

Research Methodology Workshop For 1st year Postgraduate Students (Batch 2025-26)

Date: 30th March 2026 to 1st April 2026.

Time: 9:00AM – 4:00PM

Venue: MEU Hall

Organized by: Scientific Committee & Post Graduate Committee of SCMCH&RI

Objectives of the Workshop

- To orient postgraduate students to research methodology
- To develop skills in formulating research questions, hypothesis, and objectives
- To enhance knowledge on study design, sampling, and statistical analysis
- To train students in scientific writing, ethics, and publication practices

A three-day Research Methodology Workshop was conducted from 30th March to 1st April 2026 for postgraduate students, covering essential aspects of research planning and execution. A total of 25 postgraduate students of 2025-26 batch admitted from different departments attended the workshop. The workshop began with a pre-test and orientation, followed by sessions.

Day -1: 30-03-2026, Monday, Time: 2:00 – 2:15 pm

Topic: Pre-test & Orientation to the Workshop

Speaker: **Dr Deepa S, Associate Professor Department of OBG**

Day -1: Time: 2:15 – 3:00 pm

Topic: Selecting a Dissertation Topic & Identifying Research Problem

Speaker: **Dr Champa H, Associate Professor Department of Microbiology**

Started the session with an activity on problems faced by participants on identifying research topic. Discussion on research gap, research cycle, nested hour glass model, criteria for choosing a research topic, importance of review of literature to choose a dissertation topic, resources, check for feasibility, SMART criteria to choose the topic, use of Gantt chart for dissertation. Browse to helinet to check for previous years dissertation topics.

Day -1: Time: 3:00 pm – 3:45 pm

Topic: Research Question, Hypothesis and Framing Objectives

Speaker: **Dr Sheethal MP, Professor & HoD Department of Community Medicine**

The session focused on introducing the fundamental concepts of data, variables, and variability in research. Various types of data, including qualitative and quantitative data, were discussed along with classification of variables such as independent, dependent, and confounding variables. Emphasis was placed on operational definitions to ensure clarity and measurability in research.

The concept of variability and its significance in research was highlighted, including sources of variability such as biological, measurement, and sampling variability. The session also covered the impact of variability on sample size, precision, and interpretation of results, enabling participants to understand its importance in study design and analysis. Various interactive activities were conducted during the session to promote active participation and reinforce learning

Day -1: Time: 3:45 pm – 4:00 pm

Topic: Discussion

Speaker: **All Faculty**

Day -2: 31-03-2026, Tuesday, Time: 9:30 am – 10:15 am

Topic: Research Question, Hypothesis and Objectives

Speaker: **Dr Sheethal MP, Professor & HoD Department of Community Medicine**

This session emphasized the process of developing a clear and focused research question using structured approaches such as PICO. Participants were guided on transforming clinical problems into researchable questions.

The concept of hypothesis formulation was discussed, including null and alternative hypotheses, along with their role in statistical testing. The session also focused on framing general and specific objectives, highlighting the importance of clarity, feasibility, and measurability in research planning. Practical examples were used to help participants translate research questions into well-defined objectives.

Day -2: Time: 10:15 am – 11:15 am

Topic: Literature Search Strategy and Review

Speaker: **Dr. Kirthana Kunikullaya U, Associate Professor Department of Physiology**

Dr. Kirthana delivered an engaging session on “Literature Search: What, Why, and How? & Writing a Review for Thesis” during the PG Research Methodology Workshop. The talk emphasized the importance of a structured and systematic literature search in medical research, highlighting its role in identifying valid evidence, understanding current advances, and recognizing research gaps. She explained



practical strategies for effective database searching using keywords, MeSH terms, and Boolean operators, with a focus on using PubMed for reliable medical literature. The session further elaborated on the process of writing a literature review as a critical, analytical synthesis rather than mere summarization, guiding students on organizing content, identifying research gaps, and building a strong rationale for their thesis. Key aspects such as critical appraisal, ethical writing practices, and plagiarism avoidance, were also discussed. The session concluded with practical tips for postgraduate students to develop consistent reading habits, maintain organized notes, and engage regularly with mentors to strengthen their research work.

Day -2: Time: 11:30 am – 12:00 pm

Topic: Scientific Committee Review Process & Updates on Institutional Equipment's
Speaker: **Dr. Kruthi BN, Associate Professor Department of Biochemistry**

Dr. Kruthi BN delivered a session on Scientific Committee Review Process & Updates on Institutional Equipment's The Scientific Committee (SC), comprising multidisciplinary faculty members, is responsible for the systematic review of research proposals submitted by the Principal Investigator (PI). Proposals are evaluated for scientific validity, methodology, feasibility, and statistical accuracy. If required, suggestions for correction are provided, and the revised proposal is re-evaluated by the SC.

Once the proposal meets the required standards, it is forwarded to the Institutional Ethics Committee (IEC) for ethical clearance. The process ensures a structured, transparent, and quality-driven approach to research. The session further elaborated on the research equipment available in each department and the central research laboratory. It was informed all the post graduate students to utilize the equipment effectively for their research related activities.

Day -2: 31-03-2026, Tuesday, Time: 12:00 pm – 12:45 am

Topic: Writing the Introduction and Need for the Study

Speaker: **Dr. Mahesh Gowda K O, Assistant Professor Department of Paediatrics**

The session focused on developing competency in writing the **Introduction and Need for Study** sections of an RGUHS thesis, emphasizing clarity, scientific reasoning, and adherence to guidelines. Students were taught a structured approach (broad to specific), including establishing background, identifying knowledge gaps, and justifying the study based on disease burden and research gaps. Key aspects such as word limits, common mistakes, and scientific writing style were discussed using examples. The session concluded with practical writing strategies, examiner expectations, and viva tips to help students prepare well-structured and evidence-based thesis sections.



Day -2: Time: 2:00 pm – 3:00 pm

Topic: Study Designs in Medical Research

Speaker: **Dr. Amulya N, Associate Professor Department of Community Medicine**

The session provided a comprehensive overview of the major study designs used in medical and clinical research, including observational and experimental designs. Participants were guided through the distinctions between descriptive studies (case reports, case series, cross-sectional studies), analytical observational studies (case-control and cohort studies), and interventional studies (randomized controlled trials and quasi-experimental designs). The session highlighted the hierarchy of evidence, appropriate selection of study design based on research objectives, and the inherent strengths and limitations of each design type, equipping postgraduate students with the ability to critically appraise and plan research studies effectively.

Day -2: Time: 3:00 pm – 3:15 pm

Topic: Sampling Methods

Speaker: **Dr Sheethal MP, Professor & HoD Department of Community Medicine**

The session elaborated on various sampling techniques including probability and non-probability methods, emphasizing their application in clinical and community-based research. Various interactive activities were conducted during the session to promote active participation and reinforce learning.

Day -2: Time: 3:15 pm – 3:45 pm

Topic: Sampling Methods and Sample Size Concepts

Speaker: **Dr. Raghavendra D, Assistant Professor Department of Community Medicine**

The session elaborated on various sampling techniques including probability and non-probability methods, emphasizing their application in clinical and community-based research. Core principles of sample size estimation such as precision, confidence level, power, and effect size were discussed with relevant examples to ensure accurate and scientifically valid study planning.

Day -3: 01-04-2026, Wednesday, Time: 9:30 am – 10:00 am

Topic: Choosing Appropriate Statistical Test

Speaker: **Dr. Raghavendra D, Assistant Professor Department of Community Medicine**

This session focused on guiding postgraduate students in selecting appropriate statistical tests based on study design, type of variables, and data distribution. Key distinctions between parametric and non-parametric tests were highlighted, along with interpretation of p-values and significance, enabling accurate and meaningful data analysis.

Day -3: Time: 10:00 am – 10:15 am

Topic: ICMR Guidelines for MD thesis Grant Applications

Speaker: **Dr. Kirthana Kunikullaya U, Associate Professor Department of Physiology**

Dr. Kirthana Kunikullaya U conducted an informative session on “Grant Application for MD Thesis” as part of the PG Research Methodology Workshop. She highlighted the Government of India’s initiative through the Department of Health Research to support postgraduate thesis work with grants, emphasizing its importance in fostering research among clinicians. The session covered eligibility criteria, application timelines, and essential documentation required for submission through the DHR e-PMS portal. She explained the structured format of the thesis research proposal, including sections such as introduction, objectives, methodology, and implications within the prescribed word limits. Practical guidance was provided on financial accountability, documentation of expenses, and compliance with grant guidelines. She also stressed the importance of timely publication in indexed journals as a prerequisite for final fund release, along with ethical research conduct and proper acknowledgment of funding sources. The session concluded with valuable tips encouraging students to apply early, plan for publication from the outset, and utilize funds responsibly to maximize research outcomes.

Day -3: Time: 10:15 am – 11:00 am

Topic: Ethical Issues in Medical Research & IEC Approval Process

Speaker: **Dr. Santhosh Kumar M, Professor & HoD Department of Pharmacology**

Post graduates were sensitized on ethics in biomedical research based on ICMR guidelines. Ethical research is essential to protect the dignity, rights, safety and well-being of participants. ICMR 2017 Guidelines provide a comprehensive framework for biomedical & health research in India. Core principles — respect for persons, beneficence, non-maleficence, justice & transparency — guide all research.

Ethics Committee review and responsible conduct of research ensure scientific validity and public trust. Informed consent and protection of vulnerable groups are non-negotiable ethical imperatives. Special considerations for public health research,

genetics, biobanking & during emergencies Ethics is not a hurdle — it is the foundation of good science.

Day -3: Time: 11:15 am – 12:00 pm

Topic: Reference Writing and Use of Reference Managers

Speaker: **Dr. Raghavendra D, Assistant Professor Department of Community Medicine**

The session emphasized the importance of proper referencing in academic writing, with specific focus on Vancouver style. Practical demonstration of reference management tools such as Zotero was provided, covering citation insertion, bibliography generation, and methods to avoid plagiarism, thereby enhancing the quality and integrity of research manuscripts.

Day -3: Time: 12:00 pm – 1:00 pm

Topic: Plagiarism and Publication Ethics

Speaker: **Dr Dharani VC, Professor & HoD Department of Pathology**

A brief interactive session on publication ethics and plagiarism was conducted. The session emphasized the importance of ethical research practices, including honesty, transparency, accountability, and proper authorship. Key issues such as fabrication, falsification, and plagiarism were discussed along with methods to prevent them, including proper citation and use of plagiarism detection tools. Guidance was provided on authorship criteria, conflict of interest, and responsible publication practices as per standard guidelines. The role of organizations like ICMR and COPE in ensuring ethical research was highlighted. Consequences of misconduct, including retraction and loss of credibility, were also explained. The session concluded by stressing the importance of integrity in research and received an active response from participants.

Day -3: Time: 2:00 pm – 2:45 pm

Topic: Writing the Methodology Section of a Research Proposal

Speaker: **Dr. Amulya N, Associate Professor Department of Community Medicine**

This session focused on the structured and systematic approach to writing the methodology section of a research proposal. Key components covered included the clear articulation of the study design, setting, study population, eligibility criteria, sampling technique, sample size justification, data collection tools and procedures, operational definitions of variables, and the plan for data analysis. Emphasis was placed on the importance of reproducibility, ethical considerations such as informed consent, and maintaining scientific rigor. Participants practiced drafting methodology

sections with feedback, reinforcing clarity, logical flow, and alignment with the research objectives and hypotheses.

Day -3: Time: 2:45 pm – 3:30 pm

Topic: Common errors in PG Dissertation Protocols

Speaker: **Dr. C Sunil Kumar**

Importance of choose an appropriate topic was discussed.

Possible errors in literature search and review, in research methodology, reference was discussed. RGUHS guidelines to be followed, Importance of pilot study in detail, advice from guide and other faculty from department was stressed upon to avoid possible errors. Common problems during conceptual & planning, methodology, technical & formatting, language & editorial was highlighted.

Day -3: Time: 3:30 pm – 3:50 pm: Interactive discussion & clarification of research ideas

Day -3: Time: 3:50 pm – 4:00 pm The workshop concluded with post-test & feedback.

Outcome of the Workshop

- Improved understanding of research methodology among postgraduate students
- Enhanced skills in scientific writing and proposal development
- Increased awareness of ethical research practices and publication standards

Conclusion

The workshop provided a **comprehensive, structured, and practical training** in research methodology, enabling postgraduate students to conduct **high-quality and ethical research**.