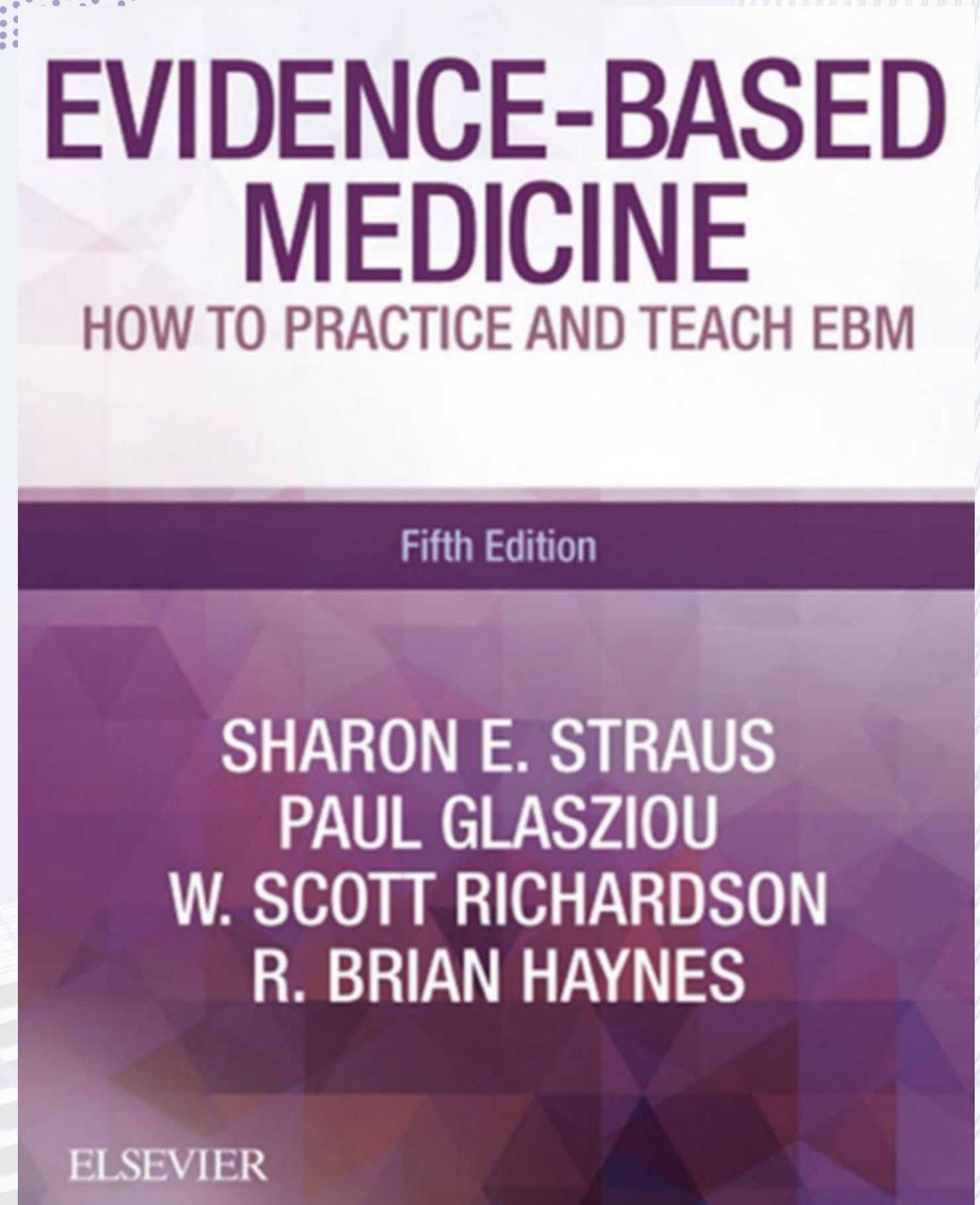
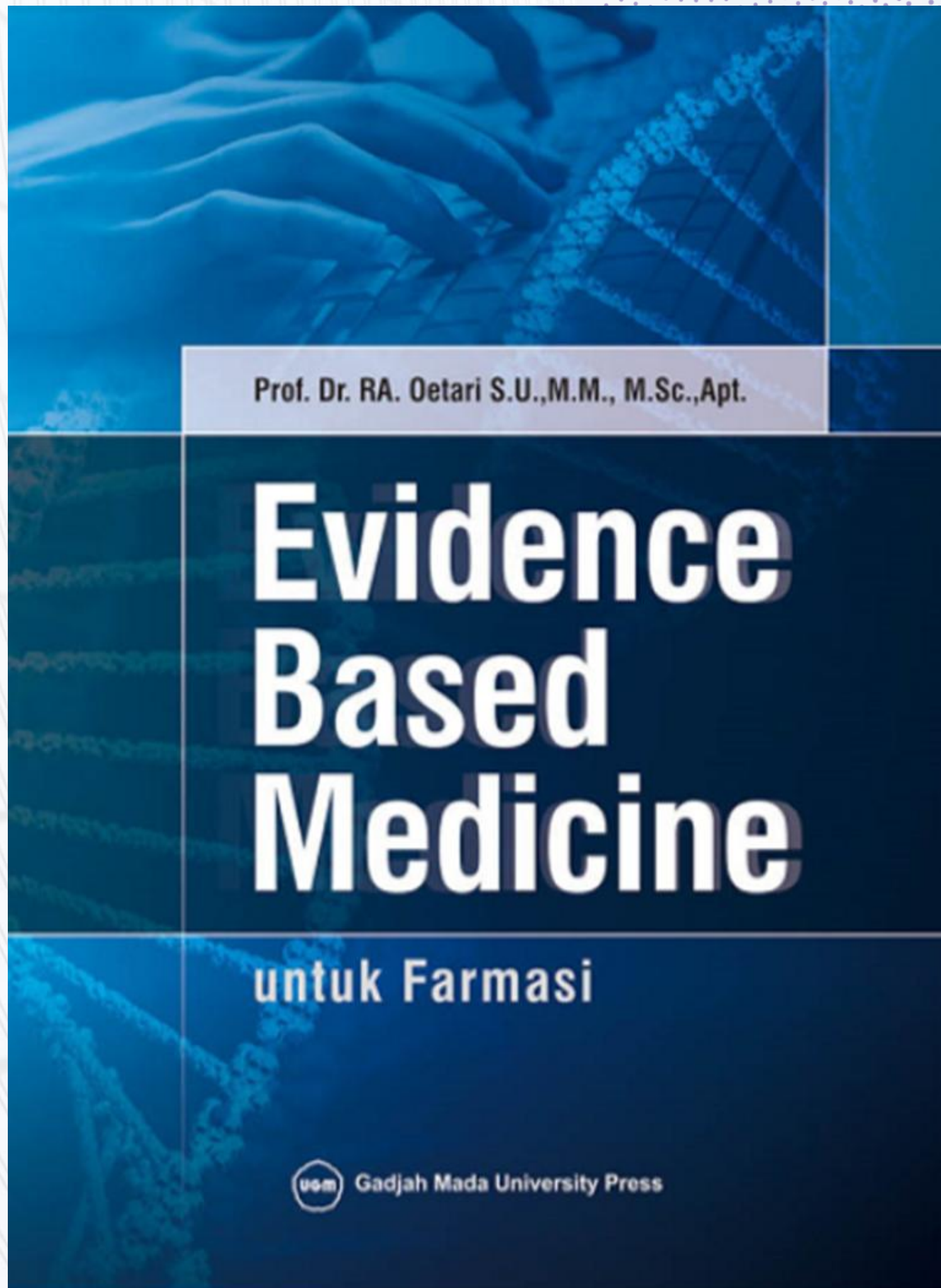




BASIC EVIDENCE BASED MEDICINE

Titi Agni Hutahaen





Apa itu Evidence-based Medicine (EBM)?

EBM merupakan bentuk integrasi dari (Sharon,2018):

1. Bukti ilmiah berdasarkan hasil penelitian terbaik.
2. Kepakaran klinis tenaga Kesehatan
3. Keinginan dan nilai yang dianut pasien dalam menentukan keputusan.

• **EBM adalah integrasi bukti-bukti riset terbaik dengan ketrampilan klinis dan nilai-nilai pasien.**

Evidence-Based Medicine



**Clinical
expertise**



**Best research
evidence**



**Patient values
and preferences**

Mengapa perlu EBM??

1

Jumlah publikasi medis **tumbuh sangat cepat**, sehingga para dokter, apoteker, perawat, tenaga Kesehatan dan Mahasiswa kewalahan untuk mengidentifikasi bukti yang relevan, berguna dan dapat dipercaya.

2

Melunturnya “trust” (Kepercayaan) masyarakat terhadap integritas pelayanan kedokteran, kefarmasian, keperawatan dan praktisi yang memberikan pelayanan medis.

Manfaat EBM

EBM sangat dibutuhkan tidak hanya oleh Praktisi medis, tetapi juga oleh peserta didik seperti mahasiswa dan pelajar sebagai metode atau cara bagaimana mengelola informasi baru dibidang Kesehatan serta cara untuk memilah informasi Kesehatan agar hanya informasi yang benar dan penting yang akan dibaca dan dipelajari.



Clinical outcome optimal

Proses Evidence -5A :

1. **Ask** (tanyakan) a clinical question
2. **Acquire** (dapatkan) Relevant Literature
3. **Appraise** (nilai) the Literature
4. **Apply** the Evidence
5. **Assess** the Effectiveness of the Evidence

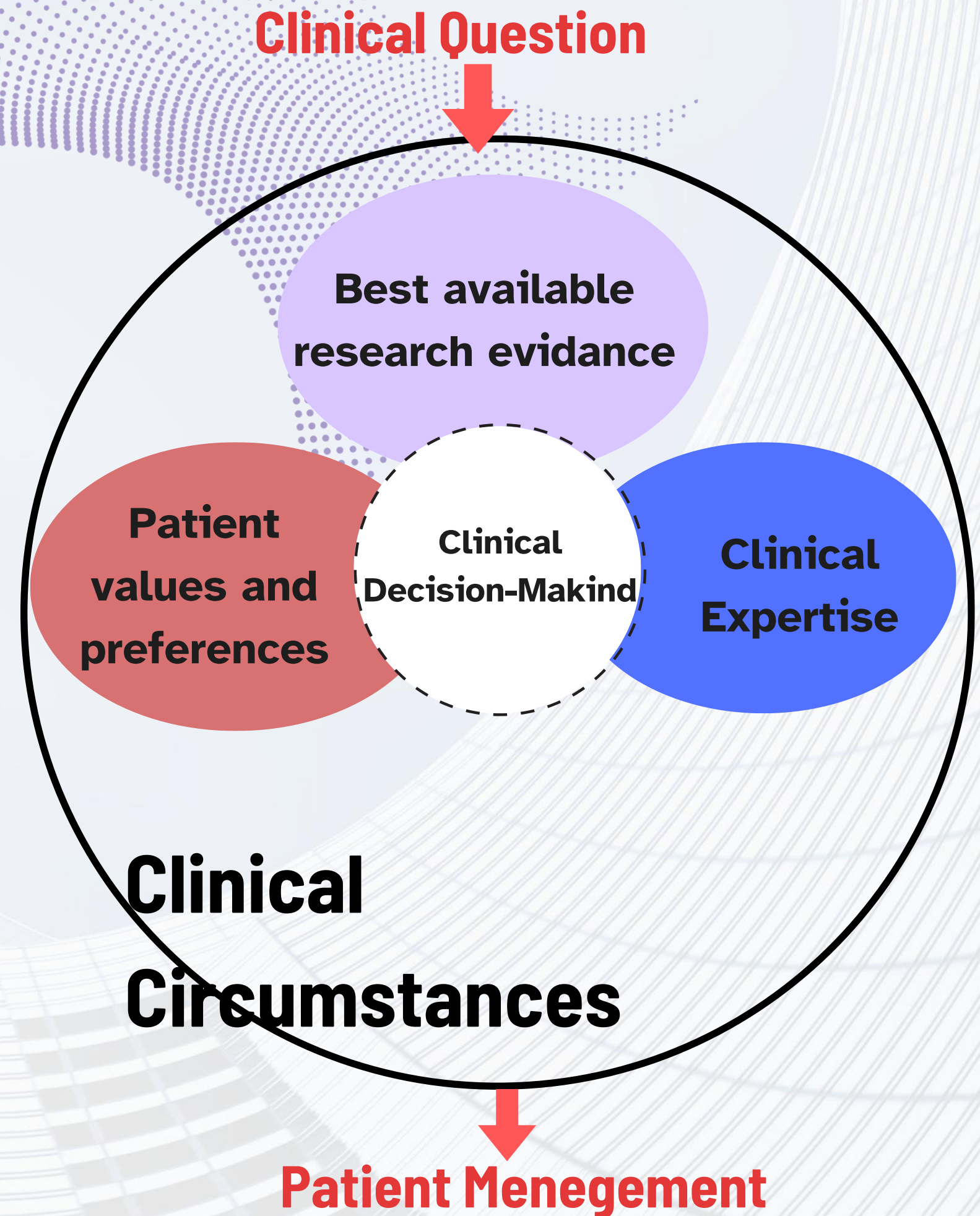


Figure 5-2 The components of EBP as a framework for clinical decision-making

Levels of evidence

1

Clinical Practice Guidelines

Meta-Analysis
Systematic Reviews

Secondary, pre-appraised
or filtered studies

Randomized
Controlled Trial
Prospective: tests treatment

Experimental

2

Cohort Studies
Prospective: cohort has been exposed
to a risk; observe for outcome of interest

Nonexperimental
observational
studies

Primary
Studies

3

Case Control Studies
Retrospective: subjects have the
outcome of interest; looking for risk factor

4

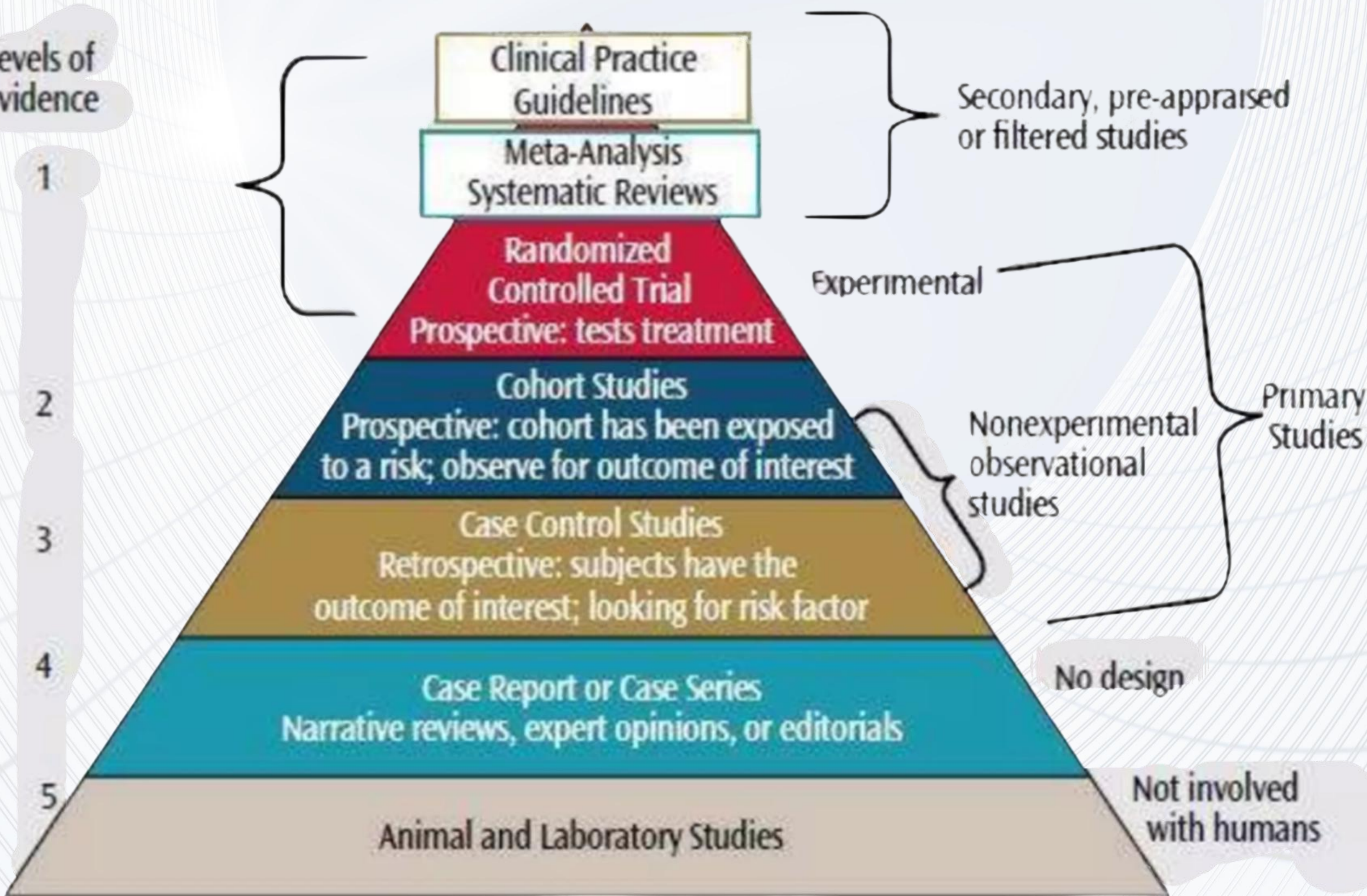
Case Report or Case Series
Narrative reviews, expert opinions, or editorials

No design

5

Animal and Laboratory Studies

Not involved
with humans



Meta Analisis atau sistemik overview



Evaluasi terapi, efektifitas dan rencana penelitian baru



Meningkatkan kekuatan (akibat intervensi) secara statistik bila dibandingkan dengan penelitian RCT dalam jumlah kecil.



Meningkatkan presisi bila dibandingkan dengan beberapa penelitian RCT.



Bisa memperkirakan efek terapi.

Randomized Controlled Trial / RCT

1

Diagnostik, terapi dan efektifitas profilaksi

2

Bila dilakukan dalam jumlah besar, menjadi sumber yang paling baik untuk memperkirakan manfaat dan kerugian dari hasil penelitian.

3

Kesempatan yang sama diantara kelompok penelitian.

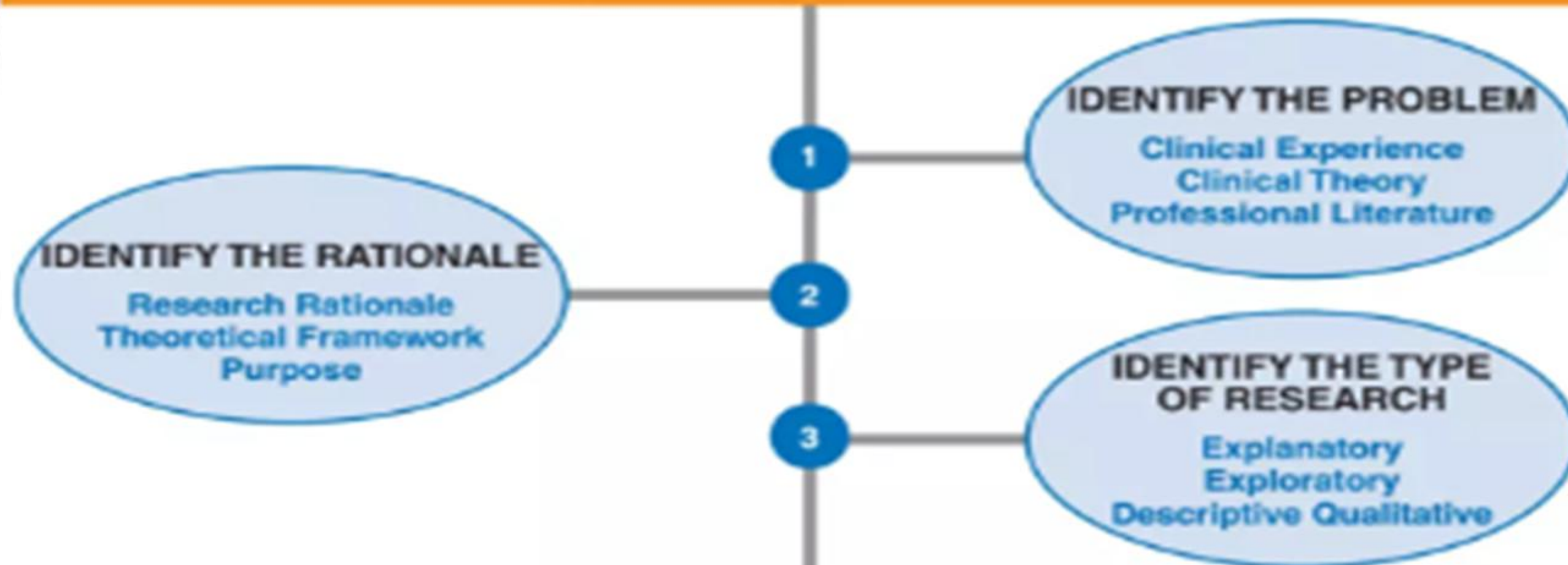
4

Bisa meminimalkan bias (kesalahan)

5

Metode double-blind RCT merupakan gold standar untuk mengetahui efek terapi atau intervensi.

Select a Topic of Interest



4

Define the Research Question

What is the target **population** or **problem** of interest? To what types of patients or people do you want to generalize your results? You may be interested in subgroups of the population, or subjects from specific settings.

What are the **outcomes** that you will study? These are your dependent variables. You may specify primary and secondary outcomes. These may be intervention effects or outcomes of predictive associations.

P

I

What **intervention** is being studied? This component may include interventions or diagnostic tests. It can also refer to **independent** (predictor) variables in observational studies.

O

C

Will you study any **comparison variables**? These will define levels of the independent variable, including comparing interventions, relative validity of diagnostic tests, or relative differences between risk factors.

5

State the Research Question, Objectives, or Hypothesis

Studi Kasus

Seorang ibu usia 28 th yang bertempat tinggal di pemukiman kumuh datang ke pelayanan Kesehatan membawa bayi laki-laki usia 17 bulan. 2 minggu yang lalu si bayi MRS karena diagnose pneumonia, setelah sembuh dokter meresepkan obat pulang diberikan sirup zinc 1 x 20 mg.

Data rekam medis menunjukkan si anak dengan status gizi kurang dengan kadar zinc serum $9,2 \mu\text{mol/L}$.
Kadar Normal; $10.7 - 18.4 \mu\text{mol/L}$

Patient and Problem



Bayi dengan kondisi kurang gizi dan defisiensi zinc dan kondisi kurang mampu

Intervention



Suplementasi zinc

Comparison



None

Outcome of Interest



Pneumonia

Strategi Pencarian:

<http://www.ncbi.nlm.nih.gov/pubmed>

Keyword: Zinc supplement Penumonia, children, Urban Slum



zinc supplement pneumonia children urban slum



Search

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Found 1 result for *zinc supplement pneumonia childre...*

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Clinical Trial > [BMJ. 2002 Jun 8;324\(7350\):1358. doi: 10.1136/bmj.324.7350.1358.](#)

Effect of routine zinc supplementation on pneumonia in children aged 6 months to 3 years: randomised controlled trial in an urban slum

Nita Bhandari ¹, Rajiv Bahl, Sunita Taneja, Tor Strand, Kåre Mølbaek, Rune Johan Ulvik, Halvor Sommerfelt, Maharaj K Bhan

Affiliations + expand

PMID: 12052800 PMCID: PMC115208 DOI: [10.1136/bmj.324.7350.1358](https://doi.org/10.1136/bmj.324.7350.1358)

Hasil penelitian: Bahwa pemberian zinc pada usia 6 bln- 3 th dapat mencegah terjadinya pneumonia, dengan mekanisme peningkatan sistem imun dan mencegah peradangan, meblokir virus pada pernafasan. Dihasilkan dari metode RCT (uji klinik acak)

Strategi Pencarian:

<http://www.ncbi.nlm.nih.gov/pubmed>
Keyword: Zinc supplement Penumonia, children, Urban Slum

[Back to results](#) < 2 of 19,250 > Full Text | Scholarly Journal

Effect of routine zinc supplementation on pneumonia in children aged 6 months to 3 years: randomised controlled trial in an urban slum

Bhandari, Nita; Bahl, Rajiv; Taneja, Sunita; Strand, Tor; Mølbak, Kåre ; [et al. >](#) BMJ : British Medical Journal; London Vol. 324, Iss. 7350, (Jun 8, 2002): 1358.
DOI:10.1136/bmj.324.7350.1358

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Full Text

[Translate](#)

What is already known on this topic

Mild to moderate zinc deficiency is common in children in developing countries and increases the risk of respiratory morbidity

What this study adds

A third of children from low socioeconomic classes in India have low plasma concentrations of zinc

Routine zinc supplementation of such children aged 6 months to 3 years substantially reduced the incidence of pneumonia

Suggested sources

Looking for more?
[Log in through your library](#)
to see what you might have access to

Critical Appraisal..

Section & Topic	No	Item
TITLE OR ABSTRACT		
	1	Identification as a study of diagnostic accuracy using at least one measure of accuracy (such as sensitivity, specificity, predictive values, or AUC)
ABSTRACT		
	2	Structured summary of study design, methods, results, and conclusions (for specific guidance, see STARD for Abstracts)
INTRODUCTION		
	3	Scientific and clinical background, including the intended use and clinical role of the index test
	4	Study objectives and hypotheses
METHODS		
<i>Study design</i>	5	Whether data collection was planned before the index test and reference standard were performed (prospective study) or after (retrospective study)
<i>Participants</i>	6	Eligibility criteria
	7	On what basis potentially eligible participants were identified (such as symptoms, results from previous tests, inclusion in registry)
	8	Where and when potentially eligible participants were identified (setting, location and dates)
	9	Whether participants formed a consecutive, random or convenience series
<i>Test methods</i>	10a	Index test, in sufficient detail to allow replication
	10b	Reference standard, in sufficient detail to allow replication
	11	Rationale for choosing the reference standard (if alternatives exist)

Where to search ?

www.ncbi.nlm.nih.gov/pubmed/

<http://highwire.stanford.edu/>

<http://www.bmj.com>

<http://content.nejm.org>

<http://pediatrics.aappublications.org>

Kesimpulan

- Terapi diberikan apabila seorang klinisi sudah mempunyai kejelasan tentang tujuan terapi.
- Terapi diberikan berdasarkan hasil-hasil uji klinis dengan prinsip EBM.
- Dalam membaca journal terapi sebaiknya dipilih journal dengan metode Randomised clinical trials atau Meta-analysis

Daftar Pustaka

- **Greenberg,et al, 2001 . Medical Epidemiology. Edisi 3Lange Medical Books/ MCGraw-Hill.Toronto**
- **Gerstein H.C and Haynes RB. 2001 Evidence-based diabetes care. BC decker Inc London.**
- **Tierney et al. 2005.Current medical Diagnosis & treatment . MacGraw-Hill Toronto.**

TERIMA KASIH
ATAS PERHATIAN ANDA

