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NEED AND IMPORTANCE OF DRUG INFORMATION CENTRES IN INDIAN HOSPITAL SYSTEM

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ABSTRACT

Drug information centres are the places where registered pharmacists provide any drug related information to healthcare professionals and to public for better patient care. WHO recognises independent drug information centres, as a core component of national programs to promote the rational use of medicines. The services should include collecting, reviewing, evaluating, indexing and distributing information on drugs to health workers. This allows access to clinical experiences, libraries, research facilities and educational activities. In India physicians received the maximum drug information from the pharmaceutical company representatives. Most of the developing countries suffer from lack of drug information due to limited availability of current literature, poor documentation and less dissemination of little information available. In a part of routine pharmacy practice effective drug information and evaluation skills plays a major role.

KEYWORDS

DIC, Resources, Developing countries and Datas.

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INTRODUCTION

[1]In India, more than 80,000 formulations are available in the market. General Practitioners have limited access to reference books or computer based databases. They receive most of their information from pharmaceutical company representatives. Access to authoritative and independent information is fundamental for the [2]rational and effective use of drugs.

The main function of Drug Information Centres (DIC) is to provide written and / or verbal information or advice about any information related

to drugs or its therapy to healthcare providers, organizations, committees, patients and to public in response to their request. Finally this will help better patient care by all means. [3]WHO supports independent DIC`s as a core component of national programmes to promote better healthcare to all.

HISTORY

University of Kentucky Medical Centre opened first DIC in 1962. The staffs play an active role to educate the Health Professionals within the institution. Later in [5]1973 the number of DIC`s increased to 54 in[6] USA. Now they have more than 120 full-fledged pharmacist-operated DICs.

The Concept of DIC in[7] India started in JSS Otacamund, Tamilnadu, Thiruvananthapuram Medical College, kerala, Karnataka State Pharmacy Council (KSPC) and Maharashtra State Pharmacy Council. The India - World Health Organization in collaboration with KSPC supported establishment of 5 DIC`S. These centres were opened in Assam (Dibrugrah), Chattisgarh (Raipur), Goa (Panaji), Haryana (Sirsa), Rajasthan (Jaipur). There are over 15 Drug information counters providing clinical pharmacy services in India, and they can be classified as independent. Some of the independent centres like Pharma Information Centre (PIC) provide information to drug manufacturers. The hospitals at Chennai and Coimbatore also have a similar[8] program.

[9]NEED OF CONCEPT

- Illiteracy and financially backward patients.
- Obtaining unbiased drug information from various sources.
- A more than 80,000 (and counting) formulation in the market makes it very difficult for a person to remember it all.
- Lack of awareness of rational drug use among various health care professionals.
- Limited availability of current literature, poor documentation and availability of fewer funds.
- The main aim of national drug policy should be towards health rather than industry.
- Limit the sale of over-the-counter drugs.

Difficulty of a healthcare professional to go through more than 6000 articles, which is [10]published in a single day itself.

LIST OF DRUG INFORMATION CENTRES IN INDIA

- Andhra Pradesh State Pharmacy Council, Andhra Pradesh.
- Bowring and Lady Curzon Hospital, Bangalore, Karnataka.
- CDMU Documentation Centre, Kolkatta.
- Christian Medical College Hospital, Vellore, Tamilnadu.
- Department of Pharmacy Practice, Chidambaram, Tamilnadu.
- Department of Pharmacy Practice, National Institute of Pharmaceutical Education and Research (NIPER), Chandigarh.
- Drug Information Centre, Victoria Hospital, Bangalore.
- Jawaharlal Nehru Medical College Hospital (JNMC), Belgaum, Karnataka.
- JSS, Ooty, Tamilnadu.
- JSS, Mysore, Karnataka.
- Karnataka Drug Information Centre, (KSPC).
- Karnataka State Pharmacy Council (KSPC), Bangalore.
- Maharashtra State Pharmacy Council, Maharashtra.
- N.R.S. Medical College and Hospital, Kolkatta.
- Tamilnadu Pharma Information Centre, Chennai.
- The registering authority for Drug Information Centres is the[11]. The International Register of Drug Information Services (IRDIS).

CLASSIFICATION OF DRUG INFORMATION CENTERS

It can be mainly classified into three type's i.e.
- [12]Hospital based DIC
- Industry based DIC
- Community based DIC

ROLE OF DRUG INFORMATION CENTERS IN DEVELOPING COUNTRIES

Primary duty of Drug Information Centres is to answer questions about drugs. Other than that, they have to

- Write Bulletins
- Prepare Formulary management
- Provide training related to Drug Information
- Investigate drug use
- Perform Pharmacovigilance etc.

With the help of e-mail and websites now we can disseminate drug information services in a less costly and less time-consuming way. The promotion is a managerial task and should be planned according to the staff, financial support, facilities, partnership and the service has to balance its activities. A complementary strategy could be to teach pharmacy, medicine and nursing students how to use drugs rationally and reduce the burden of irrational drug use. They can also learn how to evaluate drug information critically. Partnership is a good way to strengthen and to disseminate the service. It can be done by running projects. One example of the above said project is to support government, for rational drug use through campaigns. Therefore, DICs should add project development to their portfolio.

REQUIREMENTS FOR SETTING UP DRUG INFORMATION CENTRES IN DEVELOPING COUNTRIES

In developing countries, we should require two basic facilities to set up and maintain DICs are
A trained person to provide drug information and
Updated drug information literature.
It is obvious that a DIC cannot work without financial support and office facilities. In developing countries it is difficult to find professionals with the skills required to run a drug information service. As a result, pharmacists often must be trained - that should be the first priority.
Some points we should keep in mind for the selection of a potential drug information person.
The personal qualities required are

- Knowledge of pharmacy and public health;
- English reading comprehension skills;
- Computer literate;
- Good verbal and written communication skills;
- Expressed interest and commitment to work in this field.

Selection typically should be done by health-professionals at the institution that is interested in setting up a DIC. In the case of training for the selected professional, it can be done in an established DIC that provides this kind of training or we should give him/her a specific training course. The teaching objectives should include:

- The role of DICs in the health system;
- The rational use of drugs;
- How drug information is prepared;
- Critical evaluation of drug information, including Internet;
- Drug information service practices.

A trainee should also write down a project to set up a drug information centre in his institution for two reasons:

Firstly, a written project gets credibility to the proposal and it is under tutor's supervision and can be discussed before the final version. Then, at the end of training, he/she goes back to his/her institution to present the project to the institution director and, if possible, get the approval to set up the DIC. If it is approved, he/she can ask those who trained him/her to help in the process of setting up the DIC.

Secondly, up-to-date drug information literature is another key issue for a DIC. There are many articles, books, and websites that suggest drug information sources that should be present in a DIC.

SOURCES OF INFORMATION

To answer any drug information question in the best manner, the source of information [19] selected plays an important role. We can divide the literature categories into three.

Primary Resources: This is the base of the foundation

1. Secondary source : It connects information seeker to the primary literature

From the above tables and references we can decide which one to be used. It solely depends upon

- Availability

- Personal preference and
- Level of details needed

It will be fair, to refer multiple resources for the completion or validation of answer for a question enquired. If we need more clarifications or the collected information is not satisfying, then we have to go for journal articles reporting the results of clinical trials.

Example: Pubmed

This is often used because it gives access to citations and abstracts of thousands of biomedical journals and links from its main page.

Beyond that, reliable free drug information can be obtained from the following

- British National Formulary (www.bnf.org), WHO Drug Information and WHO Pharmaceutical Newsletter (www.who.int/medicines/information/infperi odicals).
- WHO Drug Formulary
- AIso, there are so many free drug bulletins like
- Australian Prescriber (www.australianprescriber.com);
- The Brazilian Evidencia Farmacoterapeutica [Evidence Pharmacotherapy] (www.cff.org),
- UsoRacional de Medicamentos: temasselecionados [Rational Use of Drugs: select subjects] (www.opas.org.)
- Boletim da Sobravime (Sobravime Bulletin) (www.sobravime.org)
- The ISDB website www.isdbweb.org gives access to many others.

CHALLENGES FOR RUNNING DRUG INFORMATION CENTRES IN DEVELOPING COUNTRIES

WHO recommends setting up DICs and drug bulletins as useful ways to provide independent drug information. One the reason for the failure of DICs is that, their director has other responsibilities. For example, in many Latin American countries, DICs were located in Pharmacy colleges and they are directed and run by a Professor or HOD of the same. This could be a wrong approach. So it should remain close to Pharmacists, Physicians, Nurses and other

Healthcare Professionals. They can deal better with the promotion of rational drug use.

Quality assurance is useful to ensure the performance of drug information services and it should continuously check and compared to a good standard. Monitor regularly key processes like

- Number of questions answered per year,
- Questions answered within 24 hours,
- User's satisfaction,
- Publication of bulletin,
- Participation in drugs committees,
- Updating status of drug information sources,
- Continuing education by drug information specialists etc.

NETWORK OF DRUG INFORMATION CENTRES

- We can successfully run a network of DICs by facilitating
- Sharing of information resources and experiences,
- Help to solve difficult questions,
- Developing Drug Information Software,
- Consolidate statistical data from DICs,
- Identify request patterns and
- Developing research projects

By jointly organizing training courses about topics like evidence based practices or pharmacoeconomics, we can improve the knowledge of Drug Information specialists also. The Brazilian Drug Information System (SISMED) Sistema Brasileiro de Informacaosobre Medicamentos) which started in 1996, is a voluntary network of DICs and currently it has more than 21 members. Its activities and achievements were run by it member DICs in areas of information, education, training courses, research and [13-15]partnership. They also give in-service training to enable pharmacists to set up their institutional DICs.

Exposure and Visibility

It can be accessible to various kinds of healthcare professionals and to public also. For this, we should advertise it with the aid of print media like brochures, posters etc and electronic media like television, computer mobiles etc.

Personal and Qualification

DICs need a multidisciplinary team. Total number of persons who should work in it is directly proportional to the call volume. Round-the-clock service of a clinical pharmacist is a must. The training and experience of a pharmacist must be clinically based. Effective pharmacotherapy training depends upon good [16-18]communication. As the workload of the counter increases, it may be necessary to include some of the persons in part-term basis.

Human resource development

Drug and Toxicology information services should be of the same career structure of Academic/Educational services. All the staffs related to it should be given the opportunity for additional training and advancement within their own capabilities. Appropriate professional staffs should be encouraged for research activities also.

Documentation

The successful functioning of DIC is fully dependent on documentation in a pre-determined way. We can broadly divide it into two types.

The primary source is to extract datas from various external sources like journals, textbooks, handbooks, reports and data sheets.

Secondary source is to collect datas from internal observations made by the DIC staffs and from follow-up cases, including those who are hospitalised. They should have their own library. Additional books and other publications should be accessible to the centre from other relevant sources of information such as medical or pharmacy library.

Table No.1: Sources of Drug Information by [20,21]Literature type

S.No	Category	Definition	Examples	Advantage	Limitation	When to use
1	Primary Literature	Publication of original research that has not been interpreted or changed by others	Scientific journals which report results of case studies, research/ clinical trials	Current and original information	Knowledge of Scientific methods and statistics is needed to properly interpret the information	Most up to date information
2	Secondary Literature	Resources which provide access to the primary literature	Indexing and abstracting databases	Provide efficient access to primary literature	Users need to be adept at searching electronic databases	Primary literature
3	Tertiary Literature	Collection of data and concepts drawn from primary literature	Reference books, drug monograph collection, review articles	Convenient and easy to use information is well established	Information may be dated due to gap between resource is written and published	Background information or quick answer

Table No.2: Literature research databases[22-24]

S.No	Resource	Contents	Topics covered
1	International Pharmaceutical Abstracts	Citations/Abstracts from over 750 pharmaceutical, medical and health related journals published since 1970	Pharmacy education Pharmacy administration Biopharmaceutics Pharmacokinetics New drug delivery systems Pharmacist liability Legal, political and ethical issues
2	Iowa drug information services	Selected citations abstracts and full-text articles from approximately 200 peer-reviewed medical and pharmaceutical journals	Articles published within select journals directly related to drug therapy and disease state information
3	PubMed	Over 15 million citations and abstracts from over 4000 biomedical journals from 1950`s to the present Limited links to freely available full text articles	Medicine Nursing Dentistry Pharmacy Veterinary medicine Health care system Preclinical sciences

2. Tertiary Resource: It's the core body of knowledge developed from primary literature

Table No.3: Tertiary Drug Information Resources[25-34]

S.No	Resource Name	Available Formats	Key Features
1	AHFS Drug Information	Print	Drug monographs of single entities in US arranged by drug classification
		Online	Includes bibliography of cited reference
		PDA	Extensive indexing
2	Clinical Pharmacology Online	Online	Online database of drug information monographs
		PDA	Product identification tool Drug interaction checker Ability to screen multiple drugs for adverse reactions Patient education References to primary literature
3	Drug Facts and Comparisons	Print	Drug monographs of single drug entities in US arranged by 14 categories of therapeutic use
		Online	
		CD	
		PDA	
4	Drug Information Handbook	Print	Quick reference to commonly used drugs in concise format
		Online	Arranged alphabetically by generic drug name
		PDA	Includes brief information about some combination drugs
5	Martindale`s: The Complete Drug Reference	Print	Includes propriety preparations from 27 countries
		Online	Most commonly used to identify equivalents
6	MICROMEDEX Healthcare Series	Online	Multiple databases including drug monographs, disease summaries, toxicology, drug interactions and patient education
7	Mosby`s Drug Consult	Print	Prescription drug monographs are the complete manufacture`s package insert
		Online	Arranged alphabetically by generic name
		PDA	Includes pricing information and product identification guide
8	Physicians` Drug Reference	Print	Monographs include an exact copy of the product`s FDA approved or other manufacturer supplied labelling
		Online/PDA	Arranged alphabetically by manufacturer
9	Red Book	Print	Most commonly used for drug pricing
		CD	Products arranged by brand name with cross-references to generic name

CONCLUSION

Pharmacists faced with a number of challenges when developing drug information systems. In this context, therefore, is how best to work within these constraints and utilize existing resources to monitor drug use cost effectively. The DIC has provided itself to be an impressive resource, which is used regularly as an information source by all levels of people involved in the health system. Future of clinical pharmacy and drug information system in India is very bright. Government and private hospitals should come forward to establish DIC and to provide patient focused services through efficient drug information centres.

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CONFLICT OF INTEREST

We declare that we have no conflict of interest.

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