



**"Iuliu Hațieganu" University of Medicine and Pharmacy, Cluj-Napoca**  
**Discipline of Medical Informatics and Biostatistics**

# The methodology of scientific research in medicine

**Cosmina Ioana Bondor – author**

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Introduction, Variables,  
Bibliographic study, Vancouver  
style for References



ALWAYS



SEEK



KNOWLEDGE

# As I told you before:

We will present for you - Release date (The movie)

Methodology of the  
research (February 2025)



# Aim of this presentation:

## Lecture

General  
presentation

Objectives

Lecture  
content

## Exam

Theoretic

Practic

Homework

## Regulations

Didactical

Intern

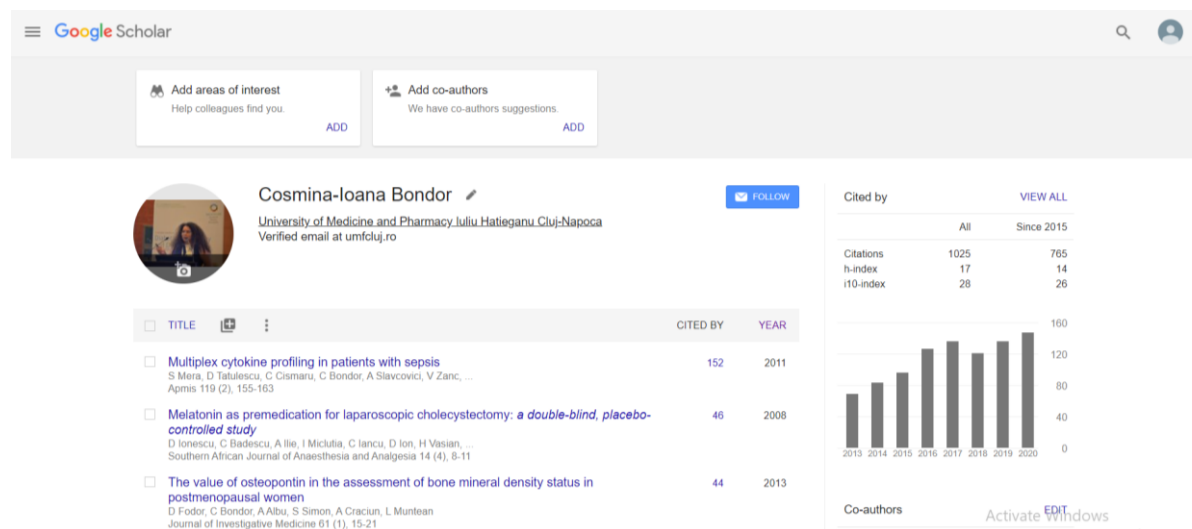
Specific

Contact: [cbondor@umfcluj.ro](mailto:cbondor@umfcluj.ro)



My academic profyle:

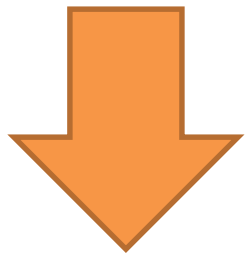
<https://scholar.google.ro/citations?user=SiuhDX0AAAAAJ&hl=en>



- General informations
  - 14 lectures of 1 hour.
    - 70% presence compulsory

– slides publish in:

- Teams

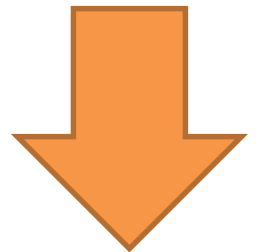
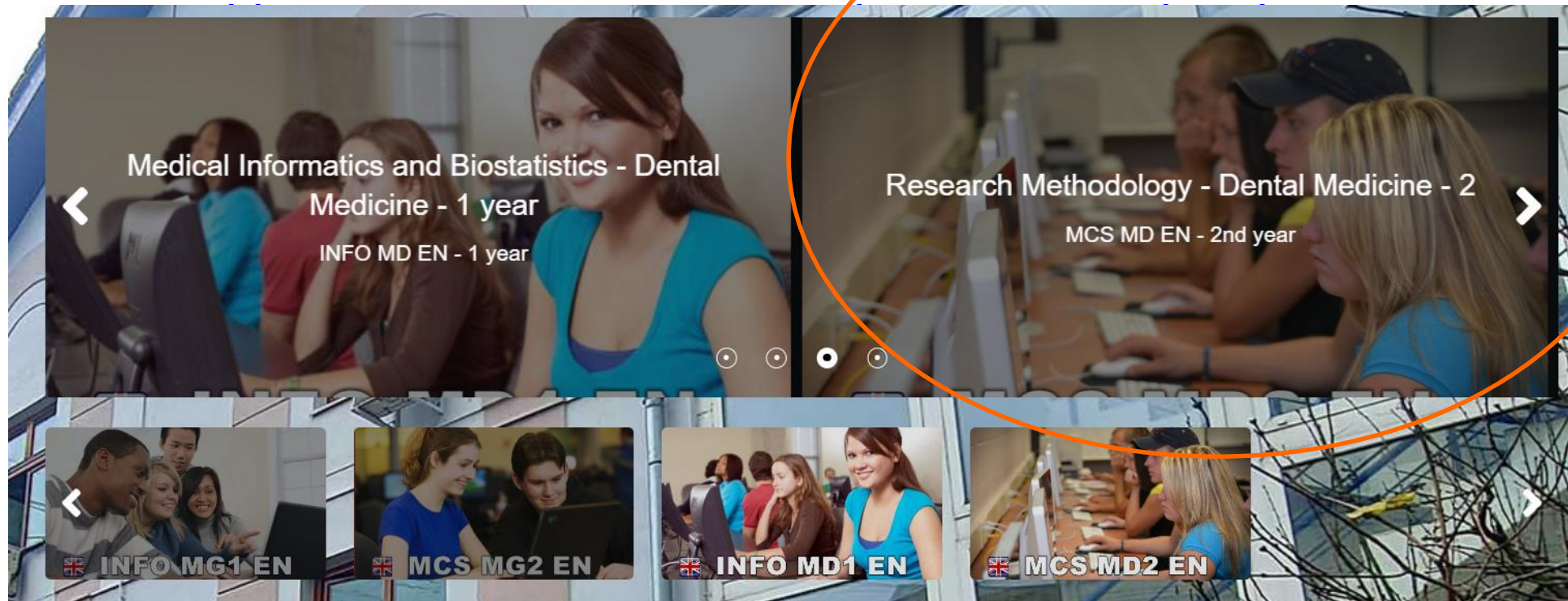


- Theoretical test
  - during examination session

The screenshot displays the Microsoft Teams interface for the 'Medical Research Methodology (MCS)' channel. The left sidebar shows the 'All teams' list with 'MDEN\_A2\_S1' selected. The main area shows the 'Files' tab, listing 14 files related to the course. The files are organized into a table with columns for 'Name' and 'Modified'.

Name	Modified
READINGS to support yo...	March 9
EN_01_02_INTRO & BIBLIOGRA...	March 9
EN_03_RESEARCH_PROTOCOL....	March 9
EN_03b_CLINICAL_STUDIES_DE...	March 13
EN_04_CLINICAL_STUDIES_ETI...	March 13
EN_05_CLINICAL_STUDIES_DIA...	March 25
EN_06_CLINICAL_STUDIES_THE...	April 1
EN_07_CLINICAL_STUDIES_SUR...	April 1
EN_08_CHOOSING STATISTICA...	April 10
EN_09_SECONDARY RESEARC...	April 10
EN_10_MEDICAL_WRITING.pdf	April 10
EN_11_STUDY VALIDITY & EBM...	April 23
EN_12_ETHICAL_PRINCIPLES_I...	April 29
EN_13_RECAPITULATION_EXA...	May 28
Topics, concepts and skills eval...	May 19

- General informations
  - 14 practical activity of 2 hour.
  - **100% compulsory**
  - Publish at:



Practical test  
14<sup>th</sup> week

# SEMESTER II

24th February  
2025 – 17th  
April 2025

- Didactic activity
- 8 weeks

21th April 2025  
– 25th April  
2025

- Vacation
- 1 week

28th April 2025  
– 30th May  
2025

- Didactic activity
- 5 weeks

2nd June 2025  
– 6th June 2025

- Lecture: review
- Practical; test
- 1 week

9th June 2025 –  
4th July 2025

- Exam session
- 4 weeks


- 14 Lectures of 1 hour:
  - Week 1-13 – didactical activity
  - Week 14 – review

- 14 Practical activity of 2 hours:
  - Week 1-12 – didactical activity
  - Week 13 – review
  - Week 14 - Practical test



Week	Date	Lectures
01	24th February	C01 – Introduction. Variability. Bibliographic documentation
02	3rd March	C02 – Research protocol
03	10 th March	C03 – Clinical studies – Case control/Exposed-unexposed studies
04	17th March	C04 – Clinical study – therapeutical approach
05	24th March	C05 – Clinical study – diagnostic evaluation
06	31th March	C06 – Clinical study – survival
07	7th April	C07 – Second research
08	14th April	C08 – Statistical multivariate methods
09	28th April	C09 – Medical writing
10	05th May	C10 – Licence thesis I
11	12th May	C11 – Licence thesis II
12	19th May	C12 – Errors in scientific research. Ethical principles in medical research
13	26th May	C13 – Study hierarchy, medical evidence
14	2nd June	C14 – Recapitulation





Re-examination session I  
14 iulie 2025 – 18 iulie 2025



Re-examination session II  
15 septembrie 2025 – 19 septembrie 2025

# REGULATIONS

- **Lecture**
  - Minimum 70% attending
  - The presence situation will be taken
- **Practical activities**
  - Minimum 100% attendance
  - The presence situation will be taken
  - Maximum 3 absences
    - Medical motivation or with payment till 12 January 2024
    - Recuperation till 12 January 2024

! All practical activities must be done



# REGULATIONS

- **Exemption from the practical part of the exam !!!**

- Students who
  - Didn't recuperate all the absences in time
  - Have more than 3 absences at LP
  - Suspended
    - see the internal rules
      - rules which will be presented at the LP

- **Exemption from the theoretical part of the exam !!!**

- Students who
  - Didn't pass the practical exam
  - Did not attend minimum 70% of the lectures

# Evaluation

Activity type	Evaluation criteria	Evaluation methods	Weight of the final grade
<b>Theoretical</b> test	Consistent with educational objectives	In conformity with the university regulations	<b>70%</b>
<b>Practical</b> test	Consistent with educational objectives	In conformity with the university regulations	<b>30%</b>
Minimum mark = 5 at both exams			

# Practical test

- 15-20 minute
  - analysis of a study protocol similar to those taught at LP

# Theoretical test

- 30 multiple choice questions – 60 minutes
- 1 extra point to the grade for the answers to the questions during the course

# Theoretical exam - 30 questions: 1 hour to respond

8) \* The following are days of incubation for a contagious disease: 7; 3; 4; 7; 6; 6; 4; 5; 3; 7; 5; 4; 7; 6; 2; 3; 5; and 6. Coefficient of variation is equal to:

- a) 0.32
- b) 0.23
- c) 0.27
- d) 0.29
- e) Could not be calculated based on provided data

**Only one correct !**

16) Let be a statistical series with the following data: 40, 60, 20, 20, 60, 80, 80, 40, 60, and 80. The relative frequency of 0.3 corresponds to:

- a) 20
- b) 40
- c) 60
- d) 80
- e) None is correct

**Two correct answers !**

7) The following data represent the age of first episode of myocardial infarction on a series of male patients: 38, 50, 23, 45, 70, 33, 25, 40, 50, 62, and 59. The values of quartiles are as follows:  $Q1 = 35.5$ ,  $Q2 = 45$  and  $Q3 = 54.5$ . The following statements are true:

- a)  $Q2 - Q1 = 9.5$
- b)  $Q3 - Q2 = 9.5$
- c) Data are asymmetrical distributed
- d) Data are symmetrical distributed
- e) Data are approximately symmetrical distributed

**>2 answers correct !**

# Final Mark

- If the student obtain
  - minimum 5 at practical part of the exam
  - respectively minimum 5 at theoretical part of the exam
- The final mark will be computed



Universitatea de Medicină și Farmacie "Iuliu Hațieganu" Cluj-Napoca

Catedra de Informatică Medicală

Final Mark

Facultate, an, grupă: \_\_\_\_\_

Numele: \_\_\_\_\_

Prenumele: \_\_\_\_\_

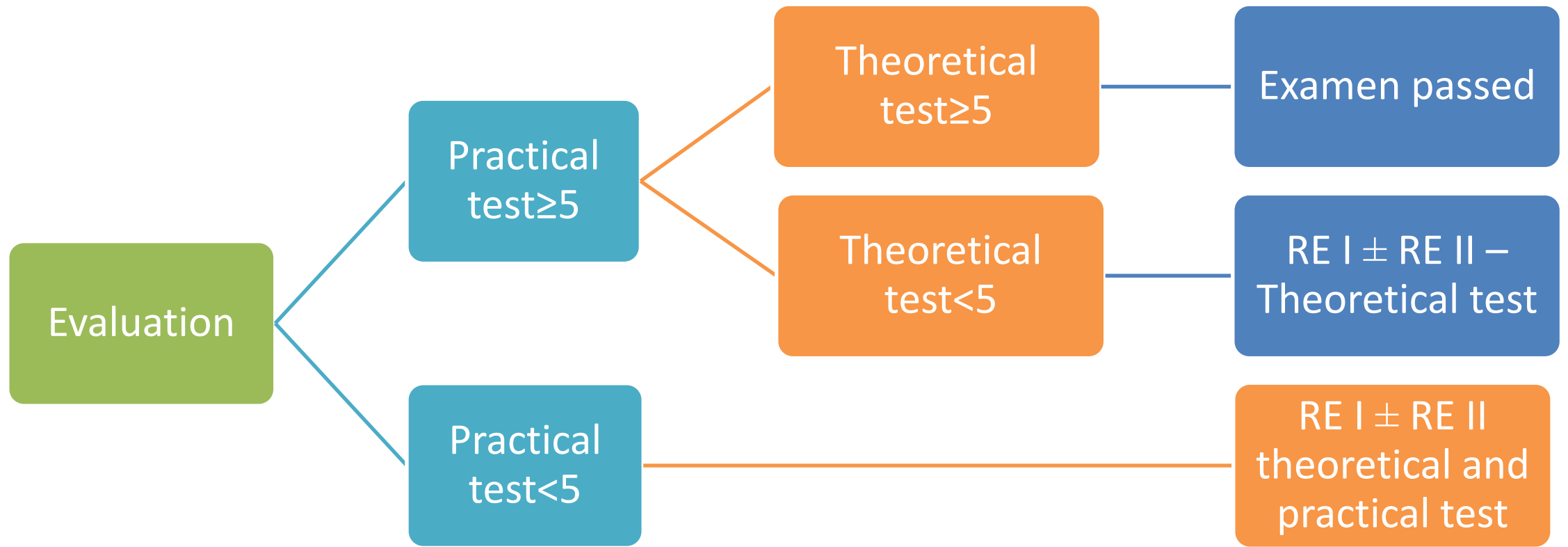
Data examenului: \_\_\_\_\_ (completați cu majuscule)

	A	B	C	D	E
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C	D	E
51	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	A	B	C	D	E
101	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
102	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
103	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
104	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- If the student obtain
  - minimum 5 at practical and theoretical test
- The final mark will be computed
  - Weighted mean =  $0.70 \times \text{theoretic test mark} + 0.30 \times \text{practical test mark}$



# Appreciation of student activity (course) during the semester (+1 point to the grade)

- The student can obtain extra points (1 point)
  - Active participation in the course (wooclap)

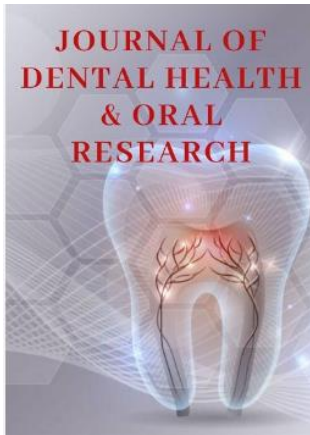
theoretical test mark  $\geq 5$   Increase

# Course objectives

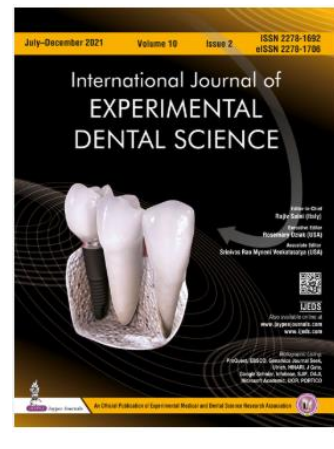
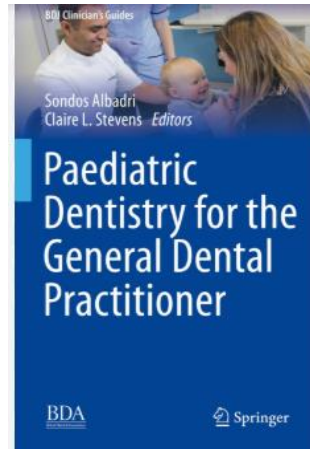
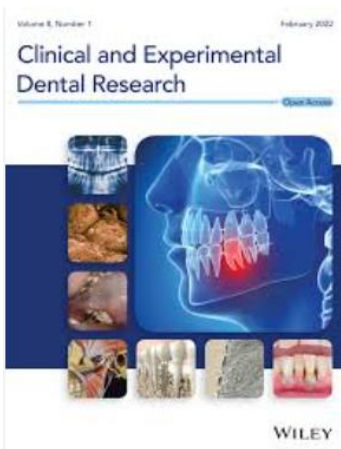
- Developing skills:
  - Internet resources for improving dental healthcare
  - Making research
  - Presenting research results
    - printed form
    - oral form

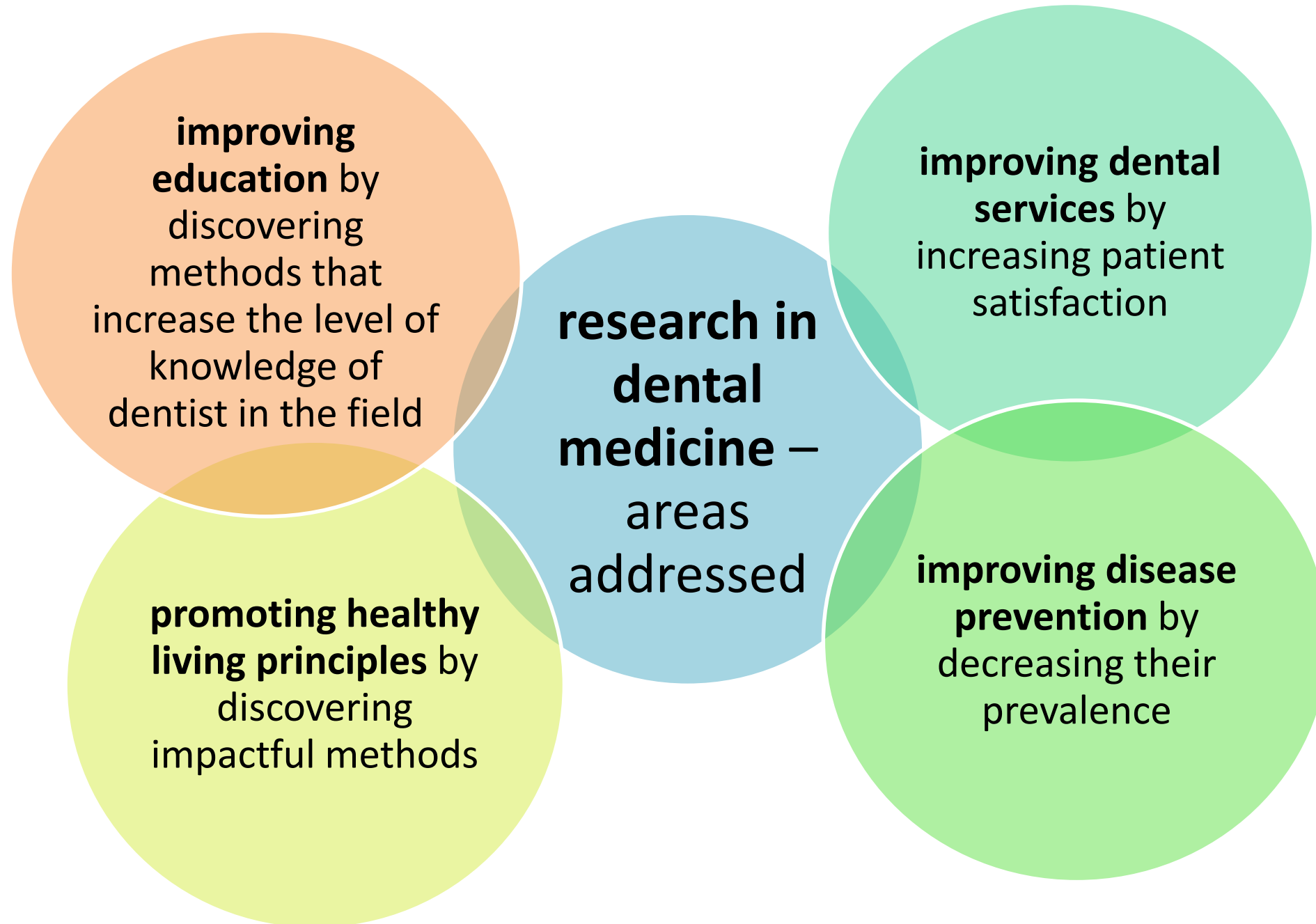
# Why research?

- Do dentists do research?



Yes





## Documentation

- Information
- Introduction (of the bachelor's thesis)

## Knowing the types of studies

- Writing the bachelor's thesis
- Understanding the literature

## Understanding the results

- Continuous Learning
- Increasing the Quality of Patient Care

## Errors in medical studies

- Fake news, mistakes, interests
- Developing a critical eye



# Why we need research?

- things in life/lives tend to repeat (nature is repetitive)
  - we can predict events (to some extent)
- Events have a cause (nature is deterministic)
  - we can study causality (is there a cause?)
  - highlighting causality (is this the cause?)
  - quantifying causality (how big is the effect?)

# Why we need research?



!!!New situations in health arise all the time


- unknowns = always
  - or few studies,
  - or uncertain results
  - or worst, contradictory results
  - or not yet studied in all populations

# Research in dentistry

- The patient has many characteristics = variables
  - experiments
  - interventions
  - observations
  - measurements

} can be repeated in multiple patients

– repeated in a sufficiently large number of patients → the truth about that variability


- Mathematical/statistical modeling of the results

# Medical research = a scientific method

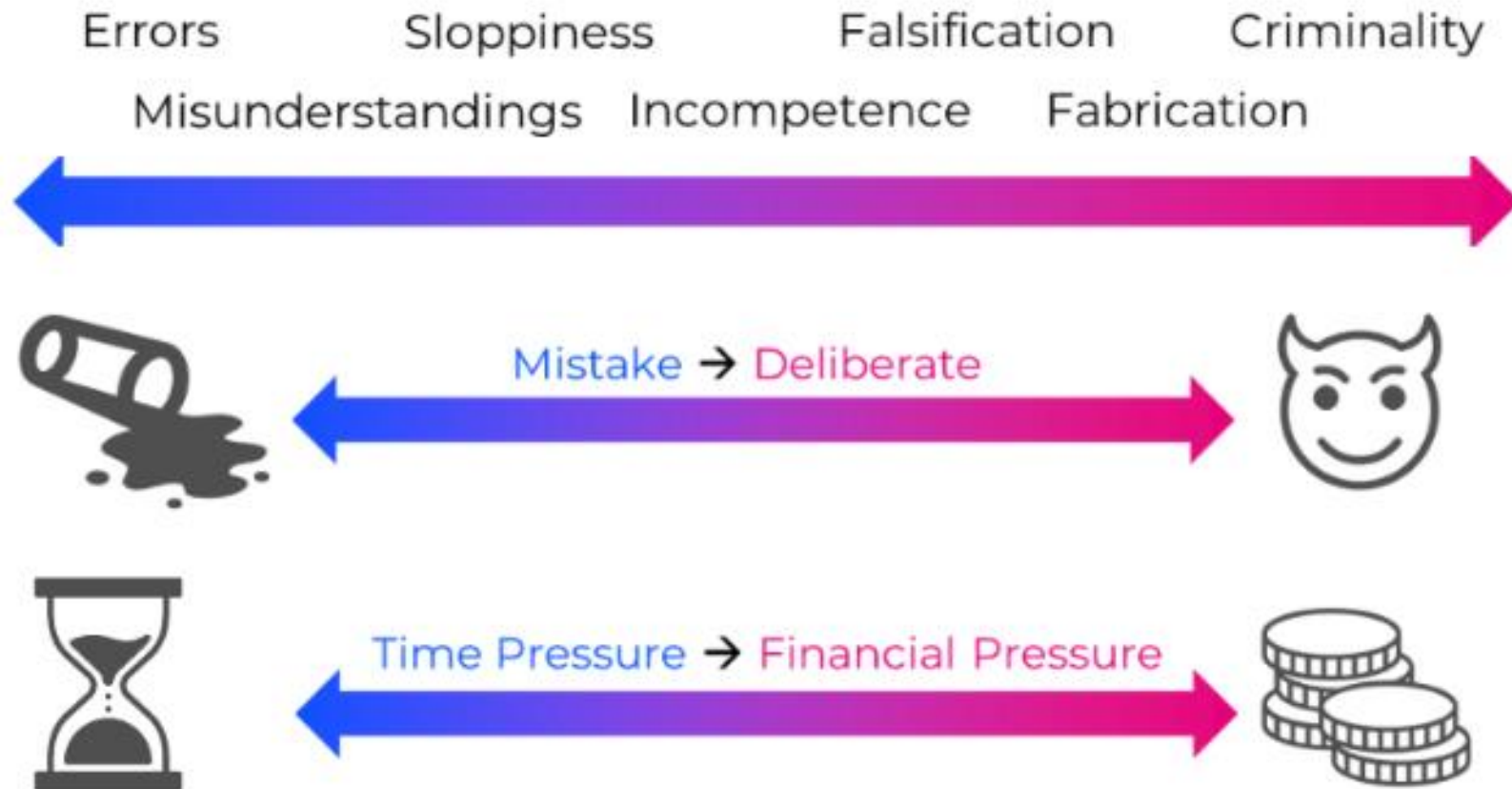
- follow strict rules/protocols
- based on observations → mathematical modelling with probabilities theory
- Hypotheses (questions):
  - Links between risk factors and health phenomena
  - Effectiveness of new diagnostic tests
  - Effectiveness and safety of new treatments

# Medical research = a scientific method

- Hypothesis research:
  - Systematic = all the detail
  - Empirical = direct, objective observation
  - Controlled = the influence of certain disruptive factors is avoided
  - Critical = the results are public, exposed to criticism, corrections, validated/invalidated
  - Mistakes? Yes were/are/will be – corrected

# Medical research = a scientific method

– Mistakes? Yes were/are/will be



!!!New situations in health arise all the time





# Yes, there will be mistakes

- Developing a critical eye – necessary
- Inform yourself – things change

# WHAT IS PEER REVIEW?

ELISE GRAVEL & SIMON GRAVEL

- ① This scientist studies something.



- ② She writes an article about that thing.



- ③ She sends her article to a reputable science journal.



# WHAT IS PEER REVIEW ?

ELISE GRAVEL & SIMON GRAVEL

- 4 The journal sends the article to many other scientists (they're called "peers".)



- 5 The scientists examine the article :

Is the research sound ?

Are there mistakes ?

Do I reach the same conclusions ?



# WHAT IS PEER REVIEW ?

ELISE GRAVEL & SIMON GRAVEL

- ⑥ Criticisms are sent to the scientist, who can make corrections. That can take years !



- ⑦ The journal publishes the article.

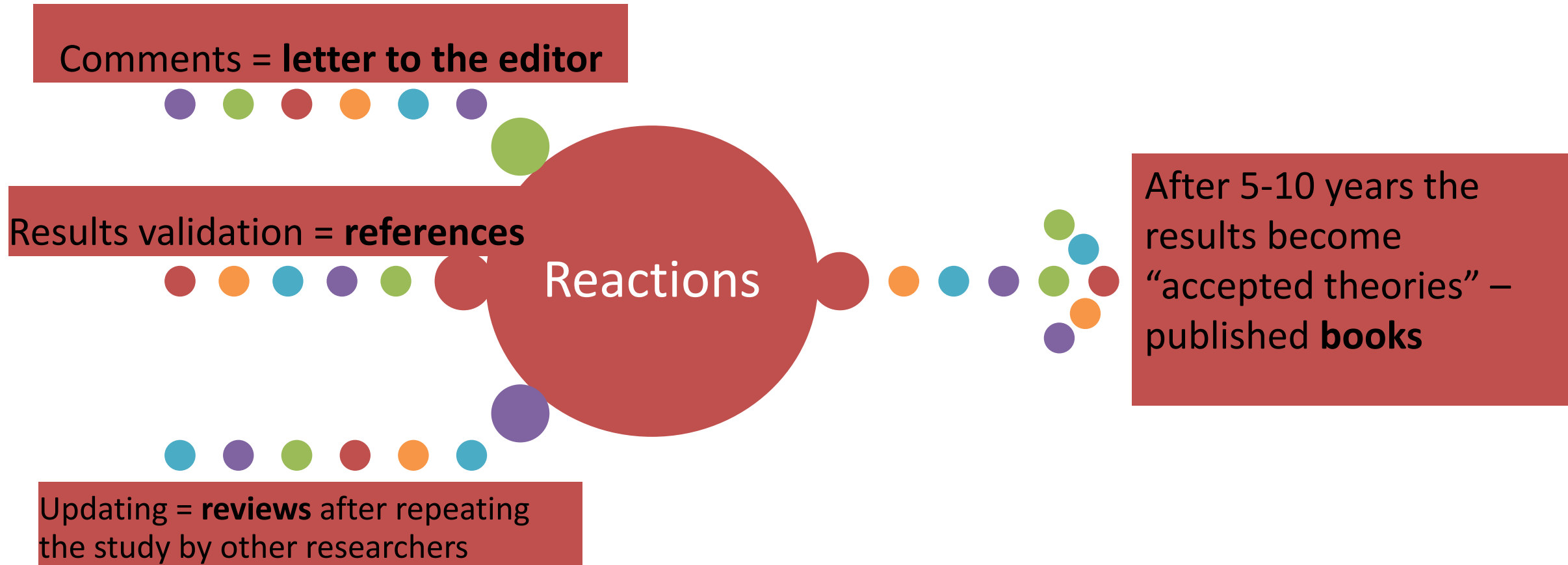


- ⑧ People can read the article.



Experts and media tend to trust peer-reviewed research more because all these checks help avoid mistakes.

# What's next?



# The dentist - Information is obtained

- from school/books
  - Advantage
    - high degree of **validity**
    - high degree of **safetiness**
  - Disadvantage
    - possibly **outdated** methods
    - **takes time**
- from articles/reviews
  - Advantage
    - The patient have benefits
    - modern office
    - Faster
  - Disadvantage
    - **insufficiently** tested
    - requires **critical analysis** of research
    - It is difficult to manage the **amount of publications**

Once again,  
Let's start from the end...

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.yourquote.in%2Fvandana-yadav-bcxnd%2Fquotes%2Flets-start-end-p00kr&psig=AOvVaw1iY77mXygTyGW0Lmtcxld&ust=1677171326351000&source=images&cd=vfe&ved=0CBEQjhxqFwoTCLDBp9jOqf0CFQAAAAAdAAAAABAJ>

**Cosmina Ioana Bondor – autor**

Variables

Bibliographic study

Citing references



ALWAYS



SEEK



KNOWLEDGE



# Objective

## Bibliographic study

documentation on a topic

clinical question: PICO method

## References – citation

Vancouver style references

# Variables = characteristics

- numerical = quantitative
  - discrete
    - decimals have no sense
  - continuous
    - with decimals
- qualitative
  - nominal
    - without order
    - more than 2 categories
  - dichotomial
    - only two categories
  - ordinal
    - categories can be order

- article = publication about a research
- the last chapter of an article

# References



to do regular checkups.

Audiovisual distraction is found to be a powerful tool to manage anxious patients [3,13]. The patient feared injection so a visual and auditory distraction technique using an eye massager was tried. The eye massager relaxed the patient together with blocking the site from fearful stimuli. The dentist could patiently complete the procedure. Future research would concentrate on more patients to compare the effectiveness of massage therapy with other anxiety control methods.

## Conclusions

Dental anxiety creates a stressful situation for the patient as well as the dentist. This article describes a simple technique to manage anxiety using an eye massager. The audio and visual distraction using the eye massager helped the patient relax and complete the procedure.

## Additional Information

### Disclosures

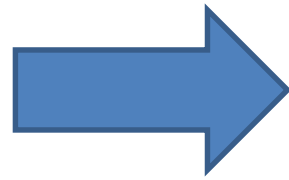
**Human subjects:** Consent was obtained or waived by all participants in this study. **Conflicts of interest:** In compliance with the ICMJE uniform disclosure form, all authors declare the following: **Payment/services info:** All authors have declared that no financial support was received from any organization for the submitted work. **Financial relationships:** All authors have declared that they have no financial relationships at present or within the previous three years with any organizations that might have an interest in the submitted work. **Other relationships:** All authors have declared that there are no other relationships or activities that could appear to have influenced the submitted work.

## References

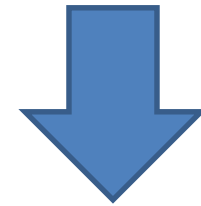
1. Armfield JM: Towards a better understanding of dental anxiety and fear: cognitions vs. experiences . Eur J Oral Sci. 2010, 118:259-64. [10.1111/j.1600-0722.2010.00740.x](#)
2. Dionne RA, Gordon SM, McCullagh LM, Phero JC: Assessing the need for anesthesia and sedation in the general population. J Am Dent Assoc. 1998, 129:167-73. [10.14219/jada.archive.1998.0173](#)
3. Colvenkar S, Ali MM: Management of gag reflex with a virtual reality headset . J Prosthet Dent. 2022, [In Press]:[10.1016/j.prosdent.2022.04.014](#)
4. Pohjola V, Lahti S, Vehkalahti MM, Tolvanen M, Hausen H: Association between dental fear and dental attendance among adults in Finland. Acta Odontol Scand. 2007, 65:224-30. [10.1080/00016350701373558](#)
5. Armfield J: The avoidance and delaying of dental visits in Australia . Aust Dent J. 2012, 57:243-7. [10.1111/j.1834-7819.2012.01697.x](#)
6. Sharif MO: Dental anxiety: detection and management. J Appl Oral Sci. 2010, 18:i. [10.1590/s1678-77572010000200001](#)
7. Armfield JM, Slade GD, Spencer AJ: Dental fear and adult oral health in Australia . Community Dent Oral Epidemiol. 2009, 37:220-30. [10.1111/j.1600-0528.2009.00468.x](#)

## Why do we start with the end?

- at the beginning of the study
  - our (research) idea is correct?
  - how to prove it?



We read about the studied subject  
(= Bibliographic study)



We collect references

# Literature Search Strategy on Internet

- Summarize the topic in one or two sentences.
- Identify the unique ideas or concept associated with your topic.
- Choose appropriate keywords for each concept.
- Establish the relationship between each keyword and concept.

# Pub Med Resource

- Publications, and Medical.
- project of the USA National Institute of Health, National Library of Medicine
- It searches for you from about 21 million citations.
- <http://www.ncbi.nlm.nih.gov/PubMed/>

- **Free Medical Journals: websites**

- <http://www.lau.edu.lb/libraries/research-tools/free-journals-list.php>.
- [www.freemedicaljournals.com/](http://www.freemedicaljournals.com/)
- <http://highwire.stanford.edu/lists/freeart.dtl>
- DOAJ(Directory of open access journals): <http://www.doaj.org/>
- MedIND (<http://medind.nic.in/>)

- **Medical Search Engines**

- MedHunt ([www.medhunt.com](http://www.medhunt.com))
- MedNets ([www.mednets.com](http://www.mednets.com))
- HealthAtoZ ([www.healthatoz.com](http://www.healthatoz.com))
- DoctorNet ([www.doctornet.com](http://www.doctornet.com))
- MedConnect ([www.medconnect.com](http://www.medconnect.com))
- OMNI ([www.omni.ac.uk](http://www.omni.ac.uk))
- and many more.... Get a complete list by typing “medical search engines” in any good browser.



# Some Good Medical Websites:

- [www.medscape.com](http://www.medscape.com):
  - an excellent site for medical professionals. Free registration, access to specialty and subspecialty pages, full-text articles and the latest medical news and events.
- [www.who.int](http://www.who.int):
  - the website of the World Health Organization. Provides the latest activity of the WHO, annual reports, bulletins, monographs, research funding reports and forms, global vital statistics and trends.
- [www.cdc.gov](http://www.cdc.gov):
  - the official website of the Centers for Disease Control (CDC) in Atlanta, Georgia, USA. It provides global information on a variety of diseases, chiefly infectious diseases, epidemiology and disease control. The statistical software Epi Info is available for download from this site.

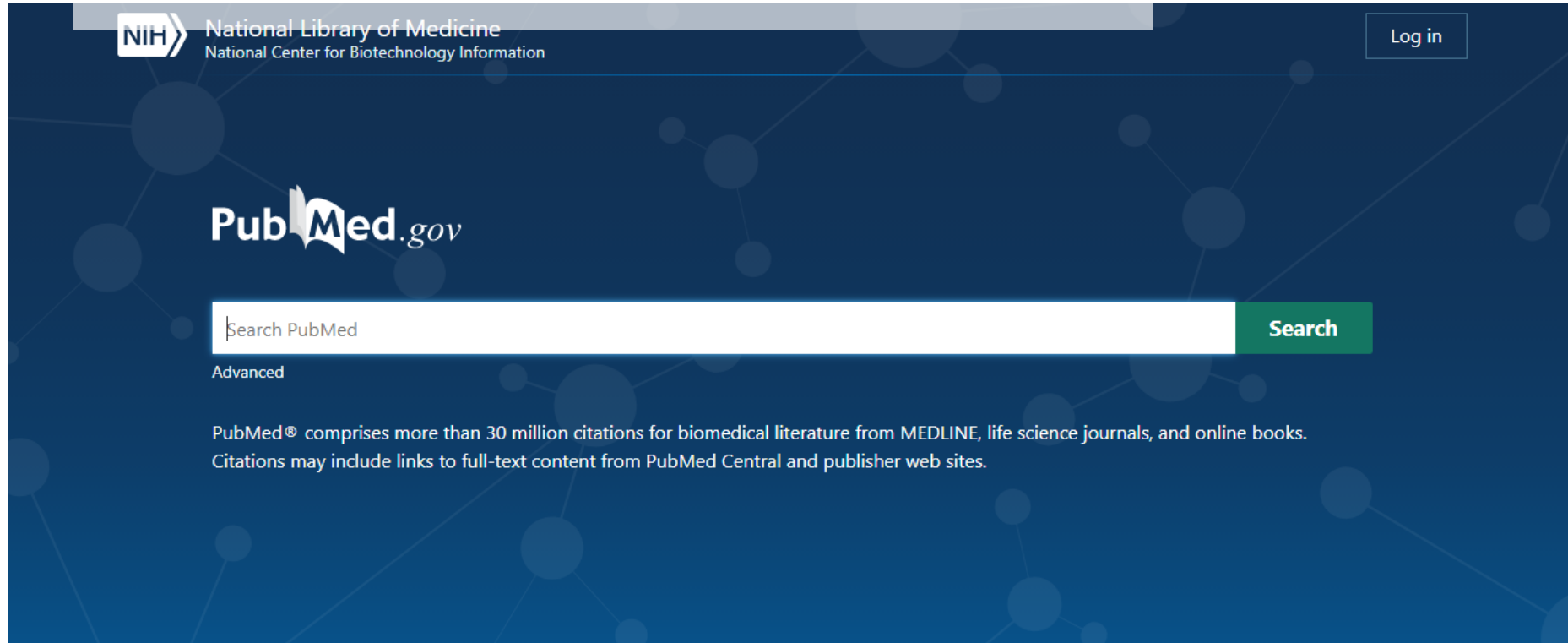
Where do we read about the subject?


PUBMED


# PubMed


- year I
  - reference searches based on MESH – dictionary of terms
- year II
  - reference searches based on clinical questions – Clinical Queries

# PubMed MEDLINE



  
**Learn**  
About PubMed  
FAQs & User Guide  
Finding Full Text

  
**Find**  
Advanced Search  
Clinical Queries  
Single Citation Matcher

  
**Download**  
E-utilities API  
FTP  
Batch Citation Matcher

  
**Explore**  
MeSH Database  
Journals

**Clinical  
queries**

# Clinical queries

Formulated to find scientific articles and reviews on the topic

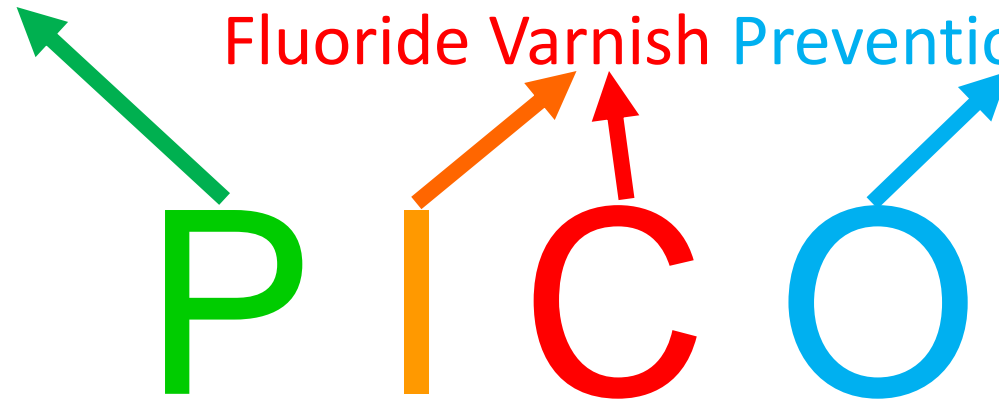
- A clinical question has 4 components:
  - P – Population or problem
  - I – Intervention or treatment of interest
  - C – Comparison or control
  - O – Output

P I C O

# Ex. Clinical question made up of search keys from MESH:

Dental caries in children aged 3 to 5   Fluoride treatment   AllSolutions

Fluoride Varnish Prevention



P – Population or problem

I – Intervention or treatment of interest

C – Comparison or control

O – Output

"What is the effectiveness of fluoride treatment in preventing dental caries in children aged 3 to 5 compared to fluoride varnish?"

# Clinical queries

## P - Population or problem

- what population is it about?
- what characteristics or demographic information such as age range, gender, presentation with a specific complaint and history.

e.g. Dental caries in children aged 3 to 5

## I - Intervention or treatment of interest

- the intervention can be a treatment, a procedure, a diagnostic test, a risk factor, a prognostic factor.

- e.g. Fluoride treatment

## C - Comparison or control

- a therapy (a treatment, a procedure, a diagnostic test, a risk factor, a prognostic factor) is compared with the existing one.

Ex. Fluoride Varnish (AllSolutions Fluoride Varnish)

## O - Output

- effect of the intervention, side effect, complication, prevention of death, sensitivity, etc.

Ex. Prevention

Ex. Clinical question composed of search keys from MESH:  
Children Infections Ampicillin Gentamicins Drug Resistance



# Examples

"How does the efficacy of ampicillin compare to gentamicin in treating drug-resistant infections in children?"

PICO method

Children Infections Ampicillin Gentamicins Drug Resistance

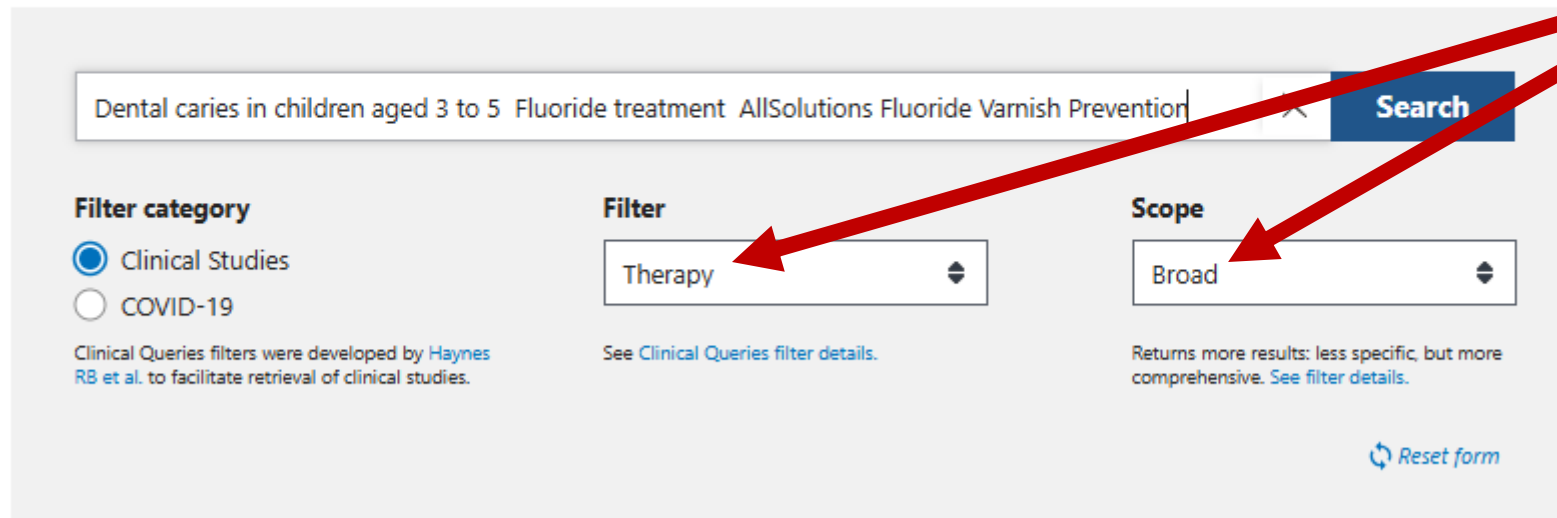
- "Does the early administration of intravenous antibiotics reduce the risk of mortality in patients with sepsis compared to delayed administration?"

PICO method

Sepsis Early administration of intravenous antibiotics Mortality risk

## PubMed Clinical Queries

This tool uses [predefined filters](#) to help you quickly refine PubMed searches on clinical or disease-specific topics. To use this tool, enter your search terms in the search bar and select filters before searching.



The screenshot shows the PubMed Clinical Queries interface. A search bar at the top contains the text "Dental caries in children aged 3 to 5 Fluoride treatment AllSolutions Fluoride Varnish Prevention" and a blue "Search" button. Below the search bar, there are three main sections: "Filter category", "Filter", and "Scope".

**Filter category:** Two radio buttons are present: "Clinical Studies" (selected) and "COVID-19". Below them is a note: "Clinical Queries filters were developed by [Haynes RB et al.](#) to facilitate retrieval of clinical studies."

**Filter:** A dropdown menu shows "Therapy". Below it is a link: "See [Clinical Queries filter details](#)."

**Scope:** A dropdown menu shows "Broad". Below it is a note: "Returns more results; less specific, but more comprehensive. [See filter details](#)."

At the bottom right, there is a "Reset form" link with a circular arrow icon.

Red annotations include: a circle around the title "PubMed Clinical Queries", a large red arrow pointing left from the right edge of the image, and two red arrows pointing from the top right towards the "Filter" and "Scope" dropdown menus.

## PubMed Clinical Queries

This tool uses [predefined filters](#) to help you quickly refine PubMed searches on clinical or disease-specific topics. To use this tool, enter your search terms in the search bar and select filters before searching.

# Children Infections Ampicillin Gentamicins Drug Resistance

Another example

Children Infections Ampicillin Gentamicins Drug Resistance

Search

**Filter category**

☒ Clinical Studies

☐ COVID-19

Clinical Queries filters were developed by [Haynes RB et al.](#) to facilitate retrieval of clinical studies.

**Filter**

Therapy

See [Clinical Queries filter details](#).

**Scope**

Broad

Returns more results: less specific, but more comprehensive. See [filter details](#).

[Reset form](#)

## Results for Clinical Studies: Therapy/Broad

5 of 185 results sorted by: Most Recent

[See all results in PubMed \(185\)](#)

[Urinary Tract Infection in Pediatrics: Study of Uropathogens and Their Resistance in a Madrid Hospital.](#)

Rosado MR, et al. Arch Esp Urol. 2022. PMID: 36472062 [Free article](#). Review.

[Etiology and Antibiotic Susceptibility Patterns of Urinary Tract Infections in Children in a General Hospital in Kuwait: A 5-Year Retrospective Study.](#)

Al Benwan K, et al. Med Princ Pract. 2022. PMID: 36310010 [Free PMC article](#).

[Aetiology, antimicrobial susceptibility and outcome of children with sepsis, admitted at Muhimbili National Hospital, Dar es Salaam.](#)

Godfrey E, et al. Pan Afr Med J. 2022. PMID: 36187027 [Free PMC article](#).

# PubMed Clinical Queries

This tool uses [predefined filters](#) to help you quickly refine PubMed searches on clinical or disease-specific topics. To use this tool, enter your search terms in the search bar and select filters before searching.

Children Infections Ampicillin Gentamicins Drug Resistance × **Search**

**Filter category**

☒ Clinical Studies  
☐ COVID-19

Clinical Queries filters were developed by [Haynes RB et al.](#) to facilitate retrieval of clinical studies.

**Filter**

Therapy

See [Clinical Queries filter details](#).

**Scope**

Narrow

Returns fewer results: more specific, but less comprehensive. [See filter details](#).

[Reset form](#)

## Results for Clinical Studies: Therapy/Narrow

5 of 8 results sorted by: Most Recent

[See all results in PubMed \(8\)](#)

[Effects of early-life antibiotics on the developing infant gut microbiome and resistome: a randomized trial.](#)

Reyman M, et al. Nat Commun. 2022. PMID: 35173154 [Free PMC article](#). Clinical Trial.

[Randomised controlled trial of fosfomycin in neonatal sepsis: pharmacokinetics and safety in relation to sodium overload.](#)

Obiero CW, et al. Arch Dis Child. 2022. PMID: 35078765 [Free PMC article](#). Clinical Trial.

Narrow instead of Broad: less articles, more precise

((((("Child"[Mesh]) AND "Infections"[Mesh]) AND "Ampicillin"[Mesh]) AND "G



Search

[Advanced](#) [Create alert](#) [Create RSS](#)[User Guide](#)

Save

Email

Send to

Sorted by: Most recent ↓

Display options

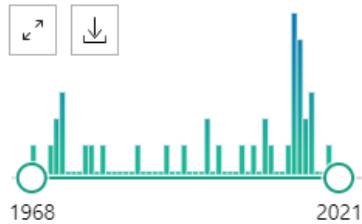
Search with MeSH terms

((((("Child"[Mesh])  
AND  
"Infections"[Mesh])  
AND  
"Ampicillin"[Mesh])  
AND  
"Gentamicins"[Mesh])  
AND  
"Drug Resistance,  
Microbial"[Mesh]

MY NCBI FILTERS

32 results

RESULTS BY YEAR



TEXT AVAILABILITY

- ☐ Abstract
- ☐ Free full text
- ☐ Full text

ARTICLE ATTRIBUTE

- ☐ Associated data

ARTICLE TYPE

- ☐ Books and Documents
- ☐ Clinical Trial

- ☐ [Gram-negative Bacteremia in Children With Hematologic Malignancies and Following Hematopoietic Stem Cell Transplantation: Epidemiology, Resistance, and Outcome.](#)
- 1
- Cite Vinker-Shuster M, Stepensky P, Temper V, Shayovitz V, Masarwa R, Averbuch D.
- Share J Pediatr Hematol Oncol. 2019 Nov;41(8):e493-e498. doi: 10.1097/MPH.0000000000001556. PMID: 31318820 Clinical Trial.
- ☐ [Ozena in Immigrants of Differing Backgrounds.](#)
- 2
- Cite Yelenich-Huss MJ, Boyer H, Alpern JD, Stauffer WM, Schmidt D.
- Share Am J Trop Med Hyg. 2016 Jul 6;95(1):35-7. doi: 10.4269/ajtmh.15-0885. Epub 2016 Apr 25. PMID: 27114295 Free PMC article.
- ☐ [Occurrence and antibacterial susceptibility pattern of bacterial pathogens isolated from diarrheal patients in Pakistan.](#)
- 3
- Cite Rasool MH, Siddique AB, Saqalein M, Asghar MJ, Zahoor MA, Aslam B, Shafiq HB, Nisar MA.
- Share Saudi Med J. 2016 Mar;37(3):274-9. doi: 10.15537/smj.2016.3.14449. PMID: 26905349 Free PMC article.
- ☐ [Diarrheagenic Escherichia coli pathotypes investigation revealed atypical enteropathogenic E. coli as putative emerging diarrheal agents in children living in Botucatu, São Paulo State, Brazil.](#)
- 4
- Cite

## Introduction

Despite a better understanding of its etiopathogenesis and all the efforts undertaken over the last few decades to control it, dental caries is still the most prevalent chronic noncommunicable disease in the world.<sup>1</sup> As defined in a recent consensus paper, caries is a biofilm-mediated, multifactorial, dynamic disease driven by frequent intake of

fermentable carbohydrates and characterised by phasic demineralisation and remineralisation of dental hard tissues. Carious lesions are caused via oral bacteria breaking down ingested carbohydrates and producing organic acids and other enzymes that induce demineralisation of tooth structures, eventually leading to cavitation or further destruction of the affected tooth structures.<sup>2</sup>

Preventive actions are focussed on minimising risk factors. At the tooth (host) level, the application of fluorides

- references should be **numbered in the order of appearance** in the text

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## Conclusions

More evidence has been gathered on the clinical efficacy of

## REFERENCES

1. Sampaio FC, Bönecker M, Paiva SM, et al. Dental caries prevalence, prospects, and challenges for Latin America and Caribbean countries: a summary and final recommendations from a Regional Consensus. Braz Oral Res 2021;35(Suppl 1):e056. doi: [10.1590/1807-3107bor-2021.vol35.0056](https://doi.org/10.1590/1807-3107bor-2021.vol35.0056).
2. Machiulskiene V, Campus G, Carvalho JC, et al. Terminology of dental caries and dental caries management: consensus report of a workshop organized by ORCA and Cariology Research Group of IADR. Caries Res 2020;54(1):7–14. doi:

# Citation/reference

- there are several approved citation styles
  - Vancouver
  - APA
  - MLA, etc.
- Our university has adopted **Vancouver style**
- PubMed has the same Vancouver style to cite



- the article

Randomized Controlled Trial > Clin Oral Investig. 2025 Feb 5;29(2):111.  
doi: 10.1007/s00784-025-06172-0.

## A 12-months randomized fluoride-based remineralising protocol on post-orthodontic initial caries lesions

Wan Nurazreena Wan Hassan <sup>1</sup>, Yee Yee Yee <sup>2</sup>, Aina Aqilah Abdul Razak <sup>2</sup>, Hui Han Loo <sup>2</sup>, Norhidayah Nor Zahidah Mohd Tahir <sup>2</sup>

Affiliations + expand  
PMID: 39907699 DOI: 10.1007/s00784-025-06172-0

### Abstract

**Objectives:** To compare the long-term remineralization of initial caries lesion (ICL) treated with

CITE

Wan Hassan WN, Tee YY, Md Razali K, Abdul Razak AA, Lim HH, Zakaria N, Sukumaran P, Mohd Tahir NNZ, Chew HP. A 12-months randomized clinical trial comparing fluoride-based remineralising protocols on post-orthodontic initial caries lesions. Clin Oral Investig. 2025 Feb 5;29(2):111. doi: 10.1007/s00784-025-06172-0. PMID: 39907699.

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The way you cite may be different

- emphasis on the author:  
... more over Lawn [2] also states ....
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... 30% of neonatal sepsis is due to antibiotic-resistant bacteria [2].

# The in-text citation is placed immediately after the text taken from the cited source

Using  
parentheses:

... antibiotic-resistant bacteria (1).

square brackets:

... antibiotic-resistant bacteria [2].

superscript:

... antibiotic-resistant bacteria<sup>2</sup>

We can cite multiple references at a time:

consecutive numbers

... antibiotic-resistant bacteria (1-3, 5-8).

non-consecutive numbers

... antibiotic-resistant bacteria (1, 3, 5).

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- [https://www.nlm.nih.gov/bsd/uniform\\_requirements.html](https://www.nlm.nih.gov/bsd/uniform_requirements.html)

Thank you!