

محاضره (4)

← كيف ال Pharmacist يده يجاوب ال Patient
على ال question الي هوو بسأله اياه في عندنا
(7 steps) :-

SYSTEMATIC APPROACH TO ANSWER DRUG QUESTIONS

1. Secure demographics of requestor.
2. Obtain background information.
3. Determine and categorize ultimate question.
4. Develop strategy and conduct search.
5. Perform evaluation, analysis, and synthesis.
6. Formulate and provide response.
7. Conduct follow-up and documentation.

1. REQUEST DEMOGRAPHICS

1. The requestor's "profession" (e.g., physician, pharmacist, nurse, lay person) should indicate **educational experience and knowledge base**; therefore, the individual receiving the query can use this information to determine the appropriate mannerism (in terms of educational level) to formulate and deliver the response.

① Request demographics

• انزال pharmacist لا يتم يسأل ال Patient اسئلة

حسب ال
educational
experience
knowledge base

تبعت ال Requestor's او المريض

• مثل ما حكمنا لا يتم السؤال يحتوي على المعلومات الي انا بقدر

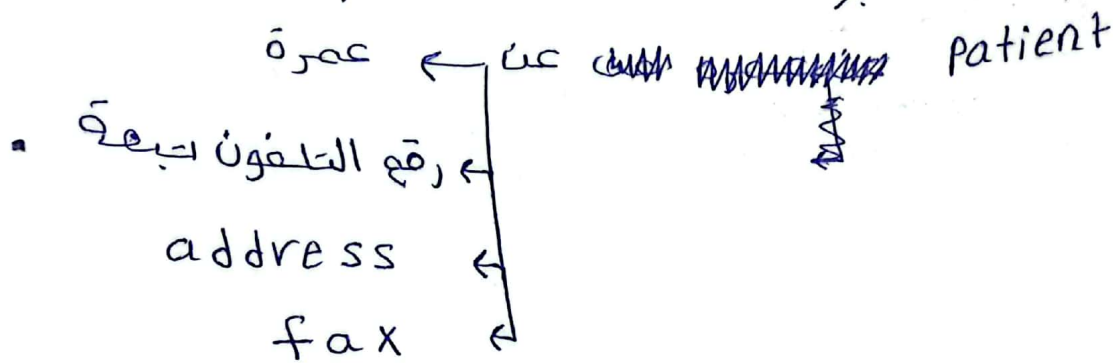
احصلها من ال Requestor's اعتماداً على ال

(educational) تجربة level

1. REQUEST DEMOGRAPHICS

- 2. Obtain telephone #, address, fax, etc for follow-up later.**
- 3. Determine approximate age (elderly, adolescent, etc.) (usually no need to directly ask).**
- 4. Communication skills.**

Request Demographics يسأل ال
برضة بر ال



مثل ما كينا في عندنا (7 element) وامن ضمن هدول
ال (7 element) في عندنا follow-up

← فاحتى تفعل (follow-up later) احنا باجابه انه يعرف عن المريض
رقع طفونة او رقع ال fax او رقع ال address تبعة .

(Determine approximate age) :- طبعا من دون السؤال
بنقدر نعرف ال (age) تبعة ؛ هل هو (old age)
ولا هو (adult) .

(communication skills) :-

لما بدنا تسأل المريض اسئلة ال
(communication skills) هون كثير مهمة الي هية ال
(Listening and questioning as a pharmacist)
اسقة تسمع مشيع بحيث تعرف ايش بدنا تسأل
والسؤال يكون على حسب ال Educational level للمريض

EXAMPLE

If a patient and a physician inquired about how the new medication Prandin® works (i.e., pharmacology), the depth of the response would differ for each individual.

- For example, a pharmacist should not inform a lay person that the new medication is the first agent approved in the meglitinide class and is a nonsulfonylurea insulin releasing oral hypoglycemic agent for type 2 diabetes mellitus.

CONTINUE OF THE EXAMPLE

- This would not be an appropriate response because the lay person would be unfamiliar with this terminology. Similarly, the pharmacist would not communicate to the physician that the new medication "acts by improving the way your body processes sugar." The physician would require a more scientific description of the product.
- Determine a method for delivery of the response.
- Gather information from the requestor that will allow you to reply to the request.

Example (2)

← إذا ال patient وال physician ~~أجى~~ Requestors
سألهم عن (new medication) الي هو (Prandin)

← أجى (lay person) سألهم عن هذا ال
(new medication)

← قد يستطيع ال pharmacist يكيه انه هو

nonsulfonylurea insulin

releasing oral hypoglycemia agent for type 2 diabetes Mellitus

← He will not understand that

← لأنه هو عبارة عن شخص عادي ف ماراح يستوعب ال
(terms) الي اخا تكي معاه

← ف بتالي ال ~~أجى~~ (lay person) هو (unfamiliar)
مع هذا ال (terminology).

← ف بتالي لما بدنا تكي مع ال (Requestors) لازم نعرف
ال (educational) ^{تبعه} level

← بنفس الطريقة اذا ال (pharmacist) بده يعمل
(communicate) مع ال (physician) عن هذا ال (drug)
ما يصير يكيه :-

this drug acts by improving the way your body processes
sugar.

← لأنه هو (physician) ← يطلب :-

more ~~scientific~~ scientific description about this
product.

2. BACKGROUND INFORMATION

- Think, "Why is requestor asking for this information?".
- Weigh time involved to get background info.
- Use tact, politeness and assertiveness.
- Background questions should be specific for the nature of the request.
- Ask, "What sources have already been used?".
- Useful info: age, gender, weight, allergies, other disease states, other meds, lab values, etc.

1

Requestor = patient or physician

Requestor ← انو انو لك pharmacist لازم احصل موال
age ← (some background information) موال
gender ←
weight ←
(other comorbidities) ←
etc ←

WHY ??

- Background information aids in clarifying the question and is a critical step in the process.
- The question may not be stated concisely or the requestor may not know how to ask the question.
- To formulate an acceptable response, both the caller and researcher must have a clear understanding of the ultimate question.

EXAMPLE

A pharmacist is asked, "what is the dose of amoxicillin (Amoxil®)?"

- This question could be answered quickly (and potentially inaccurately) by stating that the normal dosage is 500 mg every eight hours.
- The question also could be answered by gathering background information concerning the origin of the question.

- A pharmacist would not provide the most commonly dispensed dose of amoxicillin as the dose for all individuals and conditions.
- The dose of this antibiotic depends upon a number of factors. Determine if the question is in regard to a specific patient or general research in the treatment of a disease state.

Example

- ← انه مريض سأل ال pharmacist عن ايش هية ال dose
تاعت ال (Amoxicillin) ؟
- ← ما بقدر ال pharmacist يجاوبه مباشره بحكيه انه
normal dosage as 500mg every eight hours
- ← لانه لازم يعمل (gathering background information)
- ← لانه ال dose لـ Amoxicillin بتختلف باختلاف العمر
وال weight ... etc
- ← بتالي ال pharmacist في هذه الحالة لازم يسأل المريض
حتى يعمل ← gathering background information .

ANOTHER EXAMPLE

- ❖ If the question is patient specific, important information to acquire would include the patient's age, weight, allergies, type of infection, concurrent disease states, other medications, and preferred dosage form (e.g., oral suspension, capsules, or chewable tablets). For example, amoxicillin may not be for a severe infection or 2 grams as a single dose one hour prior to dental procedures for bacterial endocarditis prophylaxis.

* لخص المريض يسألني سؤال أنا كم عدد لاني لازم اعمل classifications

EXAMPLES OF QUESTION CLASSIFICATIONS

- ① Adverse Drug Reaction
- ② Contraindication
- ③ Availability
- ④ Dose
- ⑤ Drug compatibility/stability
- ⑥ Drug interaction
- ⑦ Drug therapy
- ⑧ Identification
- ⑨ Pharmacy practice
- ⑩ Pharmacology

← يصني هل هوه بيسألني عن

EXAMPLES OF QUESTION CLASSIFICATIONS

- ⑪ Tablet identification.
- ⑫ General product information.
- ⑬ Laws/policies/procedures, Cost, Foreign products.
- ⑭ Pharmaceutics (compounding, formulations).
- ⑮ Pharmacokinetics (ADME "absorption, distribution, metabolism, and excretion"/levels).
- ⑯ Nutrition support.
- ⑰ Adverse effects.
- ⑱ Poisoning, toxicology.
- ⑲ Pregnancy, Teratogenicity.
- ⑳ Lactation/ infant risks.

Another example

← اذا ال Patient specific هو question

* patient age ← في لديم نسأل عن ال

weight ←

allergies ←

type of infection ←

concurrent disease ←
states

— other — ←

← احنا لديم نسأل المريض ايش ال (dosage form) انتة بتفضل انك تأخذه انه

tablets ←

cap ←

suspension ←

oral ←

← بعد ما ال pharmacist سأل ال patient عنه اسئلة

وجد انه بيسأل عن جرعة ال Amoxicillin ليعطاهها
هوه

لي ال (dental procedures) لك (prophylaxis)
لشخص عنده

(bacterial
endocarditis)

← هلا هون المريض سألني عن جرعة ال Amoxicilline
في بتالي ايش ال classification تابعة هاي ال question

هوه (Dose)

EXAMPLE

Information gathered from the background questions concerning the request for the dose of amoxicillin (Amoxil®) allowed the actual question to be revealed as the dose and frequency of amoxicillin before a dental procedure for bacterial endocarditis prophylaxis in an 18 year old male.

← حكينا لما المريض يسألني عن جرعة دواء صين ف ال classification لهذا السؤال هو Dose ، ليس لهم اعرف هذه المعلومة
لأنه صعب تلاقى (Literature) يحتوي على كل هاي المعلومات الى انا بدى اياها ، بتالي لما اعرف انه ال Patient عم يسألني عن (Dose) ، بعرف انه لازم أرجع لل (Literature) الى هو مختص بـ ال (Dose) . وهكذا على نفس النمط لباقي ال (classification) .

← هذا ال pharmacist هو رجع أخذ
more background information
من ال patient ~~و~~ واوجد انه هو male
وعمره 18 سنة وبيسأل المريض عن Dose ال
Amoxicillin حتى يأخذها
for Dental procedure for bacterial
endocarditis prophylaxis

← ف هاي المعلومات جداً مهمة انه يحصلها ال
pharmacist من ال (requestor).

(communications skills
Listening and questioning)

← بتالي عن طريق فهم السؤال

DEVELOP A TIME LINE FOR RESPONSE

Completely understanding the scope of the "true" question also aids in developing a realistic estimate of the time required to compose a response.

أحنا
كميادلة

بتستطيع تحدد

ايش هو

time

المتطلب منا

حتى نقدم

appropriate responses
to requestor's

← بتاي ال (categorize The question) هية (vital step in the systematic approach)

CATEGORIZE THE QUESTION

- A vital step in the systematic approach.
- Allows for efficient use of the resources by providing the foundation of a logical progression process.
- An all-inclusive resource with data to answer every drug information question does not exist (References contain specific types of information).
- Numerous topic specific resources are available (e.g, drug interactions, infectious disease, internal medicine).

← لانه ما في

مصدر معين
يحتوي على كل
المعلومات

← لازم ارجع
للـ

reference
اعتمادا
على السؤال الى

سألني اياه ال Requestor's

CATEGORIZE THE QUESTION

- Classification of a request aids in developing a more effective search strategy.
- Selecting the resource with the highest probability of containing the desired information can decrease the time requirement and increase the accuracy of the response.
- Otherwise, unnecessary time and energy may be expended on searching references unable to produce the needed facts.

- Primary
- secondary
- tertiary

← كيتا انا في عندنا ٣ انواع من ال Literature

original
Publication

← طبيب و ين يرجع ال pharmacist !?
هل يرجع ال primary الي ههههه

← هل يرجع للـ secondary الى هبة
up to date Publication

← ولد يرجع للـ tertiary الى هبة

~~textbooks~~
textbooks

← عشان هيك ال Pharmacist لازم يقسم
ال references حسب ~~الاولوية~~ الاولوية

← مثلاً :- اذا المريض سألني عن Dose
لازم اعرف انه لازم ارجع في
البداية لي ال (tertiary
reference)

الي هبة ال textbooks الي
بتكيلي عن ال Dose

* ← بتالي ال Pharmacist مش لازم يستخدم اسهل طريقة
للحصول على المعلومات

← لازم يستخدم ال reference المفضل او الممكن انه
يحصل منه على معلومات دقيقة وواضحة

CATEGORIZE THE QUESTION

In the previous example above, the amoxicillin request pertains to a dose.

Therefore, this question would be classified as Dose.

← هاي عبارہ عن References للحصول على معلومہ الي هيہ عن ال-Dose

❖ The following are examples of references that provide this information: American Hospital Formulary Service (AHFS), Facts and Comparisons, and USP Drug Information (USPDI) for the Health Care Professional.

← هاي عبارہ عن Textbooks للحصول على معلومہ عن ال-Drug-interaction

❖ Textbooks specific for drug interactions: Drug Interaction Facts and Hansten and Horn's Drug Interactions Analysis and Management.

❖ Therefore, if the inquiry concerned the potential of concomitant administration of warfarin (Coumadin®) and aspirin to increase the International Normalized Ratio (INR), the question would be classified as a Drug Interaction and a logical starting point would be these two references.

← مثلاً اذا اجي مريض سألتني عن الـ
combination to warfarin and aspirin

← اي references بي ارجعها؟!

بي ارجع للـ references الي بتوي
على drug-interaction

← * هون انا عملت classification
و categories للـ presentation.

4. DEVELOP STRATEGY AND CONDUCT RESEARCH

1. Select and prioritize resources based on the probability of locating the desired information.

- Without prioritization, resources may be used based on ease of access or degree of comfort instead of probable efficiency.

← دایم اول priority دایم اول resources

4. DEVELOP STRATEGY AND CONDUCT RESEARCH

2. Conduct a systematic search

- Be familiar with the three types of information sources in the literature hierarchy.

- Begin with the established knowledge located within the tertiary literature (e.g., textbooks) due to the condensed, easy-to-use format of the information presented.

← دایم اول resources بشناس خیه هو ال tertiary Literature

← لایس اول confirm لایس ال معلومات ال tertiary Literature
secondary Literature

primary literature ← and then

4. DEVELOP STRATEGY AND CONDUCT RESEARCH

2. Conduct a systematic search

- Progress through the secondary literature (e.g., MEDLINE, International Pharmaceutical Abstracts [IPA]) to the primary literature (e.g., controlled clinical trials, letters to the editor).

① tertiary > ② secondary > ③ primary

على الترتيب
من حيث الأهمية

❖ Example:

Continuing with the dose of amoxicillin prior to dental procedures for bacterial endocarditis prophylaxis, the question was classified as a Dose question. Therefore, references most likely to contain the dose of amoxicillin (e.g., American Hospital Formulary Service [AHFS], Facts and Comparisons, and USP Drug Information [USPDI] for the Health Care Professional) were consulted first. However, after reviewing these references a discrepancy in the recommended dose was identified in the references. Two of the references reported the amoxicillin dose as 2 grams orally one hour prior to the dental procedure and the other reference reported the dose as 3 grams one hour prior to the procedure and 1.5 grams 6 hours after the first dose.

❖ Due to this discrepancy, internal medicine and infections disease textbooks were consulted; these texts further supported the dose of amoxicillin as 3 grams one hour prior to the procedure and 1.5 grams 6 hours after the first dose.

❖ To insure that the most up-to-date information was obtained, a secondary literature search was conducted (e.g., MEDLINE, Iowa Drug Information Service [IDIS], and International Pharmaceutical Abstracts [IPA]) and an article with updated guidelines for bacterial endocarditis prophylaxis was located.

∴ dose of Amoxicillin الرجوع للمثال الأول

← حصلنا back ground information

← انه patient هو ← male

← عمره 18 سنة

← بسأل عن ال dose
Amoxicillin

← الي يتاخذ قبل
Dental procedures
for bacterial
endocarditis
prophylaxis

← pharmacist رجوع ال references وجد عند (two references)

← هذول (two references) المسعولات عن ال dose تبعت ال

Amoxicilline
← لكن وجد انه معلومة (dose of Amoxicilline) مختلفة ما بين ال (two references)

← اول reference كاله انه ال dose لازم يكون 2g

orally
one hour
prior
dental
procedure

← ال other reference كاله انه ال dose

3g one hour prior

• dental procedure

1,5 g 6 hour after the

• first dose

← هذا ال pharmacist حصل من ال (two references)
على different information

← ماذا يفعل ال pharmacist ؟!

← لازم يرجع لل (tertiary literature) الي همة
ال (text books)

← لما رجع لل (textbooks) وجد انه ال dose

← ال Amoxicillin هبة
3 g one hour prior to the procedure
1.5 g grams 6 hours after the first dose

← كيان الة المعلومة الي يكون لي ال (tertiary literature)

ممكن ما يكون up to date ، لانه ممكن هذا ال

(text books) مثلا طلع في سنة 2018 و احنا حاليا

في سنة 2024 ، بتالي خلا ل ال 6 سنوات هذول ، ممكن

خلال ال (secondary literature) طلع عندي (up to date publication)

بتالي ال pharmacist لازم يعمل confirm لهاي المعلومة.
يتأكد

← كيف بده يعمل confirm لهاي المعلومة ؟!

← لازم يرجع لل (secondary literature) لحتى يتأكد من ال up to date

عن طريق الرجوع لل (guidelin)

← عن طريق الرجوع إلى guideline و جد ال pharmacist انه جرعة ال Amoxicillin :-

❖ The new guidelines recommend amoxicillin 2 grams orally one hour prior to the dental procedure for bacterial endocarditis prophylaxis; a second dose is not required.

❖ As mentioned previously, if the question is classified as a Drug Interaction, then a logical and efficient search would begin with a text specific for drug interactions (e.g., Hansten and Horn's Drug Interactions Analysis and Management, Drug Interaction Facts and Comparisons).

❖ If a text specific for drug interaction is not available, other references likely to contain the desired information (e.g., Drug Facts and Comparisons, American Hospital Formulary Service, Micromedex) should be selected as opposed to references with a decreased probability of containing the information (e.g., Drug Topics Red Book, American Drug Index).

← هلا احنا هيك اعرفنا ال Steps 2

① اول اسئله لازم ال pharmacist ياخذ
Patient (background)

② لازم يكون عنده

(good listening and questioning)
communications skills

③ وين يرجع ال Pharmacist حتى يحصل على المعلومات
يرجع لا (tertiary literature)

واحتي ~~يصل~~ يحصل (confirm)

وا (uptodate information) لازم يرجع ال

(secondary literature)

5. DATA EVALUATION, ANALYSIS, SYNTHESIS

Confirm information with other references to assure consistency between various resources while authors, editors, and publishers attempt to assure the reliability of the information published, most resources include a disclaimer statement since errors do occur occasionally.



← يعني ال pharmacist الآن حصل معلومات من ال Literature
عن ال dose of Amoxicillin وا حصلنا على ال

• up to date information

← هلا ال pharmacist شول لازم يعمل ؟
← لازم يعمل ← evaluation لهاي ال data

← كيف يعمل evaluation ؟
← لازم يعمل confirm لهاي ال information

← كيف يعمل confirm ؟

← • انه معظم ال publication او ال Resources يكون فيها
(disclaimer statement) ، انه المعلومات المذكوره في هذا المنشور هيا
صحيحة ولا تحتوي على أخطاء .

← هذا في هاي الخريطة pharmacist حصل على جميع المعلومات وابدأ به
(Provide response)

6. FORMULATE AND PROVIDE RESPONSE

1. Restate the question and any pertinent background information.
2. This allows the requestor to be informed of the question and focused on the impending response.
3. Provide the information and recommendation (if applicable).

← بدو يقدم
الresponse
المفضلة
للـ

requestor
← ايسا يعني؟

← يعني الـ
response
الي لازم يقدمها الـ pharmacist
للـ requestor .

(educational level)

❖ In addition, a brief review of the search strategy and references reviewed may be included in the response as a confirmation to the comprehensive search conducted.

❖ Compose the response at the requestor's comprehension level.

- patient + حاله ال (as the pharmacist) اتابع
- لأنه ممكن بعد وقت صيحت ظهرت عندي (up to date information)

7. FOLLOW UP AND FOLLOW THROUGH

- Verify the appropriateness, correctness, and completeness of a response.
- Essential when judgement calls used.
- Essential when new data found or circumstances changed from original request.
- Document everything!

ممكن
حاله ال
patient
نفسه
صار عنده
مرض آخر
وا صار ياخذ
ادوية تانية

بتالي ال Follow up جداً مهم ولازم تكتب Documentation خلال عملية ال (Follow up)

ETHICAL AND MORAL RESPONSIBILITY

- How will they use your information?
- Are they asking for lethal dose of drug?
- Are they suicidal or homicidal?
- Are they seeking information for making illicit drugs?
- Are they trying to forge a prescription?
- Are they in serious need of an ER?

كل استفسار
should be
Documented
حتى استفسار
توقع عليه
Legal
responsibility

هذا خلال
providing ال
response
لل
requestor
في عندي
some

Responsibility
الى هي (ethical and moral Responsibility)

METHODS OF DOCUMENTATION

- ① • Paper form
- ② • Logbook
- ③ • Computer database

هذا ايضاً الطرق التي تكتب ال
documentation

REASONS FOR DOCUMENTATIONS

1. Justification of pharmacist's professional value to the institution.
 انہ حضرات انہ دور کا کامیابی ہے
 institution
2. Future reference for repetitive drug information requests.
 تفصیل کے لئے
 case for another patient
3. Protective measure against legal liability.

METHODS OF FOLLOW-UP

- * کیف ال methods تہت ال (Follow-up) :-
- ① • Mail survey
 - ② • Phone call
 - ③ • Written communication

REASONS FOR FOLLOW-UP

- * لیٹ ال Follow-up مہم ؟
1. Provide the requestor with additional information that supports or changes a prior recommendation.
 2. Obtain feedback concerning the quality of the service.

EXAMPLE

A prescriber inquires about the relationship between elevated homocysteine levels and coronary heart disease (CHD). Furthermore, the caller requests information concerning prescribing folic acid to decrease homocysteine levels. After following the modified systematic approach, evidence that documented a relationship between elevated homocysteine levels and CHD was located. In addition, preliminary therapeutic trial information supported daily supplementation of folic acid to lower homocysteine levels. A few weeks later, additional information that further established the efficacy of folic acid in lowering homocysteine levels was published. Follow-up should be provided to the prescriber due to the recent information affirming the prior response.

* لازم يكون

عندنا

follow-up

+

Documentation



THANK YOU

AMJADZ@HU.EDU.JO

هدى الزعبي

← احي prescriber او requestor سألني عن ال relationship ما بين ال (elevated homocysteine) وال (CHD) مواكالي انه سمع انه ال (folic acid) بقلل ال level

• (homocysteine) Levels

← ال pharmacist في هذه الحالة رجع لي ال (systematic review articles)
 ← واوجد انه في علاقة ما بين (elevated homocysteine) وال (CHD).
 ← واوجد في (another reference) انه ال (folic acid supplement) بقلل ال (homocysteine) levels
 ← بناءً على ال (steps) الي احنا كينا هم اتبع ال pharmacist هاي ال steps
 وقدم المعلومات لـ (Requestor).
 ← بعد عدة اسابيع ال pharmacist وجد انه في علاقة عندنا (up to date publication)
 بتأكد ال pharmacist فعالية ال (folic acid) في تقليل (homocysteine) level

← في في هذه الحالة رجع ال pharmacist اتواصل مع ال requestor والكدلة فعالية ال (folic acid)، هذا ال follow-up هون كثير مهمة لانه ممكن يكون المكس وتظهر up to date تنفي فعالية هذا الدواء.