



RMU Research Guide Manual

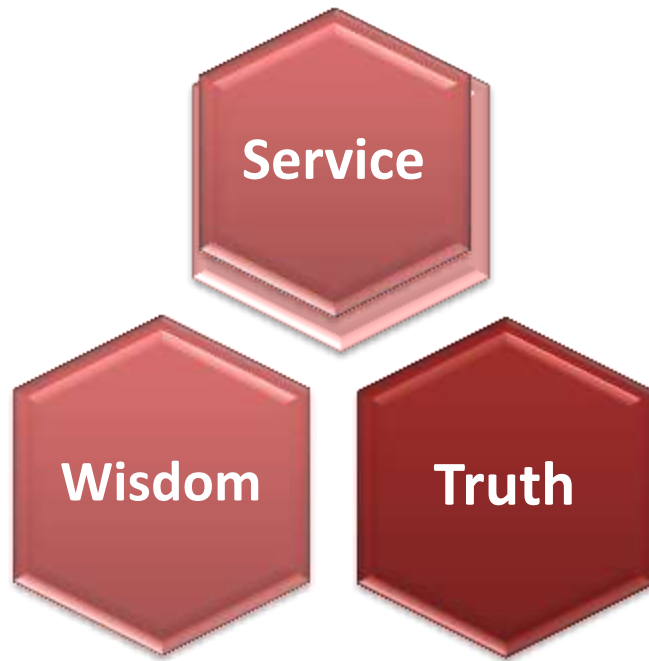
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RAWALPINDI MEDICAL UNIVERSITY

September 14, 2022

Research Unit

Mission



University Research Vision

To promote research culture in
the university

&

Facilitate research process from
conception of an idea to its
transformation into research
thesis and articles

&

Generation of evidence based
interventions leading to
excellence in patient care

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Vice Chancellor Note



As a Vice Chancellor of Rawalpindi Medical University, the mere realization that RMU IS STRIVING HARD TO TAKE LEAD in public sector institutions for academic excellence, research and innovation gives me immense pride. Rawalpindi Medical University has taken the initiative of establishing state of the art research unit and development of Research curricula, research planer, and research guide for university residents in harmony with latest global advancement in medical training. Our aim is to create a centre of excellence for future endeavours for innovations in research and medical education having the strong impact on health care service delivery and national health. Our mission is to promote evidence based practices and professionalism for a greater good for humanity.

Prof. Dr. Muhammad Umar, (Sitara-e-imtiaz)

Vice Chancellor & CEO

Rawalpindi Medical University & Allied Hospitals

Contributors:

Prof. Dr. Muhammad Umar

Prof. Dr. Hammamat-ul-Bushra- kharr

Prof. Dr. Shagufta Saeed Sial

Prof. Dr. Arshad Ali Sabir

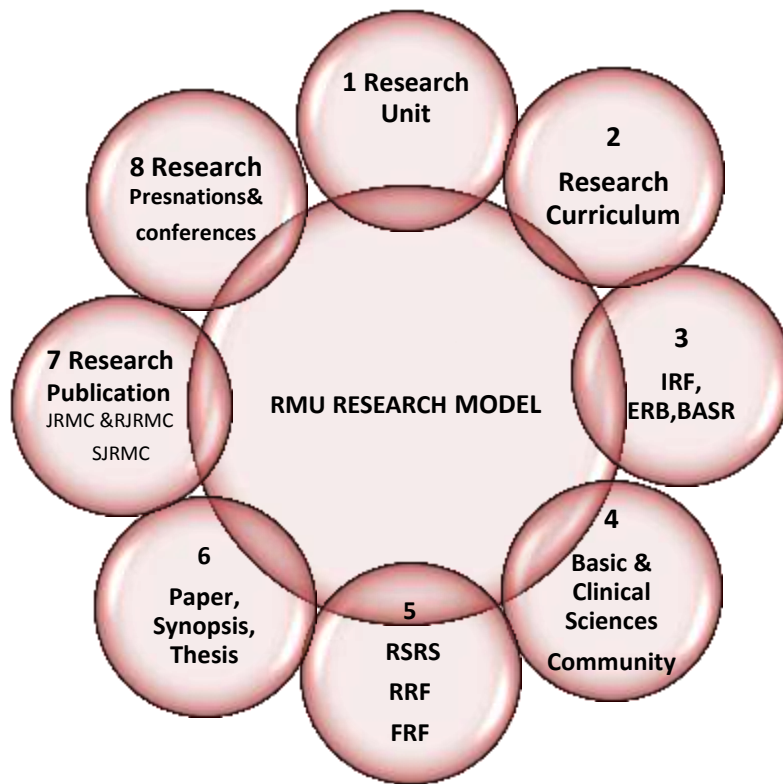
Dr. Sara Rafi

Dr. Uzma Hayat (Compilation & Write up)

SECTION-A: Research Model RMU

Research Model of Rawalpindi Medical University aspires to establish

08 steps RMU Research Model



It self as a premier institutional model for innovative research training and evidence based patient care with prominence among peer institutions. The strategic research goals of RMU constitute of establishment and maintenance of Self Sustainable Model for high impact institutional research.

Applied RMU Research Model

It is now 2022 and the model is established and implemented all 08 steps proposed in 2017

Step 1 : Research unit



Step 2: Research curriculums



Step 3 IRF/ERB & BASR



Step 4 : Community Research



Step 5: RSRS, RRF, FRF

Step 6: Synopsis/ Thesis

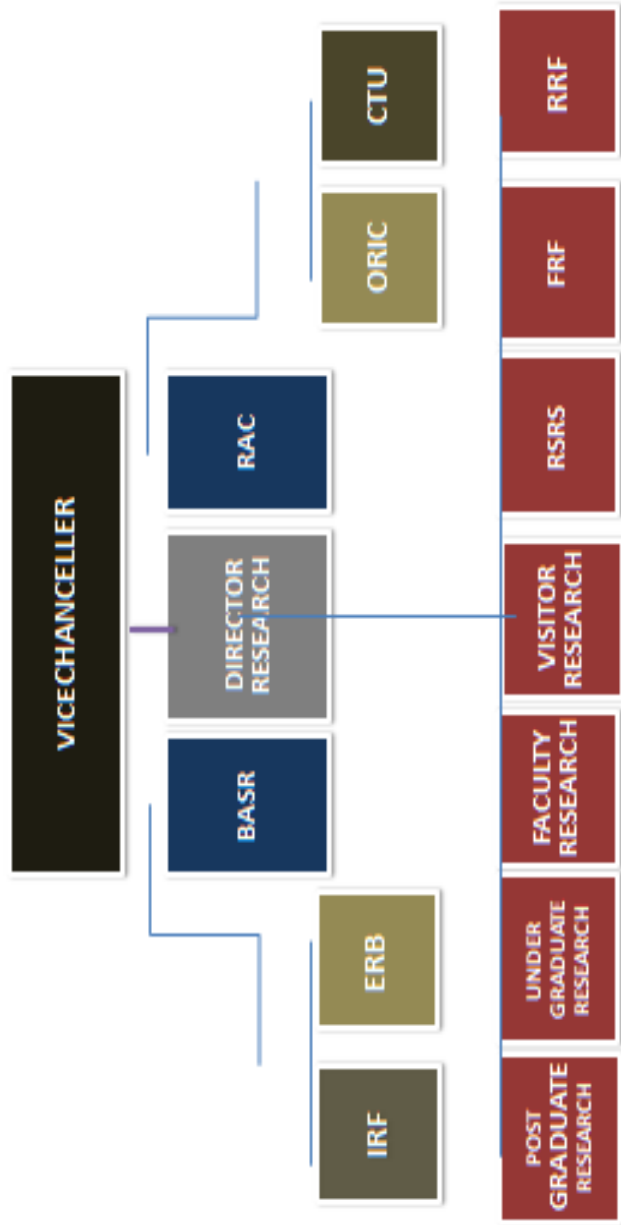


Step 7: Journals/Publications

Step 8: Presentations/conferences



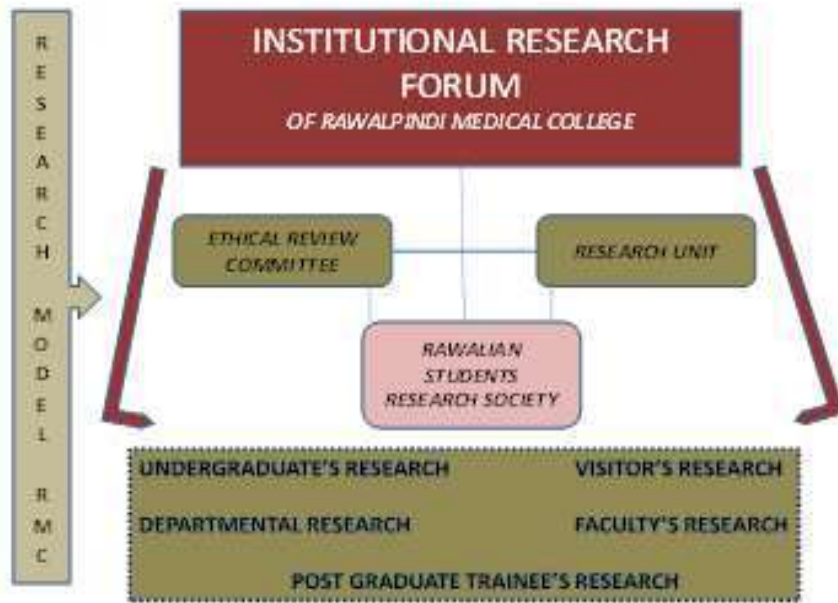
ORGANOGRAM OF RESEARCH UNIT



Research Unit of RMU

Rawalpindi Medical University was first established in February 2014. It was initially located at liver centre of Holy Family Hospital but in December 2015, then it was shifted to Department of Medical Education, New teaching Block of RMU. At present it is situated in a completely renovated purposed built unit within the main campus of RMU where it was inaugurated on 10th March 2021. The core team of the research unit comprises of the director research, the additional and assistant directors, statistical expert and concerned IT staff. Together, this team facilitates research activities at all levels of the university be-it under graduate, post graduate, residents, visitors, all faculty members and international collaborative research projects. Research Unit is carrying out all the following research related activities:

- Administration of all research related activities of Rawalpindi Medical University and Allied Hospitals.
- Facilitation and guidance of undergraduates, post graduate trainees ,university residents and faculty of RMU regarding Health Systems Research e.g. research proposal formulation, basic and advanced research methodologies, data entry, analysis& interpretation and manuscript writing.
- At the research unit, individual and group consultations regarding topic selection, literature search, referencing system, plagiarism detection, research proposal formulation, study methods and materials, sample size calculation, sampling technique, selection of study variables, data collection tools, data collection techniques, pretesting, pilot study, data entry & analysis, manuscript writing etc are provided. Free of cost individual or groups counselling and assistance is being provided to all undergraduates, post graduate trainees, faculty and even visitor researchers of RMU.
- Research Unit also provides facilitation to visitor researchers and collaborative researchers of RMU through (ORIC) THE OFFICE OF RESEARCH INOVATION AND COMMERCIALIZATION., to present at IRF and conduct studies at RMU and Allied hospitals, along with progress monitoring by ORIC team.
- Research workshops and training courses are regularly conducted by Research Unit.
- Clinical Trial unit has been initiated in new teaching block of RMU.CTU is facilitating in guidance, supervision of clinical trials going on in different departments of the university
- RGMO; research grant management office has also recently been introduced which is supporting faculty and residents for grant writing and all legal and financial support.

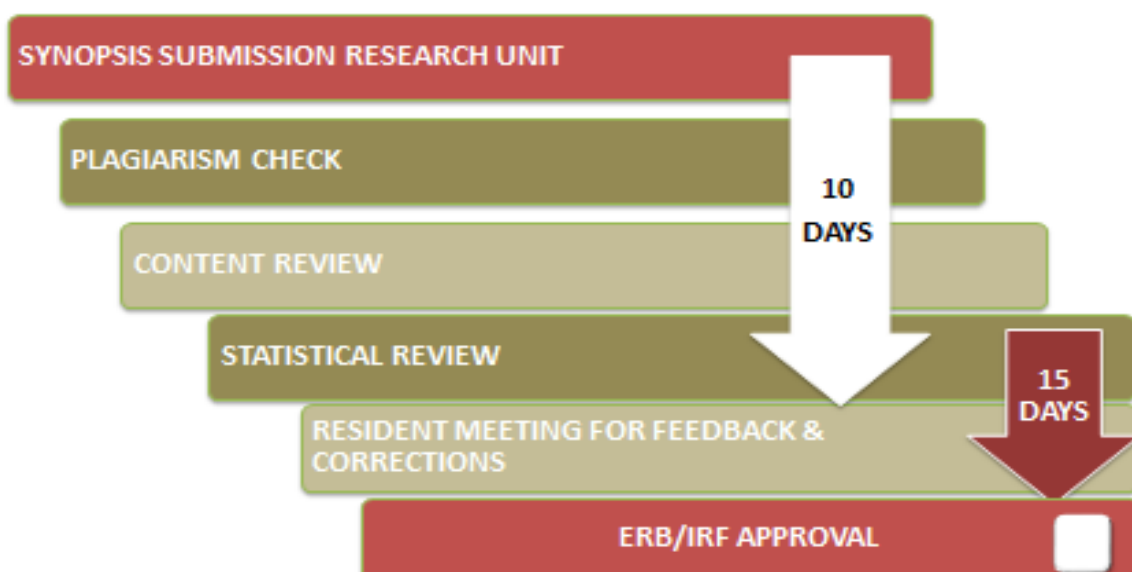


Institutional Research Forum/Ethical Review Board

The Institutional Research Forum of RMU was established by Prof Muhammad Umar, the Vice Chancellor of RMU. Since January 2014 all the research activities of RMU and Allied Hospitals and collaborative research is being facilitated.

Institutional Research Forum meeting is held every month to oversee various aspects of research related activities, their quality assurance, ethical approval and appraisal of all the research studies of all cadres and department of RMU. Any researched intended to conduct research project or data collection at our RMU and Allied Hospitals have to get approval from IRF of RMU.

PROCESS FOR ETHICAL REVIEW BOARD - SYNOPSIS APPROVAL



IRF COMPOSITION	
Chairman	VC Prof. Muhammad Umar
Co-Chair	Prof. Hamama-Tul-Bushra Khaar
Member	Prof. Shagufta Sial
Member	Prof. Jahangir Sarwar Khan
Member	Prof. Syed Irfan Ahmed
Member	Prof. Mohammad Khurram
Member	Prof. Naeem Akhtar
Member	Prof. Syed Arshad Sabir
Member	Prof. Asad Tameezuddin
Member	Dr. Faiza Aslam
Member	Dr. Ahmed Hassan Ashfaq
Member	Dr. Hina Mehmood
Member	Dr. Abdul Qudoos
Liaison Officer IREF (Dy.Dir DME)	Dr. Shazia Zeb
Research Coordinator	Dr. Uzma Hayat
Member(community rep)	Mr. Usman Khalil
Member legal	Mr. Mohammad Tariq

The standard procedure is as follows:

1. After development of the synopsis resident must get **approval from the departmental review board (DRB)** under chairmanship of the respective dean. After approval from DRB
2. The resident has to download the relevant Research Application Performa from the official website of RMU ([rmur.edu.pk/research/research_forums/downloads/Research Application Performa for Post Graduate Trainees of RMU](http://rmur.edu.pk/research/research_forums/downloads/Research_Application_Performa_for_Post_Graduate_Trainees_of_RMU))
3. After filling it in electronically and after endorsement by supervisor/Head of department/resident, five copies along with research proposal, data collection tool and research supervisory certificate (**sample attached in appendix**) should be submitted at research unit of RMU, as per time line given in relevant pathway.
4. Then applicants had to make a five minutes presentation on PowerPoint and present at the monthly meeting of ethical review board (IRF) for approval that is held every month.
5. After approval from ethical review board, the synopsis presented to the BASR (Board of Advance Studies and Research).
6. It is mandatory that the synopsis is approved from the BASR before start of data collection and thesis.
7. Approval of IRB Letter of sample is attached in the **appendix**

Board of Advance Studies and Research

Composition of BASR	
Chairman	VC Prof. Muhammad Umar
Member	Prof. Hamama-Tul-Bushra Khaar
Member	Prof. Idrees Anwar
Member	Prof. Mohammad Khurram
Member	Prof. Samia Sarwar
Member	Prof. Lubna Ejaz
Member	Prof. Shagufta Sial
Member	Prof. Syed Arshad Sabir
Member	Prof. Naeem Akhtar
Member	Prof. Jahangir Sarwar Khan
Member	Prof. Tehzeebul Hassan
Member	Prof. Fareed Aslam Minhas
Member	Prof. Rai Mohammad Asgher
Member	Prof. Syed Irfan Ahmed
Member	Prof. Fawad Khan Niazi
Member	Prof. Naeem Zia
Member	Prof. Waseemudin
Member	Prof. Nadeem Akhter
Member	Dr. Rizwana Qayyum
Member	Dr. Mudassar Sharif
Member	Dr. Sana Bilal
Member	Dr. Arsalan Manzoor
Member	Dr. Faiza Aslam
Member	Dr. Humaira Bilqees
Member	Dr. Asher Alamangir
Member	Dr. Khola Noreen
Member (assistant registrar)	Miss Sundus Iqbal
Member	Mrs. Jacoline Sommer
Member (legal advisor)	Mr. Tariq Mahmood
Member (community rep)	Mr. Usman Khalil

ROLE AND RESPONSIBILITIES OF BOARD OF ADVANCE STUDIES AND RESEARCH

The responsibilities of Board of Advanced Studies and Research are prescribed as under serial no 27 of Rawalpindi Medical University Ordinance 2017 (V of 2017) as follows: The Board of Advanced Studies and Research shall:

- Advise an authority on all matters connected with the promotion of advanced studies and research publication in the university
- Consider and report to an Authority with regard to research degree of the University
- Propose regulations regarding the award of a research degree
- Appoint supervisors for a post graduate research student and to approve the title and synopsis of the Thesis and dissertation
- Recommend panel of examiners for evaluation of a research examination &
- Perform such other functions as may be prescribed by the Statutes.

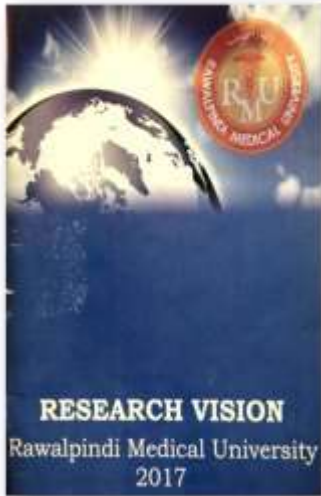
SOP OF BASR MEETING: Research proposals are submitted to Research Unit for pre-review.

1. The synopsis are technically reviewed w.r.t content, smilarity index and statistical aspect & corrections made after the suggestions proposed by reviewers, synopsis is presented for BASR approval
2. Relavant information is communicated to assistant registrar by the Research Unit for cordination and conduction of BASR meeting
3. After the detailed review meeting, the Board categorises the synopsis as approved, conditionally approved (major revisions or minor revisions) or rejection.
4. The BASR recommendations are disseminated to the concern in the form of a letter indicating approval or otherwise
5. Conditionally Approved synopsis are issued Final Approval Letter after the set conditions are met. As given in [appendix](#)
6. In case of any grievience, researcher can submit appeal to VC office for reconsideration of BASR decision.

PROCESS FOR BASR RESEARCH APPROVAL



Section B: Post Graduate Research



Research Vision RMU 2017

With emergence of Rawalpindi Medical University, the necessity of up gradation of research to new exalted, intensified and illustrious levels is significant. In this regard, this document of vision of research at RMU not only gives an overview of existent position of RMU in the field of research but also features our strategies and plans. It is an attempt to formulate plans and layouts, how we intend to instigate our efforts and contributions to make Rawalpindi Medical University an ivory tower of evolutionary research.



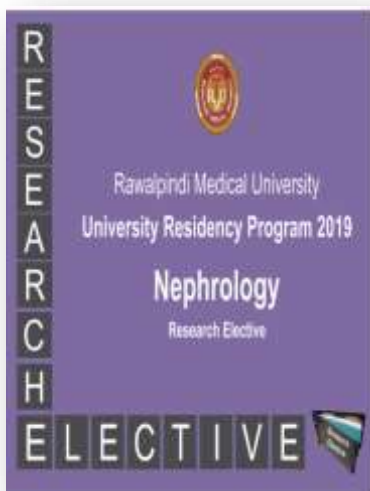
Postgraduate Research curriculum

University residents at RMU are trained on competency based model and RMU considers research as a competency along with professionalism and essential medical skills. Methodologies for acquiring essential skills in research are integrated longitudinally in all residency years. The post graduate research curriculum is developed to serve this purpose and serve as a roadmap research competency development. The expected outcome is to train dexterous and proficient scientists to practically conduct quality research through amalgamation of their medical knowledge, skills and practice utilizing appropriate research methodologies to generate local evidence and development of treatment modalities, hence excellence in patient care.



Research Planner

Plan of the research for MS/MD residents is framework of research activities during each year of the training. This book has all the detailed activities chalked against the timeline, mentioning responsibilities of residents, supervisors, and research unit/ ORIC, DME. It is designed to be used as milestones on the given roadmap for achieving research competency at the end of the training. It helps to Keep track of all relevant activities like group works, workshops, annual lecture and assessments and evaluations and feedbacks.



Research Electives log book

Research electives log was developed for the convenience of the clinical faculty and residents to teach and learn in a coherent way. This log book represents all activities of the MD/MS Research Elective program at RMU. A summary of the curriculum is incorporated in the log book. An essential evaluation system for the monitoring of teaching and learning strategies, assessment of Research Activities through Quality Assurance Cell and its comments in the logbook in addition to evaluation by University Training Monitoring Cell (URTMC) has been introduced.

Residents Research Pathways

RMU has structured the University Residency research into two pathways, separately for four year training specialities and five year training specialities. The respective resident will follow his/her own given timeline and milestones of the respective pathway.

4 YEARS UNIVERSITY RESIDENTS RESEARCH PATHWAY



For residency program research work on synopsis and thesis writing starts from entry into university by getting registration ID number from the research unit. It has been structured in 06 monthly & annual time scale goals. Essential steps are included in eligibility criteria of yearly, midterm and final assessments. Compulsory workshops have been designed to train residents along the pathway of research conduction. The charts below show the structure and timeline description of the tasks required.

4 Year Residency Program

MILESTONE	TIMELINE	
Research registration id	1 st Month	Y1
Synopsis topic assignment and submission to Research Unit	1 st 06 Month	Y1
Single disease statistical review or 1 paper in RJRMC	Before end of year 1	Y1
Submission of synopsis	1 st 06 Month	Y2
Technical committee evaluation	1 st 06 Month	Y2
IRF/ERB synopsis approval	1 st 06 Month	Y2
Basar synopsis approval	last 06 Month	Y2
1 disease statistical review or 1 research paper in RJRMC	optional	Y3
Data collection	1 st 06 Month	Y3
Data analysis	Last 06 Month	Y3
Thesis writing	1 st 06 Month	Y4
BASAR thesis approval	Last 06 Month	Y4
Thesis completion certificate by DME	Last 06 Month	Y4

4 Year Residency Workshops

Name of Workshops	Year
Clinical Audit /Disease Statistical Review	Y1
Basic Research Methodology	Y1
Research lectures	Y1
Synopsis Writing	Y2
Referencing Manager	Y2
Research lectures	Y2
Advance Research Methodology	Y3
Data Entry & Analysis SPSS	Y3
Thesis writing workshop	Y4
Writing an Article / Publications	Y4
Research lectures	Y4

5 YEAR UNIVERSITY RESIDENCY RESEARCH PATHWAY



Five year residents must complete their yearly research assignments even if on rotation e.g one disease statistical review has to be submitted within the first year of residency. If they are on rotational duty then they will do disease statistical review of there and should not wait for coming back to their parent speciality to perform this research activity. Only synopsis can be submitted once in their respective speciality/ department.

5 year residency program

MILESTONE	TIMELINE	YEAR OF TRAINING
Research Registration ID	1 ST 06 Month	Y1
1 disease statistical review or 1 research paper in RJRMC	Before end of Y1	Y1
1 disease statistical review or 1 research paper in RJRMC	Before end of Y2	Y2
Synopsis topic assignment and submission to research unit	1 ST 06 Month	Y3
Technical committee evaluation	1 ST 06 Month	Y3
IRF/ERB synopsis approval	LAST 06 Month	Y3
BASAR synopsis approval	LAST 06 Month	Y3
1 disease statistical review or 1 research paper in RJRMC	OPTIONAL	Y4
Data collection	1 ST 06 MONTHS	Y4
Data analysis	LAST 06 Month	Y4
Thesis writing	1 ST 06 Month	Y5
BASAR thesis approval	LAST 06 Month	Y5
Thesis completion certificate by DME	BEFORE END OF Y5	Y5

5 Year Residency (workshop)

Name of Workshops	Year
Clinical Audit	Y1
Basic Research Methodology	Y1
Research lectures	Y1
Synopsis Writing	Y2
Referencing Manager	Y2
Research lectures	Y2
Advance Research Methodology	Y3
Data Entry & Analysis SPSS	Y3
Writing an Article / Publications	Y4
Research lectures	Y4
Writing Thesis	Y5
Research lectures	Y5

4 Year Residency (Research Electives Chart)

Name of Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 1		1 week							1 week			
Year 2			1 weeks									
Year 3		1 week					1 week					
Year 4			1 week						1 week			

5 Year Residency (Research Electives Chart)

Name of Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Year 1		1 week							1 week			
Year 2			1 weeks									
Year 3		1 week					1 week					
Year 4			1 week						1 week			
Year 5		1 week						1 week				

Details about Research competency required for MD/MS residents along with brief details of Teaching Strategies, Type of Assessment, weightage given to the competency & Tools of Assessment:

Competency to be assessed	Teaching & learning strategies	Type of Assessment for the competency to be assessed	% weightage of the competency	Tools of Assessment
Research	Large group Interactive sessions on Research, hands on training & workshops, practical work of research including literature search, finding research question, synopsis writing, data collection, data analysis, thesis writing	Formative leading to continuous internal assessment Multi source & 360 degree evaluation (Logbook & portfolio)&also Summative assessment	10%	Approval of research topic and synopsis & thesis from URTMC, Board of Advanced studies and Research and ethical review board, Requirement of Completion certificate of research workshops as eligibility criteria for examinations, Defense of Thesis examination

Continuous Internal Assessment:

Competencies included CIA	Phases of CIA	Time Line for end of various phases of CIA	Weightage of CIA	Tools for Assessment of CIA
1. Medical knowledge 2. Patient care (40% both) 3. Interpersonal & communication skills 4. Professionalism (40% both) 5. Practice based learning 6. System based learning (10% both) 7. Research 10%)	Phase -1 ➤ CIA Year 1 ➤ CIA Year 2	till end of Year 2	Equal to or more than 75% of the total marks of all formative assessments/ 360° Evaluations	<ul style="list-style-type: none"> • Multi source feedback/360 degree evaluation • MCQs for knowledge • Mini-CEX • Case based discussion • CPC presentations • TOACS/OSCE • Charts stimulated recall • Teaching rounds • Directly observed procedures • Research activities
	Phase -2 ➤ CIA Year 3 ➤ CIA Year 4 ➤ CIA Year 5 for five year training program	till end of Year 4 Or Year 5 for 5 year training program	Equal to or more than 75% of the total marks of all formative assessments/ 360° Evaluations	

Section C : Research Writing Guidelines

- Disease statistical review
- Synopsis writing
- Thesis writing
- Article publication

Disease Statistical Review

Report writing:

Purpose of this assignment:

Health problems and the relevant available interventions (preventive, diagnostic, treatment) need continued review for their better understanding in regional context, examining trends, finding clues to undiscovered facts, and developing more & better interventions. This work is assigned to the future health consultants to incline and inculcate habit of **study of medical data** for better understanding of health problems, health data and provoke research thinking.

How will you perform this work!

Review literature pertinent to major as well as rare health problems in your clinical specialty but better to cover diseases of the region. Discuss with your subject supervisor, seniors & fellows and choose one disease or health problem for the purpose. Define an outline of the work/ information you intend to obtain as under.

1. Declare the condition / disease
2. Declare sources of information. This may be real time patients or their records but that must belong to area of your actual work settings and **with verifiable references**. (n ≤ 30 and if records, should not be older than last 3years).
3. **Enlist study variables according to relevance** (Epidemiological, clinical and or preventive, diagnostic, treatment **within the disease**.
 - a. Epidemiological (like age, weight, BMI, gender, living place, social/economic class etc ...)
 - b. Clinical (like presenting signs & symptoms, course of illness, diagnostic findings, and management modalities and outcomes, etc.
4. **Descriptive analysis work:**
 - a. Enter the data in computer (MS Excel, SPSS etc) under each variable you selected (for all cases in your study)
 - b. Do descriptive analysis of the information you collected on all variables (Pooled data) as under.
 - i. Nominal / Categorical variables (sum up and calculate for **%age and number** in categories or classes of each variable) or any

relevant summarization

- ii. Quantitative / Ratio or interval scale variables (sum up all and calculate for measures of central tendency and dispersion etc) or any relevant summarization.
- iii. Calculate Trends over time, where applicable / any relevant
- iv. Cross-tabulate under any logical need. / if any relevant
- v. Present your work in text, tabulated and graphic form accordingly.

5. Interpretation and inference

- i. a brief debate on the findings or summary values. (i to v of S. No 4 work)
- ii. Explain the findings, specifically if findings seem different from historical trends
- iii. May use some references where relevant

6. Report writing: Major contents of the report be as under:

- a. Intro of the disease selected, reasons why you choose it,
- b. All work done under S.No.4 and 5.
- c. **Your reflection** (your viewpoint on good and bad if any, of this assignment) on of this assignment.

7. Report formatting guide

A good report should be completed in not less than 500 words. Use standard font "Times New Roman" or "Arial" in 12 point-size, single space lines, one inch margins all around on a standard A4 size paper and use of footers for page numbers. Writing style should be in third person

The report should have a

- i. Title page (as shown in fig: 1)
 1. Content page (section with page number) Must include sub-headers :
 2. Introduction (scope and Background of the disease)
 3. Materials & methods: Inclusion and exclusion criteria if any you used.
 4. Mention sampling source and number (30-50 patients)
 5. Attach as annexure "Data collection Performa" if used.
 6. Supervisor remarks
 7. References

Format of sample Disease Statistical Review is available on RMU website

Synopsis Writing

The synopsis is a brief outline of your research work with 1500 words as the maximum limit. A synopsis must have the following headings:

Title: Should reflect the objectives of the study. In consideration PICO (population, intervention, control, and outcomes) and FINER (feasible, interesting, novel, ethical, and relevant) criteria in framing a research question or title of the study.

Introduction:

Introduction provides background information and rationale for the research.

Build an argument for the research and present your research question(s) and aims.

Use literature citations in Vancouver style. Example.....text..... . (1)

It may include the literature review of the following:

- o Introduce the title
- o Background
- o Relevance, importance and applicability
- o Rationale/purpose of study specify
- o Introduce the research question
- o Identify research gap
- o Why it is important to fill the gap
- o What is known (past references)
- o Narrow down from known to unknown
- o What is unknown that is your research question

Introduction should not exceed 01-02 pages and should not exceed 250-300 words.

Rationale:

Write down why you want to do this study. What you want to achieve by doing this research. (One paragraph)

Objective:

Write clearly objective of your study aligned with research question

Write using annotation.

Hypothesis:

Write your hypothesis accordingly to type of study and if applicable.

Operational Definitions: Is the definition of the exposure and outcome variables of interest in context to the objective in a particular study and their means of measurement/determination.

Material & Methods:

- Study Design
- study duration
- sample size
- Sampling Technique

- inclusion criteria & exclusion criteria

Data collection:

A detailed account of how the researcher will perform research; how s/he will document his variable.

It includes:

- Identification of the study variables
- Methods for collection of data
- Data collection tools (questionnaire with all details of variables and patient verification information)

Give method of conduction of study and data collection procedures for each study variable in detail.

Data Analysis Procedure:

Relevant details naming software to be used, which descriptive statistics and which test of significance if and when required, specifying variables where it will be applied.

Ethical Considerations

This must include procedural detail information sheet along with consent form. Researcher must consider all aspects of ethics of medical research.

Estimated Cost Of The Project: Estimated cost if any and declaration certificate of cost to be borne by the researcher

Outcome & Utilization:

Outcome of the study what it will help to establish.

Plan of Work:

Use a Gantt chart showing your timeline for research work and completion of your research thesis/dissertation.

References:

- Must be in Vancouver Style
- At-least 10 to 15 references,
- use latest (70% should not be older than 05 years)

Annexure:

Consent forms in Urdu and English must be study specific.

Study Performa

Collaboration letter if any

Declaration if any

If conducting a clinical trial, include consort flow diagram in data collection section and DRAP and bioethics documents properly filled as per requirements.

Format layout of Synopsis

- Each section of the synopsis must be started on a new page.
- The section in part 1, from "Supervisor's Certificate" up to the list of "Abbreviation", should be serially numbered in Roman number while the rest should be serially numbered in Arabic numerals.
- The synopsis must not contain more than **1000** words. Five hard copies printed on out 80-100 A4 size pages duly tape bind, computer-printed with double space, on one side of each page. Soft copy of synopsis should be send to basr.rmu.pk@gmail.com. For BASR Approval and on for ERB/IRF Approval send to irf.rmu.pk@gmail.com
- It must have 3-cm margin, at all 4 sides of each page.
- All pages must have serial numbers at lower right hand corner.
- It must not contain any typographical errors or spelling mistakes.
- The font size should be 12 for body and 14 for headings. Title page main heading should be size 16-18.

Format of sample synopsis is available on RMU website

Thesis Writing Guideline:

Thesis writing is an essential requirement for residency programs of MD/MS degree. It is a document that contains relevant details of the research work conducted by the postgraduate residents. The objective of writing a thesis is to introduce a resident on how to conduct a scientific research. Resident is expected to select a topic relevant to local clinical practice and to

- Develop plan of research.
- Collect relevant data.
- Browse through the current literature and review the information available.
- Analyse the results and summarize it in a scientific format.
- Develop skill of medical writing.

The thesis writing cultivates an inquisitive mind, able to apply recent research on clinical practice and generate local data and compare it with national and international literature.

General Information:

After completion of data collection and analysis, thesis writing is the next step. Before thesis is written down, all sections should be carefully outlined and discussed with supervisor. The thesis represents original research, the work must be in the context of existing knowledge and theories and free of plagiarism.

- ☐ Each section of the thesis must be started on a new page.
- ☐ Thesis must contain 10,000 to 15,000 words i.e., about 80-100 pages. (excluding references) Pages should be A 4 size pages (80 gm), typed or computer-printed with double space, on both sides of pages.
- ☐ It must have a 3 cm margins on all sides of the page
- ☐ All pages must have serial numbers at lower right corner.
- ☐ It must not contain any typographical errors or spelling mistakes.
- ☐ Font size should be 10 for text, 10 bold for subheadings, and 12 bold for headings. Chapter titles should be 14 bold in upper case.
- ☐ Font style should be Times New Roman or Arial.

- ☐ The text should be printed in double space. However, footnotes, long quotations, captions for table and figures can be typed in single space. References should also be single spaced (double spaced between entries).
- ☐ In thesis, preliminary pages, from 'title page' till 'list of abbreviations' should be numbered in roman numerals; rest of the thesis should be numbered in English numerals.

The most common sections and their sequence are outlined below: -

- ☐ Title page
- ☐ Certificate of approval (as per given sample)
- ☐ Declaration page
- ☐ Dedication page; only two to three lines
- ☐ Acknowledgement
- ☐ Table of contents
- ☐ List of tables
- ☐ List of figures
- ☐ List of Abbreviations
- ☐ Section 1: Abstract
- ☐ Section 2: Introduction
- ☐ Section 3: Literature Review
- ☐ Section 4: Methodology
- ☐ Section 5: Analysis of data and results
- ☐ Section 6: Discussion
- ☐ Section 7: Conclusion and recommendation
- ☐ Section 8: References (Use Vancouver style referencing)
- ☐ Section 9: Appendices

Title page, abstract, foreword, abbreviations, table of contents

Title page: -

A title page provides the reader with practical information about your thesis: An illustration of RMU monogram should be at the top of the page followed by,

- ❑ Topic of the thesis: in bold upper case letters at the top.
- ❑ Name of author, in the order of first, middle and last name along with highest qualification achieved.
- ❑ Department name.
- ❑ Name of programme/study line.
- ❑ Name of supervisor with his/her highest qualification.
- ❑ Date/month /year of submission.

Supervisor's certificate: -

It should be as per approved format of the university and duly signed by the supervisor.

Declaration page / Dedication page / Acknowledgement

It's optional. If you want to dedicate your work to someone or you want to declare or acknowledge contribution of someone in your research work you can use these pages. It should be brief, only in two or three lines.

Table of contents: -

Table of contents gives the reader a quick overview of your work. The index shows first level headings and page numbers for each section including annexures. It may also display second and third level headings (subheadings) if used within each section. The list should be numbered in roman numbers.

List of tables: -

If any tables are used, enlist them according to their page number. A table should be on separate page.

List of figures: -

If figures are used, enlist them according to their page number.

Abbreviations: -

It contains all the significant abbreviations used in the thesis.

SECTION 1: - Abstract

The purpose of the abstract is to help the reader to quickly ascertain the purpose and conclusions of your thesis or in other words to understand why your thesis is important. An abstract is written in past tense, under following headings:

- Introduction
- Objectives
- Materials and methods
 - Study design
 - Setting
 - Study duration
- Study population (inclusion and exclusion criteria)
- Data collection procedure
- Results
- Conclusion
- Keywords (3-10). Selected key words should be from Medical Subject Headings (MeSH), list of index.

An abstract presents your problem formulation, methods and main results and describes how the thesis makes a difference in your field. An abstract is rarely more than half to one-page long.

Section 2: - Introduction

The introduction chapter needs to state the objectives of the program of research, include definitions of the key concepts and variables and give a brief outline of the background and research approach. The aim of the introduction is to contextualize the proposed research. In the opening paragraph, give an overall view of what is included in the chapter. For example:

'This chapter outlines the background (section 0) and context (section 0) of the research, and its purposes (section 0). Section 0 describes the significance and scope of this research and provides definitions of terms used. Finally, section 0 includes an outline of the remaining chapters of the thesis.'

Background

Give the background of the problem to be explored in your study and what led you to doing the thesis. For example, you might discuss educational trends related to the problem, unresolved issues, social concerns. You might also include some personal background.

Context

Outline the context of the study (i.e., the major foci of your study) and give a statement of the problem situation (basic difficulty – area of concern, felt need).

Purposes

Define the purpose and specific aims and objectives of the study. Emphasise the practical outcomes or products of the study. Delineate the research problem and outline the questions to be answered or the overarching objectives to be achieved.

Significance, Scope and Definitions

Discuss the importance of your research in terms of the topic (problem situation), the methodology, and the gap in the literature. Outline the scope and delimitations of the study (narrowing of focus). Define and discuss terms to be used (largely conceptual here; operational definitions may follow in Research Design chapter).

Thesis Outline

Outline the chapters for the remainder of your thesis.

Section 3: Literature Review:

Review of literature provides background information and rationale for the research.

An argument must be built for the research and research question(s)/aims are to be presented. International and local literature must be cited logically. Citation should be in Vancouver style. Most of the references should be from the last five years. Older references are also acceptable provided they are relevant and historical.

The literature review chapter should demonstrate a thorough knowledge of the area and

provide arguments to support the study focus. The aim of the literature review chapter is to delineate various theoretical positions and from these to develop a conceptual framework for generation of hypotheses and setting up the research question. The literature review chapter needs to:

- Critically evaluate the literature rather than merely describe previous literature (i.e., what is good/bad about the body of literature?).
- Show a synthesis and be integrated rather than being more like an annotated bibliography.
- Identify key authors and the key works in the area, thus acquainting the reader with existing studies relative to what has been found, who has done work, when and where latest research studies were completed and what approaches to research methodology were followed (literature review of methodology sometimes saved for chapter on methodology).
- Constitute an argument.
- Clearly identify the gap in the literature that is being addressed by the research question.

Suitable sources for the literature review include:

- General integrative reviews cited that relate to the problem situation or research problem such as those found in psychological and sociological reviews of research.
- Specific books, monographs, bulletins, reports, and research articles – preference shown in most instances for literature of the last 5 years.

The literature review chapter can be arranged in terms of the questions to be considered or objectives/purposes set out in the Introduction chapter.

Summarize the literature review and discuss the implications from the literature for your study – the theoretical framework for your study. Here you can make an explicit statement of the hypotheses, propositions or research questions and how they are derived from existing theory and literature. Establish from the literature (or gap in the literature) the

need for this study and the likelihood of obtaining meaningful, relevant, and significant results. Outline any conceptual or substantive assumptions, the rationale and the theoretical framework for the study. Explain the relationships among variables or comparisons, and issues to be considered. This section should demonstrate the contribution of the research to the field, and be stated in a way that leads to the methodology.

Section 4: - Methodology

In this section you will describe detail of your research methodology. The following items must be included as sub-headings with relevant details.

- Hypothesis
- Objectives
- Operational definitions
- Materials and methods

Discuss the methodology to be used in your study (e.g., experimental, quasi-experimental, correlational, casual-comparative, survey, discourse, case study, analysis, action research). If using stages, outline them here. The methods used must link explicitly to the research question and must be suited to the nature of the question. Discuss any methodological assumptions.

i. Study design

Outline the research design (e.g., quantitative, qualitative). If quantitative, spell out the independent, dependent and classificatory variables (and sometimes formulate an operational statement of the research hypothesis in null form so as to set the stage for an appropriate research design permitting statistical inferences). If qualitative, explain and support the approach taken and briefly discuss the data gathering procedures that were [will be] used (observations, interviews, etc.)

ii. Study population/participants

Give details of the participants (were/will be) of your study also include if applicable, sample type and size, reasons for the number selected and the basis for selection).

iii. Inclusion exclusion criteria

iv. Study setting (Name and place where research work was done. Whether it was done in a community, hospital or laboratory.

v. Study duration

vi. Sampling technique

vii. Size of sample (If there were groups, mention how many in each group)

viii. Data collection detail procedure/tools. questionnaire

List and briefly describe all the instruments (e.g., tests, measures, surveys, observations, interviews, questionnaires, artifacts) [to be] used in your study for

data collection and discuss their theoretical underpinnings, that is, justify why you used these instruments. So that the line of argument is not broken, it is useful to place copies of instruments in Appendices to which this section can refer.

ix. Analysis details (tests and software used)

This section describes the method/s you used to answer the question(s) raised in your problem formulation. Your information concerning methods should both allow the reader to assess the validity of your results and (particularly for quantitative research) ultimately make it possible for another researcher to get the same results by completing the same work as you.

Section 5: - Analysis of data

Discuss how the data was processed and analyzed (e.g., statistical analysis, discourse

analysis). This section needs to link the analysis of the research to the methods and demonstrate why this was the best approach to analysis. For qualitative research, justification needs to be provided for methods such as coding and dealing with divergent data. For quantitative research, justification of the choice of statistics and the expected results that they will provide [confirmation document] should be described. There should be enough detail for the reader to replicate the analysis. For example, “NVivo or SPSS will be used” is not adequate. Rather, the approach to coding, including how categories were derived and validated, how the data was structured, and specific analytical techniques applied, should be included.

Section 6: - Results

In this section you have to report the results of your study – your data and their analysis. Remember that you are not only expected to present raw data, they should be analyzed and presented in overview for this purpose. You may therefore need to describe very briefly how you collected your raw data and how you processed and analyzed these. Data may be displayed in the form of tables or figures where it enables you and the reader to make sense of it, but in a lot of qualitative research it is merely the explanation in words that constitutes the results.

You can put some analysis of the results here, but generally just the results are presented, without interpretation, inference, or evaluation. The results should be linked inextricably to the design – describe what happened factually and unemotionally. However, in certain historical, case-study and anthropological investigations, factual and interpretive material may be interwoven rather than being presented as “findings”.

Include a paragraph at the beginning of the ‘Results’ chapter outlining the structure of the chapter. The results should be reported with respect to furnishing evidence for your research question(s). Thus, you might choose to use headings that correspond to each main question of your hypothesis/objectives and/or your theoretical framework. Or you might organise your results in terms of the stages of the study (if applicable).

Results should mention , the number of subjects at the start of study, along with number of subjects who were excluded, dropped out or lost at any point during the study.

Present the findings/results in tables or charts when appropriate, making sure to use correct formatting for any tables used. Data shown in the form of tables/ figures should not be repeated in the text; only important observations should be summarized.

Section 7: - Discussion

The discussion is the key section of your thesis. The purpose of the discussion is to explain the central results and potential implications of your study. This is where you scrutinize your results and where the choice of method(s) is discussed including the possible influence of methodological bases and errors on data validity.

The discussion should also address general limitations and weaknesses of the study and comment on these. Importantly, you have to discuss conflicting explanations for your results and defend your thesis argument by systematically relating your problem formulation and empirical findings to the existing body of knowledge and/or theory as outlined by your literature review. The discussion of your results and final thesis argument should form the basis for your conclusions.

Results of the study should be compared with the published national and international literature and in case a discrepancy is present, it needs to be explained. Similarities and differences between findings of your study and those of others should be brought out and analyzed.

If your study was based on some hypothesis, mention whether the hypothesis stands supported or refuted by your results. Lastly mention importance of your study and its implications for future clinical practice.

Section 8: - Conclusions

The conclusions section is where you summarize your answer(s) to the questions posed in your problem formulation. What is the strongest statement you can make based on your findings?

This chapter contains conclusions, limitations, and recommendations – so what is the theory?

Where to from here? What are the practical implications? Discussion of where the study maybe extended.

Again, the chapter should begin with a summary paragraph of the chapter structure. The opening section(s) of the chapter should be a brief summary of everything covered so far. Follow this with your conclusions. This is the “so what” of the findings – often the hypothesis/research question(s) restated as inferences with some degree of definitive commitment and generalizability, and the raising of new and pertinent questions for future research. You could include a final model of the theory.

The chapter should also include a discussion of any limitations of the research, and should end with your final recommendations – practical suggestions for implementation of the findings/outcomes or for additional research.

Recommendations or Perspectives: -

The final section involves the last part of your academic performance; how to launch the results and conclusions into the future. Is there a need for further investigation and how? What are the perspectives of your results and conclusions? The perspectives are where you once again broaden the thesis, and point out where your results can be implemented. Recommendations are sometimes included in the conclusions.

Section 9: - References

The list of references contains a formalized description of all the sources, e.g., journal articles, reports, books etc. that are cited directly in the text of your thesis. References are numbered consecutively in order of appearance in the text. In the text, number of reference should be added as superscript at the end of the sentence.

You should apply the referencing system suggested/required by thesis guidelines. Here at RMU, we recommend “Vancouver Standard”.

The referencing can be done using the referencing software. References can be written in single space with extra space between references as in the format below. There are many

different ways to arrange the information and punctuation in a reference listing. The most important thing is to make sure all references are complete and that the format of your references is consistent throughout.

At least 50 references should be cited and 50% of the references should be within the last 5 years.

Section 10: Annexures

The following may be attached along with your thesis or submitted to research unit:

- Approved copy of your synopsis
- Certificate of Approval of Board of Advanced Studies and Research
- Ethical review board approval (IRF/ERB)
- Similarity index less than 20% PDF report
- Supervisory certificate
- Study Performa

Submission of thesis: -

- ☐ Five hard copies printed on out 80-100 A4 size pages duly hard bound, computer-printed with double space, on both sides of page should be submitted. Soft copy of thesis should also be sent to basr.rmu.pk@gmail.com.
- ☐ After approval of thesis, the same may be submitted to a medical journal for publication with name of the resident as the first author of the article.

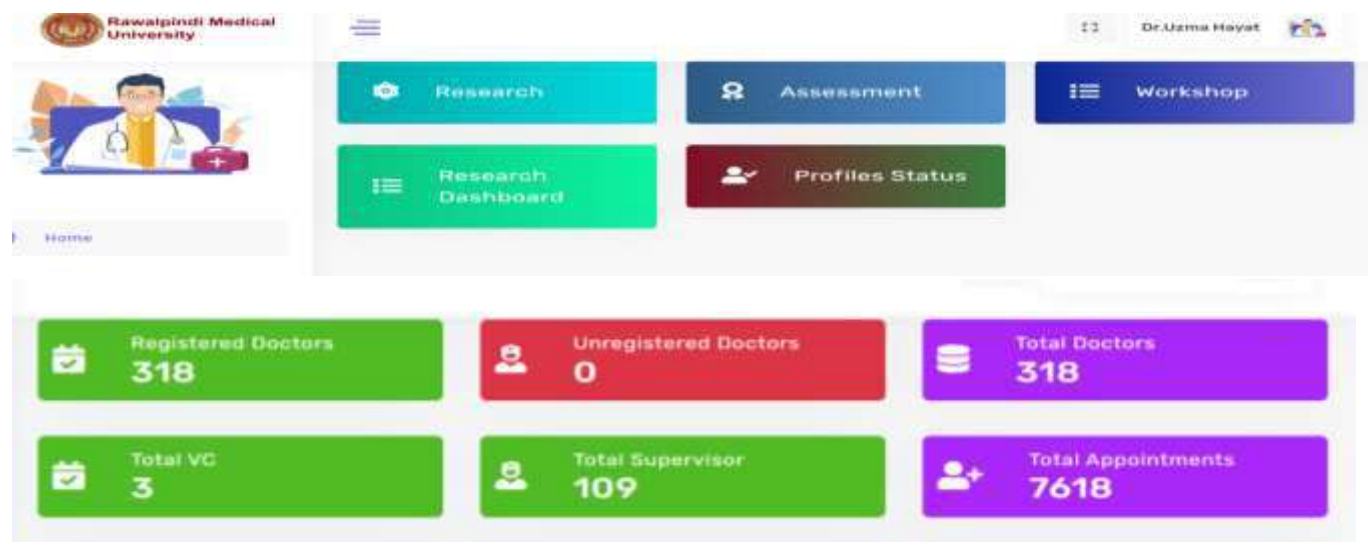
SECTION D:

Research Evaluation and Research Quality Enhancement

For quality enhancement and research evaluation many procedures have been introduced recently like **Research Digital Dash Board** and **Research Evaluation Scale**. As already mentioned in previous sections, thorough scrutiny of the research work evaluations by **Technical committee for statistical, content and plagiarism** are being done on regular basis before approval of ERB and BASR.

Research Dash Board

To promote authentic research culture it has been made mandatory that resident when starts collecting data, has to get login on research dash board and enter patient's data for verification on research dash board. Research unit then verifies each entry as per given sample size of research proposals. The data is verified through telephone calls and patient records at the hospitals if required. Any entry that could not be verified, residents are informed to submit hard copies, patient records or discard this entry and collect a new sample for their research work. All this data is presented to DEANS and supervisors meetings conducted almost every Friday. And appraisal is a continuous process through official correspondence and in person meetings with residents and their supervisors as well.



Above Figures showing online research dashboard with number of residents registered and supervisors log-ins.

Registered Doctors (318)

Show 10 entries

Search:

Sr.No	Name	Email	Contact Number	Depart
1	Dr. Muhammed Sibtain Raza	sibtainmali395@gmail.com	03330004190	Depart
2	Rafiq Ahmad	rafiqanmed991@gmail.com	3105078456	Depart
3	Aamir Shahid	aamirshahidlan2719@yahoo.com	3008933601	Depart
4	Aaris Saleem	aaris_saleem@yahoo.com	3304643887	Depart
5	Abdul Kabees Bilal	Dr.abbal@gmail.com	03325869305	Depart

Registered residents (MS/MD) residents on dashboard 318

Appointments

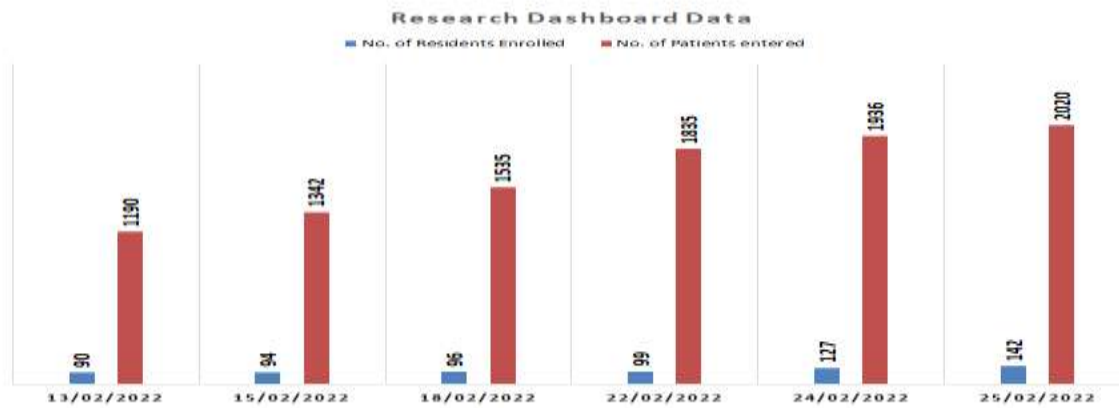
Showing 1-20 of 7,618 items:

#	Doctor	Reg No	First Name	Last Name
1	Dr. Mansoor Ahmed	23321	Mansoor	Ahmed
2	Dr. Shahid	23345	Sh	id
3	Dr. Rafiq	109062	Shamir	M. Shafique
4	Dr. Sumaira	155500	Sumaira	Green
5	Dr. Habib	209743	H. Arshad	Habib

Number of patients/research participants data entered by the residents 7,618

ID	3
Doctor ID	4
Reg No	23321
First Name	Mansoor
Last Name	Ahmed
Date	2021-11-17 19:00:00
Patient Contact	0000000000
Procedure	AC - Acute Cholecystitis
Created At	2021-11-18 06:24:26
Updated At	2021-11-18 06:24:26

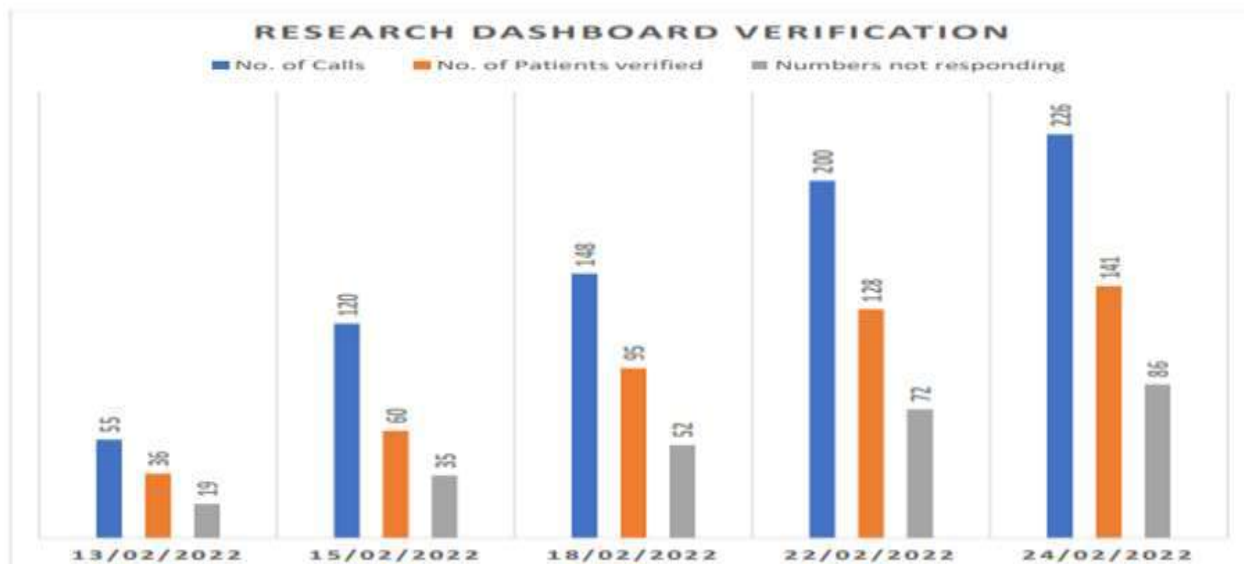
Details of each research participant/patient entered by the residents for verification by research unit.



Research dash board logs and data entry weekly trends

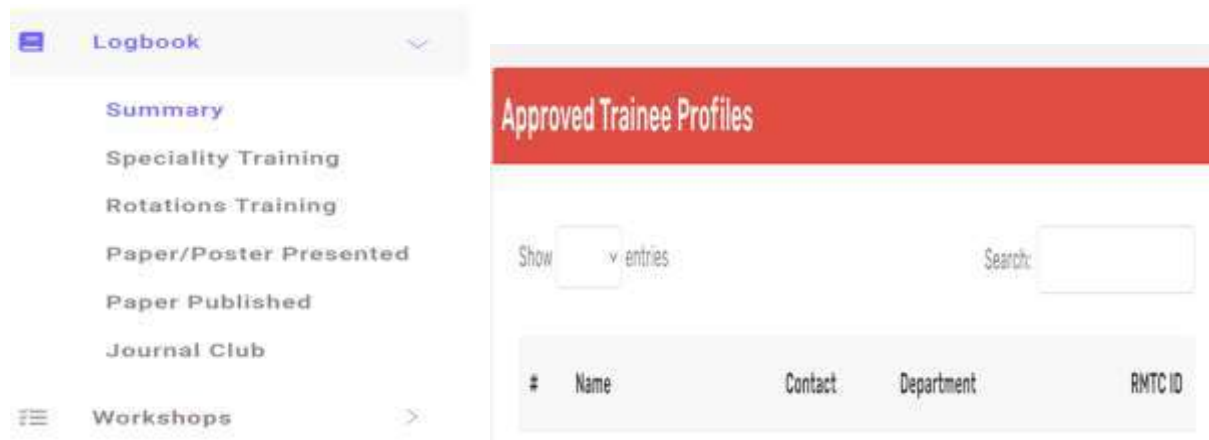
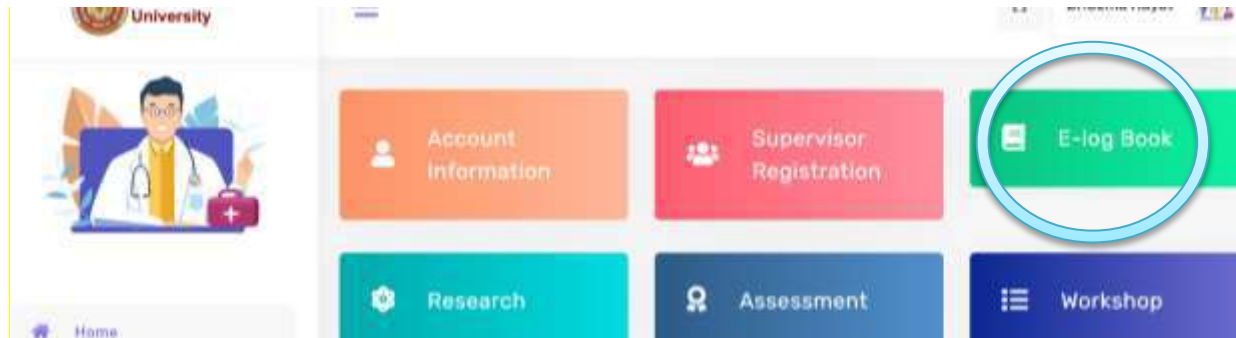
S. #	Department	Supervisor	Resident	BASR Approval date	Date of completion of data collection	Total sample size	Dashboard entries done	Dashboard entries checked	Entries not verified	Not responding	Fake
		Prof. Dr.	Dr. [Redacted]	5.5.21	5.5.22	90	90	24	12	10	2
			Dr. [Redacted]	9.6.21	9.12.21	134	134	36	10	4	-
			Dr. [Redacted]	9.6.21	9.12.21	80	80	5	3	2	1
		Prof. Dr.	Dr. [Redacted]	9.6.21	9.6.22	101	101	35	19	16	3
			Dr. [Redacted]	28.7.21	28.1.22	58	57	19	9	8	1
			Dr. M. [Redacted]	30.11.21	30.5.22	34	34	2	2	2	-
			Dr. [Redacted]	2.2.22	2.8.22	196	2				

Research dash board data presented in weekly deans meeting showing research work progress and status of verification of entered data with department supervisor and residents



URTMC Monitoring through E-Log Book Entries:

IT department has helped in development of E-log of all the academic activities of the residents of RMU residency program. Speciality trainings, rotational duties, research log book activities, journal clubs, assessments and mandatory workshops ,hence all activities are entered by residents and monitored and evaluated and facilitated by the University training monitoring cell along with the respective supervisors



E-LOG Book Dash Board

Research Evaluation Scales in Accordance with the Guidelines

- Disease Statistical Review
- Synopsis writing
- Thesis writing

These evaluation rating scale are developed as per given guidelines for disease statistical reviews, synopsis and research thesis of postgraduate residents shared here to assist in the evaluation of research of university residents and the evaluation of the developed synopsis for the MS/MD residency. The rating scale includes evaluation criteria, and allows for the addition of criteria important to individual departments/programs. It is for reference only and residents are encouraged develop their proposal as per given evaluation criterion.

MS/MD Synopsis Evaluation Rating Scale

Student Name:		Registration No:	
Synopsis Title:			
Supervisor			
Date			

For each of the categories, assign a score of 'Below average' through Excellent. Enter scores in the rightmost column. Evaluators are encouraged to assign 'Below average' to any work sample that does not meet the benchmark level performance.

	Criteria	Below average (40-45%)	Average (50%-59%)	Above average (60%-69%)	Good (70%-79%)	Excellent (80% and above)
Introduction/Rationale/Objective/Hypothesis						
1	Title	Title is omitted or inappropriate/incomplete.	Title does not clearly reflect the objectives of the study/research question.	Title clearly reflects the objectives of the study/research question.	Title is informative and fully reflects the objectives of the study.	Title is informative and offers specific details about the objectives of the study.
2	Introduction: Problem, Significance, & Purpose of the Study	Statement of the problem and significance omitted or inappropriate.	The research question is not logically connected to the description of the problem.	Identifies a relevant research issue and variables have been described.	Presents a significant research problem. Highlights clear research questions. All variables have been appropriately defined.	Presents a significant research problem. Highlights clear research questions. All variables have been appropriately defined. Literature is supportive.

3.	Rationale & Objective.	Rationale & objective omitted or inappropriate.	The rationale is not clearly stated and the objective is not aligned with the research question.	The rationale is clearly stated and the objective is in line with the research question.	Presents a significant and promising rationale and a clear objective highlighting the purpose of the study.	Presents a promising rationale with reference to relevant local and international studies. A clear objective highlighting the purpose of the study is present.
4.	Hypothesis and Operational definitions.	A hypothesis has not been formulated. Operational definitions are not given.	A clear hypothesis has not been formulated. Operational definitions given are not relevant.	A clear hypothesis has been formulated. Operational definitions given are relevant.	A clear hypothesis has been formulated. Operational definitions given are well in context to the objective.	The hypothesis given is clear and well stated. Operational definitions given are well in context to the objective.

Methodology						
5	Methods: Research Design and study duration.	The research design is inappropriate or has not been identified and or described using standard terminology. A study duration is not given.	The research design is incomplete and the study duration is vague.	The research design has been identified and described in sufficient detail. The study duration is explicitly given.	The research design has been identified in detail. Important limitations have been clearly stated. The study duration is explicitly given.	The research design has been identified in detail. Important limitations and assumptions have been clearly stated. The study duration is explicitly given.
6	Methods: Population and Sampling	The study population was not identified. The sampling strategy was inappropriate for the research questions.	The description of the study population, or sampling strategy failed to identify specific quantitative or qualitative details.	The study population, and sampling strategy was adequately described. The size of the population, sample, and comparison groups was identified. Inclusion & exclusion criteria clearly given.	The description of the study population was meaningful. The sampling process recruited a representative sample of the population. Attention was given to control external factors and sampling error by ensuring strict and relevant inclusion & exclusion criteria.	The description of the study population included both quantitative and qualitative description. The sampling process recruited a representative sample of the population. While describing the inclusion & exclusion criteria, attention was given to control external factors and sampling error.

7	Methods: Instruments for data collection	Instruments for collecting data were not identified properly. Validity and reliability information was omitted.	Description of the instruments (purpose, form, and elements) was incomplete, or lacked relevance to the research questions and variables.	Instruments for data collection and observation protocols were identified by name and described (Suitable Performa/questionnaire given).	Descriptions of instruments and observation protocols included purpose statements, and type of scores. Suitable Performa/questionnaire given. Evidence of the validity and reliability was presented.	Descriptions of instruments and observation protocols included purpose statements, type and number of items, and type of scores. Suitable Performa/questionnaire given. Evidence of the validity and reliability was presented.
8	Methods: Procedures & ethical considerations.	Procedures for treatments and gathering data were omitted. Ethics were not taken into consideration.	Procedures (permissions, treatments, and data gathering) were confusing, incomplete, or lacked relevance to the research Ethical issues were not addressed fully.	Procedures for implementing the study (permissions, treatments, and data gathering) were identified and described in a chronological fashion. Ethical issues were addressed (consent forms in a language that the patient can read/understand and a detailed information sheet has been provided).	Procedures were sufficient for generating valid and reliable data. Clear strategies were presented for seeking permissions and for the ethical treatment of human subjects. Consent forms in a language that the patient can read/understand and a detailed information sheet has been provided.	Procedures were thorough and for generating reliable data with clear distinctions between researcher and participant actions. Clear strategies were presented for seeking permissions and for the ethical treatment of human subjects with consent forms and information sheet provided.
9	Methods: Data Analysis	Analytical methods (Descriptive, inferential test, and significance level) were missing or inappropriately aligned with data and research design.	Descriptive or inferential methods were incomplete or lacked relevance to the research.	Both descriptive and inferential methods were identified. Level of significance was stated.	Analytical methods were sufficiently specific, and appropriate given the research questions, research design, and type of distribution.	Analytical methods were sufficiently specific, clear, and appropriate given the research questions, research design, and scale of measurement, and type of distribution.
Discussion and Conclusion						
10	Conclusion & outcomes/utilization	Not supported by the results or cannot be drawn due to the limitation of the	Not clearly supported by the results potentially importance of conclusion discussed	Generally supported by the results.	Supported by the results. Importance of the conclusion were discussed. Suggestions for	Stated clearly and well supported by the results. Importance of the conclusions is

		study			future work were provided	stated clearly suggestions for future work provided
References						
11	References & Citations	References are not cited appropriately throughout the document.	References are listed on the reference list but rarely cited in the text. Most references are not within the last 5 years.	The majority of the references are appropriately cited using a reference manager. Majority of the references are within the last 5 years.	All references are appropriately cited using a reference manager. All citations are appropriate. 50 % of the references are within the last 5 years.	All references are appropriately cited using a reference manager. All citations are appropriate. All citations and references are presented in proper format and do not need revision. 70 % of the references are within the last 5 years.

Sr	Chapter No	Comments
1	Title and Introduction	Title and introduction are informative, and offer sufficient details about the issue, and proposed methods of the study.
2	Literature Review	Narrative integrates critical and logical details from the research literature. Each variable is grounded to the literature. Attention is given to different perspectives and opinions in published literature
3	Methods	Methods section is comprehensive. Analytical methods were sufficiently specific, clear, and appropriate given the research questions, research design, and scale of measurement, and type of distribution.
4	Discussion/Conclusion	Stated clearly and concisely well supported by the results importance of the conclusions is stated clearly suggestions for future work provided

Overall Marks of written work _____ %

(Mark appropriate box)

Synopsis is recommended without any change.

Synopsis is recommended with minor changes verified
by Supervisor

Synopsis is recommended with Major changes verified
by Supervisor/ Reviewer

I am not convinced and do not recommend the
Synopsis

Reviewer Name: _____ Signature: _____

_____ Date: _____

Disease Statistical Review evaluation rating scale

<u>Student Name:</u>		<u>Registration No:</u>	
<u>DSR Title:</u>			
<u>Supervisor</u>			
<u>Date</u>			

For each of the categories, assign a score of 'Below average' through 'Excellent.' Enter scores in the rightmost column. Evaluators are encouraged to assign 'Below average' to any work sample that does not meet the benchmark level performance.

	Criteria	Below average (40-45%)	Average (50%-59%)	Above average (60%-69%)	Good (70%-79%)	Excellent (80% and above)
Introduction/Literature Review						
1	Introductory Matters: Title	Title is omitted or inappropriate given the disease/medical condition to be reviewed.	Title lacks relevance about the disease/medical condition to be reviewed.	Title is relevant to the disease/medical condition to be reviewed.	Title is informative, and offers details about the disease/medical condition to be reviewed.	Title is informative, and offers specific details about the disease/medical condition to be reviewed.

2	Introduction: Problem, Significance, & Purpose of the Study	Statement or significance of the problem were omitted or inappropriate.	Statement or significance of the problem were not connected to the description of the problem.	Identifies a relevant research issue and variables have been identified.	Presents a significant research problem related to public health. All variables have been appropriately defined.	Presents a significant research problem related to public health. All variables have been appropriately defined. Literature is supportive.
3	Literature Review: Organization	The structure of the literature review is irrelevant.	The structure of the literature review is weak.	A workable with relevant literature related to the variables of the study.	Structure includes important variables of the proposed study.	Structure is inclusive of important variables of the proposed study.

Methodology						
4	Methods: Research Design	The research design is inappropriate or has not been identified.	The research design is incomplete.	The research design has been identified and described in sufficient detail.	Important limitations have been clearly stated along with a detailed research design.	Important limitations and assumptions have been clearly stated along with a detailed research design.
5	Methods: Context, Population, and Sampling	The study population was not identified.	The description of the study population specific quantitative or qualitative details.	The study population, and sampling strategy was adequately described.	The description of the study population was meaningful. The sampling process recruited a representative sample of the population.	The description of the study population included both quantitative and qualitative description
6	Methods: Instruments	Instruments for collecting data were not identified properly.	Description of the instruments was incomplete.	Instruments and observation protocols were identified and described.	Instruments and observation protocols were identified and described. Evidence of the validity and reliability was presented.	Descriptions of instruments and observation protocols included purpose statements. Evidence of the validity and reliability was presented.
7	Methods: Procedures	Procedures for treatments and gathering data were omitted.	Procedures lacked relevance to the research.	Procedures for implementing the study were identified and described in a chronological fashion.	Procedures were sufficient for generating valid and reliable data.	Procedures were thorough and powerful for generating valid and reliable data.
8	Methods: Data Analysis	Analytical methods (Descriptive, inferential test, and significance level) were missing.	Descriptive or inferential methods were incomplete or lacked relevance to the research.	Both descriptive and inferential methods were identified.	Analytical methods were sufficiently specific, and appropriate.	Analytical methods were sufficiently specific, clear, and appropriate given the research question & research design.
Discussion and Conclusion						

9	Conclusion	Not supported by the results or cannot be drawn due to the limitation of the study	Not clearly supported by the results potentially importance of conclusion discussed	Generally supported by the results.	Supported by the results.	Stated clearly and well supported by the results. Importance of the conclusions is stated clearly suggestions for future work provided
References						
10	References & Citations	References are not cited appropriately throughout the document.	References are listed on the reference list but rarely cited in the text.	The majority of the references are appropriately cited using a reference manager.	All references are appropriately cited using a reference manager.	All references are appropriately cited using a reference manager. All citations are appropriate. Additional sources are not needed. All citations and references are presented in proper format and do not need revision.

Sr	Section No	Comments
1	Title and Introduction	Title is informative and offers sufficient details about the issue, and proposed methods of the study.
2	Literature Review	Narrative integrates critical and logical details from the research literature. Each variable is grounded to the literature. Attention is given to different perspectives and opinions in published literature
3	Methods	Methods section is comprehensive. Analytical methods were sufficiently specific, clear, and appropriate given the research questions, research design, and scale of measurement, and type of distribution.
4	Discussion/Conclusion	Stated clearly and concisely well supported by the results importance of the conclusions is stated clearly suggestions for future work provided

Overall Marks of written work _____ %
(Tick appropriate box)



Disease Statistical Review is recommended without any change.



Disease Statistical Review is recommended with minor changes verified by Supervisor



Disease Statistical Review is recommended with Major changes verified by Supervisor/ Examiner



Statistical Review I am not convinced and do not recommend
the Disease

Reviewer Name: _____ Signature: _____

_____ Date: _____

MS/MD Thesis evaluation rating scale

Student Name:		Registration No:	
Thesis Title:			
Supervisor			
Date			

For each of the categories, assign a score of 'Below average' through Excellent. Enter scores in the rightmost column. Evaluators are encouraged to assign 'Below average' to any work sample that does not meet the benchmark level performance.

	Criteria	Below average (40-45%)	Average(50%-59%)	Above average (60%-69%)	Good (70%-79%)	Excellent (80% and above)
Introduction/Literature Review						
1	Introductory Matters: Title and Abstract	Title or abstract were omitted or inappropriate given the problem, research questions, and method.	Title or abstract lacks relevance about the variables, context, or methods of the proposed study.	Title and abstract are relevant, offering details about the proposed research study.	Title and abstract are informative, and offer details about the issue, and proposed methods of the study.	Title and abstract are informative, and offer specific details about the issue, variables, context, and proposed methods of the study.
2	Introduction: Problem, Significance, & Purpose of the Study	Statement of the problem, significance, hypotheses, or definitions of variables were omitted or inappropriate.	The research questions, hypotheses, or definitions of variables are poorly formed, or not logically connected to the description of the problem.	Identifies a relevant research issue and variables have been identified and described. Connections are established with the literature.	Presents a significant research problem related to public health. Highlights clear, research questions given the purpose, design, and methods of the proposed study. All variables have been appropriately defined.	Presents a significant research problem related to public health. Highlights clear, research questions given the purpose, design, and methods of the proposed study. All variables have been appropriately defined.

						Literature is supportive.
3	Literature Review: Organization	The structure of the literature review is irrelevant.	The structure of the literature review is weak & does not identify variables related to the research questions.	A workable structure has been presented for presenting relevant literature related to the variables of the study.	Structure includes important variables of the proposed study.	Structure is intuitive and sufficiently inclusive of important variables of the proposed study.
4	Literature Review	The review of literature was missing or consisted of nonresearch based articles.	A key construct or variable was not connected to the research literature. Selected literature was from unreliable sources.	Key constructs and variables were connected to relevant, reliable theoretical and research literature.	Narrative integrates logical details from the theoretical literature. Attention is given to threats to validity, and opinion vs. evidence.	Narrative integrates critical and logical details from theoretical and research literature. Each key construct and variable are grounded to the literature. Attention is given to different perspectives

						threats to validity, and opinion vs. evidence.
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Methodology						
5	Methods: Research Design	The research design is inappropriate or has not been identified and or described using standard terminology.	The research design is incomplete given the research questions and sampling strategy. Important limitations have not been identified.	The research design has been identified and described in sufficient detail. Some limitations and assumptions have been identified.	The purpose, questions, and design are mutually supportive. Important limitations have been clearly stated.	The purpose, questions, and design are mutually supportive. Attention has been given to controlling extraneous variables. Important limitations and assumptions have been clearly stated.

6	Methods: Context, Population, and Sampling	The study population was not identified. The sampling strategy was inappropriate for the research questions.	The description of the study population, or sampling strategy failed to identify specific quantitative or qualitative details.	The study population, and sampling strategy was adequately described. The size of the population, sample, and comparison groups was identified.	The description of the study population was meaningful. The sampling process recruited a representative sample of the population. Attention was given to control external factors and sampling error.	The description of the study population included both quantitative and qualitative description. The sampling process recruited a representative sample of the population. Attention was given to control external factors and sampling error.
7	Methods: Instruments	Instruments for collecting data were not identified properly. Validity and reliability information was omitted.	Description of the instruments (purpose, form, and elements) was incomplete, or lacked relevance to the research questions and variables.	Instruments and observation protocols were identified by name and described.	Descriptions of instruments and observation protocols included purpose statements, and type of scores. Evidence of the validity and reliability was presented.	Descriptions of instruments and observation protocols included purpose statements, type and number of items, and type of scores. Evidence of the validity and reliability was presented.
8	Methods: Procedures	Procedures for treatments and gathering data were omitted.	Procedures (permissions, treatments, and data gathering) were confusing, incomplete, or lacked relevance to the research.	Procedures for implementing the study (permissions, treatments, and data gathering) were identified and described in a chronological fashion.	Procedures were sufficient for generating valid and reliable data. Clear strategies were presented for seeking permissions and for the ethical treatment of human subjects.	Procedures were thorough and powerful for generating valid and reliable data with clear distinctions between researcher and participant actions. Clear strategies were presented for seeking permissions and for the ethical treatment of human subjects.
9	Methods: Data Analysis	Analytical methods (Descriptive, inferential test, and significance level) were missing or inappropriately aligned with data and research design.	Descriptive or inferential methods were incomplete or lacked relevance to the research.	Both descriptive and inferential methods were identified. Level of significance was stated.	Analytical methods were sufficiently specific, and appropriate given the research questions, research design, and type of distribution.	Analytical methods were sufficiently specific, clear, and appropriate given the research questions, research design,

						and scale of measurement, and type of distribution.
Discussion and Conclusion						
10	Conclusion	Not supported by the results or cannot be drawn due to the limitation of the study	Not clearly supported by the results potentially importance of conclusion discussed	Generally supported by the results.	Supported by the results. Importance of the conclusion were discussed. Suggestions for future work were provided	Stated clearly and well supported by the results. Importance of the conclusions is stated clearly suggestions for future work provided
References						
11	References & Citations	References are not cited appropriately throughout the document. Few appropriate citations are used. Citations and references are not presented in proper format and need significant revision.	. References are listed on the reference list but rarely cited in the text. Citations and references are not presented in proper format, and are in need of moderate revision.	The majority of the references are appropriately cited using a reference manager. The majority of citations and references are presented in proper format, and are in need of minor revision.	All references are appropriately cited using a reference manager. All citations are appropriate. All citations and references are presented in proper format and do not need revision.	All references are appropriately cited using a reference manager. All citations are appropriate. Additional sources are not needed. All citations and references are presented in proper format and do not need revision.

Sr	Chapter No	Comments
1	Title and Introduction	Title and abstract are informative, and offer sufficient details about the issue, and proposed methods of the study.
2	Literature Review	Narrative integrates critical and logical details from the research literature. Each variable is grounded to the literature. Attention is given to different perspectives and opinions in published literature
3	Methods	Methods section is comprehensive. Analytical methods were sufficiently specific, clear, and appropriate given the research questions, research design, and scale of measurement, and type of distribution.
4	Discussion/Conclusion	Stated clearly and concisely well supported by the results importance of the conclusions is stated clearly suggestions for future work provided

Overall Marks of written work _____ %
(Mark appropriate box)

This is recommended without any change.

This is recommended with minor changes verified by
Supervisor

This is recommended with Major changes verified by

Supervisor/ Examiner

I am not convinced and do not recommend the Thesis

Reviewer Name: _____ Signature:

_____ Date:

Annexures:

1.Consent Form

This is just an outline, it is mandated that you must design comprehensive **Consent Form** for respective research and must attach a detailed information sheet for the procedures if any or any other harm/benefit that ethically must be disclosed to participant of research. **It must be translated in the language understandable to the participant.**

Sample brief :

“I _____ am willing to participate voluntarily in this research study (.....title.....) of Dr.....(NAME).....AT ...(STUDY SITE)..... I am aware of the study objectives and I also know there is no harm or benefit to me if I participate. However, researcher ensured me that my data will remain confidential. I allow them to use this data for scientific purpose. And that I can opt-out of the research at any time.”

Signature: _____

اجازت نامہ برائے شمولیت تحقیق

میں _____ رضا کارانہ طور پر اس تحقیق میں حصہ لینے کو تیار ہوں۔ میں اس تحقیق کے مقاصد سے آگاہ ہوں اور
میں جانتا ہوں کہ اس میں شرکت کرنے سے میرے لیے کوئی نفع یا نقصان نہیں ہے۔ محقق نے مجھے یقین دہانی کروائی ہے کہ
میری معلومات خفیہ رکھی جائیں گی۔ میں تحقیقی مقصد کے لیے اپنی معلومات کے استعمال کی اجازت دیتا رہتی ہوں۔

دستخط _____

Annexure 2

Study Performance

Serial No. _____ Reg No. _____

Name _____ Father Name: _____

Age: _____ Gender: _____

Date of Admission: _____ Date of Outcome: _____

Address: _____

Variables

Demographic

- A
- B

Outcome variables

- 1. X
- 2. Y
- 3. Z

Anexure 3:

Samples Of Certificates And Process Letters For Research Work



Institutional Research And Ethics Forum

Rawalpindi Medical University & Allied Hospitals

Rawalpindi

Structured review worksheet (For MD & MS PGTs)

(Review of ethical & technical aspects of the research study proposal)

Review level: 1st/ 2nd/3rd _____

Name of the Reviewer: _____

Department: _____

Designation: _____

Contact No: _____

Title of synopsis: _____

Comments	Remarks	
1. TITLE OF STUDY/PROPOSAL	YES <input type="checkbox"/> NO <input type="checkbox"/>	
2. BASIC INFO/PROPOSAL	YES <input type="checkbox"/> NO <input type="checkbox"/>	
3. Study Impact/Benefit (if any) mentioned appropriately	YES <input type="checkbox"/> NO <input type="checkbox"/>	
4. COST/BENEFIT - COST/BENEFIT (if any) (Benefit > Cost) appropriately	YES <input type="checkbox"/> NO <input type="checkbox"/>	
5. INTRODUCTION	YES <input type="checkbox"/> NO <input type="checkbox"/>	
a. (Appropriate/Inappropriate) title		
b. Role/council of Research Institution given		
c. Referral letter from (Appropriate/Inappropriate)		
d. (Appropriate/Inappropriate) introduction		
6. SUBJECTS & METHODOLOGY	YES <input type="checkbox"/> NO <input type="checkbox"/>	
a. Study design appropriate		
b. Sampling technique is sample size appropriate		
c. Major study variables considered		
d. DATA Analysis Plan given accordingly		
7. REFERENCES	YES <input type="checkbox"/> NO <input type="checkbox"/>	
a. Citations within text is given		
b. Reference style appropriate		

**Rawalpindi medical university
Research unit**

**Certificate by research supervisor for research synopsis
approval by BASR/ERB**

This is to certify that the synopsis entitled _____

And submitted by _____ University Resident MS/MD of
_____ department .He/ She has worked under my supervision to my satisfaction and
embodies original work. Therefore, I recommend his/her synopsis to be submitted for
BASR/ERB approval.

Date:
supervisor

Signature and Stamp of Supervisor/Co-

**Certificate By Research Supervisor For Thesis Approval By
BASR, Rawalpindi Medical University**

This is to certify that the thesis entitled _____

And submitted by _____ Research ID No _____ for approval by
BASR embodies original work done by him/her under my supervision.

Signature
Name in Block Letters
Designation
Date:

**Certificate By Research Supervisor For Thesis Approval
By BASR, Rawalpindi Medical University**

This is to certify that the thesis entitled _____

And submitted by _____ Research ID No _____ for approval by
BASR embodies original work done by him/her under my supervision.

Signature
Name in Block Letters
Designation
Date:



**RAWALPINDI MEDICAL UNIVERSITY
RESEARCH UNIT**

**CERTIFICATE BY RESEARCH SUPERVISOR FO RESEARCH SYNOPSIS APPROVAL
BY BASR/ERB**

This is to certify that the synopsis entitled "**Comparison between pre-operative oral
carbohydrate loading and conventional fasting in colorectal surgery; A
Randomized controlled Trial**" And submitted by **Dr. Ayesha Mureed MS General Surgery,
Resident of Surgical Unit-I, BBH**. She has worked under my supervision to my satisfaction
and embodies original work. Therefore, I recommend her synopsis to be submitted for BASR/ERB
approval.

Prof. Dr. Nawaz Zia
Prof. Dr. Nawaz Zia
Professor of Surgery RMC
Head of Surgical Unit-I, BBH

Date: 26-04-2021

Signature and Stamp of Supervisor/Co-supervisor





OFFICE OF THE VICE CHANCELLOR
RAWALPINDI MEDICAL UNIVERSITY
RAWALPINDI.
Ph. 051-9290060, 051-9290755
Fax No. 051-9290618,
No. M-25/150 /RMU, Dated: 17-05-2021

Dr. Ayesha Muirceed
Resident M.S. (General Surgery, SBH)
Rawalpindi Medical University
Rawalpindi

Subject: APPROVAL OF SYNOPSIS BY BASR RMU

Synopsis entitled "**COMPARISON BETWEEN PRE-OPERATIVE ORAL CARBOHYDRATE LOADING AND CONVENTIONAL FASTING IN COLORECTAL SURGERY; A RANDOMIZED CONTROLLED TRIAL**" bearing research ID RMU-042/04/2021/URP, supervised by Prof. Dr. **Naeem Zia** (Professor of General Surgery) submitted by you for M.S. (General Surgery) was discussed in your presence in the 5th meeting of Board of Advanced Studies and Research held on 5th May 2021, has been approved by the Vice Chancellor on behalf of The Board of Advanced studies & Research.


Director Research Unit
Rawalpindi Medical University
Rawalpindi


Assistant Registrar
Rawalpindi Medical University
Rawalpindi




RESEARCH AND ETHICAL COMMITTEE
Rawalpindi Medical University & Allied Hospitals
Rawalpindi

Ref. No. B1 /IREP/RMU/2021

Dated: 03-05-2021

Subject: APPROVAL OF RESEARCH PROJECT OF POST GRADUATE TRAINEE

The research proposal titled as "**POSITIVE PREDICTIVE VALUE OF INTRACEREBRAL HEMORRHAGE (ICH) SCORE IN PREDICTING 30 DAYS MORTALITY IN PATIENTS PRESENTING WITH STROKE**" submitted by **Dr. Fatima Zia**, Post Graduate Trainee, Department of Medicine Holy Family Hospital Rawalpindi, RMU conforms to the accepted ethical standards established by Institution Research Forum of RMU. Therefore her research proposal has been approved by Institutional Research Forum and The Research and Ethical Committee of RMU and she is allowed to initiate her research project at Rawalpindi Medical University and Allied Hospitals.


Professor Hammama-tul-Bushrakhaa
The Head of Research and Ethical Committee,
Institutional Research Forum,
RMU & Allied Hospitals,
Rawalpindi

