

A REPORT ON
ONE DAY ONLINE WORKSHOP ON
RESEARCH METHODOLOGY AND BIostatISTICS
FOR UNDERGRADUATE MEDICAL STUDENTS
ORGANIZED BY
DEPARTMENT OF EPIDEMIOLOGY
THE TAMILNADU Dr. M.G.R MEDICAL UNIVERSITY
ON
29-08-2025 FRIDAY



AIM OF THE WORKSHOP

The aim of this workshop was to enhance students understanding of research methodology and biostatistics, enabling them to apply these concepts in their academic and professional pursuits.

IMPORTANCE OF THIS WORKSHOP

Research is a systematic process that involves collecting data, recording important information, and analyzing it using appropriate methods defined by different

academic and professional fields. In medicine, research is vital not only for developing new treatments but also for ensuring that existing treatments are used in the most effective way. Over the past three decades, the role of research in medicine has gained increasing importance. It spans across basic, clinical, and applied fields, covering preclinical, clinical, and paraclinical areas, with applications in diagnosis, prevention, and treatment.

In India, research or thesis work is considered a mandatory requirement by universities offering medical degrees as well as by the Medical Council of India. There is also an expectation that medical graduates will be able to critically appraise and apply new scientific knowledge, contributing to improved clinical practice and advancements in their field. Therefore, training in research methodology is essential for undergraduates, as it encourages them to take up research seriously.

In this context, the Department of Epidemiology, Tamil Nadu Dr. MGR Medical University, Guindy, organized an online workshop on Research Methodology and Biostatistics exclusively for MBBS undergraduate students.

SESSIONS

Getting Started

SPEAKER: Dr. Jasmine S. Sundar, Senior Assistant Professor, Department of Epidemiology, inaugurated the event with an insightful introduction. She warmly welcomed the participants and emphasized the significance of research as a cornerstone for advancing knowledge and promoting evidence-based practice. In her address, she highlighted the importance of critical thinking, systematic inquiry, and ethical responsibility in the research process

Research ideas / Questions and objectives

SPEAKER: Dr. Kamala , Professor of Anatomy, SRM Medical College, Trichy Explained what research process is, difference between a research idea and a research question, why research? components of a research question, starting with a research question and formulating research objectives .Along with this Brainstorming Quizes were conducted.

Searching and Organizing Literature

SPEAKER : Dr. S.A.Rizwan, Scientist D, NIE,ICMR, Chennai.

Demonstrated how to use PubMed for searching relevant literature effectively.

Key concepts while searching using PubMed (MeSH) and Embase (Emtree) – Live hands on experience on Pubmed search advanced guide.

Research Designs

SPEAKER: Dr. K. Yuvaraj, Head ,Evidence Synthesis Unit,PROPUL

Explained the importance of research design in ensuring validity, reliability, and clarity of outcomes. The session covered key types of research design, including descriptive, analytical, experimental, and exploratory designs, along with examples from public health and biomedical research. The differences between qualitative and quantitative approaches were highlighted, followed by discussions on cross-sectional, case-control, and cohort studies.

Basic Bio-Statistics in Health Research

SPEAKER : Mr. Richard Kirubakaran, Director, Centre for biostatistics and Evidence based Medicine-CBEBM, Vellore .Key topics covered included types of data (qualitative and quantitative), measures of central tendency (mean, median, mode), measures of dispersion (range, variance, standard deviation), and the concept of probability. Participants were introduced to sampling methods and hypothesis testing, with practical examples from health research.

Research Protocol

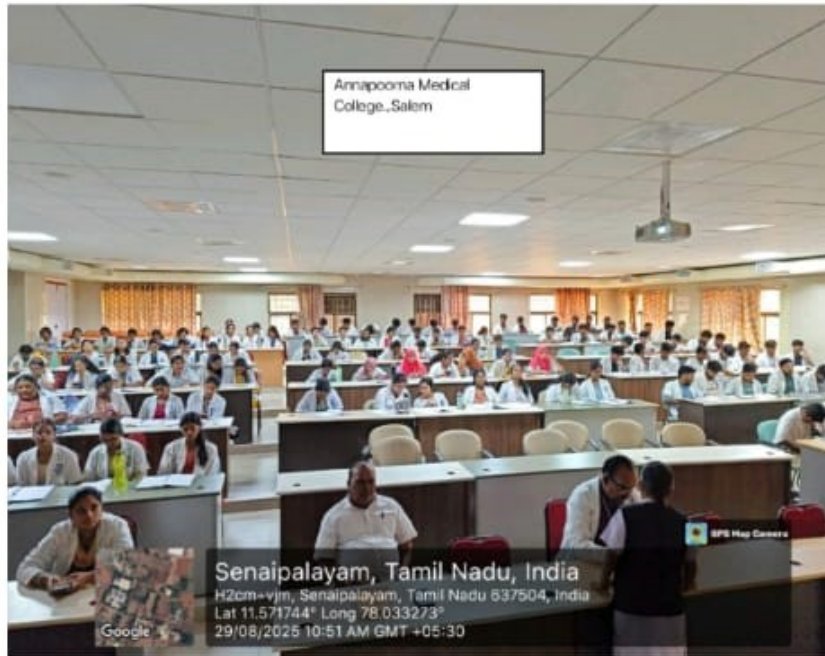
SPEAKER: Dr. A. Balaji, MEU Coordinator,Professor and HOD, Community Medicine, Arunai medical college and hospital.The session covered the essential components of a research protocol, including:

- ✓ Title and background of the study
- ✓ Research problem and objectives
- ✓ Review of literature
- ✓ Methodology (study design, population, sample size, data collection, variables, and statistical analysis plan)
- ✓ Ethical considerations and informed consent
- ✓ Timeline and budget plan

INSTITUTIONS PARTICIPATED

| S.NO | INSTITUTIONS NAME | NUMBER OF PARTICIPANTS |
|------|---|------------------------|
| 1. | Annapoorana Medical college and hospitals - Salem | 129 |
| 2. | PSG Institute of Medical Sciences and Research-Coimbatore | 175 |
| 3. | Government Medical College – Dindigul | 132 |
| 4. | Government Medical college – Kallakurichi | 123 |
| 5. | Stanley Medical College- Chennai | 178 |
| 6. | Government Medical College - Nilgiris | 102 |
| 7. | Government Medical College – Nagapattinam | 112 |
| 8. | Government Medical College – Sivagangai | 52 |
| 9. | Sree Mookambika Institute of Medical Sciences – Kanyakumari | 32 |
| 10. | KMCH – Coimbatore | 128 |

Annapoorna medical College and hospitals -



PSG institute of Medical sciences and Research - C



Government Medical College - Dindigul



Government Medical College - Kallak



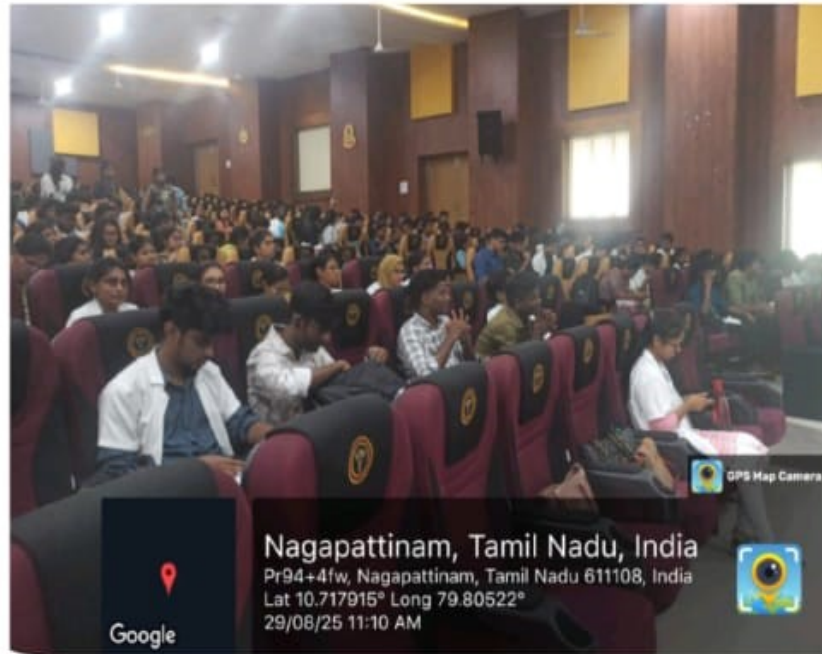
Stanley Medical College - Chennai



Government Medical College - Nilgi



Government Medical College - Nagapat



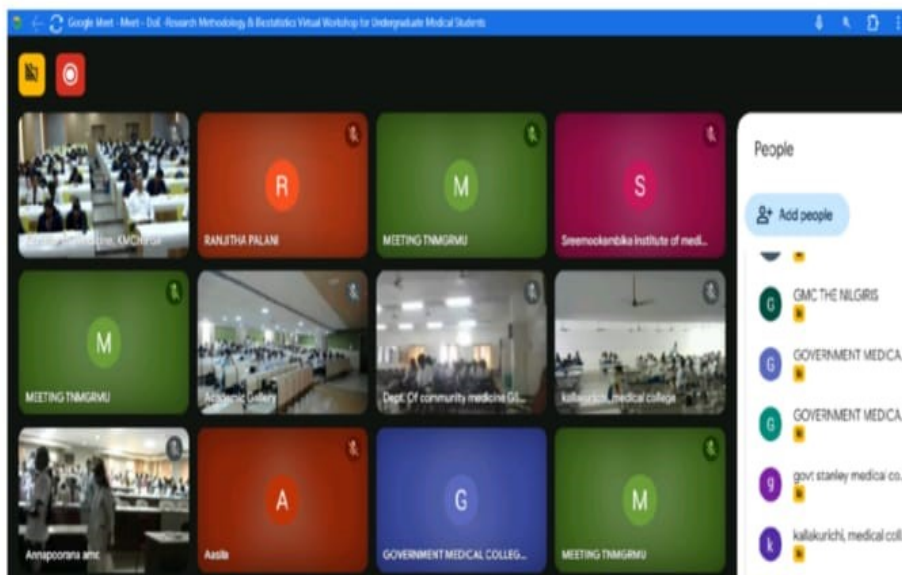
Government Medical College - Sivagar



Sree Mookambikai Institute of Medical sciences - K



KMCH - Coimbatore



Pre-test

Google Meet - Meet - DoE -Research Methodology & Biostatistics Virtual Workshop for Undergraduate Medical Students

MEETING TNMGRMU (Presenting, annotating)

PRE TEST

MEETING TNMGRMU

Sree Mookambika Institute of Medical Sciences

13 others

MEETING TNMGRMU

In-call messages

Let contributors send messages

You can pin a message to make it visible for people who join later. Messages are being recorded with the call.

Pre-Test completed

Sreemookambika institute of medical sciences 10:51
Sree Mookambika Institute of Medical Sciences :32

Annapoorana amc 10:51
129 students from Annapoorana medical College

Dept. Of community medicine GSMC Sivagangai 10:52
Govt Sivagangai Medical College: 52

Send a message

10:52 | DoE -Research Methodology & Biostat...

Type here to search

31°C Mostly sunny

ENG IN 10:52 AM 8/29/2025

INTERACTIVE SESSIONS BY THE EXPERTS

MEETING TNMGRMU (Presenting, annotating)

Learning Objectives

- Understand the basics of research methodology
- Appreciate the role of research in medical education
- Learn key concepts of biostatistics
- Apply research and statistics to evidence-based medicine

MEETING T...

Annapooran...

14 others

RANJITHA ...

People

IN THE MEETING

Contributors 18

- RANJITHA PALANI (You)
- Aaslia
- Academic Gallery
- Annapoorana amc
- Community Medicine, K...
- Dept. Of community m...
- GMC THE NILGIRIS

11:02 | msw-ukjr-qic

Getting Started..- Dr. Jasmine S Sundar

Google Meet - Meet - DoF - Research Methodology & Biostatistics Virtual Workshop for Undergraduate Medical Students

Kamala Esakkimuthu (Presenting, annotating)

Join by Web PollEv.com/kamalameu990

Which FINER criterion is missing in this research Question: "Does drinking Water cure all diseases?"

| Criterion | Percentage |
|-----------------|------------|
| A - Feasibility | 10% |
| B - Interest | 30% |
| C - Novel | 40% |

SEE MORE

Powered by Poll Everywhere

Kamala Esa...

Sreemooka...

D G

12 others

Research Ideas / Question & Objectives – Dr. Kamala

Rizwan S A (Presenting)

Conducting a literature search

Dr. S. A. Rizwan, M. D.,
Scientist D
ICMR-National Institute of Epidemiology,
Chennai

Slide: 1 of 25

11:56 | msw-ukjr-qjc

Rizwan S A

MEETING TNM...

MEETING TNM...

Sreemookambi...

Dept. Of comm...

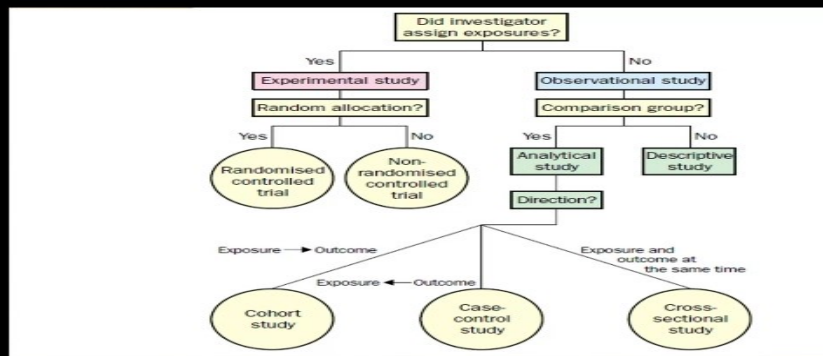
Academic Galle...

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RANJITHA PALANI

Searching and Organizing Literature – Dr. S.A.Rizwan



Research Designs – Dr. K.Yuvaraj

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Balaji Arumugam (Presenting, annotating)

Importance of a Protocol

- Helps in planning logistics, time, and cost
- Ensures participant safety & ethics.
- "Research is to see what everybody else has seen, and to think what nobody else has thought."

Balaji Arumugam

MEETING-TNMGRMU

13 others

People

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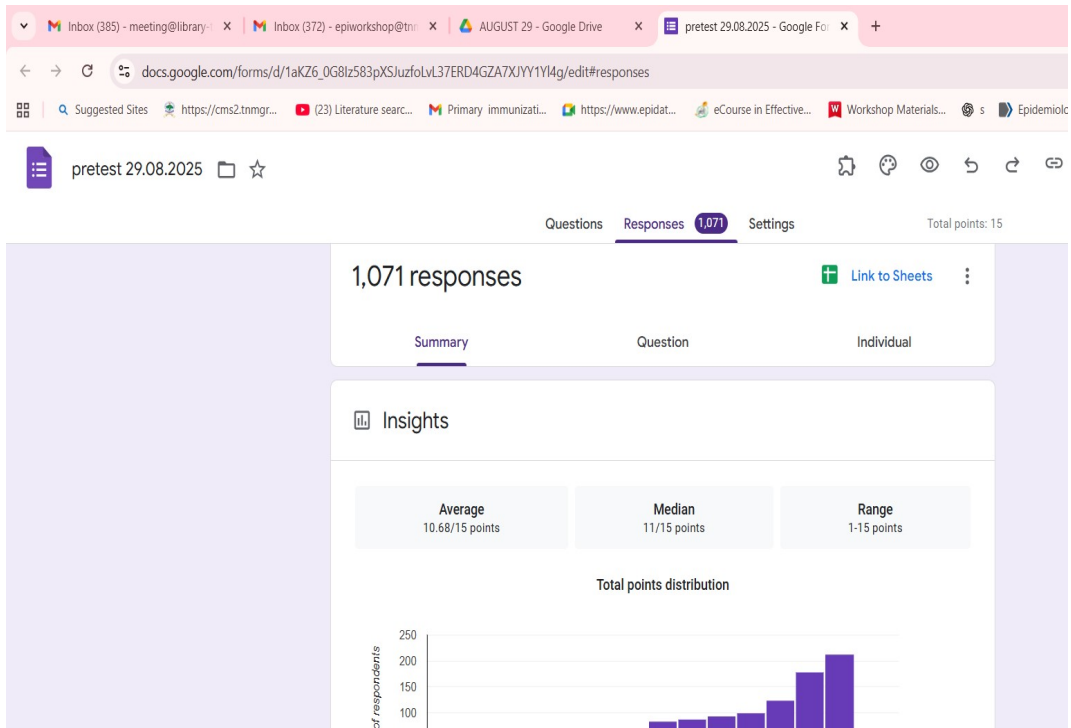
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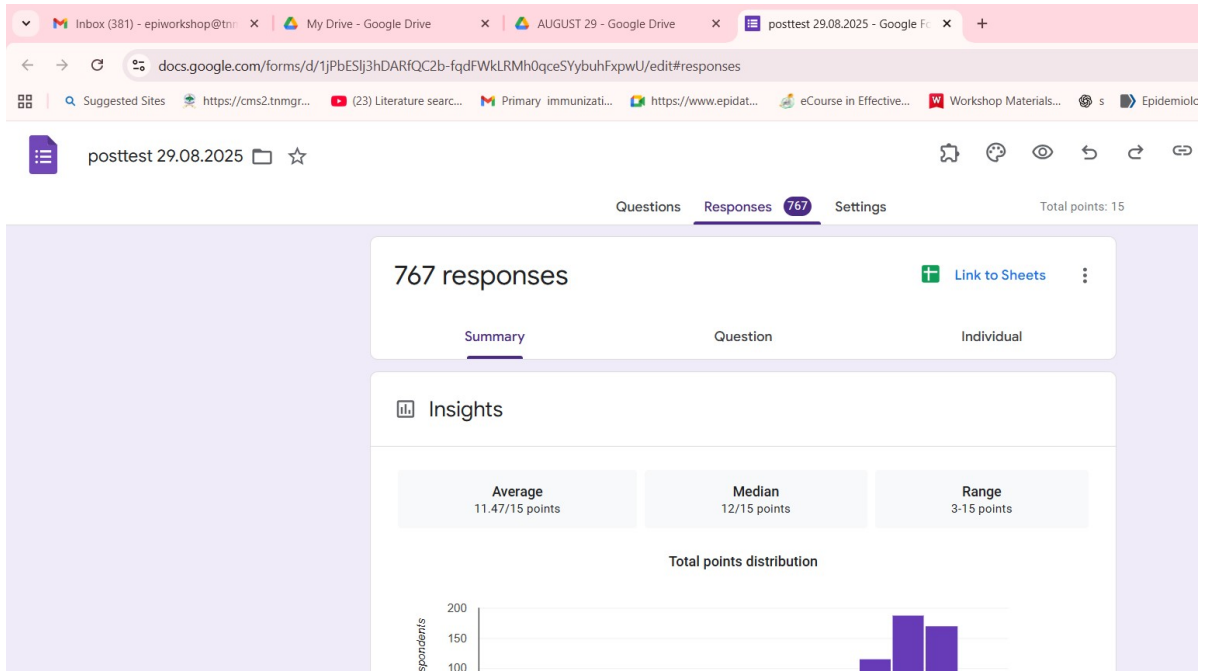
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Research protocol – Dr.Balaji

Pre/Post Test Response



n=1071



n=767

OVER ALL FEEDBACK

The day was effectively initiated by Department of Epidemiology. The sessions provided participants with a solid grounding in research methodology and biostatistics, offering valuable insights that will support their academic research, thesis work, and future careers in medicine. The workshop concluded with closing remarks from Dr. Jasmine S. Sundar, Senior Assistant Professor, Department of Epidemiology, TNMGRMU.

Introduction to Research – Dr. Jasmine S.Sundar opening session was very useful to understand the importance of research.

Research Ideas, Questions & Objectives – The session by **Dr. Kamala** was highly appreciated, especially for its engaging and interactive activity on formulating research questions.

Searching and Organizing Literature – Dr. S.A.Rizwan delivered a practical and informative session on using databases like PubMed.

Research Protocols – The session by **Dr. K.Yuvaraj** offered valuable insights into systematically structuring a research study

Basic Biostatistics in Health Research – Mr. Richard Kirubakaran was praised for simplifying complex statistical concepts, making them accessible to undergraduate students.

Research Designs – Dr. A. Balaji effectively explained various study designs and their real-world applications, providing much-needed clarity.