded motor bike and we arrived at my client's home at 12:20pm, we found my client with his parent and friends waiting for us. They all welcomed us warmly then we introduced ourselves to the family and my client introduced himself and his parent and friends to us. I told them my objectives for the visit and the importance and my client and his parent allowed us to progress with our objectives. I asked about his progress and drug adherence and he told me that he is doing well and he followed well prescription of drugs.

**HOME ASSESSMENT**

1.**Type of house**; The family lives in a permanent house roofed with iron sheets. The house has self-contained rooms. The parents spend the night on one room and the children on the other room. Thus the house is well ventilated.

**2.Cleanness of the house;** well clean

**3. Kitchen;** The family has a small single room kitchen.

**4.Source of water;** The family gets water from the nearby tap.

**5.Excrete disposal;** They use a pit latrine which was in the home compound.

**6.Waste disposal**; The method of waste disposal is through burning and compost pit

**7.House owned;** They have one houses, not in rent

**8.Number of rooms occupied by family;** The family has a self-contained house with 4rooms.

**9.Number of occupants;** Adults-There are two adults who live in the room.

* Children-There are two children who occupies the room.

**10.Number of beds/cots;** They have 5 beds

**11.Ventilation;** The house is well ventilated despite small windows

**12.cooking arrangement;** They have good cooking arrangement**,** have a place where they put washed utensils outside to keep it dry.

**13.source of food;** from mixed farming, the family keeps chicken only. They also grow cereals like peas, wheat, kales. The family also buy foods from market center.

**14.Food grown by the family;** The family grows wheat, sorghum, beans,kales and peas

**15.Basic diet;** The family eats githeri and ugali mostly

**16.Latrine**; They have a pit latrine in the compound

**17.Animals kept;** They keep chicken only.

**18.Condition of the compound**; The compound was clean, green and everything’s well structured.

**OCCUPATION OF THE HEAD OF FAMILY**

* The father to my client is a farmer and business
* MAIN SOURCE OF INCOME; Through business
* OTHER SOURCES OF INCOME; Farming

**FAMILY BACKGROUND**

* They are humble family. They have stayed there for several years. There is no chronic illness in the family. No consumption of alcohol and smoking. The father is a farmer while my client is a driver.

**ADVICE GIVEN**

* I advise the family on the importance of having a well ventilated room, to avoid overcrowding and to adhere to his drug regimen well to avoid relapse.
* Covering the mouth when coughing, the noise when sneezing.

**CONCLUSION**

* After we had finished with the discussion I gave them chance to ask questions and I answered them appropriately. I then thanked them for their cooperation and we planned together next visit to be on and we then returned to muthambi health center after 1 hour

**SECOND HOME VISIT**

**LESSON PLAN**

Topic: Tuberculosis

Date:4/11/2019

Time:35mins

Venue: Client's home

**Lesson Plan**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| S. No | **Time** | **Contributing**  **Objective** | **Content** | **Teaching Method** | **Learner**  **Activity** | **Implementation** | **Evaluation** |
| 1 | 5mins | By the end of the visit, the client will understand what a home visit is . | Its where a health care provider visit a client to know their health progress’ | Face to face speech | Listening & Asking question | I explained to marcus what a home visit is | He demonstrated an understanding of the home visits. |
| 2 | 10mins | By the end of the session, the client will have an understanding of what tuberculosis is, cause and its risk factors. | Tuberculosis is a contagious bacterial disease that normally affects the lungs. TB is Mycobacterium *tuberculosis*, which spreads when infected people sneeze, sing, or shout.  Risk factors-  Infection with HIV  Diabetes mellitus  Low body weight  Head or neck cancer, leukemia, &  Use of Immunosuppressant drugs | Face to face speech | Listening & Asking question  s | I explained to marcus | Marcus understood all the details pertaining tuberculosis and all the questions were addressed |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 3 | 5mins | By the end of the session the client will be able to understand the risk factors of tuberculosis | Overcrowding  Exposure to TB patient  Drinking unpasteurized milk  Chronic lung disease  Immunocompromised | Explanation | Active listening, asking questions | Notes | He was able to identify the risk factors of TB |
| 4 | 5 mins | By the end of the session the client will be able to understand the modes of transmission of tb | Transmission via cough, sneezing or singing (aerosol transmission)  Use of unpasteurized milk. | Explanation | Active listening  Active participation, asking questions | Notes | He was understood the modes of transmission |
| 5 | 10 mins | By the end of the session the client will be able to understand the various ways of preventing TB transmission | Avoid overcrowded areas.  Ensure appropriate ventilation of the rooms.  Do not drink unpasteurized milk.  Practice good cough technique | Explaining, answering questions | Active listening and participation, asking questions | Notes | he showed good comprehension of the preventive measures |

## 

**THIRD HOME VISIT; 7th November, 2019**

**OBJECTIVES**

1.To assess the implementation on advice given in the previous visit.

2.To assess the progress of the client

3.To check whether the client still remember what was thought in the previous visit.

It was on 9/11/2018 at 4pm when I boarded a motor bike from muthambi health center to Ngoroka village to my client's home. I arrived at and found my client waiting for me. I asked my client about his progress and he told me he was now feeling well and has adhered to the medication well and I also encourage him to continue with that spirit. I also ask him about what I taught him in the previous visit and he could remember most especially on preventive measures. I reminded him what he had forgotten. Then advise him to maintain with ventilation of the houses and to practice safe cough and sneezing when with the families.

**CONCLUSION**

I thanked the family of marcus mwenda for their full support and time and also the effort based on the teachings during the previous visit. I asked them to continue with the same spirit. They told me they were planning to improve on their type of houses in terms of ventilation and also diet. I told my client that am planning for termination of visit and will inform him through phone when its due. I thank my client and his families and left them comfortable.

**TERMINATION VISIT**

* It was on 9th November 2019 when I paid a visit to my client’s home for termination after agreeing with him to be on this day. After communicating with him and he told me he is at home and I arrive at around 4pm. On arrival I found my client with waiting for me. They welcomed me warmly. I asked him on his progress and he told me he is now well and conversant with the condition and also the drugs regimen and he is grateful. I asked my client questions briefly about the condition especially on prevention and was able to answer.
* on observation my client has implemented most of what was taught in the previous visits on that they were planning more improvement. I insisted on the importance of maintaining what has been implemented. I thanked my client with and also his parent for their cooperation during all visits. I encouraged them to keep the knowledge they had acquired and also to teach other community members on the same to improve the health of the community at large. they also thanked us for the knowledge they had acquired from me. I appreciated them and I boarded motor bike back to muthambi health center.

**EVALUATION OF CASE STUDY**

* The case study has been of importance and beneficial for both me and my client. Also the community at large will be beneficial since my client is a member and will share the same with others. my client was able to acquire knowledge concerning tuberculosis and also prevention of other communicable diseases.
* My client was able to acquire knowledge during the visits and implement what was taught and it is beneficial to their life especially on health issues and am grateful about it.

**CHALLENGES ENCOUNTERED IN CASE STUDY**

* My client’s home was far from my residence at muthambi and the only means of transport was motor bike
* Weather; Rain
* Time limit
* Expense

**SUMMARY OF CASE STUDY**

The case study was started on Saturday and about Tuberculosis which focuses on all issues concerning knowledge especially on drug adherence and prevention measures. it also included prevention of other communicable diseases especially on hygiene measures. It involves 3 visits, i.e. first, second, third and termination visits. all objectives were met in each visit.

|  |  |
| --- | --- |
| MY ASSESSMENT OF THE FAMILY | ADVICE GIVEN/ACTION TAKEN |
| Poorly ventilated due to small windows | To improve on ventilation by improving on windows |
| Lack of compost pit | Compost pit was dug after health education |
| Poor cleanliness of latrine | Health education on hygiene given |
| Family consuming untreated water | Health education on importance of treating water |

|  |  |
| --- | --- |
| **DATE** | **HOME VISIT** |
| 2/11/19 | 1ST HOME VISIT |
| 4/11/19 | 2ND HOME VISIT |
| 7/11/19 | 3RD HOME VISIT |
| 9/11/19 | TERMINATION VISIT |

# **RECOMMENDATION AND CONCLUSSION**

Some of the things I recommend include; awareness be created on prevention measures of tuberculosis and also the community be encouraged to go for medical checkup for early diagnosis and treatment. In conclusion, learning about tuberculosis has enhanced my understanding about the disease, its management in depth. The home visits have also helped the client a great deal to comply to medication, maintain hygiene, and eat balanced diet.

**Signed**…………………………. **Date**…………………….

**Tutors comments:**

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**signed**……………………………. **Date**…………………………

**ACKNOWLEDGEMENT**

My first gratitude goes to Almighty Allah who is above all for allowing me to carry this case study.

I acknowledge my supervisor Mr. T. kinoti for guiding me in carrying out this case study and I also appreciate muthambi fraternity for guidance and all support pertaining this case study. My sincere thanks also goes to my parent who fully support me in my studies and made me to reach at the verge of finishing line. I thank my client and his entire family for accepting me and enabling me to carry out the case study and lastly I appreciate also all my friends for all the support and guidance in terms of reference.

Thank you all.

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