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A CONCEPT ON DRUG INFORMATION SERVICES

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Abstract:

Hospital is a multiple health care institution provides patient care with the support of specialized medical and Para medical team. The drug information center (DIC) plays a key role in hospitals solving several drug problems and releases the newsletters relates to information about the drugs, diseases, patient safety and cost effectiveness of drug DIC guides, safeguards the health care professionals to the right practice of the patient's community. It offers a learning based center for health care professionals to acquire skills and knowledge necessary for conducting research and delivery of exact evidence based drug information to the community. The drug information center routinely receives queries from hospital staff, patients and responds to queries regarding adverse drug reactions, drug interactions, pharmacokinetic parameters of drugs, information on new drugs available in the market. The drug information centers should establish in every teaching hospitals, community pharmacies and patient counseling centers with sufficient resources to meet the needs of the community. The drug information center in charge should be able to assess the nature of query help of several drug databases (Micromedex) send the information to their required time duration to meet the challenge of timely information. The Drug information center will provides the written and verbal information about drugs to the patients and health care practitioners in the hospital. The drug information center allows the access to clinical knowledge, libraries and research facilities and educational activities to patients and health care professionals with in the hospital Practice.

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1.DRUG INFORMATION SERVICES AND RESOURCES:

Drug Information Centers (DIC) have an important place in the health care process since they provide independent and updated information. A search was developed in Medline, Science Direct, Academic Search Complete, LILACS and Academic Google in order to know the state of the art of DIC around the world. Regarding to a timeline, the first European DIC was created in 1960 and studies that described local situation were identified in 1996 and 2001. Thereafter, in the United States the first DIC was created in 1962 and 3 studies that describe DIC characteristics and changes trough time were identified between 2003 and 2008. Moreover, DICs were created in Singapore in 1980 and in Venezuela in 1981. In India was created a DIC in 1997. Subsequently, the WHO performed workshops in 2006 in order to create new centers in this country. In Asia was conducted a study in 1996 that identified 4 DIC. Concerning Latin America were found studies that describe local DIC from Brazil (2001) and Costa Rica (2003). Also, the network of Latin American and Caribbean DICs (REDCIMLAC) was created in 2011. In all consulted studies the DICs features were described including type of questions, professionals and infrastructure among others. Some of these studies included a comparison with the WHO technical document.

POISON INFORMATION CENTRE:

Poison information is a specialized area of drug information which includes information about the toxic effects of chemicals and pesticides, hazardous material spills, household products, overdose, of therapeutic medicines including mushrooms, animal toxins from bites of snackes, spiders and other venomous creature and stings.

Main objectives

The main objectives of DIC are;

1. To provides an organized database of specialized information on medicines and therapeutics to meet the drug information needs of practitioners.
2. To educate pharmacy students to serve as effective providers of medicines information.
3. To promote patient care through rational use of medicines.
4. To provide accurate and unbiased medicines information service to the pharmacists, physicians and other health care professionals in the hospital and community.

DRUG INFORMATION RESOURCES:

1. Textbooks, newsletters, journals.
2. Newsletters, microfiche reader.
3. Optical disks,
4. Computer systems,
5. Tertiary resources>>>Secondary resources>>>Primary resources.

INTRODUCTION:

Drug It is defined as a substance or mixture of substances or medical equipment's or supplies, used for human and animal health care to diagnosis, treatment mitigation or preventions of diseases or symptoms. Drug information center A branch in the hospital designed for receiving, collecting, analyzing, and providing unbiased, accurate and up-to date information about drugs and their use]. Drug information service The activities, functions through which centers achieve their objectives and which constitute their programs of work collaborated with various departments in the hospitals. Purpose of drug information center

- ✓ To provide comprehensive, objective and evaluated information on drugs with a view to enhancing the rational use of drugs.
- ✓ To disseminate technical, scientific & objective information to health care providers.
- ✓ To disseminate appropriate drug information to the general public.
- ✓ To generate, collect, analyze and maintain drug information data.
- ✓ To design produce and distribute drug information materials.
- ✓ To give appropriate information on toxicology and poisoning.

2. TYPES OF HOSPITALS:

GENERAL HOSPITALS:

These hospitals offer treatment for common diseases.

SPECIALIZED HOSPITALS:

These hospitals focus on giving medical and nursing care in a specific area, e.g., ophthalmic hospital (deals with eye related problems), orthopedic hospital (deals with bone related problems), cardiac hospital (deals with heart related problems), etc.

ISOLATED HOSPITALS:

This is a hospital in which patients requiring isolation and suffering from communicable diseases are taken care of sick patients.

TEACHING HOSPITAL:

It is attached with district head quarters hospital attached with medical college provides teaching and training of doctors for example, Medical Colleges .

Rural hospitals:

These hospitals are located in rural areas, permanently staffed by at least one or more physicians in the practice.

Departments in hospitals

- ✓ Outpatient department
- ✓ Inpatient department

More than 50 years after the development of the concept of Drug Information Center, they occupy an irreplaceable position in the health care process, to be the ideal sources of scientific information for the user through the available database, to receive appropriate information to solve their problem or special need. The Pan American Health Organization (PAHO) defines Drug Information Centers (DIC) as operational units that provide technical and scientific information about drugs in an objective and timely manner. Also states that they constitute an optimal strategy to meet particular needs of information. To do this, the DIC have databases and sources of drug information and trained professionals that generate independent information relevant to the requests that are made or any need identified. Other Drug to the concept 245 authors define a DIC as "an institution dedicated to provide objective, independent and current information on drugs and their use, and communicate to the different categories of users for better understanding and benefit of patients" . On the other hand, PAHO defines Drug Information Services (DIS) as part of the activities of pharmaceutical services of a health institution with essential presence of the pharmaceutical professional who provides drug information services supported by scientific sources, updated and independent. Therefore, DIS belongs to an institution and provides information services only within it. The overall objective of the DIC is to promote rational drug use through technical-scientific, objective, current, timely and relevant duly processed and evaluated information. It is generally accepted that the DIC have two basic functions: the development of passive information addressed to solve or contribute to the solution of problems related to drug use in individual cases, and the development of Active Information, represented by education activities, dissemination of information and research in the field of drugs. Within a DIC can specify the following functions: attention to drug information questions, information dissemination, research and education

PAHO has raised some basic requirements to run a DIC, which contemplates a physical area used exclusively for the DIC and with sufficient capacity for normal operation (with an area for the reception of requests for information, for the library and work area or to read and assess the information); general office equipment (computer with printer and Internet access, microfiche reader, copier and external hotline and fax services); information resources including primary sources (journals); secondary (indexes, abstracts, databases) and tertiary (books, abstracts, forms), human resource consists of a center director (preferably a pharmacist or a doctor) with expertise in information, clinical pharmacology and therapeutics. Attendees can be internal, students or interns and secretary, and funding sources that could be agreements between public and private institutions as long as it is never forgotten the preservation of the independence of the information supplied by the center or the collection of services provided by the DIC preferably with differential scales. The first Drug Information Centre in Europe was created in 1960 in the UK. Since then they have been developing formal DICs worldwide in order to provide accurate and timely information in response to specific questions on drugs. The above guidelines PAHO Drug Information Centers, which were raised in 1995 and 1997, define the fundamental aspects of a DIC operation. However, some of these requirements may be obsolete or need an update.

FUNCTIONS OF HOSPITAL:

There are many services provided by these hospitals they are:

- ➢ Diagnosing and treating the several diseases.
- ➢ Dispensing and distribution of medications to the community.
- ➢ Immunisation for children against many preventable diseases in the community.
- ➢ Family planning and maternity care through special departments.
- ➢ Emergency care, Health Education training and Research, Patient care services.

3. SERVICES OFFERED BY DRUG INFORMATION:

- o Patient care services
- o Poison information services who can access the drug information services
- o Doctors
- o Physicians
- o Nurses
- o Students
- o Medical Professionals
- o Researchers in Pharmacy Practice area
- o Drugs and therapeutic committee members
- o Pharm. D and Pharmacy Practice Professional

CLASSIFICATION OF DRUG INFORMATION CENTERS:

It can be mainly classified into three types it includes:

- Hospital based drug Information Center
- Industry based drug Information Center
- Community based drug Information Center Facilities of drug information center
- Shall have its own office with adequate size and furniture.
- Ethiopian Pharmaceutical Journal
- Ethiopian Medical Journal
- Ethiopian Journal of Health Development
- American Journal of Hospital Pharmacy or American Journal of Health System Pharmacy
- British Medical Journal
- Journal of Pharmaceutical Sciences
- Journal of American Pharmaceutical Association
- Journal of American Medical Association
- New England Journal of Medicine
- Lancet
- Australian Prescriber
- The British National Formulary

DRUG INFORMATION SERVICES GLOBAL SCENARIO

AUSTRALIA:

In Australia, most DICs are located in hospitals and associated with clinical pharmacy programmes. The National Prescribing Service (NPS) is an independent, government funded organization to promote the quality of medicines for patient care and consumer education.

UNITED KINGDOM:

The United Kingdom Medicines Information Service (UKMi) is a National Health Service (NHS)-funded, pharmacy-based service available to all health-care professionals in primary and secondary care.

USA (United States of America):

The first drug information center was opened at the University of Kentucky Medical Center in 1964. The Drug Information Association (DIA) was established in Maryland, USA. In 1958 the American Association of Poison Control Centers (AAPCC) was founded to promote cooperation between poison centers in different cities and to standardize the operation of these centers.

CANADA:

The Ottawa Hospital Drug Information Service is part of the Pharmacy Department and answers the requests from all hospital staff but most commonly receive questions from physicians, pharmacists, pharmacy technicians, nurses and health-care professionals in training.

MALAYSIA:

The National Poison Centre (Pusat Racun Negara) was set up in 1994 culminating on the services provided by the Integrated Drug and Poison Information Services (IDPIS), Universities Sains Malaysia since 1982.

SINGAPORE:

The Drug and Poison Information centre in Singapore was established in April 2004 to provide life saving services to the citizens of Singapore 7 days a week, 24 hours a day. The Information is delivered to healthcare professionals, industries and members of the public.

JAPAN:

Nahoko Kurosawa is a Professor of Pharmacy, at School of Pharmacy, Hokkaido Pharmaceutical University. The University was established in 1974, in Hokkaido, the northern island of Japan.

INDIA:

The pioneers in providing drug information in India are the Karnataka State Pharmacy Council (KSPC), SRM College of Pharmacy, SRM University, Chennai, JSS College of Pharmacy, Mysore, and Ooty, Thiruvananthapuram medical colleges. There are some specialized centre's that provide information exclusively on poisoning, e.g. Poison Information Centre, All India Institute of Medical Sciences (AIIMS), New Delhi, JIPMER, Pondicherry. Most of the DICs are attached to teaching hospitals in collaboration with pharmacy schools running clinical pharmacy programmes in India].

EUROPEAN COUNTRIES:

The European Association of Poison Centres and Clinical Toxicologists (EAPCCT) was founded in Tours, France, 1964.

SAUDI ARABIA:

National Drug Information Center has started providing services since January 2013 and started answering public and professional inquires through Ministry of Health Hotline Calling Services (937) since December 2013. Ten on call clinical pharmacist and expert trained pharmacist over 24/7 received calls asking about drug information, through manual documentation system of drug information inquiries.

KUWAIT:

Over the past few years, there has been a modernization of pharmaceutical services in Kuwait. In 1983 a drug information center was opened. A one-year postgraduate, long-distance program leading to a diploma in clinical pharmacy was started in

October 1987 in cooperation with Queen's University of Belfast, Ireland. Pharmacist and physician tutors were assigned to supervise students in the major hospitals in Kuwait.

4. OBJECTIVES OF DRUG INFORMATION CENTERS:

- To define the minimum requirements for establishing Drug Information Center at different levels.
- To guide in recognizing the importance of monitoring and evaluation in maintaining the quality of drug information disseminated.
- To serve as a guide for the centers
- To provide an organized database of specialized information on medicines and therapeutics to meet the drug information needs of practitioners.
- To educate pharmacy students to serve as effective providers of medications information.
- To provide accurate and unbiased medicines information service to the pharmacists, physicians and other health care professionals in the hospital and community.
- To promote patient care through rational use of medicines. Benefits of drug information services
- Reducing the drug related problems.
- Providing accurate information services to various health care professionals.
- Increased productivity for pharmacists and prescribers through less frequent calls to doctors to check prescriptions.
- Improving patient compliance and patient safety.
- Minimizing the drug related issues to the patients.
- Improving the medication adherence.
- Improve the distribution of the drugs without any problems.
- Reduced medication abuse and improved drug cost management.
- Increased patient and provider satisfaction.

GOALS OF DRUG INFORMATION CENTERS:

To provide accurate and timely responses to medical professionals.

- Inform the community about benefits of drug centers.
- Provide the evidence-based use of medications that reduce drug problems.
- Improve the drug's safety and efficacy in practice.
- Developing the research in drug information, medication safety in the hospitals.
- Educate pharmacy students and medical community in drug information practice with in the hospital location.
- Drug information clients by category
- Health professionals
- Researcher
- Regulatory body
- General public

ANSWERING DRUG INFORMATION QUERIES:

1. Analyse the type of drug information.
2. Understand the background of the question.
3. Understand the real need of the physician.
4. Follow systematic approach.

5. ROLE OF PHARMACIST IN PROVIDING DRUG INFORMATION:

The emphasis of the pharmacy profession has evolved from technical, product-focused duties to patient-focused, health outcomes counseling information and specialized services. The nation is embarrassed by this "Pharmaceutical Care" change, in which pharmacists accept responsibility for patient outcomes related to their medication therapy in partnership with other health care providers. Today's pharmacists are primarily responsible for identifying, fixing, and preventing drug-related issues. In order to realize the objective of "Health for by 2000," several crucial components of healthcare are outlined in the report of the worldwide conference on primary health care held in September 1978 at Alma Ata

More importantly, this report was seen as a fundamental requirement that needed to be supplemented in accordance with the nation's economic and social principles, and it's Public. To different people from various nations, the word "HEALTH" signifies different things. For far too many, it simply refers to being free from illness or the absence of illness. Health is total physical, mental, and social well-being, not only the absence of disease, according to the WHO. Ayurveda defines health as having a "well-balanced metabolism. Happy mental and sensory condition. Notwithstanding the WHO's shortcomings, the concept of health is expansive, beneficial, and gives countries a broad objective to work towards. Ought to march. Citizens' "Good Health" promotes social and economic protection

PROFESSIONALS INCLUDE IN HEALTHCARE SYSTEM:

Direct professional

- ✓ Pharmacist
- ✓ Physician/doctors
- ✓ Nurses
- ✓ Compounder
- ✓ Dispenser
- ▪ Indirect professional Like Engineers, Teachers and every person
- ▪ Different professional plays different minor

Roles in health care system but only Pharmacist Play major role in health care system.

Pharmacy Act of 1948 states that a registered chemist is "a person whose name is currently included in the register of Roles pharmacists of the State, in which he is now residing or operating his pharmacy-related profession or business.

PHARMACIST is an acronym denoting

- ❖ P- Patience
- ❖ H- Honesty
- ❖ A-Alertness
- ❖ R-Research
- ❖ M- Motivator
- ❖ A-Administrator

It is evident that medicine has been prepared by the ancients since those times. Today, we refer to a specialist as a chemist. Human lives are still saved by medication today. Humans have basic needs for food, clothing, and shelter, but today's greatest basic requirement is medicine. According to a discussion at a British pharmaceutical conference in 1963, a pharmacist is regarded as an expert on drugs and that "without medicine there is no life, it acts as sanjivani for human beings." Such medications are only created by pharmacists, who are also the first members of the health care system.1 This paper pointedly aimed to

- ✓ Provide the patient the appropriate drug at the right time, in the right dose, by the right route and in the right method.
- ✓ To get better therapeutic outcomes
- ✓ To receive professional pharmaceuticals care
- ✓ To understand the strategy to deal with side effects And drugs interactions
- ✓ To improve better compliance.

6.ROLES OF PHARMACIST IN HEALTHCARE SYSTEM.

Academic Pharmacist:

Academic pharmacists place a strong emphasis on student training, research, and instruction. Universities are a significant source of pharmacists are a professional addition to the healthcare industry. Organizing seminars, projects, or system academics is one way that pharmacists contribute to the healthcare system. Health care providers are motivated by education. Students gain a thorough awareness of the scientific concepts and methods of the pharmaceutical sciences from their basic education training and pre-registration training, as well as the capacity to keep up throughout their careers with advancements in medicine and pharmacy.

EDUCATION REGULATION 2020

- ER 2020 plays a huge role in the modern, industrialized world. Students need a good education to be able to survive in this competitive world. Modern society is based on students who have high living standards and knowledge which allows them to implement better solutions to their problems.

RESEARCH AND DEVELOPMENT:

Pharmacists contribute to research, and the biological sciences particularly benefit from their knowledge of formulation creation. Access to active substances Manufacture and quality assurance: A comprehensive approach to quality is ensured by the pharmacist's in-depth understanding of the pharmaceutical sciences. Assurance (including good manufacturing practice) by validating the various production phases and testing goods before distribution.

SALES AND MARKETING:

The chemist, whose ethical obligations call for a concern for patients' interests, can contribute to suitable marketing strategies for health services and the dissemination of relevant information to the public and health professionals.

MANAGEMENT:

Including pharmacists at all levels of management encourages management policies to have an ethical approach.

PRIMARY CARE PHARMACIST/ PRESCRIBING ADVISORS:

Prescription advisors and primary care pharmacists are individuals who work for NHS organizations and oversee a variety of services. Health services, including community pharmacy and medical offices. The best use of the area's resources and medications is what they are responsible for ensuring. Several locations have primary care or practice pharmacists who also hold medication review clinics and interact with patients frequently.

COMMUNITY PHARMACISTS:

Pharmacists are on the front lines of healthcare in all of the country's cities, towns, and villages. Their workplaces are their pharmacies or out of the

doctor's offices and neighborhood hospitals. As a community pharmacist, your employment would revolve around serving the public by evaluating their health and deciding which medications they should take. In addition to distributing medication, they will counsel patients and provide them with useful health information. The work is quite responsible, and local pharmacists are frequently well-respected members of their communities.

Moreover, community pharmacists are increasingly assuming clinical tasks that have historically been filled by doctors, such as managing asthma and testing for diabetes and blood pressure. Also, they offer advice on sexual health issues, help people quit smoking, and change their diets to become healthier. Several neighborhood pharmacists like the responsibilities of financial management and the accountability for personnel, inventory, and facilities that come with owning their own business. Others have the chance to move about inside a well-established corporate structure because they work for huge high street pharmacy chains pharmacists with particular interest: Pharmacists with special interests work to advance their knowledge and abilities in specialized fields like diabetes.

HOSPITAL PHARMACY

Pharmacists in hospitals play a crucial role in the healthcare system. Being a hospital pharmacist entails working in PHC or private hospitals. You work in a team where the patients come first. The pharmacy department of a hospital offers us a wide range of opportunities. As doctors, pharmacists frequently participate in ward rounds and are now more active than ever in deciding which treatments to recommend to patients. Together with overseeing the care of patients with various conditions, coordinating the production of sterile medications, working in the dispensary, and supplying the entire hospital with information on medications are other duties. You can also participate in the hospital's overall management. Some pharmacists specialize as consultant (or as Pharmacists with specialist interests) in many areas as Hematology (blood), Nephrology (kidneys), Respiratory medicine, Cardiology (heart), Urology (Urinary), Diabetes, Gastroenterology (stomach and Intestine), Infection diseases, pediatrics (children) and Care of the elderly .

Pharmacy a complete profession: Pharmacists reflect on every sector of society in the form of

- Artists – designing a drug dosage form
- Lawyer – having fair knowledge of laws and Legislation about the drug
- Engineer – having sound technical knowledge o Entrepreneur – with sound knowledge of management
- Accounting, marketing, Counseling
- Health professional – having fair knowledge regarding Health.

WHAT OTHER HEALTHCARE PROFESSIONALS EXPECTING FROM PHARMACISTS:

Pharmacist collaborates with a variety of groups and other health professionals, depending on the topic or area with which they want input and collaboration. For patient care, they collaborate with other health professionals (i.e. physicians, physician extenders, nurses, case managers, social workers, laboratory and radiology technicians, or other GSC Biological and Pharmaceutical Sciences, 2023, 24(01), 036–045 44 pharmacists). They will also review current literature and reference articles-and may even contact the drug manufacturer-when determining the appropriateness of drug therapy for a patient's condition.19, 20 Among the self-efficacy statements the majority of nurses and physicians agreed that having a pharmacist present to help manage medication issues allowed them to feel more confident and better able to concentrate on their own professional roles. Within each profession, these opinions did not change implementation of clinical pharmacy services.

FUTURE ROLES

- Pharmacists will be able to take on a role similar to a physician, and use AI to complement their consulting work. Pharmacists will be able to operate as care providers and advise patients on their medical conditions while delegating administrative tasks like the collection of medications to AI-powered machines.
- Provide expert healthcare with a leading role in the clinical interactions with patients and in the decisions surrounding the patient.

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