

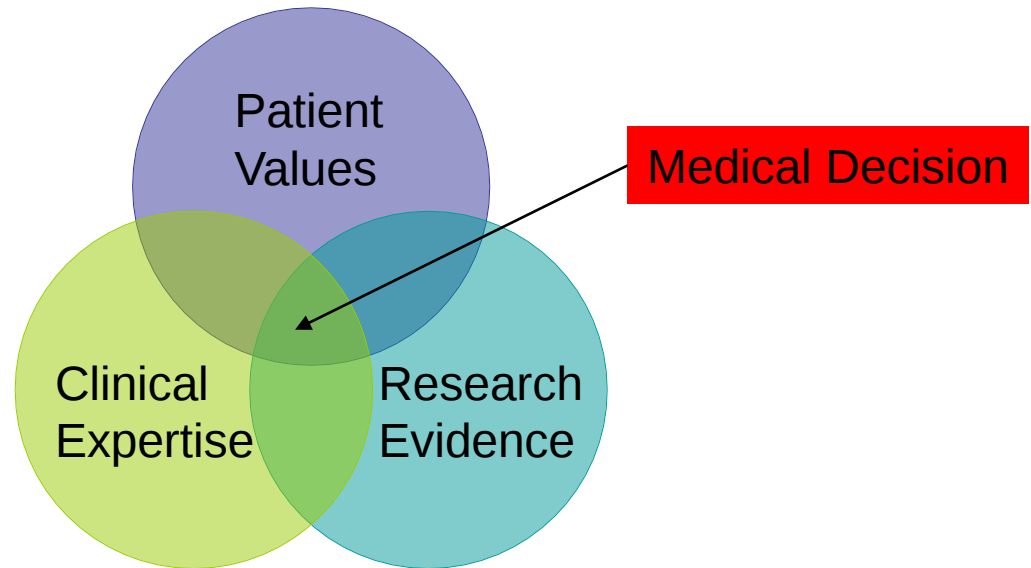
In the name of GOD

Introduction to Evidence Based Medicine

Arvin najafi M.D

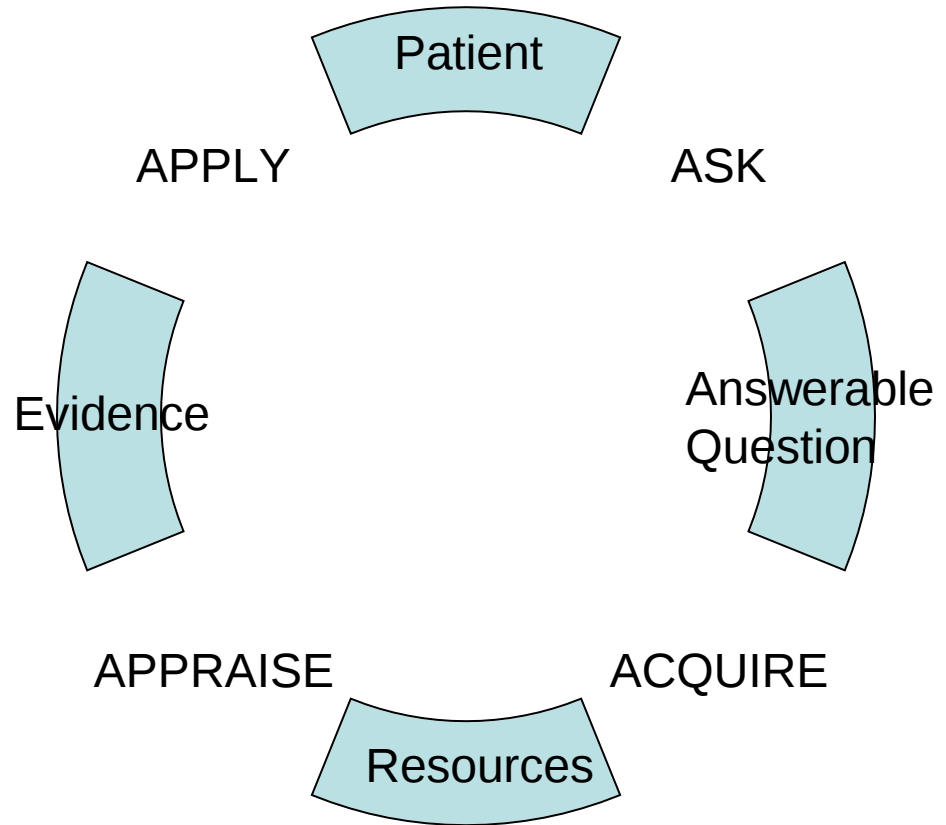
Alborz university of medical sciences

Evidence Based Medicine



Evidence Based Medicine

- Identify a clinical problem
- **Ask** a relevant, focused question
- **Acquire** the necessary resources to answer the question
- **Appraise** the evidence obtained
- **Apply** to patient care



ASK

- Background Questions
 - Information can be found in textbooks and review articles
 - General questions about conditions, illnesses, syndromes and patterns of disease, pathophysiology

ASK

- Foreground Questions
 - Information found in primary literature, evidence-based extraction service, guidelines, or systematic reviews
 - Questions about issues of care, i.e diagnostic tests or therapies, needed for clinical decision-making

Background vs. Foreground

- **Identify the following questions as either background or foreground questions:**
 - 1. What causes gastroenteritis?**

Background
 - 2. Is oral rehydration as effective as IV rehydration?**

Foreground
 - 3. How can I tell if my patient is dehydrated?**

Background

Background vs. Foreground

4. What are the symptoms of otitis media?

Background

5. Can I effectively treat otitis media with a shorter course of antibiotics?

Foreground

6. Can this febrile infant be safely treated as an outpatient?

Foreground

ASK

- **Formulate your clinical question:**
 - **Patient or Population**
 - Be specific
 - **Intervention**
 - **Comparison Group**
 - i.e. standard therapy, “gold standard”
 - **Outcome of Interest**
 - i.e. efficacy of therapy, mortality, specificity of diagnostic test

ASK

- **In the following questions, identify the missing component:**
- 1. Is oral rehydration in the emergency room more cost-effective than IV rehydration?**
 - **Patient/Population** – Not identified. Examples: infants, infants with vomiting.
 - **Intervention** – Oral rehydration.
 - **Comparison** – IV rehydration.
 - **Outcome** – Cost-effectiveness.

ASK

2. Will atrovent help prevent hospitalization of my 2 year old patient with an acute asthma exacerbation?

- **Patient/Population** – Child w/ acute asthma
- **Intervention** – Atrovent
- **Comparison** - Not identified. Examples: standard therapy, albuterol alone.
- **Outcome** – Prevent hospitalization.

ACQUIRE

- Classify the Clinical Question into Domain
 - **Therapy**
 - Randomized controlled trials or meta analyses
 - **Diagnosis**
 - Sensitivity and specificity, predictive value, diagnostic errors
 - **Prognosis**
 - Cohort studies, survival analysis
 - **Harm or Casualty**
 - Case control studies, cohort studies

ACQUIRE

- Search the Medical Literature
 - Select initial search terms:
 - **P**opulation
 - **I**ntervention
 - Narrow search further with:
 - **C**omparison
 - **O**utcome
 - Use **MeSH** terms to start

ACQUIRE

- Narrow search using limiters:
 - Examples of limiters:
 - Date of publication
 - Type of study
 - Language
 - Human
 - Specific age group
 - Full text online
 - Sensitivity and Specificity

ACQUIRE

- **Scan the articles for:**
 - Is it a clinical study?
 - Is the research current?
 - Is the journal well-regarded?
 - Are the research questions similar to my question with regards to **P**opulation, **I**ntervention, **C**omparison groups and **O**utcomes?
- **Select an article for appraisal**

APPRAISE

- Validity
 - Can I trust this information?
- Clinical Importance
 - If true, will the use of this information make an important difference?
- Applicability
 - Can I use the information in this instance?

APPLY TO PATIENT CARE

