DRUG INFORMATICS
FACULTY OF PHARMACEUTICAL SCIENCES
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LECTURE 8 AND 9
CLASSIFICATION OF MEDICAL INFORMATION
PRIMARY, SECONDARY AND TERTIARY RESOURCES

DRUG LITERATURE

Drug Literature معنى الـ :-

❖ The **concept of drug information service** or **drug information center** is an attempt to document drugs by abstracting information about them.

❖ **The information about drugs** is collected from various sources which are available. عماولا

❖ In (1972 Walton and colleagues) modeled the drug literature as a **pyramid with** the primary literature forming the base of the pyramid, the secondary literature interfacing and serving as a bridge from the primary literature to reference works (tertiary literature).

1. PRIMARY LITERATURE

➢ It contains the first written accounts of original research.

➢ In terms of size, the primary literature is probably larger than either the secondary or tertiary literature.

➢ It is the original information presented by the author without any evaluation by the second party, for example, articles published in journals, dissertations, conferences, etc.

I. **Prepublication literature:** The first communication of research data and ideas may or may not be private. If there is a financial or proprietary interest in the research, the first communication may be in the form of a patent application (is a request pending at a patent office for the grant of a patent for an invention). Prior to formal publication of the research, the work may be presented as a paper or poster at a professional meeting or conference.

بكون على شكل ←

← • يعني انا بدي اعمل (primary Literature) معينة ، انا لحتى استطيع ان انشرة ، لدزم الـ (patent office) يوافق او يعطيني الـ (grant) لحتى اعمل هذا الـ (primary Literature) في قَبل ما يحصير (formal publication) لالي (research) لدزم ناخذ الـ (grant) من الـ (patent office)

الها الحق في رفض او قبول الـ (publication)

II. Journal or serial literature The current evolution or transition of the journal from a paper-only publication to a paper-and-electronic publication is a second, relatively recent, major change in the journal literature.

✓ **Paper-only publication:** A paper is an academic work that is usually published in an academic journal. It contains original research results or reviews existing results. A paper may undergo a series of reviews, revisions, and re-submissions before finally being accepted or rejected for publication.

✓ **Electronic publication** is publishing in which information is distributed by means of a computer network or is produced in a format for use with a computer.

✓ **In the electronic format,** the lag time between the submission of a written research report and its publications can be shortened considerably.

✓ Electronic preprint, either from the author or from the journal publisher, places as article before the reader several months ahead of paper publication release, albeit without benefit of traditional full peer review.

— Handwritten annotations —

اذا عملت هاي الـ (Journal)
(accept)
لي
(publication)
بتصير من
(paper)
لي
(electronic publication)

reviews
↓
revisions
↓
re-submission

← زمان كانوا بس (paper-only publication)

← في الوقت الحالي صارت اي (publication)   ← (paper)

(electronic) ←

※ عملية الـ (Electronic publication) هية جداً اسهل من عملية

الـ (paper publication) لدنه هية

→ (easily accessible by a lot of of people)

→ عملية الاستقال لدي (section) بتكون جداً سهلة

RESOURCES AVAILABLE: PRIMARY LITERATURE RESOURCES

- Research studies published in journals.

- Provide details of research methodology and scientific results that lead to conclusions.

- ❖ **Advantages:** primary literature):-

1. Most current resource for information, cutting edge knowledge source.

2. Least biased (if published in a good journal, Gives original research quality, and does not carry bias or opinions of third parties).

3. Research is oriented for specific goals and purpose, cutting out possibility of wasting resources.

4. Good resource for all detailed information about specific issues.

5. The researchers can change the course of study whenever needed, and choose platforms for observation well-suited for projects.

6. Better & more accurate data interpretation !

① ← في الـ (primary literature) احنا (original research)

احنا بنستعامل بير الـ (data) الي بتكون بتكون (up to date)

بتالي احنا ما بنفقد اي اجزاء من المعلومة ، مش زي

عملية الـ (secondary literature) والـ (tertiary literature)

← لاننا في عملية الـ (secondary literature) والـ

(tertiary literature) احنا بنعمل مراجعة

لي الـ (primary literature)

←※ في يمكن خلال مراجعة الـ (primary literature) يتم فقد

بعض المعلومات

RESOURCES AVAILABLE: PRIMARY LITERATURE RESOURCES

* (❖Disadvantages: of the primary Literature) ـ؟
أغلى
1. Huger expense than secondary research
2. The procedure is more time consuming, and costs a lot of assets.

تحتاج time اكثر

3. The outcome from research audience may not be always feasible.
4. Need advance knowledge from reader to get the good and right understanding for quality of interpretation.
5. Limited and specific source of information!

(PRIMARY LITERATURE EXAMPLES:)

✔New England Journal of Medicine.
✔Archives of Internal Medicine.
✔JAMA (Journal of the American Medical Association).
✔CHEST (from the American College of Chest Physicians).
✔Clinical Pharmacy and Therapeutics.
✔Annals of Pharmacotherapy.
✔British Medical Journal.

حفظ ☺

← نميز الـ (examples) على كل (Literature)

* أغلبية الـ (Journals) هية عباره عن (Primary Resources)

WHAT DO WE FIND IN PRIMARY RESOURCES (JOURNALS)?

اعلانات
← ماذا يوجد داخل الـ (JOURNALS) :ـ
1. Advertisements.
2. Abstracts.
3. Letters to the Editor, Correspondence (a type of short communication that can be written on any topic that attracts the attention of the readers).
4. Review articles (considered tertiary resource) (are articles that summarize the current state of understanding on a topic).
5. Meta analysis (considered tertiary resource) (examination of data from a number of independent studies of the same subject, in order to determine overall trends).

WHAT DO WE FIND IN PRIMARY RESOURCES (JOURNALS)?

❖ **Primary journal articles: clinical drug trials**

*** These articles are the primary resources we are talking about ****

❖ **Clinical trial types:**

○ **Intervention types (highly rated)**

▪ Randomized controlled trial

- Parallel randomization
- Crossover randomization
- Cluster randomization
- Factorial randomization
- Minimization randomization
- More types of Restricted randomization

(Randomized)

RANDOMIZED CONTROLLED TRIAL

← هون تعاريفهم

1. **Parallel randomization:** each participant is randomly assigned to a group, and all the participants in the group receive (or do not receive) an intervention.

2. **Crossover randomization:** is a longitudinal study in which subjects receive a sequence of different treatments (or exposures).

3. **Cluster randomization:** is a type of randomised controlled trial in which groups of subjects (as opposed to individual subjects) are randomised.

4. **Factorial randomization:** two (or more) intervention comparisons are carried out simultaneously.

5. **Minimization randomization:** With minimization the first subjects are enrolled randomly into one of groups. The subsequent subjects will be allocated to treatment groups after hypothetical allocation of each subject to every group, and then calculating an imbalance score.

6. **Restricted randomization:** refer to any procedure used with random assignment to achieve balance between study groups in size or baseline characteristics.

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▪ <u>Nonrandomised (non) Controlled trails = Quasi experiment</u> (is a type of research design that attempts to establish a cause-and-effect relationship. The main difference with a true experiment is that the groups are not randomly assigned)

Example ● Before and After (time series trials).

● Matched Trials (Historical (old data is used to compare with new data from new trials), factorial, statistical matching)