

**SPECIALISATION IN PHARMACY: A CASE STUDY OF
AHMADU BELLO UNIVERSITY TEACHING
HOSPITAL (ABUTH), SHIKA, ZARIA.**

BY:

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DISCLOSURES

- Not fully an expert in the oncology pharmacy space when compared with the best practices across the globe.
- All activities enumerated in this slides are a result of team work with my other colleagues .
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OUTLINE OF PRESENTATIONS.

- What is specialization ?
- Why do we need to specialize in pharmacy
- Why do we specialize in Oncology pharmacy
- Advantages of specialization
- Who is an oncology /haematology pharmacist.
- What are the subspecialty available under oncology pharmacy.
- Evolution into oncology pharmacy specialty.
- Impact of an oncology pharmacist intervention.
- Education and Training
- Other specialties in ABUTH

WHAT IS SPECIALIZATION?

- According to Cambridge English dictionary; Specialization is the process of concentrating on and becoming an expert in a particular subject or skill.
- The process of becoming an expert in a particular area.

WHY DO WE NEED TO SPECIALIZE IN PHARMACY?

- We need to specialize in pharmacy in order to move closer to patients and provide pharmaceutical care.
- We need to specialize, so that we provide optimal management of medications for chronic diseases such as diabetes, asthma, hypertension, cancer etc.

WHO IS AN ONCOLOGY/HAEMATOLOGY PHARMACIST?

- Oncology pharmacists are involved with the care of cancer patients at all phases of their treatments, from assessment and diagnosis, to treatment decisions, medication management, symptom management and supportive care, and finally with survivorship programs at the completion of their treatment.

WHY DO WE NEED TO SPECIALIZE IN ONCOLOGY PHARMACY?

- ABUTH is a center of excellence for radiotherapy and oncology.
- The need to close the gap that exists in accessing chemotherapeutic agents
- The need to forecast and quantify the quantity of anti cancer agents/medicines that are needed in the hospital
- Because there is an increase in cancer cases all over the world
- As the practice of pharmacy move towards specialization and pharmaceutical care, the need for an oncology pharmacy becomes inevitable
- The need for pharmacists to familiarize themselves with old and emerging therapies for the treatment of cancer
- The need to reduce the cost of cancer medicines to promote affordability, availability and accessibility of anti cancer drugs
- The need to standardize the prescribing and administration of anti cancer medications

ADVANTAGES OF SPECIALIZATION.

1. KNOW YOUR DRUG/MEDICINES; Pharmacist would know the pharmaceutical sciences of the drugs used in that particular area of specialization i.e. Pharmacology(Pharmacokinetics and Pharmacodynamics), Pharmaceutics, Pharmacognosy and Pharmaceutical chemistry.

2. KNOW YOUR PATIENTS; Pharmacist would know their patients in terms of

- Age; Whether Adult or child
- Disease Conditions
- Reactions to Drugs (Adverse drug reactions)
- Performance status
- Knowledge of personalized medicine
- Individualization of dosages
- Contraindications
- Comorbidities

ADVANTAGES OF SPECIALIZATION Continued...

3.CLINICAL OUTCOME; Improve clinical outcomes by impacting on your patients e.g

Correction of methotrexate overdose due to wrong regimen.

Dosage adjustment for a child on etoposide.

Dosage adjustment for rituximab i.v and s.c.

- Storage of drugs
- Precision in dosing.
- Reduction in cost of drugs.
- Improvement in safety Procedures(CHEMOSAFE)
- Different concept of dosing i.e. Metronomic dosing and dose banding.

ADVANTAGES OF SPECIALIZATION

Continued...

- Economic advantage/ Cost Savings.
- Boosting of DRF.
- Reimbursement for Pharmacists(Documentation).
- Reduction in the cost of drugs.
- Promotion of availability,affordability,and accessibility of anticancer medicines.
- Pharmacists would learn pattern of prescription and the guidelines for the treatment of different cancer cases.
- Pharmacists would learn the ceiling doses of anticancer medicines.

EVOLUTION INTO ONCOLOGY PHARMACY SPECIALTY.

2011---2013;

- Training by Roche and Sanofi.
- Support of HOD Pharmacy.
- Creation of oncology pharmacy Unit in the radiotherapy and oncology department of ABUTH/Support of HOD RTC.
- Development of a patient medication profile and intervention record book in both the oncology pharmacy and reconstitution room,
- Development of a stock management tool for the oncology pharmacy unit both for cytotoxic agents and supportive therapy..

2014---2015;

- Training in oncology reconstitution/ chemotherapy mixing/GHANA and NIGERIA (Courtesy Roche Nigeria).

EVOLUTION INTO ONCOLOGY PHARMACY SPECIALTY

2015;

- Creation of oncology Pharmacy store/Cold chain Management
- Fellowship dissertation on drugs management of Tumors in Ahmadu Bello University

2016;

- Creation of oncology reconstitution room inside the chemotherapy suites /ward.

EVOLUTION INTO ONCOLOGY PHARMACY SPECIALTY Continued...

2017;

- Clinical Ward rounds with undergraduate pharmacy student and postgraduate pharmacy student.

2018;

- Building of the oncology reconstitution room and the purchase of a class IIB Biosafety cabinet, PPE'S (GOWNS AND GOGGLES,GLOVES..)
- Departmental Projects by intern pharmacists and seminar presentations by interns, and recently focus group discussions in the department.

EVOLUTION INTO ONCOLOGY PHARMACY SPECIALTY Continued...

2018;

- Adverse Drug Reactions reported by cancer patients in ABUTH (Dissertation)

2019;

- Conferences/Symposium

May 2019 - AROPS(Visit to the Nairobi Cancer Center)

October 2019 - ISOPP Conference

2019;

- Article to show case the ABUTH Oncology Pharmacy in the Newsletter of ISOPP 2019

EVOLUTION INTO ONCOLOGY PHARMACY SPECIALTY Continued...

2019/2020;

- Serve as a member of ISOPP on credentialing and specialization committee to review the position statement on the role of Oncology Pharmacist in cancer patients' care.
- This was published in the Journal of Oncology Pharmacy Practice 2021 with the manuscript number JOPP-21-0259

ONCOLOGY PHARMACY STORE



ONCOLOGY PHARMACY STORE...



ONCOLOGY DISPENSARY



ONCOLOGY RECONSTITUTION



ONCOLOGY RECONSTITUTION...



ONCOLOGY RECONSTITUTION...



ONCOLOGY RECONSTITUTION...



SUB-SPECIALTY AVAILABLE IN ONCOLOGY PHARMACY.

- Ambulatory care oncology pharmacist
- Infusion center oncology pharmacist
- In-patient clinical oncology pharmacist
- Practice management oncology pharmacist
- Investigational drugs oncology pharmacist.
- Specialty Pharmacy oncology pharmacy.

IMPACT OF AN ONCOLOGY PHARMACISTS INTERVENTION.

- Cost reduction in the case of oncology reconstitution and proper quantification (about 25 to 30% reduction).
- Promotion of accessibility to cancer medications.
- Medication error detection; FOLFOX 4 OR FOLFOX 6 (folinic acid 200 or 100mg, oxaliplatin 85mg/m², 5FU 400mg bolus, SS then 600mg/m² i.v OR Folinic acid 400mg/m², Oxaliplatin 100mg/m², 5FU 400mg/m² bolus, then 2400mg---3000mg/m² i.v.
- EMACO REGIMEN
- Management of adverse drug reactions such as “nausea and vomiting, palmer planter, hypersensitivity reactions, Nephrotoxicity, Haemorrhagic cystitis, skin rashes, erythema multiforme.”

IMPACT OF AN ONCOLOGY PHARMACISTS INTERVENTION Continued...

- Dose calculations/ Individualization of dosages/Dose reductions.
- Education and training of other healthcare providers.
- Adjustment of treatment schedule and improvement in adherence to treatment schedule;
- Switching from one brand of cytotoxic drug to another.
- Identification of co-morbid states in cancer patients and contraindications to some anticancer medicines
- Alert on abnormal laboratory investigations that can affect drug therapy.
- Promotion of chemotherapy safety for the personnel, environment, patients relatives, and other healthcare workers.

IMPACT OF AN ONCOLOGY PHARMACISTS INTERVENTION Continued...

- Identification of drug –drug and drug food interactions e,g ruxolitinib and vincristine, a cytochrome P enzyme inhibitor.
- Bortezonib interacts with vitamin c, flavonoids or other antioxidants, therefore grapefruits and its juice should be avoided for the duration of treatment with bortezonib.

EDUCATION AND TRAINING

- Intern Presentations
- Intern Project topic
- Clinical ward round for pharmacy students and masters students(Paediatric ward, Surgical ward,gynae ward,RTC ward)
- Train the trainers
- Participation in Tumor board and multidisciplinary team meetings(MDT)
- Seminars, Conferences and Symposiums
- Marie Curie Cancer Center
- Stanford University/ American Cancer Society/ CHAI
- Journal of Oncology Pharmacy Practice (ISOPP)
- Training of Oncology Pharmacist in North West Nigeria
(AKTH,JUTH,FMC KATSINA,FMC ,BIRNIN KEBBI,SSS and GOMBE)

WHERE WE HOPE TO BE IN THE FUTURE

- The RTC Department is building an Oncology Treatment Centre with an inbuilt Oncology Pharmacy/Reconstitution room
- We hope to participate in Clinical trials in collaboration with the radiation and clinical oncologist.
- We hope to start publishing all our project work on oncology pharmacy
- We hope to write interesting case reports on cancer cases seen and all others we have intervened in.
- We hope to keep all our records in an electronic data management tool specifically designed for the oncology pharmacy unit ,this would make retrieval of information very easy and research easy too (ROCHE)
- Participation in the utilization of cancer health fund for indigent cancer patients.
- Part of the team developing a position statement on the use of bio-similars and Immunotherapy in the World, especially for Low and Middle income countries.
- Developing a curriculum for the training of Oncology Pharmacy in Nigeria..

SSMC AND QC UNITS

SSM, C & QC is broadly divided into three (3) subunits:

1. **Production unit:** Producing hospital and household cleaning materials
2. **Compounding unit:** Preparation of extemporaneous products using syrup B.P;
Conversion of solid dosage forms into difficult to get liquid dosage forms for paediatrics and geriatrics.
3. **Quality control unit:** Ensure quality and efficacy of products manufactured by the small scale unit: Materials purchased and finished products manufactured in accordance with SOP.

SSMC AND QC UNITS Continued...

❖ Chemistry lab:

- Carry out analysis of raw materials purchased and finish products manufactured in accordance with SOP.

❖ Microbiology lab:

- Carry out analysis of finish products (MLT) manufactured in the production unit in accordance with SOP for potency test if they fail products are recall
- Carry out analysis of water used in production, environmental monitoring.

PRODUCTS OF SSM AND QC UNIT

1. Hand Sanitizer (Gel and Solution)
2. Liquid Soap
3. Germicide
4. ABUTH Antiseptic
5. Sodium Hypochlorite 3.5% (spray and solution)
6. ABUTH Methylated Spirit
7. Super Toilet Cleaner
8. Air Freshener
9. Calamine Lotion
10. Citric Acid
11. Eusol I & II
12. Hydrogen Peroxide
13. Syrup B.P.
14. Gentian Violet solution

MEDICATION THERAPY MANAGEMENT

- Medication Therapy Management (MTM) is an evolving outcome oriented PC intervention service, provided typically by pharmacists to patients with multiple chronic medical conditions (MCMCs) that aims to:
 - Optimizing therapeutic outcomes through appropriate/improved medication use and monitoring.
 - Educate patients to better understand their health conditions and the medications used to manage them (WHO 2016).
 - Address the problem of medication-related morbidity and mortality (Jeong *et al.*, 2012).
- MTM was birthed in A.B.U.T.H in 2018 following a pilot Clinic set up as a research to provide data as evidence to set up the clinic

WHY MCMCS

- The prevention and management of MCMCs has become a global priority (Hajat & Stein, 2018)
- Studies have showed a ripple enhancement of outcomes of MCMC patients; on implementation of **MTM programs** (Billor *et al*, 2013; Monash *et al*, 2018; Neves & Nascimento, 2019)
- MTM services can be especially valuable for people
 - who are older, and have **multiple chronic conditions**
 - are seen by **multiple doctors**
 - take **multiple medications**

DRUG INFORMATION CENTRE(DIC)

- Our DIC is setup to provide authentic individualized, accurate, relevant and unbiased drug information to patients and healthcare professionals.
- It responds to medication related inquiries on:
 - Indications, dosing, side effects/adverse effects,
 - Drug interactions, poisons and poisons management,
 - Pharmacovigilance as well as other related issues.

The centre has also been providing Drug information as:

- Drug **Alerts** on fortnight basis
- Drug **News letters** on Monthly basis
- Drug **Bulletins** on Quarterly basis

THE SCOPE OF MTM SERVICE

- Providing a one to one in-depth education on:
 - The disease state
 - Assess Patients Knowledge
 - Complications and Co-morbidities
 - The medications employed in management
 - Role of self care in management
- Medication Therapy Review using: (5 Core Components)
 - Comprehensive Medication Therapy Review (MTR)
 - Medication-related Action Plan (MAP)
 - Personal Medication record (PMP)
 - Intervention/Referral
 - Documentation/Follow up

FUNCTIONS OF THE DIC

- Being an hospital-based DIC, the following activities are carried out:
 1. Responding to drug information enquiries
 2. Assists in formulary decision
 3. Participates in drug use evaluation
 4. Coordinate adverse drug reaction reporting
 5. Provides in- service education
 6. Assist in Pharmacy and Therapeutic committee (P and T) committee activities
 7. Oversee investigational drug activity and clinical continuing education programs of pharmaceutical companies

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**THANK YOU FOR
LISTENING**