

Efficiency of Apam Catholic
Hospital as a Diagnostic center
in Gomoa District:
A case study.

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Introduction

- In Ghana, as in many other countries, the impact of tuberculosis (TB) on individuals is often overwhelming affecting not only physical health, but also the social, economic, and psychological well being of the patient.
- World Health Organization (WHO) has also declared TB as a global emergency, because of increase in numbers of reported TB cases in many parts of the world including Ghana.

Introduction Cont.

Some of the reasons cited by WHO for this increase in TB cases includes:

- Inefficient TB control programs in many countries.
- rapid increase in population growth rates
- neglect for the disease by Governments in many parts of the world
- The HIV epidemic

Introduction Cont.

In Gomoa district in the central region of Ghana 222 new cases of TB were in 2007.

- 155(69.8%) of these 222 patients were cured
- 30(13.5%) completed treatment
- 30(13.5%) defaulted in the treatment

Cont.

A major reasons cited for the high rate of treatment default was.

- distance from treatment centers because most of these patients live in very remote areas.

Introduction Cont.

Goals of the Ghana National TB control program (NTP)

- To reduce the human suffering and economic burden on families and communities due to TB.
- Organize TB services so that patients receive treatment as close to home as possible.

Introduction Cont.

In order for NTP to achieve above goals.

- Access to diagnosis, treatment and cure for all patients is very necessary
- Improve both access to and utilization of health services
- Promoting a patient-centered approach and community involvement in TB care.
- Ensure that patients adhere to treatment by directly observing them taking their treatments (DOT).

Basic Facts about TB:

- TB is a systemic bacterial disease caused by mycobacterium tuberculosis.
- The organisms are also known as tubercle bacilli because they cause lesions called tubercles or acid-fast bacilli mycobacterium tuberculosis.
- Tubercle bacilli can remain dormant in tissues and persist for many years. These dormant bacteria are kept under control by the body's defenses and do not cause disease.

Basic facts about TB cont.

- TB spreads through the air when a person with TB of the lungs or throat coughs, sneezes or talks.
- Transmission therefore generally occurs indoors through airborne droplets.
- You are more likely to get TB if you have a weak immune system.

Symptoms of Pulmonary may include

- A bad cough that lasts 3 weeks or longer
- Weight loss
- Coughing up blood or mucus
- Weakness or fatigue
- Fever and chills
- Night sweats

Objectives of My Study:

- To evaluate the efficiency of Apam Catholic Hospital as major diagnostic center in Gomoa using a case study approach.
- Review the implementation of the home based treatment as an approach to reduce treatment defaults.

Methods:

- In order to effectively diagnose patients and initiate treatment on a timely manner, Ghana National TB control program(NTP) created many diagnostic centers in various districts of the country.
- Apam hospital serves as a major diagnostic center for Gomoa District in the central region of Ghana serving about 22,000 people.
- My study was done in Apam Catholic Hospital

Methods Cont:

- I worked alongside Dr Amekah, medical assistants, and nurses in the OPD and the wards from March 27th – April 15th, 2008.
- Interviewed the TB program coordinator at Apam Hospital.
- Conducted a case study of a patient.
- Visited the patient at home.

TB diagnostic criteria in Apam Catholic Hospital Includes:

- History of productive Cough > 2 weeks
- Weight Loss
- Night sweats (not as common as cough and weight loss.)
- Investigations: Chest- x ray, Sputum smears for Acid Fast Bacilli (AFB), High Erythrocyte sedimentation rate (ESR).

Case Study Presentation:

- **Chief Complaint:** Productive cough, weight loss, night sweats.
- **History of present illness:** a 55year old male presented to OPD on 2/4/08 complaining of productive cough with thick whitish sputum for several months, cough was associated with vomiting, night sweats, continuous weight loss for the past four months.

Case Study Presentation Cont.

- Patient also complained of generalized abdominal pain, dizziness, generalized body weakness, shortness of breath and palpitation especially after walking about 10ft.
- Patient reported subjective fever, but denied any chills, nausea, vomiting, diarrhea or constipation.

Case Study Presentation Cont.

- **Past Medical History:** None significant.
- **Past Surgical History:** None
- **Family History:** Non-contributory

Case Study Presentation Cont.

Social History:

- Patient used to smoke cigarettes but quit 3yrs ago.
- He drinks alcohol occasionally.
- He worked as an office messenger in a private health care facility in Accra.
- He denies any contact with someone coughing both at home and at work.
- Patient has been widowed for six years, lived in Accra for five years with a lady friend and only the two of them shared a room.

Case Study Presentation social History

Cont.

- His lady friend brought him home to his relatives when he took ill and he was staying in a relative's home prior to the hospital visit.
- He has only one daughter who is married and lives in Volta Region

Case Study Presentation Cont.

- **Education:** Middle School first grade.
- **Allergies:** No known drug or food allergies.
- **Medications:** Denies use of traditional medicine but state he was taking cough syrup (EFPAC) at home prior to seeking medical help.

Case Study Presentation Cont.

- **Immunization History:** He doesn't remember if he had BCG at birth.
- **Diet:** His diet consisted mainly of yam, rice, kenke, and banku with occasional fish.
- **Review of systems:** Significant positives as recorded in history of present illness others negative.

Physical Examination

- **Physical Examination:** This is a 55year old, very ill looking, cachetic, male.
- **Vital Signs:** Blood pressure; 78/48, R 16, T 36, Wt 40kg.
- **Skin:** No skin rashes, very dry skin with poor turgor suggesting severe dehydration

Physical Examination Cont.

- **Head, Eyes, Ears, Neck, and Throat:**
- Head: normal cephalic, no signs of trauma, sparse fine hair distribution.
- Eyes: no jaundice, very pale conjunctiva, and pupils were equal and reactive to light. Extra ocular muscles were intact.
- Ears: no discharges.
- Neck: Trachea is midline, no thyroidmegaly, no enlarged lymph nodes, no Jugular vein distention.

Physical Examination Cont.

- **Cardiovascular System:** S1S2 Regular rhythm but tachycardic, no Rubs, Murmurs or Gallops heard.
- **Lungs:** No breath sounds heard on the R side, but adequate air entry and movement on the L, no wheezing, no crackles or rales.
- **Abdomen:** Soft, not distended, no guarding, bowel sounds present in all four quadrants, or rebound tenderness. There was no organomegaly but there was tenderness to palpation (TTP) on (L) mid lower abdominal quadrant.

Physical Examination Cont.

- **Neurology:** No focal Neurological deficit Noted.
- **Extremities:** No Cyanosis, no claudication, no edema. + Bilateral pedal pulses.



Laboratory findings:

- Hemoglobin =7.0
- Sickling- negative
- Total white blood cell=6.2
- Malarial parasites= negative
- Erythrocyte Sedimentation Rate (ESR) =120
Hepatitis B Antigen (Hep B Ag) =negative.
- Blood group and cross matching= O RH (D) positive
- Widal test O=1/20, H= 1/20.
- Sputum smear for AFB= No sputum specimen.

Radiological Tests:

- See attached.

Differential Diagnosis:

- 1. Pneumonia
- 2. Pulmonary TB
- 3. R/O HIV/AIDS
- 4. Malignancy

Assessment and Plan

- Pt is 55year old, ill looking, cachetic and dehydrated male.
- Admit to Male ward for hydration.
- Investigations: Chest x-ray, Sputum AFB X3, Hemoglobin, Sickling, White Blood Count with Differentials, Malaria parasites, Widal test, Erythrocytes sedimentation rate, Hep B Antigen, Blood Grouping/ Cross matching.

Assessment and Plan Cont.

- HIV pre-counseling and testing.
- Intravenous fluids.
- Anti- malaria course.
- Crystalline Penicillin 4meg intravenously every six hours for five days.
- Routine drugs.

Hospital Course:

- TB are not routinely admitted in the hospital.
- Patient admitted from 2/4/08-10/4 /08
- To treat dehydration and low blood pressure as well as to do the required investigations.
- Patient could not produce sputum specimen.
- Diagnosis based on history, clinical presentation, chest –x ray and ESR .

Hospital Course Cont.

- Patient was referred to TB coordinator; Mrs. Frances Yabang for pre-counseling, initiation of therapy and future management of his TB.
- Patient could not go home upon discharge because he could not afford to pay his hospitalization bill.
- Treatment supporter required to initiate treatment.

Hospital Course Cont.

- Treatment monitor supports him during treatment and directly observe him taking his medications daily.
- The treatment adherence supporter or monitors could be family relatives, community base nurses or volunteers from the community.
- A community member identified as his treatment monitor.

Hospital Course Cont.

- His medications sent to the sub district nurse in Gomoa Abassa CHPS Clinic which is very close to his home town of Gomoa Brofoyedur.
- The Sub-district nurse then sent the medications to the treatment monitor.
- Supporter was provided with the Ghana National TB Control Program Patient Identification/ Treatment Support Card to record.



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- ♦ CHILD WELFARE CLINIC
- ♦ HEALTH EDUCATION
- ♦ HOME VISIT



Discharge Instructions:

- According to the national TB control program guidelines there are two categories (CAT 1 and CAT 2) of adult patients.
- Each Categories requires different combinations of Multi Drug treatments.
- There are also two phases of treatment; Intensive and continuation phases. (1)

Discharge Instructions:

- As a newly diagnosed TB patient with no previous history of failed TB treatments defaults other co-morbidities patient falls into category 1.
- His intensive phase therapy was started with HRZE (Isoniazid 5mg/kg, Rifampin 10mg/kg, Pyrazinamide 1000mg (weight 40-55kg) and Ethambutol 800mg (weight 40-55kg)).

Discharge Instructions Cont.

- Pyridoxine added to reduce the neurological complications of Isoniazide.
- Duration of the intensive phase will be for two months after which patient returns to hospital for another AFB sputum test/chest-x ray.
- Patient resumes second or continuation phase of treatment for another four months with HR (Isoniazide 5mg/kg and Rifampin 10mg/kg).
- Chest X-ray and sputum test done every two months during this phase.

Follow Up Care:

- Home visit four days after discharge.
- To confirm treatment initiation, access living situation, environment and diet.

Findings From Home Visit:

- Patient isolated in a poorly ventilated room.
- Lost his previous accommodation due to stigma attached to his disease and the anticipation that his death was inevitable.
- Diet was mainly carbohydrates; rice, kenke, bread, banku and very rarely fish.
- Complained of numbness in his extremities and as red colored urine which are effects of his medications.

Findings From Home Visit Cont.

- Was not started on Pyridoxine as ordered ; could have prevented the Isoniazide induced neuropathy.
- Not properly educated on the side effects of his medications.

Discussion:

- Good quality sputum microscopy, may be very necessary for diagnosing pulmonary TB, it may also be the major limitation in patients with who could not produce sputum.
- Other diagnostic criteria could be used to reduce delay in diagnosis and initiation of treatment in such cases.
- History, clinical presentation, chest x-ray, and high ESR were used to diagnose his disease and treatment was initiated accordingly.

Discussion Cont.

- Requires, medical trained staff with good history taking, excellent diagnostic skills and ability to interpret laboratory results.
- Efficient radiology and laboratory diagnostic equipments .
- General Electric donated chest x-ray equipment has improved TB screening in Apam Catholic hospital.

Discussion Cont.

- Apam Hospital effectively identified a treatment supporter before initiating treatment and discharging my patient home.
- Patient's medications were effectively sent to the treatment supporter via Abassa CHPS.
- Patient was not started on the Pyridoxine to reduce Isoniazide induced neuropathy.
- Patient was not well educated about the side effects of his medications.

Discussion Cont.

- In addition to providing free medical management for TB, NTP and GHS needs to address several other socioeconomic factors.
- For example, the vitality of nutrition in the recovery of from any disease including TB.
- Patient's staple foods were mainly of carbohydrate.
- NTP and GHS could implement a nutrition program to enhance patient's diet during treatment.

Discussion Cont:

- Social consequences of TB may include loss of work, divorce, ostracism by family members and the local community, and loss of housing, resulting from the fears of co-tenants and landlords.
- The stigma about TB could also impair the patient's motivation and attitude towards treatment.

Discussion Cont:

- The strength of the social stigma associated with TB in Ghana is evidently demonstrated by the local name for the disease in the Asanti Twi language: 'nsamanwa' which literally translates to 'ghost cough'.
- That my patient was displaced from his accommodation into a poorly ventilated room after his discharge from the hospital demonstrates the depth of the stigma about TB and the need for more global awareness of the disease.

Discussion Cont.

- The quality of interactions of the patient with health-care providers during medical consultations and treatment could provide excellent opportunities to reduce the impact of such stigma on the individual.

Conclusions:

- Apam Catholic Hospital effectively diagnosed my patient's TB.
- Also a treatment monitor was identified and treatment initiated timely in the patient's home.
- Patient's diet was deficient in essential nutrients . He requires a diet that provides a balance supply of carbohydrates, proteins, fats, and vitamins and the NTP could implement a nutrition program that will provide such a diet.

Conclusions Cont.

- Realizing that stigma about his disease could potentially affect his attitude and compliance with his treatment, the health care workers should continuously reassure and remind him that his disease is curable if he adheres to his treatment.

References:

1. Ghana National TB Control Program treatment guideline.
2. Osei, T. **Training in clinical TB & TB/HIV management, care and control: Gomoa District Health Directorate Power point presentation.** 2008.
3. Lawn, Stephen D. **Tuberculosis in Ghana: social stigma and compliance with treatment.** INT J TUBERC LUNG DIS 4(12):1190–1192© 2000 IUATLD
4. Lakshmi, Kiran A.; Murthy, K.J.R.; Yazdani, A. **Use of oral salbutamol in improving quality sputum microscopy in the DOTS strategy.** INT J TUBERC LUNG DIS 4(12):1190–1192© 2000 IUATLD.
5. Tuberculosis: Medline Plus. www.google.com



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